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Volume 32, No. 3

Summer 2024

A Mix of Young and Old for the Future

Andrew A. Kling, Branching Out editor

I have the honor of having two roles for the University of Maryland. For more than ten years, I have worked for the Woodland Stewardship Education program, producing this newsletter, curating and adding content to the program's website, and coordinating the two online courses we offer. (Details about them are available on p. 5.) That's my morning job. For the past 2-plus years, I've spent my afternoons as the managing editor for publications across the University's Extension program. It's a fascinating exposure to the great work being accomplished statewide by folks in 4-H, horticulture, agriculture, emerging technologies, and much more. Occasionally, the two jobs intersect, such as recently when I worked with Extension Wildlife Management Specialist Luke Macaulay.

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UME publication <u>Recovering</u>
<u>Northern Bobwhite Quail: A</u>
<u>Guide to Habitat Management</u>

Luke is a frequent contributor to our roster of chat sessions for participants of "The Woods in Your Backyard" online course, sharing information about deer ecology and management. His new Extension publication, Recovering Northern **Bobwhite Quail: A Guide** to Habitat Management. looks at how woodland property owners and managers can work to restore current or create new habitat for this important species. As the publications editor, I often

Thank You.

Forest Stewardship Educator John Hooven recently left UME to take a new position as forester with the Cape Atlantic Conservation District in New Jersey. He has graciously agreed to continue the "Native Trees of Maryland" series through the end of the year, and may provide additional articles going forward. Thanks, John, and best wishes for the future.

know little about the author's subject (one of the first I had on my plate concerned a soybean pest). However, in Luke's case, he covered a number of themes familiar to me from my morning job. It was an interesting convergence of the two.

His publication also reflects a growing trend in woodland management that understands that a mix of all ages of trees benefits both the forest and its inhabitants. Previously, forest managers were more interested in having woodlands of the same age. These "even-aged stands" were seen as being the best way to manage the forests, especially for timber. Nowadays, many professionals advocate for "uneven-aged stands" that

include open areas that provide vital habitat for grassland birds and other wildlife. It's this mix of new and old - of younger trees (or no trees) and older trees - that seem to best mimic environments that existed before human interventions altered the ecosystems. These modern forests are now called "sustainable," and as you'll read on p. 6, Maryland's state forests were recently recognized as such. State Forester Anne Hairston-Strang noted the need for a mix of young and old, saying, "We see it as building resiliency in our forests."

Consider building the same resiliency in your own woodlands, even if it's something as small-scale as encouraging younger trees in the undergrowth through chosen tree management or creating some grassland habitat. (More ideas here.) The mix of young and old will help the ecosystems into the future.

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NOTICE TO BENEFICIARIES AND PROSPECTIVE BENEFICIARIES

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Why conserving existing forest buffers is just as important as planting new ones

Jake Solyst, Chesapeake Bay Program

Trees growing alongside streams and rivers, known as <u>forest buffers</u>, are critical to the health of the Chesapeake Bay and its wildlife. That's why in 2014 when the <u>Chesapeake Bay Watershed Agreement</u> was signed, partners set an <u>ambitious goal</u> of restoring 900 miles of forest buffers each year across the region.

In 2023, Chesapeake Bay Program partners restored 640.5 miles of forest buffers, which is the <u>highest number of new forest buffers restored</u> since 2016. Each jurisdiction of the watershed chipped in, including 298 miles of forest buffers restored in Virginia, 268 miles restored in Pennsylvania, 40 miles restored in Maryland, 21 miles restored in New York, 13 miles restored in West Virginia, and less than one mile restored in Delaware.

Katherine Brownson, who serves as the U.S. Forest Service liaison to the Chesapeake Bay Program and coordinator of the partnership's Forestry Workgroup, attributes the high number of forest buffer miles restored in 2023 to an increase in state and federal investment, as well as new flexible funding programs.

Landowners can be hesitant to have forest buffers planted on their property because of associated cost, time and maintenance. In some cases, farmers who plant buffers at the edge of their property can no longer use that space for planting crops or grazing animals. To incentivize the planting of buffers, partners have updated their programs to award funds on a rolling basis (rather than an annual), provide funding more quickly, include support for maintenance, limit or eliminate out-of-pocket costs and make the funds available to a wider range of landowners.

This is in addition to the existing <u>Conservation Reserve</u> <u>Enhancement Program</u>, a USDA program that financially compensates farmers for removing environmentally sensitive land from production and establishing forest buffers.

The Infrastructure Investment and Jobs Act and Inflation Reduction Act have helped advance progress toward forest buffer restoration. Since 2022, the Environmental Protection Agency (EPA) Chesapeake Bay Program Office has increased funding for competitive and jurisdictional grants, providing over \$12.6 million in funding for the restoration of forest buffers under the Infrastructure Investment and Jobs Act. Some examples include:

- The PA Dept. of Conservation and Natural Resources received \$3 million to enhance their riparian buffer program.
- The NY Dept. of Environmental Conservation received



Young planted trees stand next to mature trees between pastures and fields on a farm near Leibs Creek in Stewartstown, PA. Photo by Will Parson/Chesapeake Bay Program

\$2 million to implement a comprehensive riparian forest buffer program.

 The Delaware Department of Natural Resources and Environmental Control received \$472,000 to implement their riparian buffer strategy and create a buffer incentive program for private landowners.

The U.S. Forest Service is using \$103 million from the Inflation Reduction Act to support urban forestry projects throughout the Chesapeake Bay watershed, with some of the funding going to support forest buffer restoration in communities.

Bay states have also ramped up funding and training for forest buffer restoration, allowing them to work toward their own goals. "Pennsylvania has been hard at work increasing funding and technical assistance with new staff and partner investments in planting streamside forest buffers, and our numbers of acres of streamside forests continue to grow," says Secretary Cindy Adams Dunn, secretary of Pennsylvania's Department of Conservation and Natural Resources.

But while forest buffer planting may be gaining momentum, the watershed has lost more forest buffers than it's gained as of data collected in 2017/2018. The Chesapeake Bay Program's Land Use/Land Cover data uses satellite imagery to capture changes to the land every four years. Comparing data from 2013/2014 to 2017/2018 showed a net loss of over 21,000 acres of forest buffers. Data for 2021/2022 is expected to be released in fall 2024, but the number of forest buffers planted in the past several years is not enough to make up for the losses.

Forest loss typically occurs to make room for housing, roads, parking lots, data centers and other <u>development</u>. To learn more about tree cover in your area, take a look at the <u>Tree Cover and Status Change</u> factsheets, which are available for every county in the Bay watershed, and the <u>State of Chesapeake Forests Storymap</u>.

Native Trees of Maryland: Red Maple, *Acer rubrum*

John Hooven, Cape Atlantic (NJ) Conservation District forester



Red maple leaves can be brilliant in color, from deep reds to blaze orange and yellows.



Bark of a younger red maple transitioning from its smooth characteristic to platy/scaly. Splotches are lichens living on the bark.

Red Maple, Acer rubrum, is one of the most commonly occurring trees in eastern North America. The tree is well adapted to many different site conditions, from lowlands to uplands, and shady to sunny. The tree also thrives on a variety of different soil types with various pH levels. The species has a wide geographic range, from Florida and the mid-west all the way up across southern Canada. The prolific red maple also ranges from sea level to elevations as high as 3,000'. Therefore, its suitable habitat can be found across the entirety of Maryland.

Red maple is a soft maple, unlike the hard maples of sugar maple and black maple. Still, in comparison to other hardwoods, red maple falls just below black walnut but the same hardness as black cherry, and harder still than silver maple and pine. While its utilization is limited, better specimens can sometimes be substituted for hard maple in furniture. The biggest issue with utilizing maple is its form of growth. It is not always common to find timber quality red maples in the forest. Maple has a tendency to branch low, at times even rising from the ground as multiple stems, and will follow the light as it is growing. With silviculture, red maple could be grown to favor timber producing specimens. Doing so would be a quick turnaround for a hardwood since the tree reaches maturity in 70 to 80 years, but rarely living beyond 150. Red maples can

also be used in the production of maple syrup, though more sap is needed to be boiled as the amount of sugars is lower than that of *Acer saccharum*, sugar maple.

Where red maple truly excels is as a landscape tree. The tree grows fast and can produce a nice shade tree in a relatively short time frame. The tree's best asset, though, is its fall color, making it one of the best trees to have in the landscape in autumn. It can be useful for planting adjacent to parking lots. However, site conditions will determine if the roots will grow vertically without issues or run laterally, creating bumps in the pavement over time. Wetter sites are more likely to see roots running laterally, and dry sites the opposite. Red maple can be found just about anywhere as its genetics allow it to be guite adaptable.

The tree flowers early in spring with bright red, tiny, perfect flowers. Sexual maturity can exhibit in as little as four years aiding to the tree's numbers across its range. The species has an interesting sexuality known as polygamo-dioecious: some trees are male, some are female, and some are monoecious

having both male and female flowers. The tree is one of the first to bloom and seed in the spring. Small winged samaras, typically red, are dispersed in spring. The tree is good for providing food and habitat for wildlife.



Early emergence of red maple flowers in spring.

The tree is part of the phenomena known as mesophication. Since colonial times, use of fire as a management tool has decreased across the range of red maple. Red maple is fire intolerant, and in the absence of fire, cool, damp and shaded conditions favor mesophytes such as maples. This is leading to an increase in red maple across its range while also leading to a decrease in oaks and other sunlight favored species. This can be problematic as some of these sunlight favoring genera, like oaks, or *Quercus*, support more pollinating species than *Acer*. Regardless, there is no doubt of the vigor of the red maple, and even with active management to favor sunlight favoring species, there will be no shortage of *Acer rubrum* in the landscape.

Source: Burns, R. and Honkala, B. *Silvics of North America Volume 2. Hardwoods*. United States Department of Agriculture (USDA), Forest Service, Agriculture Handbook 654.

Registration is Now Open For the Fall Session of "The Woods in Your Backyard" Online Course

The Woods in Your Backyard Online Course

Registration is now open for the Fall 2024 session of "The Woods in Your Backyard" online course. Our course is designed primarily for small-acreage property owners who want to learn how to care for or expand existing

woodlands, or to convert lawn space to woodlands.

The self-directed, non-credit online course runs for ten weeks, from September 9 to November 18, 2024. It is offered through the University of Maryland's Electronic Learning Management System, and is accessible from any Internet connection and Web browser.

The course closely follows the published guide of the same

name, but includes some important extras. Quizzes reinforce the important concepts of the text. Optional activities give participants the opportunity to share one or more of their stewardship journal entries, or photos or narratives of their woodland stewardship accomplishments. In addition, many of the course's units are accompanied by short videos, created and produced by Woodland Stewardship Education staff. These 2- to 5-minute videos demonstrate essential skills and techniques (such as tree identification or crop tree release) and share the experiences of other woodland owners.

The course costs \$145.00 and each session is limited to 25 participants. Each paid enrollment includes printed copies of "The Woods in Your Backyard" guide and workbook, plus a copy of *Common Native Trees of Virginia*. Visit our website page about the course at this link for more information, including frequently asked questions, updated registration information, and a way to preview the course at no charge.

Go to this <u>Eventbrite link</u> for participant comments, more information, and how to register.

If you are a Maryland Master Naturalist or a Maryland Master Gardener, participating in this course can contribute to your annual hours commitment. See this link for more details.

Becoming a Steward of the Land: UME Forestry Program Offers Certification Course

Learn to be a steward of the land this fall with the University of Maryland Extension's General Forestry Course. The online course features full-color photos and graphics, and will run from August 26 through December 9, 2024. Registration is now open, and interested participants can register online at extension.umd.edu/forestry-course.

This is a non-credit course with no formal classes – work from the comfort of your home using your own woodlot, a friend's, or a public forest. The course covers ways to protect your trees from insects, diseases, and fire; how to, step by step, create a forest inventory and a stand analysis; and covers the details of the forestry business, including tax nuances and the sale and harvest of forest products. Ultimately, the course exercises help you develop the framework for a stewardship plan for your forest.

The cost for this forestry course is \$150.00. Included in the cost are copies of the supplemental readings: A Sand County Almanac, The Woodland Steward, American Forests: A History of Resiliency and Recovery, a small

pamphlet entitled "What Tree Is That?" and Common Native Trees of Virginia Tree Identification Guide. 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.

To learn more about the course and what it entails, go to extension.umd.edu/forestry-course. There you can read lessons from the text, preview an exercise, read through detailed course information, and more.

For more information, contact Andrew Kling at the University of Maryland Extension Western Maryland

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Sample course page.

Research & Education Center at 301-226-7564, or via email at akling1@umd.edu.

News and Notes

Certification Recognizes Maryland State Forests as Sustainable

Independent auditors from the Forest Stewardship Council and the Sustainable Forestry Initiative recently reviewed Maryland's Pocomoke State Forest and Chesapeake Forest Lands and recertified them as sustainable, meeting international standards for forest management. The audits consider ecological, social, and economic benefits of a responsibly managed forest.

Chesapeake Forest Lands became the state's first certified forests 21 years ago; Pocomoke State Forest was certified shortly thereafter. The Eastern Shore areas have since been joined by four state forests in western Maryland: Savage River, Green Ridge, Garrett and Potomac state forests.

Among other aspects, certification helps allow responsible timber harvests, bringing environmentally friendly building products to market and assisting managers in providing age diversity in the forests.

Read more from the Maryland DNR here.



Why Do Trees Drop So Many Seeds One Year, and Then Hardly Any the Next?

If you've encountered a woodland of oak trees generating enough acorns to cover the forest floor, you have witnessed "seed masting." In this practice, plants drop most of their seeds in one year and then take years almost or completely off from seed production. Scientists have explained this with the "predator satiation hypothesis" (summarized here). But a recent paper by Canadian researchers in *Current Biology* advanced a new hypothesis for the evolution of seed masting: disease prevention.

Using mathematical models, the scientists found that seed masting creates many seeds that are capable of spreading disease to hosts, while slow seeding years may slow or starve the process.

Read a summary of the new research in this article from Smithsonian Magazine.

Wooden Surfaces May Have Antiviral Properties

Researchers have demonstrated that wood has antibacterial and antifungal properties, making it an ideal material for items such as cutting boards. Now, scientists in Finland are examining antiviral capabilities. As reported in a publication of the American Chemical Society, researchers studied how long certain viruses, including coronavirus and enteroviruses linked to the common cold, survived on six types of wood. Pine had the fastest onset of antiviral activity, reducing coronavirus's ability to infect cells after as little as five minutes. Identifying exactly how a wood surface's chemistry is responsible is the next step.

Read more here.

New Program to Plant Riparian Buffers in Virginia

The Virginia Dept. of Forestry has announced a new program to expand riparian buffers in the Potomac River Watershed. The "Riparian Forests for Landowners Program" covers all expenses related to site preparation, planting, and one year of maintenance of the new buffers. The program is open to private property owners, including HOAs, regardless of rural, urban, or suburban location.

Learn more about the program here.

DNR Trust Fund: \$35 Million for State Ecological Projects

The Maryland DNR has awarded \$35.8 million from the Chesapeake and Atlantic Coastal Bays Trust Fund for 34 projects to benefit water quality and habitat in the Chesapeake Bay watershed during the current fiscal year (through June 2025). In addition to projects with statewide impact, the awards will fund several local afforestation projects in Talbot, Washington, Worcester, Garrett, Allegany, and Frederick counties.

Read more about the specific programs <u>here</u>, and read the full list of awardees in a summary from the DNR <u>here</u>.

Invasives in Your Woodland: Japanese Hop

Before we dive into this issue's plant species, let's clear up a usage matter. Grammatically speaking, the name of this plant is the singular form ("hop") while the name of its flowers and fruit is the plural ("hops"). It's the same way we describe a rose with blooming roses. Although it may sound odd to refer to it in that way, the singular is correct.

That may be easier to remember than its taxonomic nomenclature. Apparently, scientists began applying a new suffix to the identifier. For more than 150 years, its name was *Humulus japonicus*; within the last 25 years, some reclassified it as *Humulus scandens*. Many publications still use the old form.

Regardless, this plant is an invasive along most of the eastern seaboard and in scattered locations as far west as the Dakotas. In Maryland, observers report it

in all counties except along the lower Chesapeake Bay (see map at right).

What is it?

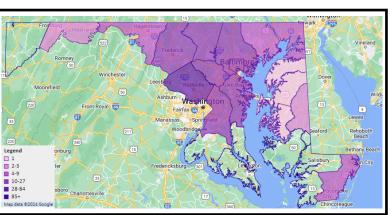
Japanese hop is a native of Asia and was imported to North America as an ornamental plant and for Oriental medicinal purposes in the late 1800s. It is an annual vine that can climb or twine around trees, fences, and more, reaching up to 35 feet. It

also spreads rapidly across open spaces, with several sources maintaining a single vine can grow more than 30 feet in a single season. Consequently, it can overgrow and shade out native species in the understory, including shrubs and small trees in mats up to four feet thick. While it grows best in full sun and in moist soils, such as disturbed areas and roadsides and forest edges, it does tolerate shade and drier soils, and can become widespread along stream banks and floodplains.

How does it spread?

The plant spreads via seed from the flowering hops, which bloom from early spring into late summer, depending on the location. The seeds are small (1/8 inch in diameter) and can spread via wind, water, animals, or human clothing,

Japanese Hops blooming in Baltimore County, MD. Photo by Bill Hubick, Maryland Biodiversity Project



Reported distribution of Japanese Hop in Maryland, from Maryland Biodiversity Project.

shoes, or vehicles. Seeds can stay viable in the soil for up to three years.

How can I identify it?

One of Japanese hop's distinguishing characteristics is its leaves. They are palmate with 5-7 lobes with toothed edges and 2-6 inches long. The leaves have hooked hairs; the stems have downward-facing prickles. This separates it from the annual and native common hop, which has more rounded leaves and 0-5 lobes. Japanese hop has separate male and female plants, producing flowers with five petals. The female flowers are arranged in short spikes, while the male flowers exist as airy, cone-shaped clusters. See the photo gallery on the next page.

How can I control it?

Small occurrences of Japanese hop can be removed by hand pulling before the

root system has a chance to become established. Be sure to remove as much of the plant's taproot as possible. Repeated attention to the site will be needed due to the seeds' longevity. Cutting through mowing or weed trimmer is also effective; however, the vine regrows quickly from cut stems, so repeated attention is also required when using this method. Be sure to mow early in

the growing season, as seeds begin to mature in early fall and can be spread by the mowing.

Repeated foliar application of herbicides such as glyphosate is also effective. Be sure to use a herbicide labelled for use near water when treating riparian infestations.

For more information:

Learn more about Japanese hop:

<u>Asian Vine Climbs into Maryland</u> (Maryland Invasive Species Council)

<u>Humulus scandens</u> (North Carolina Extension)
<u>Japanese Hop Control</u> (Missouri Dept. of Conservation)
<u>Japanese Hop</u> (USDA Forest Service)

Image Gallery: Japanese Hop



Japanese hop plants. Photo by Leslie J. Mehrhoff, University of Connecticut, Bugwood.org



Japanese hop fruit. Photo by Leslie J. Mehrhoff, University of Connecticut, Bugwood.org





Japanese hop plants (above) and foliage (below). Photos by Chris Evans, University of Illinois, Bugwood.org



Japanese Hops blooming in Prince George's County, MD. Photo by Maddie Koenig, Maryland Biodiversity Project.

Events Calendar

August 27, 2024

Maryland Trees under Attack: What We Can Do Online

Presented by the Maryland Native Plant Society. In this webinar, Dr. Faith Campbell (president of the Center for Invasive Species Prevention) notes which of Maryland's trees have been most heavily affected by attacks from non-native insects and diseases, observes how this impacts our plant communities more broadly, and shares what strategies citizens can support through volunteer actions and advocacy. Learn more and register here.

October 18-20, 2024

2024 Chesapeake Watershed Forum Shepherdstown WV

The19th annual Chesapeake Watershed Forum at the National Conservation Training Center (NCTC) in Shepherdstown, WV on October 18-20, 2024. This watershed-wide event reaches over 400 restoration and conservation practitioners annually to inspire and empower local action towards clean water. Registration opens August 5. Learn more at https://www.allianceforthebay.org/event/chesapeake-watershed-forum/

This Issue's Brain Tickler...

Last issue we asked you to identify the wildlife habitat management technique shown in this photo (by Gerald Hoy, Penn State). The correct answer is hinge-cutting.



Congratulations to Natasha Shengold for her correct answer.



This issue's challenge comes from MD Woodland Steward Rick Abend. What is the yellowish growth shown on this tree at Blackwater NWR?

Email Andrew Kling at akling1@umd.edu with your answer.

October 24-26, 2024

2024 American Chestnut Symposium Cromwell, CT

Presented by the American Chestnut Foundation.
Celebrate successes, build new relationships, and join passionate volunteers, members, partners, supporters, landowners, scientists, and industry professionals to forge the path toward restoration of the American chestnut.
Learn more at https://tacf.org/2024-american-chestnut-symposium/



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Branching Out

University of Maryland Extension

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Editor: Andrew A. Kling Editor emeritus: Jonathan Kays

Published four times per year and distributed to forest landowners, resource professionals, and others interested in woodland stewardship.

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