

BRANCHING OUT

Maryland's Woodland Stewardship Educator



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With Spring Comes Renewal

Andrew A. Kling, *Branching Out* editor

Much has been written about the literal and the metaphorical renewal that springtime brings to our planet. When the season is combined with networking opportunities such as webinars, workshops, and conferences, participants seem to be infused with an additional feeling of renewal. Such was the case in early May, when several



ANREP participants at Hawk Mountain Sanctuary, May 2024. Photo by Andrew A. Kling.

members of University of Maryland Extension attended the biennial conference of the [Association of Natural Resource Extension Professionals \(ANREP\)](#).

The conference was hosted by our colleagues at Penn State Extension in Hershey PA. Their enthusiasm set the tone for three days of information, shared research and education, and fellowship. Many of the ANREP participants took part in field trips to nearby resources, such as to the [Hawk Mountain Sanctuary](#). While the timing of the field trip wasn't quite right to observe migrating raptors, the view of the Kittatinny Ridge and environs from the North and South overlooks was worth the hike.

One of the benefits of attending such a conference is being able to discover that others professionals are considering the questions you have been pondering as well. Wondering about how native tree communities may be affected by climate change? Join the presentation from the folks at the University of Minnesota Extension, who are examining what species will be suitable for future planting projects. Puzzling about integrating Spotted Lanternfly information into Extension education for youth? Then join the folks from the Ohio State Extension to hear what they're doing. Or consider listening to a talk just because the title is intriguing—and leaving with a new perspective. Such was the case when I attended a presentation by a

Penn State doctoral student who emphasized the value of developing insect population models by measuring at varying heights within the forest—not just at ground level or in the canopy

While it is often difficult to take time away from day-to-day routines (especially if your inbox tends towards overflowing on the best of days), meeting with folks of similar but different backgrounds and with similar but different interests can be rewarding, and renewing. But if you can't take time to attend a multi-day conference or a weekend workshop, take some time to visit your favorite woodlands—especially if you haven't been there in a while. You never know what you'll find that can be rewarding and renewing.

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Citizen Science Project Brings Pure American Chestnuts Back To Appalachia

Jack Walker/West Virginia Public Broadcasting

Imagine trees more than 100 feet tall stretching across the skyline of Appalachia; families resting in the shade down below or collecting husks bursting at the seam with chestnuts.

Before the 1900s, sights like these weren't just imaginary. American chestnuts once reigned supreme in Appalachia, populating forests in 13 present-day states.

But things changed at the turn of the 20th century with the arrival of a new disease: chestnut blight.

"In the early part of the century, a strain came in that affected the chestnut tree, and chestnut trees began to die," said Sylvia Shurbutt, director of Shepherd University's Center for Appalachian Studies and Communities.

"By the end of the century, we had virtually no standing chestnut trees in most places," she said. "The chestnut tree does still live. ... [But] the tree will grow for a bit, and then it will die. It will contract the blight."

According to Shurbutt, chestnut trees were a pivotal part of pre-Civil War Appalachian history. Chestnut wood helped build log cabins and household furniture. Chestnut forests fostered regional biodiversity. Even chestnuts themselves were a staple of 18th and 19th-century cuisine. That's why Shurbutt and the Center for Appalachian Studies jumped at the opportunity to help repopulate the American chestnut.

"We really want to engage our students and the community in what I think is probably one of the most important and significant things and gifts that we could certainly give," she said. "That is to bring back an iconic tree, a tree that was the symbol of Appalachia, a tree that was at the heart and soul of what Appalachian stood for."

The project came to the Eastern Panhandle with the help of Susan Thompson, a graduate student in Appalachian Studies at Shepherd University and an affiliate of West Virginia's chapter of the American Chestnut Foundation.

Thompson began the local project last year, when she rallied together a team of community members to plant hybrid chestnut trees at a local farm.

These trees were hybridized with Chinese chestnut trees, which made them more resistant to the blight. Now, Thompson's team aims to replant pure American chestnuts, with a little help from an ecological ally.

"When it has a symbiotic relationship with mycelium, which is the plant that a mushroom grows off of - it's all these white tendrils. Sort of imagine how the internet has threads going in every direction and connections. It's like that, the threads going in every direction," she said.

Mycelium then works with chestnut trees to more efficiently capture resources. "They connect with the tree roots, and

they spread out another 50 feet," Thompson said. "You may have 80 feet of area that a tree can collect nutrients and water."

While environmental interventions like these support early growth in American chestnut trees, conservationists are still grappling with how to best protect trees from the threat of chestnut blight.

Finding a cure to the disease is a work in progress, and scientists are looking for answers in the genes of chestnut trees from around the world.

In the meantime, one new strategy has helped extend the lives of ailing trees. It involves taping a package of soil around an infected segment of the tree for months on end, which blocks the disease's spread.

This is not a catch-all solution, because it doesn't prevent new infections, and it is harder to use on big trees. More than anything, scientists need more information on how the disease works, and American chestnut resiliency more broadly. This, again, is where Thompson comes in.

Thompson is creating a website for a new citizen science project that involves documenting the life cycle of local American chestnuts online, from planting to infection to treatment. That way, researchers have more information on what works and what does not.

"It's bringing together minds from all over the country. Potentially, we can have people from all over the world," she said. "But we're first trying to bring together a group of people in Appalachia who know where these trees are, who can keep an eye on them and provide data about them."

By engaging with volunteers on an online project, Thompson said she and other self-described "chestnutters" can also offer advice on how to treat infections and protect the species as a whole.

Thompson said the project has good traction so far, but it will take time for Appalachia to see the chestnut forests that were widespread centuries ago.

Still, Thompson said she and other conservationists are excited by the possibilities American chestnut reforestation provides. This includes protecting Appalachian ecosystems, and even combating global warming.

"These trees are out there. We know we have this big problem to solve with cooling the Earth. We have all these people who are excited about chestnuts," Thompson said. "I'd like to see people join our group."

"I'd like to see chestnutters making the world cooler," she added.

Native Trees of Maryland: The Tuliptree, *Liriodendron tulipifera*

John Hooven, UME Forest Stewardship Educator

Maryland is full of remarkable tree species. The state's latitude, its proximity to the Atlantic coast, and its elevation change from sea level in the east to the Appalachian Mountains in the west make the landscape here the perfect host for a diverse array of tree species. The tuliptree, *Liriodendron tulipifera*, is one of the tallest of these trees, and one of the tallest of the deciduous trees in North America. Another common name for the tree is tulip poplar, or yellow-poplar, but it is not a member of the poplar genus *Populus*, nor in the family that hosts poplar, *Salicaceae*. It does, however, exhibit characteristics similar to Poplar. But it is a member of the Magnolia family, *Magnoliaceae*.

Tuliptree is a splendid tree but not recommended for small or compact yards. It quickly grows straight and tall and can reach heights of 44 – 61 feet in 20 years. Under the best site conditions, tuliptree can reach heights of 200 feet with a diameter at breast height of 8 – 12 feet. It is more commonly found growing to 100 – 150 feet in height with a diameter of 2 – 5 feet. Tuliptree is not affected by many pests and is relatively long lived in the forest. Trees can live to be 200 – 250 years but have been known to live to 300 years. It is considered shade intolerant. But it can outcompete other tree species and quickly establish itself in the forest canopy.

Tuliptree produces arguably one of the most beautiful flowers of our native trees. Six-petaled flowers emerge in the spring for two to six weeks and are very distinct, typically yellow to greenish yellow with a cantaloupe orange wavy band. Flowers emerge on trees around 20 years in age but may continue flowering for 200 years. Cross-pollination by insects is very important but it is not uncommon for self-pollination to also occur. The fragrant flowers can at times be underappreciated, as they typically occur high in the canopy of mature trees in the forest. But the flowers



Tuliptree (*Liriodendron tulipifera*) leaf

produce quite a bit of nectar and are excellent in the production of honey from honeybees. The resulting seed pods are distinct and make the tree easy to identify. The seeds are readily eaten by wildlife when dispersed.

Another distinctive feature of the tuliptree is its leaf. The leaf is simple on a long petiole with 4 lobes. The leaf somewhat resembles the silhouette of a fox's head when viewed face on.

The bark is brown, deeply furrowed when mature, and fragrant. The tree provides excellent shade in the landscape. Tuliptree has terrific value as an ornamental tree where enough room allows it to grow. These attributes



Tuliptree flower

aside, the tree is also highly valued for its usefulness as timber. The wood is used for furniture production, veneer, plywood and also as pulpwood. While young stems are vulnerable to fire in the landscape, mature trees have

a thick, insulating bark that is excellent protection from fire.

The tree is a host to the tulip-tree beauty moth, *Epimecis hortaria*, whose common name is derived from its larvae association with the tree. However, the moth's larvae will actually feed on other genus, including *Sassafras*, *Populus*, *Magnolia* and *Asimina* (paw paw). Whether in the garden

landscape or the forest, tuliptree is a wonderful asset to have in the landscape.

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

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"*Liriodendron*." Wikipedia, The Free Encyclopedia. https://en.wikipedia.org/wiki/Liriodendron_tulipifera



Tuliptree seed pod

Native Tree Coupon Program Open for Calvert County Residents Through Nov. 20, 2024

The Calvert County Department of Planning & Zoning announces the reopening of its “Spread Your Leaves” tree coupon program to help residents expand forested areas in Calvert County by planting native trees on their property.

Now through Nov. 20, residents can obtain a coupon to purchase native trees at a discount from participating nurseries. Residents can use the printed or digital coupon at participating nurseries for a discount up to \$50 per tree for up to six trees. At checkout, residents will register their name, address and tree species.

The tree coupon can be obtained through the Planning & Zoning website at www.CalvertCountyMd.gov/TreeCoupon. There, residents will also find a list of participating nurseries, view an interactive map of trees planted through the program, and find information on selecting native tree varieties based on the planting area and environmental benefits.

Trees purchased will be registered based on their location within the local watershed. The watershed that plants the most trees will be recognized by the Board of County Commissioners. This coupon may be combined with the “[Marylanders Plant Trees](#)” coupon offered by the Maryland Department of Natural Resources.

Only Calvert County properties located outside the Critical Area are eligible for this tree program. Free trees are available through the [Critical Area Reforestation Program](#) for Critical Area property owners who would like to plant trees. [Grants are available](#) for plantings near nontidal streams or steep slopes and areas measuring one-quarter acre or larger.

Residents are encouraged to submit photos of themselves enjoying the trees to nativetree@calvertcountymd.gov or share on social media using the hashtag #CalvertSpreadYourLeaves.

Coupons may not be redeemed for cash. The “Spread Your Leaves” program is funded by revenue from fees paid by developers in lieu of reforestation or afforestation and not buying Forest Conservation Transferable Development Rights.

Montgomery County Parks Weed Warriors Program Has Record-Breaking Year

Shantelle Malcolm-Lym, Maryland Association of Counties

Montgomery Parks has announced a record-breaking year for its Montgomery Parks Weed Warrior Volunteer Program, galvanizing the county in the fight against non-native invasive plants (NNIs).

NNIs are a growing threat to the environment of Maryland counties. NNI vines can strangle and smother trees. NNI shrubs can displace and shade out native plants that provide birds and other wildlife with food and shelter. The Weed Warriors have been integral to Montgomery Parks’ efforts and enormously contributed to controlling NNIs in county parks. In 2023, the Weed Warriors logged a record-breaking 12,490 volunteer hours, freeing over 17,000 trees and shrubs from NNI vines and tackling other destructive plant species, such as multiflora rose and porcelainberry. Their work is a significant cost saving for the county parks department, reducing staff hours dealing with NNIs and benefiting the environment by using non-chemical methods to remove invasives.

“Weed Warriors do more than just ‘pull weeds,’” said Corinne Stephens, Weed Warrior volunteer coordinator. “Without the help of these community members it would be much more difficult to control invasive plants. Volunteers also help restore natural habitats by planting native plants and seeds that are cultivated at our Pope Farm Nursery facility. We couldn’t do it without them!”

The Weed Warrior Volunteer Program was created in 1999 to empower community members to help Montgomery Parks staff manage non-native invasive plants (NNIs) on parkland. Volunteers are taught to properly identify and manage specific species of NNIs using best management practices.

For more information on the Weed Warrior program, visit <https://montgomeryparks.org/support/volunteer/weed-warriors/>

On Old Coal Mines, Re-Growing Native Appalachian Forests

Along the Appalachian Mountain chain lie hundreds of thousands of acres that are former surface coal mining sites that are suitable for reclamation. The nonprofit group Green Forests Work has planted more than 6 million trees on nearly 12,000 acres in the region. The group's director of operations, Michael French, was recently interviewed about their efforts.

The greatest challenge when working with these sites, according to French, is the heavily compacted soil that marks the aftermath of surface mining, which he compared to a compacted gravel parking lot. On some sites, very little will grow; others are home to thickets of autumn olive, bush honeysuckle, multiflora rose, and other invasives.

Using a combination of heavy machinery and hands-on planting, the group works to revegetate sites to benefit wildlife of all sizes, from neotropical migratory birds to year-round residents like deer and turkeys.

[Read the interview here.](#)

Researchers Suggest Planting Trees in the Wrong Places Does More Harm than Good

While planting trees can help in the fight against climate change, scientists writing in *Nature Communications* note that in some cases, more trees means less sunlight is reflected from the earth's surface and more heat is absorbed.

Using the latest mapping techniques, researchers were able for the first time to consider the role played by albedo (the amount of solar radiation bounced back off the planet's surface) when it comes to tree planting projects.

The authors point out that not taking albedo into account can significantly overestimate the climate benefits of tree planting projects, but, according to one of the scientists, "There's also lots of places still where restoring tree cover is a great idea for climate change. We're just trying to help people find those spots."

[Read more here.](#)

Do You Use a Pellet Stove? Participate in this Survey from the Alliance for Green Heat

Our colleagues at the Alliance for Green Heat want your input. If you use a pellet stove, please take their short [pellet stove survey](#). The anonymous survey will provide data about who uses pellet stoves and why. According to AGH president John Ackerly, "We are trying to get broad participation to help the environmental community, and state and federal agencies understand why people use pellet stoves, how they use them, and other demographic information." The survey does not ask for your name, address or affiliation - only the state that you live in, how long you have heated with pellets, and other related questions. [Take the survey here.](#)

A Threatened and Elusive Woodland Species Caught on Camera

The US Forest Service recently released trail camera footage of the federally threatened Allegheny woodrat. The nocturnal rodent prefers hardwood forests with plenty of rocks and boulders. Its range once stretched from Connecticut to Indiana and south to Alabama; today, estimates are that fewer than 100,000 remain from New York to Tennessee.

[Learn more at this web page.](#)

One Last Bloom for Stumpy



This past season was the last bloom for the famous Japanese cherry tree named "Stumpy" at the Tidal Basin in Washington DC. The tree, now hollow inside and subjected to daily tidal overwash,

will be removed later this year along with others as part of a project to shore up the sea wall.

More about Stumpy [here](#), [here](#), and [here](#).

Invasives in Your Woodland:

Sawtooth Oak

Bring up invasive tree species in Maryland among landowners and other interested parties and several will probably be mentioned: Callery pear, that line sections of I-70; tree-of-heaven and its connection to spotted lanternfly, or princess tree and its showy springtime flowers. Perhaps the discussion will turn towards tree families that have both native and non-native representatives, such as the maples. To that last list, include the oaks. Many are native to the state (including black, red, chestnut, scarlet, and white, the state tree); another, the sawtooth oak, is not... and, depending on your location, may or may not be designated as an invasive.



Sawtooth Oak leaves. Photo by Richard Gardner, Bugwood.org

Sawtooth oak (*Quercus acutissima*) is native to Asia, from northeast India to Korea, and was introduced to the eastern U.S. in 1920. It has gained popularity over the last 50 years as a street tree because it tolerates poor and dry soils, establishes and grows quickly. Consequently, it has been planted throughout the east, Midwest, and south. Because it produces copious amounts of acorns in late summer and early fall, earlier than some native oaks, some advocate planting it for wildlife, particularly turkeys. In fact, a cultivar called the Gobbler Sawtooth debuted in 1986 with smaller acorns, especially sized for turkeys' consumption.

However, sawtooth oaks have adapted to a wide area of the nation and now are escaping from plantings into natural areas, particularly in the eastern states, where they can outcompete native species. The Maryland Biodiversity Project reports it is found in most Maryland counties (see map at right).

What is it?

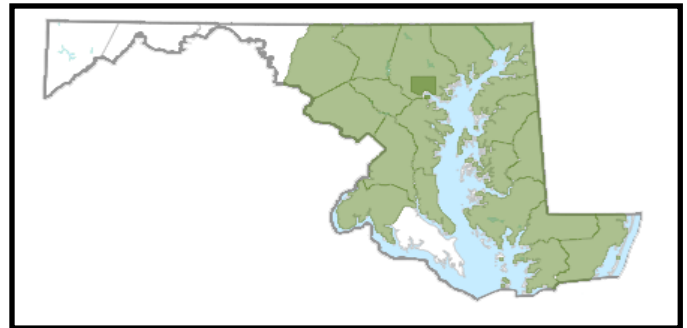
Sawtooth oak is a large deciduous tree that can grow up to 50 feet in height. While it tolerates many soil and shade conditions, it prefers well-drained locations with full sun. It does not grow well in areas subject to flooding. According to [a National Park Service publication](#), "One observer noted that it readily seeds into woodland edges, meadow habitats and open areas... it is fast growing, tolerant of a wide range of moisture and temperature conditions and can become a troublesome invasive."

How does it spread?

Sawtooth oaks spread primarily via their fruit (acorns). Animals will spread the acorns into new habitats via droppings or via forgotten caches that germinate into seedlings.

How can I identify it?

As a member of the red oak family, sawtooth oaks have several characteristics that aid identification. Juvenile trees have a pyramidal shape that becomes more symmetrical as they mature. At maturity, the bark is ragged, ridged, and furrowed, and dark grey to grey-brown in color. Trees bear



Reported distribution of sawtooth oak in Maryland, from [Maryland Biodiversity Project](#).

acorns at least every two years, if not every year. The acorns are small, ranging from 5/8-3/4 inch long and are enclosed in cups with long, frilly scales. Approximately 2/3 of the nut is covered by the cup.

The glossy leaves are oval and oblong, with many serrations ending in a bristle tips, resembling a saw blade. They are alternate on the stem, and like many oaks, the leaves are [marcescent](#) during the winter. See the photo gallery on the next page.

How can I control it?

Presently, sawtooth oaks are not considered an invasive species of concern in many areas; in fact, [the Maryland state nursery offers gobbler sawtooth seedlings for sale](#). Overall, the best way to control its spread is to not plant it. In areas where it is already established, such as edge habitats, regular, annual and semiannual mowing reduces the spread. Control large trees by cutting and grinding the stump. Girdling and using hack and squirt with glyphosate is also effective.

For more information:

Learn more about sawtooth oak:

[Sawtooth Oak](#) (Plant Invaders of Mid-Atlantic Natural Areas)

[Quercus acutissima](#) (NC State Extension)

[Sawtooth Oak](#) (Ohio Dept. of Natural Resources)

Image Gallery: Sawtooth Oak



Sawtooth oak. Photo by Richard Gardner, Bugwood.org.



A Sawtooth Oak with acorns in Howard Co., MD. Photo by Richard Orr, Maryland Biodiversity Project



Sawtooth oak acorns. Photo by Chuck Bargeron, University of Georgia, Bugwood.org



Sawtooth oak with marcescent leaves. Photo by David Stephens, Bugwood.org

Events Calendar

June 8, 2024, 9:00 AM - 11:00 AM

Healthy Forests Workday: Invasive Plant Removal at Bacon Ridge Natural Area Crownsville, MD

Join Scenic Rivers Land Trust at Bacon Ridge Natural Area in Crownsville to remove invasive vines, shrubs, and grasses. These aggressive invaders threaten vegetation at all levels of the forest from the ground up into the forest canopy. [Learn more here.](#)

July 11, 2024, 8:30 am - 1:00 pm

Forest Management for Wildlife Symposium: Ruffed Grouse, American Woodcock, Young Forests, & More Cacapon Resort State Park, Berkeley Springs WV

This symposium will provide landowners and land managers insights about how to implement forest management practices that can benefit a diversity of wildlife, including ruffed grouse, American woodcock, rabbits, wild turkey, golden-winged warblers, pollinators, and more. [Register for this free symposium here.](#)

October 18-20, 2024

2024 Chesapeake Watershed Forum

This Issue's Brain Tickler...

Last issue we asked you to identify the important day that was celebrated in 2024 on April 26 in Pennsylvania, Delaware, and Virginia; on April 12 in West Virginia; and on April 3 in Maryland. The correct answer is Arbor Day. Congratulations to our winner, Natasha Shengold!

For this issue, identify the wildlife habitat management technique shown in this photo (by Gerald Hoy, Penn State).



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

Shepherdstown WV

The 19th 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/>

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