BRANCHING OUT
Maryland's Forest Stewardship Educator

COLLEGE OF AGRICULTURE & NATURAL RESOURCES

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UNIVERSITY OF MARYLAND EXTENSION | WOODLAND STEWARDSHIP EDUCATION

Maryland's Forest Industry Improving!

The front page of the fall 2020 Branching Out newsletter highlighted a "Vision for the Forest Industry," and the trends highlighted over the past few years were very discouraging. The Maryland forest industry experienced the closure of major sawmills, the closure of the Verso Pulp Mill in western Maryland with 675 direct jobs in June 2019, the closure of the Port of Baltimore for exporting logs, and other disappointing trends. However, the forest industry and many partners have come together over the last few years to change the narrative. A major step forward was the collaboration of state agencies and allied non-governmental organizations to develop an Economic Adjustment Strategy (EAS) for countering the economic impact of recent forest industry closures, such as Verso, and for securing the future of Maryland's forest industry. The information and momentum gained from this effort is making a difference and it is starting to show with real results.

How does this affect woodland owners? Big time! Private woodland owners own 74% of woodlands in the state and without markets forest management cannot take place. Sawmills, biomass, exports, and other markets create the demand so that landowners can sell timber and implement woodland practices that helps enhance forest health, wildlife, and provide income.

The summary document of the Economic Adjustment Strategy (EAS) for Maryland's Forest Products Sector was just released in advance of the full EAS report expected later this summer. This summary document provides an overview of the key opportunities within the forest products sector that the project team has identified over the course of the project, as well as a list of nine initiatives with 53 immediate actions that are recommended for implementation. There have been a lot of positive developments in Maryland's forest products sector since its low point of the Luke mill closure. These are provided below.

- The Luke mill site in western Maryland has an experienced wood & mining business wending its way through a purchase agreement with mill owner, Verso.
- The Cropper Brothers Lumber mill in Wicomico County has reopened as Delmarva Lumber.
- A wholly new business is opening in Somerset to make poles from pines currently limited to pulpwood markets. This is a classic example of value-added resource utilization, bringing an output multiplier of probably 5x to the region, and creating new jobs, not just moving them around in the labor market.
- The Maryland Agricultural and Resource-Based Industry Development Corporation (MARBIDCO) distributed $750k in pandemic relief funds to 21 forest product businesses. Almost $2M in requests came in, and that without much marketing of the grant program.
- A new product known as Thermally Modified Wood, a rot-proof wood made without chemical treatment, is creating some interest in the state.
- Anecdotal evidence indicates reinvestment in sawmills is strong and it appears to be occurring at every mill.
- Loggers contacted in a Woodyard Study indicated that 44% want to expand. Even with the aftermath of closing of the Luke facility they see the future and want to prepare.
- There is more business growth/reinvestment that is forthcoming.

Examples of a few more efforts:

- Susan O'Neill with the Upper Shore Regional Council has a project developing an environmentally benign alternative to treating logs with methyl bromide. This could reopen Europe to the log export market, which was lost when the Port of Baltimore ceased using methyl bromide, which was a $10M/year market.
- The Maryland Forests Association has a number of campaigns underway, creating and keeping awareness about how forest markets drive good forestry.
- Wood energy is once again a topic of discussion among both legislative and executive leaders in the State. US Forest Service awarded $250k grant to support the development of the wood energy market, and will fund a wood energy specialist at the MD Clean Energy Center.

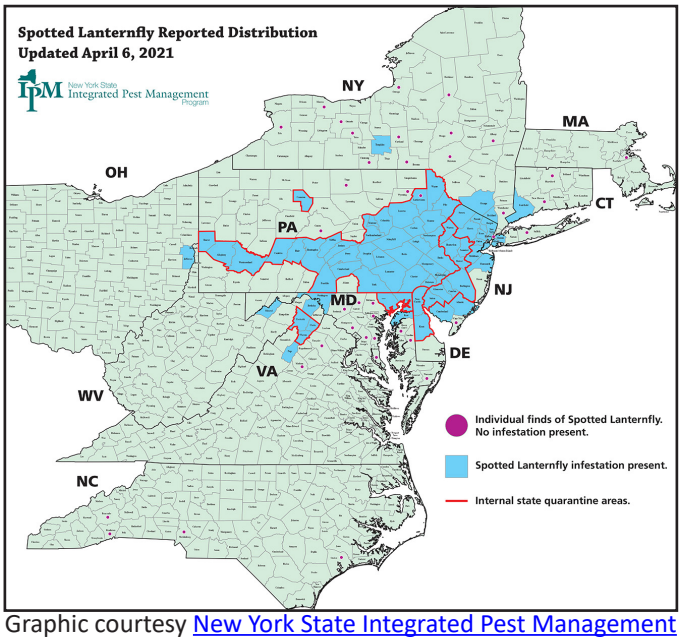
Clearly, Maryland's forest industry is drawing attention from a variety of sectors across the state. Through hard work from both public and private sectors, the Maryland forest industry is making a comeback.

Inside this issue:

Forest Pests:
Spotted Lanternfly

Nancy Stewart & Agnes Kedmenecz
Woodland Stewardship Education Program - Wye Research & Education Center

The spotted lanternfly (SLF) is a colorful and, I dare to say, pretty moth. This non-native, invasive pest native to Asia was first detected in the United States in 2014 in Berks County, Pennsylvania. In addition to Pennsylvania, it has been confirmed in Maryland, Delaware, New Jersey, West Virginia, and Virginia. In Maryland, Cecil and Harford Counties are under a quarantine. The first instar hatch was recorded in Cecil County in May 2020.



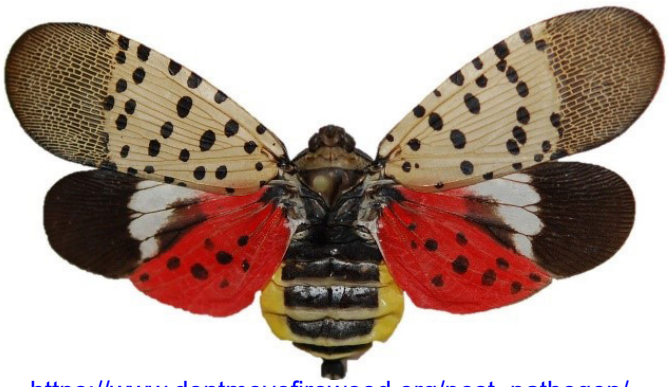
Graphic courtesy New York State Integrated Pest Management

This type of insect, called a "planthopper," prefers Tree of Heaven (Ailanthus altissima) yet can ravage grapes, hops, apples, blueberries, oak, pine and many more species. SLF can feed on over 70 different types of plants and crops.

Spotted lanternfly destruction results in oozing, wilting, defoliation, dieback, yield loss or quality reduction, reduction of cold hardiness and ultimately plant death. This invasive pest not only destroys the plants, it also excretes a sugary sticky "honeydew," which looks like sap. Honeydew is the waste product of the spotted lanternfly. These droppings rain down on all types of structures including, vehicles/equipment, decking, pets, clothing and hair and attracts ants, wasp and other insects. A sooty mold develops from this honeydew that has detrimental effects that include crops becoming unmarketable, inhibiting photosynthesis, and producing an odor of fermentation leaving residents feeling like prisoners.

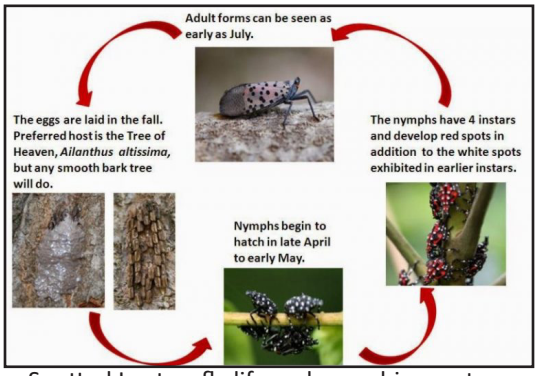
The spotted lanternfly has no natural predators. However, there are actions that can be taken to mitigate the negative effects and help keep SLF from expanding its range. These actions include:

- Learn how to ID life stages
- Find out where the quarantine zones are:



https://www.dontmovefirewood.org/pest_pathogen/spotted-lanternfly-html/

- When visiting a quarantine zone:
  - » Keep vehicle windows closed
  - » Do not park underneath where SLF might congregate
  - » Keep door closed except when loading is taking place
  - » Inspect your vehicle (inside and out) before departure
  - » Biocontrol: predators, parasitoids, and fungi
- Good old fashioned squishing, destruction of egg masses, and instars and adults.
- Circle Traps or sticky bands
- Chemical spray treatments such as spray or contact insecticide applications
- Trunk spray or tree injection systematic injections



Spotted Lanternfly life cycle graphic courtesy Illinois Cooperative Agriculture Pest Survey Program

If You See It, Report It! If you observe any egg masses or insects which look similar to this, please try to collect them, and inform the Maryland Department of Agriculture at (410) 841-5920 or DontBug.MD@maryland.gov as soon as possible.

Working together and keep an eye open and taking action against these beautiful yet destructive pests will enable scientists, the Maryland Department of Agriculture, and the Department of Natural Resources to act quickly to help protect Maryland forests and vaulable crops.

Woodland Wildlife Spotlight: Striped Skunk

Maryland is home to two members of the skunk family. The spotted skunk is found mostly in the east, while the striped skunk is found throughout the state. The striped skunk is actually a very successful species, with a range that occupies a large portion of North America, including southern Canada, northern Mexico, and most of the United States. While the mammals have adapted to a wide range of environments, they prefer habitat with a variety of woodlands and open fields, which means they can also be found in both rural and suburban settings. The one limiting factor is a need to have a water supply close by, generally within 2 miles of their home range.

The striped skunk is a mostly nocturnal omnivore. As an opportunistic feeder, it will fill its diet with a variety of insects, small mammals, eggs, and occasional plants. It has sharp claws on its front webbed feet that it will use to dig for grubs, worms, and reptiles or amphibians, and that can aid them climbing trees in search of food. Their diet will vary depending on what's available during each season. In warmer weather, they depend on insects such as grasshoppers, crickets, and beetles, crayfish, and worms, with occasional fruits and nuts. In colder weather, they may eat voles, young birds, or bird eggs.

As the Maryland winter approaches, striped skunks begin looking for a den to spend the winter. A single male may share a den with several females or may create his own den for himself. Striped skunks will dig these dens if necessary, but also may occupy one vacated by a groundhog or other animal. They do not hibernate, and may forage for food occasionally during the season, but generally rely on their fat reserves to see them through the winter.

Come spring, striped skunk males will mate with several females during late February through early March. The females will retreat to the den to give birth. Gestation takes approximately two months, so that by May a female is caring for an average litter of five or six young. The newborns are blind and deaf, and won't open their eyes for about three weeks. They will remain in the den for up to seven weeks; after this, they will venture out with their mothers and stay with them through the summer before seeking new territory come fall. Some female yearlings will stay with their mothers into the coming winter.

Most striped skunks do not survive their first year, succumbing to the weather or disease. More mature skunks will fall prey to foxes, coyotes, bobcats, and badgers. Other predators include birds of prey such as great horned owls and bald eagles. The advantage that these birds have over their terrestrial counterparts is that, because they have no sense of smell, they are unaffected by the striped skunk's last means of defense: its spray.

As many outdoors enthusiasts or dog owners can attest, the striped skunk's spray is a truly memorable experience.

Striped Skunk Basics

Appearance: Short, stocky build. Black coat with white stripe that begins on forehead and then divides in two. May stretch the length of the back. Large, bushy black and white tail. Variations include striping patterns and coloration; some striped skunks may be cream-colored with no visible striping.

Size: 18-32 inches long; up to 8 lbs. (females slightly smaller)

Lifespan: Up to 7 years in the wild.

A Striped Skunk in Queen Anne's County, Maryland, 2020. Photo by Lori Byrne, Maryland Biodiversity Project

A Striped Skunk in Wicomico County, Maryland, 2011. Photo by Mike Ostrowski, Maryland Biodiversity Project

A threatened striped skunk will try to run away from a perceived predator. If cornered, the striped skunk will turn and confront its opponent, arching its back and displaying its long and bushy tail to make itself appear larger, followed by stamping its feet. If that does not deter the intruder, the striped skunk will bend around while still facing the threat, stand on its front legs, and spray.

The spray, which can not only offend the nose but sting the eyes, can reach 12 feet from the skunk; the mist of the spray and the odor can travel considerably further. To a chemist, the spray consists of of four carbon and hydrogen compounds called thiols. To one early 20th century naturalist, it was a mixture of perfume musk, essense of garlic, burning sulfur and sewer gas magnified a thousand times. After spraying, the striped skunk will take the opportunity to run away from the intruder, which will be more interested in dealing with the spray than with the skunk.

While the species plays an important role in insect control through its diet, the striped skunk's reputation among humans is often based on its digging behavior, in search of food in lawns and gardens, and on its odoriferous interaction with curious dogs. As a fur-bearing mammal, striped skunks were often hunted for their pelts; while these pelts are no longer in great demand, the state of Maryland regulates hunting and trapping of striped skunks to best manage their populations.

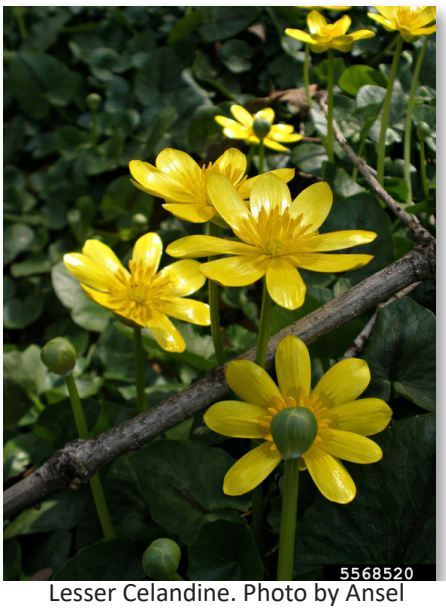
Invasives in Your Woodland:
Lesser Celandine

Lesser celandine may not rank with other invasive woodland plant species such as Japanese stiltgrass or mile-a-minute, but it can be an ecological threat like any of the others. As is the case with many other now-invasive species, the plant was introduced to the United States as an ornamental plant in the late 1800s, from its natural range of Europe, Asia, and parts of northern Africa. Although its sale was banned in Maryland in 2017, it may stil be available for sale in other states. Currently, it is found in nineteen states, primarily east of the Mississippi River, although it is also found in the Pacific Northwest as well. In our region, it is found in eastern and southwestern Pennsylvania, isolated areas of northern and central Virginia, and seven counties in central Maryland and Washington County. See the distribution map below.

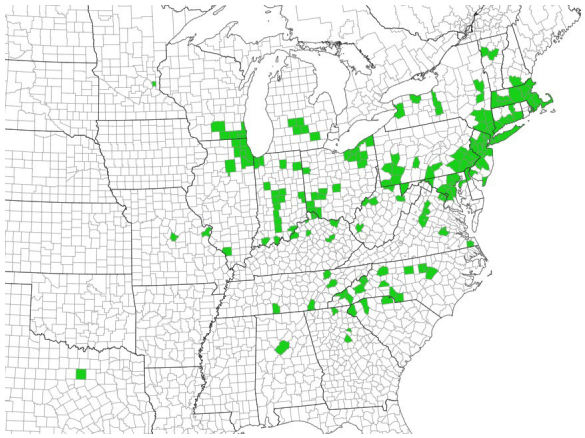
What is it?

Lesser celandine (*Ficaria verna*), also known as fig buttercup, is a "spring ephemeral" plant, which means it is easiest to find in our area in early spring when its bright yellow flowers are most prevalent. Its active growing and flowering season begins as temperatures climb above 40 degrees, as early as February. This gives the invasive an advantage over native ephemerals such as mayapple or Dutchman's breeches that are still mostly dormant in those temperatures. As area trees begin to leaf out and shade the forest floor, lesser celandine becomes dormant.

It prefers forested floodplains and sandy soils, but can also be found in some drier upland areas.



Lesser Celandine. Photo by Ansel Oommen, bugwood.org


Lesser Celandine county distribution map. Courtesy eddmaps.org

How does it spread?

Lesser celandine spends most of the year underground, from summer to early winter, as thickened, tubers that resemble figs (hence its alternative name). After flowering, the plants die back above ground, and spreads underground via the tubers. It can also spread through aboveground features called bulbils that sit in the base of the mature plants. They are easily caught in deer hooves; deer are thought to be a significant contributor to the spread of lesser celandine, as infestations often appear on or along deer trails.

How can I identify it?

The most distinctive feature of lesser celandine is its bright yellow flowers. It is essential to be able to distinguish it from the native ephemeral marsh marigold, which also has yellow flowers. The easiest way to do so is by counting the petals. Lesser celandine has 7-12 petals; marsh marigold has fewer (5 to 9).

Lesser celandine's shiny, dark green leaves are heart- to kidney-shaped; marsh marigold's are also dark green, but are much larger. Additionally, marsh marigolds do not have the fig-shaped tubers underground or the aboveground bulbils. When in bloom, lesser celandine infestations can resemble thick carpets of green with yellow spots. A final distinguishing characterstic is the habitat; as its name implies, marsh marigolds are seldom found outisde of wet environments. See the photo gallery on the next page.

How can I control it?

Once lesser celandine is established, it is extremely difficult to manage, much less eliminate. It can take over forest floors, woodland stream banks, as well as work its way into turf grass environments.

Once an infestation is found, management is rarely effective except during the growing period. Small colonies can be removed through digging as long as care is taken to remove all the underground materials of roots and tubers, from which new growth can occur. Repeated treatment will likely be necessary, and care must be taken to ensure the plant doesn't return from any outside sources. Mowing, especially in turf grass environments, has little impact, as it does not control the underground tubers. At this time, the best method of control is applying herbicides. Treating turf grass with dicamba, triclopyr, or sulfentrazone products work best. Treating lesser celandine infestations in woodland areas with herbicides have been successful with repeated annual applications.Spraying with glyphosate seems to offer the best control. Ensure that a glyphosate product labeled for wet areas is used if treating lesser celandine near water.

For more information:

Learn more about lesser celandine:

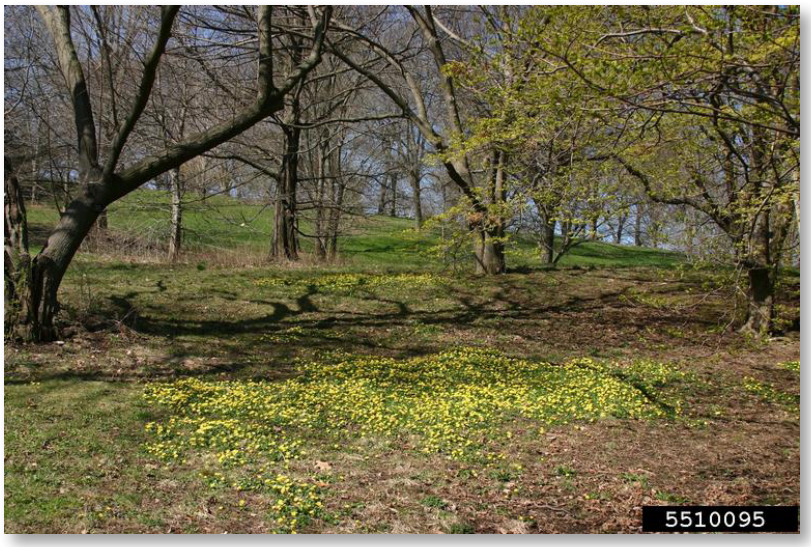
Lesser Celandine (University of Maryland Extension Home and Garden Information Center)

Deceptive little buttercup is foe, not friend (Maryland Invasive Species Council)

Fact Sheet: Lesser Celandine (Plant Conservation Alliance)

Lesser Celandine: A Beautiful Plant with an Ugly Nature (Ohio State University Extension)

Image Gallery:
Lesser Celandine



Lesser celandine infestation. Photo by Leslie Mehrhoff, University of Connecticut, bugwood.org

Lesser celandine (left) versus marsh marigold (right). Photos by Joe Boggs, Ohio State University Extension

Lesser celandine foliage. Photo by Richard Gardner, bugwood.org

Lesser celandine roots with fig-shaped tubers. Photo by Leslie Mehrhoff, University of Connecticut, bugwood.org

News and Notes

More Buzz about Brood X

Photo by Kerry Wixted, Maryland DNR

This year's emergence of the 17-year, or "Brood X" cicada in the US has entomologists and bug afficianados buzzing. Maryland's woodlands are hosts to several species of cicadas, but Brood X gets a lot of attention. The Woodland Wildlife Wednesday webinar for May featured Lindsay Miller Barranco of the University of Maryland Department of Entomology, who discussed the life cycle and other interesting features of these amazing insects. Go to our Woodland Wildlife Wednesday web page for more information, and to access other videos in the series.

More resources about cicadas in general, and about Brood X specifically, can be found from the University of Maryland Extension here. A Maryland Dept. of Natural Resources web page about Brood X is here.

A New Playlist on our YouTube Channel

If you're familiar with our YouTube channel, you have likely noticed that we have organized similarly-themed videos into playlists for easy reference. For example, videos and recordings from a particular workshop or conference will be found together so that a viewer can find them all in one place. Additionally, we have a playlist for our recurring series of Woodland Wildlife Wednesday webinars, dating back several years.

We now have a new playlist called Natural Area Management Services series. This 12-video list consists of presentations during two webinar series, one held in the fall of 2020 and the other held during February-March 2021. These presentations covered many of the topics and practices found in our recent publication, "Woodland Health Practices Handbook."

The videos from last autumn's series covered the concepts presented in the handbook; the videos from this year's series looked at particular woodland health practices in depth. Each video runs approximately 90 minutes.

200-Year-Old French Oaks Aiding the Restoration of Notre-Dame

Two years ago this spring, a devastating fire ripped through Notre-Dame de Paris cathedral. The central wooden spire and iconic timber ceiling supports were almost completely destroyed. The restoration and reconstruction efforts are tapping the resources of the Berce Forest, southwest of Paris, where seventeenth-century managers encouraged oak trees to grow tall and straight to outfit the French navy. Today, descendants of those original trees are being harvested for Notre-Dame.

Aymeric Albert, the forestry commission's commercial director, called a rod-straight 230-year-old Sessile oak "exceptional." Sessiles normally grow to between 60 and 120 feet tall; this one, at 54 feet, was just the right size to occupy a particular spot in the spire's support structure.

Photo by Jean-François Monier/ AFP GETTY

Read more about the trees, the harvest, and the restoration in this article from the National Post.

Hire Only Licensed Tree Experts

In response to a number of instances of non-licensed individuals soliciting work on homeowners' trees, the Maryland DNR Forest Service reminds Marylanders that only Maryland Licensed Tree Experts are permitted by law to trim branches and remove trees.

Licensed Tree Experts are required by law to carry insurance that covers their tree work. A company that fails to do so is not only violating the law, but may not have the proper coverage in case of injury or damage.

Learn more in this article from the Maryland DNR.

Photo by Stephen Badger, Maryland DNR

New Website for Woodland Stewardship Education Program

After several years of planning, designing, testing, and dveloping, the new Woodland Stewardship Education (WSE) website went live in early April 2021. The successful rebranding of the site is part of a larger part of University of Maryland's College of Agriculture and Natural Resources (AGNR) and University of Maryland Extension (UME) to create a more user-friendly interface.

The previous version of the WSE webiste premiered in 2013. At the time, it followed current trends for layout and design, and was designed to be viewed strictly on desktop or laptop screens. The proliferation of handheld devices, and the increasing preference of them by younger users of the World Wide Web as their preferred internet portal, has led webpage designers to create sites that are navigable no matter what size screen is being used. The 2013 version of AGNR's, UME's, and WSE's sites did not pass these tests.

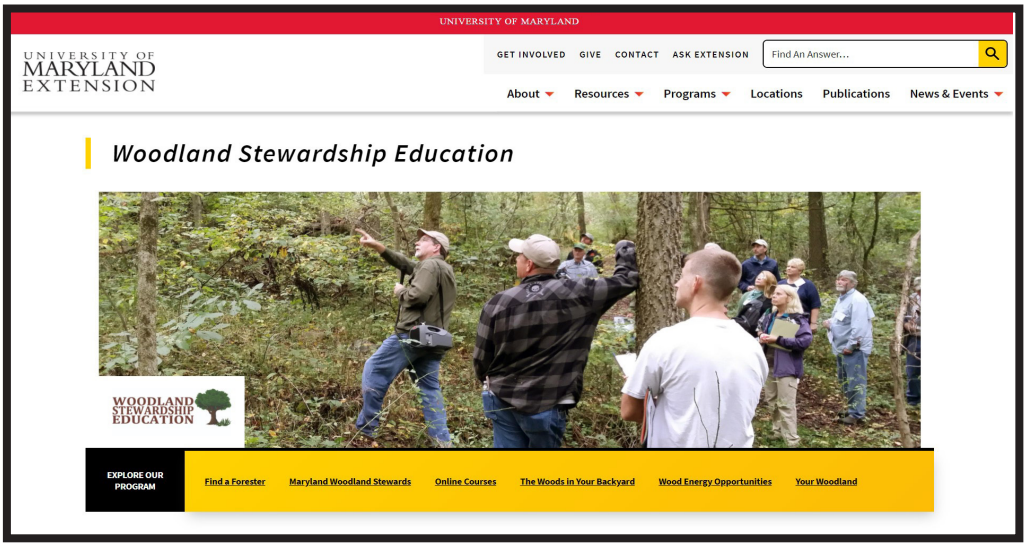
The contracted design firm held listening sessions with UME offices across the state in 2019, collecting input and feedback from users and content developers. In mid-2020, the AGNR communications team shared the framework of the new design, and asked UME content developers to thoroughly examine their existing content and create new "hierarchies," or "outlines," for their sites.

At WSE, Jonathan Kays and Andrew Kling decided that this would be an opportune moment to create a new hierarchy for the site in general and to update the website's content. Once the hierarchy was approved by the communications team, it was time to develop content to fill it.

The effort, which lasted several months, was worth it. For example, in the new design, the program's video and webinar recordings are easier to find. The forest stewardship information in the "Your Woodland" section contains new and updated content. And there's improved navigation for property owners looking to hire forestry professionals.

UME's improved features enable users to find Extension publications more efficiently. By creating a roster of keywords called "tags," content users can ensure that their fact sheets, extension bulletins, or other publications are listed with others from across UME that have similar content.

For example, a search for "forest health" from any UME page will give you several options. "Forest Health in Forestry" will provide all the resources where the tag is used on our website, including recent (2019-2021) issues of *Branching Out.* If the phrase is used in a publication, that will also be listed. The final option will generate a list of all UME resources, publication and more that include that phrase, although that will include less specific results.

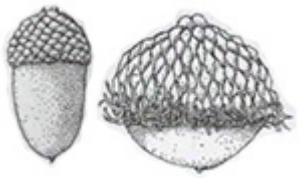


In the coming months, we will continue to develop the WSE pages to include some legacy content, such as selected back issues of *Branching Out,* and will incorporate user feedback to improve the site. We encourage you to explore the site and to let us know what you think!

Visit the new site at:
go.umd.edu/woodland

This issue's Brain Tickler ...

Last issue we asked you to identify the two acorns at right. The one on the left is from the white oak; the one on the right is from the bur oak. Congratulations to Jane Burner for her correct answer!



For this issue, consider the photo below:

Photo courtesy US Forest Service

This was once the residence of an important figure in American forestry. Name the individual (and get extra credit if you name the house).
Email Andrew Kling at akling1@ umd.edu with your answer.

Events Calendar

May 27 - August 26, 2021 (Thursdays), 8:00 am - 11:00 am
Invasive Species Control Program Weekly Workdays
Bacon Ridge Natural Area, Crownsville MD
The Scenic Rivers Land Trust invites volunteers to join their staff on Thursday mornings this summer to help remove a variety of invasive plant species from trails within the Bacon Ridge Natural Area, including Japanese stiltgrass, wavyleaf basketgrass, oriental bittersweet, Japanese honeysuckle, multiflora rose, autumn olive, and Japanese barberry. For more information and to register, visit this link.

June 16, 2021, 12:00 noon - 1:00 pm
Woodland Wildlife Wednesday webinar series: Bats, Bat Research, and Conservation in Maryland
Online
The Woodland Wildland Wednesday webinar series continues with Dan Feller, Western Regional Ecologist for the Maryland Dept. of Natural Resources Wildlife and Heritage Service. Join us to learn more about these elusive animals and why bats are a critical component in a healthy forest ecosystem. The webinar is free, but registration is required. For more information and to register, visit this Eventbrite link.

June 17, 2021, 1:00 pm - 3:00 pm
Ethics and Professional Forestry
Online
Foresters have a responsibility to manage land for both current and future generations in an ethical fashion. This course is a refresher in ethics as they apply to forestry situations. Real life examples will be used to illustrate how tough ethical dilemmas may be handled by and to help us identify those areas that skirt the edges of ethical conduct. Learn more and register here.

September 18. 2021, 8:00 am - 4:00 pm
2021 Loving the Land Through Working Forests
Thompsons' Wood, Centerville, PA
A one-day field conference that features a rich program of presentations and woods walks about our forests – threats, management practices, and ways that we can enhance our forests' resilience and overall health. Features a keynote address by Prof. Doug Tallamy, goat invasives-browsing demonstrations, children's programming, and lunch is provided for all. RSVP Required. Go to https://www.foundationforsustainableforests.org/event/loving-the-land/ for more information.

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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.