

BRANCHING OUT

Maryland's Woodland Stewardship Educator



University of Maryland Extension – Woodland Stewardship Education
<http://extension.umd.edu/woodland>



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Maryland Woodland Stewards for 2014

Do you own woodland property? Do share our enthusiasm for Maryland's natural lands? Do you want to learn about the most up-to-date practices for wildlife habitat and woodland health? Do you have the enthusiasm and drive to share what you know with your fellow woodland property owners?

Then consider applying for the University of Maryland Extension's "Maryland Woodland Stewards" program. The course will be held October 2-5, 2014 at the Shepherd's Spring Retreat in Sharpsburg (Washington County).



The Maryland Woodland Stewards (MWS) program, now in its 24th year, enlists enthusiastic individuals from across Maryland who are interested in becoming effective advocates for forest and wildlife stewardship.

During the course of the weekend, participants receive an in-depth orientation essential skills through classroom and hands-on instruction. The program includes presentations from a wide variety of stewardship professionals from Extension, Dept. of Natural Resources Forest Service and Wildlife Division, and professional forestry. The weekend also includes field trips and tips on how to encourage others to practice good forest stewardship using the principle of "neighbor helping neighbor."

MWS is made possible through the generous support of the American Tree Farm System through the Maryland Tree Farm Committee. This means that participant cost for the weekend is \$95.00 per person, which includes meals, lodging, and all program materials.

Each participant in MWS agrees to contribute a minimum of 40 hours in the year following the training in education and outreach efforts. Each participants will also develop an action plan that matches his or her interests and talents.



2013 Maryland Woodland Stewards program participants

The deadline for applications is August 4, but space is limited to 25 participants, so interested parties are encouraged to apply early. The online application is available at bit.ly/MDWS2014. More information can be found on the Woodland Stewardship Education's website at <http://extension.umd.edu/woodland/maryland-woodland-stewards>. The site includes additional resources related to the program, including a sample agenda.

If you have questions about MWS, please contact program coordinator Jonathan Kays at 301-432-2767 ext. 323, or via email at jkays@umd.edu.

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A Wildlife Habitat Success Story

In 1975, Robert W. “Mac” Macdonald inherited the 94-acre Triple Chance Farm in Cambridge, Maryland from his father, and he set out to improve the property in hopes of making it better habitat for wildlife. He recognized that growing cash crops of corn, soybeans and wheat on the farm’s 40 tillable acres was not going to be commercially viable; instead, he decided to transform the area into, in his words, “a sportsman’s entertainment area.” By the time

- 1) Take inventory of the property. Calling this the “fact finding step,” Macdonald recommends discovering what you like most about the land, such as determining percentage of mature versus young trees. His advice is, “Don’t start planning or putting designs on paper until you have all the pieces to the puzzle. You are creating a work in progress—a mosaic, living tapestry in which all the property should be connected.”
- 2) Seek professional advice. Talk with and visit your neighbors. Talk with your county Soil Conservation Agency, the state biologist, state forester, and Extension personnel. Take their advice, but remember that it is your property and no one knows it as well as you.
- 3) Set a priority. Figure out where your priorities lie, where your immediate problems are, and determine the solutions for them. Is your area subject to flooding or drought? Do you have large areas of mature woodlands without areas of refuge for songbirds or quail? Deal with these issues first before moving on to step 4.



Triple Chance Farm, 1957. Photo courtesy Robert W. Macdonald

he sold the property in 2009, he had succeeded well beyond his expectations. At a down time in the real estate market, he had five bidders for the land, with each noting the abundance and diversity of wildlife habitats on Macdonald’s property in comparison to others they were considering. So that other landowners with similar interests in increasing wildlife habitat could benefit from his methods, he created a how-to guide that documents his success. With his permission, this article excerpts some of the most important points.

Macdonald originally began planting trees to block the northwest winds of winter. He soon realized that hedge rows and buffer strips along the trees would add to the buffering and provide new wildlife habitat. He began to create areas for species that benefit from early-successional habitats, including quail, turkey and woodcock. He also wanted to attract rabbits and songbirds. To accomplish this, he created several areas of soft edge habitat, which consisted of plantings of various height and density that connected the forested habitats with areas of small-grain food plots of sorghum and millet. He also created patches of bare ground called dusting areas where small birds could take dust baths to ward off parasites. Looking back over his thirty-plus years of effort, Macdonald distilled his process into five steps:



Successful wildlife habitat planting mix (summer), Triple Chance Farm, 1957. Photo courtesy Robert W. Macdonald



Successful wildlife habitat planting mix (winter), Triple Chance Farm, 1957. Photo courtesy Robert W. Macdonald

- 4) Design phase. “This is the fun part! Get a pencil, an eraser and tracing paper” to envision where to create habitats for the species you wish to attract. Design large areas in order to connect one with another. Keep the designs simple and easy to maintain.
- 5) Implement phase. Macdonald counsels patience, calling this the “slow phase” because “your paradise is not going to happen overnight.” Don’t be afraid to change your mind, as long as new projects interconnect with old ones. Start with the high-priority areas first, and be sure to take lots of notes of your progress.



Triple Chance Farm, 2007. Photo courtesy Robert W. Macdonald

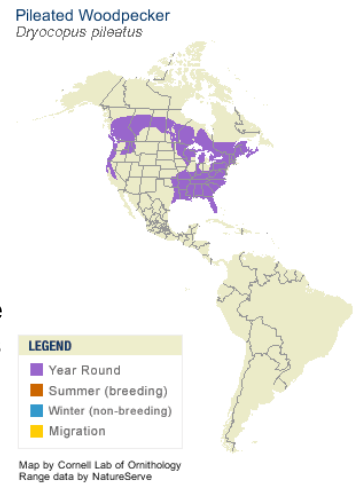
Macdonald’s efforts resulted in new wildlife moving in to breed and raise their young, including quail, woodcock, and other important species. As a result, he enjoys helping other landowners who are interested in creating vital habitats for these and other important species. He can be contacted at (410) 463-0031 or via email at macfly@goeaston.net. He recently bought another farm and is hoping to duplicate his results with the new acreage.

The Pileated Woodpecker

Andrew A. Kling

It was a challenge keeping our bird feeders filled during the long winter and the cool spring. We had a large population of Northern Cardinals, House Finches, American Goldfinches, Carolina Wrens, Flickers and others visiting daily. We added a suet feeder to the mix in early spring, and were rewarded with regular visits from Red-headed Woodpeckers and Chickadees. Then one day I looked out and saw two species I’d not seen before: a Rose-breasted Grosbeak sat on a perch of one of the seed feeders, and a very big bird that seemed to overwhelm the suet box was gripping its cage. Since then, I haven’t seen the Grosbeak again, but the larger visitor - a Pileated Woodpecker—has returned regularly to dine.

The Pileated Woodpecker’s habitat stretches across the Eastern United States, ranging as far west as the lower Mississippi River valley, and includes much of southern Canada. There are also populations along the west coast as far south as central California. This non-migratory bird has benefitted from the regeneration of forests across



the continent, favoring large, standing dead trees and downed wood. Their forests can be either deciduous, evergreen, or mixed, and in the East, they have moved into young forests as well as partially-wooded suburbs and backyards. The latter best describes our neighborhood, as we live not far from protected woodlands along the Potomac River.

Once you see a Pileated Woodpecker, there is little



Pileated Woodpecker. Photo by John McKean/VIREO

chance you will ever mistake it for another. About the size of a crow, it is perhaps the largest woodpecker in North America (the possibly-extinct Ivory-billed Woodpecker is larger). It has a flaming red crown atop a triangular head with zebra stripes that extend along its neck. The remainder of the body is black. The underside of the wings are white with a stripe of black on the trailing edges. The bird’s strong

wings generate a slow, undulating flight that aids in field observation. Additional observation aids include looking for wood chips beneath dead trees, and the sound that the woodpecker makes while making its distinctive square holes. The Cornell University’s Lab of Ornithology has a collection of audio files related to the bird’s behavior available at http://www.allaboutbirds.org/guide/pileated_woodpecker/sounds; Audubon.org also has audio samples at <http://birds.audubon.org/birds/pileated-woodpecker>.

The Pileated Woodpecker’s favorite meals are carpenter ants, beetle larvae, and termites, as well as other insects. The bird creates excavations that can be more than a foot



long and reach deep inside the tree, as they follow the tunnels of the carpenter ants. The bird uses a long, sticky tongue to reach the insects. They also forage on the ground for fruit and nuts. The holes later become valuable habitat for other burrowing birds, such as other woodpeckers and House Wrens.



These birds also nest in cavities they excavate. The male does most of the work, and it may take up to six weeks. The mated pairs raise a clutch of 3-5 eggs in this cavity, and then create a new one the following year.

If you have an interest in attracting Pileated Woodpeckers to your woodland property, ensure that the land has a few snags for feeding and nesting purposes. You may also choose to create snags from unwanted trees that

are scheduled for removal. These trees, while they are standing, provide valuable food sources and nesting habitat for species including Wood Ducks, Eastern Bluebirds, and other woodpeckers, as well as the Pileated Woodpecker.

And if you were hoping that I could share my own photos of the Pileated Woodpecker that visits our yard, I'm sorry to say you're out of luck. I haven't been able to get close enough yet without the bird flying away. Maybe someday.

What Do You Want to Know?

The Woodland Stewardship Education program conducts seminars and workshops across Maryland to interested landowners, and offers webinars for World Wide Web audiences, covering a variety of stewardship topics. Many of them are also covered in the pages of *Branching Out*.

Branching Out benefits from reader participation and feedback. We invite you to submit news items and articles that are relevant to woodland stewardship. Do you have a concern about your woodlands that we haven't covered? Would you like to learn more about a topic we've covered in the past? Please contact *Branching Out* editor Andrew Kling at akling1@umd.edu with your suggestions and submissions. Thank you!

Wishing Him the Best! Maryland State Forester Steve Koehn Retires

Jonathan S. Kays

Shortly after starting my extension career in 1988, I led a group of 4H youth on a tour that included a stop at the Baltimore City watershed. It was there that I met the Baltimore County DNR forester. The young forester spoke convincingly about the value of managing the forest for a range of objectives and I was struck by his passion and willingness to communicate a heartfelt and convincing stewardship message, even to group of kids.

That forester was Steve Koehn, whose passion for forestry, along with his leadership skills, propelled him up the ranks to the position of Director and State Forester of the Maryland DNR Forest Service, a position he has held for the last 13 years. Steve has over 30 years of state service and using his own words, "I will always remember my career with the Maryland Forest Service with fondness and gratitude; not only for the important work that we accomplished together but also for the lifelong friendships I have formed over the years."



During his tenure as state forester Steve has worked diligently to develop strong partnerships and collaborations with other organizations so that the Maryland Forest Service is well-positioned to continue to be a leader in restoration, management and protection of our tree and forest resources.

Upon his retirement July 1st, Steve will be moving on to new challenges and opportunities as Director of Cooperative Forestry with US Forest Service State & Private Forestry. We wish Steve well in his endeavors and look forward to working with the new State Forester.

University of Maryland's General Forestry Course

Nancy Stewart, University of Maryland Extension

The University of Maryland Extension will offer the General Forestry Course for the Fall 2014 semester. Both the paper and online version will be offered. The course begins September 1 and runs until December 15, 2014. Registration opens July 1. To register, go to our website at <http://extension.umd.edu/forestry-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 management plan for your forest.

The cost for this non-credit forestry course is normally \$300. However, we are offering the course at a \$25 discount during the month of July so it only costs \$275 through July 31. The cost goes up to \$300 during the month of August. Late registration (September 2-14) is



\$400. 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*, and a small pamphlet entitled *What Tree Is That?*). 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 nstewart1@umd.edu. Remember, get the discount during July. Check for details on our website today and mark the date for open enrollment on your calendar!

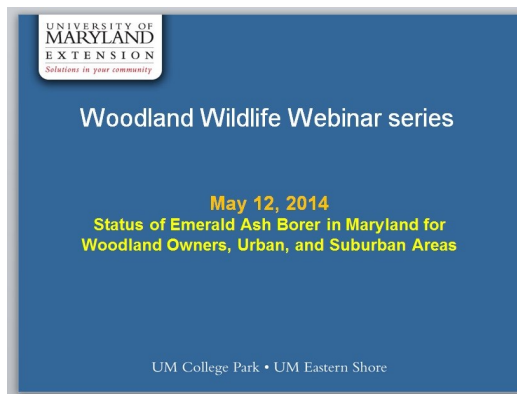
Emerald Ash Borer Webinar Now Available

In May, the Woodland Stewardship Education Program of the University of Maryland Extension hosted a webinar that provides an update on the status of the Emerald Ash Borer (EAB) in Maryland for woodland owners, local government officials, pesticide professionals and others interested in EAB. Since the emerald ash borer was detected in August 2003 in southern Maryland, it has continued to spread across the state. EAB has proven to cause significant mortality in adjacent states so it is critical to be current on new developments. Presently, all counties west of the Chesapeake Bay are in quarantine in hopes of keeping the EAB from crossing to the Eastern Shore. The quarantine limits transport of wood without a permit onto the Eastern Shore.

The webinar, which runs approximately 80 minutes, features three speakers who addressed the EAB issue in Maryland:

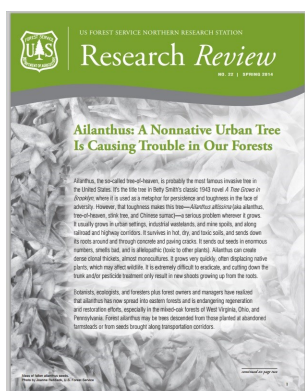
- Kimberly Rice, Entomologist and EAB State Survey Coordinator with the Maryland Department of Agriculture Plant Protection & Weed Management Section, provided a brief overview of the history of EAB in Maryland, information on parasitoid releases and strategies for urban areas, and state and federal quarantines;
- Mike Raupp, Professor of Entomology with the University of Maryland, discussed the biology of EAB, management and decision making;
- Jonathan Kays, University of Maryland Natural Resource Extension Specialist, who shared some of the implications of EAB for woodland owners, and some recommendations and strategies for woodland management.

The webinar is now available for viewing at the WSE YouTube channel at <http://youtu.be/80deRlxTrik>.



New Publication on Tree-of-Heaven

The USDA Forest Service's Northern Research Station has released the latest edition of their "Research Review" publication. The Spring 2014 issue addresses the ailanthus, or tree-of-heaven, and its status in American forests. Entitled "Ailanthus: A Nonnative Urban Tree Is Causing Trouble in Our Forests," the publication documents its growth and spread into a wide range of environments since it was first introduced to eastern North America in the 18th century. Since that time, it has expanded into farmland and woodland settings, sending out enormous amounts of seeds and displacing native species.



The publication also covers new research connected with ailanthus control and eradication. One promising avenue includes a new biological control method based on a wilt-inducing fungus.

"Ailanthus: A Nonnative Urban Tree ..." is available free of charge from the

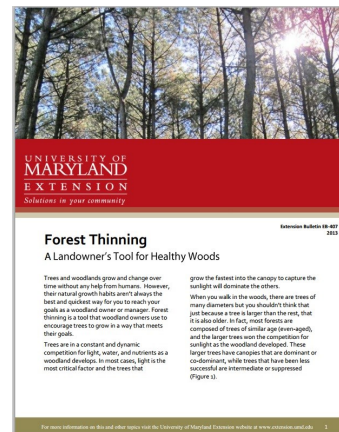
"Managing Your Property" section of the Woodland Stewardship Education Publications Library <http://extension.umd.edu/woodland/your-woodland/publications-library>.

Back issues of Branching Out online

Digital versions of the *Branching Out* newsletter from 1993 to 2013 are now available. You can catch up on older issues or re-visit favorite articles by going [here](#). You can also subscribe to the newsletter through the website. Go to <http://extension.umd.edu/woodland> and click the "Subscribe here" link.

Forest Thinning Publication Now Available

The University of Maryland Extension recently developed a guide to an important and valuable practice for woodland owners and managers. The publication, "Forest Thinning: A Landowner's Tool for Healthy Woods," covers the various techniques associated with this effective practice. Included are tips for choosing the right trees for thinning, best times for thinning, and much more.



This valuable resource is available as a PDF in the WSE website's Publications Library at <http://extension.umd.edu/woodland/your-woodland/publications-library>. Select the "Managing Your Property" category and look for EB-407.

Updated Fact Sheets

The University of Maryland Extension's Center for Agricultural & Natural Resource Policy has updated two popular fact sheets that are of interest to concerned property owners. FS-972, "Estate Planning for Farm Families," provides the latest Maryland and federal tax and estate information. The new version is available at the WSE website's "Tax Information" section of the Publication Library at the <http://extension.umd.edu/woodland/your-woodland/publications-library-tax-information>.

The Center's publication entitled "Estate Planning and Conservation Easements" has also been revised and updated. The fact sheet explains relevant conservation easement tax information by creating examples of family situations and land values. This and other valuable stewardship planning resources are available at the "Taxes" page of the website's Stewardship Planning section. Go to <http://extension.umd.edu/woodland/your-woodland/stewardship-planning-taxes>.

Heating Schools, Institutions, and Commercial Buildings With Wood

The Maryland Department of Environment passed new regulations on April 28, 2014 that provide air quality standards for the combustion of biomass in boilers for small to medium-sized institutional, commercial and business applications. Legally known as *COMAR 26.11.09 Control of Fuel-Burning Equipment, Stationary Internal Combustion Engines, and Certain Fuel-Burning Installations*, this change enables Maryland to displace fossil fuels and use wood chips as fuel for commercial boilers to produce thermal heat. With these new regulations, Maryland joins a practice that is being promoted throughout the Northeast states and across the nation.



The advent of clean combustion wood technology in the last few decades has enabled schools, hospitals, prisons, and businesses to drastically reduce their fuel cost and pay for the new boiler installations in many cases in as little as 5-10 years, while displacing expensive fuel oil, propane or electric heat. Wood chips can cost \$40 per ton, but a ton of chips will yield up to five times as many BTUs as a ton of fuel oil.

While other states such as Pennsylvania have many facilities using wood chips, Maryland is only now looking to develop projects with schools and other public facilities. The benefit for woodland owners is that as projects are initiated, they will create a market for low-grade wood projects, something that is difficult to market from most harvest operations. The revenue from low-grade products is typically low but it allows woodland owners to thin their woods to stimulate the growth of high-quality trees for sawtimber and veneer - products that have good value.

Please consider sharing this information with your elected officials, particularly if a new school or government building is being considered in your community. For more information, read the Maryland Wood Energy Coalition publication, *A Prospectus for Advancing Bio-thermal Energy in Maryland*, available at the Woodland Stewardship Education website's Publications Library at <http://>

extension.umd.edu/woodland/your-woodland/publications-library-wood-energyrenewable-sources .

Heating Your House with Wood

After a long and protracted winter, many citizens have felt the sting of high fuel oil, propane, and electric cost to heat their home. An increasing number of Maryland residents are looking to wood and wood pellets to heat their homes, and the state is encouraging this transition with wood grants to help pay the cost.

The Maryland Energy Administration will pay \$500 toward the cost of clean burning wood stove and \$700 toward the purchase of a pellet stove. Now is the time to visit a wood stove retailer in your area and learn about the options available. Using wood or pellets as



heating fuel involves more effort but the cost savings are significant. Wood is the fastest growing heating fuel in Maryland, increasing by one-third between 2000 and 2010.

From 2005 to 2012 the number of Maryland households that rely on wood as the main heating fuel increased by at least 50%. So do your homework before the weather turns and take advantage of this useful incentive.

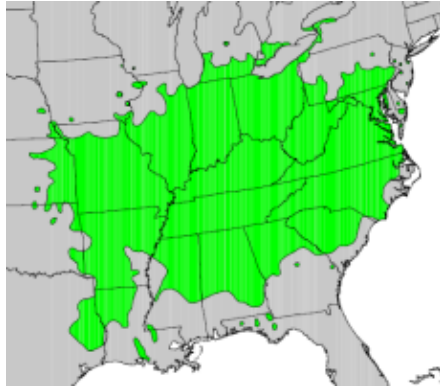
Resources:

- * MEA Wood Grant Program - <http://energy.maryland.gov/Residential/woodstoves/index.html>
- * List of wood stove retailers and other wood energy publications - <http://extension.umd.edu/woodland/your-woodland/publications-library-wood-energyrenewable-sources>
- * "Heating with Wood" webinar and more information - <http://extension.umd.edu/woodland/your-woodland/webinar-recordings>

Have You Ever Seen a Pawpaw?

Taking a hike along the C&O Canal in Maryland, or in rich bottomlands mostly west of the Chesapeake Bay, and you may come across the Pawpaw tree, *Asimina triloba*. Most people can identify it by its tropical-looking foliage, and because it is one of the first trees whose leaves turn golden in the fall.

The pawpaw is found in 26 states and is known by other names such as the American Custard Apple, The West Virginia Banana, and Indian Banana. Its fruit tastes like a cross between a banana and a mango.



The pawpaw has quite a history. Thomas Jefferson had pawpaws at Monticello and Lewis and Clark wrote in their journals they were quite fond of the pawpaw fruit. The folk song *Way Down Yonder in the Paw Paw Patch* celebrates the importance of the pawpaw in the lives of early settlers. Many places were named after pawpaw, such as Paw Paw, WV, that lies just across the Potomac River from Allegany County, Maryland.

Pawpaw fruit has high nutritional value that exceeds that of apples, peaches and grapes in vitamins, minerals, amino acids, and calories. The leaves and twigs contain powerful compounds that have been used as a natural pesticide, and some favorable research has been done on



their anti-cancer properties. The flavor and taste of natural fruits vary widely. The pawpaw is the largest native fruit in North America and is very delectable when ripe. The challenge seems to be determining when they are ripe. The pawpaw ripens like a banana, but in different stages. Biting into an under-ripe pawpaw fruit will give a very bitter aftertaste, while an over-ripe pawpaw will lose

much of its flowery aroma and sweetness and the flesh turns mushy.

Complicating the matter, the fruits do not signal their ripeness by a color change. Once the skin turns from green to mottled brownish it is overripe. Check ripeness by giving a gentle squeeze with your thumb, like you are checking a peach. The skin is bitter and can lead to digestive problems so leave it be. Raccoons have it figured out; they only eat the flesh, leaving the skin.



Walking in the woods, you may have trouble finding the fruit. The fruit is often in clusters and hides under the foliage, so it may be difficult to see. There is a six-week window to collect it, but not all the fruit ripens at one time. This means you may be competing with deer, raccoons, opossums, bears and other mammals that like the fruit as well.

If the trees in the woods do not bear fruit, or produce a light crop, the usual reason is they are too shaded by other trees. Another reason is a pollination problem. Pawpaw flowers are not self-fertile, so they need pollen from genetically different trees, carried by flies and beetles. So if



the trees are in a pawpaw grove, all the genetics are similar and they may not get pollinated.

The real home of the pawpaw is rich bottomland areas and along streams, where it can grow in shaded conditions and reach a height of 30 feet and 1 foot or more in diameter. Pawpaw reproduces by both seed and underground roots, or suckers, which grow and form groves or

“pawpaw patches.” These suckers are only transplantable when they are a few inches tall.

Several things can be done to improve the harvest from natural stands of pawpaw: thin the trees to about 10 feet apart, remove tall trees shading them, remove pawpaw suckers when they form, keep weeds and grass away from the trunks, and fertilize them. Another good practice is to plant a couple of pawpaw trees that have different genetics not more than 10 feet away from the grove.

Pawpaw makes a fine backyard fruit tree. Although the shelf life of the fruit is about the same as a banana, it is easily frozen for future use and can be used in hundreds of recipes. Pawpaw has no serious pests or diseases. It is also a great addition to a butterfly garden because it is the only host for the zebra swallowtail.

There are ongoing attempts to commercialize the pawpaw, thanks largely to work of plant scientist Neil Peterson. For 35 years he has attempted to select and grow varieties that are bigger and with more flesh, that are grown as a fruit crop in an orchard.

The pawpaw is an interesting part of the woodland ecology, but it can have some negative impacts on the establishment and regeneration of young hardwood seedling and sprouts. In many areas it forms a dense low understory canopy that stops light from penetrating the cover and makes it difficult for any regeneration to establish. Sunlight is needed for many woodland species, such as oak, to establish in the understory and be ready to take over when the present canopy is opened by natural disturbance or sustainable harvest practices. If the layer of pawpaw is too dense, it may be necessary to cut and/or kill in place many of the pawpaw trees to open the canopy and provide sunlight to the forest floor.

So take a walk and see if you can find pawpaw trees and fruit, if not on your land, along some rich moist stream corridors in its range. Enjoy!

Much of the materials adapted from “Pawpaw – Gold of the Forest” by Terry and Ron Powell, The Ohio Woodland Journal, Summer 2012, Pages 20-21.

Other pawpaw resources:

Pawpaw at Kentucky State University: <http://www.pawpaw.kysu.edu/>

Pawpaw (*Asimina triloba*) at University of Tennessee Department of Forestry, Wildlife and Fisheries: <http://wfw.ag.utk.edu/dendro/species/pawpaw.html>

All photos © Will Cook, <http://www.carolinanature.com/trees/astr.html>

Dead Vines, or Yet One More Threat to Your Woodlot

Carl Martin

PA Forest Steward and Director of Property
Stewardship, Wildlands Conservancy

Dead vines. In this case we aren't speaking of the hereafter, but many of the vines reaching the overstory of our woodlots certainly are trying to get to heaven. Here in the fragmented and often unmanaged forests of southeastern Pennsylvania, one should not overlook the impact competitive vegetation has on your woodlot. One need not travel far, but only travel the highway corridors in many of our metropolitan areas or look beyond a farmer's field to the hedgerow to see the creeping and destructive effects of unmanaged vines. As our southeastern forests mature, the cumulative effects of competitive vegetation and other threats are taking a toll and leaving us questioning the health and regenerative capacity of the future forest.

Whether it is our native grape, the non-native bittersweet, or honeysuckle (let's not even discuss kudzu), vines can be trouble to individual trees. When unmanaged, they can overtop and literally replace the canopy of a mature tree, killing it in time. If this doesn't happen, the additional weight and leaf area can be a receiving area for wet and heavy snow or high winds, which leads to many more broken branches or even the loss of the entire crown of a mature tree. One needs look no further than the Halloween snow of October 2011 and Hurricane Sandy for evidence of this. Many mature trees were lost or damaged due to the additional weight or surface area of the vines found in their canopies. The often overlooked, and arguably most insidious threat to our forests health, are cumulative stresses. Forests and individual trees can cope with a drought, insects, predation, and physical damage (storm or other) when they occur separately, but as more stresses are added to the forest system the greater the impact to the health of



Oriental Bittersweet. Photo by James H. Miller, USDA Forest Service, Bug-wood.org

individual trees and, certainly, to the forest's ecology. In southeastern Pennsylvanian forests this is very pronounced as the loss of a canopy tree is not necessarily going to result in its replacement by another tree. In the most extreme, and unfortunately more and more frequent situation, the forest that was is now replaced, not with forest, but rather a sea of non-native (and non-preferred) shrub and plant species.

To understand what this looks like, one must first understand the forces at work. In many places in the Southeast the white-tailed deer population is well in excess of the landscape's carrying capacity; deer consume nearly every seedling and stump sprout they can reach, along with what remains of our native shrub and herbaceous layer. There are places where they have even taken to consuming non-preferred species such as spicebush and multiflora rose, leaving behind the least preferred or inedible species that are often generally aggressive nonnative plants.



It's a very natural occurrence when a large mature tree drops out of the canopy. This creates a hole where sunlight then can reach deeper into the understory, sometimes making its way to the forest floor. In a healthy forest, there should be several seedlings ready to take advantage of that light and start to grow in the space once occupied by the mature tree. In many of our degraded forests this is not the

case. No seedlings are waiting for the sun's rays, and any stump sprouts or root suckers that happen to start are quickly browsed. The shrub layer rapidly thickens with new growth fortified by the increased light; this quickly shades out the forest floor again and reduces the chance of any tree seedling that isn't browsed to grow to maturity.

The deer and certain aggressive plants can literally short circuit forest regenerative processes. At the very least, these threats will dynamically change species composition and limit the diversity that may currently exist. Compounding this problem now are the vines that can and do threaten the overstory/canopy trees. If these are mature trees and just 60 or 70 years old, they were established in a time when deer numbers were not nearly as high and the presence of non-native plants was nothing like it is today. These mature trees represent the last hope for regenerat-

ing a native forest naturally; as they are lost, from vines or other stresses, that seed source disappears. Releasing your healthy, mature trees from vines, especially those nonnative species, is one, low-cost endeavor that will increase the health of your forest and ensure that your forest has a chance of regenerating naturally in the future.

There are several methods for controlling vines, from simple mechanical removal to employing herbicides. When mechanical removal alone is employed, the optimum time to cut is in late summer. Cutting at this time causes the vine to re-sprout and expend energy it has stored for the winter. Not being able to recapture the energy in an abbreviated growing season, the weakened vine



sometimes needs to be cut again the following spring after leaf-out. Cutting along with the applica-



tion of an herbicide to the cut stump can be done at any time the vine is actively growing. The same applies for a basal bark application to those vines with thinner bark, such as bittersweet. Obviously special precaution should be taken when treating with basal bark application; herbicide should not be mistakenly applied to the host tree.

For more information on the control of other competitive vegetation, including vines, visit the following Penn State Extension websites:

[Chemical Control](#)

[Herbicides and Forest Vegetation Management](#)

This article originally appeared in the May 2014 Penn State Extension's "Forest Leaves" newsletter.

A Century of Extension Nationwide: The Smith-Lever Act Turns 100

In 1914, the United States Congress passed Public Law 63-95. The law, known as the Smith-Lever Act, had been introduced by Sen. Hoke Smith of Georgia and Rep. Asbury Lever of South Carolina, was signed into law by President Woodrow Wilson on May 8, 1914.

Now, a century later, the Smith-Lever Act is hailed as a landmark effort in cooperation between the federal government and the agricultural extension work undertaken by various land-grant universities across the nation.

The innovative framework of the Smith-Lever Act established a system of cooperative extension services connected to the universities to keep citizens informed about developments in such issues as agriculture, coastal issues, food safety and nutrition, and 4-H youth development. It also helped farmers learn new agricultural methods through hands-on instruction.

The Act ensures federal funding for extension programs (which are matched by each state) to continue the work of

extension professionals in seventy institutions of higher learning across the nation. In Maryland, this includes the University of Maryland, College Park and the University of Maryland, Eastern Shore; in Virginia, Virginia Tech and Virginia State University; in West Virginia, West Virginia University and West Virginia State University; and in Delaware, University of Delaware and Delaware State University.



County agent demonstrating points in judging to club members, Harford County Agricultural Club, July 8, 1924. Photo from UMD Archives.

Extension helps Americans improve their lives by tapping into the research-based knowledge and problem-solving resources of the land-grant universities, and by creating programs that meet a wide range of needs of their citizens. Today, there are more than 2,900 extension agents in counties across the United

States, sharing the latest information about land and water conservation, plant health, invasive species, and much more. Learn more about the University of Maryland Extension by exploring <http://extension.umd.edu/>.

Events Calendar

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

July 5, 2014

Weed Warriors—First Saturday Workday Montgomery County, MD

Join the Weed Warriors at one of the Montgomery County park sites to help remove invasive and exotic plants. Training is provided. For more information, visit the Weed Warriors site at http://www.montgomeryparks.org/PPSD/Natural_Resources_Stewardship/Veg_Management/weed_warriors/index.shtm.

July 19, 2014

10:00 AM to 1:00 PM

West Virginia Woodland Owners Association Educational Tour

Tucker-Randolph County, WV

This tour will be led by landowners Jim and Jeff Kochenderfer, who will highlight and demonstrate some of the various techniques used to improve, increase, and

maintain the amount of desirable tree species in your woodlands including the use of herbicide and cutting to reduce and control both native tree (American beech for example) and other plant species that directly compete with the more desirable trees such as oak, yellow poplar, black cherry, hickory, etc. Supplemental tree plantings and protection cages, proper access road development and construction, and wildlife habitat management sites will be visited and discussed. One site in particular to be visited is a research plot where black cherry and yellow poplar trees were released from competing vegetation after a timber harvest and the growth rates of the same trees have been monitored over the last 10 plus years.

For more information, visit the WV Woodland Owners Association's website at <http://www.woaofwv.org>. Please RSVP by contacting Dan Magill at 304-293-9419 or by e-mail at dmagill@wvu.edu.

July 20-26, 2014

Natural Resources Careers Camp Garrett County, MD

Do you know a high school student with an interest in natural resources? If so, encourage them to consider attending the Natural Resources Careers Camp. This conference is presented by the Maryland Association of Forest Conserv-

ancy District Boards and the Maryland Forestry Boards Foundation in partnership with Allegany College of Maryland and the Maryland Department of Natural Resources Forest Service. Join field professionals and high school students from across Maryland for seven days of intense instruction at a rustic camp in Garrett County. Students will learn about working in the field of natural resources, educational requirements, employment and career opportunities in forestry, water resources, and other related disciplines from teams of natural resource professionals.

Spaces are limited. For more information, email wcfb@myactv.net.

September 25-28, 2014

2014 Women and Their Woods Educational Retreat (Pennsylvania & mid-Atlantic region)

The [Delaware Highlands Conservancy](#) has partnered with Penn State Natural Resources Extension, PA Department of Conservation and Natural Resources and the US Forest Service at Grey Towers to offer a four-day educational event for women forest landowners from across the state of PA and the mid-Atlantic region.

To learn more about the event or to receive an application, please contact Amanda Subjin at 570-226-3164 or conserve@delawarehighlands.org.

October 2-5, 2014

Maryland Woodland Stewards: Volunteer Training Workshop

Shepherd's Spring Retreat Center
Sharpsburg, MD

See the article on page 1 for background about this program. Contact Jonathan Kays at jkays@umd.edu, 301-432-2767 ext. 323, or visit <http://extension.umd.edu/woodland/maryland-woodland-stewards> for more information.

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