

BRANCHING OUT

Maryland's Woodland Stewardship Educator



University of Maryland Extension – Woodland Stewardship Education
<http://extension.umd.edu/woodland>



Winter, 2014

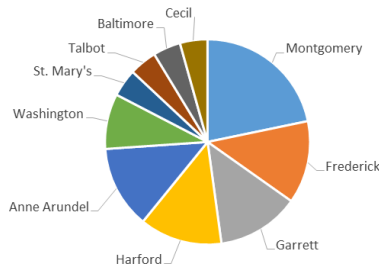
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Maryland Woodland Stewards 2014 Wrap-up

For over twenty years, the University of Maryland Extension's Maryland Woodland Stewards (MWS) program has trained landowners in forest and habitat management practices that can be shared with friends and neighbors to promote woodland health. This year's MWS training workshop was held from October 2nd to 5th at the Shepherd's Spring Outdoor Ministry Center, located in Sharpsburg, MD. Twenty-five participants came

from ten Maryland counties, representing all corners of the state. Workshop participants owned a total of 701 acres of forested land in

2014 Woodland Stewardship Workshop Participants Came From All Corners of the State



Maryland (averaging 29 acres) and managed an additional 5,251 acres of total woodland acres (averaging 224 acres). In pre-workshop polling, one-third of them indicated that wildlife habitat management was one of their primary concerns. Managing for forest products, recreation, water quality, and forest restoration were also listed as major concerns.

The workshop kicked off at sunset on Thursday, October 2nd. Jonathan Kays, Natural Resource Extension Specialist for University of Maryland Extension's Woodland Stewardship Education (WSE) program, introduced the scope of the MWS program. This included identifying the program's objectives, soliciting some feedback from participants on their expectations, and identifying the anticipated level of expertise participants would gain. He then provided an overview of the group's demographic, and gave a preview of the multitude of resources available to Woodland Stewards.

Jonathan followed this with a perspective on Maryland forest land use. This included the historical influence of human activity on Maryland's forests, the importance of the

forest resource today, Maryland Woodland Stewards' roles as stewards of the land, and present-day forest use and problems that they face.

Finally, it was off through the woods, where everyone gathered at the Pavilion to meet each other around a roaring fire, eat s'mores, and talk long into the night.

Before sunrise, Jonathan led an intrepid group of early risers into the woods to look at a number of forest conditions in the dawning light.

Friday's morning sessions focused on forest and wildlife ecology and management. Jonathan touched on forest succession and ecology by providing participants with an understanding of the concepts of forest succession, shade tolerance, and the dynamic relationships between wildlife populations and vegetation development. Jim Mullan, wildlife biologist with Maryland DNR Wildlife & Heritage Service, then shared some principles of wildlife ecology and management. He introduced the concepts of carrying capacity; wildlife population dynamics and predator-prey relationships; and basic wildlife management practices used to manipulate habitat. The presentations were followed by a walk through several types of ecosystem habitats surrounding Shepherd's Spring that reinforced the concepts of forest and wildlife ecology presented that morning.

Bryan Knox of Sustainable Resource Management then provided an overview of sustainable forest management practices. He covered a variety of concepts used in managing forests for sustainable forest

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products and forest health, and how different types of harvest systems are applied to hardwood and pine forests. Jonathan then talked briefly about managing forests for resiliency against impacts from a range of damaging agents.

The afternoon included field visits to reinforce the classroom concepts. The first stop was a visit to the crop tree management area at the Western Maryland Research & Education Center, followed by a visit to Chestnut Grove Woodlands Farm in Washington County where owner Bonnard Morgan and consulting forester Paul Maslen shared how they manage the property through sustainable forest management practices. The participants received instruction in the use of different forest measurement tools, including tree scale sticks, clinometers, prisms and increment borers.

The group completed its afternoon field session at a white pine timber thinning unit on a small-acreage property while Aaron Cook, MD DNR Forest Service, discussed the rationale for thinning in this stand.

After dinner at Shepherd Spring, Megan Benjamin, Western Representative of Maryland Environmental Trust, gave an informal talk about forest legacy planning and the estate planning and conservation easement options that are available to forest landowners to protect their investments.

On Saturday, a trio of experts shared presentations on wildlife habitat, invasive plant species, and timber marketing issues. Brian Eyler, DNR Wildlife & Heritage shared information on the ecology and management of eastern wild turkey and white-tailed deer. Tom Mathews, from the Appalachian Mountain Woodcock Initiative, then discussed the ecology and management of habitat for early-successional habitat animal species. Jim McCann, from DNR Wildlife and Heritage, followed then touched on habitat conservation practices for rare, threatened, and endangered animal species.

Jonathan also gave a presentation on the pest management of invasive plant and animal species, such as emerald ash borer and tree-of-heaven. Lyle Almond, UME Woodland Stewardship Educator, then gave a talk on the management planning and marketing of wood products, including the roles that timber harvesters and foresters play in carrying out timber harvest prescriptions, and sharing options available to landowners in harvesting trees.

The afternoon's field trips highlighted the integrated management of wildlife, timber, and recreation in woodlots of varying sizes. The first stop was a three-acre backyard forest area that demonstrates the application of the WSE's *The Woods in Your Backyard* curriculum. Next was a visit to the property of Maryland Woodland Stewards Don and Linda Grove to look at the forest and wildlife management practices including tree planting, conservation easements, thinning, and food plots that they have implemented over the past several decades.

After dinner, the participants were treated to an evening of testimonials by veteran Maryland Woodland Stewards who shared their outreach experiences and reasons for supporting the MWS program. They helped plant the ideas of outreach planning that the participants would develop in the final day of the workshop.

Sunday morning featured an inspiring talk by Maryland Woodland Steward Charles Day on "Woodland Owners as Conservation Leaders," that provided participants examples of woodland owner leadership and how to be successful. It was also the time to create concrete outreach plans that will form a major part of their responsibility as Maryland Woodland Stewards. After learning about available public and private sources of information, technical assistance, and cost-share programs, they split into smaller geographic work groups to evaluate hypothetical situations that Woodland Stewards may face in working with other landowners and to discuss appropriate strategies for

dealing with these situations.

Each group developed individual outreach plans, and made arrangements to meet after the workshop to develop a set of common objectives they could work on together. After sharing their action plan with their peers, each new Maryland Woodland Steward was awarded a Certificate of Completion. Before departing to join the ranks of 433 Maryland Woodland Stewards who have been trained through this program over the past 24 years, everyone gathered once more for a group photo.

For more in-depth information on the 2014 MWS Workshop and copies of the speaker presentations, go to <http://extension.umd.edu/woodland/maryland-woodland-stewards>.



Classroom concepts are reinforced by field trips.



MWS 2014 participants

Good News About the American Chestnut Tree

How many times have you heard or sung that seasonal standard “The Christmas Song,” which is more popularly known as “Chestnuts Roasting on an Open Fire”? The American chestnut was a dominant part of the eastern landscape, covering perhaps 25 percent of forests from Maine to Florida. Its wood was highly prized; generations used its rot-resistant timber for everything from log cabins to railroad ties. The nuts were highly nutritious for both wildlife and humans. Hundreds of towns with avenues named Chestnut Street dotted the landscape.

“The Christmas Song” was first recorded by Nat King Cole in 1946; he also recorded versions in 1953 and in 1961. The 1961 version is the one that is most commonly played on radio. By that time, however, the iconic American chestnut itself was almost gone from the American landscape, the result of a blight introduced from Asia in the late 1800s. Over the following fifty years, the blight killed 4 billion trees.



Left: Dr. Charles Maynard, left, and Dr. William Powell of the SUNY College of Environmental Science and Forestry stand in a plot with young American chestnut trees. Photo courtesy SUNY-ESF.

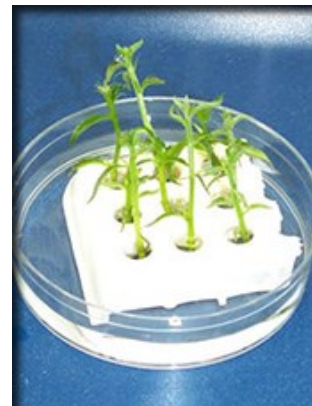
Think about that for a minute and consider how much food that represents for wildlife and humans. A mature chestnut can produce several hundred pounds of nuts, and about 70 percent of that weight is actual nutmeat. Even if a single tree produced 100 pounds of nutmeat per year, each pound contains about 1,000 calories. According to food writer Tamar Haspel, chestnuts “can be roasted, fried, candied, steamed, grilled and even turned into flour.” Even if only wildlife ate those chestnuts, humans would benefit from them when, for example, they harvested chestnut-stuffed deer.

However, while the American chestnut is not extinct or even technically endangered, the American Chestnut Foundation describes the species as “effectively extinct,” because few of the remaining trees are surviving long enough to produce nuts.

Yet there is some good news on the American chestnut scene. Researchers at the College of Environmental Science and Forestry at the State University of New York (SUNY-ESF) believe that after nearly 25 years of effort, they have created a new strain of blight-resistant chestnut that could help restore the tree to the American landscape.

ESF professors Charles Maynard and William Powell announced that they have succeeded in developing an American chestnut that has the same resistance to the Asian blight as Asian chestnuts. The key to their accomplishment is wheat.

Powell a molecular plant biologist, and Maynard, a tree improvement specialist, discovered that inserting a specific blight-resistant gene from wheat into the genetic code of American chestnuts resulted in trees that remained healthy when injected with the blight. Those trees eventually produced nuts, and when those nuts were planted, the resulting trees were also blight-resistant.



Blight-resistant American chestnut seedlings. Photo courtesy SUNY-ESF.

Dr. Timothy Tschaplinski, a scientist at Oak Ridge National Laboratory, conducted a series of chemical analyses on the new trees and concluded that the resulting nuts should be safe for consumption, and that their leaves do not affect the composition of leaf litter, the feeding habits of insects, or the growth of important fungi. He notes that Powell and Maynard have accomplished an amazing goal: “The sum total of these efforts is a major step forward for the goal of restoration of American chestnut to the North American landscape.”

These accomplishments do not mean that these new trees are ready to be planted in the wild. Powell and Maynard will now select one of the fourteen lines of blight-resistant trees they have developed for testing by three federal agencies. The U.S. Department of Agriculture, the Environmental Protection Agency, and the Food and Drug Administration must approve the trees before they can be available for public planting. The approval process may take up to five years. In the meantime, the ESF researchers hope to grow 10,000 trees on pilot plots that have been approved by the FDA.

That way, Powell says, there will be a collection of blight-resistant trees ready to go should they be approved for widespread use. He said, “Our hope is to get these into the forests so they can return to being a keystone species.” Food writer Haspel looks forward to that day.

“Repopulating our woods — and even our yards, our commons and our courthouse lawns — with American chestnuts would put a versatile, nutritious, easily harvested food source within the reach of almost everyone.”

Impact of New Walnut Tree Disease Unknown

Many woodland owners have read previous articles about the imminent threat of the emerald ash borer (EAB) west of the Chesapeake Bay and the likelihood it will kill all ash trees. EABs can have significant impacts in urban areas where ash is a favorite for tree planting, as well in certain woodland areas where ash is found. It seems that there is a continual stream of invasive and exotic disease and/or insect impacted our ecosystems, with most being connected to the increase in global trade.

A newly described insect/fungus complex, called thousand cankers disease (TCD), has been responsible for the death of thousands of black walnut trees in the western U. S. for at least a decade. It was first found in the eastern states in Tennessee and has since been detected in Virginia and Pennsylvania. See Figure 1. The disease is caused by a newly described fungus, *Geosmithia morbida*, which is spread by a native insect, the walnut twig beetle (*Pityophthorus juglandis*). The beetles attack trees in large numbers, and carry the fungus into trees when they create breeding galleries under the bark. The fungus invades the phloem around the beetle galleries, forming cankers that coalesce and eventually girdle the trunk and branches. To scout for symptoms look first in black walnut trees with existing crown dieback. Then look for individual branches that show flagging with either yellowing leaves remaining attached or leaves that have collapsed and wilted (Fig. 2). The latter is a somewhat stronger possible symptom. Then try to collect a dead or dying limb and look for the minute exit holes.

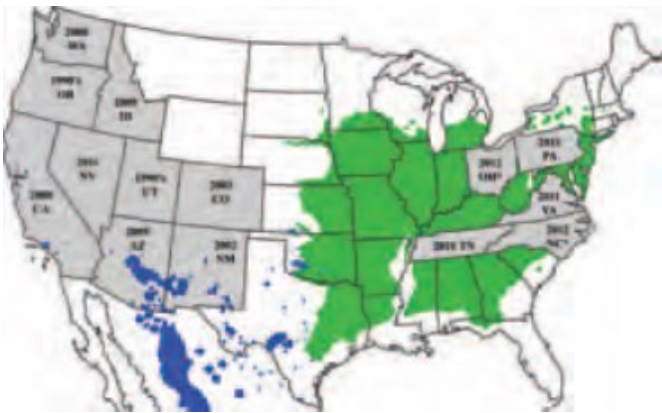


Figure 1. Thousand cankers disease occurs in nine Western and five Eastern States (shaded gray); the year in which the disease was confirmed is noted. Since 2010, TCD has been confirmed in PA, TN, and VA, whereas the beetle alone and the pathogen alone have been found in OH and NC, respectively (denoted with asterisks). The map shows the native ranges of eastern black walnut (dark green) and four western black walnut species (blue). Eastern black walnut is widely planted in the West, but this map does not depict these western locations.

In the summer of 2011, the disease was confirmed for the first time in Virginia and Pennsylvania. In 2013, walnut twig

beetles were found in one trap in the Fair Hill Natural Resource Management Area in Cecil County, Maryland. This resulted in the installation of 13 traps in the Fair Hill Park area in 2014, but only beetles were found in the same trap location as the previous year. Presence of the pathogen in trap logs set by MDA in 2014 was confirmed on October 6 at this same location. This indicates a very isolated area where the beetle is found and there have been no infected trees identified.



Figure 2. Walnut leaves that have collapsed and wilted. Photo Curtis Utley, Colorado State University Extension, bugwood.org

Pennsylvania, Virginia, and West Virginia presently have quarantines on the movement within and into their states of black walnut logs, firewood, mulch and other products that are not kiln-dried or certified. Carol Holko, Assistant Secretary of the Office of Plant Industries and Pest Management with the Maryland Department of Agriculture (MDA), has been leading the effort to identify the extent and course of action that should be taken. According to Ms. Holko, “We don’t want to impose a burdensome quarantine based on an isolated occurrence, so we are proceeding carefully and gathering needed data.” The action being considered by the MDA and discussed with surrounding states is a small quarantine around the Fair Hill Natural Resource Management Area. A state-wide quarantine would impact the movement of logs, firewood and other unprocessed black walnut wood products from the western Maryland area into surrounding states. Walnut is a common species in piedmont and ridge and valley woodlands, and any such quarantine based on one occurrence in Cecil County would not help limit the movement of the disease. The MDA Office of Plants & Pests will be making decisions on their course of action soon and updates will be available at: http://mda.maryland.gov/plants-pests/pages/plants_pests.aspx.

There may be good reason to be cautious before imposing a quarantine with TCD. Stanton Gill, Extension Specialist for Nursery and Greenhouse Management, stated, “Maryland has been working with entomologists and pathologists in Tennessee, Virginia and Pennsylvania, who indicate the disease has not spread quickly even though it has been present for many years in their respective states.”

The reasons for the slow spread in the eastern states are not well understood, but one major factor may be the native range of black walnut. The native range of black walnut extends west only to the Mississippi River valley and trees have had time to adapt to native flora and fauna. It is possible the native ecosystems are able to keep the beetles in check or inhibit the transmission of the disease in ways that are not presently well understood. In contrast, most the trees planted out west are in monoculture plantations for nut production, not natural ecosystems in the native range. These sites might not contain the same flora and fauna that provides some natural resistance that keeps the beetle under control. This is always a risk when you plant trees offsite, as they tend to be more susceptible.

It will be interesting to see if beetles carrying TCD are found in 2015 outside the one site found in Cecil County, or infected trees are identified. For more information, consult the departments of agriculture in Maryland, Pennsylvania, Virginia, and the USDA Forest Service.

This issue's Brain Tickler ...

A forester leads a group of open house visitors into a copse of trees. They are surrounded by abundant growth, thanks to efforts to remove a variety of invasive species from the area over the last few years. The forester stands by a thriving white pine tree, points to a branch that is about six feet off the ground and asks, "If this tree grows two feet a year, how high off the ground will this branch be in ten years?"



Do you know the answer? Check back in our next issue!

Wood Stove Design Workshop Results

In the last issue of Branching Out (available [here](#)), the Alliance for Green Heat announced a wood stove testing workshop at Brookhaven National Laboratory in New York as the second phase of the Wood Stove Design Challenge, which began with the Wood Stove Decathlon in Washington DC in November, 2013. The goal of the Brookhaven Lab workshop event to test cutting-edge technologies that can help automate the burning process, thereby reducing the emissions that result from real-world conditions, such as poor consumer operation and the use of unseasoned

wood.

During the workshop, held November 4-7, ten judges scored the five participating stoves based on criteria that included emissions, efficiency, innovation, safety and market appeal. The highest-ranking stove, called the Mulciber, was designed and built by engineering graduate students who had never built a stove before their participation in last year's Wood Stove Decathlon. The team overhauled that prototype for this year's competition, resulting in a winning entry for their new company, MF Fire.

While the Mulciber had the highest overall score, several of the other stoves stood out in important categories. The Wittfire, designed by Wittus, a team from Germany, received the highest score for consumer appeal and performed consistently well under a variety of burn cycle conditions. Its efficiency rate (74%) was exceeded only by the stove from New Zealand, the VcV, which operated at 82% efficiency. The VcV is notable for its innovation in that it was the only stove in the competition that did not require electricity to assist its automation operations.

One of the goals of this phase of the challenge is to begin designing an alternative method of testing how wood is burned in stoves. Currently, stoves are tested by the Environmental Protection Agency (EPA) for particulate emissions only when the stoves are hot; at Brookhaven, stoves were tested under both warm and hot conditions. The EPA tests stoves using crib wood; the workshop chose to use cord wood, which is more often used by consumers. Additionally, automated stoves, where computers, not consumers, adjust the air-to-fuel ratio, cannot be tested by the current EPA methods. This means that such stoves, which are available overseas, are not approved for use in the United States.

The workshop also included presentations and webinars from experts concerning automation, traditional stove technology, regulatory issues, air quality, and public health implications.

A roundup of the workshop is available from the Alliance for Green Heat at <http://forgreenheat.blogspot.com/2014/11/rookie-wood-stove-makers-get-highest.html> . An in-depth report, complete with test results for each stove, Power-Point presentations by the design teams, and photos from each day of the workshop, is available at <http://forgreenheat.blogspot.com/2014/11/test-results-presentations-and-photos.html> .

The workshop was sponsored by the Alliance for Green Heat and Brookhaven National Laboratory, with primary funding from the NY State Energy Research and Development Authority, the Osprey Group, and the US Forest Service.

News and Notes

New MFA Website

The Maryland Forests Association (MFA) recently unveiled its updated website. The site serves as a portal for MFA members who wish to find out more about the association's advocacy efforts, including legislative efforts, and programs such as Maryland Tree Farm and Master Logger. The site also includes a number of essential resources and an FAQ page for landowners. In addition, the association has included current and archived issues of its newsletter, "The Crosscut."

Visit the new MFA website at <http://www.mdforests.org/>.



2014 Timber Tax Tips for Forest Landowners

Linda Wang, National Timber Tax Specialist with the US Forest Service, has released the "Tax Tips for Forest Landowners for the 2014 Tax Year." Tax laws related to timber transactions are highly specialized, yet it is important that woodland owners have a working knowledge of them to ensure tax compliance and to reduce or eliminate future tax penalties.

This annual publication includes examples related to timber property, basis, sales and management expenses, along with reforestation expenses, cost-share payments, and depreciation expensing. The bulletin reviews the major federal income tax laws to assist landowners in completing their 2014 income tax returns.

The publication is available through the National Timber Tax website at <http://www.timbertax.org/developments/TaxTips2014.pdf>.

Timber Taxation Webinar Recording

In November, Penn State Extension held a webinar entitled "Timber Taxation for Forest Landowners." The hour-long presentation was intended for landowners and others who are interested in understanding income, estate and property taxes related to forestland. Topics included tax incentives for forest landowners, tax tips to save money on taxes, and tax planning as a component of forest management.

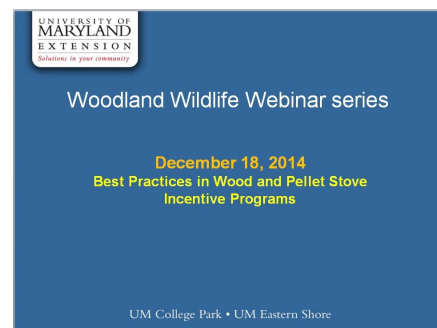


The webinar was recorded for viewing and is available at <http://extension.psu.edu/natural-resources/forests/courses/pa-forests-web-seminar-center/archive/forestry-series/2014/timber-taxation>

New Webinar Available

If you missed our webinar scheduled for December 4th, entitled "Best Practices in Wood and Pellet Stove Incentive Programs," technical difficulties meant we postponed it until Dec. 18th. If you haven't registered to view it, the recording will be available for viewing the following week. Visit our website at <http://extension.umd.edu/woodland> and choose "Webinar Recordings" in the Resources sidebar.

The webinar features Jonathan Kays of the University of Maryland Extension, John Ackerly of the Alliance for Green Heat, and Emilee van Norden of the Maryland Energy Administration.



Delmarva Fox Squirrels No Longer Endangered

Molly Murray, The Wilmington, DE News Journal

The Delmarva fox squirrel, one of the first animals protected under the federal Endangered Species Act a half-century ago, has rebounded, prompting federal Interior Secretary Sally Jewell's announcement this fall that it will be removed from the Endangered Species List.

"The Delmarva fox squirrel is a perfect example of how the Endangered Species Act works not only to pull plants and animals back from the brink of extinction but can also provide flexibility to states and private landowners to help with recovery efforts while at the same time supporting important economic activity," Jewell said.

Federal officials believe that the recovery both in squirrel numbers and re-expansion into its native range make the species able to withstand future threats.



Delmarva Fox Squirrel. Photo courtesy Delaware Dept. of Natural Resources and Environmental Control.

The population fell to 10 percent of its historic range, confined mostly to remote areas of Maryland's Eastern Shore because of habitat loss and hunting pressure. The animal was listed as an endangered species in 1967.

The recovery has been strong on Maryland's Eastern Shore but in Delaware, efforts to reintroduce fox squirrels have been challenging. Two experimental populations – one at Assawoman State Wildlife Area and another at Prime Hook National Wildlife Refuge – were released in 1984. Squirrels reproduced and expanded at Prime Hook and beyond. But there is no sign of a remaining population at Assawoman.

"They are still extremely rare in Delaware," said Holly Niederriter, the state nongame and endangered species coordinator.

Regionally, the fox squirrel's recovery has been impressive, aided by the government protections, changes in area forest use and the lack of hunting.

The regional population of fox squirrels has increased from that 10 percent figure in 1967 to 28 percent, according to Cherry Keller, a biologist with the U.S. Fish & Wildlife Service's Chesapeake Bay Field Office. In addition, 11 of 16 attempts at moving squirrels into new areas have been successful, Keller said.

Delaware now has two known populations: the introduced one at Prime Hook National Wildlife Refuge near Milton, and a second that turned up at Nanticoke Wildlife Area west of Seaford, probably an expansion of squirrels from nearby Maryland.

Niederriter said there is a lot of suitable habitat available in Delaware and state officials view the delisting as an opportunity to expand the population through additional introductions, similar to what was done with wild turkeys in the early 1980s.

Under a proposed state plan, the number of locations where fox squirrels are found in the state would double in Delaware over five years using re-introductions from Maryland. State officials would also encourage preservation of forests with trees that are 40 years old or older, and promote woodland habitat connectivity – a feature that could allow the population to move and expand on its own.

Fox squirrels are larger than the gray squirrels most Delawareans see in urban, suburban and rural areas. Historically, they were found only on the Delmarva Peninsula, a small corner of southeastern Pennsylvania and perhaps, though no one is certain, in southern New Jersey.

Niederriter said it may not be possible to re-establish a population in northern Delaware because of significant habitat loss. But there is suitable habitat in parts of Kent County and throughout Sussex County.

The ideal habitat for fox squirrels is a mature forest of mixed pines and hardwoods, giving the squirrels lots of food choices, said Keller. By mature, she means a forest that is 40 years old or older and trees that are 12 inches in diameter.

Older forests are favored by squirrels because older trees often have cavities, which give the squirrels a natural place for a den site. They will also form dens with leaf nests. And the big trees give them a wide tree canopy, she said. That means there is more food in the forest.

In the past, when a large pulpwood industry thrived on the peninsula, trees were harvested at or before they reached the 40-year mark, Keller said.

But that industry has moved elsewhere, and much of the old timber tracts are now owned and managed by state agencies in Delaware and Maryland. Forests managed for

sawmill timber are allowed to mature longer and trees are often harvested selectively.

As for seeing one of the animals, that's a chancy bet. One of the best places to see the squirrels, just as it is for another delisted endangered species, the bald eagle, is Blackwater National Wildlife Refuge near Cambridge, Maryland.

Test Your Woodland IQ!

Marguerite Klein, MWS 2014

Test your woodland IQ with following questions. More than one choice may be correct.

1) By the mid-1800s, which of the following had disappeared or were in danger of disappearing from Maryland?

- A) Elk
- B) Deer
- C) Wolves
- D) Turkey



For more on elk in Maryland, see *Branching Out's* Summer 2013 issue, available at http://extension.umd.edu/sites/default/files/docs/newsletters/2013_vol21_no3_2.pdf

2) Hunting is important to preserving and expanding woodlands, because...

- A) Hunting organizations work against destruction of woodlands.
- B) Hunting is one of the last ways that young people learn about nature that videos cannot convey.

3) The biggest threats to our woodlands today are population growth and...

- A) Forest fires
- B) Invasive plants, insects, and diseases
- C) High-grade harvesting
- D) Overabundant deer

4) Hickories provide food for...

- A) Chipmunks
- B) Deer
- C) Squirrels
- D) Red-bellied woodpecker

5) If you were born after the 1960s, you may be a victim of "nature deficit disorder" (a non-medical term). This problem....

- A) Describes children's diminished use of senses, attention difficulties, and higher rates of physical and emotional illnesses
- B) Occurs in individuals, families, and communities
- C) Results from too much time plugged in
- D) Reflects children's lack of unstructured play in the woods

6) The heat value or efficiency (burns hot and clean) for firewood is highest for:

- A) Osage-orange (hedge-apple)
- B) Black locust
- C) White pine
- D) Shagbark hickory

7) You need to own a large amount of land to participate in woodland stewardship programs.

- A) True
- B) False

8) Planting trees and managing your woodland may lower your property taxes:

- A) True
- B) False

9) Houses on wooded lots sell for 7% more than equivalent houses on open lots.

- A) True
- B) False

10) Leaving your woods alone is okay.

- A) True
- B) False

(9) A; (7) B; (8) A; (9) A; (10) B.

Answers: (1) A-D; (2) A, B; (3) B, C, D; (4) A, C, D; (5) All;

Good Stewardship Best Way to Deal With A Changing Climate

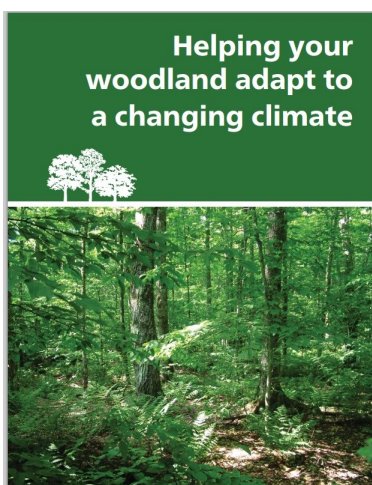
Conflicting interpretations of climate change science can create a lot of confusion about its future impact globally and locally. Dramatic changes in global temperatures have not materialized as predicted by scientific models and long term predictions for regional area are even more elusive. For the owner of woodland property there may be confusion about what they can do to be proactive regardless of what the future brings. A new publication entitled "Helping Your Woodland Adapt to a Changing Climate" provides some very practical recommendations. The following highlights some of the publication's main points.

Woodland Always Changing

Your woods are always changing and adapting as they grow and mature, or regrow after agricultural abandonment, natural disturbance, or harvesting activities. While it is possible a changing climate may have future impacts, more immediate events like storms, droughts, insect and disease outbreaks, deer damage, or other stressors are more likely to damage trees or slow growth in the near future. Trees are like people in this regard; when they are stressed, growing slowly and lacking vigor, they are more susceptible to damage and attack. In general, the goal is to build resilience in your woodland, so that it is growing vigorously and has the capacity to sustain whatever nature may throw its way now or in the future.

As a private woodland owner, you may think your property too small to make a difference, but that is not the case. 76% of Maryland woodland are owned by over 150,000 private landowners, and with an average size of 9.6 acres, the collective decisions of all landowners will determine the future health, productivity, and diversity of Maryland woodlands. So, what steps can you take to get going or improve on your existing efforts?

Putting stewardship into practice is actually part of a normal sustainable woodland management program. First, learn more about your woods by reading, by viewing webinars



"Helping Your Woodland Adapt to a Changing Climate" is available from the University of Maryland Extension Woodland Stewardship Education program website at http://extension.umd.edu/sites/default/files/docs/programs/woodland-steward/MD_Climate_Adaptation_Guide_for_Forest_Landowners_2013.pdf.

and videos, and/or by attending educational workshops. All of these opportunities are available to Maryland woodland owners at the University of Maryland (UME) Woodland Stewardship Education website. Second, contact a professional forester and identify your goals and objectives. Finally, if you have a woodland over 10 acres, a DNR Service Forester can develop a forest stewardship plan for your property that can act as a roadmap for the next 10-15 year to help you reach your objectives. For small acreage owners, the "Woods in Your Backyard" program can help you learn more about your land and increase resiliency. There is a list of professional foresters willing to work with woodland owners with smaller acreages on the UME website.

The Last Century of Climate

Putting global issues and future predictions aside, historical changes in precipitation, temperatures, and sea level rise in Maryland over the last 100 years can provide an idea of what to expect if historic trends continues. As climate science advances, hopefully future predictions can be more reliable.

Over the last century, annual average temperatures have increased 1.8⁰ F, but in November, December, and February, average temperatures have risen by as much as 3.6⁰. This may mean less snow in some areas and maybe more

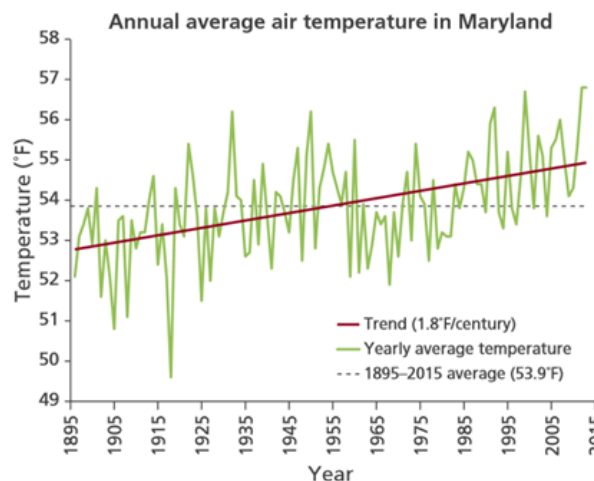


Figure 1. Source: National Oceanographic and Atmospheric Administration's National Climate Data Center, <http://www.ncdc.noaa.gov/>.

ice (Figure 1). Rainfall has actually increased by 3 inches, leading to wetter conditions in March and autumn, and drier in July and August. Drier summers can stress trees but a wetter spring and fall has advantages as well. It is important to remember these are historic averages that have wide swings on either side that creates wide variability from

year to year. Don't confuse current weather with long-term climate trends.

Historically, sea levels in Maryland have risen one foot in the last century, with half due to sinking land and half from global sea level rise. This has the potential for impacting low lying tidal areas.

Based on historical trends, future climate change may affect your woodland through:

- Increase in temperature
- Changes in rainfall patterns
- Longer growing season
- Drier soil in summer and wetter soil in winter
- Saltwater intrusion in low lying area
- Increase in pests & disease

What Can You Do?

Keep your woodland healthy and resilient using some basic strategies that are outlined in more detail in the publication. You will discover that many of these strategies are those that would be recommended by any professional forester, regardless of what may happen in the future, reinforcing the fact that practicing good woodland stewardship is the answer. Here are a few key strategies to consider:

Manage for a healthy density. Keep trees growing vigorously to better resist pests and survive in the face of disturbance. Practices like thinning or timber stand improvement reduce stress and keep forests at reasonable densities for a mix of species and age classes.

Diversify species. Plant species that will be successful if drought conditions develop. Some species such as loblolly pine may be able to be planted further north if temperatures increase.

Diversify stand ages and structure. Using practice such as timber stand improvement, thinning, harvesting and planting all provide opportunities to create diversity, which can have very positive impacts for wildlife as well.

Build connectivity. Connected woodland parcels allow tree species and wildlife to migrate more easily, which encourages greater diversity.

Control invasive vines and species. Vines can bring special problems to trees. They can overgrow trees and shade out their canopy – the mass of vines can increase the risk of damage from ice, snow and wind. Invasives displace native species and impact ecosystem development.

Manage deer. Too many deer browse and eliminate the understory, reducing diversity and the ability of the woodland to be sustainable and healthy. Work with hunters to harvest female deer to reduce the population.

Consider future flooding. Properties along the coast or tidal rivers may be subject to flooding and storm surges if sea levels continue to rise. Plan for species with higher flooding and salt tolerances in flood prone areas.

Ask a forester about programs that help to defray the cost of needed management. Known as cost-share programs, they are often underutilized by private woodland owners.

What actions are taken on your woodland will differ depending on your goals and objectives but they all boil down to one of three actions: cut something, plan something or do nothing at all. For more education on woodland stewardship, finding a forester, cost-share programs and other information go to: www.extension.umd.edu/woodland .

Own a Piece of Maryland History!

The Maryland DNR now has for sale seedlings grown from a direct offspring of Maryland's historic Wye Oak. They are available for order now for shipment in Spring 2015. The two-year old seedlings (minimum 15" tall) are certified descendants of the Wye Oak and were raised at Maryland's John S. Ayton State Forest Tree Nursery from acorns collected from an original Wye Oak offspring. The seedlings are limited in quantity and available on a first come, first served basis.

Seedlings will be shipped with a certificate showing the authenticity and history of the famous tree. Go to http://shopdnr.com/wyeoakseedling-2.aspx?utm_source=November+2014&utm_campaign=AccessDNR-Nov2014&utm_medium=email for more information.



Woodburner's Corner

Do you have a tip that can help others heating with firewood or pellets? Send them to the editor!

Firewood and pellets are the renewable fuels of choice for residential users, accounting for 70% of residential renewable energy consumed in the US. It is also the fastest growing residential heat fuel in Maryland and the US, with a 33% increase from 2000 to 2010. While solar and geothermal systems require an investment of tens of thousands of dollars, a two or three thousand dollar investment in a wood or pellet stove can pay for itself in a few years, and is within reach of most middle class American families. While fossil fuel prices are low now, that is unlikely to continue.

One of the greatest challenges for wood users, new and experienced, is determining when wood is properly seasoned to burn. Many retailers and buyers of firewood don't understand that wood needs to dry to 20% moisture throughout the log in order to maximize efficiency and minimize emissions. Freshly-cut wood moisture is very high (40% or more) and will not burn well in wood stoves. Even if you get it to burn, most of the heat is used to drive off the water in the log, providing little heat.

So how do you properly season wood? It needs to be cut and split to expose the surface area of the log, then stacked and covered to keep rain off the pile, keeping the sides open to allow air movement and promote quick drying. Proper drying can take 6 to 9 months, not weeks. The

importance of splitting wood to promote drying was made clear in a recent study where hickory logs were cut into rounds and split, but other logs were just cut into rounds and not split. After a year the split logs were at 20% moisture but the unsplit logs, when split, still had moisture levels of over 30% — too wet to burn.

The Woodland Stewardship website has fact sheets to help users properly season wood ([here](#)), but there is a simple meter that can take away the mystery.

A moisture meter (at right) has four prongs that can be pushed into the wood to provide a moisture reading. First, you need to split the log to get the interior moisture because the outside may be dry but not the inside.

The meters can be purchased at wood stove retailers, some big box stores, and online. For the \$20 or \$30 cost you can be sure your wood is dry enough to burn. If you buy wood, before the load is dumped, split a few pieces of wood and see that they are in the low 20% range. If not, let the supplier know because his wood is not properly seasoned. After that you can negotiate because it will need time to season.



Events Calendar

For more events and information, go to <http://extension.umd.edu/woodland/events>

January 11, 2015

1:30 PM—3:00 PM

The Restoration of the American Chestnut Tree
Montgomery County, MD

Learn about the restoration of the American chestnut tree in the 20th century, and current efforts to return the chestnut to the American landscape. The afternoon also includes a visit to the American chestnut forest in Black Hill Regional Park. Visit <http://www.parkpass.org/Activities/ActivitiesCourseDetails.asp?cid=324752> for more information.

January 17, 2015

9:00 AM—4:30 PM

Beyond the Lawn: Landscaping with Nature
Carroll County Extension Office, Westminster MD

Join us for the workshop "Beyond the Lawn: Landscaping with Nature." In this one-day workshop, participants will learn how to create a landscape that is both beautiful and functional, as well as low maintenance, water-wise, and friendly to the birds, bees, and butterflies. You will also learn how to manage pests such as deer, how to take care of your trees, and available resources. This workshop is jointly offered by the Carroll County Forest Conservancy District Board and the University of Maryland Extension Office in Carroll County. Go [here](#) for more information and a registration brochure.

January 23-24, 2015

Friday: 4:00 PM—8:30 PM; Saturday: 8:00 AM—4:30 PM

Appalachia Grows: Beginning & Small Farms Conference for Ag-Entrepreneurs

Frostburg State University, Frostburg, MD

The first "Appalachia Grows" conference is designed for anyone interested in farming, in producing food or farm products, is currently farming and wanting to expand or diversify, or who want to learn from experts. Friday's program is exclusively for new and beginning farmers; Satur-

day's program is for everyone, whether you are farming or not. For more information, contact Willie Lantz, Extension Educator—University of Maryland Extension-Garrett County at 301-334-6960 or visit <http://www.appgrows.com/about.html> .

March 20-12, 2015
8:00 AM—4:00 PM

2015 Private Forest Landowners Conference: The Future of Penn's Woods
Altoona, PA

The Center for Private Forests at Penn State and its partners present the second Pennsylvania Private Forest Landowner Conference. The goal is to provide private woodland owners with resources that will help them care for their lands. These private forests provide diverse benefits and values to their owners and to society. To insure the sustainability of these resources, it is essential to consider society's increasing demands for forest products and the preservation of forest health and diversity. This balance is critical for sustaining ecological, social and economic values. This weekend seeks to bring together Pennsylvania's private woodland owners to help foster a commitment to forest sustainability.

Online registration closes March 9, 2015. Go [here](#) for more information and to register.

March 24, 2015 and March 31, 2015 (two evenings)
6:00 PM—9:00 PM

The Woods in Your Backyard
Somerset County Extension Office, Princess Anne MD

Please plan to attend both evenings of this workshop!

During this workshop, participants will create a map of their property and design their woodland around structural elements such as walking trails, streams, and houses. Workshop participants will assess how their personal family and property resources support their woodland design efforts and how their landscape management decisions connect with the larger landscape around it. Special emphasis will be placed on transforming excess lawn area to natural woodland areas.

The workshop includes conservation landscaping practices that you can to attract greater wildlife diversity; woodland aesthetic design considerations, such as framing and enclosing views, and celebrating natural light and form; and much more!

The registration fee for the entire two-session course is \$35 per individual (family). For more information, go [here](#) or contact Lyle Almond, UME Forest Stewardship Educator, at 410-827-8056 ext. 125 or lalmond@umd.edu .

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