You lounge in the sun on your patio, surrounded by a mix of forest and meadow. Your favorite magazine drops from your fingers as you nod off in the pleasant afternoon warmth. Slowly waking from your nap an hour later, you move to stretch your arms. But something is wrong—you can’t move. Startled and now fully awake, you look down and see that leafy vines grew over you while you slept, loosely binding you to your chair. You quickly wrench yourself free and march to the shed for the machete.

Mile-a-minute and kudzu are both exotic invasive vines from Asia that grow extremely quickly. Although neither could actually engulf anyone in an hour, mile-a-minute and kudzu can grow 6 and 12 inches per day, respectively, under optimal conditions. This fast growth and their climbing nature allow these vines to cover trees, houses, and vehicles when left unchecked. In a natural area, they can crowd out most or all native species.

Both species have a growing foothold in Maryland, but the viney wastelands they can create are luckily not yet common in our state. Both vines grow best in full sun and often get started in disturbed areas and forest or road edges—all common conditions in Maryland. It is up to the vigilance and quick action of you, the landowner, to keep these virulent pests at bay.

Kudzu was intentionally introduced and promoted in the United States as an ornamental, forage crop, and erosion control measure. It has spread quickly enough in southern states to earn the label, “the vine that ate the South.”

It’s a perennial semi-woody vine with alternate, deciduous, compound leaves with three broad leaflets, each up to 4 inches across. Leaflets are hairy and may have lobed edges. Its purple flowers are a half inch long, and grow on upright stalks in the late summer. Flat dry hairy bean pods develop from the flowers.

The plant is probably not spread much by seed, but by rooting of stem nodes. This means that simply dropping a stem in a new site can be enough to start a new infestation.

The huge tap root can weigh up to 400 pounds and support as many as 30 vines, each up to 100 feet long.

Kudzu has many uses. The vines can be woven into baskets, the roots can be eaten and are said to cure alcoholism, and the plant could produce as much bioethanol per acre as corn. These benefits can be used as an incentive for control, but kudzu should never be planted.

Mile-a-minute is an herbaceous annual vine that was accidentally introduced in Pennsylvania. It favors wet areas and stream banks, and can easily spread downstream by dropping its buoyant seeds into the water.
Its triangular leaf and sharp backward-curved barbs give it its other common name—Devil’s-tail tearthumb. It also has unique circular leaves that surround the stem at each node.

Small white flowers and clusters of berry-like blue fruit emerge from these circular leaves. Birds spread the seeds long distances.

Both vines can be controlled with a foliar herbicide treatment with glyphosate—like Accord® or Roundup®—or triclopyr—like Garlon® 4 or Element® 4. Kudzu requires a 2% mix, while mile-a-minute only needs 1%. Spray after mid-July so the herbicide is transported into the roots and kills them. Mechanical control with mowing, hand-pulling, or grubbing is also effective. Targeted grazing with goats or sheep also works, especially in locations where access is a problem, or where herbicide use is not preferred.

It’s important to understand that when fighting kudzu, you’re battling the large energy reserves in its taproot. If you’re using mechanical control, you’ll need to cut the vines several times over the course of a few years before the plant runs out of energy to resprout.

In battling mile-a-minute, on the other hand, you’re fighting the seed bank. Make sure to cut or spray the vines before they go to seed, and continue to control the new vines as they germinate. Small vines can be easily pulled by hand. Seeds are viable in the soil for up to 6 years, so persistence is required. Sites with a heavy infestation may benefit from treatment with a pre-emergent herbicide.

Promising biological controls are under development for both species. A naturally-occurring fungus shows great promise for the control of kudzu. A weevil that attacks mile-a-minute is being studied through a release and monitoring program, and should be available for sale to the public from the New Jersey Department of Agriculture in 2012.

(Previously printed in the Delmarva Farmer)

Alert: EAB Confirmed in Howard County
News Release from the Maryland Department of Agriculture

June 14, 2011 UPDATE

On June 8, 2011, EAB was confirmed from a site in Howard County. This is the first detection in that county and outside of the currently quarantined Prince George’s and Charles counties. Additional expansion outside of the known Infested Area in southern Prince George’s and northern Charles counties has also been detected on purple prism traps in Bowie, and Port Tobacco and Hughsville respectively. The Howard County detection was made by a licensed arborist who had completed the Invasive Species training offered by University of Maryland Extension. This serves as a reminder of how important it is for everyone to be on the lookout for EAB.

***ALERTS***

- Our inspection teams will be active in these areas conducting surveys. They and their vehicles will be easily identified as being with the MDA EAB Project.

- Residents and businesses in Howard County must not move any regulated ash wood (e.g. nursery stock, logs, stumps, roots, branches), or any hardwood firewood out of the county. The Maryland quarantine has been revised as of June 10, 2011, to include Howard County; the federal quarantine is also being revised.

In 2011, we are continuing participation in the USDA Emerald Ash Borer Targeted Survey. Approximately 2,600 purple prism traps are deployed around the state to survey for emerald ash borer. Also in cooperation with USDA, biocontrol efforts continue in
the core infested area. Three beneficial insect species have been released in four program and four research locations since 2009. All three species successfully overwintered from 2009 to 2010. Parasitism by endemic beneficials has also been documented at low, but persistent, levels.

Please see complete news release at the Maryland Department of Agriculture website:
http://www.mda.state.md.us/article.php?i=33373

###

For more information about EAB, please visit the UME Forest Stewardship Education EAB page at:
http://www.naturalresources.umd.edu/YourWoodlandThreatsEAB.html

---

**Be a Beetle Detective**

**USDA Volunteer Forest Pest Survey**

**America’s trees are under attack. Help us track down the killer beetles.**

The Emerald Ash Borer (EAB) beetle and Asian Longhorned Beetle (ALB) have destroyed millions of trees throughout the United States. The USDA and University of Maryland Extension are partnering to ask Maryland Woodland Stewards and Branching Out Subscribers to participate in the Volunteer EAB/ALB Forest Pest Survey. We need your help to determine if these damaging forest pests are in your community.

The EAB and ALB most likely arrived in the United States inside solid wood packing material from Asia. Since their discovery, infestations of ALB have been reported in four states and infestations of EAB in 13 states. There could be other undetected infestations in the country as well.

**Be an ace beetle detective. Start searching today.**

You can help us stop the spread of the beetles—and the devastation to our forests, parks and neighborhoods—by searching your community for signs of both beetles. Just follow these simple steps:

1. Review the fact sheets listed below to become familiar with the EAB and ALB as well as signs of damage. Print and take the fact sheet for reference when you search.
   a. Asian Longhorned Beetle (ALB)
   b. Emerald Ash Borer (EAB)

2. Locate host trees in your search area. The EAB lives in ash trees and the ALB lives in hardwood trees, particularly maple, birch, horsechestnut, willow and elm. Carefully examine each tree for signs of infestation. Take notes on the following:
   a. Area searched.
   b. Types of trees examined.
   c. Descriptions of any beetles or signs of infestation detected. It is also helpful to take pictures of the insects or damage to your trees.

3. If you observe beetles or signs of infestation, contact Maryland’s USDA/APHIS State Plant Health Director, Matt Travis at:
   matthew.a.travis@aphis.usda.gov
   State Plant Health Director
   2200 Broening Highway, Suite 104
   Baltimore, MD  21224
   Phone: (410) 631-0073
   Fax: (410) 224-1142

4. Report both positive and negative sightings online at BeetleDetectives.com. Report under the group, “UME Volunteer Groups.” Negative sightings help confirm that the beetles were not found in your area. Make sure you indicate your organization’s name on the online reporting form. Help your organization become top-ranked beetle detectives.

At BeetleDetectives.com, we will rank participating organizations based on the reports their members submit. If you know other people who would like to help protect our trees, forward this email to them and ask them to report their findings as an individual.

Thanks in advance for helping protect America’s trees!

John Lydon, MISC Chair
Matthew A Travis, SPHD
USDA/Animal and Plant Health Inspection Services
USDA-APHIS-PPQ
Suburban Deer Management
What Works?

There has been a love/hate relationship with deer for a few decades now in Maryland. Deer contribute greatly to our quality of life; however, they have become overabundant in suburban and urban areas with small woodlots, creating major challenges to local decision-makers on how to deal with citizens and their differing views on the issue. On one hand, there are serious safety issues to deal with such as Lyme disease and deer/vehicle collisions. Deer also cause extensive damage to residential landscapes, crops, and natural forests. Some think that populations must be reduced through lethal options and others think that only non-lethal means should be used, such as fencing, repellents, and vegetation management. Most people want a combination of the two.

A workshop held on May 26 in Bowie, Suburban Deer Management: Options and Choices for Decision-Makers, provided real life case studies and current research. Sponsored by the University of Maryland Extension, DNR Maryland Wildlife Service, and other organizations, it was targeted especially to decision-makers. The 84 participants represented local government officials, land managers, park managers, policy writers, homeowner associations, forest and wildlife professionals, and many others.

Maryland has made great strides in the past 20 years to control overabundant deer populations. Liberal deer harvest regulations helped to stop the upward trend in the state deer population that peaked at close to 300,000 deer in 2002. Whereas traditional deer management generally is the result of legislative driven policies that are translated into regulations applied broadly across the state, community-based management calls for collaboration to formulate local decision-making strategies. This requires educated citizens that know what techniques work and what do not. The use of managed hunts, sharpshooters, traditional hunting, and other lethal options need to be considered and implemented with the support of the local citizen. This has become easier in the last decade as more and more citizens have been personally impacted through deer-vehicle collisions, Lyme disease, and economic loss to the landscape. Only recently have many citizens realized the negative effect deer have on the health and diversity of forests.

The workshop highlighted what works and provided research-based information to help. If you are a woodland owner or just the owner of small property, there are things you can do to manage overabundant deer. First, educate yourself. Deer contraception is not a viable option so population reduction is needed along with knowledge of the use of fencing, repellents, and managing of vegetation. If you have a written forest stewardship plan for your property and have heavy deer browsing in your woods, you can secure deer management permits (crop damage permits) from the DNR Wildlife Service to harvest deer out of season.

The presentation and resources provided at the workshop are available for every citizen to access at the link below. Take advantage of the opportunity to work with your neighbors and community to keep the deer population at a reasonable level in your area. http://www.naturalresources.umd.edu/ResourcesWorkshops.html

Maryland Forest Association Workshops
Coming to a Location Close to You

The University of Maryland Extension is pleased to announce upcoming workshops being presented in cooperation with Maryland Forests Association, Inc. and Forestry for the Bay. There will be five workshops for family forest landowners, MFA members, Tree Farmers, and forest conservationists. The workshops are listed below. Please download complete details and registration form at:

http://www.naturalresources.umd.edu/Documents/Events/201108MFA.pdf

Or contact Jessika L. Wrabel, Communications Coordinator, Maryland Forests Association, Inc. at 443-791-7416 (director@mdforests.org) to register.

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/23/11</td>
<td>7-9 p.m.</td>
<td>Understanding Landowner Liability for Recreational Activities on Your Property</td>
</tr>
<tr>
<td>8/31/11</td>
<td>6:30-9 p.m.</td>
<td>Managing Invasive Plants on Your Property</td>
</tr>
</tbody>
</table>
**General Forestry Course Being Offered**  
**Registration Open**

The University of Maryland Extension will offer the General Forestry Course for the Fall 2011 semester. Both the paper and online version will be offered. The course begins September 1 and runs until December 15, 2011.

To register, go to [http://www.mdforest.umd.edu](http://www.mdforest.umd.edu).

As there are no formal classes, you work from the comfort of your home using your own or a friend’s woodlot, 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.

The cost for this forestry 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 text and appendices are in binder form. Online users receive a CD of the text and appendices. A certificate of completion is awarded when all assignments are completed.

But don’t take our word for it. See it for yourself on our website at [http://www.mdforest.umd.edu](http://www.mdforest.umd.edu). Here you can read a lesson from the text, view an interactive exercise, read through detailed course information and FAQs.

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.

---

**GPS Courses Scheduled for Fall**

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, boundaries, structures, streams, your vehicle location, as well as for fun activities such as geocaching. Professional natural resource

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/4/11</td>
<td>Emerald Ash borer: What it means for woodland owners</td>
</tr>
<tr>
<td>10/11/11</td>
<td>Medicinal Roots of Appalachia and Forest Management</td>
</tr>
<tr>
<td>1/17/12</td>
<td>Timber Tax Workshop</td>
</tr>
</tbody>
</table>

---

**Interested in Wood, Then GO WOOD**

*A Lighter Look at the World of Wood and Renewable Energy*

[http://gowood.blogspot.com](http://gowood.blogspot.com)

For some of us that are interested in wood, GO WOOD is a blog that takes a lighter look at the world of wood and renewable energy.

Developed by Penn State Extension with major contributions from Chuck Ray, Professor of Wood Operations Research, this blog is great. The topics range far and wide, with posts about artifacts and history, biomass energy, black locust, firewood, great designs, Tung oil, wood industry, wooden instruments and more. The posts are very readable but include a lot of interesting and useful information.

One of the major topics on the blog is bioenergy. Wood energy is not as widely recognizable as solar, wind and geothermal for advanced commercial and residential energy technologies. This blog keeps the reader current on what is happening with the use of woody biomass as a source of bioenergy. Remember that wood is the oldest renewable source of energy and recent advancements have dramatically reduced emissions to very low levels. Check out the blog and subscribe to get free automatic email notices.

On the blog homepage is a poem by Everard Hinrichs, quoted by Eric Sloane in *A Reverence for Wood*:

*The heft and feel of a well-worn handle,*  
*The sight of shavings that curl from a blade;*  
*The logs in the wood pile, the sentiment of huge beams*  
*in an old-fashioned house;*  
*The smell of fresh cut timber and the pungent*  
*fragrance of burning leaves;*  
*The crackle of kindling and the hiss of burning logs.*  
*Abundant to all the needs of man, how poor the world*  
*would be*  
*Without wood.*

---

**Branching Out**

*University of Maryland Extension*
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.

The University of Maryland Extension is again offering a series of fall workshops to teach those interested in learning how to use GPS handheld receivers with a computer using applications specific to forestry and logging.

**GPS Workshop for Woodland Owners and Managers** is a daylong workshop that uses both classroom and field instruction. The skills learned can be applied to a GPS handheld you may have purchased. The workshop will provide the basics of using a GPS receiver, as well as marking waypoints, creating routes, entering and finding coordinates, determining acreage of a site, incorporating coordinates into timber sale bids, locating roads, stream crossings, points of interest, and downloading and uploading data using a computer. We will also compare different GPS handheld units.

**Terrain Navigator for Woodland Owners and Managers** is an advanced hands-on single day course that will integrate GPS handheld receivers with the mapping software, Terrain Navigator, and other specific software applications used in forestry and logging. This will allow you to know much more about the land you are evaluating and save precious field time. Participants will learn to:

- Use Terrain Navigator, USAPhotoMaps, and other resources to locate a property, create GPS waypoints and routes, and upload them to a GPS unit so that you can perform a forest examination more effectively.
- Locate and field-verify the GPS data that was created, and take other GPS data in the field as needed.
- Download field-collected data to software applications for use in timber sales, reports, and other assessments.

Workshops run from 9 a.m. to 3:30 p.m. and the cost is $45. GPS units and laptops will be provided for use during the workshop. Workshops are being offered on the following dates:

- **October 14, 2011**
  **GPS Workshop for Woodland Owners and Managers**

- **October 21, 2011**
  **Terrain Navigator for Woodland Owners and Managers**

- **November 2, 2011 (Tentative)**
  **GPS Workshop for Woodland Owners and Managers**

Workshops run from 9 a.m. to 3:30 p.m. and the cost is $45. GPS units and laptops will be provided for use during the workshop. Workshops are being offered on the following dates:

- **October 14, 2011**
  **GPS Workshop for Woodland Owners and Managers**

- **October 21, 2011**
  **Terrain Navigator for Woodland Owners and Managers**

- **November 2, 2011 (Tentative)**
  **GPS Workshop for Woodland Owners and Managers**

**Google Earth Webinar Scheduled**

**UME Forest Stewardship Education Webinar Series**

The University of Maryland Extension is pleased to announce our next Forest Stewardship Education webinar…

**Woodland Management Planning With Google Earth and GPS**

The webinar will be broadcast two times on Tuesday, August 23, 2011 at noon and again at 7:00 p.m. (two identical presentations).

Google Earth is a free and user-friendly tool that you can use to plan and track your woodland management, and integrating GPS data adds even more accuracy. Participants in this webinar will learn why planning is important for their woodland’s future, and will see Google Earth used by a Maryland woodland owner to delineate and track each of his management units.
University of Maryland’s Forest Stewards Education Webinars are broadcasted over the internet using Adobe Connect. Participation is free and no special software is required, but high speed internet connection is highly recommended.

Registration for UME Forest Stewardship Education Webinars just got easier!
In the past, we have taken registrations for each individual webinar, up to 80 participants. Since many folks could not attend at the last minute, there were many spots left open. Therefore, we are eliminating the registration process for individual webinars.
Instead, webinars will be on a first-come, first-serve basis. To be notified of upcoming webinars and webinar connection information, we ask that you register your email address with our Forest Stewardship Education Webinars Listserv list, FSEWEBINARS. A webinar reminder with connection details will be emailed a few days prior to broadcast.

There is no charge for participation. But please log in early; participation is limited to 80.
Please register with our FSEWEBINAR listserv as follows:
Send an email to listserv@listserv.umd.edu. In the body of the message, type “SUB FSEWEBINARS” and your name (ex: "SUB FSEWEBINARS John Doe"). Or, you may contact the Forestry Extension Assistant, Ellen Green (egreen13@umd.edu / 301-432-2767 x307), to be added.

What Tree Is That?
Tree Identification Resources and Activities for Anyone

The trees are full of leaves and many trees are now filled with fruit & seeds. Summer is the perfect time to get your family outdoors and learn about the trees in your own backyard or neighborhood park. Tree identification is a great activity for the whole family. So gather up some leaf, fruit, and twig samples and use the resources below for tree identification.

Leafsnap
Free iPhone or iPad app that takes a photo of a leaf and then offers suggestions for what it might be based on its shape. Leafsnap was developed by researchers from Columbia University, University of Maryland, and the Smithsonian Institution.

http://leafsnap.com/

What Tree Is It?
This kid-friendly online tree identification tool allows you to identify trees by leaf, fruit or name. Provided by the Ohio Public Library Information Network and The Ohio Historical Society.

http://www.oplin.org/tree/

What Tree Is That?
Eastern and Central United States Online Edition

Online tree identification from the Arbor Day Foundation. Or, purchase the full-color pocket field guide.

http://www.arborday.org/trees/whattree/WhatTree.cfm?ItemID=E6A

Leaf Key to Common Trees in Maryland Bulletin #238
This online pdf booklet is provided by the University of Maryland Extension. Helpful Hints: Familiarize yourself with Leaf Characteristics on page 6 and then begin identification on page 5 using the Leaf Key.

http://bit.ly/LeafKey

Virginia Tech’s VTree ID

Dichotomous keys for Leaf and Twig are provided. In addition, you can use the Interview Tool to help identify a tree. Try all three tools!

http://dendro.cnre.vt.edu/DENDROLOGY/idit.htm

Odd Leaf Out

Odd Leaf Out is an online game that reinforces tree identification skills. Odd Leaf Out is provided by the Biotracker Team at University of Maryland’s iSchool. It is still in development, so be sure to leave comments.

http://biotrackers.net/odd_leaf_out/game.php
Events Calendar

August 17 and 24, 6:00 to 9:00 pm

The Woods in Your Backyard
2-day workshop

Location: University of Maryland Extension, Kent County Office; 709 Morgnec Road, Suite 202; Chestertown, MD. Cost: $20 per individual or $25 per couple. Register: Contact Carol Taylor at 410-827-8056 or carolt@umd.edu. For more information about the workshop, visit http://www.naturalresources.umd.edu/EducationalWBY.html

August 23, Noon to 1:00 pm

Webinar: Woodland Management Planning with Google and GPS (see complete details on page 6)

August 23, 7:00 to 8:00 pm

Webinar: Woodland Management Planning with Google and GPS (see complete details on page 6)

August 23, 7:00 to 9:00 p.m.

MFA Educational Workshop: Understanding Landowner Liability for Recreational Activities on Your Property (see complete details on page 4)

August 31, 6:30 to 9:00 p.m.

MFA Educational Workshop: Managing Invasive Plants on Your Property (see complete details on page 4)

September 10

Targeted Grazing Demonstration, Historic St. Mary’s City. Details TBD. Contact Carol Taylor at 410-827-8056 or carolt@umd.edu.

October 1, 10:00 am to 3:00 pm

The College in Your Backyard

University of Maryland, College of Agriculture and Natural Resources (AGNR) Open House

For more information, call 301-596-9330 or visit http://www.agnropenhouse.umd.edu/

October 1, 10:00 am to 5:00 pm

Maryland Forests Association Annual Picnic and Education Day—Windsor Mill, MD. $10-25. Contact Jessika Wrabal at 443-791-7416 or director@mdforests.org.

October 4, 7:00 to 9:00 p.m.

MFA Educational Workshop: Emerald Ash Borer: What it Means for Woodland Owners (see complete details on page 4)

October 11, 7:00 to 9:00 p.m.

MFA Educational Workshop: Medicinal Roots of Appalachia and Forest Management (see complete details on page 4)

October 14, 9:00 a.m. to 3:30 p.m.

GPS Workshop for Woodland Owners and Managers (see article for details, Page 5)

October 21, 9:00 a.m. to 3:30 p.m.

Terrain Navigator for Woodland Owners and Managers (see article for details, Page 5)

November 2, 9:00 a.m. to 3:30 p.m.

Tentative

GPS Workshop for Woodland Owners and Managers (see article for details, Page 5)

January 17, 2012, 6:30 p.m. to 9:00 p.m.

MFA Educational Workshop: Timber Tax Workshop (see complete details on page 4)

University of Maryland Extension programs are open to all citizens without regard to race, color, gender, disability, religion, age, sexual orientation, marital or parental status, or national origin.

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

Editors: Jonathan Kays, Ellen Green, Nevin Dawson, and Lori Flook

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

To Subscribe:

Email Notification: To be notified by email when new issues become available, email listserv@listserv.umd.edu. In the body of the message, type SUB branchingout your name (ex: SUB branchingout John Doe).

Hardcopy subscription, mail check or money order for $10 per year, payable to University of Maryland to the address above.


Send news items to Nevin Dawson at ndawson@umd.edu or 410-827-8056 x125.