

# BRANCHING OUT

Maryland's Forest Stewardship Educator

University of Maryland Extension - Forest Stewardship Education  
[www.naturalresources.umd.edu](http://www.naturalresources.umd.edu)

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## Is Burning Wood the Next Hot Topic?



The increasing cost of fossil fuels has fueled the interest in renewable energy sources. Unfortunately, in the rush to focus on the more “sexy” renewables like solar, wind, and geothermal, the oldest, most cost-effective renewable, wood, has been left out of the discussion. That is until now, when the benefits of wood are being compared to other renewables!

Wood provides by far the greatest amount of renewable energy compared to other sources. 76% of US renewable energy production is produced from wood, and only 24% comes from solar, wind, and geothermal combined. If wood is compared against solar panels only, wood accounts for 95% of the renewable energy production.

The benefits of heating with wood seem apparent to residential home users throughout the United States as well as in Maryland - from 2000 to 2010, wood and pellet use increased by

about one-third. Much of this can be attributed to the much lower cost of wood and pellets compared to fossil fuels and electricity. Additionally, newer wood stoves are more efficient and produce fewer emissions. Consumers interested in comparing the cost of using wood or pellets to their current heat source can use online fuel calculators, such as the one available from the Energy Information Administration

([www.eia.gov/neic/experts/heatcalc.xls](http://www.eia.gov/neic/experts/heatcalc.xls)). Just plug in the cost of your heating fuel and the efficiency of your appliance and you can calculate the cost of one million BTUs, which is how we measure heat. Most homes use from 40-80 million BTUs in a heating season. Another tool available is the energy selector from Penn State Extension:

<http://extension.psu.edu/energy/energy-use/making-decisions/comparison-charts>.

One of the greatest challenges to increasing the use of wood is the false perception that it fills the air with thick black smoke and pollutants. In the last few decades, clean-burning wood technology is the standard for residential stoves and for biomass boilers used in commercial and institutional applications. The real challenge is replacing the outdated and excessively-polluting residential wood burners with the newer technology. For residential users, the big change came in 1988 when the EPA established

emission limits of less than 7.5 grams of particulates per hour, which is the main issue with burning wood. If you purchased a stove before that year, and it lacks an EPA plate on the stove, you can help the environment significantly by replacing the stove with a newer one. The greatest benefit comes to you personally because the newer stoves are about 70% efficient, compared to 30-40% for older stoves. This makes them about twice as efficient as the older stoves; this means you burn less wood and spend less time and money purchasing or cutting your own firewood. Pellet stoves are even cleaner, usually emitting less than 2 grams of particulates per hour. Biomass boilers for commercial enterprises typically burn wood chips and utilize high-tech design and controls, and emissions can be limited to acceptable levels to meet Maryland air quality standards.

Wood and pellet stoves can be costly to purchase, but now is a good time to buy one. The Maryland Energy Administration wood grant program pays \$400 toward the cost of a high efficiency wood stove and \$600 toward a pellet stove. (For more information, see the box on page 6.)

If you are interested in learning more about residential wood and pellet stove purchasing, installation, sourcing fuel and other issues, check out the new fact sheet series on wood energy available from University of Maryland Extension at the forest stewardship education website, [www.naturalresources.umd.edu](http://www.naturalresources.umd.edu). Titles include: *Heating with Wood, The Wood Stove Checklist, Buying and Storing Firewood & Pellets, Buying a Secondhand Wood Stove, Buying a Clean Burning Wood Stove, and Considerations for Your Wood or Pellet Stove installation.*

So, should I purchase a wood or pellet stove? Perhaps I should replace my existing wood stove

with one that meets the EPA emission limits, saving me time and money? A webinar entitled “Heating with Wood – Opportunities and Challenges for Homeowners” is available for viewing at the UME website at [www.naturalresources.umd.edu/ResourcesWebinars.html](http://www.naturalresources.umd.edu/ResourcesWebinars.html). Another suggestion is to learn more by visiting a local store that sells wood and pellet stoves and that has knowledgeable staff and good service. They tend to have a better selection and more information than national “big box” stores.

Woodland owners considering a clean-burning wood stove may wonder if their property can provide a source of firewood, and if so, which trees they should cut. If you own at least 10 acres of woodland, the MD Department of Natural Resources Forest Service can develop a forest stewardship plan at a reasonable, subsidized cost. You can find contact information on the UME Forest Stewardship Education website’s “Your Woodland” section of [www.naturalresources.umd.edu](http://www.naturalresources.umd.edu). If you own less than 10 acres, a self-assessment manual called “The Woods In your Backyard” can help guide your decisions. Additionally, “The Woods In Your Backyard” workshops are also offered at various locations around the state. A variety of resources that can help are available at: [www.naturalresources.umd.edu/ResourcesWebinars.html](http://www.naturalresources.umd.edu/ResourcesWebinars.html).

So, enjoy the benefits of burning wood, and be warm this winter using America’s oldest and most cost-effective renewable natural resource.

## Wood Energy Conference Set for Annapolis

On November 14, 2012, participants from state agencies, non-profit groups, private businesses, forestry and landowner organizations, and others will convene on the campus of the United States Naval Academy in Annapolis MD for a conference entitled "Accelerating Wood Energy in Maryland: A Discussion on Public Policy, the Environment, and Economic Opportunities."

The participating organizations are committed to advancing the responsible use of Maryland's abundant woody biomass for clean and affordable energy production. The event will address critical milestones that promote and increase the adoption of wood energy in the state, and will create an action plan towards a wood energy roadmap. Participants will have the opportunity to interact with government officials, interest groups and other interested parties on removing and overcoming barriers related to adopting wood energy for a variety of residential, commercial and institutional applications.

Registration is \$40.00 per person, and includes continental breakfast, lunch, and meeting materials. The deadline for registration is November 7, 2012. Additionally, the event qualifies for two Category 1 Continuing Education Credits by the Society of American Foresters.

For more information, contact Jean Hopkins at the Harry Hughes Center for Agro-Ecology (410-827-6202 or [jhopkin2@umd.edu](mailto:jhopkin2@umd.edu)) or visit

<http://agroecol.umd.edu/educationoutreach/MDWoodEnergy/index.cfm>.

## New Fact Sheets Available from UME

The cooler weather of autumn brings many changes, and Maryland residents begin gearing up for winter. One challenge they face concerns heating their homes or workplaces. In order to increase awareness of their choices, and to ensure that they have the most current information available, the University of Maryland Extension (UME)'s Forest Stewardship Education program in cooperation with the Alliance for Green Heat, has issued five new Fact Sheets in its Wood Energy Series.

Fact Sheet FS-936, "The Wood Stove Checklist," provides basic information about assessing the condition of residential wood stoves. It provides tips on examining the stove's parts, such as the doors and gaskets, for undue wear and tear. It also provides guidance on examining chimneys for excessive creosote buildup and for determining the moisture content of stored wood. The fact sheet contains valuable links for further information, and can be found at [www.naturalresources.umd.edu/Publications/FactSheets/FS-936\\_2012\\_Wood\\_Stove\\_Checklist.pdf](http://www.naturalresources.umd.edu/Publications/FactSheets/FS-936_2012_Wood_Stove_Checklist.pdf).

Fact Sheet FS-937 is entitled "Buying & Storing Firewood and Pellets." This publication shares best practices recommendations about firewood and wood pellets for wood stoves. It includes tips for consumers about the suitability of common Maryland tree species for wood energy and what to look for when purchasing firewood.

One of the most valuable pieces of information for consumers can be found in the section about transporting wood in a pickup truck. Here's a hint: the typical truck does not hold as much wood as you might think.

The fact sheet also provides important information on working with wood pellets, such as determining dust content and how best to

store them. Interested consumers can read the fact sheet at [www.naturalresources.umd.edu/Publications/FactSheets/FS-937\\_2012\\_Buying\\_and\\_Storing\\_Firewood\\_Pellets.pdf](http://www.naturalresources.umd.edu/Publications/FactSheets/FS-937_2012_Buying_and_Storing_Firewood_Pellets.pdf).



Image courtesy Pellet Fuels Institute

Fact Sheets 938 and 939 cover the purchase of a wood stove. FS-938, “Buying a Second Hand Wood Stove,” compiles handy tips on dealing with the purchase of a previously-owned wood stove. It covers safety and environmental considerations, as well as a brief primer on laws and codes. In Maryland, codes vary from county to county, so it is important to check with the local county code office for more information.



FS-939 covers “Buying a Clean Burning Wood Stove,” with tips about finding the right size stove for the space it will heat, with the advice that the best-looking stove for the room may not be the

most-efficient appliance. FS-938 can be found at [www.naturalresources.umd.edu/Publications/FactSheets/FS-938\\_2012\\_Buying\\_a\\_Secondhand\\_Woodstove.pdf](http://www.naturalresources.umd.edu/Publications/FactSheets/FS-938_2012_Buying_a_Secondhand_Woodstove.pdf) and FS-939 at [www.naturalresources.umd.edu/Publications/FactSheets/FS-939\\_2012\\_Buying\\_a\\_Clean\\_Burning\\_Woodstove.pdf](http://www.naturalresources.umd.edu/Publications/FactSheets/FS-939_2012_Buying_a_Clean_Burning_Woodstove.pdf)

Finally, FS-940 covers what to do following the purchase of a wood-burning appliance. Titled

“Considerations for your Wood or Pellet Stove Installation,” it provides recommendations for safe and efficient installation of the new device. There are also tips about ventilation, including the use of existing house chimneys and the installation of a new one for a new stove.

The fact sheet also contains quick tips on dealing with chimney fires and links to additional resources. Find FS-940 at [www.naturalresources.umd.edu/Publications/FactSheets/FS-940\\_2012\\_Considerations\\_for\\_your\\_wood\\_or\\_pellet\\_stove\\_installation.pdf](http://www.naturalresources.umd.edu/Publications/FactSheets/FS-940_2012_Considerations_for_your_wood_or_pellet_stove_installation.pdf)

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### More Heat – Less Firewood Workshop

Are you someone who heats with wood or pellets or is considering heating with wood or pellets? Perhaps you are interested in an inside stove or an outdoor wood boiler. If so, consider attending the *More Heat - Less Firewood* session at the Wye Research and Education Center in Queen Anne’s County on December 4. Firewood is one of the most economical forms of renewable energy available today and the advances made in wood burning technology have greatly improved efficiency and reduced emissions. The goal of the workshop is to educate people who use wood (firewood or pellets) to save money, time, and lessen the environmental impact of wood use through the use of best practices.

More information will be available at the University of Maryland Forest Stewardship Education website at [www.naturalresources.umd.edu](http://www.naturalresources.umd.edu).

## Getting the Most from the Outdoor Wood Boiler

Derrick Bender, Western Maryland CRED Educator

There are ways to get more miles per gallon from an automobile. There are also ways to get more heat from a cord of firewood when using an outdoor wood boiler. The boiler is integral but there are several important components to the entire outdoor heating system that should be considered. An advance in efficiency anywhere in this system translates into less firewood being required for the heating season. The first component to consider is firewood. The second and third part to the system, the water transfer lines and the boiler itself, take more time and money to alter or change.



The greatest factor reducing the heat value of firewood is moisture. To air dry firewood (20% moisture content), it should be split, stacked, and covered. The catch is to let air move through and around the wood stack. The ideal way to dry firewood once it is split and stacked is to cover the wood and protect it from ground moisture while leaving the sides exposed to improve drying. Even dead firewood can have a moisture content of 50% so a significant amount of drying needs to take place. Not using dried firewood will reduce the amount of heat derived per cord. As a result, those who burn high-moisture wood will need to use more wood. The exact amount will vary, but for most this could easily be one or two cords per year. Each pound of water requires 1,200 BTUs to vaporize. Vaporized

water goes out the stack and is not captured as heat. Heating value does vary among tree species; however, regardless of species, drying firewood is a good decision.

Heat from the burning wood is transferred from the boiler to the residence through hot water lines. The supply line takes water to the house and the return line brings water back to the boiler. Both supply and return lines should be insulated from the cooler ground temperatures. Additionally, use a line-insulating strategy that protects water transfer lines from ground moisture. Ground moisture will pull heat from water transfer lines and reduces the heat transfer system's efficiency. There are a number of insulation systems available, and some are pre-fabricated. The length of water transfer lines also impacts heat transfer efficiency. The longer the water lines, the more heat they lose, even when well-insulated. Placing the outdoor wood boiler as close to the home as possible, without compromising code or safety, will increase efficiency of the heat transfer system.

There are many models, sizes, and makes of outdoor wood boilers. Finding the right boiler should involve an open and frank discussion with your dealer. This discussion should entail finding the right size boiler and maintenance after the sale. Maryland residents should also be aware there are current laws in place regulating the sale and installation of outdoor wood boilers. All outdoor wood boilers installed in the state of Maryland are required to meet or exceed Environmental Protection Agency Phase 2 standards for outdoor wood boilers. Models meeting or exceeding this standard will come with an EPA Phase 2 hang tag. Although Phase 2 boilers are likely to be more costly than other, older models, they have the added benefit of being more efficient and less polluting. A list of Phase 2 boilers is available for sale in Maryland

is available at:

<http://www.mde.maryland.gov/programs/Air/AirQualityPlanning/Pages/WoodBoilers.aspx>

The main difference with Phase 2 boilers is that they incorporate a gasification process. This process burns many of the particulates that would otherwise escape the boiler as wasted fuel and pollutants. But be cautious of installing an



Image from Central Boiler, Inc.  
More information and a number key available at [www.centralboiler.com/e-classic.html](http://www.centralboiler.com/e-classic.html)

oversized outdoor wood boiler. This is a frequent mistake made by both buyer and seller. The boiler will operate most efficiently at maximum output, but as demand on the boiler is reduced, the efficiency drops quickly and

emissions increase. Undersized boilers will be unsatisfactory as well. Installing a slightly undersized boiler and using an alternative heat source on the coldest week or two of the year will increase the efficiency of the boiler without sacrificing comfort.

Managing firewood moisture, insulating water transfer lines, and using an efficient and properly sized EPA Phase 2 boiler is beneficial to the individual heating with an outdoor wood boiler and to the wood heating community as a whole. The individual heating with wood will benefit by using less firewood, thereby saving time and money. The wood burning community will

benefit because practices that increase efficiency, especially using an EPA Phase 2 boiler, will reduce smoke and particulate emissions. Reducing smoke and particulates will further increase the acceptance of wood energy by the public as a renewable and clean energy source.

### Federal Income Tax on Timber: A Key to Your Most Frequently Asked Questions

The 2012 edition of this publication provides a quick reference on timber tax laws that are important to woodland owners. It presents a concise and easy-to-understand explanation of the most commonly asked tax questions.

Since the first income tax Form 1040 appeared in 1913, many timber tax provisions have been added to encourage management and stewardship of private woodland that are commonly unknown by tax professionals. This publication will help woodland taxpayers and their professional advisors to learn and utilize these tax laws.

[www.fs.fed.us/spf/coop/library/taxpubfaqs.pdf](http://www.fs.fed.us/spf/coop/library/taxpubfaqs.pdf)

### Grant Program Available

Maryland's Clean Burning Wood Stove Grant Program is designed to help Maryland homeowners displace electric or non-natural gas fossil fuel heating systems. For more information and to download an application, visit

<http://energy.maryland.gov/Residential/woodstoves/index.html>.

## New Resource for Small-Acreage Woodland Owners

The University of Maryland Extension's Forest Stewardship Education Program has compiled a resource directory for property owners with one to ten acres of woodlands. The directory, entitled "Maryland Small-Acreage Professional Forester Directory," is the result of feedback from professional, consulting and industrial foresters who offer their services to the smaller property owner. Each forester's entry includes which Maryland counties he or she serves, and what services are provided.

UME hopes that this directory will serve a group of woodland property owners who have distinct challenges when managing their acreage for invasive species, timber health, wildlife habitat, and other concerns.

The directory can be found on the UME web site at

[www.naturalresources.umd.edu/SmallAcreageForestersDirectory10-2012.pdf](http://www.naturalresources.umd.edu/SmallAcreageForestersDirectory10-2012.pdf)

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### Am I Liable for Someone Cutting Firewood on my Property?

*Disclaimer: This article or publication cited is not intended to be a substitute for counsel from a lawyer or insurance company regarding a particular situation.*

The increasing interest in cutting firewood for personal use to save on energy costs can cause concern for woodland owners. It is reasonable to speculate that they will be liable if they give permission for someone to cut firewood and the individual doing the cutting gets hurt. While you can never remove liability, Maryland law limits the liability for anyone using your property for a recreational purpose when there is no fee – and this includes cutting firewood (see text box). In

effect, it considers all users trespassers and a landowner owes no duty to keep the premises safe for entry or use by others. Obviously, this is great comfort for the landowner who wants to enlist the help of others to help with forest or wildlife management on their property.

The law, known as the Maryland Recreational Statute (*Title 5, Subtitle 11 of the Natural Resources Article of the Maryland Annotated Code*) and enacted in 1957, is designed to encourage any owner of land, water, and airspace to make it available for recreational and educational purposes. It does this by limiting the owner's liability as long as they do not charge a fee. What is (or is not) a fee has been clearly defined to not include the sharing of game, fish, or other products or recreational use or contributions or in-kind services to promote the management of conservation of resources on the land. Recreational use is broadly defined to

*Annotated Code of Maryland, Natural Resources Article, Title 5-1104, clarifies the liability of the landowner who permits recreational use of land without charge:*

*"The owner of land who directly or indirectly invites, or permits without charge, persons to use the property for any recreational or educational purpose or to cut firewood for personal use does not by this action:*

- 1) extend any assurance that the premises are safe for any purpose;*
- 2) confer upon the person the legal status of an invitee or licensee to whom a duty of care is owed; or*
- 3) assume responsibility for or incur liability as a result of any injury to the person or property caused by an act of omission of the person or persons."*

include hunting, fishing, horseback riding, GPS caching, and much more, and yes, cutting firewood.

The landowner is still liable for willful or malicious failure to guard or warn against a dangerous condition, use structure, or activity; or for injury suffered where the owner of the land charges the person. Willful or malicious failure to warn is a high standard of law and the burden of proof is on the recreationalist. Few cases reach this level and the lack of case law backs this up. Over the years, the courts have upheld the recreational statute and the protection it provides to landowners.

More information on the specifics of landowner liability and recreational access is available from the University of Maryland Extension in the 42-page publication *Landowner Liability and Recreational Access (Bulletin 357)* at <http://extension.umd.edu/publications/PDFs/EB357.pdf>. The publication provides in layman's language information on liability, trespass and property rights, access to recreational use along tidal and non-tidal waterways, controlling access to your property, controlling timber trespass, and developing a lease hunting enterprise.

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### Marking Property Access with Blue Paint

Landowners in Maryland have an alternative way of marking their property to aid hunters, recreationists and others. Painting vertical blue stripes on trees serves the same purpose as a series of posted signs. They indicate that the property is off-limits to people without permission.

The Maryland Cooperative Extension Bulletin EB357, *Landowner Liability and Recreation Access*, provides suggestions for using blue paint for property marking. The publication is available at

<http://extension.umd.edu/publications/PDFs/EB357.pdf>.

The blue paint stripes must be at least two inches wide and eight inches long, and positioned from three to six feet above the ground. They should be used along entrances, public roads, waterways, and adjoining lands. While there is no set distance that the marks should be placed, they should be close enough that one can see the next stripe.

Consider using blue paint instead of using posted signs. Posted signs are subject to weather and vandalism. Paint marks last longer and do not mar your trees.

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### Firewood Prices across Maryland

If you ever cut, split and transported a cord of firewood, you will soon realize that buying it at a fair price makes a lot of sense. Most homes that heat with wood will require at least a few cords per year depending on the amount of reliance on wood. Since 2006, the University of Maryland Extension has done an informal survey of firewood prices across the state. The cost of a cord of oak firewood or mixed hardwood that is cut, split and delivered is the standard used. Online resources used include classifieds in area newspapers, Craigslist and other internet sources. This is not a scientific survey and some of the sample sizes are small - although wood in Maryland must legally be sold by the cord (or part of a cord), many advertisements sell wood by the truckload and other sellers may not offer delivery.

The following table indicates that that average price statewide is \$208 per cord, but the price can vary widely. It does pay to check various buyers.



Don't buy wood on price alone. Other factors are very important, such as the moisture content, quality, size of pieces, and the reliability and customer service of the seller. Many firewood businesses come and go, so finding a dependable supplier with good business practices can be worth a few dollars extra per cord.

2011 Maryland Firewood Prices by County and Region				
Region	County	Average price	# of prices obtained	Range
<b>Western MD</b>				
	Garrett	180	1	180
	Allegany	180	1	180
	Washington	215	3	200-225
	Frederick	194	4	175-200
	<b>Avg.</b>	\$192		
<b>Central MD</b>				
	Carroll	198	3	175-210
	Montgomery	230	2	185-275
	Prince George's	229	4	190-275
	Baltimore	235	4	175-275
	Harford	206	4	185-250
	<b>Avg.</b>	\$220		
<b>Southern MD</b>				
	Anne Arundel	226	4	180-275
	Charles	200	1	200
	St. Mary's		0	0
	<b>Avg.</b>	\$213		
<b>E. Shore MD</b>				
	Kent, Dorchester, Queen Anne, Talbot, Caroline	208	5	185-255
<b>State Average</b>		\$208		

### When it's NOT Emerald Ash Borer: Other Pests and Pathogens

The emerald ash borer (EAB) is a beetle from Asia that feeds on the inner bark of ash trees, killing untreated trees within two years. Public awareness of this pest is increasing, but some of the other problems that affect ash health are not as well-known to the average landowner. Knowing the difference between them will help

you make good decisions about when to let nature takes its course, when to jump in and do your own control measures, and when to call for help. This is the second in a two part series about other pests and pathogens that can affect ash trees. The first (available at [www.naturalresources.umd.edu/Publications/BranchingOut/2012Vol20No2.pdf](http://www.naturalresources.umd.edu/Publications/BranchingOut/2012Vol20No2.pdf)) focused on clearwing borers, which produce signs and

symptoms very similar to those of EAB. This article discusses some of the other problems that can occur in ash trees.

There are a few other types of insects will feed on ash trees. These insects are attracted by the chemicals that trees emit under stress, and take advantage of its lowered defenses to get a foothold in an easy target. This means that the most obvious problem may not be the real reason that a tree is unhealthy.

Oystershell scales are small insects with a tough shell that suck sap from the bark of twigs, killing branches and occasionally entire trees. Once their shells form, they look more like motionless sea creatures than insects. They can be controlled with oil or soap when the eggs hatch in the spring, before they develop their tough shell.

Ash plant bugs feed on young leaves in the spring and can cause yellow mottling that expands into large damaged leaf areas, but the tree should be able to recover without permanent damage. Ash flower gall mites damage male ash flowers, but also do not cause permanent damage to the tree.

There are several diseases that affect ash trees. Ash anthracnose produces brown leaf spots that can deform leaves. The leaves may fall, but the tree usually recovers.

Verticillium wilt can be fatal to ash trees. Leaves and branches will gradually die back over several years, often one branch or one side of a tree at a time. Other symptoms may include brown leaf edges, more seeds than usual, and small or sparse leaves. Brown streaks in the wood are a sure sign, but don't always appear.

Ash yellows turns leaves bright yellow. Leaves may be smaller than normal, and branches will grow in unusual patterns and will usually die back. Tufts of leaves and sprouts may appear at



Ash yellows  
(courtesy Cornell  
University Dept. of  
Plant Pathology)

the base of the trunk. EAB has many similar symptoms, so look carefully for D-shaped exit holes, and call a professional if you're not sure.

There is no treatment for either of these diseases, and replacement is recommended.

Ash rust makes bumpy bright orange distorted areas on leaves and twigs, but no treatment is necessary.

If you can't find any signs or symptoms of any of these pests and pathogens, there are still a few other possible causes for decline in an ash tree. Poor site conditions like drought or a harsh urban environment, trunk injury from mowers and string trimmers, and overly deep planting are common causes. Most of these problems are best treated with deep, slow watering in the root zone under the edge of the canopy. Fertilizing and mulching out to the edge of the canopy in lawn areas can also help the tree recover. Make sure that mulch is not piled up against the trunk, and that there is no crater around the trunk.

If you have dying ash trees with shallow D-shaped exit holes or other symptoms that don't match any of the pests and pathogens in this series, contact the University of Maryland Home and Garden Information Center at 800-342-2507 or [www.hgic.umd.edu](http://www.hgic.umd.edu) as soon as possible. Quick action in areas of new EAB infestations can help to save many ash trees.

Unhealthy ash trees are often worth investing time and money into, as they provide many services, including property value increase, storm water management, reduction in cooling costs, the removal of carbon dioxide from the atmosphere, and beautification.

For example, according to the National Tree Benefits Calculator at [www.treebenefits.com](http://www.treebenefits.com), a 24" diameter residential green ash tree provides \$293 in benefits every year, and 100 18" diameter green ash trees in a park provide \$14,730 in benefits every year. While professional help and treatment will cost some money, these figures may help you weigh these costs with the benefits of healthy trees on your property.

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### **New Manual Outlines Techniques and Herbicides for Managing Vegetation**

The USDA Forest Service's Northern Research Station has released General Technical Report NRS-96 entitled "Manual herbicide application methods for managing vegetation in Appalachian hardwood forests." The publication outlines four techniques for manually applying herbicides (stem injection, basal spray, cut-stump, and foliar spray), along with recommendations for selecting the best technique for a variety of forest management goals.

This richly-illustrated guide provides photos that demonstrate proper application techniques and that show the resulting vegetative changes. The publication is available from the USDA Forest Service as a printed copy with a spiral binding that makes it easy to carry into the field. It is also available as a PDF document from

[www.nrs.fs.fed.us/pubs/gtr/gtr\\_nrs96.pdf](http://www.nrs.fs.fed.us/pubs/gtr/gtr_nrs96.pdf)

### **Events**

For more events, go to

[www.naturalresources.umd.edu/Events.html](http://www.naturalresources.umd.edu/Events.html)

#### **November 7**

##### **Urban Hardwood Recovery Workshop**

Seneca Creek Joinery  
Dickerson MD

Hosted by the Community Woodlands Alliance, this all-day presentation will demonstrate how to cut a tree into harvestable timber. The Joinery staff will take participants through the steps involved in grading logs and will present sawmill and equipment demonstrations. Cost is 50.00 per person; lunch will be provided. Please RSVP by November 1. Contact Chris Holmgren at Seneca Creek Joinery at 301-972-7453 or via email at [woodsurgeon@juno.com](mailto:woodsurgeon@juno.com).

#### **November 10**

##### **GPS Workshop for Woodland Owners and Managers**

Plant Science and Landscape Architecture  
Building, University of Maryland  
College Park MD

Handheld GPS receivers are a great resource for landowners, natural resource professionals, and other outdoor recreationalists. Current GPS units are accurate (+/- 15 feet) and can be used for marking hunting locations, structures, streams, your vehicle location, and for fun activities such as geocaching. Professional natural resource managers can save valuable field time by using GPS with a computer to locate inventory plots, access roads, outline timber sale and property boundaries, direct customers to sale locations, and much more. Cost is \$45.00 per person. Contact Carol Taylor at 410-827-8056 or [carolt@umd.edu](mailto:carolt@umd.edu) to register.

For more information on this event, go to

[www.naturalresources.umd.edu/Programs/2012%20GPS%20Basics\\_Brochure.pdf](http://www.naturalresources.umd.edu/Programs/2012%20GPS%20Basics_Brochure.pdf)

**November 14**

**Accelerating Maryland's Wood Energy Industry – A Discussion on Public Policy, the Environment, and Economic Opportunities**

Navy-Marine Corps Memorial Stadium, Lawrence "N" Room, Annapolis, MD

(See article on page 3.) Hosted by the Maryland Wood Energy Coalition, this event features a group of state agencies, non-profits, and private businesses committed to advancing the responsible use of Maryland's vast supply of woody biomass for clean, affordable energy production. Visit

<http://agroecol.umd.edu/educationoutreach/MWoodEnergy/index.cfm> for more information.

**December 4, 2012**

**More Heat - Less Firewood**

Queenstown MD

Do you heat with wood or with pellets? Are you considering an inside wood stove or an outdoor wood boiler? Firewood is one of the most economical forms of renewable energy available today. The advances made in woodburning technology have dramatically improved efficiency and reduced emissions. This event will show you how to save money and time and how to decrease the environmental impact of wood use through the use of best practices. Contact Nevin Dawson at [ndawson@umd.edu](mailto:ndawson@umd.edu) or 410-827-8056 ext. 125 for more information.



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**Branching Out  
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18330 Keedysville Road  
Keedysville, MD 21756-1104  
301-432-2767

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

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