



# TREE Cookies Etc.

May 2007

Volume 3, Issue 1



**tree cookie** (trē' kookē) n. a cross sectional slice of a trunk or branch. The concentric rings tell not only the age of that part of the tree, but also a story about the environmental conditions, history, and dynamics of that tree, in that place.

**TREE Cookies Etc.** n. 1. a free electronic newsletter dedicated to tell the story of forest stewardship, tree care, and natural resource management. 2. to help people make best decisions regarding the resources entrusted to them.

## Calendar

- May 18, 2007:  
NoVa Urban Forestry Roundtable  
Woodbridge, VA
- May 21 & Monthly last Monday evening:  
Piedmont Landowners Association Meeting  
Madison, VA
- May 25, 2007:  
Logger's Pre-harvest planning, BMPs & Water Quality Law.  
Madison, VA
- June 15, 2007: GPS - Foresters & Loggers  
Louisa, VA
- September 14, 2007:  
NoVa Urban Forestry Roundtable  
Purcellville, VA
- October, 2007:  
Forestry & Wildlife Bus Tour  
Albemarle, VA
- November 16, 2007:  
Northern Virginia Urban Forestry Conference  
Sterling, VA

Virginia Cooperative Extension



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ANR-58

Dear Reader,

*This is a great time to be outside! The spring ephemeral flowers have taken advantage of the first warm rays of sun before the shade, now blanketing the forest floor, which made it a low solar energy environment. Trees have again tracked daylight length for a precision start of another growing season with leaves nearly full out and stems' adding length and girth. Migratory birds grace us with song while looking for a fresh spread of seed, nuts, berries and insects. Lastly, there aren't too many webs going branch to branch to unexpectedly "catch" your face! Plan some outside time this week and next, observe the daily changes and become a student of your nearby natural environment.*

## Landscape Trees & Global Warming

By: Michael Kuhns, Extension Forestry Specialist, Utah State University. Used with permission.

We hear a great deal these days about global warming and its potential problems. And, we who work with landscape and urban trees have heard claims that we can greatly reduce these problems by planting and caring for trees. Certainly trees are good for our environment. But can trees make a difference in global warming? If so, how do they have an effect and how many trees are needed?

First, what is global warming, also known as the "greenhouse effect"? Certain gases, sometimes called "greenhouse gases", occur in our atmosphere naturally and help trap radiation and warm the air and land. But since the 1800's, humans have been causing large amounts of these gases to be released into the atmosphere, with carbon dioxide being the most abundant, along with methane. The main sources of carbon dioxide from our modern society are the burning of coal and oil in power plants and gasoline in automobiles.

The theory behind global warming is that increasing greenhouse gases are causing a general warming over the earth that is affecting global climate. Carbon dioxide in the atmosphere certainly has increased, and a consensus among some scientists, policymakers, and citizens suggests warming and climate change is occurring. To reduce carbon dioxide buildup and its effects on global warming, we can either

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## Ash Tree Alert: *The Emerald Ash Borer*



*Emerald Ash Borer larvae kills trees while the Adult, for which its colorful name comes, moves from one tree to another*



Whether you own a single ash tree (*Fraxinus* spp.) in your yard or a whole forest of them, be on the lookout for dying branches.

Emerald Ash Borer (EAB) is on Virginia's doorstep and this is not a welcome guest! The EAB was originally introduced to the United States in the 1990's having hitch-hiked in packing crates and pallets from Asia. It wasn't first recognized as a serious problem until 2002 when the Detroit area suddenly started losing ash trees, lots of them. With a stronghold on parts of Michigan, Ohio and Indiana, the EAB has killed more than 20 million ash trees. Ash is a major tree species in these areas both as a planted street and landscape tree and a natural component of the forest ecosystem.

The EAB was also found just north of us in Prince George County Maryland in August, 2003 resulting from an illegal shipment (quarantine violation) from a nursery in Michigan to a nursery in Prince George County. Thanks to swift action to start a firewood quarantine and an eradication zone to remove & destroy (by grinding) every ash tree in 13,700 acre area around the infestation point, the EAB has thus far not spread beyond Prince George's County. A quarantine remains in effect disallowing movement of ash trees, products, or any hardwood firewood into or out of Prince Georges's County until further notice.

*Continued pg. 4...*

## Passing on your Family Forest Heritage

More than half of the private forestland owners in the United States are over 65 years old. Approximately 10% of the family forestlands will transition from the current owner to the next within the next 5 years. In many cases this will be one or more family members, in a few cases the property will land in the hands of a non-family member. In either case, those involved often fall far short of their stewardship goals because of a lack of planning to take care of financial pressures.

Repeated research shows that forestland owners want to be good stewards of their land. When it comes to tree covered land (forests), stewardship and the next owner(s) are inextricably linked. If you own land and desire to pass it to the next owner in a manner that maintains or even improves the management, and at the same time minimizes estate settlement burdens, start planning now.

Consider one or more of the following tools to help you plan:  
[Preserving Family Lands](#) A book series by Stephen Small  
[Owning and Managing Forests](#) Book by Thom McEvoy  
[Ties to the Land](#) A new website from Oregon State University

***Conservation will ultimately boil down to rewarding the private landowner who conserves the public interest.***

- Aldo Leopold, 1934  
*Conservation Economics*

*Aldo Leopold is considered to be the "father of wildlife management in the U.S."*



### Global Warming - Continued

reduce carbon dioxide emissions (mainly burn less fossil fuels), or we can re-absorb carbon dioxide from the air. Trees enter the picture here because they can be used to take carbon dioxide out of the air. All plants make food out of carbon dioxide from the air, water, and solar energy through the process of photosynthesis. This food is then used to make most of the body of the plant, including roots, leaves, trunk, and flowers and fruit.

Trees (and shrubs) are unique among plants in that they have a woody stem and roots that get bigger every year and these woody parts last for decades or even centuries. Since this wood is mainly made of carbon from carbon dioxide, tree stems and roots are good, long-term storage places for carbon. Annual plants (such as corn, tomatoes, annual grasses) and many non-woody perennial plants (such as perennial grasses, clover, alfalfa) do not provide long-term carbon storage. Most of the carbon dioxide they absorb is re-released within one to several growing seasons as leaves, stems, and roots die and decay.

So, trees can take carbon dioxide out of the air and store it as carbon in wood. How many trees would it take to absorb all of the carbon dioxide put out by the United States in a year? On average the U.S. releases 4.8 tons of carbon per person per year as carbon dioxide, as compared to 4.3 tons for Canada, 2.0 for Japan, and 0.2 for Nigeria (figures for 1989 from Oak Ridge National Laboratory). This totals to about 1.2 billion tons of carbon that would need to be absorbed each year in the U.S. alone. According to Rowntree and Nowak (October 1991, Journal of Arboriculture), all the urban trees in the U.S. contain 800 million tons of carbon, so in 18 months the U.S. puts out as much carbon as is stored in all of our urban trees.

Planting 44 million more urban trees per year in the U.S. for the next 50 years, for a total of 2.2 billion trees, would replace trees lost to mortality and increase urban tree cover by 5% (see Rowntree and Nowak 1991). Those 2.2 billion trees, however, would only store an additional 150 million tons of carbon. At current rates, 59.8 billion tons of carbon would have been emitted in the U.S. over those 50 years, 400 times more carbon than would have been stored. The situation is made worse by the fact that these figures assume that all of the trees planted must remain alive and healthy to keep absorbing carbon dioxide.

So, planting 44 million trees per year for fifty years would result in absorbing one quarter of one percent of the carbon dioxide the U.S. would emit over the next fifty years. These figures are not presented to belittle the idea of planting trees to solve environmental problems, but we should not be planting trees in U.S. cities and towns thinking that we are absorbing great amounts of carbon dioxide and reducing global warming. Landscape tree planting or even rural tree planting in the U.S. is unlikely make a significant dent in absorbing the carbon dioxide we release.

The only way we can significantly affect global warming is by changing our behavior to reduce greenhouse gas emissions, mainly by reducing the use of fossil fuels (coal, oil and gas). This is where trees can play an important role. Trees planted to properly shade a building reduces air conditioning demand by up to 70%. Well-placed trees that slow the wind can reduce energy use for heating by 30%. Trees in living snow fences reduce the energy needed to plow roads and parking lots. These are just some of the ways that trees can be used to save energy and thus reduce fossil fuel use and carbon dioxide emission.

We should all be promoting appropriate tree planting, both urban and rural, because of the many benefits trees provide. Trees certainly are not the answer to solve global warming, but they can play an important part in reducing fossil fuel consumption and carbon dioxide emission. Few pollution fighting tools provide such diverse benefits at such a low cost with such longevity. ✍



### Ash Trees - Continued

That is... except for the 16 trees that were sold to the Fairfax County School system before the infestation was recognized. Thanks to nursery cooperation and swift action, the trees were tracked down and immediately destroyed. The [Virginia Department of Forestry](#) continues to conduct an annual trapping and surveying program to monitor potential EAB activity in Virginia. So far, Virginia is free of the EAB. That's great news but also a call to continued awareness.

You can help! Be on the look-out for the following warning signs of EAB infestation:

- Canopy dieback
- Curvy tunnels under the bark
- D-shaped adult beetle exit holes

If you find evidence of any of these symptoms on ash trees, contact your local [Extension Agent, Department of Forestry Forester](#) or call 1-866-322-4512. For more information on EAB, go to [www.emeraldashborer.info](http://www.emeraldashborer.info) or call this office at 540-948-6881. ✍



## Return of the *Outdoor Report*

For the wildlife enthusiast, nature lover, outdoors man or woman, the *Outdoor Report* has returned, this time at the speed of electricity. For years the *Outdoor Report* has been retired, now it's back as a bi-weekly electronic newsletter. For a free electronic subscription go to [www.dgif.virginia.gov](http://www.dgif.virginia.gov) and click on the [Outdoor Report Link](#) to subscribe.

## Riparian Buffers for Landowners in the Lower Rappahannock Watershed

By: Tom Snoddy, Spotsylvania County Area Forester, Va Dept. of Forestry

There's an old saying that states 'We all live downstream'. As we consider how polluted the Chesapeake Bay has become, we must consider how those of us living upstream of the bay have ignored the distant downstream. Most pollution entering the bay comes as storm water through the streams and rivers in the bay's watershed. This water often contains excess nutrients from fertilizers, petroleum and heavy metals from parking lots, and silt from exposed soil. Areas that have little or no vegetation (such as a newly plowed field or new construction site) adjacent to a stream do little to filter the rainwater. Conversely, heavily forested areas are excellent filters. Grass, (lawn, pasture, or hayfield), is marginal in its' ability to filter. The Virginia Department of Forestry has teamed up with the USDA Natural Resources Conservation Service to assist landowners, who own property in the lower Rappahannock River (and its' tributaries), to plant forested buffers in areas that are currently not forested. Financial incentives are available to the landowner in many cases to assist with the associated costs. Contact your [local NRCS agent](#), or your [local forester](#) for more information. ✍





# Virginia Cooperative Extension

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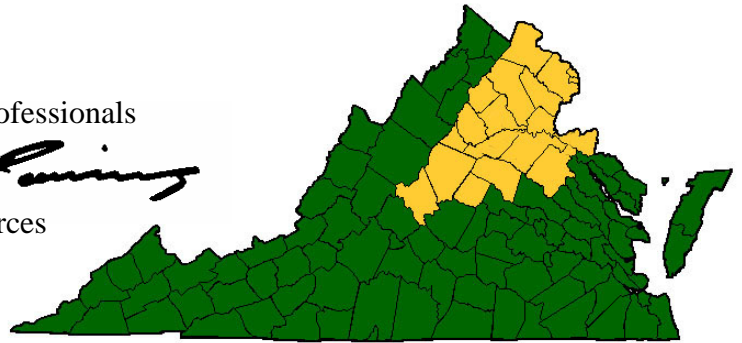
Date: May 3, 2007

To: Citizens, Landowners, and Natural resource professionals

From: Adam K. Downing

Extension Agent, Forestry & Natural Resources

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