

BRANCHING OUT

Maryland's Woodland Stewardship Educator



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Volume 31, No. 4

Fall 2023

New Funding Opportunities for the Maryland Wood Products Sector

Andrew A. Kling, *Branching Out* editor

Regular readers of *Branching Out* recognize that the forestry industry in Maryland is larger than many realize. The forest products sector is worth more than \$3 billion to the state's economy, and tax revenue is consistently among the top ten annually. According to the Maryland Forest Service, Marylanders consume nine times more wood products than are produced within the state, yet the state's forests grow four times more wood than is harvested or that is lost through natural events. Along with higher pay scales than in other sectors, it's clear that the forest products industry has room to grow. And two new opportunities exist for individuals, groups, or companies to receive grant funding to grow their businesses in Maryland.

One is from the Maryland Agricultural & Resource-Based Industry Development Corporation, also known as MARBIDCO. A new grant opportunity, the "Wood Products Industry Equity Investment Grant Program," is designed to help the state's forestry businesses improve their operations' efficiency. According to MARBIDCO, the grant program

...helps Maryland wood fiber harvesters, processors and manufacturers to purchase new equipment or helps Maryland wood fiber harvesters, processors, and manufacturers to purchase new equipment or construct facilities so that they can engage in increased production and utilization of locally sourced wood fiber, enhanced commercial revenue generation, and retention and creation of new job opportunities.

The deadline for applications is 4 PM, December 15, 2023. Full details and application form can be found on the MARBIDCO website at:

https://www.marbidco.org/pages/programs_grants/grant_programs_wppei_wood.htm

State to Discontinue Successful Wood-Burning Stove Grant Program

The Maryland Energy Administration recently announced that the Clean Burning Wood and Pellet Stove Rebate Program will end with the current fiscal year. First established in 2012, the rebate program was designed to promote effective and affordable renewable energy technology through wood- and pellet-burning stoves. Applications for the rebate program are being accepted until March 31, 2024 for stoves purchased by January 4, 2024 and installed by the March date. [More information is available through the MEA.](#)

Read a [blog post from the Alliance for Green Heat](#) in support of continuing the program.

The second opportunity comes from the US Dept. of Agriculture Forest Service via the federal "Investing in America" agenda. Two new programs are soliciting grant applications now through 5 PM on December 15, 2023. According to the USFS, the "Wood Innovations Grant Funding Opportunity":

stimulates, expands, and supports U.S. wood products markets and wood energy markets to support the long-term management of National Forest System and other forest lands. Focus areas include mass timber, renewable wood energy, and technological development that supports hazardous fuel reduction and sustainable forest management.

The "Community Wood Grant Funding Opportunity Program":

provides funding for grants to install thermally led community wood energy systems or to build innovative wood product manufacturing facilities. The Forest Service expects renewable wood energy systems installed under this program to use the most stringent control technologies. The program places extra emphasis on assisting sawmills in economically challenged areas to retool or add advanced technology.

Applications and more information are available through the USFS at:

<https://www.fs.usda.gov/science-technology/energy-forest-products/wood-innovation>

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University of Maryland Extension Forestry Completes Another Successful Woodland Stewards Program

John Hooven, UME Forest Stewardship Educator

The Delmarva Woodland Stewards Program (DWSP) wrapped up this October, training 31 volunteers in the fundamental art and science of ecological forest management. This was the second year for this program, funded by a grant from Maryland Forest Service. Unlike the Maryland Woodland Stewards Program of years past, the Delmarva Woodland Stewards Program focuses specifically on the types of forests found on the coastal plain of the eastern shore. The program serves those geographically located on the Delmarva Peninsula who are residents of Maryland, Delaware and Virginia. Each brought their own special cause and purpose for wanting to participate to the program. The group included small and large landowners, educators, park and conservation employees, conservation NGO delegates, and forest enthusiasts of all types.

Each year the DWSP has been conducted as a hybrid program, with weekly virtual sessions in conjunction with virtual homework for the participants. Participants learned about introductory forest management, wildlife and forest ecology, prescribed fire, agroforestry, vegetation management, watershed ecology, and how to volunteer their time in their personal projects. Each steward obliges themselves to contribute 40 hours each to a forest management related project of their choosing that will promote the benefits of forest management.

Instructors and panelists came from all the stakeholders of the DWSP, including University of Maryland Extension,

Maryland Forest Service, Delaware Forest Service, University of Delaware Extension, Virginia Department of Forestry, Virginia Department of Wildlife Resources and Virginia Tech Extension, among other contributors. Virtual sessions ran weekly on Tuesday evenings from 6:30 – 8:00 pm for six weeks.

An in-person field day accompanied the course to demonstrate techniques that needed hands-on instruction. To preface the field day and to add to the camaraderie, we hosted a dinner the evening before for participants at Marina Bay and Suites in Chincoteague, VA overlooking

Chesapeake Bay. It was a working dinner, however, as yours truly set up a display and handed out pamphlets on forestry topics. Our speaker for the evening was one of the DWSP participants: Steven Kline, president and CEO of the Eastern Shore Land Conservancy, Maryland's largest non-profit land trust. Mr. Kline spoke on conservation easements and preserving working forest lands and other lands of conservation interest.

The participants visited two locations during the field day: a Virginia Department of Wildlife Resources management site,

and Maryland Forest Service's Pocomoke State Forest in Snow Hill, MD. The event was held from 8:00 am— 4:00 pm, leaving and returning to the Furnace Town historic site.

This program is very important to the healthy management of our forests, public and private. Be on the lookout for program announcements for next year's stewardship programs!



Scenes from the DWSP field day.

Above: Alex Clark (left), MD DNR Forest Service, speaks to participants at Pocomoke State Forest on the importance of riparian buffers.

Below: Luke Macaulay, UME (center), discusses the importance of early successional habitat for wildlife.



Using i-Tree for Landscape Tree Assessment

John Hooven, UME Forest Stewardship Educator

The following does not constitute an endorsement of i-Tree by the University of Maryland Extension at the exclusion of other apps.—Editor

This past summer I had a project dropped in my lap to assess the landscape and forest trees at the University of Maryland's Wye Research and Education Center (WREC) in Queenstown on the Eastern Shore. We were provided funding to hire two interns to complete the inventory and enter the data into i-Tree.

i-Tree is a collaborative effort of many partner organizations, including USDA Forest Service, Davey Tree Expert Co., The Arbor Day Foundation, Society of Municipal Arborists, International Society of Arboriculture, Casey Trees, and SUNY College of Environmental Science and Forestry. i-Tree offers ten different programs providing varying levels of data and information, depending upon the user's needs and how they plan to gather data for assessment. This includes tools to create assessments from individual trees or from landscape-scale acreage.

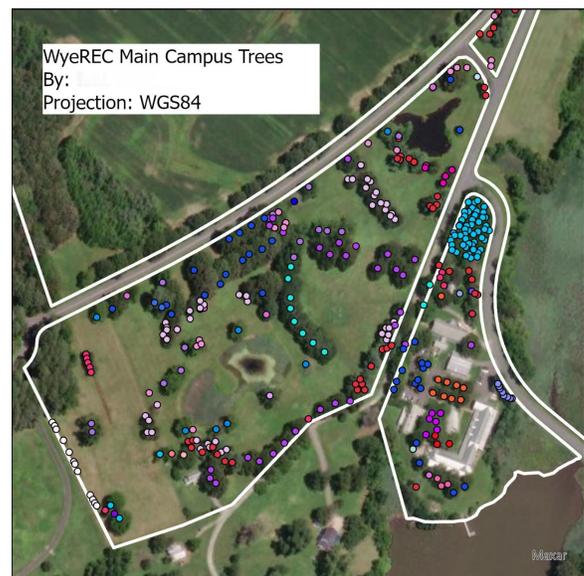
We chose to use the i-Tree Eco platform. i-Tree Eco allows you to enter inventory in two forms: individual tree or plot samples. Unfortunately, there is no version (yet) to share data from traditional forest plots and then assess the results. Also, as the Wye complex has scattered woodlands and landscaped areas, we would not be able to use one form of assessment to inventory the information. We decided to do an individual tree assessment on landscape trees and a plot sample assessment on the forested areas.

We trained the interns in a variety of skills, including using GPS; tree ID; measuring tree diameter and height; measuring crown spread, dieback, and percentage of canopy; and relative health. Over the course of eight weeks, they tallied the information for 1,024 trees that were landscaped throughout the campus. We also did a traditional forest sampling on 22 sample plots over the approximately 100 acres of woodlands. This data would be forwarded to Maryland Forest Service to be used in developing a forest stewardship plan.



Interns dealing with field conditions while doing forest sample plots.

Once the individual tree data was entered into i-Tree Eco, it takes several hours for the results to be processed via remote servers at Davey's headquarters in Chicago, IL. The results are dependent on your assessment. We furnished the interns with tablets to enter their field information directly into a spreadsheet while in the field, avoiding double data entry and reducing errors. This spreadsheet data was uploaded into i-Tree Eco to be processed. Meanwhile, we also input the GIS data to produce maps of the trees, types of trees, health of the trees, and more. We also used the parcel information to establish property boundaries and illustrate where the trees are in relation to other elements on the property, such as buildings, water features, the forest, and rivers.



MainCampusTrees			
Species (scientific)			
● Acer negundo	○ Cercis canadensis	○ Morus	● Quercus phellos
● Acer platanoides	● Cornus florida	○ Picea abies	● Robinia pseudoacacia
● Acer rubrum	● Fraxinus	● Pinus echinata	● Salix babylonica
● Acer saccharum	● Gleditsia triacanthos	● Pinus strobus	● Taxodium distichum
● Araucaria heterophylla	● Juglans nigra	○ Platanus	● Zelkova serrata
● Betula nigra	● Juniperus virginiana	○ Prunus serotina	● <all other values>
	● Liquidambar styraciflua	● Quercus acutissima	
	● Liriodendron tulipifera	● Quercus alba	
	● Magnolia virginiana	● Quercus coccinea	

Data from assessment entered into GIS software for further analysis and display.

i-Tree is a very powerful and useful tool. I would like to see more integration with GIS software to be able to appreciate more functionality. I also wish to see more integration of traditional forestry measurements derived from standard forest plot assessments, such as basal area, basal area per acre, trees per acre and quadratic mean stand diameter to readily calculate information from forest stewardship plans. If you are interested in seeing a full presentation of the results from our study, send me a request for a link to our presentation. If you have any questions about i-Tree and the assessment process, please contact me at jhooven@umd.edu or at 410-827-8056, extension 125.

Woodland Wildlife Spotlight: North American River Otter

If you own waterfront property along the Chesapeake Bay in Maryland, you may have otters in your neighborhood. If your property borders a river, a pond, or a wetland anywhere else in the state, you may have otters in your neighborhood. In fact, any location that has habitat with clean water may be home to otters. While the species is named “North American River Otter,” the animals are at home in a variety of habitats in addition to rivers. They are common throughout the tidal areas of Maryland, but also inhabit streams, rivers, lakes, and both freshwater and saltwater marshes. Otters prefer marshes along wooded rivers and streams, especially those with pools and overhanging rocky banks. Consequently, they are reported in every county in Maryland.

The North American river otter is a semi-aquatic mammal and the largest member of the weasel family. They are relatively nocturnal; although they can be active at any time of day, they are most active in the hours between late afternoon and early morning, which is why many people are unaware of their presence until they discover a physical demonstration that otters have visited. These could be tracks left by their clawed and webbed feet, in sand or snow. Snow- or ice-covered banks may exhibit signs of sliding down to the water. A boat dock or swimming platform may display wet foot prints. Other signs are scat or remnants of their most recent meal.

Their diet is mostly aquatic species, such as fish or crustaceans or crabs, as well as amphibians or the occasional small bird. They are waterborne hunters, and can seal their nostrils shut while swimming and hunting while staying underwater for up to eight minutes. Their whiskers help them find their prey, and they swim in tight circles to create whirlpool-like conditions to bring fish up to them. They capture their prey and then consume them out of the water, such as on a riverbank or on a downed log nearby. They have also discovered that fish and other prey are attracted to boat docks or swimming areas that are lit at night, and will consume their captured meal on these built structures. If they happen to be disturbed by a passing boat or a dog in the backyard, they may emit a short bark, whistle, or growl of their own before diving back into the water.

The river otter’s fur is thick and water-resistant, keeping them well insulated, but unlike their cousin the sea otter, which eats and sleeps at sea, the river otter comes ashore regularly. They create multiple den sites within their territory, using natural openings alongside the water or dens vacated by muskrats, groundhogs, or beavers. Unlike groundhogs, river otters are active year round and cross iced-over bodies of water to reach open areas for hunting.

North American River Otter Basics

Appearance: Long, streamlined body with dense brown fur. Throat and belly silvery brown or golden. Wide, round head, small ears, long white whiskers. Long tail and webbed feet.

Size: Adult males up to 30 pounds and 55” in length (including the tail). Females approximately 15% smaller.

Lifespan: 8-9 years in the wild; up to 20 years in human care.



Above: River otter in Kent Co., MD. Photo by Nancy Wyman, Maryland Biodiversity Project.
Right: River otter in Garrett Co., MD. Photo © [greener sphere 4](#) via [iNaturalist](#)



Males and females are solitary throughout the year until the early spring, when mating occurs during March and April. While gestation lasts two months, the young may be born any time up to one year after mating due to delayed implantation. The female creates a nesting chamber within a den and will give birth to one to four kits in a litter. The young are born fully furred but with closed eyes, which do not open for another month. They are fully weaned at 3 months and leave the den between 6 months and one year of age. While otters are not monogamous, the males often help with the initial rearing of the kits before returning to his territory. The young may stay with the female for a period of time before setting off on their own. Otters may then travel several miles over land in search of a new stream or pond for their new domain.

Young otters are vulnerable to predators such as bobcats and coyotes, but mature otters generally can escape over land to water or defend themselves with their claws. Historically, trapping for their fur, habitat loss, and water pollution had driven them from much of Maryland and across the continent. However, improved environmental and management regulations, as well as reintroduction programs, have contributed to their comeback.

News and Notes

To squish or not to squish. That is the question.

After reaching a number of Maryland counties and 17 states over the past few years, the first Spotted Lanternfly were discovered on the University of Maryland's main campus in College Park earlier this fall. Maryland Today spoke with Entomology Professor and University of Maryland Extension Specialist Paula Shrewsbury, who noted that it "most likely hitchhiked and got here by car, because we haven't seen others yet. But inevitably they are coming—we'll have thousands and thousands in the next few years."

What should you do when you find one? Read the full interview at: <https://today.umd.edu/should-you-squish-a-spotted-lanternfly>



New Story Map Details Breadth of Saltwater Intrusion Research on Delmarva Peninsula

Interns from the University of Maryland's Agro-Ecology Laboratory produced a new story map that features



Maryland Woodland Steward Rick Abend of Abend Hafen Farm. "On the Shore of Salty Soils and Rising Seas"

documents the effects of saltwater intrusion, including expanding marshlands and dying forests. [Read the story map here.](#)

Anne Arundel County Forestry and Forested Land Protection Grant Program Now Accepting Applications

Anne Arundel County Government and the Chesapeake Bay Trust announce a partnership to provide funds for forestry projects and land protection in Anne Arundel County. The goal of this program is to implement cost-effective reforestation and greening projects and increase the number of acres of protected forested land in the County.

The grant program funds reforestation and afforestation projects on protected, unleased, and unforested areas, and more. Land Trusts, land conservancies, faith-based organizations, community associations; service and civic groups, public agencies, public and independent higher educational institutions, and other nonprofit entities are encouraged to apply. This round of the program has \$280,000 available in total funds.

Grant applications will be accepted until January 3, 2024 at 4 PM. Learn more at:

<https://cbtrust.org/grants/forestry-and-forested-land-protection/>

Creating forest inventories with drones and artificial intelligence

Although artificial intelligence [may not be able to replace humans](#) in many aspects of woodland education, researchers are developing ways to use AI to access and inventory forests that are difficult to access. Scientists in Germany have combined drone imagery and AI to delineate each tree in a forest, along with an estimate of its height and diameter. Working in conjunction with staff at a national park in Colombia, they calculated that one mangrove swamp had 19,717 members of a particular species. The researchers see additional applications, including detecting illegal logging and invasive species. [Read more here.](#)

How to Keep Warm This Winter with just One Log of Wood

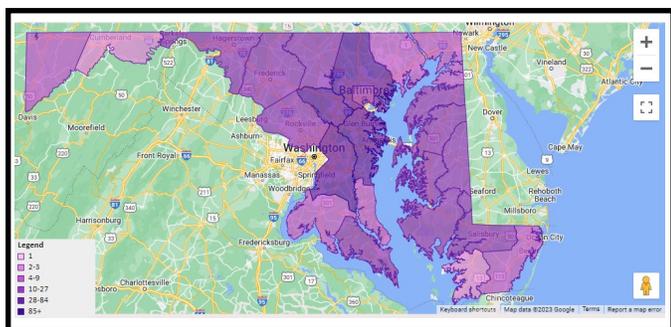
Click the photo or go to [this link](#) to watch this short and humorous video from *The Old Farmer's Almanac*.



Invasives in Your Woodland: White Mulberry

We have mentioned a number of plant species in this series that were imported to North America with the best intentions— for erosion control, as cattle forage, or simply for landscaping ornamentation. In this issue, we spotlight another imported plant, the white mulberry, which reached our shores during the colonial period in hopes of creating a silkworm industry. In its native range in northern China, silkworms feed on the white mulberry and then spin cocoons of silk that can then be harvested. As the silkworm, which has been domesticated in Asia for centuries, feeds only on white mulberry leaves, colonial entrepreneurs imported both the tree and the insect, only to discover that silkworms don't do well in this climate.

The tree, however, does, and does so with such vigor that it is not only invasive but is found in every Lower 48 state except Nevada. As white mulberry is found in every Maryland county, this issue's map shows its reported concentration across the state (darker shades of purple represent greater concentrations).



Reported distribution of white mulberry in Maryland, from [Maryland Biodiversity Project](#).

What is it?

White mulberry (*Morus alba*) is a fast-growing and short-lived tree that can grow up to 50 feet high, with a narrow trunk of less than 2 feet in diameter and a wide spreading crown. It grows well in disturbed areas as well as on hillsides and in forest openings and margins in a wide range of elevations. It can grow in a variety of light conditions, from part shade to full sun, and can tolerate a variety of soil conditions, including sand, clay, and well-drained areas.

Its greatest threat as an invasive lies in its threat to native red mulberries (*Morus rubra*). The white mulberry appears to be outcompeting and replacing the native species. Red mulberries are more selective about growing conditions and locations, but cross-pollination with white mulberries results in hybrids that are closer to the white species than the red. Additionally, some research suggests that white mulberry roots transmit a harmful root disease to reds.



White mulberry fruit. Photo by Rebekah D Wallace, University of Georgia, Bugwood.org

How does it spread?

While white mulberry can spread via its roots, it can also spread via pollen and via animals. [The stamens within the catkins serve as catapults and can launch the pollen grains at the equivalent of 350 mph](#)—the fastest such movement known in the plant kingdom. Animals devour the fruit and then excrete the seeds that colonize new areas. Each tree can produce an estimated twenty million seeds.

How can I identify it?

Identification can be tricky. White mulberry leaves are glossy on top, and can be toothed, lobed, or unlobed. However, red mulberry leaves are larger, less shiny, and hairy on the underside. Perhaps the best indicator is the growing location. If the tree is in a high-quality soil environment or inside a woodland, it's likely a native red. If it's growing on a forest margin or a disturbed area, it's a white. See the photo gallery on the next page.

How can I control it?

If possible, pull white mulberry seedlings as soon as they are detected. More mature trees can be cut down during the growing season, followed by an immediate herbicide application to the stump to destroy the root system. Foliar spraying can be effective as long as non-target species are not impacted.

For more information:

Learn more about white mulberry:

[Invasive Plants in Pennsylvania: White Mulberry](#) (Pennsylvania DCNR)

[Weed of the Week: White Mulberry](#) (invasive.org)

[White Mulberry](#) (invasive.org)

[White mulberry](#) (Woody Invasives of the Great Lakes Collaborative)

Image Gallery: White Mulberry



White mulberry tree. Photo by T. Davis Sydnor, The Ohio State University, Bugwood.org.



White mulberry foliage. Photo by Richard Gardner, Bugwood.org.



White mulberry branch with fruit in Howard County, MD. Photo by Joanne Solem, Maryland Biodiversity Project.



White mulberry in Harford County, MD. Note the different leaf shapes on the stem. Photo by Josh Emm, Maryland Biodiversity Project.



White mulberry in disturbed area. Photo by Forest and Kim Starr, Starr Environmental, Bugwood.org.

Events Calendar

November 28, 2023, 7:00 PM—9:00 PM

Maryland Native Plant Society: Invader Detectives Online

This presentation features wildlife biologist Damien Ossi and urban forester Megan Carr, who will discuss the “Invader Detectives” program, which provides a platform for citizen scientists to assist in tracking non-native invasive species. [For more information, visit this link.](#)

November 30, 2023, 10:00 AM—3:00 PM

Workshop: Forests & Forestry The Packing House, Dorchester MD

Presented by the Eastern Shore Land Conservancy, this free workshop will focus on maintaining and increasing resilience. This workshop will be of interest to forest landowners, local jurisdictions, and NGOs seeking to ensure long-term environmental and economic success in our region. Lunch is provided. [Learn more and register at this link.](#)

November 30 2023, 1:00 PM –2:00 PM

Timber Tax: Landowner Issues and Considerations Online

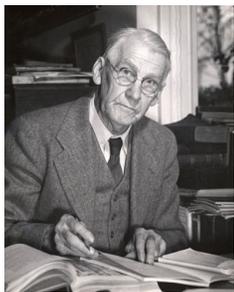
Join timber tax experts to learn about a variety of topics, such as timber basis, IRS distinctions between a business, and investment, and a hobby much more. [For more information, visit this link.](#)

This Issue’s Brain Tickler...

Last issue we asked for Fred W. Besley’s tree scoring system and its three components. His “Big Tree Champion” system awarded points based on trunk circumference (inches) + height (feet) + 1/4 average crown spread (feet). Congratulations to our winners, Natasha Shengold and Joanne Sheffield!

For this issue, identify this native plant. It can colonize woodland edges and forest openings, and provides valuable fruit from September to November (and even later) to both local and migratory species. Just don’t touch it with your bare hands.

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



March 22-24, 2024

Gather to Grow: 2024 Forest Farming Conference Roanoke, VA

The Appalachian Beginning Forest Farmer Coalition’s (ABFFC) Gather to Grow multi-day Forest Farming Conference will feature learning, networking, and strategic planning programs that will shape the future of forest farming of woodland crops such as botanicals, mushrooms, and decorative products in Appalachia and beyond. [Go here to learn more.](#)

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

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