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VIRGINIA FOREST LANDOWNER UPDATE

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

VIRGINIA FOREST LANDOWNER EDUCATION

WELCOME to the *Virginia Forest Landowner Update!* You and your family or organization are invited to learn about your role in Virginia forest stewardship by attending the events listed within these pages. These programs will provide practical information to forest landowners, natural resource professionals, youth and other interested parties on the many components of sustainable forestry.

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TO SUBMIT EVENTS AND INFORMATION.....

If your organization is sponsoring a program or has information of benefit to landowners or natural resource professionals, please contact: *Dylan Jenkins*
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INSIDE

An Assessment of Virginia's Forest Land Base: The Case for Conservation Easements

by **John Hutchinson, V**
Western Virginia Land Trust

Editor's note: This article is the first in a three-part series on conservation easements. This first article discusses the recent forest land assessment conducted by the Virginia Department of Forestry and the implications of land use change for the future of Virginia's forest land base. Future articles will discuss how conservation easements work and the legal and financial benefits of conservation easements to private forest landowners.

Is there reason for private forest landowners and the forest products industry to be concerned about the future of Virginia's forest land base? If there is cause for concern, what can private landowners, the forest industry, or state government do about it? One tool presently available to landowners is the donation of conservation easements that sever the development rights from land to protect it in perpetuity. There is also a heightened discussion of the need for Virginia to follow the lead of surrounding states by providing funding to purchase conservation easements on land, including commercial forest land, with substantial public conservation values. This series of articles discusses the condition of Virginia's forests, the prospects for increased use of conservation easements to protect the state's forest resources, and the benefits that landowners and the Commonwealth can derive from the use of this land protection tool.

An Assessment of Virginia's Forest Land

In 1992, nearly two thirds of Virginia's 25 million acres were in forest, according to the U.S. Forest Service. Because vast tracts of marginal farmland had been planted to tree cover, the Commonwealth had more forest land in 1992 than it did before World War II (Johnson 1992, 1). Yet the *Virginia Forest Land Assessment*, completed by the Virginia Department of Forestry (VDOF) in 1997, found that while the state has 15.4 million acres forest land, only 8.5 million acres, about half Virginia's forested lands, are "likely to remain available for timber production," over the long term. *Forest Statistics for Virginia*, the forest census intermittently conducted by the U.S. Forest Service, was last released in 1992. It is often cited as showing that the Commonwealth's forests are on the increase. But what gets counted as "forest land" in this survey might surprise many lay people. The "forest land" base that is expanding includes all, "land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for non-forest use" (Johnson 1992, 10).

Following the publication of the 1992 federal forest census, the VDOF began a long term assessment of Virginia's forests that emphasized "population and land use changes and the implications of these changes on Virginia's forest resources." This state study, which is ongoing, resulted in the publication of the *Virginia Forest Land Assessment* in 1997, a look behind the broad federal definition of "forest land." The VDOF found that forest land in Virginia includes 71,677 acres - more than a quarter of Fairfax County - which is largely suburban land. Likewise, 51,928 acres - about a third of Henrico County - meets the technical definition of "forest land" but was found by the department to be too populated to be of much use as forest (Liu and Scrivani 1997, 23-24). The study put solid numbers behind a trend that most long-term residents of Virginia already recognize. "Forest land is becoming increasing[ly] fragmented as urban and suburban development reaches into the countryside" (Liu and Scrivani 1997, 6).

Virginia has 25.4 million acres of land, 15.4 million of which meets the federal definition of "forest land." About 3.1 million acres of forest land - more than 12 percent of the land in the state - is considered "non-rural" and "unsuitable for timber production" because it is so densely populated that it "is likely to become unavailable for timber production through residential or other development, at least by the time the existing forest reaches economic maturity" (Liu and Scrivani 1997, 1). Subtracting this suburban land from all forest land leaves 12.3 million acres of "rural forest land." Of this, 1.1 million acres - nearly five percent of the land in the state - was classified as unsuitable for commercial timber production because it occupies parcels less than five acres in size. Another 2.7 million acres, is classified as unsuitable for commercial timber production due to slope or "spatial arrangement" (Liu and Scrivani 1997, 13). The balance, only 8.5 million acres of land, is "likely to remain available for timber production" when it reaches economic maturity, in a few decades. All totaled, about 17 percent of Virginia's land base - 4.3 million acres of forest land - will

***ASSESSMENT* continues on page 5**

EVENTS CALENDAR

event contact	date/ location	event/description *(preregistration requested unless noted otherwise; TBA = to be announced)*	time	fee
		23rd Annual Fall Forestry and Wildlife Bus Tour Series. Tour several demonstration stops on private woodlands, industry, and public lands which show management practices that apply to non-industrial private forests. Foresters, wildlife specialists, and land owners will provide information on how they grow trees and encourage wildlife. Programs focus on multiple-use management opportunities and how landowners can achieve specific income, recreational, and other objectives. Dress comfortably for the weather and walking in the woods. Lunch provided. Registration at the door $30.00.		
	Four dates and locations:			
RL	October 12	*Warm Springs (Bath County)*	8am-5pm	$25.00
JH	October 14	*Rocky Mount (Franklin County)*	8am-5pm	$25.00
GC	October 19	*Petersburg (Prince George County)*	8am-5pm	$25.00
CL	October 21	*West Point (King William County)*	8am-5pm	$25.00
VT	October 19-20 *Blacksburg*	**Faster Point Sampling.** Point sampling is the most cost-effective means of obtaining volume estimates for forested areas. Course provides knowledge to better design, conduct, and analyze point samples for pulpwood and sawlog volume estimates. Techniques presented will allow timber cruisers to collect samples faster with no loss of accuracy. *Register online at: www.conted.vt.edu/faster/point.htm*	8am-5pm	$225.00
HH	October 26 *Blacksburg*	**Forest Finance I: *Basics*.** The basic tools of financial analysis are not new, but their use in forestry enterprises requires special understanding to avoid misapplication. *Forest Finance I: Basics* will emphasize basic financial tools including compound interest concepts and techniques, decision trees for selecting analysis formulas, estimating interest rates, and introduction to financial software.	8am-5pm	$175.00 *($425.00 Finance I & II)*
HH	October 27-28 *Blacksburg*	**Forest Finance II: *Applications and Case Analyses*.** The continuation of the above course, this course covers advanced forest finance concepts and techniques including: calculation of land expectation values, techniques for valuing land and timber at intermediate ages, application of the income approach in appraisals, selecting before-tax or after-tax analyses, measures of inflation, timber price series and measures of real price change, and sensitivity analysis. Case studies will be used to demonstrate and practice analysis concepts. Register on-line at: *http://www.conted.vt.edu/forestry/finance.htm*	8am-5pm	$295.00 *($425.00 Finance I & II)*
AFF	November 4-7 *Louisville, KY*	**1999 National Tree Farmer Convention.** Numerous pre- and post-conference tours provide opportunities to visit hardwood manufacturing facilities, walnut plantations, and Mammoth Cave. Conference seminars include income taxes (additional fee), estate planning, alternative income sources, forested flyways, conservation easements, worldwide hardwood markets, road design and layout, fisheries management, crop tree management, and mitigation banking. Online at: *http://treefarmsystem.org/*	all day each day	$150.00 + tours
VT	November 9-10 *Blacksburg*	**Getting More From Your timber Cruises.** Companies in the wood-buying business can spend thousands of dollars each week based on volume estimates from timber cruises, while companies in the land management business can use cruise data to make decisions that can have significant long term implications. In both cases, timber cruisers need to have confidence in their data and know how to make the most of what they have. Participants should bring a statistics calculator.	*Nov. 9* 8am-5pm *Nov 10* 8am-12pm	$250.00
VT	November 16 *Blacksburg*	**Global Positioning Systems.** Global positioning systems are satellite-based alternatives to conventional surveying. Originally developed by and for the military, they are now being widely applied to all forms of geographic location and navigation. GPS has many applications to forestry and the increased availability of equipment makes them economically attractive.	8am-5pm	$175.00 *($425.00 for GPS & AGPS)*
VT	November 17-18 *Blacksburg*	**Advanced Global Positioning Systems.** A two-day intensive course covering theory and methods of GPS application to natural resources mapping. This class provides GPS hardware and software, and includes written class materials for the student's reference. Instruction will include classroom presentation of conceptual materials, field exercises with GPS receivers, and lab exercises with GPS post-processing software using fully functional, professional grade equipment.	8am-5pm each day	$295.00 *($425.00 for GPS & AGPS)*

USING THE CALENDAR For more information or to register for a specific event, identify the event contact (whose initials are to the left of the event), by referring to the "Event Contacts" information box (for example **VT** = Virginia Tech).

event contact	date/ location	event/description *(preregistration required unless noted otherwise; TBA = to be announced)*	time	fee
ACB	November 17-19 *Annapolis, MD*	**Balancing the Landscape - Retaining Forests in the Chesapeake Bay Watershed.** This conference will provide an in-depth look at forest loss and fragmentation in the Chesapeake Bay watershed. A series of expert presentations, combined with facilitated participant focus group sessions will advance the process of defining and characterizing the impacts and issues associated with forest fragmentation in the Chesapeake Bay watershed. Participant input will be used to help develop strategies to address watershed issues. *http://www.acb-online.org*	all day each day	$125.00
GL	November 30 *Leesburg*	**Forest Fragmentation Workshop.** Loudoun County is the third fastest growing county in the United States. This one-day workshop will address issues of maintaining, enhancing, and sustaining fully functioning forested ecosystems in Loudoun County and the surrounding Northern Virginia area.	8am-5pm	$75.00 $80.00 at the door
	Two dates and locations:	**Timber Income Tax for Accountants, CPA's & Tax Practitioners.** Course provides a working knowledge of major federal income tax aspects of timber resource management. Emphasis will be placed on implications of recent tax changes for timber investment, marketing and management planning, and will provide information on federal income tax reporting. Participants will gain familiarity with each major area of federal income tax law, regulations, and administrative rulings that affect timber.		
HH	November 30	*Richmond (Sheraton Park South)*	8am-5pm	$165.00
HH	December 2	*Virginia Beach (Virginia Beach Resort Hotel)*	8am-5pm	$165.00
VT	December 1-2 *Hampton Roads*	**Statistics for Forest Inventory.** Increased competition for wood supply requires better and faster inventories. This course is designed to give foresters and land managers the tools necessary to design, conduct, and analyze forest inventories that provide desired accuracy. Participants should have inventory experience, but no statistics background is needed; participants should bring a statistics calculator.	*Dec. 1* 8am-5pm *Dec. 2* 8am-12pm	$235.00
LS	December 5-7 *Richmond*	**VA Association of Soil & Water Conservation Districts Annual Meeting.** Annual conference for Virginia Soil and Water Conservation District staff and cooperating natural resource professionals. Meeting will focus on "Connecting for Conservation," including building successful partnerships between natural resource agencies and public groups.	all day each day	
SH	December 7 *Blacksburg*	**Forest Certification: What You Should Know.** Learn about marketing opportunities for your forest through third-party certification. Workshop will include presentations on and discussion of a variety of topics relating to voluntary, third-party forest certification through the Forest Stewardship Council.	8am-5pm	no fee
BS	December 9-10 *Blacksburg*	**Law for Foresters.** Short course provides an overview of principles of law and legal issues typically encountered by practicing professional foresters in todays complex business and operating environment. Topics include contract law, real property law, liability law, labor law, antitrust law, and environmental; law. Cases and examples will highlight legal principles and precedents.	*Dec. 9* 8am-8pm *Dec. 10* 8am-12pm	$125.00

EVENT CONTACTS

for more information or to register for a specific event, please contact:

event contact	name/affiliation	phone	fax	e-mail
ACB	**Alliance for the Chesapeake Bay**	800/662-2747		mail@acb-online.org
AFF	**American Forest Foundation**	888/889-4466		info@affoundation.org
BS	**Bob Shaffer,** Virginia Tech Department of Forestry	540/231-7744	540/231-3330	rshaffer@vt.edu
CL	**Chris Lawrence,** King William County Cooperative Extension	804/769-4955	804/769-4954	ex101@vt.edu
GC	**Glenn Chappell,** Prince George County Cooperative Extension	804/733-2686	804/733-9476	gfcii@vt.edu
GL	**Gene Lessard,** National Watershed Coalition	540/338-6143		lessard@erols.com
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SH	**Shoana Humphries,** Forest Management Trust	352/331-2007	352/331-3284	sh@foresttrust.org
VT	**Virginia Tech,** Division of Continuing Education	540/231-3122	540/231-9886	bfalls@vt.edu

Research Focuses on Ice Storm Damage to Southwest Virginia Forests

by **Paul Mou**, *Professor of Forestry*
Virginia Tech Department of Forestry

Ice storms, also commonly referred to as glaze storms, are common throughout eastern North America, and frequently cause damage to trees in forests. Glaze is defined by the US Weather Bureau as homogeneous, transparent ice layers that are deposited on horizontal and vertical surfaces during ice storms. It is usually formed when supercooled rain falls on a surface with a temperature less than 0°C. In the central and southern Appalachian Mountains, ice storms have been a major natural disturbance in local forests, and have significant impacts on the distribution and development of local forests. Damage caused by ice storms can hinder timber production, reduce the value of forests as wildlife refuges or recreational areas, and exert tremendous economic effects on forest industries, forest landowners, and public forest agencies.

Damage to trees occurs when ice adds excessive weight to leaves and branches of trees. Trees may be uprooted, decapitated, or suffer massive crown loss as large branches are broken off. Loss of large portions of the crown usually results in reduction of growth. Trees may also be bent over by the ice load. Some may eventually recover, but many will be deformed. However, light ice damage may help trim off small branches and faulty limbs.

Severity of ice damage to trees is largely determined by the ice load and the physical resistance of the trees. Ice accumulation on branches or tree canopies is affected by the local environmental conditions and microclimate, while the resistance of the trees to ice damage depends on many physical characteristics of the trees, such as wood strength, elasticity and growth form, and on condition of the forests, such as density and vertical structure. In general, trees with brittle and weak wood, fine branches, and greater canopy surface are more likely to suffer ice damage. However, researchers frequently disagree on the relative susceptibility of individual species (Table 1). Furthermore, studies of topographic effects on forest ice damage are rare. Stand conditions, e.g., tree spacing, are also critical to the severity of forest damage. Ice may cause large area tree fell when the stand densities are low and soil is saturated.

In January and February of 1994, severe ice storms caused widespread damage to forests in southwestern Virginia. These ice storms provided an opportunity to study ice damage on forests and its impacts on forest regeneration in the topographically complicated central Appalachian region.

We sampled 142 locations on 15 types of topography (aspect, slope and slope position). Our results show that, in general, conifers are more susceptible to ice damage than hardwoods due to the presence of evergreen winter foliage. Among the 16 tree species surveyed, Virginia pine and pitch pine were the most susceptible species, while blackgum was the most resistant species (Table 2). Although yellow buckeye and yellow poplar were basically undamaged, they were restricted to the topographic areas where ice damage was generally less severe. For a particular species, susceptibility varied according to topographic features. In general, the greatest damage occurred on steep slopes, and the least damage occurred on toeslopes (foothills and valley bottom). In our study area, aspects seemed to have less effect on tree damage due to complex topography. Some species, such as red maple, varied greatly in their susceptibility to ice damage across different topography, while others, like blackgum, varied little. Dominant canopy individuals generally had less damage than codominant and intermediate individuals. Many intermediate trees were damaged due to secondary damage by falling branches of dominant trees.

Species differ in their susceptibility to ice damage and species composition varies across different topographic areas. Therefore, the damage to the forest as a whole differed. Canopy openings due to tree fell are called canopy gaps. The number and size of canopy gaps are used to indicate forest damage severity. We found that forest ice damage is highly related to the topographic features of the stand. In general, forests on steep slopes had the greatest damages with more gaps and more large gaps caused by ice, because soil was shallow, and trees on steep slopes usually had asymmetric crowns that extended away from the slope. This resulted in more ice load on the outside half of the crown and caused the tree fell in the direction of down-slope that likely caused a domino effect resulting in more felled trees.

Table 1. A summary of previous studies evaluating ice storm susceptibility for common tree species of the Southeastern US. Higher values in the "Rank" column indicate greater damage, and lower values indicate less damage.

Species	*Resistance to Ice Damage* Strong	Moderate	Weak	Rank*
Conifers				
Eastern hemlock	4	1	1	1.5
Longleaf pine		1	1	1.5
Loblolly pine		1	1	1.5
Eastern white pine	3	2	2	1.86
Pitch pine			1	2
Virginia pine			1	3
Hardwoods				
Black walnut	1			1
Sycamore	3			1
Hickory	7	1		1.25
Ash	4	3	4	2
American beech	1	6	1	2
Black oak	1	7	1	2
Blackgum		1		2
Cucumbertree		1		2
Northern red oak	1	4	1	2
Yellow-poplar	2	1	2	2
White oak	1	4	2	2.14
Sugar maple	1	7	3	2.18
Black locust	1	2	2	2.2
Red maple	1	5	4	2.3
Sweet birch		2	1	2.33
Yellow birch		2	1	2.33
Aspen/cottonwood		1	3	2.5
Scarlet oak		1	2	2.67
Elm	1	1	6	2.63
Black cherry		2	5	2.71
American basswood		1	6	2.86
Box elder			1	3

*Ranks are calculated as weighted means by the number of authors and their given scores to strong = 1, moderate = 2, and weak = 3.

Because severe ice storms are frequent in the region (once every 5-10 years on average), and their damage to the forest is topographic specific, ice storms are likely a major factor in determining forest landscapes and forest regeneration. We surveyed seedling regeneration of the canopy gaps and the results showed that presence of gaps, gap size, and topography affected seedling density and height growth of most of the tree species. Shade intolerate species, such as hickories, sourwood, scarlet oak, black cheery, and some shrubs, responded to the canopy opening positively while the shade tolerate species, such as black oak and hemlock, negatively. However, the species composition in gaps did not differ from that in the non-gap understory, and overstory species were well represented in the seedling communities. This indicates that future forests affected by the ice damage may not differ from current ones. High frequency of ice storms and more severe damage on steep slopes may lead to a fast turnover for the forests there. Consequently, forests on steep slopes may stay in a relatively pioneer stage compared to other topographic locations. Trees there may also be small due to poorer soil fertility and moisture conditions. In the valley

***DAMAGE* continues on page 5**

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essentially be converted from forest to residential, commercial, and other more intensive uses in the next few decades because of subdivision of ownership, i.e., fragmentation, and increased population density, according to the VDOF. These proportions are illustrated in Table 1.

Table 1. Virginia forest land suitability.

Land Class Description	Acres (1,000,000)	Forest Land (percent)
Unsuitable Rural Forest Land Less than 5 Acres	1.2	8
Other Unsuitable Rural Forest Land	2.6	17
Suitable Rural Forest Land	8.5	55
Total Rural Forest Land	12.3	80
Urban Forest Land Lost to Population Density	3.1	20
Total All Forest Land	15.4	100
All Land	25.4	NA
Total Forest Land Lost to Population and Subdivision	4.3	28

Source: *Virginia Forest Land Assessment.* 1997. Virginia Department of Forestry. Charlottesville, VA.

DAMAGE from page 4

bottom, forests usually develop to their later successional stages due to low frequency and less severe ice damages as well as better soil conditions.

Table 2. Field survey summary of ice storm damage on canopy tree species and the damage ranks of species on the Fishburn Forest, VA. Lower numbers in the "Rank" column indicate strong resistance to ice damage; high numbers indicate low resistance.

Species	Resistance MDI*	Resistance Rank
Yellow poplar	1.000	1
Yellow buckeye	1.020	2
Blackgum	1.077	3
Chestnut oak	1.104	4
White oak	1.130	5
Mockernut hickory	1.156	6
Scarlet oak	1.193	7
Red maple	1.265	8
Sourwood	1.280	9
Pignut hickory	1.286	10
Black oak	1.355	12
Hardwoods Total	*1.172*	
Table mountain pine	1.280	9
Eastern hemlock	1.293	11
White pine	1.365	13
Pitch pine	1.438	14
Virginia pine	1.859	15
Conifers Total	*1.454*	

***MDI** = mean damage index

Note: This summary is the average across 15 topographic categories, and the ranks of the species on a particular topography may change.

Understanding the impacts of ice storm on forest damage and forest regeneration will allow foresters to develop appropriate management approaches. Ice storms right after a thinning may cause severe damage due to the loss of mutual support of neighboring trees, particularly in the piedmont and coastal plain regions of Virginia. In addition, long-term forecasting of severe ice storms is currently very difficult. Therefore, thinning of stands is better conducted after a severe ice storm or in early spring, and intensity should be low in those areas of high frequency of severe ice storms. Foresters should salvage damaged trees as soon as possible to avoid insect attack or pathogen infection. Species selection is also important. Less susceptible species should be encouraged on steep slope sites.

For more information, contact Paul Mou at: 540/231-4031; pmou@vt.edu

The VDOF study and related research determined that "a transition between rural and urban use of forests occurs between 20 and 70 people per square mile" (Wear, et al. 1999, 114) and points out how fragmented ownership of Virginia forests has become. Three million acres of Virginia's forest land - 12 percent of all land in the state and 24 percent of the state's rural forest land - is in parcels smaller than 20 acres, below the generally accepted parcel size suitable for commercial timber production. This critical threshold is demonstrated in state law in the requirement that landowners have 20 forested acres to qualify for the forestal class of land use-value taxation (Code of Virginia 1950 58.1-3233). Rural forest land acreage by parcel size is shown below (Table 2). Note that 37 percent of Virginia's rural forested acres are in tracts less than 40 acres in size [*editor's note:* the total number of forest land ownerships smaller than 40 acres has increased dramatically since the late 1970's, while total forest acreage has declined slightly. Smaller forest tracts are being created from larger tracts resulting in a more fragmented forest land base].

Table 2. Virginia's rural forest land acreage by parcel size.

Parcel Size	Acres	Percent
Less than 2 acres	570,000	4.6
2 to 5 acres	570,000	4.6
5 to 10 acres	693,000	5.6
10 to 15 acres	677,000	5.5
15 to 20 acres	462,000	3.7
20 to 30 acres	1,032,000	8.4
30 to 40 acres	585,000	4.7
Total 0 to 40 acres	4,589,000	37.1
Total Rural Forest	12,384,000	100.0

Source: *Virginia Forest Land Assessment.* 1997. Virginia Department of Forestry. Charlottesville, VA.

For purely economic reasons, to say nothing of environmental concerns, these trends should cause concern to all residents of the Commonwealth. Forest product industries contribute $9.8 billion annually to Virginia's economy and account for around 228,000 jobs in the state (CLC 1999). The VDOF found, "If only suitable rural forest land is considered to be the basis for long-term sustainability, current levels of consumption meet or exceed current growth" and suggested that "to sustain current consumption levels on a long-term basis, either the suitable rural forest land base needs to be protected or expanded, or its productivity increased, or a combination of both" (Liu and Scrivani 1997, 1).

One solution to the pressure facing Virginia's forest landowners is to increase the use of conservation easements to protect forest resources. Easements are legal documents, just like other deeds, that allow individuals to keep their property yet convey away certain specified rights. Land under an easement remains private property. Landowners can use conservation easements to permanently restrict uses that destroy natural or historic areas while allowing traditional use such as farming and forestry. The next article in this series addresses the conservation easement tool in greater detail.

Conservation Land Coalition (CLC). 1999. *Saving Virginia's Special Lands: The Case for as Dedicated Funding Source for Conservation Land in Virginia.* Charlottesville, Virginia: The Nature Conservancy, Virginia Office. August.

Johnson, Tony G. 1992. *Forest Statistics for Virginia.* Resource Bulletin SE-131. U.S.D.A. Forest Service. Asheville, North Carolina: Southeastern Forest Experiment Station.

Liu, Rei and John A. Scrivani. 1997. *Virginia Forest Land Assessment.* Virginia Department of Forestry. Charlottesville, Virginia.

LANDOWNER UPDATE RECEIVES AWARD FOR EXCELLENCE

The *Virginia Forest Landowner Update* recently received the 1999 Southern Extension Forest Resource Specialists Award for exceptional newsletter. This award is given annually at the Forest Landowners Association Annual Convention by the Cooperative Extension Service's Southern Region. The award is one of series that are given annually for the development of outstanding extension resources including videos, publications, newsletters, short courses and other extension programs.

SUSTAINABLE FORESTRY PUBLICATION NOW AVAILABLE

A new extension publication is now available for forest landowners and loggers. *Sustainable Forestry: A Guide for Virginia Forest Landowners* outlines considerations for forest landowners who are selling timber. Topics covered include pine and hardwood management, forest health, timber harvest planning, best management practices, reforestation economics, environmental regulations, tax considerations, and financial assistance. A special section at the end of the publication lists contact information for many of Virginia's natural resource agencies. The publication was cooperatively developed by the Virginia Department of Forestry, Virginia Tech Cooperative Extension, Virginia's forest industry, and the Virginia Forestry Association. Copies may be ordered by contacting the Virginia Tech Extension Distribution Center at 112 Landsdowne St., Blacksburg, VA 24061; phone: 540/231-6192; mention publication #420-139.

inside the next issue:

- conservation easements: part 2
- the chip mill issue
- controlling tree-of-heaven
- cost share update
- spring short course series schedule

January 2000

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VIRGINIA FOREST LANDOWNER UPDATE

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