

Branching Out: Maryland's Forest Stewardship Educator

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Editors: [Jonathan Kays](#), [Nancy Stewart](#), [Denni Johnson](#)

Published four times a year and distributed to more than 5,000 forest landowners, resource professionals, and others interested in forest stewardship. For a free subscription or to send news items, dates, and comments, phone 301-432-2767 x301; fax 301-432-4089; e-mail cmason@umd.edu; or mail to Branching Out, Maryland Cooperative Extension, 18330 Keedysville Road, Keedysville MD 21756-1104. The sponsoring agencies' programs are open to all citizens without regard to race, color, gender, disability, religion, age, sexual orientation, marital or parental status, or national origin.

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Red Alert Species: Invasive Life Forms to Watch for in Maryland's Forests

Look around you. We are surrounded by invasive species be they plant or animal, virus, bacteria or fungus, terrestrial or aquatic. Invasive species can be exotic or native, that is, a species that evolved here in Maryland (Yes, native species can be invasive too!). Invasive species have the potential to cause economic or environmental harm, or even harm to human health. They spread aggressively, reproduce and mature quickly, establish themselves within a wide range of climatic conditions and habitats, compete against other species efficiently, and thrive in disturbed situations. These characteristics allow invasive species to out-compete non-invasive native species, reduce biological diversity, and alter ecosystem functions such as flood or fire regimes, or nutrient cycling.

The Maryland Invasive Species Council lists the species of concern for Maryland. Some are well documented as having a negative impact on our forests (Chestnut Blight, Hemlock Woolly Adelgid, Gypsy Moth, and more). More recent invasive species to the United States have the special status of Red Alert species, which are species not yet established in Maryland but considered to be of high risk. Of the Red Alert species, there are currently four that have the potential to impact Maryland's forests: the Emerald Ash Borer, the Asian Longhorned Beetle, the Beech Bark Disease, and Sudden Oak Death. As a forestland owner, we urge you to take the time to become familiar with these species, walk your property frequently and keep a watchful eye out for these invasive species when in your forest.



Photo: David Cappaert
www.forestryimages.org

Emerald Ash Borer (EAB). The emerald ash borer (*Agrilus planipennis*), a native to Asia, is a serious pest to ash trees, feeding on and killing them within one to three years after infestation. In 2003, a Prince George's County nursery received ash trees from Michigan, in violation of Michigan's quarantine, which harbored EAB. Preventative measures resulted in the destruction of over 1,000 ash trees on 500 acres surrounding the nursery. A quarantine is in place to restrict the movement of ash trees and ash material into, out of, and through the area. There are still a few ash trees from the nursery unaccounted for. If EAB remains unchecked, losses are estimated at \$20-\$60 billion dollars, an impact potentially more serious than the gypsy moth and possibly equal to

the chestnut blight. Homeowners should keep existing ash trees healthy and avoid planting ash trees for

now.

EAB is a metallic wood-boring beetle. Adults are dark metallic green, ½ inch long and 1/16 inch wide. The most noticeable symptom of an infestation is when the upper third of the tree thins and dies, followed by shoots or branches arising below the dead portion of the trunk. Adult beetles emerge from D-shaped exit holes.

Asian Longhorned Beetle (ALB). The Asian Longhorned Beetle (*Anoplophora glabripennis*) is a pest both here in the United States and in its native country of China. While detected in New York, Illinois, and New Jersey, ALB has not been found here in Maryland. This beetle is a serious threat to hardwood trees, preferring the maple species (*Acer spp.*). Signs of stress include dead leaves during normal seasonal conditions, excessive sawdust buildup near the tree base or crotches, excessive sap oozing from the tree, and random holes in trees measuring approximately 3/8th of an inch (about the diameter of a dime). With no known natural predators, the only method of elimination is to remove infested trees and destroy them by chipping or burning. Thousands of trees have been destroyed in New York, Illinois, and New Jersey at more than \$168 million in costs. ALB has the potential to impact industries such as lumber, maple syrup, and tourism nationwide and cost billions in losses.



Photo: Donald Duerr, USDA Forest Service
www.forestryimages.org

ALB is a bullet-shaped beetle, 1-1½ inches in length. The shiny black body has white spots. The antennae are longer than the body length and banded with black and white. The white larvae bore into the live tree causing sap to flow from the wounds and frass (sawdust and other insect waste) to accumulate at the tree base. If left undetected, the ALB will girdle the tree causing it to wither and die.

Beech Bark Disease (BBD). Beech bark disease is the result of a fungus (*Nectria spp.*) which interacts with an insect, the beech scale (*Cryptococcus fagisuga*), to invade and kill American beech trees. There are two *Nectria* fungi that interact with the scale. The native *N. galligena*, causes cankers on stressed hardwoods such as black walnut, sassafras, and black birch. The more devastating *N. coccinea* is native to Europe. BBD spread from Nova Scotia south to North Carolina and east to Michigan. While the beech scale was reported in Garrett County in 2003, the associated fungus (BBD) has not yet been found in Maryland though it is nearby in West Virginia.

The beech scale is a small insect with numerous glands that secrete a white “wool-like” wax. The associated fungus produces spores in tiny, bright red fruiting bodies that are clustered on the bark. The first symptom of BBD is the white wax secretion. The “wool” will eventually spread over the entire bole. There may also be a red-brown slime oozing from dead spots on the tree. The fungus can effectively girdle the tree. Leaves of dying trees will turn yellow and not mature resulting in thin, open crowns. Scale on ornamental trees may be controlled by insecticides. However, reducing the impact of the disease in forested stands can only be achieved economically through timely salvage cuttings.

Sudden Oak Death (SOD). Sudden oak death, caused by a fungus-like pathogen related to the Irish potato blight (*Phytophthora ramorum*), has been responsible for killing tens of thousands of oaks in California over the last decade. In addition to oaks, *P. ramorum* infects over 60 plants, many common to the forest understory and the urban landscape. Possibly originating in Asia, SOD first surfaced in California in 1995, resulting in quarantines. When California's Monrovia Nursery tested positive for *P. ramorum*, plant shipping restrictions were imposed. Unfortunately, the restrictions were too late for



Photo: Joseph O'Brien, USDA Forest Service
www.forestryimages.com

Maryland as eleven nurseries had already received over 500 camellias, viburnums, and lilacs from Monrovia. Most of these shrubs were sold or planted. Testing of the remaining stock confirmed positive for the presence of *P. ramorum*. To date, *P. ramorum* has been detected in 21 states. If allowed to become established in Maryland, *P. ramorum* has the potential to impact over 60 percent of our hardwood forests. It has already negatively impacted Maryland's nursery and landscape industry.

SOD is detectable when the weather becomes warm and humid. Infected shrubs display symptoms of SOD as slight to severe black leaf spotting, stem dieback, and death. Trees develop bark cankers and, once SOD symptoms appear, they decline rapidly

and die (hence the name). A black or reddish ooze may bleed from the canker. In Maryland, both the native northern red and pin oaks are susceptible to SOD, as well as numerous ornamentals. Ornamentals and individual oaks can be annually injected with fungicide. SOD symptoms are similar to other oak disorders. A description of other potential disorders is described at www.na.fs.fed.us/SOD. Anyone who planted camellia, viburnum, rhododendron, lilac or other host plants in the past two years, or has host plants showing unusual symptoms should contact the Maryland Cooperative Extension Home and Garden Information Center (1-800-342-2507 or www.hgic.umd.edu). A list of *P. ramorum* hosts and associated hosts plants can be found at this website.

What can you do? As with any disease or infestation, early detection and swift eradication is the key to controlling a potentially devastating outbreak. This is best achieved with your help. Take the time to become familiar with the diseases and insects that have potential to impact your forest. Check the following web sites for updates on recent and on-going concerns: Maryland Cooperative Extension Home and Garden Information Center (www.hgic.umd.edu); Maryland Department of Agriculture (www.mda.state.md.us); Invasive Species of Concern in Maryland (www.invasivespecies.gov). Furthermore, avoid introducing or transporting invasive species. Consider using native, non-invasive alternatives. Minimize disturbance as many invasive species are adapted to rapidly colonize disturbed areas. Walk your woods frequently, checking your trees and shrubs closely for signs of infection. Remove any invasive species before they become a problem. Adhere to quarantines. Finally, as the movement of firewood is one of the most common ways of spreading pests, use local sources of firewood and do not transport firewood from your home. Do your part. Educate others and contact MCE Home and Garden Information Center (1-800-342-2507) or MDA Plant Pest Survey and Detection Program (1-410-841-5920) immediately if you suspect a problem.

New Publication for Forest Landowners

Forest Landowner's Guide to Evaluating and Choosing a Natural Resource-Based Enterprise (NRAES151) by Jonathan Kays and Joy Drohan. \$19.95 plus s&h. This newly released publication discusses forest stewardship, aids in assessing personal and family goals, forest and financial resources, labor needs, and potential markets. Eleven different businesses are illustrated with detailed enterprise budgets. A must for anyone considering a natural resource-based enterprise. For more information on this publication, log onto <http://www.nraes.org/publications/nraes151.html>. To order, phone 607-255-7654, FAX 607-254-8770. Order forms are available at the NRAES website, www.nraes.org.

Attention Tree Farmers! Tree Farm Reinspections Due

Message from Howard Anderson, President Maryland Tree Farm System

The American Tree Farm System developed a program to serve as an internationally recognized and respected forest certification system. This international recognition requires re-inspection of all tree farms on a five-year cycle.

One of the most difficult challenges for the Maryland Tree Farm System (MTFS) has been adhering to this five-year re-inspection cycle and some Maryland tree farms will not meet this criterion. Landowners are responsible for managing their tree farm based on a management plan, which includes free inspections. Three hundred and sixty seven tree farms are scheduled for re-inspection in the current period that began July 1, 2004 and ends December 31, 2005. Less than 30 percent have been recertified and approximately one hundred have not been inspected in the last 6 to 9 years! Tree farms lacking re-inspection will lose their certification status and fall into a member category. However, they will remain in the tree farm database. Tree farms which have not been recertified in over ten years will be deleted from the database.



Your Tree Farm Committee oversees all certifications. Recertification forms were sent to your last inspecting forester of record, so check your copy of the previous inspection form to determine your status. If you are under a Forest Conservation and Management Agreement or Woodland Assessment Procedures, your inspector is a state forester. If not, he/she may be a private forester.

Your state tree farm organization wants to help! For more information, contact one of the following MTFS representatives: Don Malaney (Western Maryland), Phone: 301-478-2758; Robert Hanson (Central and Southern Maryland), Phone: 301 762-6676; Billy Laws (Eastern

Maryland).

Riparian Video and CD/DVD Available

Riparian Forest Buffers: The Link Between Land & Water. This is a Maryland Cooperative Extension Publication produced in cooperation with numerous state, federal, and private organizations. \$15.00 video.

Chesapeake Bay Riparian Handbook. A Guide for Establishing and Maintaining Riparian Forest Buffers. This is a USDA Forest Service Publication produced in cooperation with numerous agencies and private groups. This CD includes the DVD *Riparian Forest Buffers: The Link Between Land & Water*. \$26.00 for CD/DVD set. Discounts are available for educational institutions. To order the video or CD/DVD, contact Nancy Stewart at 410-827-8056, ext. 112 or email nstewart1@umd.edu.

Baltimore Gas and Electric (BGE) Asks That You Think Ahead Before You Plant

Stop! Before you plant, look up. Are there powerlines near by? Is your tree a "utility friendly" species? These are questions you need to answer before you start any planting project where utility lines are in the vicinity. The wrong tree planted under utility lines could cause multiple problems in the future, including electrical reliability, safety, and tree health problems. You can find a list of "utility friendly" tree species on BGE's website at www.bge.com. Click on the "Energy Safety" tab on the left side of the page. Then click on the "Tree Trimming" tab.

Forest Landowner Short Course

Maryland Cooperative Extension and Maryland Forest Service are sponsoring a forestry course for landowners with little or no experience in managing their woods. Offered Thursday evenings, 7-9 p.m. from October 6-November 17, Grantsville, MD. The \$50.00 fee includes a notebook of materials and a CD of all the presentations and references. For information, contact Willie Lantz, Garrett County MCE, 301-334-6966 or email wlantz@umd.edu.

Upcoming Stewardship Events

January 28, 2006. 19th Delmarva Forestry Seminar, Delaware. Location yet to be confirmed. Information available from Dot Abbott-Donnelly at 302-697-4000 or email dotad@udel.edu. Details forthcoming.

Visited www.naturalresources.umd.edu lately? Check for latest postings!