



Invasive Plant Survey 2023

Judy Fulton

Kirsten Hoffman

Marie LaPorte

Maryland Native Plant Society

Green Towson Alliance

Maryland Chapter of the Sierra Club

Special Guests:

Delegate Linda Foley and Senator Ben Brooks



MARYLAND NATIVE PLANT COALITION

Members

- Maryland Chapter of the Sierra Club
- Maryland Native Plant Society
- Green Towson Alliance
- Greater Baltimore Wild Ones
- Garden Clubs of America, Zone VI



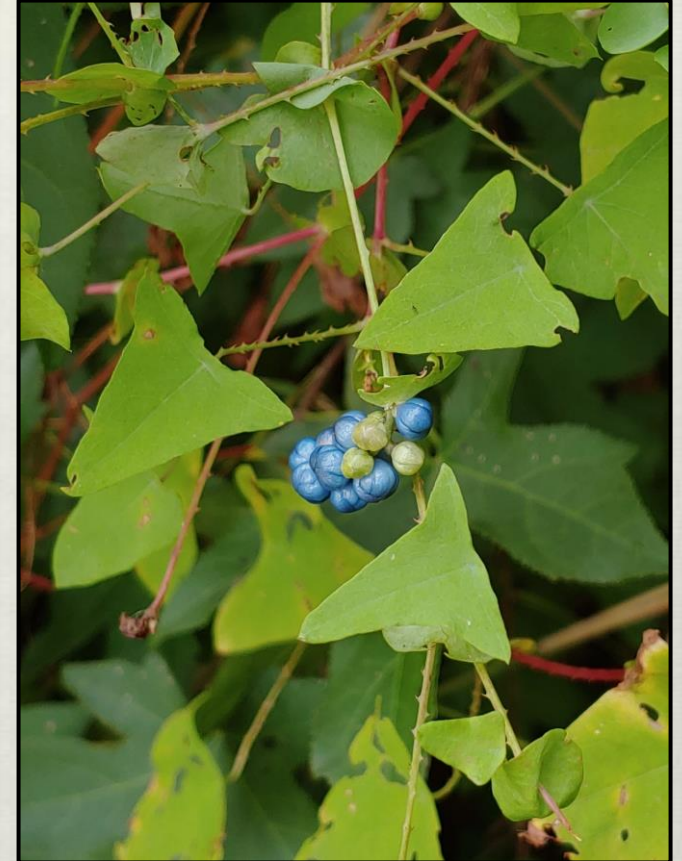
Infestation of Kudzu (*Pueraria montana* var. *lobata*)

Open to any organization that wants to help promote native plants and work to address Maryland's growing challenges with invasive plants



What Are Invasive Plant Species?

- ❖ Non-native plants that damage
 - Environment
 - Economy
 - Health
- ❖ With characteristics that include
 - Rapid growth & spread → out-compete, overwhelm, kill other plants
 - Ability to survive & propagate → prove very difficult to control once established
- ❖ “Tens rule” – Rule of thumb about invasiveness
 - 1000 species imported
 - ↓
 - 100 species escaped into natural areas
 - ↓
 - 10 established species in natural areas
 - ↓
 - Only 1 highly invasive species



Mile-a-Minute (*Persicaria perfoliata*)



Invasive Plant Crisis

❖ *Biodiversity & Ecosystems*: Damages the environment

- Reduced food & shelter for pollinators & other animals
- Reduced plant & animal biodiversity by causing or contributing to 60% extinctions globally
- Decline in bird populations by 30% since 1970
- Extinction risk for over 1/3 of U.S. plants
- Collapse risk of more than 4 in 10 ecosystems

Cost of loss is incalculable!

❖ *Agriculture*: Decreases crop yields 12%

- Higher food costs
- Contributor to farmer financial losses

Chinese Fountaingrass
(*Cenchrus purpurascens*)





Invasive Plant Crisis

❖ *Economy*: Costs huge \$\$\$ in Maryland & U.S.

- More than \$34B in U.S. losses in 2000 (\$62.5B in 2024 dollars)
- \$1M since 2014 to try to control 1 species in 1 location (Hydrilla in Deep Creek Lake)
- Shenandoah National Park \$20M annual budget for 200,000 acres, but \$27M extra to address current invasive plants

❖ *Human Health*: Damages Marylanders' health

- Exposure to carcinogenic herbicides
- **More tick-borne diseases from barberry & bush honeysuckles infestations**



Japanese Barberry
(*Berberis thunbergii*)





Invasive Plant Crisis

- ❖ ***Recreation:*** Reduces Marylanders' enjoyment of wild areas
 - Parks covered with monocultures of invasives instead of a variety of native plant species
 - Lakes and streams covered by masses of invasive plants that interfere with boating & fishing
- ❖ ***Climate Change:*** Kills our trees, which are crucial for cooling & absorbing CO₂
 - Higher temps throughout Maryland and globally
 - Social justice issues due to heat islands in Baltimore & other cities

Asian Bittersweet
(*Celastrus orbiculatus*)





Why did we conduct the survey?

Look for patterns in Maryland invasive plants
(not gather statistically significant data)

- Learn which invasive plant species considered most problematic
- Compare plant species reports by Maryland geographic area
- Identify types of survey respondents and their attitudes
- Look for correlations with existing Maryland Law
- Get input for deciding how to address the invasive plant problem

Porcelain-berry
(*Ampelopsis glandulosa*
var. *brevipedunculata*)

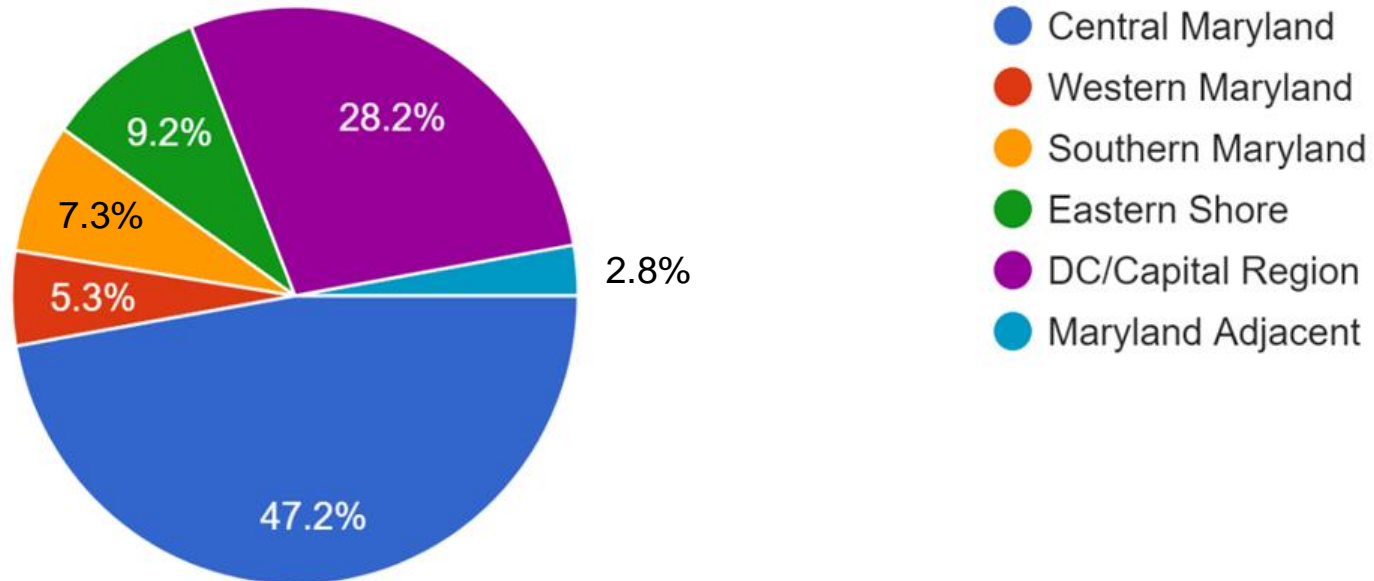




Participants by Region

Which region would you say your choices represent?

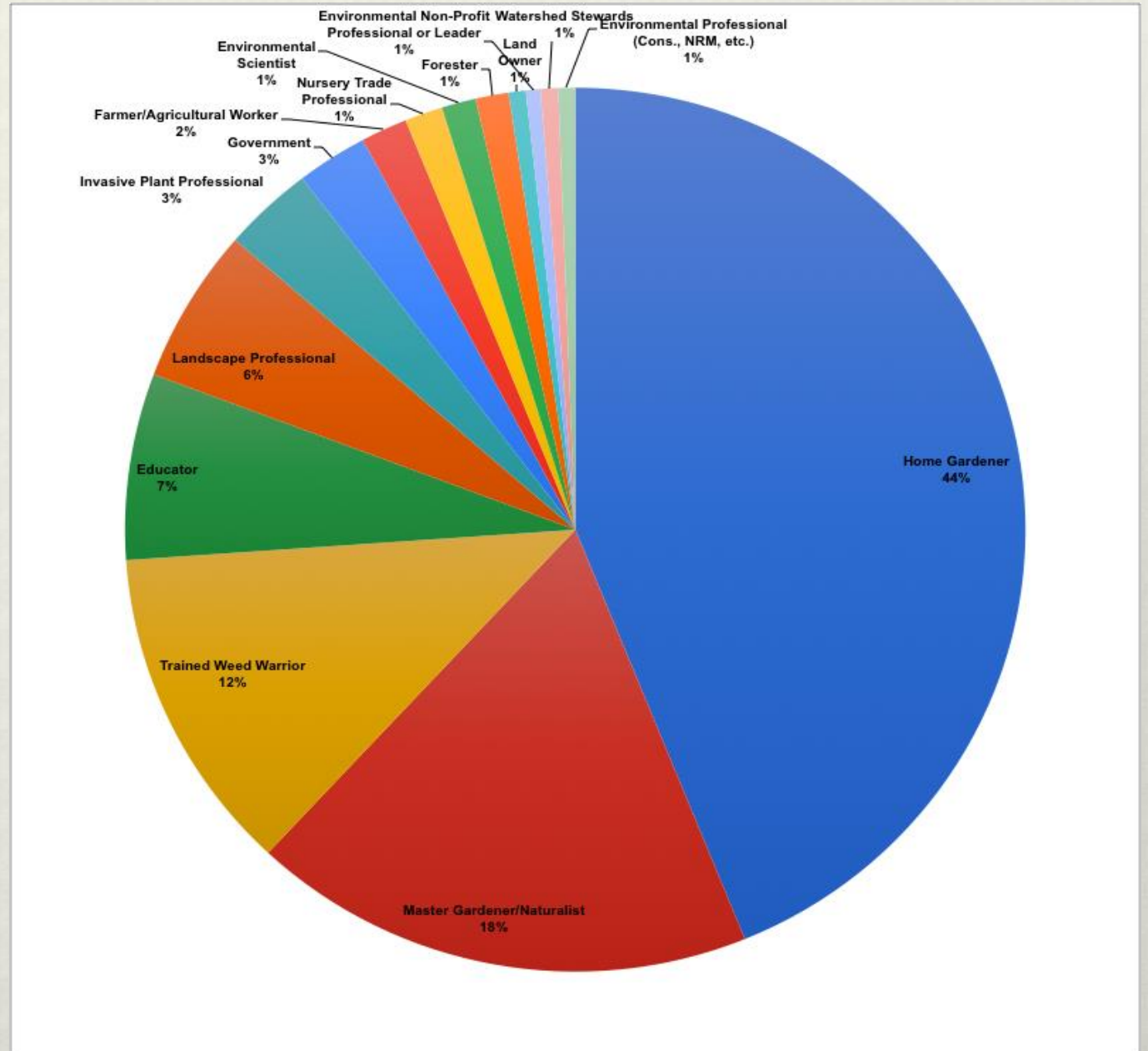
1,417 responses





Participants

Home gardeners	44%
Master Gardeners/Naturalists	18%
Trained Weed Warriors	12%
Educators	7%
Landscape professionals	8%
Invasive plant professionals	3%
Farmers/agricultural workers	2%
Foresters	2%
Other respondents	3%





What People Had to Say

It's very hard
to pick only
25!



What People Had to Say

It's very hard
to pick only
25!

I can't begin to estimate the time and energy that I spend trying to remove these plants from my property. I will never get rid of many of them and I just try to keep them in check. If only they had been prohibited sooner so they hadn't become so widespread.



What People Had to Say

It's very hard
to pick only
25!

I can't begin to estimate the time and energy that I spend trying to remove these plants from my property. I will never get rid of many of them and I just try to keep them in check. If only they had been prohibited sooner so they hadn't become so widespread.

It would be awesome if they stopped selling **ALL** the tier two invasives, and there were a large campaign to educate homeowners who have these in their landscape



What People Had to Say

It's very hard
to pick only
25!

I can't begin to estimate the time and energy that I spend trying to remove these plants from my property. I will never get rid of many of them and I just try to keep them in check. If only they had been prohibited sooner so they hadn't become so widespread.

It would be awesome if they stopped selling **ALL** the tier two invasives, and there were a large campaign to educate homeowners who have these in their landscape

Please include aquatic invasives.



What People Had to Say

It's very hard to pick only 25!

I can't begin to estimate the time and energy that I spend trying to remove these plants from my property. I will never get rid of many of them and I just try to keep them in check. If only they had been prohibited sooner so they hadn't become so widespread.

It would be awesome if they stopped selling ALL the tier two invasives, and there were a large campaign to educate homeowners who have these in their landscape

Lots and lots of vines are strangling everything in my yard and I can't keep up! I use RoundUp which I hate to do, but I still can't keep them under control!

Please include aquatic invasives.



What People Had to Say

It's very hard to pick only 25!

English Ivy- how is this still legally sold!!!???

I can't begin to estimate the time and energy that I spend trying to remove these plants from my property. I will never get rid of many of them and I just try to keep them in check. If only they had been prohibited sooner so they hadn't become so widespread.

Lots and lots of vines are strangling everything in my yard and I can't keep up! I use RoundUp which I hate to do, but I still can't keep them under control!

It would be awesome if they stopped selling ALL the tier two invasives, and there were a large campaign to educate homeowners who have these in their landscape

Please include aquatic invasives.



What People Had to Say

It's very hard to pick only 25!

English Ivy- how is this still legally sold!!!!??

We need to greatly expand the list of plants on the "do not sell" list!

I can't begin to estimate the time and energy that I spend trying to remove these plants from my property. I will never get rid of many of them and I just try to keep them in check. If only they had been prohibited sooner so they hadn't become so widespread.

Lots and lots of vines are strangling everything in my yard and I can't keep up! I use RoundUp which I hate to do, but I still can't keep them under control!

It would be awesome if they stopped selling ALL the tier two invasives, and there were a large campaign to educate homeowners who have these in their landscape

Please include aquatic invasives.



What People Had to Say

We agree with you and the hundreds of similar comments, and feel the same way!!!



Burning Bush with Fruits
(*Euonymus alatus*)



Invasive Plant Survey – Species Excluded

Current Tier 1 (Prohibited) Plants

Incised fumewort (*Corydalis incisa*)

Wintercreeper (*Euonymus fortunei*)

Lesser celandine (*Ficaria verna*)

Shining geranium (*Geranium lucidum*)

Yellow flag iris (*Iris pseudacorus*)

Amur honeysuckle (*Lonicera maackii*)

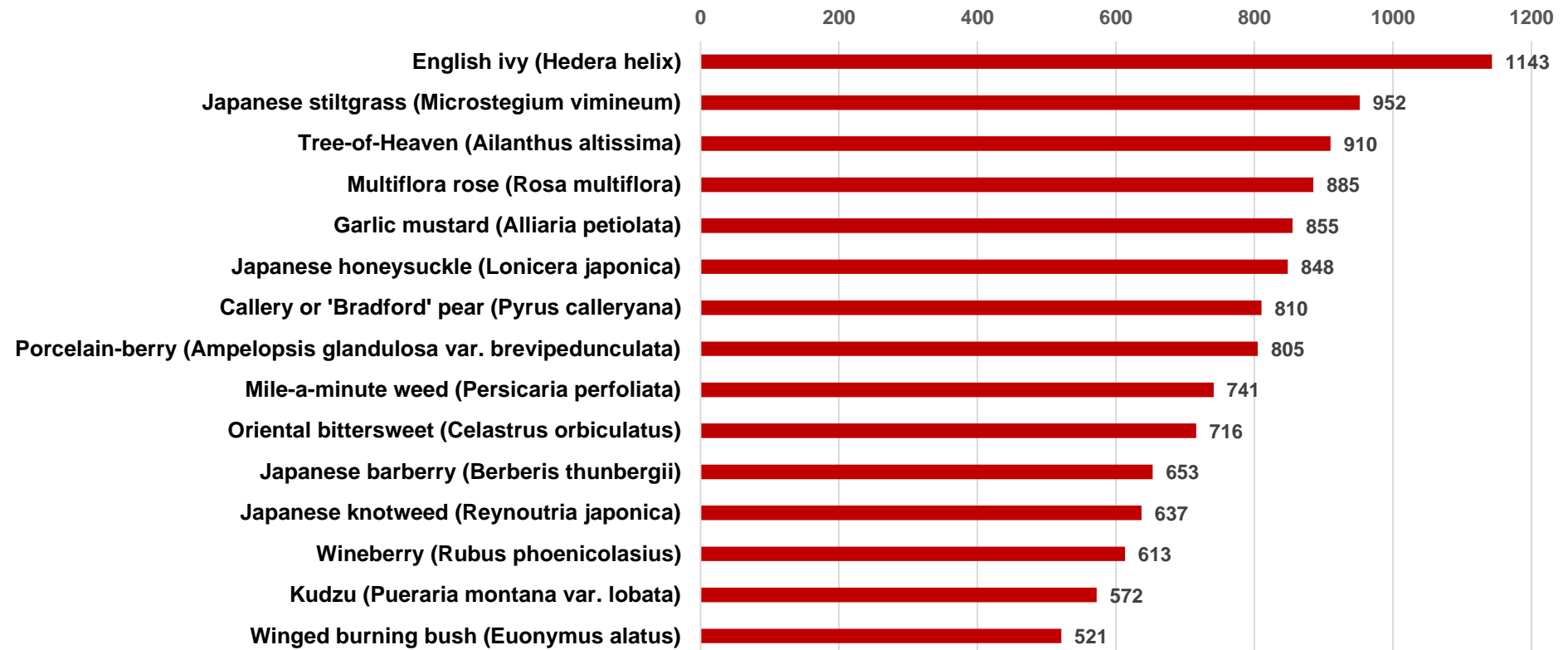


Amur honeysuckle (*Lonicera maackii*)



Invasive Plant Survey – Most Problematic Plants

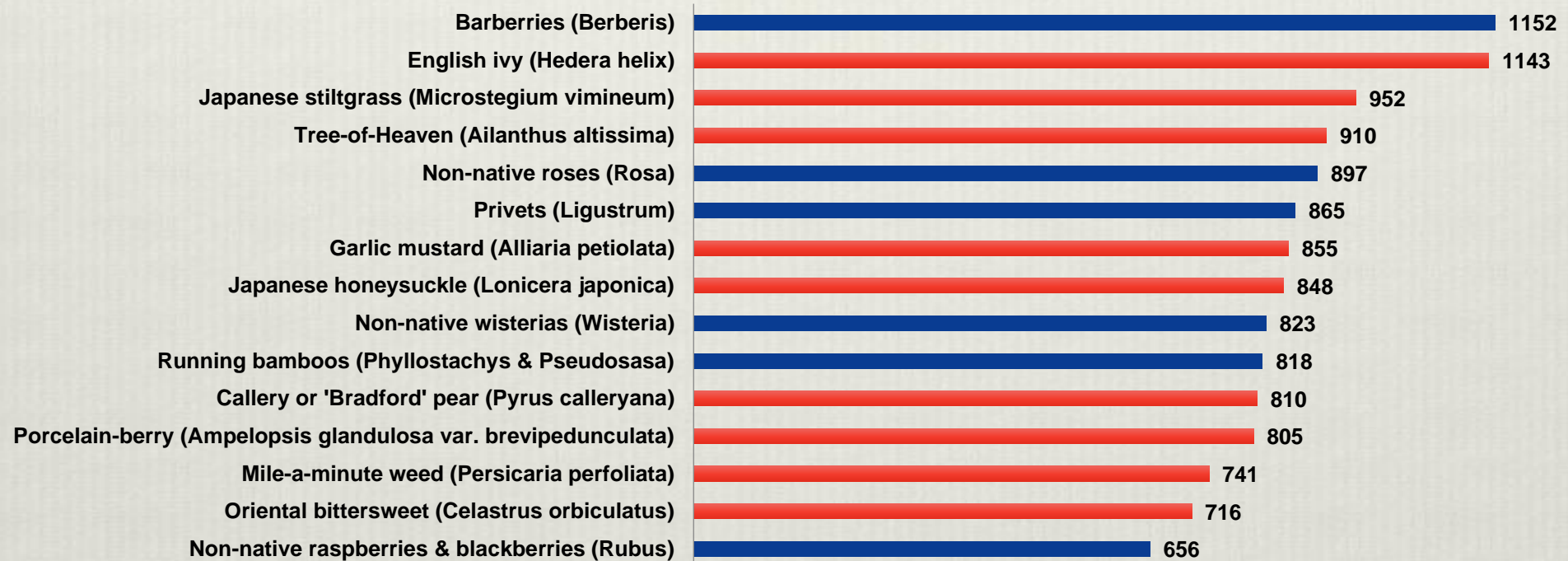
State-wide Survey Total





Invasive Plant Survey – Genera Roll-Up

Maryland Top Invasives



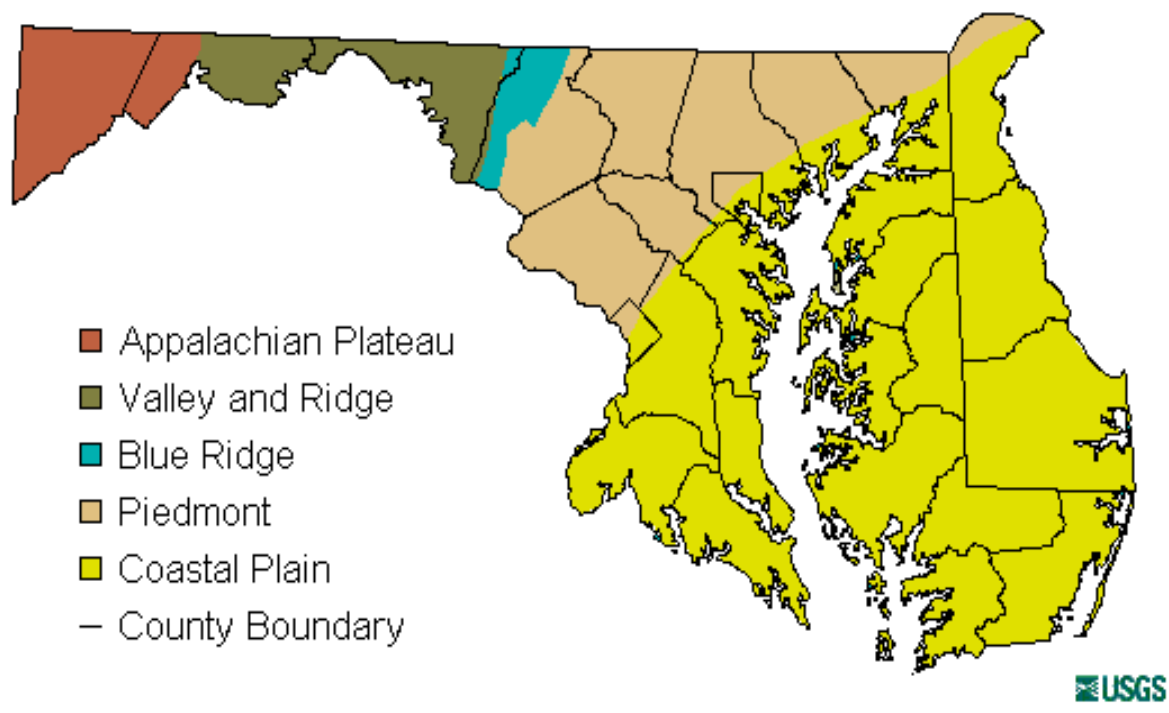
Single Species

Grouping of similar species within a genus



Invasive Plant Survey – Maryland Regions

Physiographic Provinces of Maryland and Delaware



- ❖ Maryland has very diverse growing conditions
- ❖ Many invasive plants in survey top 15 are established across most regions
- ❖ Ranking order of invasives changes



Regional Results – Central Maryland

Central Maryland Top Invasives



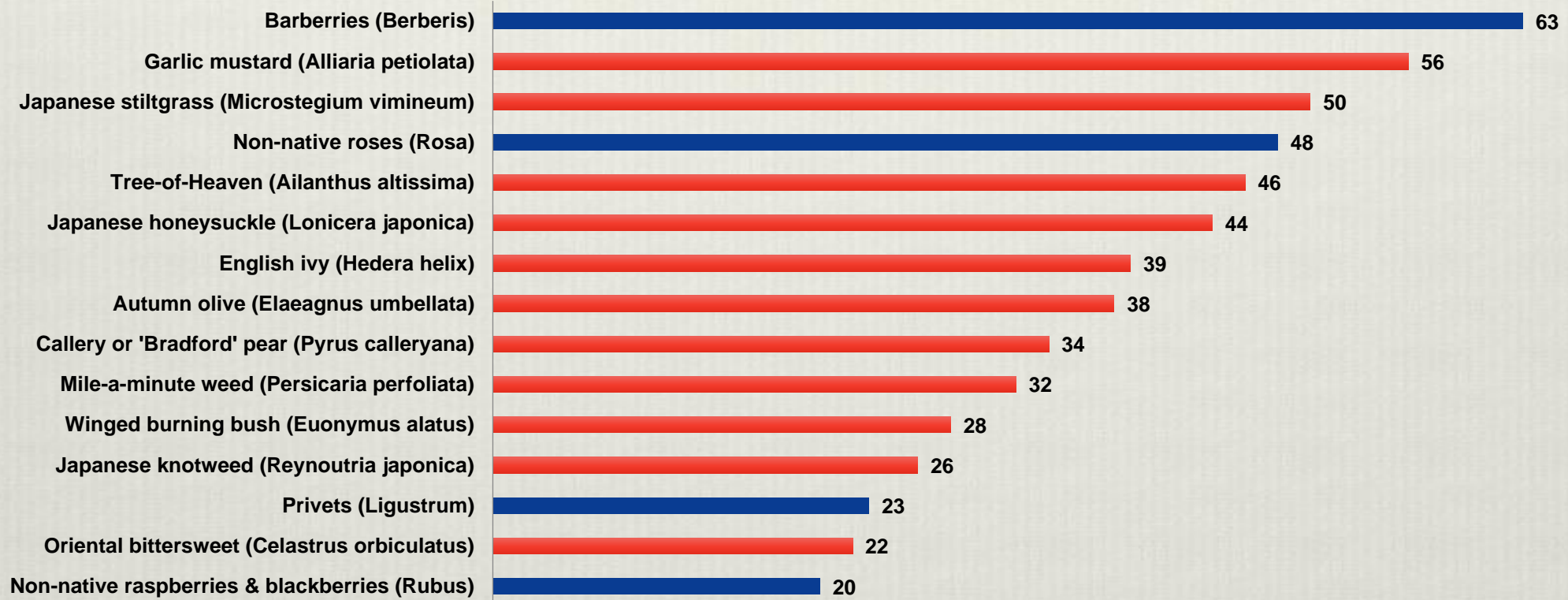
Single Species

Grouping of similar species within a genus



Regional Results – Western Maryland

Western Maryland Top Invasives



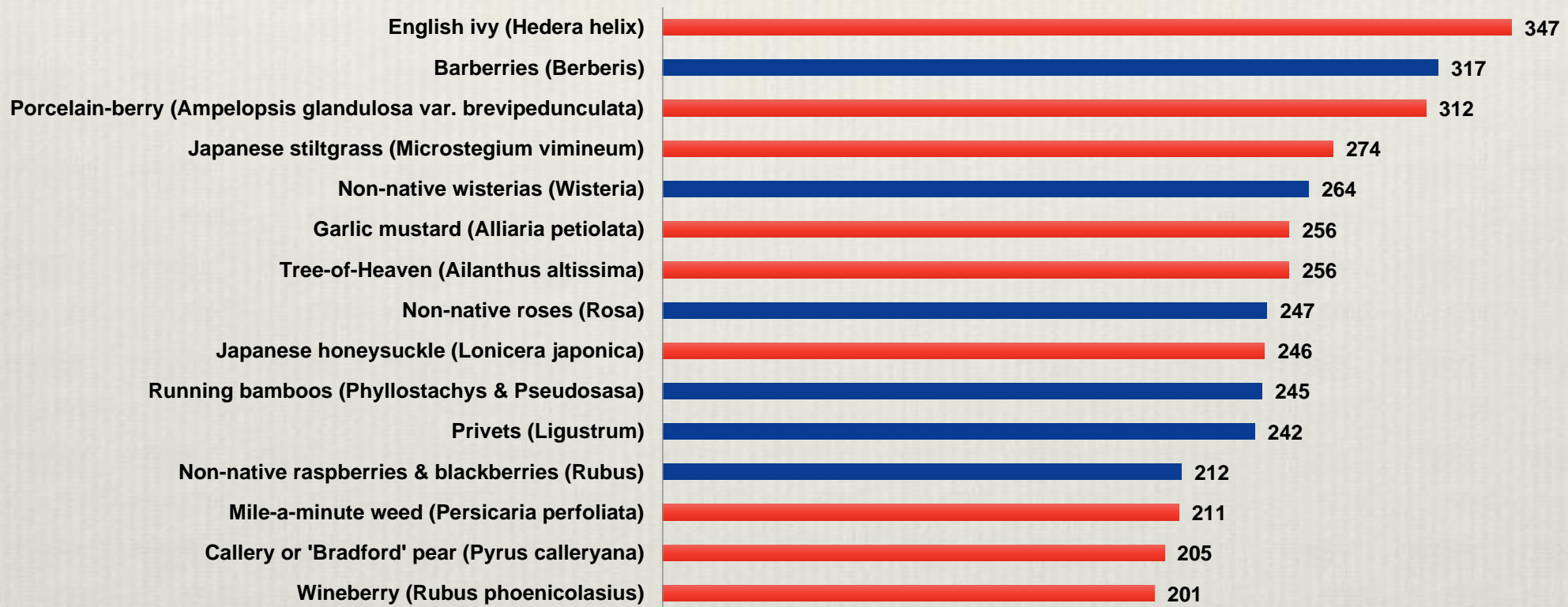
Single Species

Grouping of similar species within a genus



Regional Results – DC/Capital Maryland

D.C. Capital Top Invasives



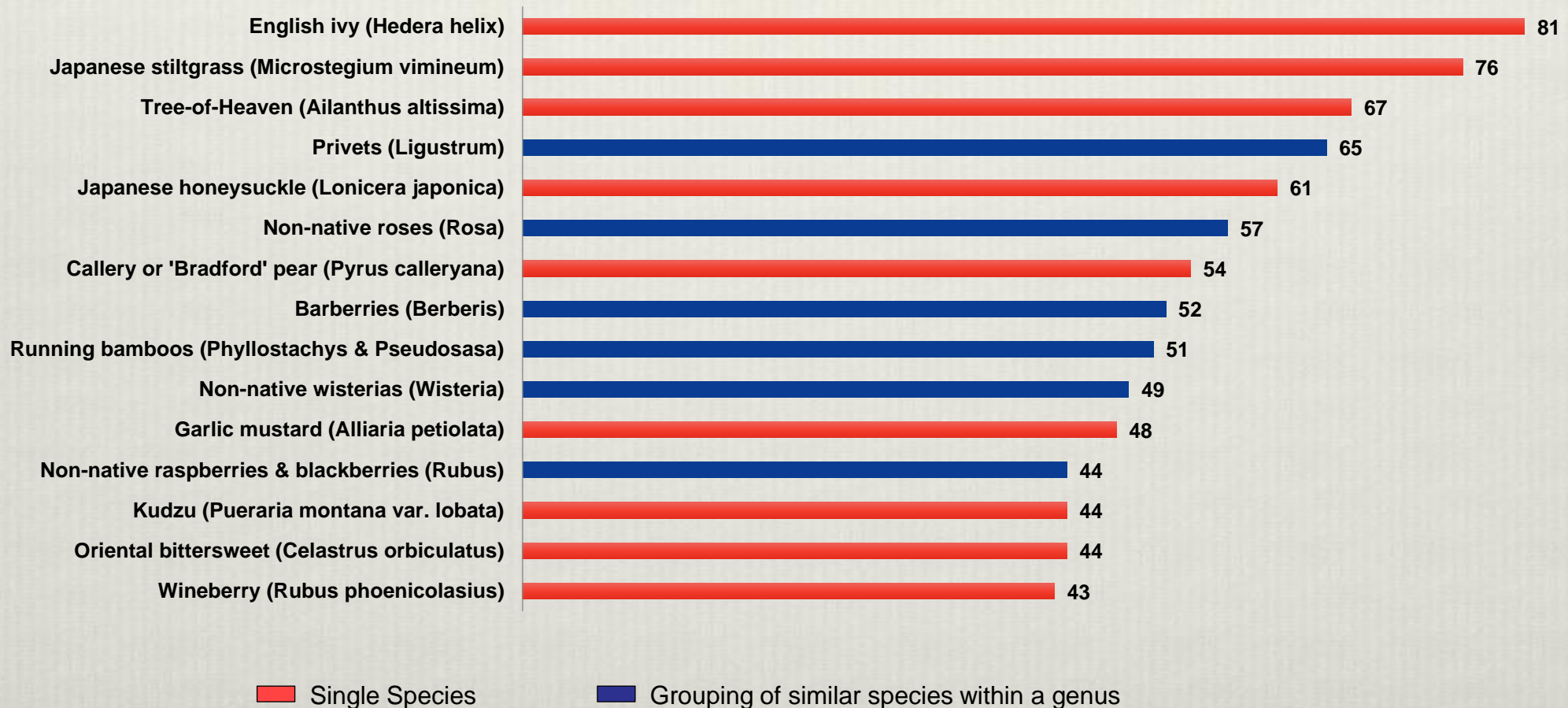
Single Species

Grouping of similar species within a genus



Regional Results – Southern Maryland

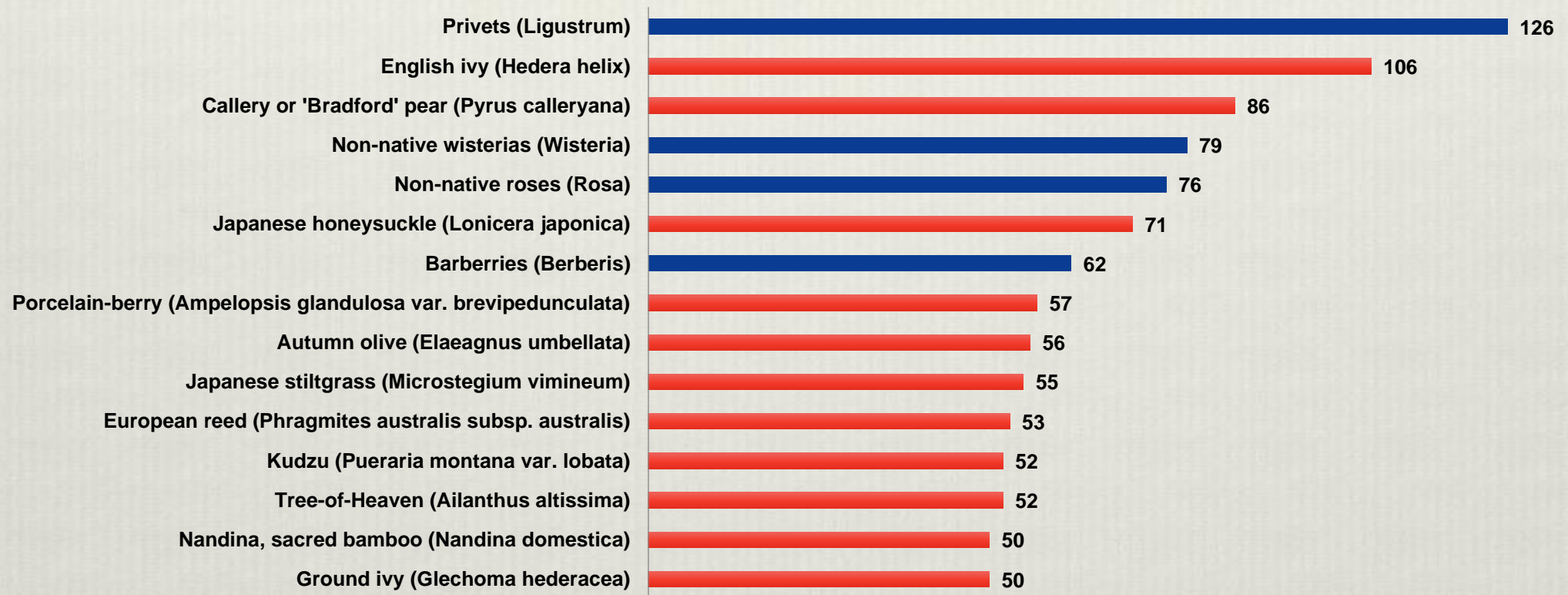
Southern Maryland Top Invasives





Regional Results – Eastern Shore

Eastern Shore Top Invasives



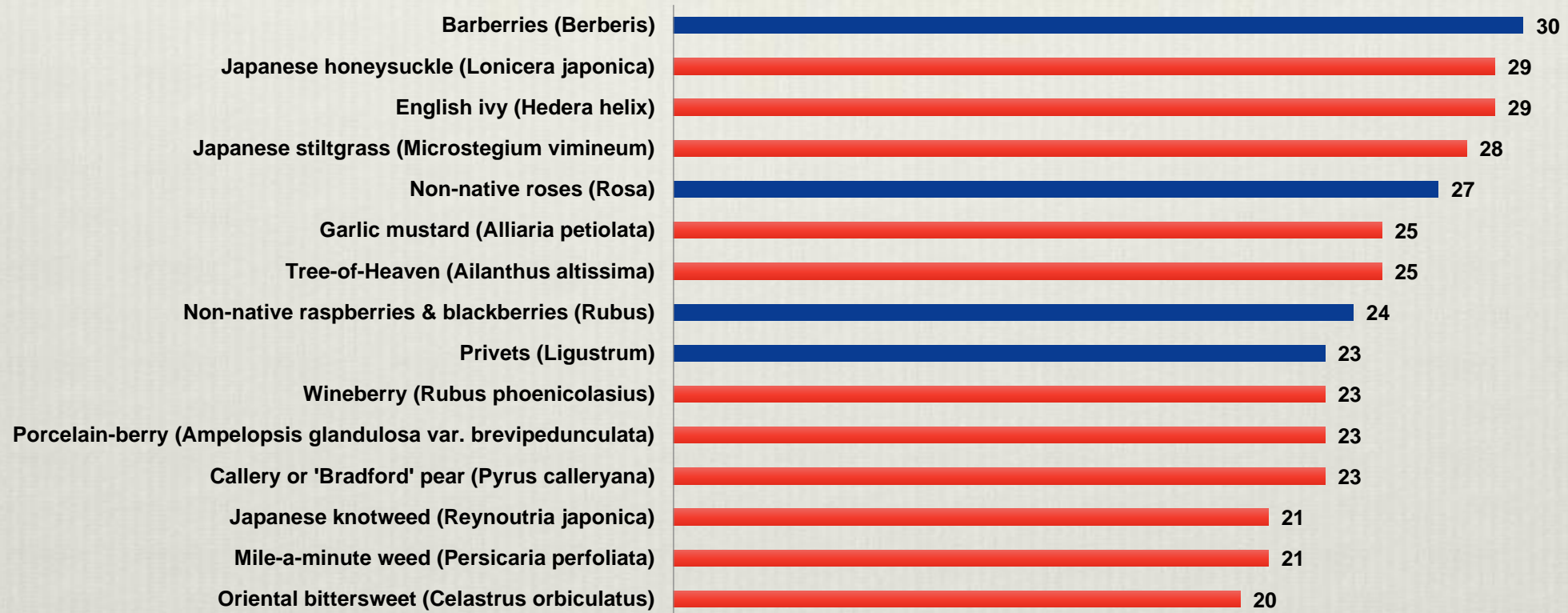
Single Species

Grouping of similar species within a genus



Regional Results: Maryland Adjacent (DE, PA, VA)

Maryland Adjacent Top Invasives



Single Species

Grouping of similar species within a genus

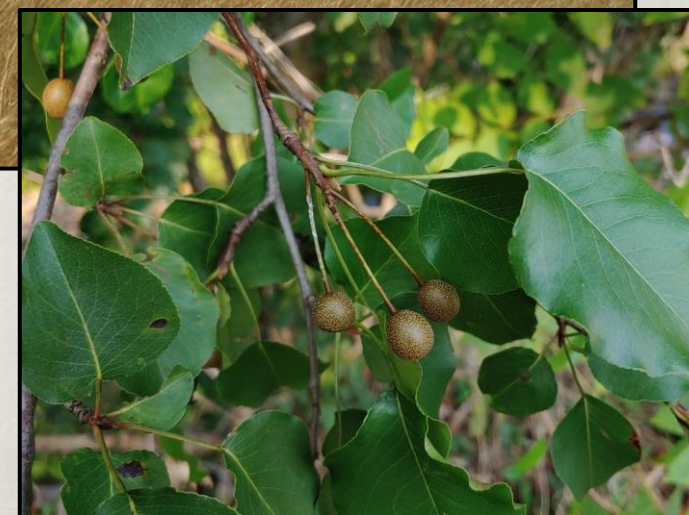


Top 15 on Current Tier 2 List

Highly problematic species in survey, but not Prohibited in Maryland

- Callery or 'Bradford' pear (*Pyrus calleryana*)
- Japanese barberry (*Berberis thunbergii*)
- Burning bush (*Euonymus alatus*)
- Border privet (*Ligustrum obtusifolium*)
- Golden bamboo (*Phyllostachys aurea*)
- Yellow groove bamboo (*Phyllostachys aureosulcata*)
- Nandina, sacred bamboo (*Nandina domestica*)
- Japanese wisteria (*Wisteria floribunda*)
- Chinese wisteria (*Wisteria sinensis*)
- Japanese-Chinese wisteria hybrid (*Wisteria x formosa*)

Callery Pear (*Pyrus calleryana*)
David Moorehead, University of Georgia, Bugwood.org

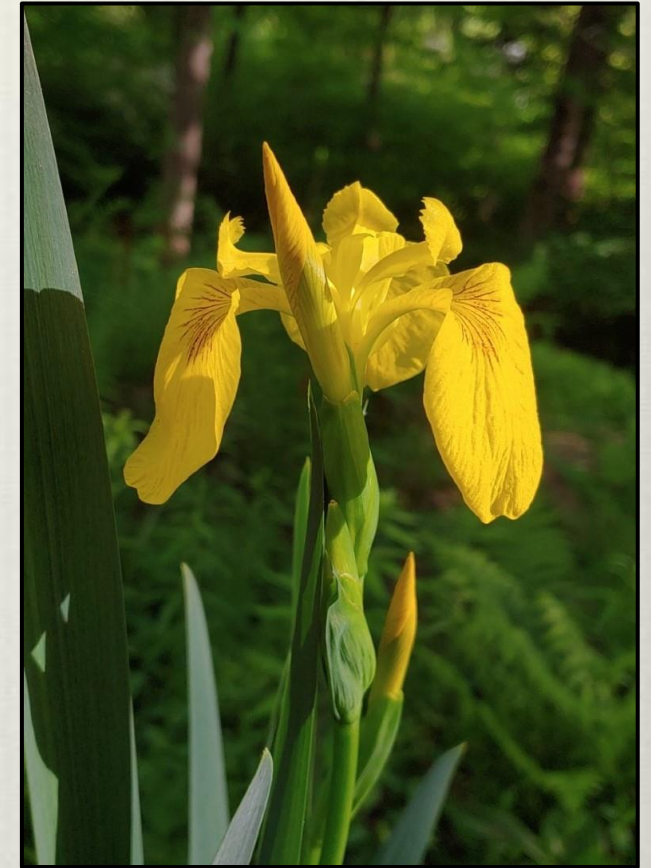


Callery Pear
(*Pyrus calleryana*)



Maryland Invasive Plant Legislation – History

- 2011: Maryland passed initial law on invasive plants
- 2022: Maryland added species to be evaluated, from *Plant Invaders of Mid-Atlantic Natural Areas*
- Now: Almost 300 plants are on the Maryland Invasive Species Council's partial list of invasive plants, but:
 - 6 species prohibited from sale & propagation (Tier 1), about 2% of MISC list
 - 13 with signage required signage at point of sale (Tier 2)
 - No species assessed since 2019




Yellow Flag Iris
(*Iris pseudacorus*)


2021 UMass study: > 60% of 1,285 plants identified as invasive remain for sale in eastern U.S.




Top 15 in Survey and on Current Tier 2 List

	English ivy	Japanese stiltgrass	Tree of Heaven	Garlic mustard	Japanese honeysuckle	Multiflora rose	Callery pear	Porcelain-berry	Mile-a-minute	Asian bittersweet	Japanese barberry	Japanese knotweed	Wineberry	Kudzu	Burning bush
MD						Regulated as public & common nuisance on agricultural land	Regulated, but not Prohibited				Regulated, but not Prohibited				Regulated, but not Prohibited
DE	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited		Prohibited
NY		Prohibited		Prohibited	Prohibited	Prohibited		Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Regulated, but not Prohibited
PA		Prohibited	Prohibited	Prohibited		Prohibited	Prohibited		Prohibited	Prohibited	Prohibited	Prohibited		Prohibited	Prohibited
VA			Prohibited					Prohibited	Prohibited	Prohibited					

 Prohibited

 Regulated, but not Prohibited

 Regulated as public & common nuisance on agricultural land

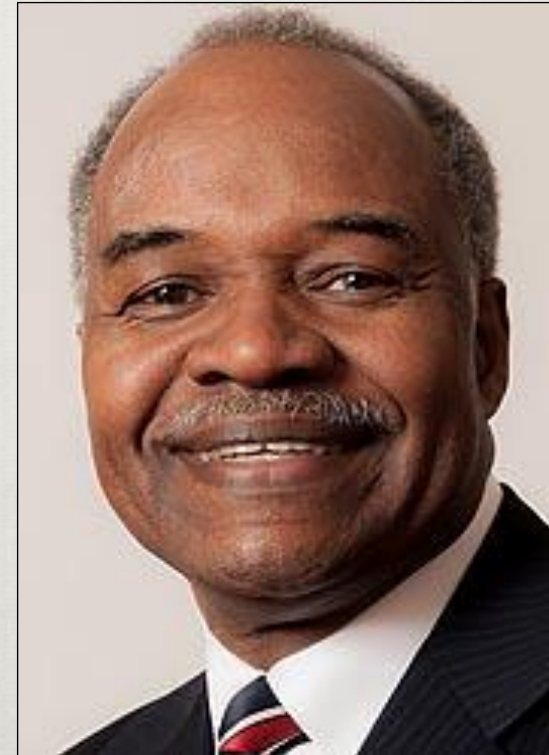


2024 Invasive Plant Bill

Maryland House Sponsor
Delegate Linda Foley



Maryland Senate Sponsor
Senator Ben Brooks





2024 Invasive Plant Bill – Goals



Increase # of species not sold or propagated



Add aquatic species damaging MD waterways



Add non-commercial species damaging MD ecosystems



Bring MD more in line with other Mid-Atlantic states

Plants don't know about political borders



Help biodiversity & climate at the State Level

- Slow the spread of invasive plants pushing natives to extinction
- Protect our natural habitats!



Hard to Eradicate Italian Arum
(*Arum italicum*)



2024 Invasive Plant Bill – Components



Improve the process by replacing the assessment protocol

- NatureServe-based protocol used by DE, NY, VA, other states
- More efficient approach
- Continued use of scientific literature
- No need for expensive subscriptions to specialized software



Create single consolidated list of prohibited plant species

- Terrestrial, aquatic, commercial, non-commercial
- Comprehensive approach
- Increased efficiency & clarity for the Public



Fund positions in Maryland Department of Agriculture

Golden Groove Bamboo
(*Phyllostachys aureosulcata*)





2024 Invasive Plant Bill – Components

➔ Move Tier 2 plant species from just requiring signage to Prohibited

Japanese angelica tree (*Aralia elata*)

Japanese barberry (*Berberis thunbergii*)

Scotch broom (*Cytisus scoparius*)

Winged burning bush/euonymus (*Euonymus alatus*)

Border privet (*Ligustrum obtusifolium*)

Nandina, sacred bamboo (*Nandina domestica*)

Golden bamboo (*Phyllostachys aurea*)

Yellow groove bamboo (*Phyllostachys aureosulcata*)

Callery pear (*Pyrus calleryana*)

Bee-bee tree (*Tetradium daniellii*)

Japanese wisteria (*Wisteria floribunda*)

Chinese wisteria (*Wisteria sinensis*)

Japanese-Chinese wisteria hybrid (*Wisteria x formosa*)



Tier 2 plants are not less harmful, but widespread and present ≥50 years



What Can You Do?

- Look up your state representatives at MDElect.net
- Contact your state senator and delegate to express your support for the bill
- Share information about the bill with friends and colleagues
- Submit a video to us so you can share your experiences with invasives in your area
<http://tinyurl.com/Invasivevideo>

English Ivy on Tree & Ground
(*Hedera helix*)





Questions?



Virgin's Bower (*Clematis ternifolia*)

Thanks for your support!

All photos by Judy Fulton unless otherwise specified



Contact Information

Garden Clubs of America Zone VI

Meredy McDonagh

meredy@comcast.net

Green Towson Alliance

Kirsten Hoffman

hoffman01@yahoo.com

Greater Baltimore Wild Ones

Amanda Wray
Jimmy Rogers

nativeplantconsult@gmail.com
magicscientist@gmail.com

Maryland Chapter of the Sierra Club

Marie LaPorte

marielaporte@verizon.net

Maryland Native Plant Society

Judy Fulton

jfulton5@gmail.com