

The Department of Forestry's Tomorrow Woods Incentive Program
By: Rob Suydam, Virginia Department of Forestry

In 2011, the Virginia Department of Forestry (VDOF) began to offer Virginia forest landowners a unique funding program called Tomorrow Woods to assist them in the development of conservation easements on their land. Since that time, the program has supported the development of 12 conservation easements that protect 3,300 acres of land, more than 3,000 of which are forested. In an effort to gain even more success, VDOF has created new incentives in the Tomorrow Woods program to expand the program's impact.

The Tomorrow Woods program, supported by Dominion Virginia Power, is available to landowners interested in developing conservation easements on their forestland. The program is available to forest landowners in the counties of Dinwiddie, Gloucester, Isle of Wight, Prince George, Southampton, Surry and Sussex, and the City of Suffolk. Landowners in these areas may be eligible for up to a \$20,000 payment based on property attributes such as acreage, forest management, and forest cover, as well as easement enhancements selected by the landowner.

Many Virginia forest landowners face the issue of how they will pass their land down to the next generation. Private owners hold 13 million acres of Virginia's forestland, seven million of which is owned by landowners age 55 or older. With the decisions made today, these landowners will either protect our farms and forests or convert to them to other uses. For some families, protection from development provided by a conservation easement is the answer.

Judi Guy, who, with her father, followed through with her mother's dream of protecting the family's 306 acres, said, "My mother wanted the land to go into conservation easement because of the feature of perpetuity for the land being used for sustainable forestry management using Best Management Practices." When the conservation easement was recorded, the timing was special for Judi and her Dad. "The irony is it was two years ago we lost Mom. The timing could not have been more meaningful to me."

Private land managers are not the only ones choosing conservation easements; professional land managers are as well. Forest Consultant Lee Bethea developed two conservation easements protecting more than 600 acres of land and nearly a mile of the Nottaway River. "It gives me a lot of pleasure knowing that with the VDOF I've done something to protect the land and timber, forest management practices, water quality, wildlife, scenic beauty and recreation for future generations. An easement is the only way that I could be assured that the land will look the same 100 years from now," said Bethea.

A conservation easement is a voluntary legal agreement between the landowner and a government agency or land trust that limits future development of the land to protect its conservation values. Conservation easements limit the division and development of the property to protect values such as forestry, agriculture, open space and wildlife habitat. The organization holding the easement is responsible for enforcing the easement's terms, which are perpetual, applying to all future landowners. Landowners continue to own, use and control their land, and are able to sell it or pass it on to heirs.

Forestland conservation is an integral part of VDOF's mission to protect and develop healthy, sustainable forest resources for Virginians, and to work with landowners to protect large blocks of working forests by keeping them intact and unfragmented through the development of conservation easements. For more information on the Tomorrow Woods program and land conservation, contact Rob Suydam.

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Conservation easements held by the Virginia Department of Forestry promote working forests on private lands.
Photo by: Rob Suydam, VDOF.

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VIRGINIA FOREST LANDOWNER UPDATE

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New Initiatives Enhance Critical Habitats
By: Brian A. Chandler, National Wild Turkey Federation

The National Wild Turkey Federation (NWTf), the leading conservation organization dedicated to improving upland wildlife habitat, and the USDA's Natural Resources Conservation Service are partnering on two initiatives to enhance critical ecosystems on private land across 16 states.

The Golden-Winged Warbler Initiative and Longleaf Pine Initiative will improve habitat on private land for targeted species and countless other wildlife and plant species that flourish in the same habitat.

"These are landscape-scale habitat initiatives that will have far-reaching effects," said James Earl Kenamer, Ph.D., the NWTf's chief conservation officer. "The NWTf and our expert wildlife biologists are uniquely positioned to be the driving force behind these critical, on-the-ground habitat improvements. These initiatives will make significant impacts on golden-winged warblers, longleaf pines and the countless other species that depend on these shared habitats."

Daily, 6,000 acres of prime upland habitat are lost to development. Improving existing habitat will make a significant, long-term impact on upland wildlife and help counter these ongoing losses.



High quality golden-winged warbler habitat, consisting of patchy shrublands and forest edges, as depicted in the photo on the left, has been in decline. Longleaf pine forests, once common throughout the southeast, are slowly being restored. A young planted longleaf pine forest is shown in the photo on the right.
Photos by: Brian Chandler, NWTf, and Jennifer Gagnon, Virginia Tech.

The golden-winged warbler songbird is listed as a Federal Species of Special Concern and has experienced dramatic declines, particularly throughout the greater Appalachian region, due to the loss of critical breeding habitat. Golden-winged warblers require patchy shrubland and forest edges, which are also critical for a wide range of species, including wild turkeys, ruffed grouse and migratory birds.

Longleaf pine forests once covered an estimated 90 million acres across the Southeast; today only three percent remains. Longleaf forests are home to hundreds of wildlife species,

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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 Virginia Cooperative Extension want to learn from your experiences trying to control invasive plants in your woodlands. Please follow the link below to complete a brief questionnaire. Your opinions will help educators, conservation professionals, and decision-makers better understand landowners' views toward invasive species, ultimately benefiting Virginia's forests. Thank you for your help! https://virginiatech.qualtrics.com/SE/?SID=SV_9ZZCyTFnKHINFU9

Like the Virginia Forest Landowner Education Program on Facebook.
 We are starting a monthly trivia contest - on the first of each month, be the first to answer a forestry-related trivia question, and win a free VFLEP logo hat! See the Facebook page for complete rules: www.facebook.com/VFLEP.

CONTACT OUR SPONSORS AND STATE NATURAL RESOURCE MANAGEMENT AGENCIES:

					
Virginia Department of Forestry	Virginia Tech Department of Forest Resources & Environmental Conservation & Virginia Cooperative Extension	USDA Forest Service Forest Stewardship Program	Virginia Forestry Association	Virginia Sustainable Forestry Initiative SIC/Virginia Tree Farm Committee	
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EVENTS CALENDAR			For the most complete listing of natural resource education events, visit the on-line events calendar at http://forestupdate.frec.vt.edu		
Contact	Date	Location	Event	Time	Fee
AC	Year-round	State-wide	Virginia Master Naturalist Volunteer basic training www.virginiamasternaturalist.org/chapters.html	Varies	Varies
AB	July 9	Vansant/ Grundy	Now That I Own Woods, What Do I Do Next? This program will cover topics related to woodland management, such as planning, options, and wildlife.	6:30 - 9	Free
AB	July 11	Lebanon	Now That I Own Woods, What Do I Do Next? See above.	6:30 - 9	Free
BC	July 19	Yale	National Wild Turkey Federation - Longleaf Pine Initiative Field Day See article pg. 1 for details.	9:30	Free
AD	July 21	Montpelier Station	Working Woods Walk This hike in the Montpelier Demonstration Forest will help visitors understand society's dependence on forests now and during Madison's time, and how to care for our forests today.	2 - 4	\$5 with the purchase of a mansion tour; \$10 without
AD	Aug. 13 & 20	Fredericksburg	Focusing on Land Transfer to Generation "NEXT" Are you prepared to pass the environmental and heirloom values rooted in your forest to the next generation? Join us for a workshop with free legal guidance from professionals in intergenerational land transfer.	12:30 - 7	\$60/person or couple*
JG	Aug. 17	Appomattox	On-line Woodland Options Field Trip This hands-on field day will focus on tree identification, the use of field equipment, and discussion of forest management activities in the outdoor classroom on the Appomattox-Buckingham State Forest.	9 - 4	Free for On-line Woodland Options students; \$15* for others.
JG	Sept. 6-8	Wakefield	Fall Forest Landowner Weekend Retreat Join fellow forest landowners, the Virginia Department of Forestry, and Virginia Cooperative Extension for an interactive weekend learning about actively managing your woodlands.	Program ends at 12:00 p.m. Sun	Varies - please visit the website for details.
NC	Oct. 3	Northampton	37th Annual Fall Forestry & Wildlife Field Tour Join VCE, natural resource professionals, and fellow forest owners to learn about forest and wildlife management on private, public, and industry-owned lands.	TBD	\$45/person; \$80/couple*
JF	Oct. 15	Patrick	37th Annual Fall Forestry & Wildlife Field Tour See above.	TBD	TBD*
AD	Oct.18	Culpeper	37th Annual Fall Forestry & Wildlife Field Tour See above.	TBD	\$45/person; \$80/couple*
BW	Oct. TBD	Roanoke	37th Annual Fall Forestry & Wildlife Field Tour See above.	TBD	TBD*
If you are a real estate professional or Commissioner of the Revenue, please visit the Landowner Update website for a schedule of our continuing education classes, Real Forestry for Real Estate. (www.forestupdate.frec.vt.edu).					
*meals included **meals and lodging included					

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You Ain't From Around Here! Exotic Invasive of the Quarter: Laurel Wilt By: Jennifer Gagnon, Virginia Tech

This quarter, I'm writing about laurel wilt, a disease which, as far as we know, isn't in Virginia yet. But it was originally identified in Georgia, has since spread through much of Florida, and has also been found in North and South Carolina. So, like so many other exotic invasives, it's probably well on the way. Although there is some migration of the beetles on their own (populations can spread up to 20 miles a year), humans moving firewood, wood for grills, mulch and tree trimmings are responsible for most of their travel.

Laurel wilt is a vascular wilt disease caused by the redbay ambrosia beetle (*Xyleborus glabratus*) and its fungal friend (*Raffaelea lauricola*). These partners in crime have a symbiotic relationship (a close and often obligate arrangement between different species that live together, often to their mutual benefit). They are native to India, Japan, the Bonin Islands, Myanmar, and Taiwan. The beetle was identified in Georgia in 2002, presumably a hitchhiker on some solid wood packing materials (such as crates or pallets). As far as we know, it only affects species in the aromatic Lauraceae family, which includes Virginia species such as redbay, sassafras and spicebush.

So how does this beetle-fungus relationship work? A female redbay ambrosia beetle enters a healthy tree and creates galleries in the xylem (a layer of dead cells which transport water and nutrients from tree roots to the crown). As the beetle tunnels, the fungus, which she carries in her mycangia (specialized structures at the end of her mandibles), oozes out into the xylem. She may lay eggs at this time, but more commonly, she will simply create her fungus-filled galleries and exit the tree.

Symptoms of an infected tree may not be immediately apparent, although small sawdust tubes, made out of frass from the tunneling beetle, may appear on the bark. If the bark is peeled away at these locations, small shot holes where she entered will be present, as well as a dark-blue stain. The dark-blue stain is believed to be the tree's reaction to the introduction of the fungus. Redbay ambrosia beetles do not actually consume any wood during their tunneling escapades.

In the meantime, the fungus, now safely inside, sits back and allows the xylem to move it throughout the tree. This is a very aggressive vascular wilt pathogen, as it is capable of colonizing the entire tree from a single introduction. Once established, the fungus inhibits the xylem's transport system, interrupting the flow of water and nutrients throughout the tree.

At this stage, symptoms such as wilted foliage with red/purple coloration may begin to appear either in isolated parts of the crown, or throughout the entire crown. Eventually, the leaves will turn brown, although they will remain on the tree up to two years. Once the tree reaches this weakened stage, the redbay ambrosia beetle will return, along with many other species of ambrosia beetles. Female redbay ambrosia beetles will create more galleries and lay their eggs in the dying tree. The larvae will then feed on the now well-established fungus (their ambrosia) as they develop. (It's important to note that not all ambrosia beetles are bad. In fact, some species of ambrosia beetle, those which only invade weakened trees, are considered beneficial, expediting the decay of dead and dying woody material.)

Smaller trees do not seem to be as affected by laurel wilt disease. This may be because they are not well-suited for egg laying and as such are not targeted by female redbay ambrosia beetles. In areas where large infected trees are mostly dead, there is abundant regeneration of Lauraceae species. This means these species probably won't become extinct as a result of laurel wilt disease. But the question remains, are the beetles and their fungus still in the area, just lying low? And as the small trees grow larger and become more suitable for egg-laying, will the beetles emerge and whack them as well? Currently there isn't any research published which looks at these issues.

Laurel wilt cont. on page 4



Signs and symptoms of laurel wilt disease include (left to right) blue-stained galleries in the wood, frass tubes, and eventually, wilted red/purple foliage.
Photos by: James Johnson, Georgia Forestry Commission, and Albert Mayfield, USDA Forest Service.

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including 29 species that are listed as threatened or endangered, and are important to the continuation of these species. This habitat is extremely important for wild turkeys.

Through these free public-private initiatives, the NWTf will work with 725 private landowners to help them improve habitat on their land by providing technical assistance and preparing habitat management plans. These efforts will provide expert guidance and help landowners participate in existing federal cost-share programs to help fund these critical improvements. The NWTf also will conduct 38 wildlife habitat management field days to provide landowners with the tools to help wildlife on their lands

In Virginia, private lands on the Blue Ridge divide and westward to the West Virginia line can potentially qualify for the Golden-Winged Warbler Initiative. Private lands in Virginia's coastal plain can potentially qualify for the Longleaf Pine Initiative.

The NWTf is having a Longleaf Pine Initiative Field Day in Yale, Va., at the Ruritan Club July 18, at 9:30 a.m. There will be presentations and field trips on wildlife habitat and forestry. Landowners with questions or interest in NWTf programs should contact Brian A. Chandler.

Brian A. Chandler is a wildlife biologist; bchandler@nwtf.net; 865/414-8524.

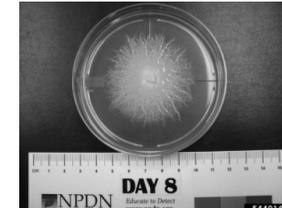
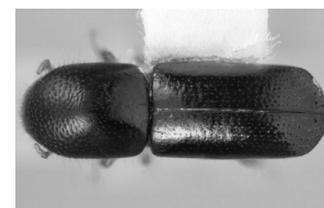
Editor's Note: Brian A. Chandler will also be speaking about the Golden-Winged Warbler Initiative during the Fall Forestry & Wildlife Field Tour in Roanoke County in October. See the Events Calendar for details.

Laurel wilt cont. from page 3

What types of impacts might we expect upon the arrival of laurel wilt disease? Redbay is not a very common species in most of Virginia, as its native range is limited to the far eastern part of the state. But sassafras and spicebush are commonly found throughout Virginia. Fortunately, none of these have major commercial value, although redbay and sassafras can be used for making cabinets and furniture. However, all three are valuable for wildlife, especially songbirds and insects. In fact, the Palmedes swallowtail butterfly larvae feed exclusively on redbay leaves and the Prometheus silk moth lays its eggs on spicebush. So wildlife stands to lose some valuable habitat elements. And in states like California and Florida, where an extremely economically important Lauraceae species, the avocado, is grown, laurel wilt disease could have staggering impacts.

How to identify the redbay ambrosia beetle: Probably very difficult for a non-entomologist to identify down to the species level. But, it is a small elongate, cylindrical beetle, about 2 mm long. They are almost black, and almost shiny (hence its Latin name *glabratus* which means smooth and shiny). The larvae are white legless grubs with amber colored head capsules. Males of the redbay ambrosia beetles have not been well-studied, but males of other ambrosia beetle species are dwarfed, haploid, and flightless.

How to identify *R. lauricola*: Unless you are a mycologist, you probably won't be examining fungal spores under a microscope, but I've included a photo, just in case you are curious.



A female redbay ambrosia beetle (left) and its fungal friend, *R. lauricola* (right).
Photos by: Michael C. Thomas, FL Department of Agriculture and Consumer Services, and Samuel Glucksman, Bugwood.org.

What can you do? Research is still being conducted on the best management strategies and to identify resistant individuals for breeding purposes. For now:

- Do nothing
- Limit the movement of infected materials (i.e., don't move firewood – a good practice to live by)
- Inspect nursery stock (although this has not been identified as a vector)
- Protect healthy trees by collecting redbay ambrosia beetles in traps baited with manuka oil

The USDA Forest Service has compiled many useful resources on laurel wilt. Learn more by visiting the website: <http://www.fs.fed.us/r8/foresthealth/laurelwilt/index.shtml>.

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