

COLONIAL

SWCD

NEWSLETTER

SPRING 2025



SERVING:

The City of  
Williamsburg

Charles City County  
James City County

New Kent County  
York County

[www.colonialswcd.org](http://www.colonialswcd.org)



# Table of Contents

- 3 Landscaping with Edible Natives ..... Emma Rich
- 6 Beneficial Bugs: Ladybugs ..... Amanda Whispell
- 9 Permeable Pavement 101 ..... Robyn Woolsey
- 11 Riparian Buffers ..... Jim Wallace
- 13 Conservation Breakfast Event ..... Sam Pereira
- 15 Paul Davis: No-Till Champion Award Winner ..... Robert Waring



Cover photograph by Judy Gallagher.

## Upcoming Events



10:00 am - 2:00 pm  
 Jamestown Beach  
 Event Park  
 2205 Jamestown Rd  
 Williamsburg, VA

[Click for more info](#)



9:00 am - 12:00 pm  
 Freedom Park  
 5537 Centerville Road  
 Williamsburg, VA

[Registration required -  
 click here to register  
 \(free!\)](#)

## Staff Contact Information

[JIM WALLACE](#)

District Programs Manager  
 (804) 654-1246

[AMY WALKER](#)

Operations Manager  
 (804) 695-7904

[SHEILA JARUSESKI](#)

Office Coordinator  
 (757) 645-4895

[AMANDA WHISPELL](#)

Education & Outreach Specialist  
 (757) 778-534

[ROBYN WOOLSEY](#)

Conservation Specialist  
 (757) 778-1216

[ROBERT WARING](#)

Senior Agricultural  
 Conservation Specialist  
 (804) 920-1202

[EMMA RICH](#)

Conservation Specialist  
 (757) 778-0631

[LOGAN ELLIS](#)

Conservation Specialist  
 (757) 778-0119

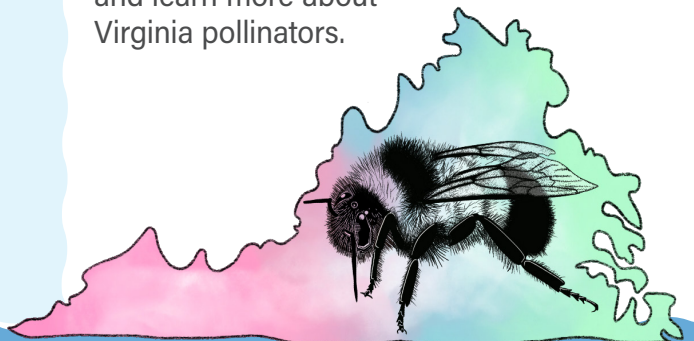
[SAMANTHA PEREIRA](#)

Conservation Specialist  
 (757) 759-0528

Any general inquiries: (757) 645-4895

## Colonial Pollinator Pledge

Do you love pollinators and want to do something to help native pollinators? Then try taking our Colonial Pollinator Pledge! The pledge only asks that you try your best to make five small changes to benefit pollinators. Please check out the [Colonial Pollinator Pledge on our website](#) and learn more about Virginia pollinators.





# Landscaping with Edible natives

## Emma Rich

Virginia is home to an incredible variety of native plants – so many that it can be hard to choose what to plant! As spring approaches, you might be in the market for new plants to cover an area of bare ground or add some all-season interest to an empty spot in your garden. Maybe it's time to try adding some edible native species to your garden and enjoy the fruits (and leaves) of your labor for many years to come! Check out several highlighted species below.

### Common elderberry - *Sambucus canadensis*

Standing between 6–12 feet, Common Elderberry (*Sambucus canadensis*) is a showy deciduous shrub that makes a beautiful statement (Fig. 1). It blooms from May to July with delicate white clusters of flowers followed by dark purple berrylike fruit (Fig. 2) from July to September. *S. canadensis* thrives in part sun/shade and prefers



**Figure 1.** Elderberry bush. Photograph © F.D. Richards ([flickr](#))



**Emma Rich**  
Conservation Specialist

rich, moist, acidic soils (between 5.5–6.5).

*S. canadensis* is a cross-pollinated species, so it is best to plant more than one in a given area. The shrub provides a source of food for birds as well as a nesting structure for bees.

We mostly know Common Elderberry for its medicinal use as studies suggest its ability to boost immunity and or shorten the length of a cold or flu virus. The berries can also be used to make jams, jellies, wines or cordials. Elderflowers can be picked after opening and used to make syrup, wine, cordials, and teas.



**Figure 2.** Elderberries. Photograph © Thomas Cizaukas ([flickr](#))





## Common Pawpaw – *Asimina triloba*

A tropical-tasting fruit native to the Commonwealth, Pawpaws are locally beloved and celebrated in early fall. At maturity, a Pawpaw tree can stand between 10–40 ft and uncommonly, flowers before leaf emergence. The understory tree boasts unique bell-shaped flowers with purplish-red leafy petals in April–May (Fig. 3). At up to six inches long, Pawpaw fruit, that ripen from late August through September, are the largest edible fruit of any tree native to North America (Fig. 4). The greenish-yellow fruits have a custardy flesh that some say tastes of banana with hints of mango or melon (Figs. 5&6). This unique species has no serious disease or pest problems but is too delicate for commercial farming — making it a great option for home-gardeners. These trees grow best in rich, moist, slightly acidic soils in places like floodplain forests and rich woods.

Pawpaws tend to grow in colonies as genetically identical plants, like birch trees, and require pollination from one colony to another. According to the Virginia Native Plant Society, “Pawpaws belong to an ancient family of flowering plants that evolved about 85 million years ago and the dark red flowers and odor attract carrion flies and scavenger beetles that pollinate them”. The fruit is also a tasty treat to many forest mammals and



**Figure 6.** Unripe Pawpaw fruit on a tree. Photograph © Wendell Smith. ([flickr](#))



**Figure 4.** Pawpaw flower at Julie Metz Wetlands in Woodbridge, Virginia. Photograph © Judy Gallagher. ([flickr](#))



**Figure 5.** Underside of a Pawpaw tree with fruit attached. Photograph © Noah Holkeboer. ([flickr](#))



**Figure 7.** Ripe Pawpaw fruit cut in half to reveal flesh and seeds. Photograph © Scott Zona. ([flickr](#))





birds but the leaves are off-putting and distasteful to most herbivores. Perhaps most interesting, Pawpaw trees are the only host for Zebra Swallowtail Butterflies (*Eurytides marcellus*; Fig. 7), which eat the unpleasant leaves as caterpillars. The caterpillars subsequently retain neurotoxic chemicals in their body tissues as both larva and as adults, making them distasteful to (and thus protected from) potential predators.

Please take care when harvesting as some people can have an unpleasant reaction from touching the fruit. We also encourage not harvesting Pawpaw fruit unless it has already fallen off the tree.

### Early Lowbush Blueberry - *Vaccinium pallidum*

Looking for an edible groundcover with the ability to spread? Early Lowbush Blueberry (*Vaccinium pallidum*) might be a sweet addition to your home. *V. pallidum* can be found in a variety of habitats ranging from forests, dry woodlands, clearings, disturbed soils, or thickets. It can grow in sun or in shade and prefers sandy, rocky, and acidic soils — of which there is no shortage of in Virginia!

Early Lowbush Blueberry develops dainty greenish white and pink bell-shaped flowers between March and May and bears ripe fruit June through July. These sweet berries are not just beloved by people but also by wildlife like songbirds, black bears, turkeys, and small mammals (Fig. 8). As a member of the Heath family (Ericaceae), Early Lowbush Blueberry is a host plant for the Brown Elfin Butterfly (*Callophrys augustinus*; Fig. 9) as well as a support for many native bees including: *Andrena bradleyi*, *Andrena carolina*, and *Colletes validus*.



Figure 8. Zebra Swallowtail Butterfly. Photograph © Melissa McMasters. ([flickr](#))



Figure 9. Lowbush blueberries. Photograph © Caleb Siemmons. ([flickr](#))



Figure 9. Brown Elfin Butterfly. Photograph by Alan Schmierer. ([flickr](#))





# Beneficial Bugs – Ladybugs



## Amanda Whispell

This installment of beneficial bugs is going to talk about members of the family Coccinellidae, the ladybugs. Although we call them ladybugs here in the US, they go by many different names worldwide, including lady birds, ladybird beetles, and lady beetles. The most accurate of these names is the ladybeetle, as these insects are not true bugs (those are in a different order entirely) they are beetles, from the order Coleoptera. Nevertheless, we shall stick with 'ladybugs' as that is the most common colloquial name for those of us living in Virginia.

There are more than 6,000 described species of ladybug found all over the world and most are found to have conspicuous aposematic ('warning') coloring (usually red and black; Fig. 1) and patterns. This coloration serves as a warning to potential predators that their blood is full of distasteful, toxic alkaloids, azamacrolides, pyrazines, and polyamines. Interestingly, ladybugs also exhibit a defensive tactic known as reflex bleeding, which is the deliberate excretion of



## Amanda Whispell Education & Outreach Specialist

hemolymph (insect blood) from their knee joints (Fig. 2). This may seem like a strange reaction to have in response to predator pressure but remember – it is the blood that is distasteful, so it is a benefit to the ladybug to make predators aware of this *before* biting them.

In temperate climates, like we have here in



**Figure 1.** A ladybug cluster displaying the typical red and black coloration. Photograph © The Real Estreya. ([flickr](#))





**Figure 2.** Spotless Lady Beetle (*Cycloneda sanguinea*) reflex bleeding - the orange drop is hemolymph (insect blood). Photograph © stevenw12339. ([flickr](#))



**Figure 3.** Ladybug eggs. Photograph © Tom Lee. ([flickr](#))

Virginia, the life cycle is similar across species; they typically start breeding in late spring (soon!) through early summer. For the most part they have promiscuous breeding, so individuals are indiscriminate in mate choice. They have complete metamorphosis (holometabolism), meaning they start out as eggs, hatch into larva, then pupate for some length of time before emerging as an adult.

Generally, the eggs are bright yellow, clustered, and laid vertically (Fig. 3). Once the larvae (Fig. 4) hatch, they begin eating and growing and typically go through four stages of growth (instars) and molt three times before pupating (Fig. 5). Upon emergence from the pupa the adults can live up to a year.

Ladybug diets vary, though most species are carnivorous as larvae and as adults and prey on insects, including plant pests like aphids, thrips, whiteflies, and scale insects (Fig. 6). It is this diet that has earned them the badge of a beneficial insect. Several species have been introduced outside of their natural range for use as biological control agents and although some of these programs have been successful others have been disastrous, as some species have been found to attack agricultural crops and infest



**Figure 4.** Seven-spotted Lady Beetle (*Coccinella septempunctata*) larva. Photograph © Tom Lee. ([flickr](#))



**Figure 5.** Seven-spotted Lady Beetle (*Coccinella septempunctata*) pupa. Photograph © Gilles San Martin. ([flickr](#))





homes. The Asian ladybeetle (*Harmonia axyridis*) was introduced as a control agent and has, by many accounts, been quite successful in this role. However, it has also become a bit of a nuisance to humans and a threat to our native species. The Asian Ladybeetle has a voracious appetite (hence their selection as a control agent) that enables them to outcompete and even consume our native species. Additionally, this species also carries a parasite to which it is immune but that easily infects and kills native species.

It is still possible to add to the native complement in your garden by purchasing individuals and introducing them, however I urge you to be absolutely certain that you are ordering a species native to Virginia. In truth, I would discourage this behavior, as it is preferential to improve your current habitat and encourage the establishment of native species. As most species augment their diet with leaves, pollen, sap, fungi, and honeydew,

you can plant flowers/plants that provide abundant pollen and nectar and have a good-sized area upon which they can land to feed. Additionally, it is important to consider whether the habitat will support their dormancy over the winter; they tend to overwinter under leaves or nestled in bunches of grass, so make sure you just let all those leaves and dead plants stay in your garden — you will find that native bees use them for nesting too. You also need to be able to handle some level of pest presence, because you need to have enough food for the ladybugs to stay — once the food is gone, so are they, and it's difficult to get them to come back. Lastly, you need to avoid pesticides, not only is it harmful to the ladybugs themselves but also to their prey and, like I said, they need those prey insects. So that's about it, hopefully these tips will help you have lots more ladybugs in your gardens this year!



**Figure 6.** *Cheilomenes sexmaculata* ladybugs feeding on Oleander aphids (*Aphis nerii*) while mating. Several early larval instars can be seen also feeding on aphids. Photograph © budak. ([flickr](#))





# Permeable Pavement

## Robyn Woolsey

Permeable pavement is one of the most popular best management practices (BMPs) in the Colonial SWCD service area with landowners who are considering applying for the Virginia Conservation Assistance Program (VCAP). Although it is generally one of the more expensive practices to install, if a landowner is eligible for VCAP they could receive up to \$20,000 to offset the expense, depending on the size of their project area.

Permeable pavement is a BMP designed to capture stormwater runoff as it falls or flows onto the practice surface. There are several different types of permeable pavement, but interlocking grid pavers are the most common for residential uses. These systems look like a traditional brick paver system from the surface, but when they are



**Robyn Woolsey**  
Conservation Specialist

installed there's actually up to one foot of gravel underneath the pavers, which serves as a reservoir for captured stormwater. By capturing this water and preventing continued flow across the surface, the practice helps to prevent erosion and flooding. In between each paver is a small void,



A driveway in James City County including both compacted gravel and concrete slabs adjacent to the garage. The landowners were experiencing issues with excess runoff coming from the driveway, so they chose to replace it with interlocking grid pervious pavers.



The completed driveway replacement. The landowners report that their previous driveway runoff issues have been resolved with this practice.

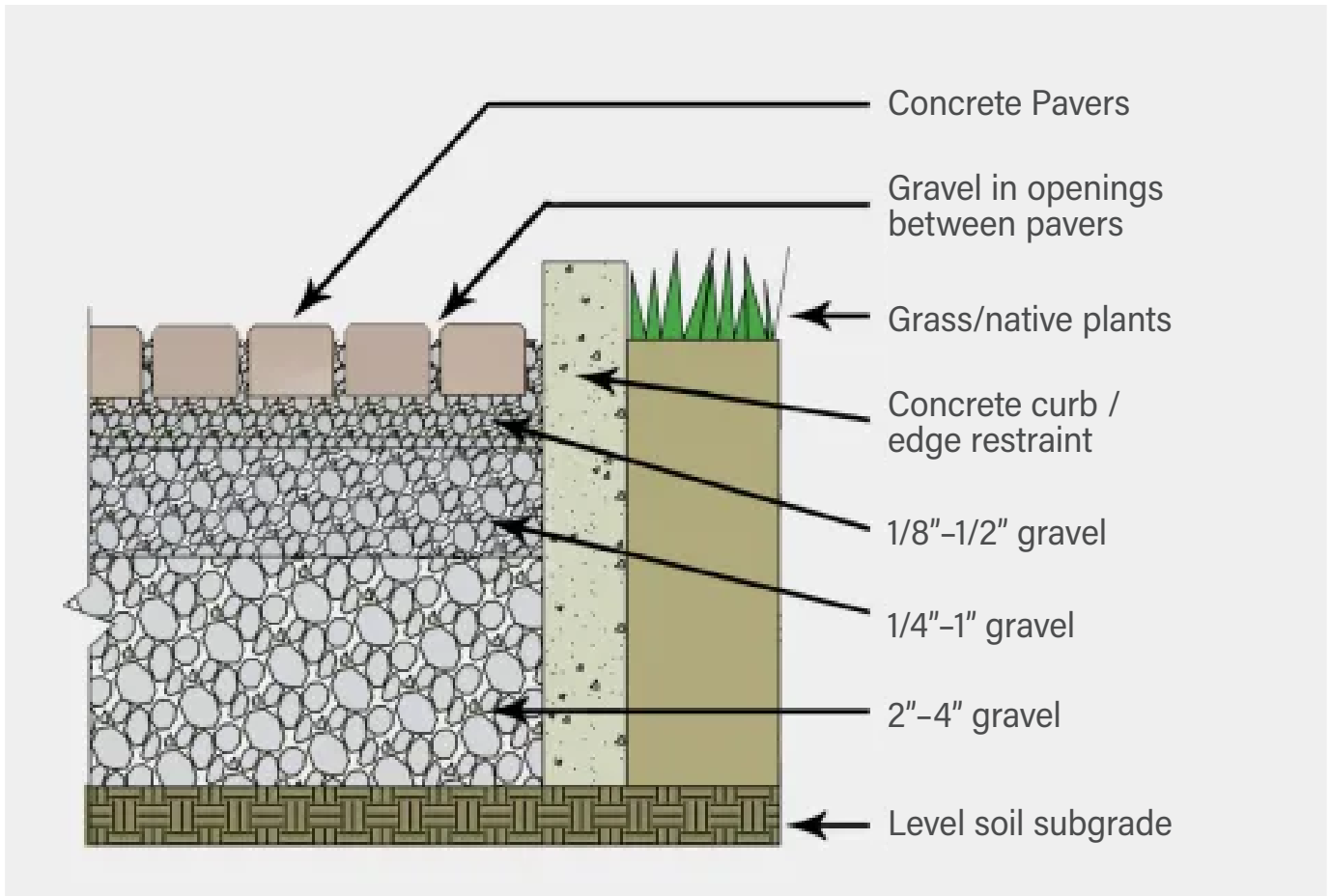




generally filled with very small stones, and runoff flowing or falling onto the surface infiltrates into the reservoir through those spaces. The diagram below shows a typical permeable pavement cross section, including the stone reservoir and infiltration spaces between the pavers.

Permeable pavement is most often used to replace existing impervious driveways, walkways, and patios, although in the appropriate condi-

tions permeable pavement can be installed in vegetated areas to capture runoff from a downspout or adjacent impervious surface. To learn more about permeable pavement or to determine if your property is eligible for a permeable pavement VCAP application, please feel free to reach out to me or my colleague Emma Rich.



Photograph courtesy of the [City of Santa Barbara Sustainability and Resilience](#).





# Riparian Buffers

## Jim Wallace

I recently had the privilege of visiting a site along the James River to assess its shoreline. Shorelines are an interesting interface of land and water, which in our part of the state, are influenced daily by tidal ebbs and flows and, more infrequently, by storm events. In that intertidal zone there are numerous signs from the aquatic world (shells, crabs, fish pieces) as well as from the terrestrial world (fallen trees, flotsam, Cypress knees). As I walked along the shore I was reminded of the natural world, how it evolves, and how it works. I was initially struck by the beauty of the landscape running along the shoreline but ultimately had to recognize the function of this important conservation tool, known as a riparian buffer.

Riparian buffers are vegetated areas (such as trees, shrubs, grasses, and other plants) intention-



**Jim Wallace**  
District Programs Manager

**“Riparian buffers are credited with providing numerous environmental services.”**

ally planted or preserved along the shorelines of water bodies or wetlands. These buffers play a crucial role in protecting water quality and the surrounding environment as they serve as the transition between the upland land use (such as agriculture, residential, industrial, etc.) and the waterbody or wetland. Science has confirmed that it is much easier (less costly) to control and



The strip of trees and other vegetation in this photo is a riparian buffer that separates the aquatic ecosystem from the terrestrial ecosystem. The riparian buffer serves multiple roles from erosion control to flood mitigation to wildlife habitat.



Signs of erosion can be observed in this photo such as the undercut tree roots (upper left side of photo), remnants of tree roots and stumps protruding from the beach (center of photo), and a low steep slope along the beach caused by wave erosion known as a scarp (upper right side of photo).





Riparian buffers can have a wide variety of vegetation in them, largely dependent on the elevation of the buffer. In this photo deciduous trees, evergreens, and marsh grasses can be seen. These plants must be able to withstand routine inundation from daily tide cycles and storm events.

manage pollutants (nitrogen, phosphorus, and sediment) in the upland setting than to physically remove pollutants from the water. Think of the old adage, “an ounce of prevention is worth a pound of cure”.

Riparian buffers are credited with providing numerous environmental services to include:

- Filtering runoff
- Erosion control
- Wildlife habitat
- Temperature regulation of the adjacent waterbody

In parts of Virginia, riparian buffers are protected by the Chesapeake Bay Preservation Act (CBPA). Enacted in 1988, local governments east of Interstate 95 and located in the Chesapeake Bay watershed were required to adopt ordinances which regulated a 100 foot zone along perennial waterways, wetlands, and floodplains. This zone is called the Resource Protection Area

(RPA). CBPA also required local governments to identify sensitive lands in close proximity to waterways, wetlands, and floodplains, which would need special attention and consideration during development. These areas are called Resource Management Areas (RMA).

Generally, riparian buffers don't get much attention. Landowners will, from time to time, seek to remove trees within a buffer to improve a view, construct a dock, or create a walkway to the water's edge. The bureaucratic struggle to obtain permission to alter the buffer can be frustrating to the landowner, especially when the function of the buffer is not recognized or prioritized. These buffers are so important for conserving our waters and even for protecting landowners from battling erosion issues. So, if you have an area of vegetation between your land and a body of water, please think twice before altering it, otherwise you could end up calling me to come and assess your own shoreline erosion issue.





# Conservation Breakfast Event

## Samantha Pereira

On February 10th, Colonial SWCD hosted a Conservation Breakfast featuring partners including Virginia Cooperative Extension, Department of Conservation and Recreation, Virginia State University Small Farm Outreach Program, Virginia Department of Forestry, Farm Service Agency, and Natural Resources Conservation Service. Colonial staff presented current programs such as the Virginia Conservation Assistance Program, Virginia Agriculture Cost Share, and the Alliance to Advance Climate-Smart Agriculture grant. The event drew excellent attendance from producers within our district and surrounding districts, as well as staff from other conservation districts. The breakfast was a great success, and we extend our sincere thanks to everyone who made it possible! We look forward to next year!



**Samantha Pereira**  
Conservation Specialist



Samantha Pereira, conservation specialist, standing at the check-in table.





The delicious breakfast spread.



Amy Walker, our operations manager, and Dave Beals, one of the directors representing the city of Williamsburg.



Anne Devine, a conservation specialist, and Brianna Moring, district manager — both from the James River SWCD.



Philip Thomson, one of the directors representing New Kent County, and Luke Gladden, the VCE extension agent for New Kent and James City County.



Daniel Brooks, a community forestry specialist with the Virginia DOF, and Amy Walker, our operations manager.





# Paul Davis

## No-till Champion Award Winner

### Robert Waring

Paul Davis, grain producer and on-farm researcher in New Kent, Virginia, was awarded the Virginia No-Till Alliance (VANTAGE) No-Till Champion Award on February 5, 2025 in Harrisonburg, Virginia. Paul is the owner/manager of a 550 acre research and demonstration farm in New Kent, where the majority of his work is conducted on corn, wheat, barley, soybeans, and pumpkins for different fertilizer, chemical, and seed companies. Davis retired after 28 years with the Virginia Cooperative Extension as an Agricultural Agent in Fluvanna County (1981-1984) and then concluding his career in New Kent/Charles City Counties (1989-2009). Davis specialized in crop and soil science with an expertise in soil quality, then continued his research in no-till cropping systems, intensive small grain management, cover crops, and no-till pumpkin production on the farm. Paul was raised on a 1200 acre family grain and vegetable farm in New Kent County, where he graduated from New Kent High School then served in the U.S. Army as a heavy equipment operator. He attended and graduated from Ferrum Jr. College with an Associate Degree in agriculture (1979), followed by a Bachelor's of Science in integrated pest management (IPM), and a Master's of Science in weed science from Virginia Tech. Paul's farming partners are his wife, Marian, father, Boogie, and mother, Anna. Paul works closely with the Colonial Soil and Water Conservation District on innovative no-till and cover cropping systems, as well as precision-based research in soil health. The Colonial District congratulates Paul Davis on this No-Till Award, and is excited to share a video of Paul's accomplishments, narrated by Chris Lawrence of the Natural Resources Conservation Service.



**Robert Waring**  
Senior Agricultural  
Conservation Specialist

Click the link below to view the video sharing Paul's many accomplishments:

[www.youtube.com/watch?v=brOCUK7t89c](https://www.youtube.com/watch?v=brOCUK7t89c)



Paul Davis of Davis Produce is the VANTAGE No-Till Champion Award winner. Congratulations Paul!