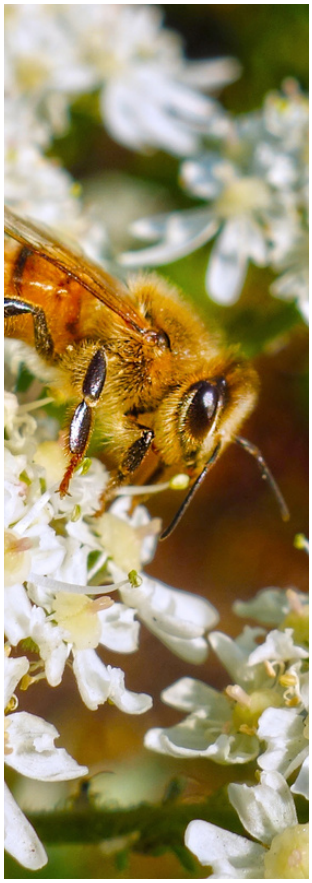
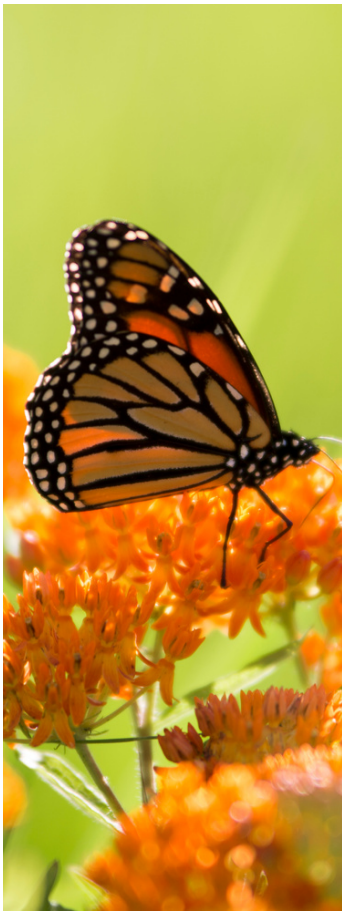





Nurture Natives

A Guide to Invasive Species and their Native Look-Alikes

Abigail Bonney | Esther Bonney | Samantha Rutherford

UNIVERSITY OF MARYLAND EXTENSION

This institution is an equal opportunity provider.

TABLE OF CONTENTS

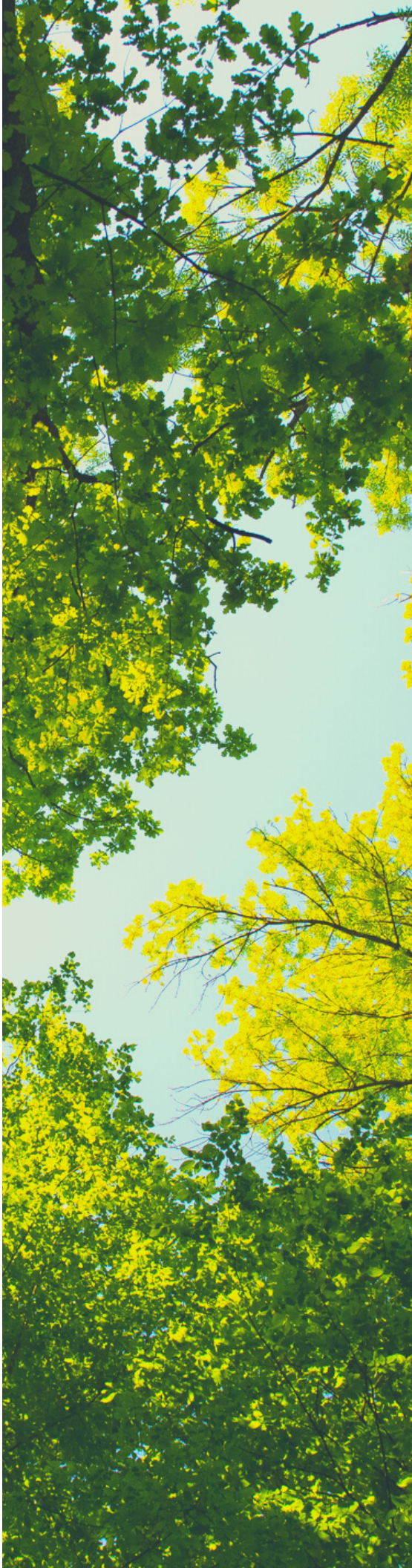
Introduction

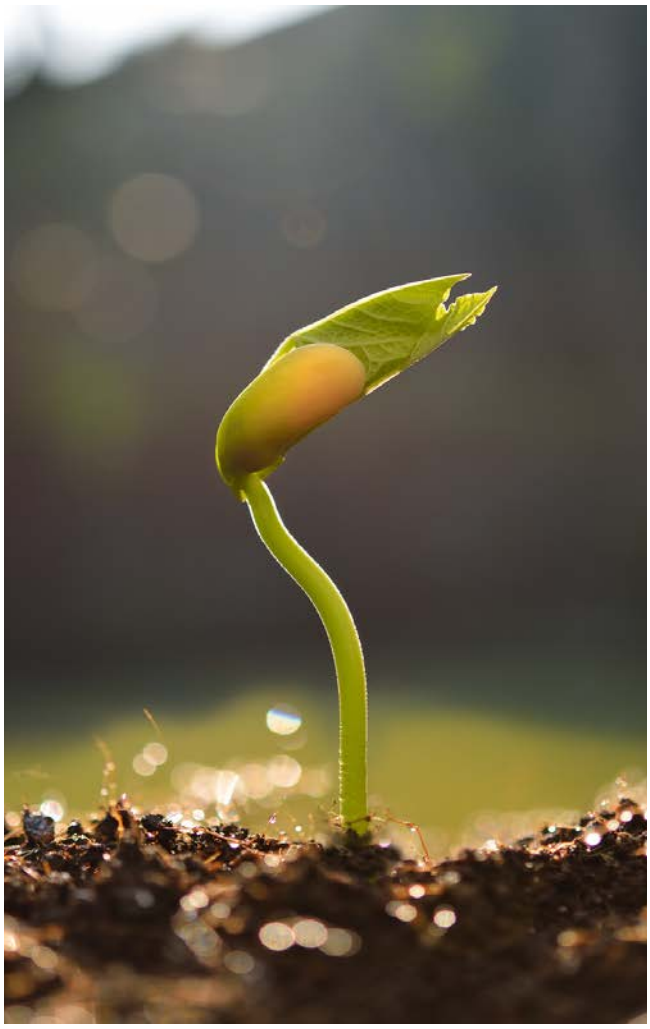
Plant Profile

TREES

SHRUBS

Closing





Introduction

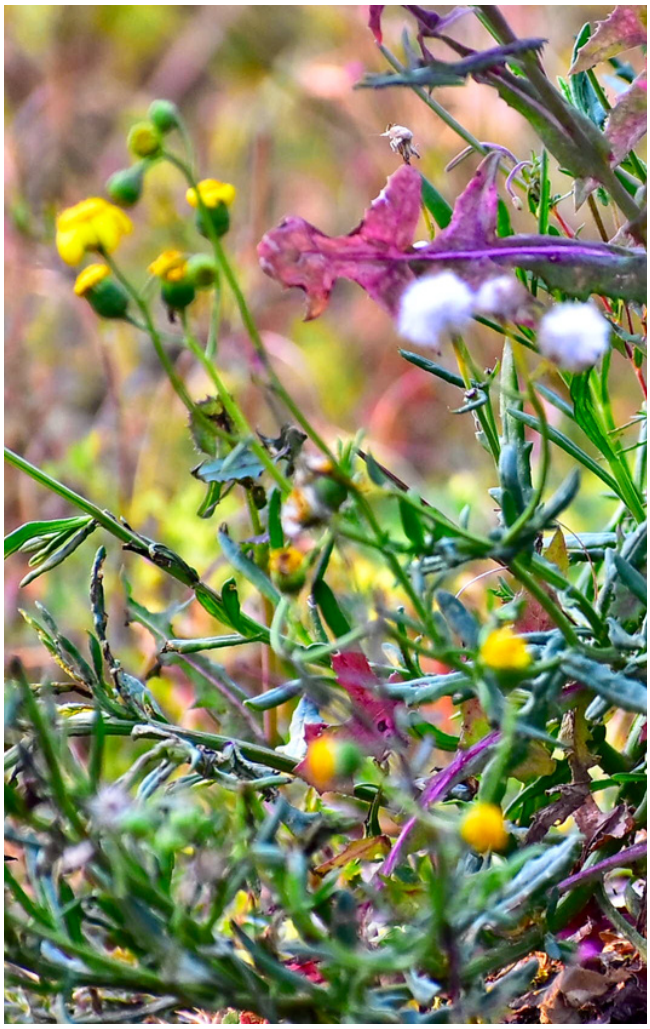
About This Guide

This guide was created by three Charles County 4-H Pollinator Teen Ambassadors in an attempt to support native plants, wildlife, pollinators, and farmers within our community. The purpose of this guide is to educate individuals on the harmful impacts of invasive species, the invaluable benefits of native species, and our reliance on pollinators.

This guide discusses invasive and native plants found in Maryland but can be used as a reference for the whole Mid-Atlantic region, including Virginia, Delaware, New Jersey, New York, Pennsylvania, and the District of Columbia.

Our Team, Our Mission, Our Passion

This guide was written and designed by Esther Bonney, Abigail Bonney, and Samantha Rutherford. Members of 4-H and the Charles County Interact Club, we were selected as three of the five youth from Maryland to attend the 2022 National Agri-Science Summit. There we developed our project, *Nurture Natives*, which focuses on increasing biodiversity in our community through planting native species and supporting native wildlife. The National 4-H Council selected our team's project as one of twelve teams to receive a grant. **We believe that the invasive species being planted by residents is not due to a lack of enthusiasm but rather a lack of education.** Through our guide, we hope to educate community members on the harmful effects of invasive species and encourage more native purchases.



Invasive Species

An invasive species is a non-native organism that spreads rapidly and causes harm to the environment, economy, human, animal, or plant health. Invasive plant species are highly aggressive and capable of rapid spread into surrounding vegetation and, once established, cause adverse environmental impacts within the invaded community.

It should be noted that not all non-native plants are invasive, and there are plenty of non-native plants which can be used to enhance your backyard wildlife habitat.

The Harmful Impacts of Invasive Species

In the U.S. alone, invasive species cause $40 billion worth of production losses to crops and forests per year. **They force the displacement of native species and are a major cause of crop loss and food insecurity.** Invasive species are also a serious concern to our local farmers. Invasive trees such as the Tree of Heaven quickly overrun farmlands and attract invasive insects such as the Spotted Lanternfly which feed on crops. Invasive species disrupt the structure and function of ecosystems, reduce food and shelter resources available to wildlife, and can result in the extinction of native plants and animals.

> Invasive species, both plant and animal, are considered to be the *second most important threat to biodiversity* after habitat destruction.

The Ecologist

Invasive Species and Pollinators

Pollinators are invaluable creatures. They are responsible for pollinating over 80% of the world's flowering plants, including the plants that produce fruits, vegetables, and nuts. Pollinators pollinate over 1200 types of crops and contribute an estimated $217 billion to the global economy. In Maryland, the most important group of pollinators are bees. **Did you know a single bee colony can pollinate 300 million flowers each day?** Over 400 species of bees can be found in Maryland as well as over 150 butterfly species. Other pollinators include ants, beetles, moths, birds, and small mammals.

Invasive species are drastically reducing the pollinator population—and without pollinators, the availability and diversity of fresh produce will decline, and farmers, plants, and human nutrition will suffer.

You Can Make a Difference

In the fight against invasive plants, the support of individuals, families, and small organizations is invaluable. The population and variety of native plants and animals within our area depend largely upon the knowledge and enthusiasm of community members. **Bad plants are planted by well-meaning people.** Take a few minutes to check that the plant you're about to purchase is native, and the pollinators, wildlife, farmers, and environment-minded individuals within our community will thank you. Support the farmers, pollinators, and native species within our community by purchasing a native plant for your yard!

Looking for a tree? Go native.

TREES

Featuring maples, mulberries, sumacs, and more

Invasive

Norway Maple

- This species is tolerant of a wide range of soil conditions and will outcompete native maples
- Due to the deep shade it casts, mature trees deprive understory plants of light availability
- Dramatically reduces available nutrients for surrounding plants

Native Alternative

Sugar Maple

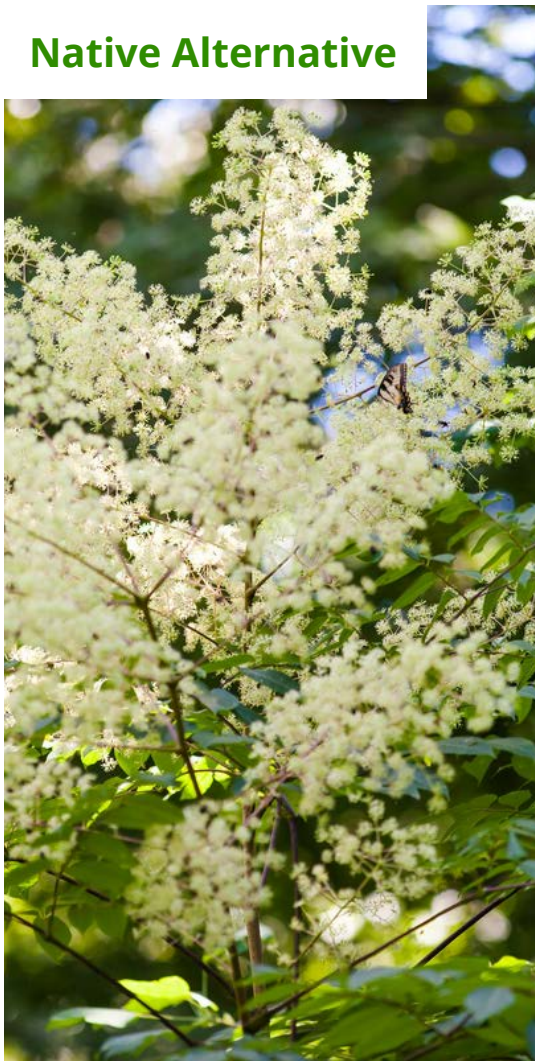
- Famous for its sap and brilliant fall color, this maple attracts dozens of beautiful birds
- Used for nesting by many songbirds and is especially favored by Red-eyed Vieros
- The seeds are a valuable food source for goldfinches, purple finches, and other songbirds, as well as grouse, turkey, and bobwhite quail

Invasive

Japanese Angelica Tree

- Large seed production and rapid growth allow this tree to invade new areas quickly
- Sprouts from root suckers and form large dominating thickets
- Over time, these thickets displace native vegetation, deprive native wildlife of food and cover, and reduce biodiversity

Native Alternative



Devil's Walkingstick

- The fruits are eaten by a variety of birds, including cardinals, mockingbirds, sparrows, robins, bluebirds, and rusty blackbirds
- Provides cover to foxes, opossums, chipmunks, and more
- The flowers are highly attractive to a variety of native butterflies and bees, especially bumble bees and sweat bees

Invasive

White Mulberry

- A highly aggressive tree, this species Invades old fields, urban lots, roadsides, forest edges, and other disturbed areas
- Is slowly outcompeting and replacing native red mulberries through hybridization and possibly through the transmission of a harmful root disease

Native Alternative

Red Mulberry

- Provides food and cover to native wildlife
- The fruits are eaten by a variety of birds, including cardinals, mockingbirds, sparrows, robins, thrushes, orioles, and bluebirds
- The flowers are highly attractive to a large variety of native butterflies and bees, specifically bumble bees and sweat bees

Invasive

Tree of Heaven

- Extremely destructive invasive species
- Releases chemicals into the soil that inhibit the growth of other plants
- Reduces light availability to undergrowth plants
- Female trees produce huge numbers of windborne seeds resulting in rapid spread

Native Alternative

Staghorn, Smooth Sumac

- This species is a valuable source of winter food for grouse, turkey, and other game birds
- Attract a variety of songbirds, including robins and bluebirds
- Provide pollen and nectar to bees and other valuable pollinators

Invasive

Bradford Pear

- This species is invasive and highly aggressive, yet has become a favorite in our area
- This tree has a serious structural issue and often falls apart after only 15 years due to weak branches growing from the same section of the trunk
- The flowers emit a smell of "rotting fish" to attract flies
- Can develop up to 3" thorns and dense, thorny thickets that choke out native plants

Native Alternative

Serviceberry

- A hearty species with beautiful spring blossoms, the nectar, pollen, and fruit of the Serviceberry attract a variety of pollinators including honey bees, woodpeckers, foxes, chipmunks, and white-footed mouses
- Provides food to over 20 species of caterpillars and moths
- The blueberry-like fruit serve as a delicious Summer snack

Looking for something smaller?

SHRUBS

Featuring honeysuckles, roses, berry bushes, and more

Invasive

Asian, Japanese Honeysuckle

- Both species reduce light availability to native vegetation and provide few resources to native wildlife and pollinators
- Asian Honeysuckle is capable of inhibiting the germination of other plants
- Japanese Honeysuckle chokes out surrounding plants

Native Alternative

Native Honeysuckle

- This beautiful climbing vine is loved by hummingbirds, bumblebees, and other long-tongued insects
- Provides abundant shelter to native wildlife
- Offers its fruit as food for grouse, quail, and a variety of songbirds

Trumpet Flower is also a great alternative!

Invasive

Burning Bush, Wintercreeper

- The Burning Bush is a prolific seeder that forms dense shrub thickets that kill native species
- The Wintercreeper restricts native plant establishment due to its dense ground cover and 12-21" vines that quickly choke out native species

Native Alternative

Native Euonymus

- The bright fruit are eaten by a variety of beautiful songbirds
- This species is classified as a pollinator plant and, with its colorful flowers, attracts a large variety of pollinators, including sweat bees, beetles, moths, caterpillars, and ants

Invasive

Multiflora Rose

- Displaces native vegetation, especially in old fields and open riparian areas
- The roses form dense thickets that exclude native shrubs and herbs from establishing in the area
- This species is detrimental to the nesting of native birds

Native Alternative

Native Roses

- Native roses are a host to more than 120 species of native butterflies, moths, and caterpillars
- The flowers are a favorite of native bees, especially bumblebees
- The Native Roses of Maryland include the Rosa blanda (Smooth Rose), Rosa Carolina (Carolina Rose), Rosa Palustris (Swamp Rose), and Rosa Virginiana (Virginia Rose)

Wineberry

- Wineberry is an invasive shrub that shares the same genus as raspberries and blackberries
- This species rapidly morphs into spiny, impenetrable thickets that drastically reduce an area's value for wildlife habitat and recreation
- Ultimately results in a lack of biodiversity

Invasive

Native Alternative

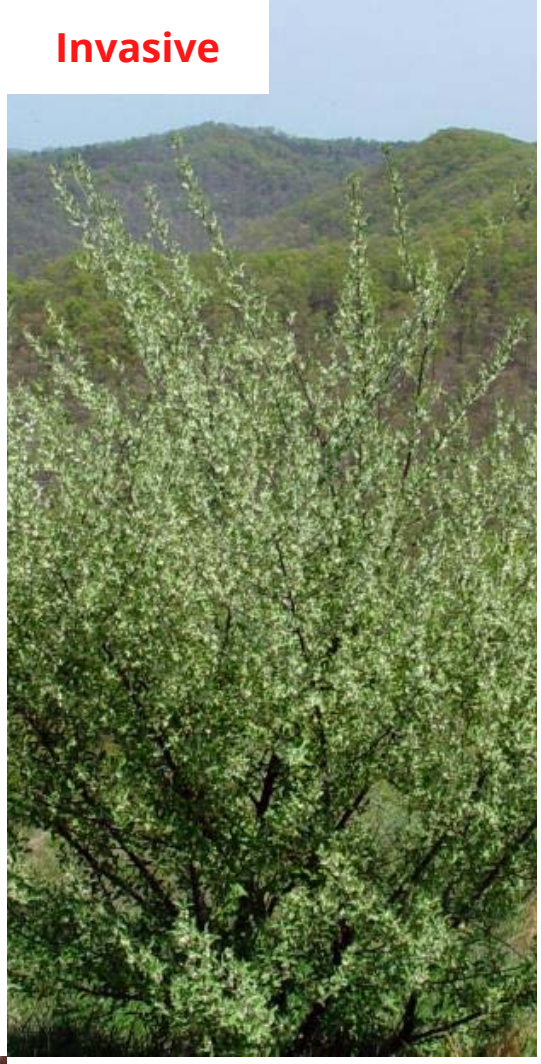
Native Blackberry, Raspberry

- Both shrubs offer yummy berries
- Provide more than 40 species of birds, numerous mammals, and box turtles with food
- Provide nest sites for stem-nesting bees, and pollen and nectar to a variety of insects

Winterberry is also a great alternative!

Invasive

Autumn Olive



- A rapid grower and prolific seed producer, Autumn Olives out-compete and displace native species
- This shrub reduces floral and habitat diversity, and, as a nitrogen fixer, alters nutrient cycle dynamics and soil suitability for other shrubs species

Native Alternative

Chokeberry

- Offers edible fruit that is perfect for jam and jellies
- This species is a valuable source of food and cover to cardinals, robins, woodpeckers, jays, bluebirds, kingbirds, as well as a large variety of mammalian pollinators
- Note: Both the Black and Red Chokeberry are beautiful native shrubs, though the black berries seem to be preferred by birds

Resources

Educate Yourself

If you wish to learn more about how you can fill your garden with native species and pollinators, please see the sites below.

Creating a Wild Backyard - Native Maryland Trees:
https://dnr.maryland.gov/wildlife/Pages/habitat/wamdtrees.aspx

Marylanders Plant Trees:
https://dnr.maryland.gov/forests/Pages/MarylandersPlantTrees/Introduction.aspx

M**D Department of Natural Resources, Recommended Tree List:**
https://dnr.maryland.gov/forests/Pages/MarylandersPlantTrees/Recommended-Tree-List.aspx

Planting Native Species

Native Plants:
https://extension.umd.edu/locations/charles-county/master-gardener/native-plants

Native Plants for Wildlife Habitat and Conservation Landscaping:
https://dnr.maryland.gov/criticalarea/Documents/chesapeakenatives.pdf

Plant This, Not That:
https://extension.umd.edu/sites/extension.umd.edu/files/2021-03/Plant%20this%20not%20that.pdf

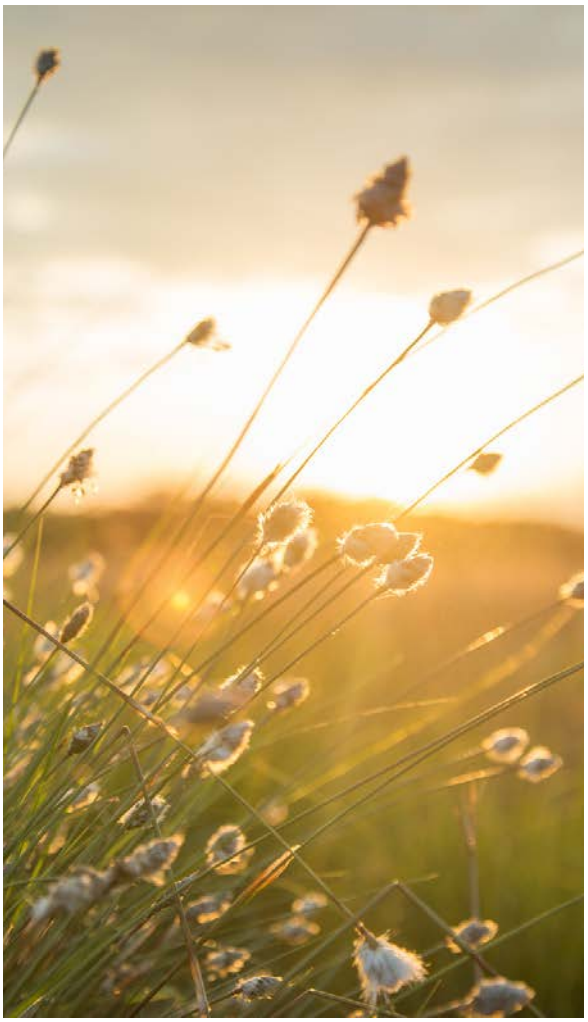
Identifying Invasive Species

Maryland Invasive Plants Prevention and Control:
https://mda.maryland.gov/plants-pests/Pages/maryland_invasive_plants_prevention_and_control.aspx

Mistaken Identity:
https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs144p2_024329.pdf

Common Invasive Plants:
https://dnr.maryland.gov/wildlife/Documents/Invasive_plants_cards.pdf

Forest Threats - Invasive Plants and Shrubs:
https://extension.umd.edu/resource/forest-threats-invasive-plants-and-shrubs



Acknowledgments

We couldn't have done it without you

We would like to thank the following individuals that put in their time and effort on our behalf to help this project become a reality. Your support is greatly appreciated.

Amy Lang of Charles County 4-H
Carrie Krier of Butterfly Alley
Marlene Smith of the University of MD Extension,
Charles County Master Gardeners

We would also like to thank the National 4-H Council for sponsoring the Lead to Change opportunity.

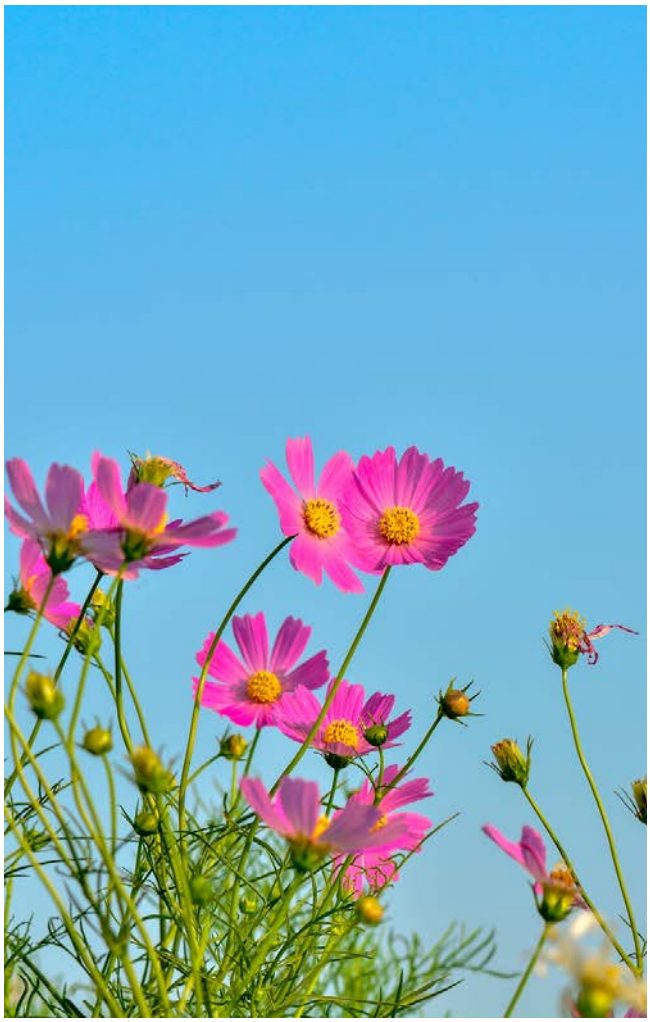


Photo Credits

We would like to give credit to the following photographers for their contributions:

Adrienne Legault
Alexa Roldos
Alonso Abugattas
Amanda Jarrett
Ansel Oommen
Betsy Washington
Botanik Foto
Chris Evans
D.R. Coyle
Duncan Smith
Elena Moiseeva
Heather Evans
James St. John
Jeltje van den Bosch
Jerrold James Griffith
K. Dave
Leonid Eremeychuk
Leslie J. Mehrhoff
Martin LaBar
Melissa McMasters
Nancy Kennedy
Peter M. Dziuk
Roman Kutsekon
Stephanie Brundage
"Uncle Carl"