Now that we are firmly in the depths of summer, it’s time to think about the coming fall and winter months. Of course, the beginning of ads for “back to school” sales are sure to prompt parents to look ahead in the calendar, but woodland property owners should also look ahead. Here are a few things to consider as the days grow shorter.

For example, continue to be vigilant about invasive species. Take a walk through your woodland, and take a close look at the trees around your home. Jennifer Gagnon of the Virginia Forest Landowner Education program at Virginia Tech, shared the story of discovering the presence of Emerald Ash Borer in a green ash tree in her backyard last month. She and her husband decided to remove it and to proactively remove a much larger green ash in their front yard. While it had seemed perfectly healthy, once the ISA-certified arborist started the removal process, the tell-tale D-shaped exit holes were obvious. The Gagnons’ vigilance and action are an essential part in combatting EAB. See photos of their trees on the VLEP’s Facebook page at https://www.facebook.com/VFLEP.

Now is also a good time to think about the future of your woodlands. Beginning in September, the University of Maryland Extension offers two courses that can help you better understand your property’s ecosystems and habitats. The “General Forestry Course” is offered both online and as a correspondence course. The new “The Woods in Your Backyard” course is offered as an online course only. Learn more about both courses on page 2 of this issue.

This may also be the time to take a good, hard look at your woodlands’ trees. It may be time to consider a timber harvest to fulfill one or more of your management goals. You may not be interested in having the timber harvested this year, or maybe not even next year, but now is the time to gather necessary information. A good place to start is the Maryland section of the “Call Before You Cut” website. Here you can get up-to-date professional advice about how to best harvest your timber, ensuring that the harvest meets all state regulations for environmental protection. You can also receive a free packet of information with valuable resources that will assist you in your decision-making process. To learn more, go to http://callb4ucut.com/maryland/.

And now is definitely the time to enjoy woodlands — whether they are your own, or are found at your favorite state, county, or national forest or park. Get outdoors!

White oak. Photo courtesy Towson University

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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’ll find interesting.

Find our page at https://www.facebook.com/UMDWSE, or search for “Woodland Stewardship Education program” on Facebook.
The University of Maryland Extension will offer the “General Forestry Course” for the Fall 2016 semester. Both the PAPER and ONLINE version will be offered. The course begins September 1 and runs until December 15, 2016. Registration is now open. 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 $300. Included in the cost are copies of the supplemental readings (A Sand County Almanac, The Woodland Steward, American Forests: A History of Resilience 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!
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 Forests 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](http://go.umd.edu/WIYB-2nd-edition) to order.
This year’s Maryland Woodland Stewards (MWS) training took place April 28 – May 1 at the Shepherd’s Spring Outdoor Ministry Center in Washington County, MD.

The participants learned how to use sound woodland stewardship practices to enhance wildlife habitat and other woodland benefits, and how to share it with others. The weekend featured a variety of classroom and outdoor activities designed to connect the participants to woodlands. Professional instructors presented sessions on woodland and wildlife ecology and management principles, as well as management practices to improve woodland stewardship for different objectives. Field trips on Friday and Saturday highlighted practical methods used by other Woodland Stewards.

At the conclusion of the weekend, the participants departed with a new-found enthusiasm and a renewed commitment for working with other landowners to fulfill their volunteer outreach commitment as advocates for sound woodland wildlife management in their community.

One graduate said that the training “makes me more comfortable in speaking about forestry.” Another discovered, “I’m not alone, there is help…forest stewardship is a process.” A third Woodland Steward commented, “I feel much more confident in moving forward with a management plan.”

Maryland Woodland Stewards agree to contribute at least 40 hours to outreach and education training in the year following the training. Many have donated their time to wildlife and forestry organizations, worked with community groups, and provided assistance to friends and neighbors to become effective stewards of their properties.

This year’s group joined more than 450 others who have become Woodland Stewards since the program began as the Maryland Cov- erts Cooperators program in 1990. This year’s training was made possible through the generous assistance of the Ruffed Grouse Society.

The next Maryland Woodland Stewards training is planned for Fall, 2017. For more information about the program, visit the MWS website at http://extension.umd.edu/woodland/maryland-woodland-stewards or contact MWS coordinator Lyle Almond at lalmond@umd.edu or by phone at 410-827-8056 ext. 125.
Woodland Wildlife Spotlight:  
The Misunderstood Opossum

Mention the word “marsupial,” and many individuals will think of kangaroos. But North America is also home to a marsupial—the Virginia opossum. This native and valuable animal is often misunderstood, but recent science has discovered that it plays an important role in the ecology.

Opossums are common throughout Maryland and the eastern United States, and are found in a wide variety of habitats. They naturally prefer deciduous woods near water, but can also be found in farmlands and marshes, where they feed on a varied diet of worms, frogs, crayfish, and birds, as well as fruits and nuts. They also enjoy insects such as cockroaches, beetles, slugs and crickets.

Opossums will also inhabit suburban areas if they find easy access to food sources. These sources include compost piles, garbage cans, and bird feeders. According to Kim Ashby, a wildlife rehabilitator, they will also eat cat and dog food. “If people are feeding cats and dogs outside, they are probably feeding their local opossums as well.”

Because these marsupials will also eat carrion, which is often abundant in high-traffic areas, they can be found alongside roads. Their slow reflexes and poor eyesight contribute to their high mortality in such environments.

The month of July marks the end of the mating season for opossums, which began in January. Females can have one to three litters per year, each averaging 6 to 9 young. Like other marsupials, including kangaroos, the babies are born premature (only 2 weeks after mating) and then continue to develop in the mother’s pouch for 2 to 3 months. After leaving the pouch, the young stay close to their mother, and can sometimes ride on her back as she forages for food.

The large number of young per litter is misleading, as the species has a high mortality rate. Not all newborns make it to the pouch, and of those that do, as many as 20% will die before they are weaned. Fewer than 10% survive the first year of life, and general life expectancy in the wild is only 2 to 3 years.

Opossums have recently been recognized as an unexpected ally in the fight against Lyme disease. For over 25 years, scientists at the Cary Institute of Ecosystem Studies in Millbrook, NY have been researching Lyme disease in the world’s longest-running study. Understanding the tick-borne disease has led the Cary scientists to also examine the effects that the ticks have on other animals, such as mice, shrews and chipmunks, and opossums. It turns out that opossums are highly-effective groomers. According to Cary senior scientist Rick Ostfield, “more than 95% of the ticks that try to feed on them” get consumed in the grooming process. “So these opossums are walking around the forest floor, hoovering up ticks right and left, killing over 90% of these things, and so they are really protecting our health.”

The scientists’ research also suggests that the opossum’s immune system is fairly effective at fighting off the disease. Other small mammals, whose bloodstreams serve as reservoirs for Lyme disease, will pass on the pathogen as ticks bite them and then bite other animals (including humans). That means that the ticks that survive an opossum’s grooming are less likely to acquire the disease from the opossum’s blood. While the scientists continue to study the data, they believe that an ecosystem that is healthy for opossums can help combat the spread of Lyme disease.

Perhaps these findings will help change perspectives about the opossum, and reduce some of the misunderstandings surrounding this native and highly adaptable marsupial.
Recognizing the threat of invasive species to both public and private forests across the nation, the US Forest Service has created a guide entitled *Invasive Plants Field and Reference Guide: An Ecological Perspective of Plant Invaders of Forests and Woodlands*. The guide presents a scientific digest that helps woodland owners identify particular invasive species, as well as what is known about the behavior of invasives in managed, disturbed, and pristine forested systems.


In May, the USDA Forest Service announced over $8.5 million was being awarded to 42 projects in 19 states to expand and accelerate technologies and strategies that "promote the use of wood in commercial construction, heat and power generation, and other wood product innovations that also benefit forest health." The funds will stimulate the use of hazardous fuels from National Forest System and other forested lands to promote forest health while also stimulating the local economy.

One of the recipients was a project from Virginia Tech that studies the development of cross-laminated timber markets for hardwood lumber producers. To read the press release, go [here](http://www.na.fs.fed.us/pubs/misc/ip/ip_field_guide.pdf). To see the list of award recipients, click [here](http://www.na.fs.fed.us/pubs/misc/ip/ip_field_guide.pdf).
Keeping Feral Hogs out of Maryland

Feral hogs, or "swine," are a major problem in the southern parts of the United States, and their range is spreading. Thankfully, there are no breeding populations in Maryland at this time. A large hog was killed in eastern Allegany County in December 2013 and a few road kills have occurred, but these hogs likely came from the Pennsylvania border counties of Bedford and Somerset, where feral hogs are established. However, feral hog populations are increasing dramatically in Virginia. The range of feral hogs continues to grow and Maryland DNR Wildlife professionals want to stop their establishment in Maryland.

Landowners should know some basic information about feral hogs, and should learn to recognize signs and impacts while working on their land, or just hiking around. Early detection can stop this menace to farm-land, woodland and urban land from establishing a foothold in our state.

Feral hogs were first brought to the United States in the 1500s as a meat source. The hogs come in all sizes and colors, but their high reproduction rate is a factor that makes them hard to eliminate once they are established in an area. Female hogs usually breed at 8-10 months of age and under good conditions may have one to two litters a year with up to 10-12 offspring. The damage to livestock and wildlife is through the indirect destruction of habitat and agriculture crops. Hogs root and trample for food and cause damage to crops, fields, and other animals feeding and watering needs. They can also destroy forestry plantings and damage trees. Even though hogs are not active predators, wild hogs may prey on fawns, young lambs, and goat kids on occasion. If given the opportunity, they may also destroy and consume eggs of ground nesting birds, such as turkeys and quail.

So what can you do as a landowner, hunter, or citizen? First, educate yourself to recognize the trampling and rooting damage feral hogs produce. Second, if you are hunter and see feral hogs, shoot them. However, use some common sense. If you see a swine wearing a tag that says "Sammy" along the edge of a neighbor's yard, you would be breaking the law to kill it because it's not illegal to have a pet hog. If you are hunting on your own land or land you have permission to hunt and know the swine should not be there, then killing the swine is warranted. Finally, the entrance of feral hogs into Maryland will likely come from adjacent states where they are established. Swine sightings in other areas should be carefully assessed before shooting. As hunting season approaches, keep your eyes open. Hunters are one of the best resources to stop establishment of this menace in Maryland. If you shoot a hog or have a sighting, report it to the nearest MD DNR Wildlife office.
Invasives in Your Woodland: Wavyleaf basketgrass

This issue’s invasive plant was first identified in the United States in Baltimore County, MD in 1996. It is less well-known than other invasives, but wavyleaf basketgrass is spreading rapidly in Maryland and Virginia.

What is it?
Wavyleaf basketgrass (Oplismenus undulatifolius) is native to southeast Asia, Australia, and southern Africa. Its first documented appearance in the US was along the Patapsco River. It was found by an amateur botanist, and how it arrived is apparently unknown. One theory is that it was improperly disposed of at a landfill, which is adjacent to one of the first reported sites.

However, from that one patch, it spread rapidly. In 2005, it was found in small patches in Little Paint Branch Park in Prince George’s County, 20 miles from the first infestation. By 2008, the small patches had grown and blanketed 150 acres. Today, it has spread across the Potomac River to counties in Virginia along the Blue Ridge and into Shenandoah National Park.

Dr. Vanessa B. Beauchamp, director of the Wavyleaf Mapping Project at Towson University says that this grass shows many of the qualities of a “successful and damaging invasive species. In some areas, this shade-tolerant grass completely carpets the forest floor, leaving little room for native species. Its perennial life style enables it to emerge, year after year, through thick leaf litter, allowing it to colonize vast areas of forest inaccessible to annual invasive grasses like stiltgrass.”

Wavyleaf basketgrass grows low to the ground and spreads rapidly across the forest floor. It tolerates a variety of soil types in moist and shaded environments. Leaves of the grass die off each winter, but the plants will survive cold winters and leaves will re-emerge each spring.

How does it spread?
Wavyleaf basketgrass spreads via dozens of sticky seeds found atop spiky flower clusters. The seeds become attached to anything that brushes past them, such as deer, small animals and birds, as well as people and dogs. All provide excellent means of spreading the seeds. Additionally, no native species seem to eat it.

How can I identify it?
Wavyleaf basketgrass is a low-growing perennial with shallow roots. Its leaves are flat, about a half-inch wide and 1.5 to 4 inches long. The leaves are deep green with undulating ripples across the leaf surface. The leaf sheath and stem are particularly hairy with short hairs. There are two look-alike basketgrasses that occur naturally in the Southeastern United States, but neither is native to the mid-Atlantic region.

How can I control it?
One of the best ways to reduce this invasive’s impact is to stay away from it during the months when seed dispersal is common (August through November). Be sure to remove all seeds from shoes, clothing, pets and equipment before leaving the area. Loops of adhesive tape can remove the seeds; merely brushing at them does not.

Because of the grass’s shallow root system, the most efficient way to remove it is by hand, especially if it is growing in small patches with other vegetation. The grass can also be killed with the herbicides Roundup and Envoy Plus.

For more information:
Towson University’s Wavyleaf Mapping Project invites citizens to map and report any infestations they find. The project has a website with valuable information at http://heron.towson.edu/wavyleaf/home/. The Project also has a smartphone app available for Android and iPhone. Click here to download the app.


See the wavyleaf basketgrass gallery on the next page.
This Issue’s Brain Tickler ...

In our last issue of Branching Out, we highlighted the Red-tailed hawk, and mentioned that a particular species of owl has been known to occupy Red-tailed hawk nests early in the breeding season. Which species of owl performs this interloping?

Last issue’s Brain Tickler asked for the invasive nick-named “devil’s tearthumb.” The answer was mile-a-minute weed. Congratulations to Rob Meier for being the first with the answer—roughly 45 minutes after we sent out the newsletter! Thanks for reading!
As recently as 100 years ago, it has been said, a squirrel could travel from Maine to Georgia without touching the ground, by hopping from one American chestnut tree to another. But a blight that was first discovered at the Bronx Zoo in 1904 has killed more than 4 billion of the trees and left most of the others too sickly to grow past a few feet tall.

The American Chestnut Foundation was founded in 1983 by a group of prominent plant scientists who recognized the severe impact the demise of the American chestnut tree imposed upon the local economy of rural communities, and upon the ecology of forests within the tree’s native range.

The blight, imported to the US on Asian chestnut trees, is a fungus dispersed via spores in the air, raindrops or animals. It is a wound pathogen, entering through a fresh injury in the tree’s bark. It spreads into the bark and the underlying vascular cambium and wood, killing these tissues as it advances. The flow of nutrients is eventually choked off to and from sections of the tree above the infection, killing them.

Maryland is one of many states that has created chapters of the American Chestnut Foundation. Their goal is to bring back the majestic tree through an ambitious breeding program designed to create future generations that are blight-resistant. Occasionally, blight-resistant trees are still found in the wild and they are recruited for the breeding program. If you find one, contact the ACF.

However, the majority of the breeding efforts have been focused on a backcross breeding program with the Chinese chestnut. This chestnut is resistant to the blight but it branches close to the ground and lacks the majestic character of the American chestnut. Each generation of the program selects for blight resistance and the American growth characteristics. Many of the backcrosses now being grown are 15/16th American chestnut and 1/16th Chinese. The final product or goal is a true-breeding American type chestnut with a high level of blight resistance. And that is where the challenge exists.

In order to have better control over the selection process, the ACF, in cooperation with the state chapters, have set up permanent orchards to grow and test the blight resistance of the various backcrosses from the breeding program. The Maryland Chestnut Chapter of ACF has established 18 orchards across the state where the backcrosses are planted, labeled and marked. While most of the sites are fenced to keep out deer to reduce browsing, the young trees also encounter challenges from ambrosia beetles and other pests.

As the trees grow, the genetic characteristics of form become apparent. The breeders are looking for straight-growing trees, and some are better than others. The breeders are also concerned with blight resistance. Rather than wait for natural inoculation from airborne spores, developers created a blight inoculation procedure. The idea is to purposely inoculate the trees with some different strains of the chestnut blight and see what kind of resistance the different backcrosses exhibit. The crosses with better form and blight resistance can then be selected and used in future backcross breeding programs, without having to wait many years for uncertain sources of the blight.

Currently, the breeders grow two different types of blight inoculum. They are grown in a substrate in a petri dish, and little circles of the inoculum are cut so that they can be re-

[Diagram of orchards in Maryland]
moved with a small tool for the inoculation.

In June 2016, the Maryland chapter of the ACS asked for volunteers to help with blight inoculations at the orchard located at the Western Maryland Research & Education Center in Keedysville, MD (Washington County). The inoculation process is quite simple, but hot weather, lots of brush, and a variety of insect pests can make it challenging. The following photos document the process.

First, the bark area is sprayed with a solution to sterilize the area. Then two small holes, one near the tree base and one higher up, are drilled in the bark. One type of inoculum is put in each hole and the holes are covered with a piece of tape to prevent drying out. Given some time for the blight to take hold, each tree will be evaluated and those most resistant to the blight inoculation can be used for further backcross breeding experiments.

The ACF and the many volunteers continue to make a major commitment to bring back the American chestnut. More information on the American Chestnut Foundation can be found at [http://www.acf.org/](http://www.acf.org/). The Maryland Chapter of ACF at [http://www.mdtacf.org](http://www.mdtacf.org) has a lot of Maryland-specific information including the orchard map, newsletter, volunteer opportunities, membership, and much more. Help out the cause by becoming a member.

### Events Calendar

**For more events and information, go to [http://extension.umd.edu/woodland/events](http://extension.umd.edu/woodland/events)**

**July 17, 2016, 9:00 AM—12:00 PM**

**Wildflower ID For Beginners**

Elk Ridge Nature Preserve, Garrett County MD

Join Liz McDowell of the Western Mountains Chapter of the Maryland Native Plant Society to learn how to identify wildflowers found in forest and field ecologies. The workshop is limited to five participants to ensure hands-on, personal instruction as you learn how to key out local plants with Newcomb’s Wildflower Guide.

Recommended for teens and adults. Registration is $50; all proceeds benefit the Maryland Native Plant Society. For more information, go to [http://www.mdflora.org/event-2144428](http://www.mdflora.org/event-2144428) or call 301-895-3696.

**August 19, 2016, 1—4:30 PM**

**Forestry Friday: Deer Hunting 101**

Western Maryland Research & Education Center, Keedysville MD

The next “Forestry Friday” program is intended for landowners and other individuals interested in conducting deer hunting on their property. Deer overabundance is a persistent problem in Maryland woodlands, but deer provide many positive benefits as well. Many woodland owners have an interest in hunting deer but lack the experience and background to pursue that interest. This workshop is a cooperative effort between the Woodland Stewardship Education program and the Maryland DNR Wildlife & Heritage Service. The primary goal is to provide the next step for novice hunters and shooters so that they will feel comfortable moving forward in the shooting and hunting sports as a result of their experience in the program. Hunter safety training is not required to attend this workshop and all ages are welcome.

The program features staff from the Maryland DNR and costs $5.00 per person. For more information and to register, go to [http://forestryfridaydeer101.eventbrite.com](http://forestryfridaydeer101.eventbrite.com).

**September 1, 2016, 4:00—7:00 PM**

**Virginia Tree Farm Dinner Program: Preparing for Generation NEXT**

Alyson H. Smith AREC, Winchester VA

Join the Virginia Tree Farm Committee for a free dinner program, “Preparing for Generation NEXT.” The program will inspire, engage and equip you to consider “what’s next” for your woodland. For more information, go to
September 1—December 15, 2016
University of Maryland Extension - General Forestry Course
The University of Maryland Extension will offer the non-credit “General Forestry Course” for the Fall 2016 semester. Both the PAPER and ONLINE version will be offered. The course begins September 1 and runs until December 15, 2016. The cost for this forestry course is $300. Registration is now open. To register, go to our website at http://extension.umd.edu/forestry-course. For more details, see the complete description on page 2.

September 5—November 21, 2016
University of Maryland Extension - The Woods in Your Backyard Online Course
The University of Maryland Extension is offering a non-credit, online version of “The Woods in Your Backyard.” The course will run from September 5 to November 21, 2016. Registration for the course is now open. To register, go to http://wiyb2016course.eventbrite.com. The cost for this special introductory session is $85.00. For more details, see the complete description on page 2.

September 29 and October 6, 2016, 6:30—9:00 PM (consecutive Thursdays)
“The Woods in Your Backyard” Evening Workshop
Maryland Extension Office, Ellicott City MD
The University of Maryland Extension and the Howard County Forestry Board will host two evening workshops for landowners with 1—10 acres who wish to learn about getting more out of their land, converting lawn to woodland, habitat management, and much more. Classes will feature presentations by foresters, arborists, landscape designers and Master Naturalists. The cost for both evenings is $25 per person or $30 per couple, which includes all materials needed to complete the evenings’ activities. For more information and how to register, go to the Howard County Forestry Board’s page here.

To Subscribe:
Via Web Site: Go to www.extension.umd.edu/woodland/subscribe-branching-out and submit the requested information.

Via Email: Email listserv@listserv.umd.edu. In the body of the message, type SUB branchingout your name (example: SUB branchingout John Doe).

You will be notified by email when a new issue is available, with a link to the website.

Hardcopy subscription: Mail check or money order for $10 per year, payable to University of Maryland to the address above.

This and back issues can be downloaded for free at www.extension.umd.edu/news/newsletters/branching-out. All information, including links to external sources, was accurate and current at the time of publication. Please send any corrections, including updated links to Andrew A. Kling at akling1@umd.edu.

Send news items to Andrew A. Kling at akling1@umd.edu or 301-432-2767 ext. 307.