BRANCHING OUT

Maryland's Woodland Stewardship Educator

COLLEGE OF AGRICULTURE & NATURAL RESOURCES

University of Maryland Extension – Woodland Stewardship Education

http://extension.umd.edu/woodland

UNIVERSITY OF MARYLAND EXTENSION
Solutions in your community

Volume 25 No. 1

Spring 2017

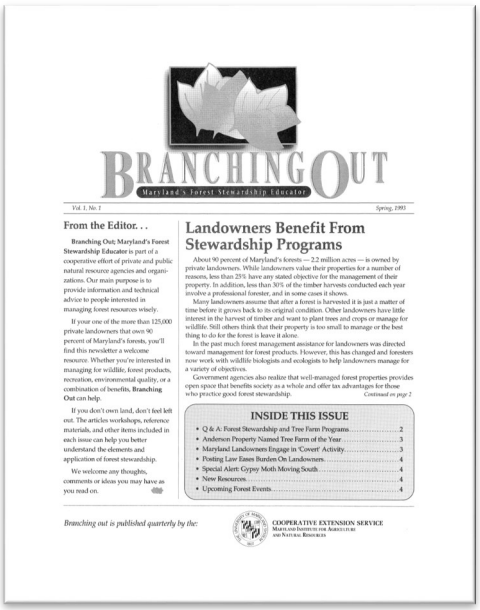
Branching Out Celebrates 25 Years!

Jonathan Kays, Extension Forester

Woodland Stewardship Education program

In the early 1990s, there was no Internet and all correspondence was done by mail, landline phone, or even face-to-face. A young extension forester marketed educational workshops for woodland owners in local newspapers or newsletters, sometimes by direct mail. It was quite different from the Internet world we now inhabit.

At the time, the Maryland DNR Forest Service developed forest management plans for woodland owners. They provide a similar service today, except without the high-tech tools now available, like GIS imagery. The Maryland Forests Association was quite active in advocating for Maryland forests and the Maryland Tree Farm program was ongoing. Unfortunately, there was no statewide newsletter targeted to all woodland owners to communicate research-based information and ongoing educational opportunities.



BRANCHING OUT

Maryland's Forest Stewardship Educator

Vol. 1, No. 1 Spring, 1993

From the Editor. . .

Branching Out, Maryland's Forest Stewardship Educator is part of a cooperative effort of private and public natural resource agencies and organizations. Our main purpose is to provide information and technical advice to people interested in managing forest resources wisely.

If your one of the more than 125,000 private landowners that own 90 percent of Maryland's forests, you'll find this newsletter a welcome resource. Whether you're interested in managing for wildlife, forest products, recreation, environmental quality, or a combination of benefits, **Branching Out** can help.

If you don't own land, don't feel left out. The articles workshops, reference materials, and other items included in each issue can help you better understand the elements and application of forest stewardship.

We welcome any thoughts, comments or ideas you may have as you read on.

Landowners Benefit From Stewardship Programs

About 90 percent of Maryland's forests — 2.2 million acres — is owned by private landowners. While landowners value their properties for a number of reasons, less than 25% have any stated objective for the management of their property. In addition, less than 30% of the timber harvests conducted each year involve a professional forester, and in some cases it shows.

Many landowners assume that after a forest is harvested it is just a matter of time before it grows back to its original condition. Other landowners have little interest in the harvest of timber and want to plant trees and crops or manage for wildlife. Still others think that their property is too small to manage or the best thing to do for the forest is leave it alone.

In the past much forest management assistance for landowners was directed toward management for forest products. However, this has changed and foresters now work with wildlife biologists and ecologists to help landowners manage for a variety of objectives.

Government agencies also realize that well-managed forest properties provides open space that benefits society as a whole and offer tax advantages for those who practice good forest stewardship.

Continued on page 2

INSIDE THIS ISSUE

Branching out is published quarterly by the: COOPERATIVE EXTENSION SERVICE

The front page of Branching Out, volume 1, number 1. The entire issue can be found at this link.

The General Forestry Course at the University of Maryland Extension took on the task and the DNR Forest Service provided $10,000 in Forest Stewardship Funds for three years to get the effort off the ground. They developed an electronic template for a 4-page quarterly newsletter, entitled *Branching Out: Maryland's Forest Stewardship Educator*. A large combined database was created in order to eliminate duplicate entries. The first newsletter arrived in 1992 in two-color, and over the years, the quarterly publication was mailed to about 4-6,000 people. In 2006, the cost of mailing required changing to electronic delivery by email. Despite efforts to transition landowners to electronic delivery, the changeover reduced the subscription base

Inside this issue:

to about 1,500 people. Over the years the newsletter subscription has steadily increased to closer to 3,000 as readers continue to value the content and quality.

Electronic delivery did have many advantages, such as allowing an expansion of each issue to 12 pages with full color photos, and easy posting of past issues. The early issues of *Branching Out* were scanned and the full archive is available at the UME Woodland Stewardship Education website at https://extension.umd.edu/news/newsletters/branching-out. Did I say website? Well, that is another story for another day … however, a little teaser. We initiated a UME website for woodland owners in April 2001 under the URL www.naturalresources.umd.edu, which was greatly improved by the newsletter's then-editor, Ellen Green. In April 2013, the website transitioned to www.extension.umd.edu/woodland, thanks to the exemplary efforts of Andrew Kling, the present editor of *Branching Out*.

The UME Woodland Stewardship Education program has a long history, and continues to provide a one-stop location for Maryland woodland owners, natural resource professionals, and environmentally minded citizens, seeking credible, research-based information. If you have ways that we can improve our delivery or outreach, please let us know. As always, we welcome stories or event notifications from our readers and encourage all to subscribe by calling or doing so online. Take care.

We're on Facebook!

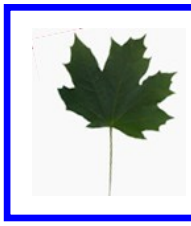
The Woodland Stewardship Education program is on Facebook. We invite you to read about news and notes related to woodland management from across the region and the nation. We'll also share information about upcoming events and articles we think you'd find interesting.

Find our page at https://www.facebook.com/UMDWSE, or search for "Woodland Stewardship Education program" on Facebook.

This Issue's Brain Tickler ...

Branching Out debuted in 1993. That same year, the Maryland DNR Forest Service unveiled a new voluntary program designed to help loggers meet the ever-increasing demands on the logging profession. It began as a pilot program with Eastern Shore RC&D Council. By 1995, it had evolved into a full-fledged program with standards of ethics, membership credentials, and performance criteria. And it is still around today. Name the program! (Here's its logo, without the name in the circle. That would give away the answer.)

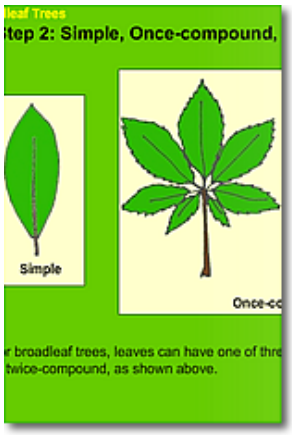
In the last issue, we asked you to identify the invasive Norway maple by its leaf. Congratulations to Marcia Monnett for being the first to correctly answer that the leaf in the blue box is the invasive.



The General Forestry Course

The University of Maryland Extension will offer the **General Forestry Course** for the Fall 2017 semester**.** Both the **PAPER AND ONLINE** version will be offered. The course begins September 1 and runs until December 15, 2017.

Registration opens June 1. To register, go to our website at http://extension.umd.edu/forestry-course**.**



This is a **non-credit** course. As there are no formal classes, you work from the comfort of your home using your own woodlot, a friend's, or a public forest. You will learn how to protect your trees from insects, diseases and fire; step-by-step procedures will walk you through a forest inventory and stand analysis; and the details of the forestry business are presented, including tax nuances and the sale and harvest of forest products. Ultimately, the course exercises help you develop the framework for a stewardship plan for your forest.

The cost for this forestry course is $150.00. Included in the cost are copies of the supplemental readings (*A Sand County Almanac*, *The Woodland Steward*, *American Forests: A History of Resiliency and Recovery*, a small pamphlet entitled *What Tree Is That?* and *Common Native Trees of Virginia Tree Identification Guide)*. The paper version text and appendices are in binder form. Online users receive a flash drive of the paper version of the text and appendices. A certificate of completion is awarded when all assignments are completed.

But don't take our word for it. See it for yourself on our website at http://extension.umd.edu/forestry-course. There you can read a lesson from the text, view an interactive exercise, read through detailed course information and FAQs.

For more information, contact Nancy Stewart at the University of Maryland Extension, Wye Research and Education Center, P.O. Box 169, Queenstown, MD, 21658; phone 410/827-8056, ext. 107; or email nstewar1@umd.edu.

Check for details on our website today and mark the June 1 date for open enrollment on your calendar!

New Publications from the Woodland Stewardship Education program


UNIVERSITY OF MARYLAND EXTENSION
Solutions in your community

Maryland Consulting & Industrial Foresters Directory


UNIVERSITY OF MARYLAND EXTENSION
Solutions in your community

Wood Energy Series

Enterprise Budget for a Family Firewood Business

The Woodland Stewardship Education (WSE) program has two new publications available on its website.

Fact Sheet 1059, *Maryland Consulting & Industrial Foresters Directory*, assists Maryland woodland property owners in selecting a licensed forester for their property. The first section of the directory lists *consulting foresters*. Consulting foresters are independent businesspeople They are recommended for most landowners who are considering a timber sale. The second section lists *industrial foresters*; they represent a sawmill or other forest products industry company. Both types of foresters provide a range of information and professional services.

The directory was created from foresters' responses to mailed and online surveys. Find the survey on the WSE website at this link.

Extension Brief 43, *Enterprise Budget for a Family Firewood Business*, shares important information for anyone considering creating a firewood business. The publication provides a sample budget for a small business that plans to buy, cut, and split logs, and will deliver them in cord quantities to residential customers. The publication is complemented by a spread sheet that details the budget.

Find the brief and the accompanying Excel document in the Enterprise Ventures section of the WSE website. Click here and scroll to the Logging & Sawmill section.

Mighty American Chestnut Poised for Return to America's Forests

SUNY College of Environmental Science and Forestry

Scores of tiny American chestnut seedlings that grow in a field in the upstate New York countryside could be the vanguard in the restoration of what was once the most dominant tree in the eastern forests.

The young trees carry one gene, added by scientists to the 38,000 genes that occur naturally in American chestnuts, that makes them capable of withstanding the invasive blight that wiped out billions of their ancestors a century ago.

"They will be the basis of the trees we will eventually give out to the public," said William Powell, a professor at the College of Environmental Science and Forestry (ESF) in Syracuse, New York. "And they'll be the basis for the trees we will use for demonstration and research for the next 100 years."

Powell and his team are poised to seek regulatory approval from the federal government to distribute the trees publicly. That will involve review by the U.S. Environmental Protection Agency, the U.S. Department of Agriculture, and the Food and Drug Administration. Although regulatory approval has been sought, and obtained, for many agricultural crops, this is the first time such approval will be considered for a threatened plant that is intended to be reintroduced into its natural environment. Powell expects the process to take two to four years.

"We're paving the way for all the other trees that are affected by invasive species: ash, elm, hemlock and walnut among them," he said. "We are the first to ask for approval for a genetically engineered wild tree, the first to go through the regulatory process."

Powell has worked on restoration of the iconic tree for more than 27 years. He and his research partner, Charles Maynard, discovered during years of painstaking tests that using biotechnology to add one gene derived from wheat makes the American chestnut blight resistant.

Restoring them to the eastern forests would have a significant positive ecological impact. "It would affect a lot of wildlife -- from bees to bears," Powell said. "Animals would feed on the nut mast and some aquatic insects actually prefer to feed on the leaves of American chestnut trees, rather than the oaks that have taken their place."

One hundred transgenic trees have been planted in a two-acre "seed orchard" where they are monitored while they grow large enough to produce pollen. When that happens, the pollen will be used to fertilize the flowers from wild-type "mother trees" to help rescue the surviving genetic diversity. The offspring will produce nuts, half of which will inherit the blight-resistance gene.

Top: Allison Oakes, a post-doctoral associate, and Professor William Powell work with young American chestnut trees in the SUNY lab. Above: Young American chestnuts flourish in an ESF laboratory. Photos courtesy SUNY ESF.

Powell said that although crossing the resistant trees with wild-type trees will take longer to produce a quantity of blight-resistant nuts, the process will increase the genetic diversity and local adaptation of the new trees and make the species more vigorous in the years to come.

"We want to do everything we can to make it easier for them to survive," Powell said. "That's OK. We're in this for the long haul. We don't want a monoculture. This is not an agricultural crop -- it's a wild tree that needs our help."

While the young trees grow, Powell and his team continue their research. They have developed a field test that indicates, within four hours, which nuts contain the blight resistance gene and which do not. They are collecting data about whether leaf litter from transgenic American chestnuts on the forest floor affects the germination rate of other tree species and whether leaf litter in streams had any adverse effect on aquatic insects. They are also studying whether the transgenic trees have any negative impact on

the beneficial symbiotic fungi that typically colonize the root system of host plants.

"We've done enough research to know that the transgenic trees have no detrimental effects on leaf litter, insects or fungi," Powell said. "But we're doing further studies to build a body of knowledge that shows these trees will not harm the environment in any way."

ESF is speeding up the production of transgenic trees at a recently launched Tissue Culture Production Lab at the Biotech Accelerator in Syracuse. There, young plants grown from tissue cultures are nurtured until they can be transplanted and eventually moved outdoors as the seed orchard expands over the next two years.

The next long-term goal is to obtain funding for a "century study" that would allow researchers to establish a couple 120-acre research sites to conduct a long-term comparison between wild-type, transgenic, back-crossed and hybrid American chestnuts. Powell expects the regulatory process will be complete before any of those trees began to pollinate and reproduce on their own.

Maryland Program Helps Residents Install Cleanest Woodstoves on the Market

John Ackerly, Alliance for Green Heat

A Maryland renewable energy rebate program established in 2012 has provided assistance to nearly 3,000 state residents to purchase and install cleaner, modern wood and pellet stoves. The program was designed to help rural families, who were least likely to benefit from solar and other renewable energy programs.

The state has invested $1.88 million, or an average of $664 per home. The average purchase and installation costs of a stove is often around $3,800, so the state would be providing less than 20% of the price tag for a significant reduction in a home's annual fossil fuel footprint.

The Maryland Energy Administration, which manages a suite of renewable energy incentives, runs the program. With this program, the MEA cannot exactly track the amount of fossil fuel that the program has reduced, which hinders the ability of regulators to track data as they can with the solar and other rebate programs.

Chris Clark manages the clean wood and pellet stove program for the Maryland Energy Administration. Photo courtesy Alliance for Green Heat.

Of the 2,845 stoves purchased through the program, 2,425 or 85% were pellet stoves. To be eligible, pellet stoves have to emit 2 grams an hour or less, and wood stoves 3 grams an hour or less, well below the federal EPA limit of 4.5 grams an hour. Pellet stoves are eligible for a $700 grant and wood stoves $500.

“We are pleased that this program steers so many people towards pellet stoves and ensures that the installation is done professionally,” said John Ackerly, President of the Alliance for Green Heat, which worked with MEA to establish the program.

Only residents who do not have access to natural gas are eligible for the grant, which as a result helps families in rural areas who rely on more expensive fossil heating fuels. New York also adopted this innovative approach, and only provides incentives to homes that are not on the natural gas grid. A 2013 analysis of the program by the Alliance for Green Heat found that it was helping less affluent families to reduce fossil fuel use.

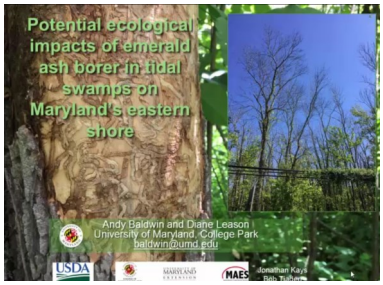
The program does not require residents to turn in an old, uncertified wood stove to participate in the program. However, some retailers report that nearly half of their customers who use this program turn in an old stove that is recycled.

During 2015, the program experienced its highest participation rates, providing grants for 1,036 stoves, 904 of which were pellet stoves.

“A $3,000 pellet stove installation can reduce fossil fuel usage by as much as a $15,000 array of solar panels,” said Ackerly. “And increasingly, we see families who have solar panels also installing pellet stoves so that they can use renewable energy for both their electric and heating needs,” he added.

News and Notes

New Videos: Healthy Forests Workshop



On March 11, 2017, over 30 interested property owners gathered in Cambridge MD for the "Forest Heath & Your Private Woodland" workshop. The morning featured speakers from the University of Maryland and branches of the Maryland Department of Natural Resources and Maryland Department of Agriculture. They presented an overview of several environmental threats that are challenging Eastern Shore landscapes, including Emerald Ash Borer, and shared information about how landowners can help conserve their landscapes.

The videos and the accompanying PowerPoint PDF documents are now available in the Woodland Stewardship Education's Workshop Resources Library. Visit the website at http://extension.umd.edu/woodland/your-woodland/workshop-resources-library.

Eastern Region NWTF Biologist of the Year: Kyle Aldinger

At the 41st annual National Wild Turkey Foundation's Convention and Sport Show, Kyle Aldinger was named the NWTF Wildlife Biologist of the Year. Aldinger was recognized for his valuable contribution to the Cerulean Warbler Appalachian Forestland Enhancement Project, a regional effort to enhance 12,500 acres of forest habitat on private lands in West Virginia, Maryland, and Pennsylvania, as well as to reforest 1,000 acres of reclaimed surface-mine sites in Kentucky and Ohio. Through workshops and media coverage, Aldinger and his partners have raised awareness about proper forest management practices that can create habitat for Cerulean warblers and other wildlife. In 2016, these efforts led to interest from over 150 landowners and contracts to improve habitat on nearly 500 acres.

Learn more about Aldinger's work and his award from the Appalachian Mountains Joint Venture.

And the Winner Is ...

Have you ever wondered how a state's champion trees are chosen and awarded? In Virginia, it's due to the work of Byron Carmean and Gary Williamson. They're responsible for the measuring and documenting the state's most superlative specimens through the Big Trees of Virginia program.

AnnaLisa Michalski of *The Virginian-Pilot* spent time with the team, learning about their work and hearing about some of their memorable finds, such as a cherrybark oak in Portsmouth VA (pictured) that they believe is 200 years old.

Read more about Carmean and Williamson's work here.

Updated: USDA Forest Service Publication on Oak Wilt

Oak wilt is an aggressive disease that affects many species of oak. It is one of the most serious tree diseases in the eastern United States, killing thousands of oaks each year in both urban and wild environments.

In order to keep the public informed about the progress of and latest research into this disease, the USDA Forest Service has revised and updated its publication entitled "How To Identify, Prevent, and Control Oak Wilt." The publication includes important information about the life cycle of the disease, how it is spread, how to diagnose your trees, and possible methods for preventing its further spread. Illustrations document leaf appearance for each species.

Go to this link to read the publication.

Woodland Wildlife Spotlight: The Woodchuck

The woodchuck (*Marmota monax*) may be one of the most celebrated yet misunderstood or maligned mammals in North America. One the one hand, it has a handful of nicknames, including the popular "groundhog" or "whistle-pig" and the lesser-known "ground-pig," "thickwood badger," or "red monk." Its best-known representative has an international day of fame every year when the current Punxsutawney Phil predicts whether spring will come early or if there is six more weeks of winter to come. Yet there are many who are not fans of the woodchuck; some consider them to be pests. Let's take a closer look at the woodchuck and its place in the environment.

The woodchuck is a type of rodent known as a marmot, with a natural range across a wide swath of North America, from New England to northern Alabama and as far west as the Mississippi River valley. They are common throughout the mid-Atlantic region, including Maryland. They measure on average 15 to 25 inches in length, including a 6 inch tail, and can weigh 4 to 9 pounds. Males are larger than females, with their grizzled, coarse fur ranging from gray to cinnamon to dark brown.

Left: Adult woodchuck . Photo by Victor Loewen, animaldiversity.org

Right: Woodchuck, Havre de Grace, Maryland. Photo by Sarah A. Hanks.

They are typically found in low elevation forests, small woodlots, fields, pastures and hedgerows. Human activities, such as clearing woodlands for agriculture, housing, or recreation (such as golf courses), has increased their native habitats. They are most active during early morning and late afternoon during the summer and mid-day during spring and autumn. They will stand on their hind legs periodically to look for predators as they feed. When threatened, they may climb trees to escape, or use their teeth to defend themselves. Their distinctive shrill whistle alerts others, particularly their young, of danger. Other vocalizations include grunts, purrs and hisses.

Woodchucks excavate burrows for sleeping and for rearing young, and may construct a separate burrow below the frost line specifically for the winter. Each burrow will have two to five entrances. Abandoned dens are used by rabbits, opossums, river otters, and other species.

Contrary to popular culture, woodchucks do not emerge from their dens on February 2nd to predict the weather. At that time, most woodchucks, especially in northern latitudes, are still in hibernation in their underground dens. However, males do wake up early in order to scout for females. Mating takes place during a ten-day period in early March, with the female giving birth in April. Most litters range between 3 and 5 pups. The female provides all the care for the young. They are weaned after about six weeks, and are independent at about two months of age.

In the wild, the woodchuck lives from four to six years, but often do not live past age 3. Unlike some of their cousins, such as prairie dogs, woodchucks are basically loners. According to Stam Zervanos, retired biology professor at Penn State—Reading, "They are pretty solitary for most of the year, so the male has no clue where the female is most of the year except when they're ready to mate." Predators include hawks, snakes, black bears, foxes, as well as wolves, coyotes, lynx, and bobcats.

Their natural diet includes alfalfa, dandelions, and clover, as well as insects, bark, and leaves. Where human activity is present, they will eat garden crops such as corn, lettuce, peas, and beans, as well as various fruits and flowers.

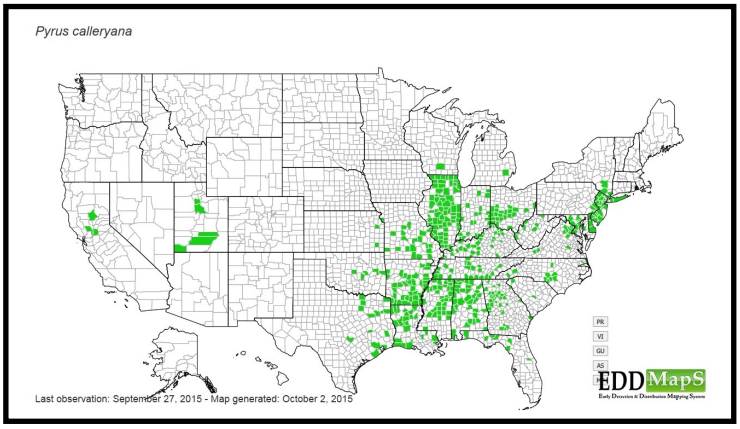
In addition to this perhaps-unwelcome activity, their burrows can pose a hazard for farm equipment. According to Prof. Zervanos, "tractors can break an axle" when driving over them. Livestock may become injured if they break through the roof of a burrow or one of its tunnels.

Property owners in Maryland who find woodchucks to be a nuisance may wish to read HG-90, "Dealing with Nuisance Wildlife" from the University of Maryland Extension. Additionally, the Nuisance Wildlife Information Line is available Monday through Friday at 877-463-6497 (toll-free in Maryland).

Invasives in Your Woodland: Callery Pear

Drive along many of Maryland's major roads in the spring, and you will see what seems like a wall of white, as the Callery pear (and its offshoot, the Bradford pear) are in bloom. While these may be an impressive sight, these trees are an invasive and highly competitive species.

Callery pears in a roadside environment.
Photo by T. Davis Sydnor, The Ohio State University, Bugwood.org



Distribution of Callery pear (2015).
Courtesy eddmaps.org.

What is it?

The Callery pear was first brought to the United States in 1918 from its native China. At the time, America's native Bartlett pear trees were threatened by fire blight, and USDA researchers hoped that cross-breeding Callerys with Bartletts would make for a blight-resistant tree.

The resulting trees were studied for thirty years at a USDA facility in Maryland before the project was abandoned without any significant success. However, a few of the trees seemed to have potential as ornamental plantings, and were discovered to be sterile hybrids that would not crossbreed among themselves. These new trees were named for F. W. Bradford, a respected (and retired) scientist who had had nothing to do with the project.

The new hybrids were introduced to the public in the 1960s, but since then, research has discovered that Bradfords are not sterile. They crossbreed indiscriminately with all other pears in the environment. The resulting offspring have reverted to the original Callery pear and have spread across the landscape. Consequently, they are found in great numbers in Maryland, Virginia, and southeastern Pennsylvania, as well as in many other states from New Jersey to Texas.

How does it spread?

Callery pears today are most commonly spread by wildlife. Birds and other animals eat and spread the seeds through droppings. These seedlings form dense thickets that push out native plants, growing rapidly in disturbed areas such as fallow fields and roadsides.

How can I identify it?

The Callery pear has a distinctive V-crotch branch structure. See photos on the following page.

How can I control it?

If you have Callery pears on your property, take care to note the small fruit it will bear. If possible, remove the fruit before it is eaten by wildlife. Cutting the trees will provide good firewood; however, it is important to ensure that they do not re-sprout. Trunks can be treated with herbicides in several methods, including hack n' squirt, basal bark and cut stump, with triclopyr or glyphosate.

Seedlings and shallow-rooted plants can be pulled when the soil is moist. Take care to remove the entire root system to prevent re-sprouting.

When the invasives have been removed, replant the area with native species, such as common serviceberry, Allegheny serviceberry, or white fringetree.

For more information:

Learn more about Callery pears:

Callery Pear: Invasive of the Month—Maryland Invasive Species Council

Callery or Bradford Pear— Pennsylvania Dept. of Conservation and Natural Resources

Callery Pear/Bradford Pear—USDA Forest Service

See the gallery on the next page.

Image Gallery:
Callery pear

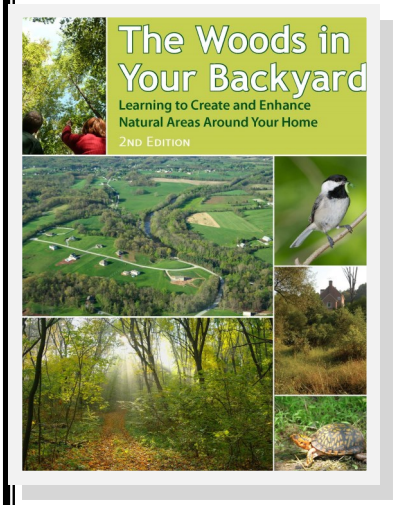
Callery pear tree. Note the characteristic V-crotch branch structure. Many municipalities that planted Callery pears as street trees discovered that the trees are susceptible to splitting under conditions such as high winds and ice storms, leading to liability questions. Photo courtesy David Stephens, Bugwood.org

Callery pear trees invading a fallow field in North Carolina. Photo courtesy Durant Ashmore, wcnc.com

Callery pear blooms (left) and fruit (right). Photos courtesy Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

Now Available!

The Woods in Your Backyard, 2nd Edition



The first edition of *The Woods in Your Backyard: Learning to Create and Enhance Natural Areas Around Your Home* was published in 2006. The guide helped thousands of landowners of 1 to 10 acres in the mid-Atlantic area enhance the stewardship of their land. They learned valuable techniques about caring for their natural areas, including how to convert lawn to woodland, how to enhance existing wooded areas, and how to cooperate with neighbors to enhance wildlife habitat.

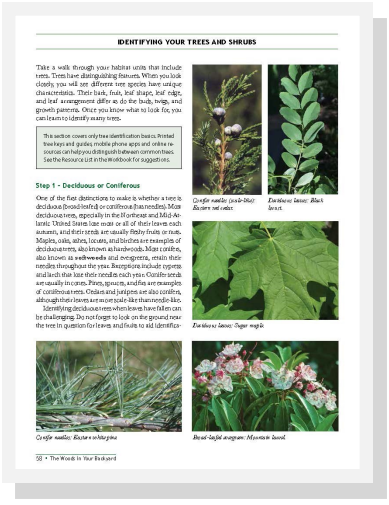
Now the guide has been revised and updated. Highlights of the new edition include:

- A new Foreword by Doug Tallamy, author of Bringing Nature Home
- Methods for documenting your natural area projects through a "stewardship journal"
- Tips for identifying your natural area's natural and wildlife habitats
- Expanded and up-to-date information related to non-invasive plant species
- Expanded information about water resources, including tips for creating and maintaining riparian buffers, and identifying and preserving wetlands
- A new section on best management practices for soil resources and conservation
- A fully revised and expanded Glossary

The 108-page guide contains more than 100 color photos and illustrations, and includes information tables, case studies, appendices, and an index.

Contributors include natural resources specialists at the University of Maryland, Penn State University, Virginia Tech and Foresters for the Bay.

The 2nd edition of *The Woods in Your Backyard* is now available to order through Cornell University's Plant and Life Sciences Publishing (PALS, formerly NRAES). Each copy is $23.00, with quantity discounts available. For more information, click on the cover image or go to http://go.umd.edu/WIYB-2nd-edition to order.


IDENTIFYING YOUR TREES AND SHRUBS

Step 1 - Deciduous or Coniferous

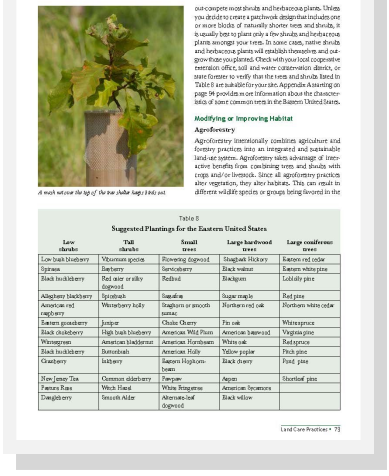


Table 8
Suggested Plantings for the Eastern United States

Low shrubs	Tall shrubs	Small trees	Large hardwood trees	Large coniferous trees
Low bush blueberry	Viburnum species	Flowering dogwood	Shagbark Hickory	Eastern red cedar
Spiraea	Barberry	Serviceberry	Black walnut	Eastern white pine
Black huckleberry	Red osier or silky dogwood	Redbud	Blackgum	Loblolly pine
Allegheny blackberry	Spicebush	Sassafras	Sugar maple	Red pine
American red raspberry	Winterberry holly	Staghorn or smooth sumac	Northern red oak	Northern white cedar
Eastern gooseberry	Juniper	Choke Cherry	Pin oak	Whitespruce
Black chokeberry	High bush blueberry	American Wild Plum	American hornwood	Virginia pine
Wintergreen	American blackberry	American Hornbeam	White oak	Red spruce
Black huckleberry	Buttonbush	American Holly	Yellow poplar	Pitch pine
Cranberry	Inkberry	Eastern Hophornbeam	Black cherry	Pond pine
New Jersey Tea	Common elderberry	Pawpaw	Aspen	Shortleaf pine
Panicum Rose	Witch Hazel	White fringetree	American Sycamore	
Dangleberry	Smooth Alder	Alternate-leaf dogwood	Black willow	

Sample pages from the second edition.

Alliance for Green Heat's Fourth Wood Stove Design Challenge

The Alliance for Green Heat's next Wood Stove Design Challenge will return to Washington, DC's National Mall. The event, scheduled for November, 2018, will be free and open to the public.

The Wood Stove Design Challenge is modeled after the US Department of Energy's Solar Decathlon, a competition that brings together teams from universities around the world to design cheaper and more efficient residential solar power. The Wood Stove Design Challenge similarly attracts international teams to create appliances with improved performance and ground-breaking innovation.

This will be the fourth edition of the Design Challenge. The first was held on the National Mall in 2013. The next two, in 2014 and 2016, were held at the Brookhaven National Laboratory in New York. Each featured creative engineers, energy experts, and innovative stove designs.

The upcoming challenge will feature competition in two events. One is to automate the wood stove with 21st century technology, such as sensors or wi-fi, to improve performance and ease of use. The other will focus on thermoelectric wood stoves. According to the Alliance for Green Heat blog, *Heated Up!,* these stoves "generate electricity to power lights, cell phones, and wi-fi enabled controls." These generators are similar to solar photovoltaic systems "except that they turn heat instead of light into electricity." The Alliance believes that Integrating these two systems in a residential setting "could effectively double the wintertime output of solar PV systems in areas like northern United States, Canada, and northern Europe."

Teams in the 2018 competition will be competing for up to $50,000 in prizes. For more information about how to participate and compete, contact John Ackerly at jackery@forgreenheat.org. For questions related to the electricity production category, contact Ken Adler at kadler@forgreenheat.org.

Events Calendar

For more events and information, go to http://extension.umd.edu/woodland/events

April 13, 2017, 7:00—8:00 PM
Woods in Your Backyard
Franklin County Ag Heritage Building, Chambersburg PA

Sponsored by the Cumberland Woodland Owners Association. Dr. Jim Finley, from Penn State and a contributing author to "The Woods in Your Backyard" guide, will share how owners of just a few acres can make a difference to the environment through stewardship practices. For more information about this free workshop, go to http://ecosystems.psu.edu/research/centers/private-forests/events/woods-in-your-backyard

April 19, 2017, 1:00—2:00 PM
Southern Pine Beetle webinar

The southern pine beetle is the most damaging pest of pine forests in the eastern US. Management, especially thinning and prescribed burning, is the most effective strategy to avoid southern pine beetle damage. This free webinar will cover the beetle's biology, ecology, and management strategies. For more information and to register, visit http://www.forestrywebinars.net/webinars/southern-pine-beetle-biology-ecology-and-management.

April 27, 2017
National Firewood Workshop
Iredell County Cooperative Extension Office, Statesville NC

This year's National Firewood Workshop will be held in Statesville, NC, near Charlotte. The one-day workshop will include demonstrations by firewood processors, classroom discussions by leading firewood industry professionals, and much more.

Topics include selling and marketing of firewood, sourcing affordable logs, dry kiln equipment and methods, and much more.

The workshop is $25.00 per participant. For more information and a registration brochure, go to http://extension.umd.edu/events/thu-2017-04-27-0800-national-firewood-workshop

May 9, 2017, 12:00—1:00 PM or 7:00-8:00 PM
Raising Wild Kids webinar

This webinar will explore the importance of exposing future

generations to an effective stewardship ethic. Presented by Sanford Smith, Natural Resources and Youth Extension Specialist at Penn State's Department of Ecosystem Science and Management. For more information and how to register for the noon webinar, go to this link. The webinar will be repeated at 7 PM; more information here.

June 13, 2017, 12:00 noon—1:00 PM & 7:00—8:00 PM
Assessing and Promoting Successful Regeneration in your Woodland webinar

This webinar, presented by Leslie Horner from the Penn State Center for Private Forests, will provide an overview of an assessment process that woodland owners can use to evaluate regeneration. Participants will learn the silvics, including light requirements and growth rates, of some common trees. For more information, go here.

July 23-29, 2017
Natural Resources Careers Camp
Hickory Environmental Education Center, Accident MD

High school students from across Maryland have the opportunity to explore careers and college studies in natural resources at this week-long camp in Garrett County. This partnership with Allegany College of Maryland and the Maryland Dept. of Natural Resources Forest Service offers students a co-ed opportunity to learn from industry professionals and to develop contacts that could lead to future employment and a career in natural resources.

The $450 registration/tuition feel includes lodging and meals for the week. To learn more, including scholarship options, go to http://www.marylandforestryboards.org/nrcc.cfm.

September 12-14, 2017
Mid-Atlantic Biomass Energy Conference & Expo
Penn Stater Hotel & Conference Center, State College PA

This event will bring together attendees from across industry and the general public from the Mid-Atlantic region and beyond. If you or your business have an interest in biomass, this is an excellent opportunity to see and learn about the technology, learn about the application and policy, and much more. For more information and to register, visit http://www.mabex.org/.

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