BRANCHING OUT
Maryland's Woodland Stewardship Educator

University of Maryland Extension – Woodland Stewardship Education
www.extension.umd.edu/woodland

Vol. 21 No. 3 ~ Summer, 2013

For Every Time There is a Season

By Jonathan S. Kays, University of Maryland Extension-Woodland Stewardship Education

A forester friend of mine was sitting in his office one fall day. His secretary said there was a reporter on the phone who wanted to know when the peak time will be for the fall colors. He was besieged by these calls each year, so he blurted out, "October 12 at 2:48 p.m.," not giving it much of a thought. He opened the paper the next day and sure enough, it was reported the peak time for fall color was October 12 at 2:48 p.m. The point is that in nature there is a constant dynamic of change. Rather than having a specific day and time when something is at the "peak," each season presents a window of opportunity for witnessing beauty - bare trees in winter, abundant spring growth, hot days of summer, and fall colors of the hardwood forest.

What occurs inside the tree during the different seasons helps us understand what types of management activities are most effective. Winter is downtime for trees in the forest, as the food produced in the leaves from the previous year (carbohydrates) is stored in the roots and other places waiting for spring. The sap is not moving, which reduces the presence of stain and other impurities, so most high-quality timber is harvested at this time of year. Pulp, firewood, and other lower-grade products can be cut all year round, but late fall and winter is the time to cut quality timber. Hardwood trees cut during these times also re-sprout with the most vigor compared to spring and summer.

In the spring, the food stored in the roots is sent to the tree's extremities to fuel spring growth. This continues until roughly late June or early July, when there is a shift toward the downward movement of food produced by leaves' photosynthesis to the roots and other storage tissues to prepare for the next year. If are looking for the best time to use herbicides, late July or early August (until leaf fall) is the best for foliar applications, because most herbicides are transferred from the leaves into the downward moving phloem tissues of the plant. When they are sent to the roots, they have the greatest impact and regrowth will be minimized. If the herbicide is being applied to the stem of the tree or a cut stump, the application of herbicide will continue to be effective well into the winter.

Heading into the fall, those who use firewood begin to think about their wood supply. Unfortunately, by this time it is usually too late. Cutting dead trees seems the best option, since the wood is already partially dry, but you really miss an opportunity if you do not cut live trees. Most woodlands have poor quality trees or are too dense, and they would benefit from removing live trees. Besides, dead trees benefit wildlife. Firewood cutting allows you to alter the composition of the woodland by letting the better trees grow. First, decide which tree you

want to continue growing, called a "crop tree," and then cut trees that have crowns that interfere with it. This is called "crop tree release," and is a great technique for the firewood cutter or weekend warrior. Learn more from the guide, Technical Guide to Crop Tree Release in Hardwood Forests at http://ohioline.osu.edu/for-fact/0050.html.

If trees are cut when fully alive, they usually require 6-12 months to dry to 20% moisture, which is what is required to get the most out of your firewood. This process can be shortened significantly if the wood is split. In fact, wood does not really start to dry until it is split. A recent study conducted at the University of Maryland felled 6-to12-inch hickory trees in April of 2012. In July the felled trees were removed from the woodland and averaged41% moisture. Some were cut into 16"-long rounds and split, while others were just cut into rounds. After one year, the split wood had dried to about 19% moisture. The wood that was cut into rounds but was not split was still at 34% moisture, which would not burn well. The lesson is to cut and split your wood immediately and keep it covered. You can buy inexpensive moisture meters at most large retail stores for under $20 to see when you wood is ready to burn.

So enjoy the season, and whether you are viewing wildlife, hunting, cutting firewood, or considering the harvest of timber, or just walking in the woods, realize that what is happening inside the trees is dynamic and changing all that time.

A Tale of Two Harvests: A Case Study

Brian Knox, President, Sustainable Resource Management, Inc.

This article was written by a private consultant forester to describe the potential economic and ecological perils of high grade logging practices. A licensed consultant forester will consider your long-term interests and goals while serving as your agent in the process of a timber sale.

In 2003, a forest landowner in his mid-fifties approached me. A logger from a timber company had offered to buy a select cut of timber from his 100-acre woodland. They offered $89,000 for a cut that he was assured would not only be sustainable, but would also allow him to harvest timber again at his retirement ten to fifteen years later. His trees were already marked and the logger was ready to start cutting, but this landowner wanted a second opinion on the value of his timber and the sustainability of the proposed cut.

I gathered more information. While the landowner welcomed immediate income, his first priority was to ensure that a significant income would available to him through a harvest at the time of his retirement. He also wanted to be sure that the land — an inheritance from his parents — would be healthy and have value even after his retirement harvest. However, he felt he did not have immediate financial resources to develop a plan and care for the land in the short- term without some kind of immediate harvest.

I identified both high quality and low quality timber on the 100 acres of forested area. The trees currently marked for harvest indicated a "diameter-limit cut" that would take all of the desirable trees measuring fourteen inches and bigger. This practice is also called "high grading." Not only would this remove all of the genetically superior trees, it would completely rid the forest of oak. Such a cut would leave the landowner with a genetically inferior forest that would have a significantly reduced value at the time of a second harvest. Although an exact dollar value was not immediately certain, it appeared that a harvest that considered the integrity of future forest could generate as much or more income if the timber were offered to a variety of specialty buyers rather than just one.

I proposed a stewardship plan that would generate enough income to pay for itself while enhancing the property for both short- and long-term goals. The plan would focus on a "Crop Tree

Release" — a form of harvest that allows the very best trees in the stand to grow while removing the trees that are competing with them. In addition, only half of the forested area would be included in the immediate harvest. This would allow the rest of the area to receive a much needed invasive plant removal before it was harvested in order to ensure a re-growth of the desired species. It would also allow for five more years of growth, which would allow the timber to mature before harvest.

I marked about half of the trees that were originally marked for sale. This new selection of timber was offered to a variety of competitors through a sealed bid. The final bid came in at $120,000. This price was 25 percent more than the original forester's offer, and this harvest left the best trees in the stand.

That additional 25 percent was used to pay for a stewardship plan, the removal of invasive species, and all costs associated with the sale. Another harvest was scheduled for a portion of the property in 2008, with an estimated worth of $10,000. In addition, the previously harvested area will be ready for a second harvest in the desired ten-to-fifteen-year timeframe with an estimated income of $120,000-$150,000. Thus, the final income from the property over fifteen years totals between $250,000 and $280,000. Even after the last currently planned harvest, the property will retain its genetic integrity, long-term health, and potential for generations to come.

Brian Knox is a Maryland licensed consulting forester and president of Sustainable Resources Management, Inc., a natural resources management company based in Easton, Maryland. SRM delivers a variety of services throughout Mid-Atlantic region. This article originally appeared in "Welcome to Your Woods" by Craig Highfield and Eric Sprague, available at http://www.dnr.state.md.us/forests/pdfs/Welcome_to_Woods_v9.pdf.

Last Chance for the Fall Semester of the General Forestry Course

The University of Maryland Extension will offer the General Forestry Course for the fall 2013 semester**.** Both the paper and online version will be offered. The course begins September 1 and runs until December 15, 2013. Registration ends soon.

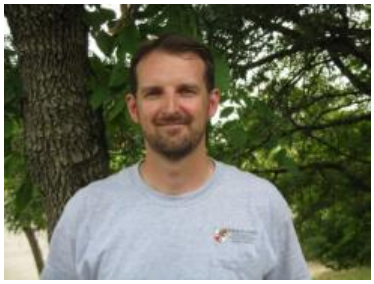
As there are no formal classes, you work from the comfort of your home using your own woodlot, a friend's or a public forest. You will learn how to protect your trees from insects, diseases and fire; step-by-step procedures will walk you through a forest inventory and stand analysis; and the details of the forestry business are presented, including tax nuances and the sale and harvest of forest products. Ultimately, the course exercises help you develop the framework for a management plan for your forest.

If you register during August, the cost of the course is $300. Late registration (September 2-14) is $400. Included in the cost are copies of the supplemental readings (*A Sand County Almanac*, *The Woodland Steward*, *American Forests: A History of Resiliency and Recovery*, and a small pamphlet entitled *What Tree Is That?)*. The paper version texts and appendices are in binder form. Online users receive a flash drive of the paper version of the text and appendices. A certificate of completion is awarded when all assignments are completed. See a sample lesson, and interactive exercise, and an FAQ from the course at extension.umd.edu/forestry-course . For more information, contact Nancy Stewart at the University of Maryland Extension, Wye Research and Education Center, P.O. Box 169, Queenstown, MD, 21658; phone (410) 827-8056, ext. 107; or email nstewar1@umd.edu.

2013 Tree Farm Inspector of the Year

The Maryland Tree Farm Committee and the Maryland Dept. Natural Resources-Forest Service is pleased to announce that Brian Stupak,

Project Manager for Prince George's, Anne Arundel and Calvert Counties in Southern Maryland has been selected as the Northeast Region Tree Farm Inspector of the Year for 2013. Brian will receive this prestigious award at the 2013 National Tree Farm Convention meeting to be held in Minneapolis, MN this July. This award recognizes the outstanding outreach and assistance efforts that Brian has provided to Tree Farmers in Southern Maryland. Brian has been employed with the Maryland Forest Service as a field forester for fifteen years and is an active supporter of the American Tree Farm system.



The American Tree Farm System is a nationwide program that encourages private forest landowners to be the best stewards of the land while they do an effective job of growing trees as a crop, with the added benefits of improved wildlife habitat, watershed protection, clean air, outdoor recreation and aesthetic value. For more than 70 years the American Tree Farm System has been giving forest owners the tools they need to keep their forests healthy and productive. Brian has provided forest stewardship assistance to hundreds of landowners in Southern Maryland over the past fifteen years and has promoted the American Tree Farm program.

Brian recently attended the Tree Farm inspector recertification program and participated in 2012 Tree Farmer of The Year nomination site visit for his local Tree Farmer. Brian also participated in Northeast Area Tree Farm audit by conducting a site visit to a Tree Farm in Calvert County. Additionally, he organized tours for Tree Farmers in the spring 2012 at the Smithsonian Research Center in Anne Arundel County, a fall 2009 tour at Hughes Tree Farm in Calvert County and a fall 2007 Tree Farmer tour at Goad Sawmill in Charles County.

Brian is currently a member of Society of American Foresters and also serves on the Board of Directors for the Calvert County Environmental Trust for Youth. The Board solicits and awards grant proposals from school teachers for outdoor education projects (butterfly gardens, tree planting). Brian regularly nominates a local Tree Farmer for the Tree Farmer of the Year award in order to recognize their outstanding stewardship accomplishments.

Maryland Tree Farm Tours

In September and October, the Maryland Forest Service, Forests for the Bay, the Maryland Forests Association, the Maryland Association of Forest Conservancy District Boards and the University of Maryland Extension are sponsoring a series of forest landowner workshops and walking tours.

The first workshop, on September 21, visits Skyview Family Forest in Mechanicsville MD (St. Mary's County). The workshop includes an overview of the Maryland Tree Farm program, a visit to two timber harvests, and an examination of invasive species management.

Next on the schedule is a September 28 visit to the Abend Family Forest in Madison MD (Dorchester County). Attendees will learn about participation in the Maryland Woodland Stewards and Maryland Wild Acres programs, tour their apple orchard, and learn about field border management.

On October 5, the program visits the Foster Family Forest in Glyndon MD (Baltimore County). This workshop includes a presentation of how the Foster transitioned a field to woodland, and a demonstration of tree felling, skidding, and band-sawing.

The final workshop takes place on October 12 at the Hedderick Family Forest in Cumberland

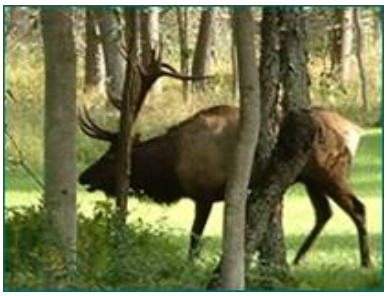
MD (Allegany County). Participants will learn about wetland mitigation, cost share programs, and invasive species management, followed by an afternoon hike through a crop tree release area.

For more information and registration, visit the Forestry for the Bay website at https://www.forestryforthebay.org/discover_woodlands.cfm

The Human Dimensions of Elk Reintroduction in Western Maryland

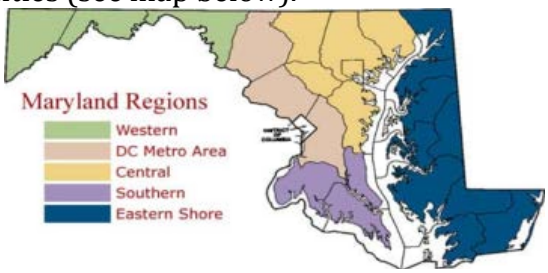
The following is a release from Responsive Management, an internationally recognized public opinion and attitude survey research firm specializing in natural resource and outdoor recreation issues.. For more information about Responsive Management, visit www.responsivemanagement.com/

Historically, herds of elk roamed across most of the United States and Canada, but the Eastern elk - the only subspecies found east of the Mississippi River - was extirpated in the 19th century. The first efforts to restore a sustainable population in the east occurred in 1913 when Rocky Mountain elk from Yellowstone National Park were released into 10 counties in Pennsylvania. More recently, successful reintroduction efforts of Rocky Mountain elk to eastern habitats have occurred from 1996 to 2012 in Wisconsin, Missouri, Kentucky, Tennessee, North Carolina, and Virginia. Similar reintroduction efforts are now being considered in Maryland.



In 2011, the Maryland Legislative Sportsmen's Foundation (MLSF) and the Rocky Mountain Elk Foundation (RMEF) partnered with the Maryland Department of Natural Resources to explore the potential for elk reintroduction in Maryland's Garrett, Allegany, and Washington counties. RMEF provided the funding and the MLSF contracted with Responsive Management to assess the economic and social impacts of the proposed elk reintroduction. The study found widespread support for the elk reintroduction proposal among Maryland residents as well as among residents in the three proposed elk restoration counties. The study also addressed the likely socioeconomic outcomes of the project, particularly in terms of new recreational opportunities and economic incentives made possible through the presence of elk in the western part of the state.

For this study, Responsive Management conducted over 800 completed telephone interviews with Maryland residents 18 years and older and more than 200 interviews with residents in the three proposed elk restoration counties (see map below).



Proposed Elk Reintroduction Counties in Western Maryland (shown in green)

The study found broad support for the proposed elk reintroduction. Despite low overall awareness about the reintroduction proposal, 72% of Maryland residents and 68% of western Maryland residents specifically, support the reintroduction of elk into the western part of the state. Reasons for supporting elk reintroduction included that elk have a right to live in Maryland and belong there as a native species, biodiversity and healthy animal populations in general, enjoyment of seeing animals, and new hunting opportunities afforded through the reintroduction.

In Garrett, Allegany, and Washington counties, 69% of landowners said they were not concerned about elk being a nuisance or causing problems on their property in western Maryland; otherwise, 27% said they were concerned, and 11% were very concerned. Thirty-four percent of landowners in potential reintroduction counties

believed that, as property owners, there would be benefits to having elk in western Maryland; the most commonly named benefits are the ability to hunt and/or eat elk, the potential to view elk, and a general positive influence on property values.

The study also included an economic analysis of related data from states that have restored elk populations. The likely economic impacts of reintroducing elk to western Maryland are significant: elk-related outings and tourism expenditures could generate $3.1 million in tourism dollars annually from Maryland residents along with an additional $1.1 million in tourism dollars from, out- of-state visitors.

However, a proposal such as elk reintroduction is often accompanied with competing commentaries. Circulation of misinformation among affected stakeholders during the exploratory process is not atypical, according to Dave Ragantesi, RMEF Senior Regional Director. In areas like Maryland, where elk haven't been present in living memory, education becomes a more vital component. "You're working with people who haven't had experience with [elk]," Ragantesi said. "Many people have never seen elk. A big part of this is letting people know what the advantages are and what the disadvantages are." One common misconception, Ragantesi says, is that "elk are large deer, because that's all people have to compare them with." Elk do not behave like deer, nor do they compete with deer for habitat, he explained.

The Maryland Department of Natural Resources (DNR) is using the results of this study in conjunction with its own biological assessment and additional public input to determine whether to proceed with elk restoration at this time in Maryland. The full report on the opinions of Maryland residents can be accessed at http://www.responsivemanagement.com/download/reports/MD_Elk_Reintroduction_Report.pdf.

Invasive Species and Your Woodland: Your Feedback Needed

Got invasives? Do you work to control invasive plants in your woodlands? If so, we'd like to hear from you! A team of researchers from Virginia Tech and the Virginia Cooperative Extension want to learn from your experiences trying to control invasive plants in your woodlands.

Please go to https://virginiatech.qualtrics.com/SE/?SID=SV_9ZZCyTFnKHINFU9 to complete a brief questionnaire. Your opinions will help educators, conservation professionals, and decision-makers better understand landowner's views toward invasive species, ultimately benefiting Virginia's forests. Thank you for your help!

Maryland Wood Energy Coalition (MWEC) Conference

The MWEC's next conference will be held October 30 at the Sheraton Hotel in Annapolis, MD. The coalition is composed of agencies, organizes, businesses and others interested in the encouraging responsible development of wood energy in Maryland. The November 2012 meeting was attended by 125 participants, including policymakers, biomass and forest industry, foresters, landowners and many more. The presentations from that conference are available at www.agroecol.md.edu.

The agenda for the 2013 program will be available shortly at http://www.extension.umd.edu and http://www.agroecol.umd.edu. Contact Pam Thomas at pthomas@umd.edu for more information.

Wood Stoves on the National Mall

The Alliance for Green Heat, a small non-profit group, has partnered with sponsors including Popular Mechanics magazine, the Brookhaven National Laboratory, state environment and energy agencies in New York and Washington, and the USDA Forest Service to create the Wood Stove Decathlon, a national wood stove design challenge that will culminate in a showcase from November 16 – 19 on the National Mall in Washington, DC. The event is free of charge.

The main goal of the challenge is to focus creativity and resources on designing next generation of wood stoves. The challenge will engage an international community of combustion engineers, engineering students, inventors and stove manufacturers in a common process that may point to commercially attractive next generation stove production.

Finalists include teams from across the globe, including groups from the United States, Finland, Austria and New Zealand. One of the American teams is from the University of Maryland's A. James Clark School of Engineering's Department of Fire Protection Engineering.

Designs will be rated during the showcase based on innovation, efficiency, emission, affordability, and market appeal. The design that achieves the highest number of points wins; first prize is $25,000 and a cover feature in Popular Mechanics.

So drop by the Mall and see what the future may bring. For more information, visit http://www.forgreenheat.org/stovedesign.html

Maryland Wood Stove Grant Program Renewed

In September 2012, the Maryland Energy Administration (MEA) initiated a $50,000 pilot program to encourage use of clean burning wood and pellet stove. Recently, MEA announced that it has extended the rebate program for wood and pellet stoves indefinitely, and has raised the rebates amounts to $500 for wood stoves and $700 for pellet stoves.

Initial data from the program showed that Marylanders used the rebates for pellet stoves twice as often as for wood stoves, defying national trends. Pellet stoves are usually used as a primary or sole heat source of an average sized home, and typically save consumers $400 to $800 each year in heating costs. The average cost of buying and installing a stove in Maryland is about $4,000, although some are much cheaper. A $300 federal tax credit also applies until December 2013.

For more information on the program, go to http://energy.maryland.gov/Residential/woodstoves/index.html. A directory of wood and pellet stove retailers and a list of firewood suppliers are available at https://extension.umd.edu/woodland/your-woodland/publications-library-wood-energyrenewable-sources.

Be sure to check the Events calendar in each issue of Branching Out for future workshops concerning heating with wood.

How to be a Defect Detective

A teenage con artist attempts to convince neighborhood kids that a pirate buried his treasure under a nearby tree a century earlier. The proof is in a clear carving of the pirate's name, once at eye level but now 20 feet off the ground. Encyclopedia Brown, boy detective, foils the plot by explaining some key facts about tree physiology, which can also be used to help you grow high value timber in your woods.

Trees grow out, not up. Everyone has seen the rings inside a tree, but few realize that tree growth is actually cone shaped. Visualize a traffic cone. Just like a tree, it's wide at the base and narrow at the top. Now stack a slightly larger traffic cone on top—this is one year's growth. Each tree ring is a cross section of one of these cones.

The growing part of a tree trunk is a very thin layer just underneath the bark called the cambium. The cambium grows a thin new ring of bark on the outside and a thicker ring of wood on the inside every year. A tree cannot repair damaged tissue like animals do, but it does have many natural defense mechanisms.

As a tree grows outward, it encloses and compartmentalizes a wound, whether it's a carving, a branch stub, or storm damage. If the wound is small enough and the tree is healthy enough, eventually the wound will be covered over by bark and sealed off internally to prevent the spread of decay.

What does this mean to a forest landowner? Although many folks growing trees care more about wildlife and beauty than the value of their timber, the potential for income from their woods is usually in the back of their mind.

Section of a Table Mountain Pine from Brush Mountain, VA. Image courtesy and © Dr. Henri Grissino-Mayer, Dept. of Geography, The University of Tennessee, Knoxville

The amount of profit that you can make from harvesting your timber is determined in large part by the quality and value of the products that can be made from your trees. This ranges from pulpwood on the low end that's chipped or ground for paper or mulch, to veneer on the high end that's used as the outer layer in furniture. There are several other classes in between, like poles and lumber.

Higher value products require bigger trees, but also trees with fewer defects. A defect is anything other than clear straight-grained wood. No one wants their desk's veneer to have a rotten hole or the remnants of a carving in it. This is where good forest management practices can make a difference in the value of your timber.

Most trees grown in an open field will have live branches up and down the length of the trunk. These trees have little value, because each of those branches is connected to a large defect, all the way from the bark to the center of the trunk. Things would be different if the same tree were grown in a forest with lots of neighboring trees competing for light. The tree would focus its growth on the upper branches and naturally prune off the lower branches when it was young, growing clear valuable wood over top of their stubs.

Some species are better at this than others, and you can help the process along by manually pruning the trees yourself. You can also plant trees close together to provide early shade on the trunks and promote upward growth over outward branching. Thin the stand later to open it up and make some room to grow. A professional forester can help you plan your forest management and conduct thinning harvests.

Make sure you choose a skilled and careful logger to conduct thinning operations. A botched job can damage the trees you plan to harvest later and severely decrease their value.

Most external traces of defects, even slight distortions in the bark, are clues that there's a much bigger problem inside. Other signs to look for are crevices at the stump, seams in the trunk, fungus on the trunk or the ground, and rotten branch stubs anywhere on the tree.

When Encyclopedia Brown saw how high the alleged pirate carving was he knew that the teen's offer of treasure was a scam. The carving

would have stayed at eye level over the years, and in most species would have been distorted beyond recognition. After showing the gathered crowd that it was best to invest their saved pennies elsewhere, Brown left the con artist to think about the importance of understanding tree physiology before embarking on his next endeavor.

MFA at the Rural Action Assembly conference

The Maryland Rural Action Assembly, formerly known as the Annual Rural Summit, is scheduled for October 17-18 in Aberdeen, MD. The event is sponsored in part by the Maryland Forests Association, which has organized a pre-conference field trip for the afternoon of Wednesday, October 16th.

Wednesday's afternoon event includes visits to a state-of-the-art timber sorting and distribution facility in Harford County, a well-managed timber stand in the area, and to Conowingo Dam to learn about innovative measures to help the Chesapeake Bay. There will also be presentations on forest landowner funding opportunities. There is no charge for MFA members to attend the activities on Wednesday.

The main conference begins on Thursday. There will be two forestry-themed sessions that afternoon. Maryland State Forester Steve Koehn will provide an overview of the forest industry in Maryland, and Dr. Bob Tjaden (UME) who will discuss his recent industry survey work on Maryland sawmills and logging companies. This will be followed by one or two additional panelists who will be addressing how the Sustain Forestry Initiative wood certification issue may affect Maryland tree farmers.

The second forestry session begins at 2:30 p.m. It will address the subject of alternative energy opportunities with woody biomass. Dan Rider (Maryland Forest Service) and Jonathan Kays (UME) will outline policy and industry development efforts. Representatives from the woody biomass industry and the Maryland Energy Administration have also been invited to participate.

By special sponsorship arrangement with the Rural Maryland Council, MFA has arranged for up to ten (10) paid members of MFA to be eligible to register for the RAA at a very substantial discount ($150 off). (All conference participants are responsible for making their own lodging arrangements.) For more information on the conference, go to http://www.ruralactionassembly.org/Home.html.

GPS Can Help You Into and Out of Your Woods

GPS may seem like a technology that only those born with a cell phone in their hand could understand, but it's not as difficult to use as you might think. Global Positioning System (GPS) units were originally out of the price range and above the head of the average Joe, but vast advances in technology and user-friendliness have made them accessible to the general public. This tool gives forest landowners the ability to keep accurate records of their boundary lines, and easily find map locations in the field. It's also great for tracking down that deer stand before sunrise, and finding your way back to camp after sunset.

GPS receivers use signals received from a network of satellites, which also communicate with ground stations. Using very accurate clocks, receivers calculate their distance from the satellites by the amount of time each signal takes to travel from the satellite to the receiver. The receiver is able to calculate its location using the signals from at least four satellites.

Most mid-priced units ($150 - $500) can estimate your position within 10-15 feet. More expensive units with advanced technology and a separate antenna can be accurate within one foot. Your phone probably has a GPS receiver on board. These are useful, but generally less

accurate than a dedicated unit. Your unit will give you an estimate of the error in its current reading.

GPS is useful both for finding places in the field that you've identified on a map, and for adding information from the field to a map. Longitude and latitude data for a certain point can easily be stored as a waypoint on the unit either in the field or at home. Lines between waypoints, called routes, are also easy to make just by connecting the dots. Tracks are lines of points automatically recorded at a set interval.

GPS has grown quickly in popularity as prices have gone down and applications have increased. Many people rely on GPS receivers for driving directions. Hunters, fishers, hikers, and bikers use GPS to find their favorite spots, track their speed, distance, and elevation, and make sure that they can find the way home at the end of the day. The ability to relay your coordinates to a dispatcher in an emergency could greatly speed your recovery. Although these uses are all fairly common, fewer people realize the benefits that the technology holds for forest landowners.

A map of your property with accurate boundaries is a useful tool when keeping track of your management actions on each individual section. Property corners recorded as waypoints will never be obscured by harvest operations and will not decay or change over time like traditional blazes and fence lines. Many GPS units and software programs are able to calculate the area of a stand instantly when the corners are connected by creating a route or track. Roads or skid trails initially plotted on a map are easy to transfer to the field. Large trees and favorite spots can easily be found time after time. The reasons are many, but some of these applications require a software component on your computer.

The software you choose to use along with your receiver will determine to some extent what you are able to do with your data. Before deciding to purchase software, first consider the several free programs available online. Google Earth (http://www.google.com/earth/index.html) is a free program that allows you to easily upload waypoints, routes, and tracks to your computer, right on top of excellent aerial imagery and topography. You can add notes about timber harvests, deer sightings, or other data to each data point. You will need a free program like TrackMaker (http://www.trackmaker.com/) to move data back to your GPS unit.

There are also online tools that allow you to upload GPS data. The National Map (http://viewer.nationalmap.gov/viewer/) allows you to see your data on top of many different layers, like topographic maps and Fish and Wildlife Service wetland delineations. ArcView, a Geographic Information System (GIS) package, offers a much higher level of functionality, but requires many hours of training and is too expensive for most landowners.

GPS technology has come a long way since its first introduction. It is no longer just for the experts, and has a lot to offer everyone from weekend warriors to backyard foresters. If you wonder how much acreage you have in forest, or if you find yourself losing track of your property corners, GPS may be the solution you've been looking for.

GPS Workshops Available!

The Woodland Stewardship Education program will offer two hands-on GPS workshops this fall to help you get up to speed and show you how to integrate the unit with computer software.

November 5 - Western Maryland Research & Education Center, Keedysville, MD: contact Pam Thomas, mailto:pthomas@umd.edu or phone 301-432-2767 x315.

November 21 – *University of Maryland Eastern Shore, Princess Anne, MD:* contact Carol Taylor, Wye Research & Education Center, mailto:carolt@umd.edu, or phone 410-858-8056.

Events

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

August 28 2013
Invasive Plant Identification & Management Course

This one day course is focused on the identification and management of invasive plant species. It will be both classroom- and field-based. The course will cover invasive plant identification, typical growth habitats and more. Go to www.coastaltraining-md.org to register. This course is free but registration is REQUIRED. Space is limited, so register early.

September 1, 2013
University of Maryland Extension – General Forestry Course

This non-credit course is specifically designed for Maryland forest landowners and other citizens with an interest in the principles and practices of forestry. For more information, see the article on p. 3 of this newsletter.

September 21 & 28; October 5 & 12, 2013
Discover Your Woods: Forest Landowner Workshop and Walking Tour
Locations throughout Maryland

Did you know that family forest owners own 35% of America's forests? Sign up for one or more of these walking tours to be held at tree farms in southern Maryland (Sept. 21), on the Eastern Shore (Sept. 28), in central Maryland (Oct. 5), and western Maryland (Oct. 12). More details can be found on p. 8 of this newsletter. For more information and a registration form, go to https://www.forestryforthebay.org/files/2013_Save_the_Date1.pdf

September 26-29, 2013
Women and Their Woods 2013 Educational Training and Retreat
Trout Run, PA

Join the 2013 class of women forest landowners for a four- day workshop with educational programs and field trips related to the care and management of woodlands. For more information, including links to application documents, go to http://www.delawarehighlands.org/initiatives/watw

October 2, 2013
Profitable Firewood Processing Workshop
Princeton, WV

This workshop is an educational and networking opportunity to provide the firewood processing industry the latest knowledge on processing, kiln drying and marketing of firewood. For more information, go to http://www.cnr.ncsu.edu/fb/extension/ncwood/documents/BrochureWERCFirewoodWorkshop2013_000.pdf

October 5, 2013
College of Agriculture and Natural Resources Open House
Ellicott City, MD

Come to this year's open house at the Central Maryland Research and Education Center to learn about how the University of Maryland's academic, research, and extension programs benefit Marylanders. Exhibits include a display on wood and wood pellet stoves from the Woodland Stewardship Education program. For more information, go to https://extension.umd.edu/AGNR-OpenHouse

October 17-18, 2013
Maryland Rural Action Assembly
Aberdeen, MD

The Maryland State Office of Rural Health, Maryland Rural Health Association, and Rural Maryland Council are collaborating to host the 2013 Rural Action Assembly. The day and a half conference will focus on defining key issues for Maryland's rural communities. The conference will be preceded by a Forestry Field Tour in Harford County on October 16. For more information, see the article on pp. 10-11 of the newsletter and visit http://www.ruralactionassembly.org/.

October 30, 2013
Maryland Wood Energy Coalition Conference
Annapolis, MD

The MWEC's next conference will be held October 30 at the Sheraton Hotel in Annapolis, MD. The coalition is composed of agencies, organizations, businesses and others interested in encouraging the responsible development of wood energy facilities. The agenda for the 2013 program will be available shortly at http://www.extension.umd.edu and http://www.agroecol.umd.edu.

November 5 & 21, 2013
Recreational Use of GPS
2 Locations in Maryland

These hands-on workshops will get you up to speed with GPS and show you how to integrate your unit with computer software. The November 5th session will be held in Keedysville, MD; for more information, contact Pam Thomas at 301-432-2767 ext. 315 or pthomas@umd.edu. The November 21st session will be held at the University of Maryland Eastern Shore, Princess Anne, MD: for more information, contact Carol Taylor at 410-858-8056 or carolt@umd.edu.

UNIVERSITY OF MARYLAND EXTENSION
Solutions in your community

Branching Out
University of Maryland Extension
18330 Keedysville Road
Keedysville, MD 21756-1104
301-432-2767

Editors: Jonathan Kays, Andrew A. Kling, Nevin Dawson

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

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All information, including links to external sources, was accurate and current at the time of publication. Please send any corrections, including updated links to Andrew A. Kling at akling1@umd.edu.

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