Sharing Knowledge. Empowering Communities

Why Landscaping with Native Plants Matters

Virginia Cooperative Extension
Virginia Tech • Virginia State University

PIEDMONT·MASTER·GARDENERS
Charlottesville·Albemarle County, Virginia

Mission of Extension Piedmont Master Gardeners

We are volunteer educators who engage the Charlottesville/Albemarle communities through a broad range of programs and information resources that provide research-based horticulture best practices and encourage environmental sustainability, in furtherance of the values and goals of the

Virginia Cooperative Extension

Virginia Cooperative Extension
Virginia Tech • Virginia State University

Sharing Knowledge. Empowering Communities

PIEDMONT·MASTER·GARDENERS
Charlottesville·Albemarle County, Virginia

Albemarle-Charlottesville

145 Master Gardeners
22 Master Gardener Interns
28 Emeritus Master Gardeners

AND MADE

13,640 direct educational contacts

CONTRIBUTING A TOTAL OF

21,965 volunteer hours

VALUED AT

$ 657,851.00*

*Based on a value of $29.95/hour from Independent Sector 2022 Value of Volunteer Hours by State

TO ALBEMARLE – Charlottesville

IN THE 2022 YEAR

Virginia Cooperative Extension
Virginia Tech • Virginia State University

PIEDMONT·MASTER·GARDENERS
Charlottesville·Albemarle County, Virginia

We Are Going to Share

- Review of *Biodiversity, Ecosystem Services, Conservation Landscaping* principles
- What is considered a native plant
- What's good about native plants
- Why this matters
- Considerations when choosing native plants for your site conditions
- Actions
- Resources

Virginia Cooperative Extension
Virginia Tech • Virginia State University

PIEDMONT·MASTER·GARDENERS
Charlottesville·Albemarle County, Virginia

What does Biodiversity mean?

- Biodiversity refers to the variety of life on earth and the ecosystems they form.

Virginia Cooperative Extension
Virginia Tech • Virginia State University

PIEDMONT·MASTER·GARDENERS
Charlottesville·Albemarle County, Virginia

We depend on biodiversity for our very existence!

Ecosystem Services:

Natural aspects of ecosystems that impact human health and well being

- Photosynthesis
- Pollination
- Water and air purification
- Soil formation and health
- Nutrient cycling
- Moderating weather extremes

Virginia Cooperative Extension
Virginia Tech • Virginia State University

PIEDMONT·MASTER·GARDENERS
Charlottesville·Albemarle County, Virginia

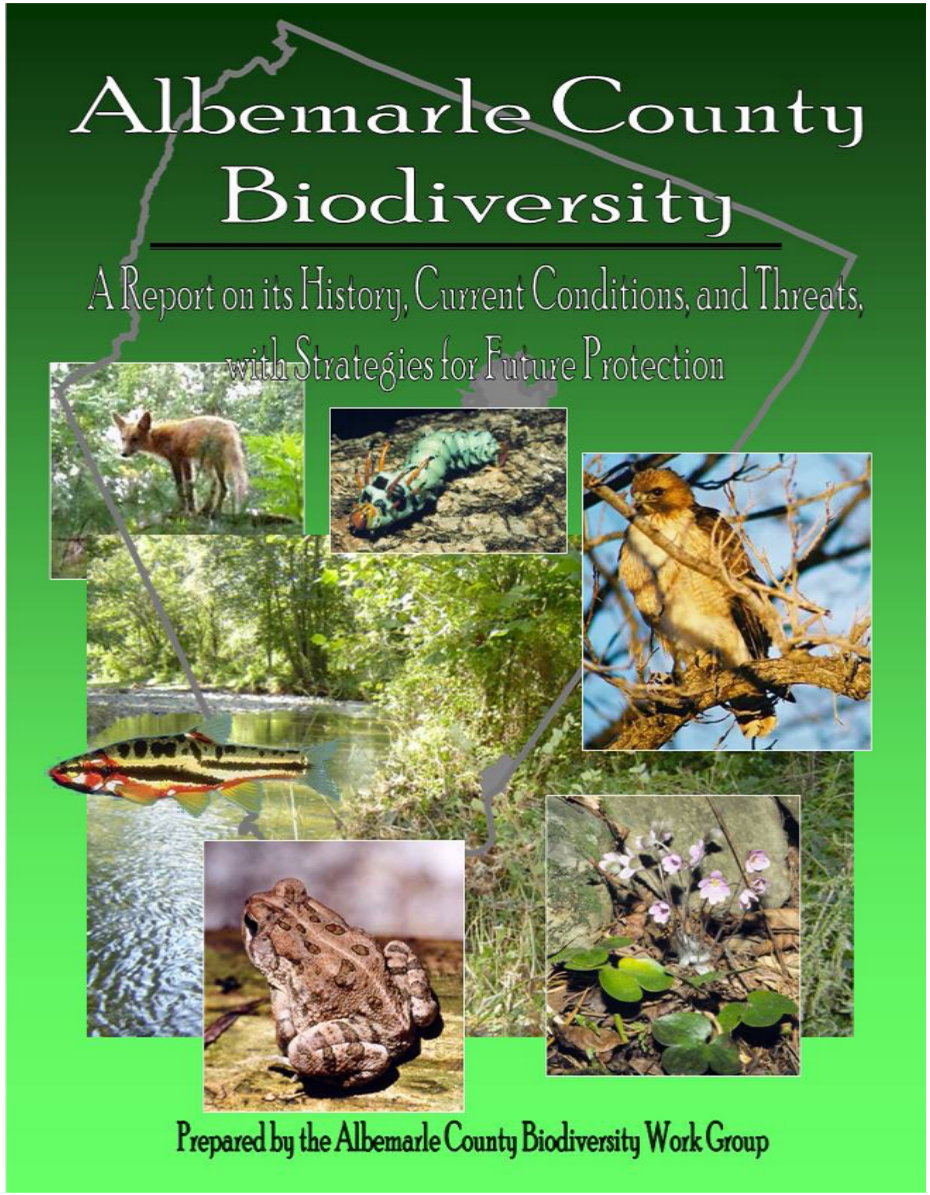
Biodiversity a source of beauty and enjoyment!

Loss of biodiversity creates ecological instability

Virginia Cooperative Extension
Virginia Tech • Virginia State University

PIEDMONT·MASTER·GARDENERS
Charlottesville·Albemarle County, Virginia

Citizens and local government working together.



Virginia Cooperative Extension
Virginia Tech • Virginia State University

PIEDMONT·MASTER·GARDENERS
Charlottesville·Albemarle County, Virginia

Threats: Forest Fragmentation

Photo: “Outdoor Delaware”, Winter 1995

Photo: Wil

Threats: Nonnative Invasive Species

Photo: Center for Urban Habitats

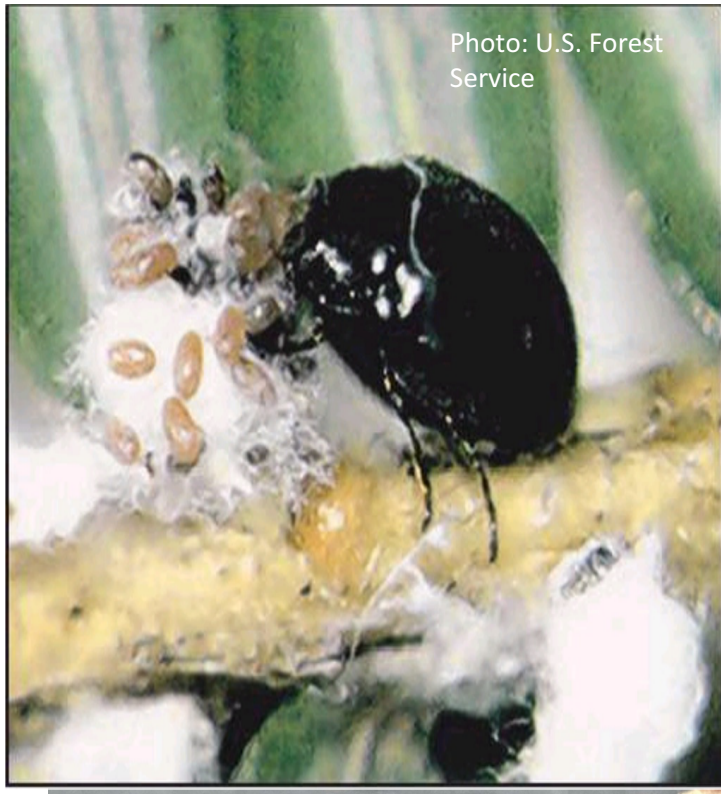
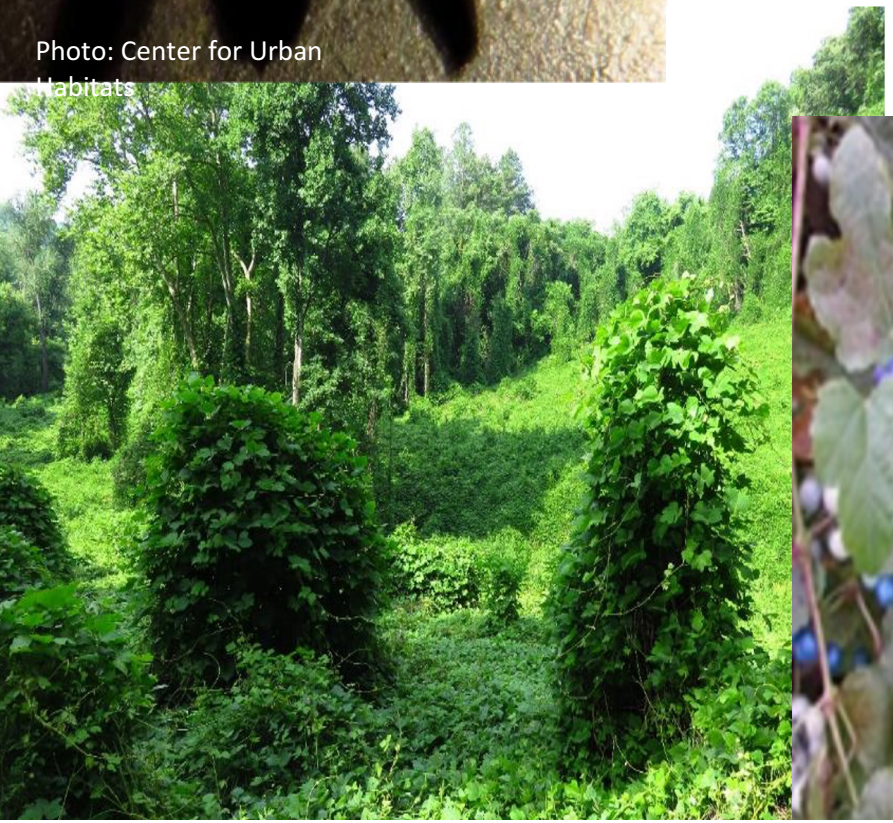


Photo: U.S. Forest Service



Examples of Species/Biodiversity Decline

- **Worldwide**
  - 2/3 loss of wildlife in the last 50 years
  - 1 million species and 40% of plants risk extinction
- **US**
  - Bird population declined by 3 billion since 1970
  - 30% reduction in the pollinator network
  - 80% decline in Eastern Monarch butterfly since 1990s.
    - Reduced milkweed availability
    - Deforestation in Mexico wintering area

Virginia Cooperative Extension
Virginia Tech • Virginia State University

PIEDMONT·MASTER·GARDENERS
Charlottesville·Albemarle County, Virginia

Every landscape has four ecological responsibilities:

1. Support food webs
2. Support pollinators
3. Sequester carbon
4. Clean and manage water

Virginia Cooperative Extension
Virginia Tech • Virginia State University

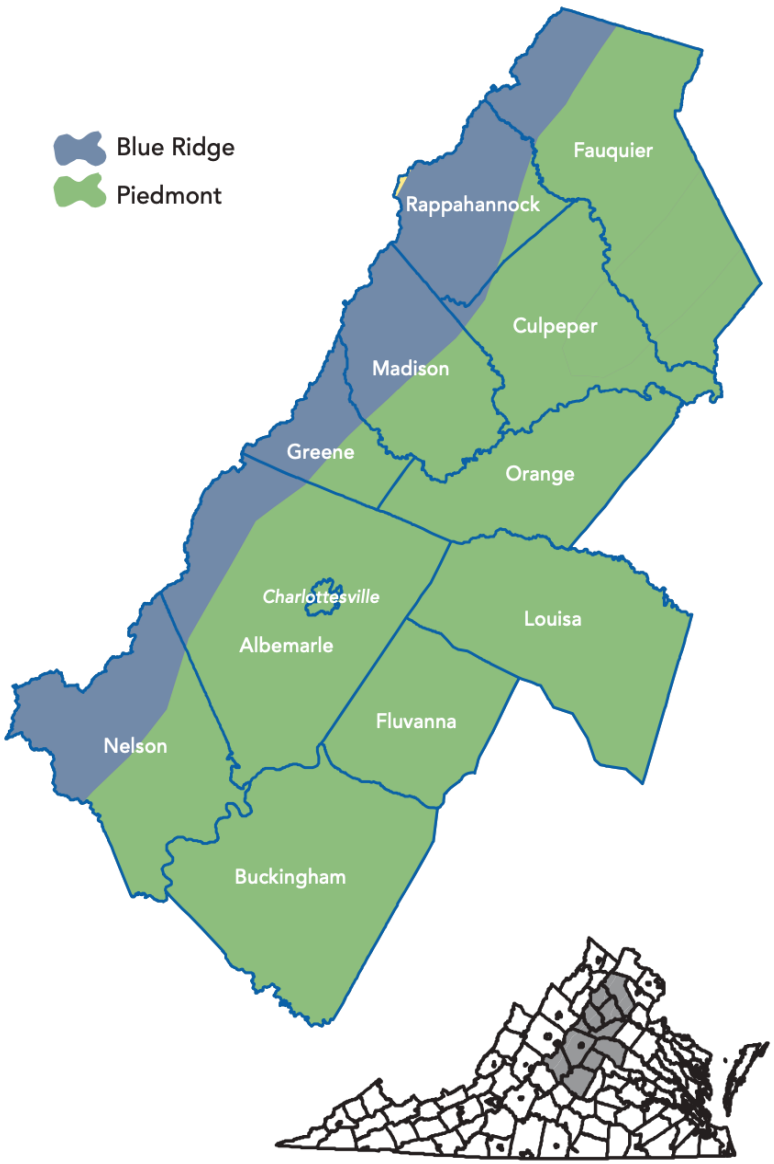
What is considered a native plant?

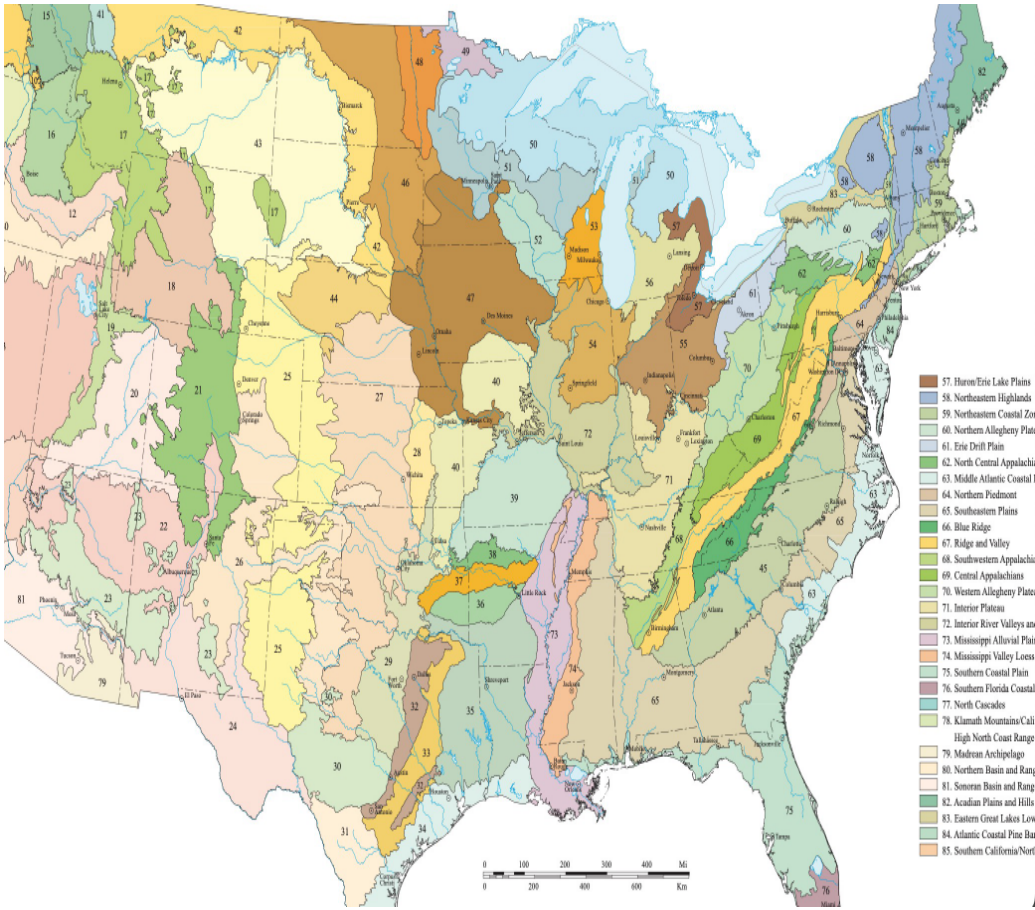
- A plant that grew naturally in a particular area in North America before the European colonizers introduced plants from elsewhere
- *Native plants are species that have no known history of importation and have lived in a place long enough to develop a particular relationships with other species that constitute the working of nature*

Virginia Cooperative Extension
Virginia Tech • Virginia State University

PIEDMONT·MASTER·GARDENERS
Charlottesville·Albemarle County, Virginia

Native to Where?
Northern Piedmont Ecoregion





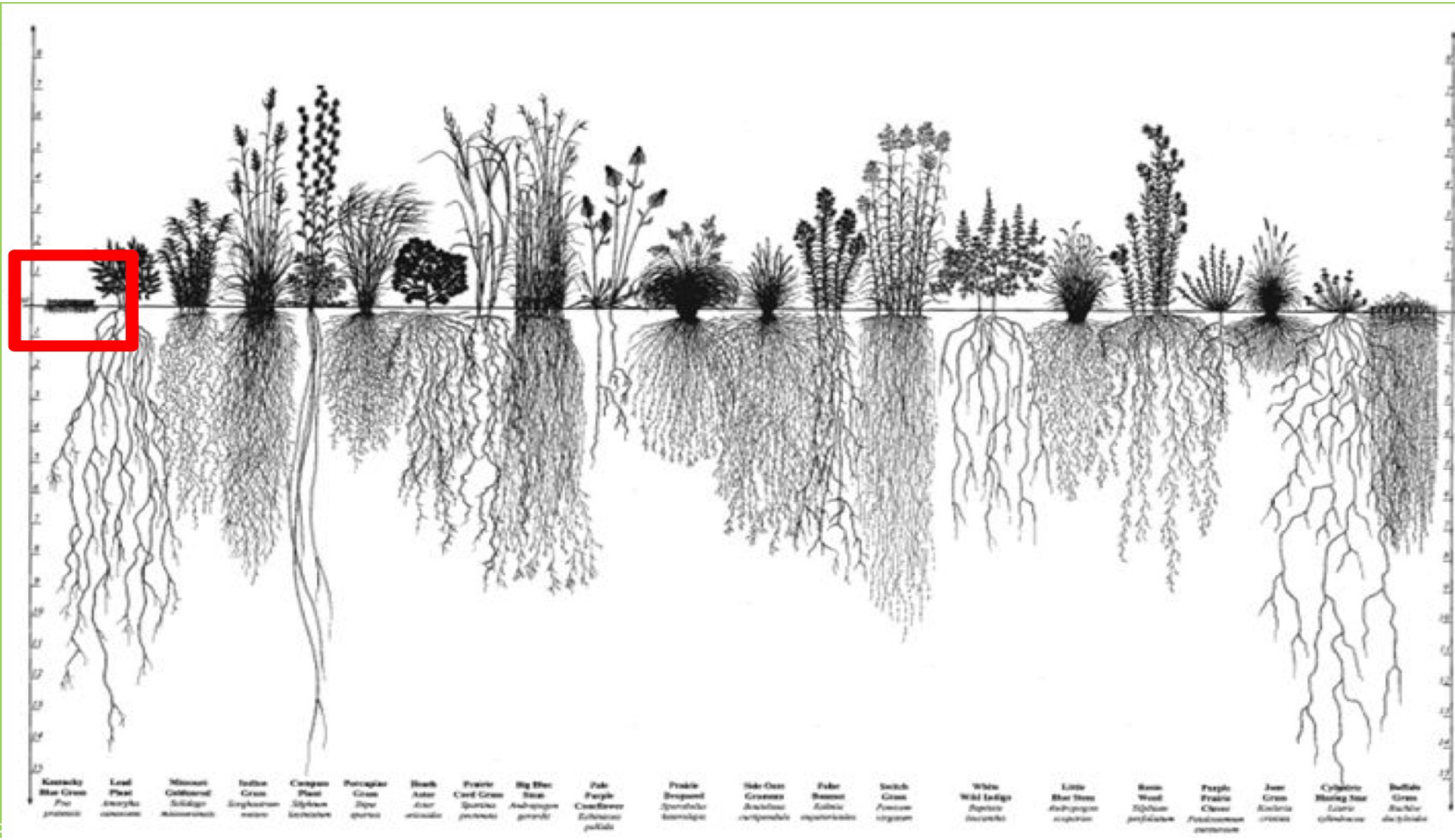
Why Native Species?

- Adapted to our climate, soil and water
- Naturally resistant to diseases
- Documented to best support wildlife
- 90% of insects depend on native plants to survive
- 96% of land birds feed on insects
- Often are superior stormwater functionality

Virginia Cooperative Extension
Virginia Tech • Virginia State University

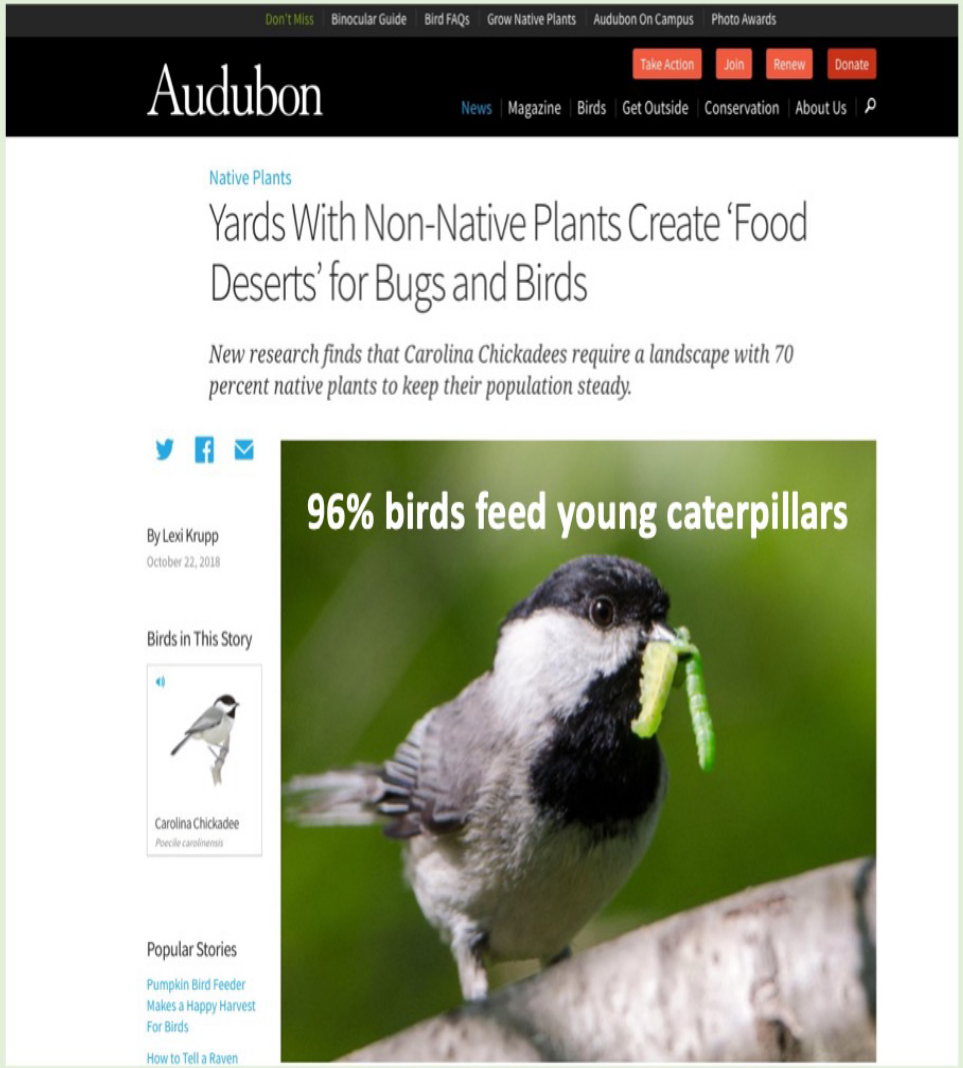
PIEDMONT·MASTER·GARDENERS
Charlottesville·Albemarle County, Virginia

Stormwater management and Carbon Sequestration



Ideal landscape: Biomass of 70% native plants

Caterpillars are essential components of nature's food webs



(Joint study of residential landscapes in DC area
by University of Delaware & Smithsonian Migratory Bird Center,
Desirée Narango, Doug Tallamy & Peter Marra)

30% benign non-native species:

Azaleas
Daisies
Heucheras
Hostas
Lilacs
Peonies
Salvias
Mums

Slide credit MGNV

Cultivars and hybrids vs. native straight species:

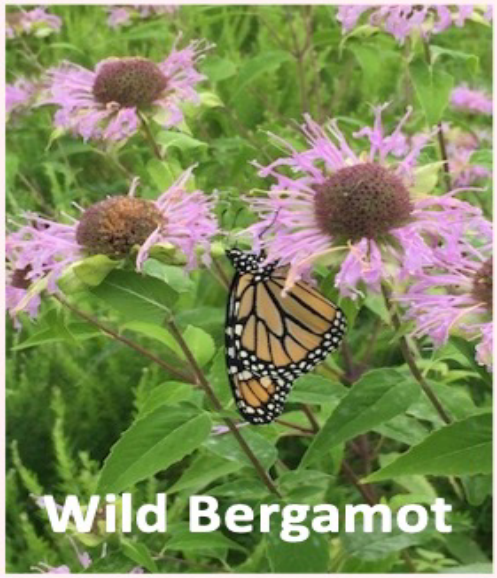
- Cultivar: a plant variety bred for specific traits:
  - Different color, shape, sizes of plants, blooms, leaves

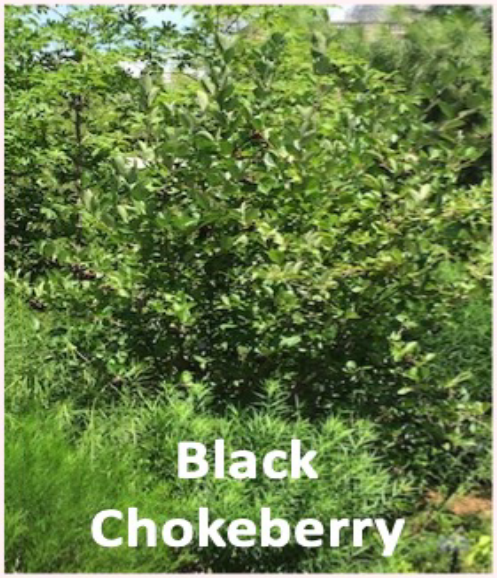
- Hybrid: new species produced by cross-pollinating two different species.
- Identification: Different color/shape/size than native species.

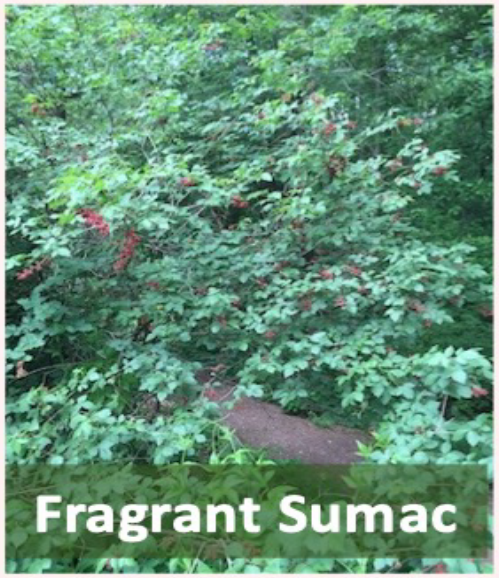
Look for an “x” in the name: Aquilegia x hybrida

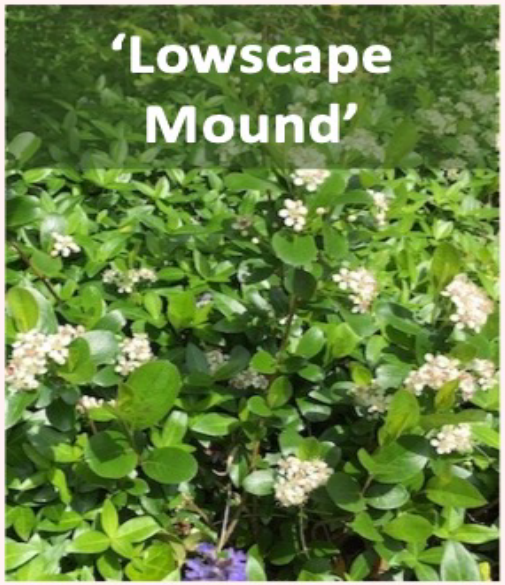
Mildew-resistant

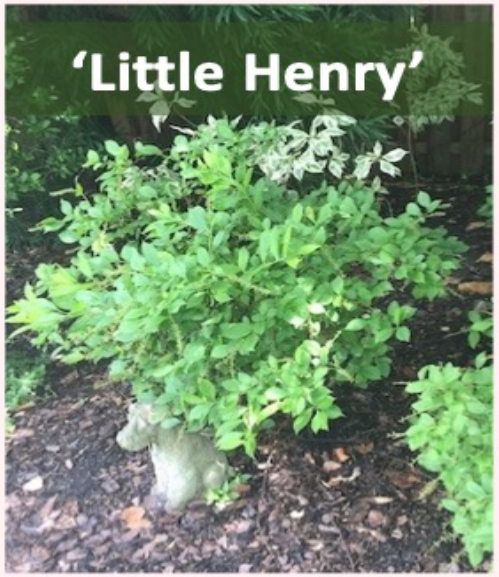
Dwarf size for smaller gardens with same flowers and fruit











Straight Species vs Cultivars

- Major problem for wildlife with changes to foliage
- Change of leaf color reflects change in chemistry
- Green leaves = chlorophyll Red leaves = anthocyanins
- Affects plant use in hosting caterpillars of butterflies and moths

Virginia Cooperative Extension
Virginia Tech • Virginia State University

Straight Species vs Cultivars

- Changes to flower structure also problematic
- Flowers with large, showy blossoms lack sexual parts (sterile)
- Do not provide nectar and pollen for pollinators
- Most cultivars propagated vegetatively by cloning
- They lack genetic variation to be adaptable to change

Virginia Cooperative Extension
Virginia Tech • Virginia State University

PIEDMONT·MASTER·GARDENERS
Charlottesville·Albemarle County, Virginia

Download a list of Plants Native to our Northern Piedmont (Updated 6/5/2023)

Native Plants and Cultivars for the Northern Piedmont

This list is intended to promote greater availability and use of regionally native plants by including cultivars that have demonstrated ecological value approximately equal to the straight species. It is a work in progress, and we welcome suggestions.

Last Update 6/5/2023

	BOTANICAL/LATIN NAME	COMMON NAME	ACCEPTABLE CULTIVARS
X	**Groundcovers**		
	Perennials		
	Achillea millefolium	Yarrow	Apricot Delight', 'Moonshine','Desert Eve' 'Sassy Summer Sweet' , 'Sunny Seduction', 'New Vintage', 'Summer Wine', 'Strawberry Seduction'
	Actaea pachypoda	White Baneberry / Doll's Eye	
	Actaea racemosa	Black cohosh	
	Ageratina altissima/aromatica	White snakeroot/Small white Snakeroot	
	Allium cernuum	Nodding Onion	
	Anemone virginiana	Tall Thimbleweed	
X	*Antennaria neglecta*	Field Pussytoes	
X	*Antennaria plantaginifolia*	Plantain-leaved Pussytoes	
	Aquilegia canadensis	Wild or Eastern Red Columbine	'Little Lanterns'
	Arisaema triphyllum	Common Jack-in-the-pulpit	
	Aruncus dioicus	Eastern Goat's-Beard	
	Aruncus dioicus	Goat's Beard, Bride' Feather	
X	*Asarum canadense*	Common Wild Ginger	
	Asclepias incarnata	Swamp Milkweed	Ice Ballet,' 'Cinderella,' 'Soulmate'
	Asclepias syriaca	Common Milkweed	

Our research team evaluates native plants and related cultivars for horticultural and ecological value, highlighting the ecosystem services native plants provide.

2018-2022

Carex for the Mid-Atlantic Region

Carex is a large genus of grass-like perennials that are found in nearly all corners of the planet. Eastern North America alone hosts hundre...

VIEW DETAILS

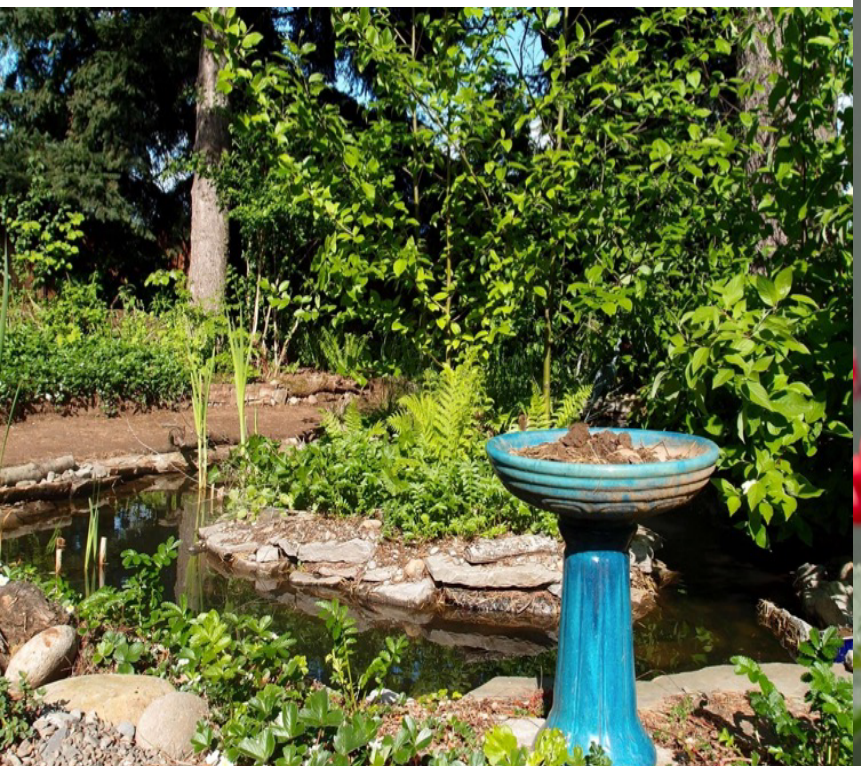
2017-2021

Wild Hydrangea for the Mid-Atlantic Region

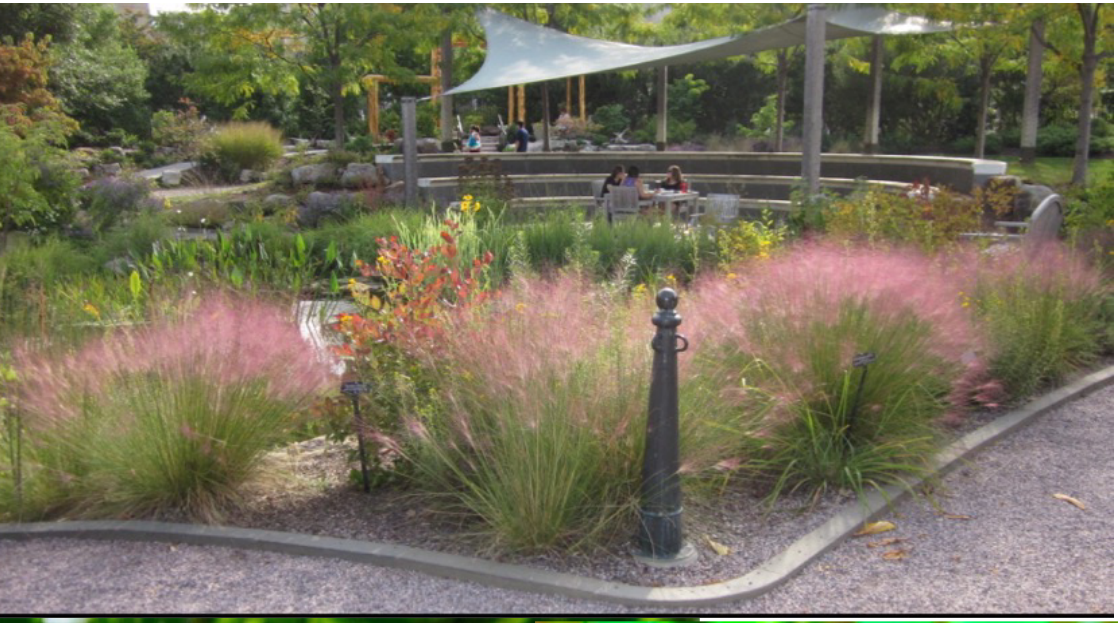
Mt. Cuba Center's native hydrangea trial evaluated Hydrangea arborescens and its relatives Hydrangea cinerea and Hydrangea radiata. These ...

What do all living things need to survive?

- Food
- Water
- Shelter

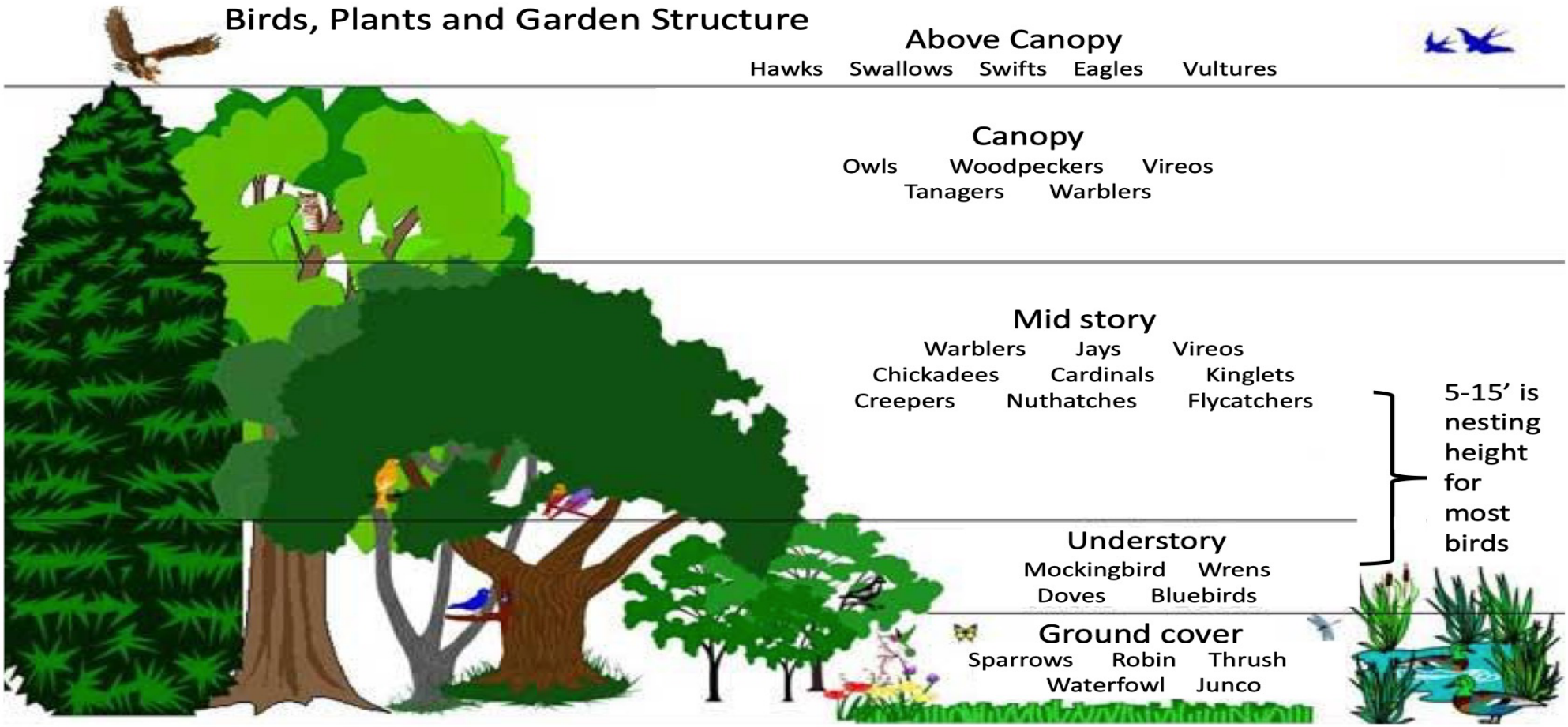


More Density = More Wildlife Diversity



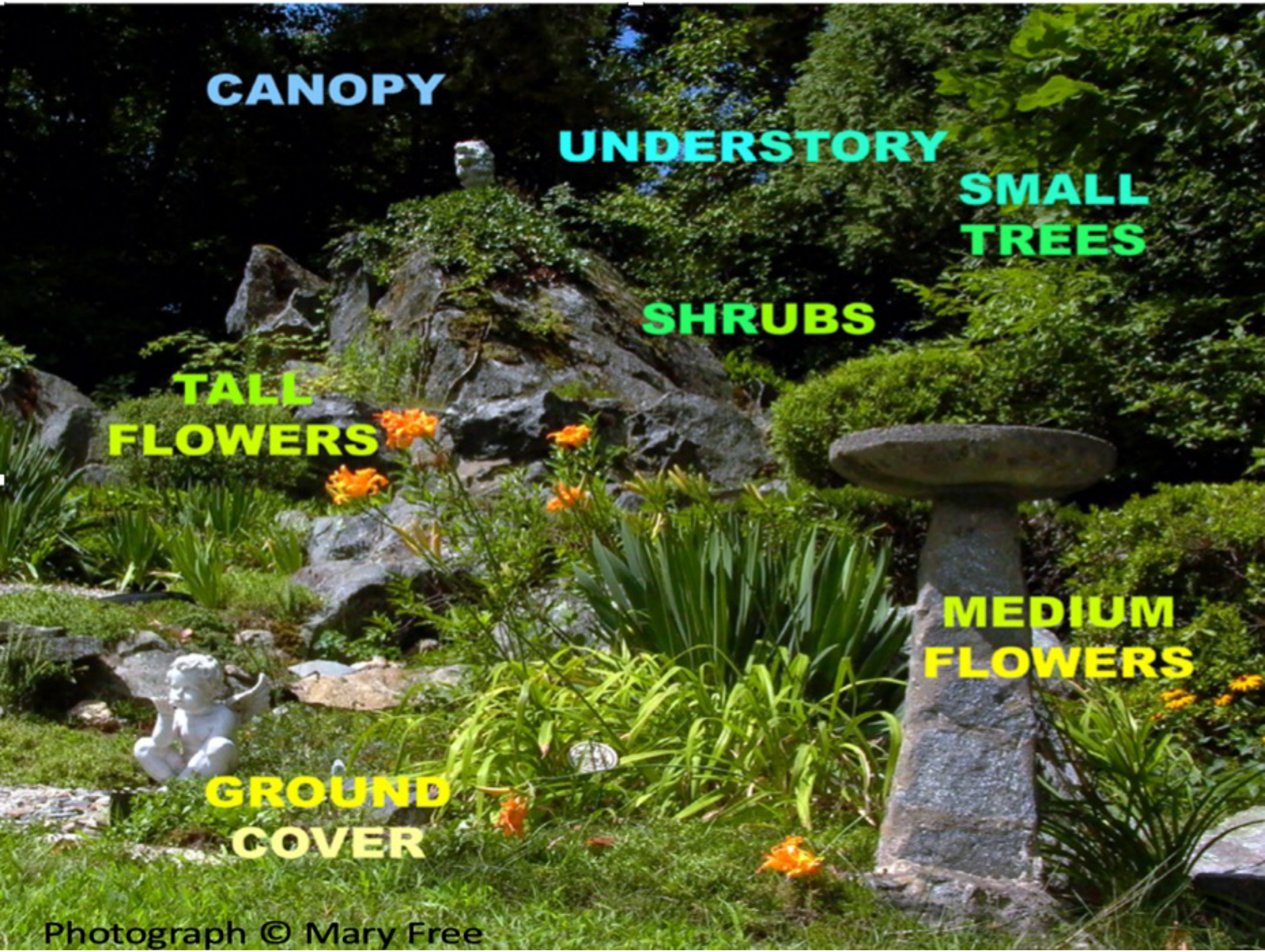
- Mass similar plants together (i.e. group multiple plants of same species together)

More Layers = More Wildlife Diversity



Canopy	Mid-story		Understory		Vines	Ground covers	
			Tall shrubs	Low Shrubs		Meadow	Wetland
Oak	Maple	Hackberry	Dogwood	Sweetspire	VA Creeper	Goldenrods	Sedges
Hickory	Sweetgum	Juniper	Hawthorn	Blueberry	Greenbriar	Milkweeds	Rushes
Pine	Am. Holly	Maple	Viburnum	Chokeberry	Trumpetcreeper	Asters	Arrowhead
Sycamore	Black Gum	Cherry	Rhododendron	Hollies	Honeysuckle	Grasses	Lizards Tail
Elm	Persimmon	Ash			Am. Wisteria		

L. Pickering 2014


CANOPY
UNDERSTORY
SMALL TREES
SHRUBS
TALL FLOWERS
MEDIUM FLOWERS
GROUND COVER
Photograph © Mary Free