

VIRGINIA FOREST LANDOWNER UPDATE

Events, news, and information promoting the stewardship of Virginia's forest resources.

VIRGINIA FOREST LANDOWNER
EDUCATION PROGRAM

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A Primer: Threatened & Endangered Species on Private Lands in Virginia By: Jennifer Gagnon, Virginia Tech

Like most private forest landowners, you probably purchased your land for a variety of reasons. In a previous edition of the Virginia Forest Landowner Update, we wrote about determining your goals and objectives and writing a management plan (Vol. 24 No. 4, Fall 2010). Often times, goals include such things as: watching wildlife, recreation, privacy and harvesting timber. One goal we don't often see is: managing for and protecting threatened & endangered (T & E) species. While many folks may welcome the presence of T & E species and look at it as an opportunity to conserve biodiversity, other landowners may shudder to think of having such a species on their land and may fear restrictions on their management opportunities; and of course, most of us fall somewhere along that spectrum. Regardless of how you feel though, you are required, by the federal Endangered Species Act (ESA) and Virginia's endangered species regulations, to minimize negative effects on T & E species*.

This green fiveleaf orchid is listed as threatened at the federal level and endangered in Virginia. Photo credit: James Henderson, Gulf Southern Research Corporation, bugwood.org.

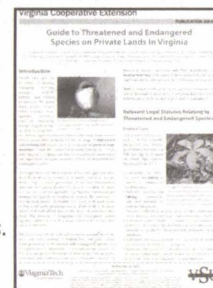


The good news is that only a small percentage of all land management activities in Virginia are ever affected. And, federal and state agency personnel are very willing to work with landowners to help you meet your management goals, even if T & E species are present. The key is to assess what, if any, species are present on your property before starting any habitat-altering project, like a timber harvest.

So how do you go about this? What agency or agencies do you need to work with to make these assessments? In general,

it is best to begin your determination of whether T & E issues apply to your proposed activity by working with the appropriate state agencies in Virginia. Both the Virginia Department of Game & Inland Fisheries and the Virginia Department of Conservation and Recreation/Natural Heritage Program maintain accessible databases where landowners can make preliminary determinations about the presence or likely occurrence of protected species in the vicinity of their proposed activities. Although the exact locations of known T & E populations will not be revealed, these databases provide enough information to suggest where further investigation is necessary.

The determination process varies somewhat among wildlife and plants and insects, and is more detailed than can be covered in this primer. So, for more information on this topic, please read the full-length Extension publication titled: Guide to Threatened & Endangered Species on Private Lands in Virginia available at: <http://pubs.ext.vt.edu/420/420-039/420-039.html> (please contact Jennifer Gagnon if you prefer a printed copy). This publication has flow charts which detail the determination processes, and includes contact information for pertinent state and federal agencies.



If protected species are not present, management activities can proceed as planned, keeping in mind that there may be other requirements that must be met (such as Best Management Practices). If protected species or suitable habitat for protected species are present, what happens next depends on whether the species is only listed in Virginia or is also listed at the federal level. The flow charts in the above-mentioned publication will guide you through the process. In all cases though, state agency personnel can assist you.

Having property that provides a home for T & E species is something to be proud of. Typically, protecting these species won't prevent you from actively managing your forestland. The key is to determine what you have before you start a project. If you are working with a professional forester, they will more than likely tend to this matter for you. Useful contact information and websites can be found in the Useful Resources section on page 6 of this newsletter.

* For private landowners, there is one important difference to note between T & E wildlife and insects and T & E plants: you are exempt from T & E plant restrictions for activities on your own property (note: this exemption does not apply if federal funds are supporting the project - e.g., if the project is being cost shared by a Natural Resources Conservation Service program).

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EVENTS CALENDAR			For the most complete listing of natural resource education events, visit the on-line events calendar at www.cnr.vt.edu/forestupdate		
Contact	Date	Location	Event	Time	Fee
DCR	July, Aug., & Sept.	Virginia State Parks	A variety of events and activities. For a complete list, visit: www.dcr.virginia.gov/parks	Varies	Varies
MP	Year-round	State-wide	Virginia Master Naturalist Volunteer basic training Virginia Master Naturalist 40 hour basic training courses start with the Headwaters Chapter (Augusta and Rockingham counties), Shenandoah Chapter (Warren, Clarke and neighboring counties), and Southwestern Piedmont Chapter (Martinsville/Henry County) in August.	Varies	Varies
EHC	July 14	Mt. Savage, MD	Maryland Stewardship Project: Woodland Workshops Wildlife Management Participants will learn about aspects and benefits of wildlife management using the new Evergreen Heritage Center Wildlife Management Plan as an example.	1 - 4	Free (please pre-register)
AD	July 15	Orange	Working Woods Walk Venture beyond the mansion and the lawn to the woods of Montpelier. This two-hour tour of the Montpelier Demonstration Forest Trail will help visitors understand society's dependence on forests now and during the Madisons' time. Tour begins at 2:00 p.m. at the Visitor Center.	2 - 4	\$5 (with paid Montpelier admission)
BW	July 31	Galax	GPS Workshop/Basic Timber Cruising Learn the basics of using GPS to navigate/map your property in the morning. In the afternoon, learn how to determine your timber volume. Join us for either or both sessions. If you are planning on attending both sessions, feel free to bring a bag lunch.	9 - 12 & 1 - 4	Free
EHC	Aug. 11	Mt. Savage, MD	Maryland Stewardship Project: Woodland Workshops Woodland Recreation This workshop will explore how landowners may provide diverse opportunities for woodland recreation under Stewardship and Tree Farm status. Insurance responsibilities and options will be discussed.	1 - 4	Free
AD	Aug. 14 & 21	Staunton	Family Forestland Short-course: Focusing on Land Transfer to Generation "NEXT" Please join us for a hands-on workshop with free legal guidance from professionals experienced in intergenerational land transfer and landowner testimonials of estate planning steps and strategies they have used.	12:30 - 7	\$50 (up to 2 family members); \$25 ea. additional*
EHC	Sept. 8	Mt. Savage, MD	Maryland Stewardship Project: Woodland Workshops Forest Ecosystems This workshop will help landowners understand how a forest ecosystem functions and changes. Large-scale forest ecosystems and carbon footprints will be discussed.	1 - 4	Free
AD	Oct. 6	Madison	Natural Hardwood Charcoal Making Demonstration An open-house demonstration occurring at the Madison Farmers Market next to the Madison Primary School. Cooking with real charcoal and taste-testing samples with local sausage!	8 - 12	Free

*includes meal(s)

You Ain't From around Here! Exotic Invasive of the Quarter: Kudzu Bug (*Megacopta cribraria*)

By: Jennifer Gagnon, Virginia Tech

Most exotic species that are invasive in the U.S. are not invasive in their native range because there are biological controls (insects, diseases, climate conditions) which keep them in check. And sometimes we go looking for these biological controls to bring to the U.S. to help us manage problem species. Biological controls undergo rigorous testing before they are released into the wild. But what happens when one of those biological controls makes the trek across the ocean and lands at Hartsfield International Airport in Atlanta, untested and uninvited? We're in the process of finding out.

As all regular readers of the column are aware, kudzu (aka the vine that ate the South) is an exotic invasive species which causes extensive problems throughout the SE United States (see VFLU Volume 21.4, Fall 2007). In its native Japan, kudzu is kept under control in a number of ways. For one, many parts of the plant are used in cooking (see <http://www.southernangel.com/food/kudzurcp.html> for delicious recipes - I know deep-fried kudzu greens are a favorite in my family!). But humans aren't the only ones eating the vines...let me introduce you to the kudzu bug. The kudzu bug (aka bean plataspid, lablab bug, or globular stink bug) feeds on kudzu in its native habitat. And in 2009 it went international, arriving in Georgia. In just two years, it has spread to most counties in Georgia and North Carolina, all of South Carolina, a few counties in Alabama, and it has just been found in Patrick County, Virginia. Two-hundred and fifty samples of the bug have been traced back to one mother, lovingly called GA-1. According to the USDA Forest Service, last year these critters reduced kudzu growth by 32% on research plots in Athens, Georgia.

So, let us send out an embossed invitation and roll out the red carpet for this bug, right? Not so fast. First, in terms of kudzu reduction, even though the foliage growth is decreased, the roots can be 12 feet deep and weigh up to 300 pounds. So it could take many years of feeding to weaken the plants. And, much more importantly, the kudzu bug feeds on legumes (plants which fix nitrogen in the soil). Kudzu is a legume, but so are soy, mung, kidney, lima, and green beans. Untreated soybean crops in Georgia infested with the kudzu bug are showing an average of 19% reduction in production.

The insects are true bugs, with sucking mouth parts. They don't eat the actual beans - instead they feed on the main stem. Adults and immature insects (nymphs) gather in large groups and suck sap from a host plant, weakening and stunting it, resulting in a reduction in the number of pods per plant and the number of beans per pod. In the U.S. over the past 10 years, we've grown an average of about 3 billion bushels of soybeans, worth approximately \$32 billion, so significant reductions in yield from kudzu bugs could have a major economic impact!



Kudzu bugs on a corn stalk. Photo by: Jeremy Green, Clemson University.



Kudzu bugs look for a cozy place to overwinter once their food sources start to die. Photo by: Jeremy Greene, Clemson University.

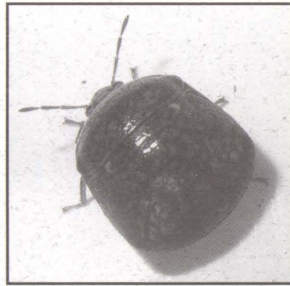
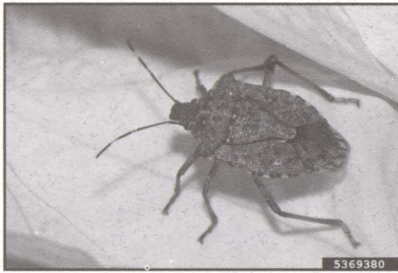
In addition to eating valuable crops, the kudzu bug has a couple of other endearing traits. For one, it congregates on light-colored surfaces and overwinters in homes (like the much-hated Asian ladybeetle - see VFLU Volume 24.1, Winter 2010). Property owners with nearby kudzu patches can expect to find the kudzu bug on the sides of their homes and in their cars. And, like the brown marmorated stink bug which currently co-habitates with many of us, the kudzu bug emits an unpleasant odor when disturbed.

How to Identify the Kudzu Bug

Although the kudzu bug resembles the brown marmorated stink bug, it is actually in a different family, and much smaller, about 0.25" in length (pea-sized). They are greenish-brown, and round with a wide posterior. They appear to waddle when they walk and are excellent fliers (which helps account for their rapid spread across the Southeast).

Kudzu bug cont. on page 4

Kudzu bug cont. from page 3



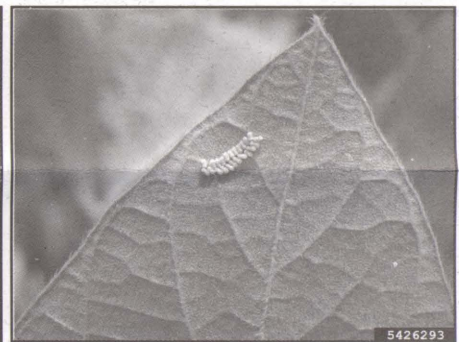
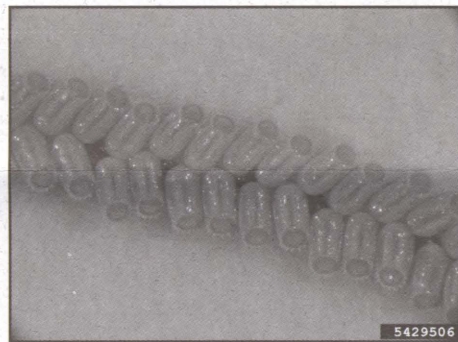
In addition to being much larger, the brown marmorated stink bug (left) has a distinctive shield-shaped body instead of a square-shaped body like the kudzu bug (right). Photos by: Daniel R. Suiter, University of Georgia (left) and Susan Ellis (right).

How to Control the Kudzu Bug

What does all this mean? Does this alter our kudzu control efforts? Less kudzu means the bugs may simply eat more of our desirable agronomic crops. So we keep the kudzu? Grow more kudzu? If they are outside your house or car, they can be controlled with any over-the-counter insecticide. For bugs inside your house or car, neither bug spray nor squashing (recall the foul odor they emit) are recommended. Minimizing the number of bugs that get into your home is the best tactic – the same measures that keep the Asian ladybeetle out are effective against the kudzu bug. If they do infest your home or car, use a vacuum to suck them up and change the bag when you finish. Keep in mind, if there is a patch of kudzu nearby, you will quickly get reinfested, so for a control program to be successful, it must also include kudzu removal. Fortunately, the bugs do not bite and do not eat houseplants.

Infested agricultural crops can be treated successfully with insecticides. However, timing of treatment may be critical. Since kudzu bugs feed on the stems of plants, pesticides applied from above may not make contact, especially late in the season when the crops have dense foliage. Pesticide application when crops are young may result in better pesticide-bug contact and prevent large population build-ups later in the season.

Egg masses magnified (left), and deposited on a leaf (right). Photos by: Paul Smith, University of Georgia (left), and Jeremy Greene, Clemson University (right).



Early tests indicate pyrethroid insecticides (man-made pesticides similar to the natural pesticide pyrethrum, which is produced by chrysanthemum flowers), work well. And perhaps a combination of pyrethroid and neonicotinoid insecticides will work even better.

Entomologists are also working on a biological control, something that is a natural enemy of the kudzu bug in Asia.

Recall, this insect has only been in the U.S. for 2.5 years now. More research is needed to find the most efficient, safe and economical way to deal with this new pest.

Watch videos about the kudzu bug on You Tube: <http://bit.ly/Kzk98C>

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EVENT CONTACTS

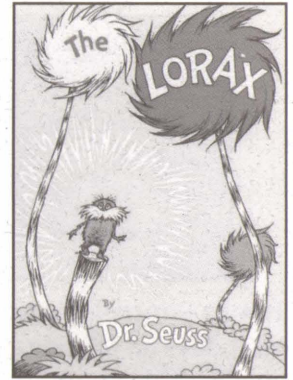
Contact	Name/Affiliation	Phone	e-mail/website
DCR	Department of Conservation & Recreation	804/786-1712	www.dcr.virginia.gov
MP	Michelle Prysby	434/872-4580	www.virginiamasternaturalist.org
EHC	Evergreen Heritage Center	301/687-0664	www.evergreenheritagecenter.org
AD	Adam Downing	540/948-6881	adowning@vt.edu http://www.anr.ext.vt.edu/enviroandnatres/programs/family-lands/index.html
BW	Bill Worrell	276/889-8056	bworrell@vt.edu

What Good are Truffula Trees?

By: Adam Downing, Virginia Cooperative Extension

Dr. Suess's "The Lorax" was published in 1971, coincidentally, the same year I was born. Forty years later, I find myself in a vocation having a lot to do with trees and the book hitting the silver screen. Besides these parallels giving me shivers, the likeness of the message communicated in the book (and presumably the movie) with life in "Realville" are worth examining.

Wikipedia says, "The book is commonly recognized as a fable concerning industrialized society and the danger it poses to nature..." While I doubt anyone would argue that industrialized society, such as ours, has caused damage, the discussion livens when we attempt to quantify/qualify this and even more when we back up to our personal ethics. These ethics are rooted in our upbringing and even our religious belief system. While these are valid discussions, this is not the forum so let's just take a look at what "The Lorax" teaches.



The story line is centered on the clearing of a special forest for the purposes of creating a product folks have been convinced they need. Taking this story line very simply can lead some to thinking it is wrong to cut trees and certainly wrong to cut down a whole forest. When I ask 4th graders if it's bad to cut down a tree, most hands raise without hesitation.

What's wrong with this picture? Every society, industrialized or not, depends on natural resources. Some of these resources are from non-renewable reserves such as oil, mineral and rock. Other natural resources originate from renewable sources such as animals (bone, fur), and wild plants such as blackberry bushes and trees. The debate should not center on industrialization.... the Native Americans who once controlled the Eastern United States modified the landscape considerably. Fire was used to clear, and keep clear, vast acreages of forests. Most logging today, unless it is pre-development clearing, is simply a harvesting of a resource from land that will once again grow large trees. As for renewable or not, this is a debate worth having.

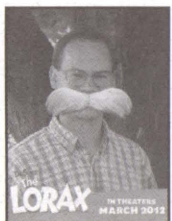
When the Once-ler cut the first truffula tree and the Lorax appeared from the stump to "speak for the trees" Mr. Once-ler argued "I chopped just one tree." A better response would have been to present a plan to replace that tree and to know the ecological impact of different harvesting methods. Let's take the Brown Brown Bar-ba-loots (bears?) who we know use Truffula trees for their shade and fruit. Perhaps these fantastical species could benefit from a sustainable harvesting of Truffula trees in a way that regenerates new trees and at the same time realizes an economic value. I've never known a forest that could not be managed for multiple goods AND services, and from the look of a Truffula forest, I would expect no different.

After all, there is a seed! The last page of my copy of the "The Lorax", given to me by my parents when I was 6 or 7, expresses the hope intrinsic to the renewability of forests. As the Once-ler lets something fall.... "It's a Truffula Seed. It's the last one of all! You're in charge of the last of the Truffula Seeds. And Truffula Trees are what everyone needs. Plant a new Truffula. Treat it with care. Give it clean water. And feed it fresh air. Grow a forest. Protect it from axes that hack. Then the Lorax and all of his friends may come back."

Yes, we do all need trees like these, but for more than the Lorax gives.

Truffula's truths

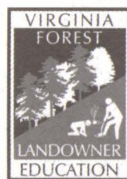
We need land to grow trees,
for the critters and bees.
Trees give us lots of good,
Clean air, water and even wood.
We can each be satisfied,
Its renewability is gratified.



Enjoy the movie, consider what's true.

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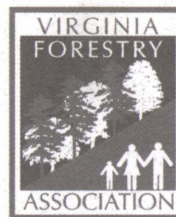
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Useful Resources: Threatened & Endangered Species

- Virginia's Natural Heritage Program inventories native plants and animals and the ecosystems on which they depend. View all their resources, including lists of Virginia's rare animals, plants and natural community types, at: http://www.dcr.virginia.gov/natural_heritage/infoservices.shtml#lists or call for information: 804/786-7951;
- For questions on T & E animals, contact the Virginia Department of Game and Inland Fisheries: www.dgif.virginia.gov, 804/367-1000;
- For questions on T & E plants and insects, contact the Virginia Department of Agriculture and Consumer Services: www.vdacs.state.va.us, 804/786-2373;
- Assistance on T & E species can also be obtained through the United States Fish and Wildlife Service: www.fws.gov, www.fws.gov/northeast/virginiafield/index.html, 804/693-6694.

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