Invasive Plants of the Patapsco Watershed

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PATAPSCO HERITAGE GREENWAY

What are *Invasive* plants?

Native Plants

A plant that is a part of the balance of nature by forming symbiotic relationships that have developed over hundreds or thousands of years in a particular region or ecosystem.

MD DNR Native Black-eyed Susan flowers (*Rudbeckia hirta)*

Non-Native Plants

Plants that have been introduced to an area outside their natural range, either intentionally or accidentally.

MD DNR Daylily (*Hemerocallis fulva*)

MD DNR Japanese Honeysuckle (*Lonicera japonica*)

Invasive Plants

A plant that is both non-native and able to establish on many sites, grow quickly, and spread to the point of disrupting plant communities or ecosystems.

MD DNR Pampas Grass (*Cortaderia selloana*)

Sources of Invasive Plants

- Transport by humans
  - Intentional Transport
    - International sale
    - Planting in landscaping/gardening
  - Unintentional transport
    - Carried on train/car/boat
    - Dispersed by hikers, firewood, etc.
- Climate change
  - Changes in climate allow species to spread into new areas

In a recent study (Published Feb 2020) done with the University of Maryland,

94%

of forest plots studied in the Chesapeake and Delaware Bay watersheds contained invasive plants.

https://www.researchgate.net/publication/339424360_Squeezed_from_All_Sides_Urbanization_Invasive_Species_and_Climate_Change_Threaten_Riparian_Forest_Buffers/fulltext/5e508b47299bf1cdb93cd8fc/Squeezed-from-All-Sides-Urbanization-Invasive-Species-and-Climate-Change-Threaten-Riparian-Forest-Buffers.pdf

Problems with Invasive Plants

- Unchecked Growth
  - High growth ability in difficult conditions equates to unchecked growth in a new environment
  - No natural predators
  - Able to out-compete native counterparts
  - Often able to grow and disperse quickly

Problems with Invasive Plants

- Incompatible with local ecosystem
  - Inedible to local animals (or worse make animals ill)
  - Uses nutrients disproportionally
  - Prevents native plants from contributing to ecosystem

An Example of Invasive Overgrowth:

Common Invasives Found in Patapsco

- English Ivy
- Japanese Barberry
- Garlic Mustard
- Kudzu
- Mile a Minute
- Japanese Stiltgrass
- Wavyleaf Basketgrass
- Oriental Bittersweet

English Ivy- *Hedera helix*

- Vine that grows along vertical surfaces
- Often planted in landscaping, or as wall cover
- Waxy, often pointed leaf appearance
- Will cover tree trunks in web like vines
- Eventually smothers and kills covered trees
- Shade tolerant and spreads quickly
- Poisonous to dogs

History of English Ivy

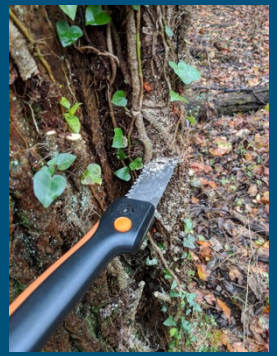
- Native to Europe, Western Asia, and Northern Africa
- Introduced to the U.S. by European Immigrants
    - Used as Ornamental vine along homesites, steep yards, and inside homes
    - Used as roadside beautification and erosion control planting
    - Still sold at stores, nurseries, and more

English Ivy

Removing English Ivy

What to use:

- Gloves
- Clippers
- Handsaw



Removal

- Cut vine about chest-waist height
- Cut again about a foot below
- Remove section
- **Do not attempt to pull vine off tree**

English Ivy

Japanese Barberry- *Berberis thunbergii*

- Shrub that invades understory of forest habitats
- Has numerous thin barbs along branches that make removal difficult
- Increases transmission of Lyme disease occurrence by adding too much habitat ticks
- Has distinctive red/purple hue in leaves

History of Japanese Barberry

- Introduced to the US as an ornamental in 1875
- Native to China and Japan
- Seeds were sent from Russia to the Arnold Arboretum in Boston, MA. In 1896, it was planted at the NY Botanical Garden.
- Used to replace Common Barberry- Exotic from earlier European settlers and was host for black stem rust of wheat.

Japanese Barberry

Removing Japanese Barberry

What to use:

- Thick gloves
- Pants, long sleeves
- Clippers
- Pullerbear/Weed Wrench
- Shovel

Removal

- Cut branches away as needed to reach base of bush
- Either dig out roots, or pull if possible
- Repeated mowing or clipping can work over time

Japanese Barberry

Garlic Mustard-
Alliaria petiolata

- Flowering biennial
  - First year plants are short with broad leaves
  - Second year plants grow ~1-2 feet with white flower
- Crushed leaves smell like garlic
- Leaves are edible when washed

History of Garlic Mustard

- First recorded in the US in 1868 on Long Island, NY and likely introduced by settlers for food and medicinal purposes
- Displaces native spring wildflowers such as spring beauty, wild ginger, bloodroot, and trilliums
- Credited with the decline of the WV white butterfly- chemicals in garlic mustard appear to be toxic to the butterfly's eggs

Garlic Mustard

Removing Garlic Mustard

What to use:

- Gloves

Michigan DNR Removal Event

Removal

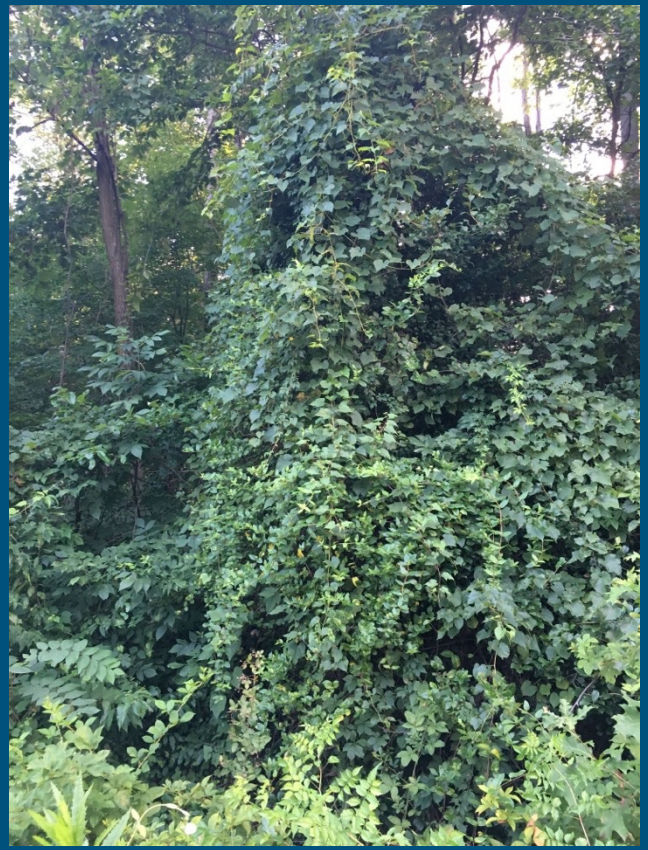
- Grasp plant at base near ground
- Pull slowly out to remove root with plant
- Bag plants and allow to dry before disposal

Kudzu- *Pueraria montana* var. *lobata*

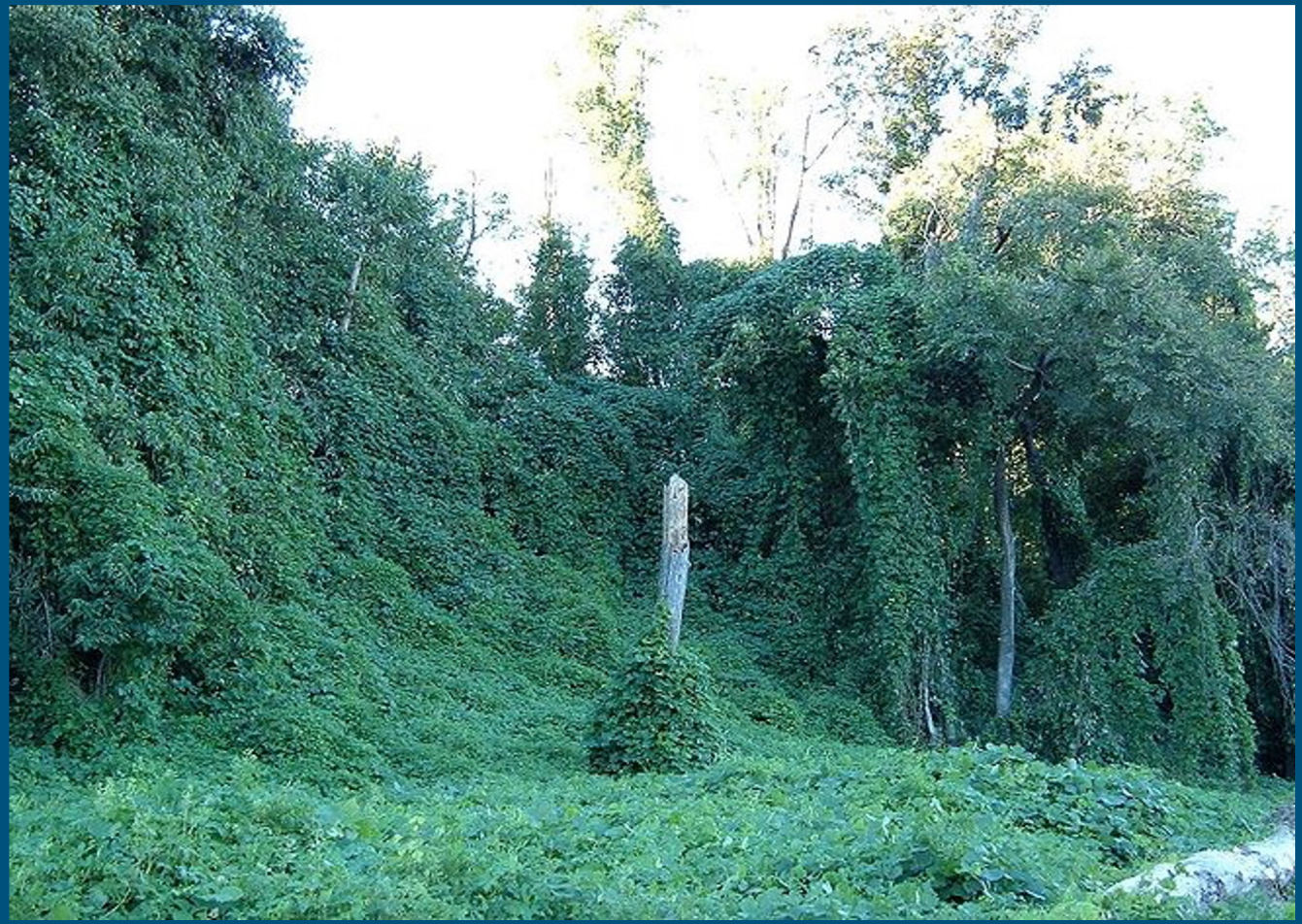
- Perennial vine plant
- Known for rapid growth, can grow up to a foot a day
- Expands rapidly once rooted, overwhelms nearby vegetation

History of Kudzu

- Native to most of Asia
- Introduced to US from Japan in 1876 at the Philadelphia Centennial Exposition, where it was promoted as an ornamental and a forage crop plant
- From 1935 to the mid-1950's, farmers in the south were encouraged to plant kudzu to reduce soil erosion
- Able to withstand harsh winters and can grow in many soil types.
- Prefers open and sunny areas



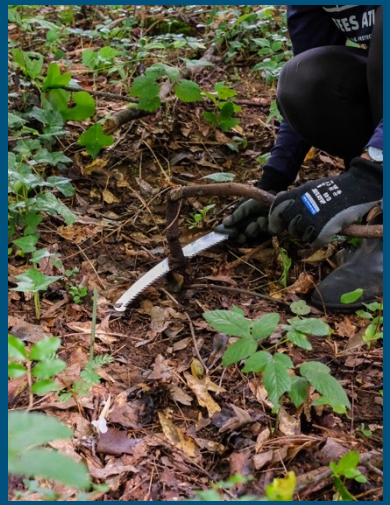
Kudzu



Removing Kudzu

What to use:

- Gloves
- Clippers
- Handsaw



Removing kudzu at the root (MD DNR)

Removal

- Cut vines separating from root stem
- Remove root base if possible
- **Do not attempt to pull vine off trees**

Kudzu

Mile a Minute-*Persicaria perfoliata*

- Vine, grows in all directions and covers nearby vegetation
- AKA Devil’s Tail
- Has notable triangular leaves
- Produces blue berries annually
- Is covered in small barbs that make removal difficult

History of Mile a Minute

- Native to India, Eastern Asia and the islands from Japan to the Philippines
- Was introduced experimentally into Portland, OR in 1890 and later Beltsville, MD in 1937
- Unintentional introduced in the 1930’s in York County, PA became successful and the MOST LIKELY source of this invasive in the mid-Atlantic and Northeastern US
- Invades open and disturbed areas
- Grows rapidly and limits photosynthesis of other plants

Mile a Minute

Removing Mile a Minute

What to use:

- Thick Gloves
- Thick long sleeves
- Pants
- Clippers

Removal

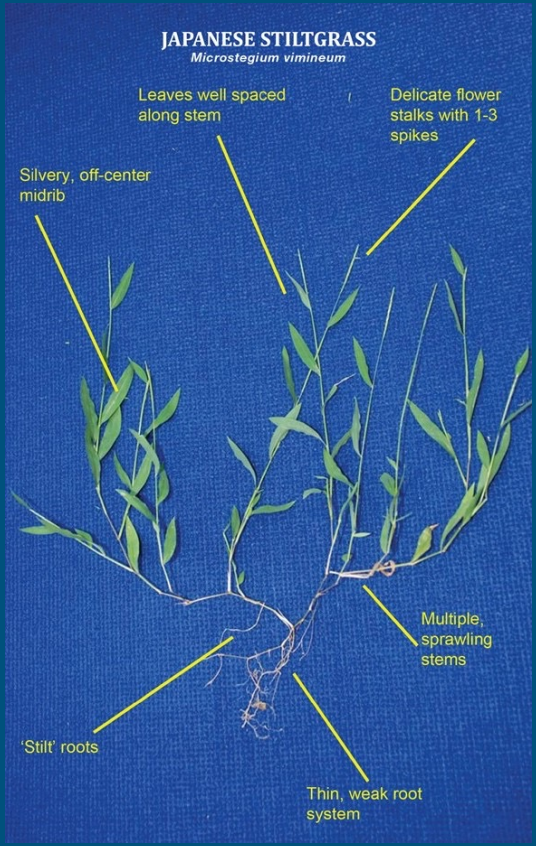
- Pull vines at base of plant
- Removal is best done as early as possible
- **Take care to avoid barbs on skin**
- Bag plants and allow to dry before disposal
- Avoid Removing when seeds are mature- May help spread seeds

Japanese Stiltgrass- *Microstegium vimineum*

- Annual grass
- Long thin stems with long thin bamboo-like leaves
- Grows in very lush patches throughout understory
- Quickly fills disturbed areas and smothers native plants

History of Japanese Stiltgrass

- Native to Japan, Korea, China, Malaysia and India
- Introduced to the US in Tennessee around 1919 and escaped when used as packing material for porcelain
- Currently, established in 16 eastern states from NY to FL
- Spreads opportunistically following disturbance to form dense patches
- Seeds remain viable in the soil for up to 3 years



Japanese Stiltgrass

Removing Japanese Stiltgrass

What to use:

- Gloves

Removal

- Grasp plant at base near ground
- Pull slowly out to remove root with plant
- Bag plants and allow to dry before disposal

Wavyleaf Basketgrass- *Oplismenus hirtellus*

- Perennial grass
- Long thin stems with long thin rippled, somewhat fuzzy leaves
- Grows in very lush patches throughout understory
- Quickly fills disturbed areas and smothers native plants

History of Wavyleaf Basketgrass

- Native to Europe and Asia
- This Asian grass was first discovered growing in small patches in Patapsco Valley State Park in the 1990s.
- Unsure when it first arrived
- Seen first in MD (6 counties) and VA (15 counties). Seen in PA and WV as of 2015
- Don’t know at this time how long the seeds are viable in the soil

MD DNR invasive grasses

Wavyleaf Basketgrass

Removing Wavyleaf Basketgrass

What to use:

- Gloves
- Pants
- Long sleeves

Removal

- Grasp plant at base near ground
- Pull slowly out to remove root with plant
- Bag plants and allow to dry before disposal
- **Do not approach August - November**
- **Remember to check for, and remove all seeds after removal**

Oriental Bittersweet- *Celastrus orbiculatus*

- Deciduous, woody wine
- Can reach to over 95ft in length
- Leaves are alternate, glossy, and finely toothed.
- Grows rapidly and can shade out other vegetation.
- It girdles trees and shrubs, cutting off flow of water and nutrients.

History of Oriental Bittersweet

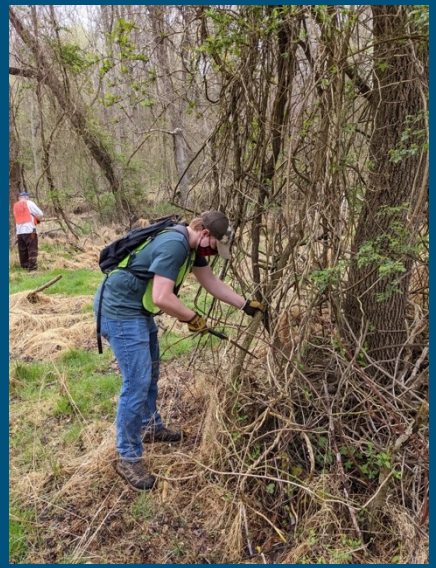
- Native to Eastern Asia, China, Japan, and Korea
- Introduced around 1860 as ornamental plant.
- Can be found from NY to NC and westward to Illinois
- Hybridization with the native American bittersweet has been observed in labs, but not clearly in the wild.
- It’s fruiting stems are cut in fall and used for decoration, which facilitates spread.

Oriental Bittersweet

Removing Oriental Bittersweet

What to use:

- Gloves
- Clippers
- Loppers
- Handsaw



Removal

- Cut vine about chest-waist height
- Cut again about a foot below
- Remove section
- **Do not attempt to pull vine off tree**

Chemical Control Methods

PHG does not recommend the use of chemical control methods such as herbicide or pesticide. Oftentimes without specific training, these methods do more harm than good, and create space for invasives to fill back in.

Should you choose to use them on your private property, we urge the utmost caution, and please remember **less is more.**

Native Alternatives- Herbaceous Plants

Wild Ginger (*Asarum canadense)*

Wild Geranium *(Geranium maculatum)*

Foam Flower *(Tiarella cordifolia)*

Native Alternatives- Shrubs and Vines

Spicebush (*Lindera benzoin)*

Pasture Rose/ Carolina Rose *(Rosa carolina)*

Virginia Creeper *(Parthenocissus quinquefolia)*

American Bittersweet *(Celastrus scandens)*

You don’t have to go it alone!

- Feel free to reach out to PHG if you find yourself fighting an uphill battle. We can help organize a volunteer removal event, many hands makes light work!
- PHG can also help provide supplies if you want to set up your own volunteer event!

Additional Resources

- Plant Invaders of the Mid-Atlantic:
  - https://www.invasive.org/alien/pubs/midatlantic/toc.htm
- University of Maryland Extension:
  - https://extension.umd.edu/hgic/topics/invasive-plants
- Maryland Invasive Species Council
  - http://mdinvasives.org/

The Patapsco we know and love is threatened by invasive plants.

It is up to us to protect it.

Q&A

Feel free to add any questions or comments in the chat.

Thanks!

Contact us:

Patapsco Heritage Greenway

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