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VIRGINIA FOREST LANDOWNER UPDATE

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

VIRGINIA FOREST LANDOWNER EDUCATION PROGRAM

Dylan Jenkins, Program Coordinator

Correspondence

Address all correspondence to the Virginia Forest Landowner Update or email dylan@vt.edu.

Virginia Forest Landowner Update
216 Cheatham Hall (0324)
Blacksburg, VA 24061
540/231-6391, fax 540/231-3330
www.cnr.vt.edu/forestupdate

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Forest Landowner Cooperatives: Do They Have a Future in Virginia? by Harry Groot, Next Generation Woods

A new generation of forest landowner cooperatives is forming across the nation. A common goal of these cooperatives is to enable individual forest landowners to capture higher financial returns from the sale of their forest products than they could realize by themselves. However, some co-ops form for education and timber stand improvement, for conservation efforts, and to meet other common objectives.

Most of the current co-ops are organized by landowners practicing certified sustainable forestry under the Forest Stewardship Council's (FSC) standards. By pursuing sustainable forest management, harvesting, and production practices verified by objective third-party inspectors (like organic food products or ISO 9000 manufactured goods,) a co-op provides members access to a growing market segment.

The requirements of FSC certification, which specify that forests remain largely intact and move toward less-intensively managed, "natural" stands, attracts some landowners who otherwise wouldn't consider harvesting. Many forest landowners are willing to forego income just to keep their forests attractive. In the larger sense, forest landowner cooperatives and FSC certification are bringing forestland into production and under management that might otherwise be neglected or underutilized.

The harvest strategy to achieve a mixed species, uneven aged stand is frequently described as "taking the worst while leaving the best to grow." It often has the short-term results of lower-volume harvests with lower-quality timber being harvested, however the landowner is left with what visually looks like a relatively undisturbed forest and which should provide higher volumes of higher quality timber over the long-term. Many landowners tend to be happy with this strategy because what they want to see when they pass through or near their forestland is a forest.

Working with a cooperative makes investment in the costs of FSC certification more attractive because the landowner/members pool resources, achieve higher manufacturing efficiencies, dilute risk, and generate higher returns by working with others who share similar interests. Functionally, cooperatives are essentially the same as any other corporate business except the stockholders are called members and each member only has one vote regardless of the number of shares they own.

The co-op's key to higher economic returns is to pool resources and/or add value to the forest products, thus attracting higher prices than simply selling small quantities into the commodity market. The key to the first round of sustainable forestry harvests is, instead of sacrificing low-grade timber at a loss, to add-value and convert it to a product to sell at a profit.

The Sustainable Woods Cooperative (SWC) of Lone Rock, Wisconsin (www.sustainablewoods.com) is a good example of the new generation of forest landowner cooperatives. With over 150 members and 20,000 acres of forestland, SWC is nearing a "critical mass" necessary to compete even in the retail and commodity markets. They

can attract buyers for logs, green or kiln-dried lumber, or value-added millwork that any individual member couldn't consider doing by themselves.

The real strength of SWC's approach is in targeting buyers who are looking for FSC certified wood products - a growing market niche. They sell species of lumber that are typically ignored in the commodity marketplace; considered low-value for a variety of reasons. They're developing relationships with architects and builders interested in "green" construction and which meet their unique needs for non-standard - as well as conventional - wood products. The ultimate step of this process is to take traditionally low-value trees that come out of forestry improvement work and turn them into a higher-value end product, such as flooring, paneling, trim, or millwork.

ABOUT... FOREST CERTIFICATION

Numerous forest certification systems are currently being developed. In the United States, major players include the Forest Stewardship Council (FSC), forest industry's Sustainable Forestry Initiative (SFI), the American Tree Farm System, and the National Woodland Owner Association's Green-Tag. For an excellent overview of forest certification systems, their benefits, costs, and limitations, see *An Introduction to Forest Certification (EC-1518)* by Oregon State Extension; available on the web at:

<http://eesc.orst.edu/agcomwebfile/edmat/EC1518.pdf>

Here's a scenario to illustrate a "typical" forest landowner co-op member's experience: Roy and Holly MacFarland own 100 acres of mixed species woodland which was high graded 70 years ago. They've lived on the property for 20 years, since moving from the city after their children left home. The MacFarlands are aware of the tax consequences of passing along the land to their children but prefer not to limit their children's options by selling a conservation easement to protect the forest. They also realize their children will need to sell timber to pay inheritance taxes and keep the property.

Roy and Holly love their forest. They have trails through it where they bird watch, hunt, and just listen to the quiet. They'd like to make money from their woods but are financially secure enough not to. They run cattle and meat goats on their pastureland and have invested in good fences to keep the livestock out of the woodlots.

Holly hears from a neighbor about "getting certified" and takes Roy to a meeting to learn more. Here they learn about sustainable forestry as defined by the Forest Stewardship Council, an international conservation and standard-setting agency. They also learn the neighbor is working with other landowners under the umbrella of a cooperative to take their certified timber and add value to it, thus gaining even more income. But what really appeals to the MacFarlands is that these landowners are harvesting timber but still keeping their forests intact!

Roy and Holly are impressed that all the landowners benefit from working with a certified professional forester. Their neighbor talks about profiting from the forester's knowledge - but even better - they learn the forester does most of the hard work: the forester develops a management plan built on their objectives (for the MacFarlands, to keep their forest intact,

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EVENTS CALENDAR

For the most complete listing of natural resource education events, visit the online events calendar at: www.cnr.vt.edu/forestupdate. See also www.conted.vt.edu/forestry.

event contact	date/location	event/description (preregistration requested unless noted otherwise; TBA = to be announced)	time	fee
TB	May 2 King and Queen County	Prescribed Burning/Pine Thinning Workshop Learn about the benefits of burning to improve wildlife habitat and regenerate desirable forests, your responsibilities as a prescribed burner, and how properly thinning pines may enhance wildlife habitat and your timber income; morning seminars and afternoon burning demonstration. Preregistration required.	8:30am-4:30pm	no fee
	Two dates and locations:	Sustainable Timber Marketing and Harvesting Sustainable Timber Marketing and Harvesting is an A to Z course on selling timber. Participants will learn about site assessment, timber products and values, market factors, harvesting methods and regeneration, best management practices to protect water quality, timber sale procedures and contracts, timber taxation, estate planning and conservation easements.		
RP	May 2,9,16,23	Fredericksburg - Germanna Community College (Thursday evenings)	6:30-9:30pm	\$35.00
TV	May 6,13,20,27	Colleen (near Lovington) - Central Virginia Electric Cooperative (Monday evenings)	6:30-9:30pm	\$35.00
DW	May 6-8 Blacksburg	16th Wood Technology Short Course for Managers and Engineers This course is designed for managers and engineers in the furniture, cabinet, and related wood working industries who are called upon daily to make technical decisions regarding the processing of wood. The program provides a basic understanding of the properties and behavior of wood and the application of these basics to the practical aspects of wood processing, troubleshooting, and quality control in furniture, cabinet, and related industries.	all day each day	\$280.00
FSG	May 8-11 Wilsonville, OR	Nature's Model for Forest Management. Forest Steward's Guild 2002 Annual Conference. Meeting will focus on the idea of nature providing the fundamental direction for forest management. Successful management approaches based on natural models will be highlighted including a range of opportunities for exploring, discussing, and debating the merits of this school of thought. Tours, panel discussions and technical workshops.	all day each day	\$150.00
TH	May 10-12 Wintergreen Resort (Nelson Co.)	The Wintergreen Nature Foundation's 19th Annual Spring Wildflower Symposium A chance for beginner and expert botanists to learn more about the spectacular flora of central Virginia's Blue Ridge. From identification to propagation and wildflower gardening, the guided hikes, lectures and workshops are an excellent opportunity to meet some of Virginia's finest botanists. Visit www.twnf.org for more information.	all day each day	\$95.00
BB	May 15-16 Franklin, NC	Managing Southern Appalachian Forests for Wildlife: Using Science as a Guide Workshop speakers will present the population status, habitat status and management recommendations (on both private and public lands) for wildlife species present in the Southern Appalachians, especially those of conservation concern and those of special interest to the public. Workshops will be valuable to foresters, natural resource professionals, and landowners who want to incorporate wildlife management techniques into their overall forest management plan. Field tour is designed to meet the needs of private landowners and other non-professionals. www.ncsu.edu/feop .	all day each day	May 15: \$85.00 May 15-16: \$110.00
VFPA	May 17-18 Richmond Raceway (old State Fairgrounds)	2002 East Coast Sawmill and Logging Equipment Exposition The year's largest showcase of the newest most advanced sawmill, logging, pallet, and related manufacturing machinery and equipment, supplies, and services in the eastern United States. Over 12 acres of outdoor exhibit space and hundreds of indoor booths. No fee for pre-registrants. Visits the Expo website at: http://www.exporichmond.com/ for more details.	9am-5pm each day	\$5.00
NL	May 17 Banshee Reeks Park (Loudoun Co.)	Forestry and Wildlife Management Workshop for Small Landowners Designed as a "Do-It-Yourself" approach to wildlife and forest management practices for the landowner with 10-50 acres. Program will demonstrate forest and wildlife management techniques for maintaining aesthetics, increasing economic values, and maintaining landscape and ecosystem integrity on their property and in their community. Concurrent sessions include forest management, wildlife management, backyard landscapes, taxes and easements, human-wildlife conflicts, open land management and landscape design. All materials, notebook and lunch will be provided.	8:30am-4:00pm	\$25.00
BB	May 20-24 Raleigh, NC	Delineation of Piedmont and Coastal Plain Jurisdictional Wetlands Workshop is designed to equip natural resource professionals with knowledge and field skills necessary to delineate jurisdictional wetlands and apply 404 regulations. Topics include: systems of wetlands classification; basic science of wetland hydrology and hydric soils; identification and delineation of jurisdictional wetlands in accordance with U.S. Army Corps of Engineers methods; current status of 404 regulations; and principles of wetland migration.	all day each day	\$695.00
SM	May 29-30 Raleigh, NC	From Brown to Green: Practical Applications of Waste To Forest Stands This workshop will: review the evolution of by-product application to forests; analyze the unique characteristics of varied waste streams; discuss the forest's ability to utilize and benefit from waste application; stress water quality protection standards and BMPs related to waste application; highlight extensive and varied science related to by-product application; and take a practical look at systems installation and forest management associated with a waste application site.	8am-5pm	\$135.00

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), and refer 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
KE	June 6-7 Staunton Ingleside Resort	Forestry at the Fringe: Maintaining Working Forests at the Suburban/Rural Interface. The 2002 Annual Meeting of the Virginia Society of American Foresters. Join foresters, landowners, and other natural resource managers to learn about: the current condition of Virginia's forest resources; ownership and management trends, and strategies to maintain working forests at the suburban/rural fringe. Topics include: most recent FIA data and trends; changing southern forest landowner demographics; recent developments in state and federal forest policy; valuing ecosystem services; innovative education programs for new and absentee forest landowners; working forest conservation easements; county land use policy and working with local governments; and silvicultural practices in fringe forests. Friday field tour to Joel Salatin's Polyface Farm and local organ factory to look at value added hardwood forest products. Public is invited to attend.	June 6: 8am-5pm June 7: 8am-2pm	\$75.00
RAF	June 8-9 Camp Oty-Okwa Southeast Ohio	Income Opportunities for Small Farm and Woodland Owners Sponsored by Rural Action and National Center for the Preservation of Medicinal Herbs. Meet the experts and learn about: wild simulated ginseng, mushroom cultivation, alternative field crops, woodlot restoration, composting, wildlife management, tree identification, soil conservation, small scale farming, raising livestock, and rotational grazing. Business development techniques such as product selling, merchandising, and advertising will also be covered. Forest Finance I & II These courses will focus on the proper use of techniques for analyzing long-term forestry opportunities. Program format provides lectures, discussion and practical exercises in problem-solving. Workshop situations sharpen skills for hands-on solutions of typical forestry problems. Computer software for solving exercises is demonstrated. Fee for both courses is \$425 (save \$45). Forest Finance I: The Basics (6 hours of SAF Category 1 CFE credits) Forest Finance II: Applications and Case Analysis (12 hours of SAF Category 1 CFE credits)	all day each day	\$85.00
HH	Blacksburg June 11		8:00am-5:00pm	\$175.00
HH	June 12-13		8:00am-5:00pm	\$295.00
CW	June 14-16 Camp Olmstead (20 miles NW of Lexington)	Sustainable Forestry Conference. What is sustainable forestry, why should the public care, and how can it be practiced? Spend a day learning about sustainable forestry, meet and talk to practitioners, foresters, landowners, and other conservation-minded, forest loving folks! Learn: how to keep your forest, yet still generate income, why it's important to think about the future forest now, forest and harvesting laws and regulations, and sources of professional assistance. Horse logging demonstration on Saturday afternoon. Qualifies for SHARP Logger continuing education credit.	all day each day	varies: \$20-70 depending on venue
DC	June 17-22 Holiday Lake 4H Camp	Holiday Lake Forestry Camp for Youth. Holiday Lake Forestry Camp introduces young Virginians to the challenges, special skills, and knowledge needed for managing the forest resources we use and enjoy every day. Taught by professional resource specialists from numerous state, federal, and private agencies. Hands-on classes include: forest management practices, timber harvesting and reforestation, tree measurements, environmental protection, wildlife management and habitat improvement, stream quality analysis, and tree identification. Scholarships available for youth ages 13-16 and for teachers.	all day each day	\$35.00
EF	June 20-22 Gettysburg, PA	Mid-Atlantic Land Trust Conference. Full schedule of concurrent workshops on topic pertinent to staffed and volunteer land trusts as well as natural resource agency staff, attorneys, appraisers and other land conservation professionals. Optional tax strategy seminar will cover strategies for conservation transactions including bargain sales, donations of partial interests, like-kind exchanges, and more.	all day each day	\$110.00

EVENT CONTACTS

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

event contact	name/affiliation	phone	e-mail
BB	Becky Bowers, NC Forestry Education and Outreach Program	919/515-9563	becky_bowers@ncsu.edu
CW	Christina Wulf, Virginia Forest Watch	434/971-7678	shewulf@firstva.com
DC	David Coffman, Virginia department of Forestry	434/977-6555	coffmand@dof.state.va.us
DW	David Waterman, Virginia Tech Division of Continuing Education	540/231-5486	dmwater@vt.edu
EF	Emily Farwig, Land Trust Alliance	202/638-4725	efarwig@lta.org
FSG	Forest Stewards Guild	505/983-3887	info@foreststewardsguild.org
HH	Harry Haney, Virginia Tech Department of Forestry	540/231-5212	hhaney@vt.edu
KE	Karen Ertel, Virginia Department of Forestry	540/332-7770	ertelk@dof.state.va.us
NL	Nelson Lafon, Virginia department of Game and Inland Fisheries	804/598-3706	nlafon@dgif.state.va.us
RAF	Rural Action Forestry (attn. Cynthia)	740/767-2090	forestry@ruralaction.org
RP	Regina Prunty, King George County Cooperative Extension	540/775-3062	rprunty@vt.edu
SM	Susan Moore, NC Forestry Education and Outreach Program	919/515-3184	susan_moore@ncsu.edu
TB	Tricia Butcher, Virginia Department of Game and Inland Fisheries	804/598-3706	tbutcher@dgif.state.va.us
TH	Trillium House, Wintergreen Resort	434/325-7451	info@twnf.org
TV	Teresa Via, Nelson County Cooperative Extension	434/263-4035	tvia@vt.edu
VFPA	Virginia Forest Products Association	804/737-5625	vfpa@att.net

Environmentally Sensitive Harvesting?

Rien Visser, Virginia Tech Department of Forestry

The term 'environmentally sensitive harvesting' sounds great, but just what does it mean? Foresters use the term to define and promote improvements in common harvesting systems or the availability of new systems that achieve a higher level of environmental and social acceptability.

Protection of water quality, soil productivity and residual stand damage are considered priorities of environmentally sensitive harvesting. A first step is to recognize what common negative impacts are so that we can focus on aspects of harvesting systems that can avoid, or at least minimize these impacts.

For example, the historical concern of stream bank vegetation and stream bank stability, both very important for quality aquatic habitat, has almost been completely eliminated through the active use of Streamside Management Zones (SMZs). However, erosion after harvesting, and the subsequent sedimentation of waterways continues to be a concern.



Figure 1: Simple but effective, portable three-panel skidder bridge.

A recent study on the long-term effectiveness of Best Management Practices (BMPs) in Virginia was completed by Ed Christopher, a graduate student at Virginia Tech. His study confirmed that the major concern in the mountains continues to be skid and haul roads. He also showed that, while erosion is very strongly correlated with slope, vegetation cover and slope length are key factors that land owners can influence after harvest to minimize erosion. Spreading out hay and seeding will establish cover, while physical structures such as waterbars will break the slope. A comprehensive set of BMPs, designed to minimize the amount of erosion after harvest, has been developed and is actively monitored by the VDOF (see <http://state.vipnet.org/dof/wq/bmpguide.htm>).

Sometimes a simple modification to conventional harvesting systems is all that is needed to greatly increase environmental protection. An example is the increasing popularity of portable timber bridges (Figure 1). Poor waterway crossings not only destroyed the beds but also provided a direct access route for sediment to enter the waterway. The prohibitive cost of bridges meant that culverts became widely recommended and used. Matt Poirot, the VDOF forest engineer in charge of their BMP program now recognizes that although culverts have their place, they can also fail in high rainfall events or through neglect and result in a lot of damage. Relatively cheap (Aust *et al*, 2000), portable bridges can be pulled or lifted into place

using any type of logging equipment, can be reused and do not disturb the waterway. Where the approaches to a waterway are flat and stable, a ford is once again recognized as the preferable stream crossing option. A number of materials have become available to stabilize these crossing such as the Geoweb (see www.prestogeo.com/).

Most of the time when we use the phrase 'environmentally sensitive harvesting' we look toward the mountains, since that is historically where poor logging practices have had the greatest impacts. Most harvesting in the steeper areas of the Appalachian mountains is still carried out by a simple system of one dozer to make the skid trails, a chainsaw operator to cut the trees, one cable winch skidder to extract the logs and one trailer mounted loader. Hank Sloan, a long time and very experienced forest engineer with the Forest Service based in Roanoke, refers to this as the 'Crescent wrench logger.' As any mechanic will know, a wrench is a very flexible tool but there is nothing like having exactly the right socket.

'Crescent wrench loggers' have made a lot of progress environmentally in terms of improved planning, especially skid trail layout and improved stream crossings, as well as actively applying a system of BMPs to minimize the erosion after harvest. However, some relatively new 'sockets' are becoming increasingly available to meet the special needs of steep slope logging.

Many people would be surprised to hear that there are still over 50 active horse loggers throughout the central southeast (Figure 2). A point that Jason Rutledge, an active horse logger based up on the Blue Ridge Parkway, makes is that "Horse logging can get you timber money cannot buy" (see <http://community.roanoke.com/HealingHarvestForestFoundation>). Jason has a strong philosophy about managing stands for their future value, but what he is specifically referring to is the social component associated with many small private landholdings. These people place a far greater emphasis on the non-commercial value on their forest, so a 'conventional' log-



Figure 2: Jason Rutledge with his horse logging 'crew.'

ger may never get access whereby a horse logger thinning the stand may be far more palatable. Watching well-trained horses at work is fascinating, and Dr. Katja Duesterdieck from the Virginia Tech Vet School points out that such horses should be treated as 'athletes.' Their diet and exercise routines need to be carefully managed and a successful operation requires dedication.

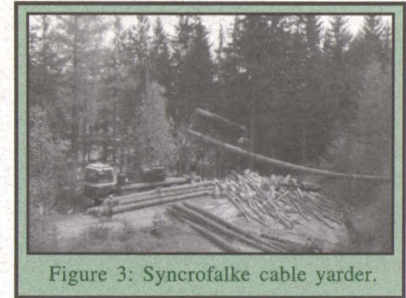


Figure 3: Syncrofalke cable yarder.

At the other end of the technological scale are helicopter operations. At approximately \$3000 per hour for the crew, a helicopter harvest can not be kept idle and therefore brings with it a very high level of planning and professionalism. Terry Porter, the timber manager of B.A. Mullican Lumber in Appalachia, was one of the first in the southwestern Virginia area to engage a commercial helicopter company on a regular basis. It provides him a 'socket' that he can use on tracts of timber in more remote locations where haul and skid road construction would be environmentally unacceptable, and where enough high value timber is present to afford the helicopter system.

On the right terrain cable logging can also achieve the desired environmental outcome and be more cost effective than helicopter logging. Unlike most other harvesting systems where you take the machine into the forest to extract the trees, with a cable yarding operation you leave the machine on the road and use cables to lift and pull the timber out. We have just created a website at Virginia Tech that explains how it works; see www.cnr.vt.edu/visser/cable_logging/. This lifting capability minimizes soil disturbance. But rigging wire rope around the forest is no easy task, and in general it has been a lack of planning, local rigging expertise, support infrastructure for the equipment and 'unique' payment structure (frustratingly complex?), that has failed many cable yarding operations in the region.

New technologies can also provide opportunities for environmentally sensitive harvesting. Whereby the Pacific Northwest has continued to develop larger equipment that is efficient in large timber, Europe continues to seek automation and in a smaller range of equipment. Figure 3 shows the 'Syncrofalke' cable yarder designed specifically to operate from the roadside in average timber sizes. The unique aspect of this machine is the computer controlled carriage operation that leaves the yarder operator free to process the extracted trees. The ability to work from the roadside and the integrated knuckleboom grapple (with processor head as an option) eliminates the need for landing and provides a viable option for thinning on steeper terrain.

Finally, 'walking' harvesters, where wheels or tracks are being replaced with mechanical legs are being developed. The environmental advantage is that no continuous ruts are created by the tracks. Figure 4 shows a hybrid machine 'Bergbiber,' which is a steep terrain-harvesting machine with two wheels and three legs. It has a standard harvesting head, primarily for thinning operations, as well as a small bucket that it can use to help stabi-

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RESOURCE REVIEW

New Virtual Forest Tour CD-ROM and Tree ID Book



The Virginia Department of Forestry recently produced an educational *Virtual Tour of the Forest* CD-ROM for middle and high school students, forest landowners,

and others interested in learning how and why natural resource professionals manage forest and wildlife resources. Using Quick Time Virtual Reality technology, the viewer can rotate 360 degrees in 13 different types of forests and view from the ground to the treetops.

Forest types include young, middle-aged and old hardwood and pine forests and riparian forests and unique habitats for rare plant communities and critical wildlife habitat. Each forest stand has both wildlife and forest management recommendations and shows before-and-after results of thinning and timber stand improvement cuts in both pine and hardwood stands. There are also views of recommended harvesting methods including deferment, shelterwood and clearcutting.

Other sections feature a tour through a modern sawmill, urban forestry, wildfire and prescribed fire, and water quality protection. Viewers can use audio narration, video, and written text to explore the many facets of forest management.

A 50-page *Teacher's Guide* is included with the CD-ROM and provides key concepts, related topics, glossary, SOL correlations, and Projects WET, WILD and Learning Tree activities. An overview of Virginia's forest resources and critical issues facing the forest resource is featured. The CD-ROM can be purchased alone for \$5 or with a printed copy of the *Teacher's Guide* for \$10 from the Virginia Department of Forestry's Online Store at: www.dof.state.va.us.

The Virginia Department of Forestry also recently revised their tree identification guide, "*Common Forest Trees of Virginia*" This popular guide was first published in 1922, this guide describes 87 forest tree species commonly found in Virginia forests. It is designed to provide a simple description in accurate, yet non-technical terms.

To create a more complete study guide on the forest resource, this new "2001 Millennium Edition" has been significantly changed and enhanced from previous editions. New features include: a three-page introduction with an overview of the history, importance and use of Virginia's forests; a description of current and future issues and threats to our forest resources; DOF web page references and links; basic tree identification terms and characteristics with diagrams to aid in identifying species in the field; and woodland home fire safety precautions.

The new millennium edition is available for sale on the Virginia Department of Forestry (VDOF) online store, the Charlottesville Central Office, Forestry Centers and Regional offices for \$5.00 per individual copy. Quantity sales of over 100 copies are available for educational purposes, only from the Charlottesville Central Office Warehouse, for \$1.00 per copy. **U**

Horse-Logging in Virginia

by Jim Willis, *Extension Forester*

Several months ago, I had an opportunity to watch a "different sort" of logger at work. Jason Rutledge of Floyd County, has the usual component of chain saws, loaders, trucks, and other equipment. However, he drags or skids his logs to the loading area with draft horses. He also avoids clearcutting and tries to protect remaining trees by carefully felling the harvested stems. Even his company name is different: the *Environmentally Sensitive Logging and Lumber Company*.

In addition to being a practicing environmentalist, Mr. Rutledge, is a strong proponent of logging safety. He has been a logger for over 20 years, but credits the *Game of Logging* class as being the point where he really learned safe logging. At the time he took the class, it was taught by the Swedish master logger and trainer, Soren Erickson. Erickson developed methods of safely dropping trees in precise locations and his organization still teaches them today. Mr. Rutledge learned his lessons well, and like many graduates of the *Game of Logging*, can now practice the art as well as his old teacher.

There are several horse loggers scattered across southwestern Virginia. Some practice good forestry, some do not. However, Rutledge is again unique in selecting his trees to cut by the "worst first" method. He cuts old, crooked, damaged, or defective trees before their more healthy and vigorous neighbors. The practice is a lot like weeding a garden - you have to cull the weeds and unwanted to improve the health and growth of the final crop. When the weaker trees are removed from a forest, this provides more water, light and nutrients to the remaining valuable ones. With each harvest cycle, a person's woodlot should increase in both value and health.

Even the breed of horses used in pulling the logs to the loading area is rare. They are a breed called the Suffolk Punch. Only about 500 are in existence and Jason has 14 of them. With a specially designed logging arch, a team can pull a 2000 pound log or tree without significant damage to the soil or uncut trees. The arch itself is a metal

frame mounted on rubber wheels and enables a log to be lifted into the air without dragging its front end in the dirt.

Another unique work of Jason Rutledge is the establishment of the Healing Harvest Forest Foundation. This foundation is a non-profit organization set up to promote horse logging and restorative forestry. Through the foundation, he trains young people who are interested in learning how to practice modern horse logging. In fact, he has tutored his own son in the program.

Some words of caution for those folks who may be considering a horse logging operation on their own woodlot. Regardless of the harvesting system, you need to check out a logger's work before negotiating a harvesting contract. If conducted without care, a tract of timber can be fouled up just as bad with horse logging as with conventional logging equipment. Logging roads, skidding trails, and loading areas are still needed to get a truck into the timber. If these aren't properly designed and installed, serious water quality problems can result with either method. Excessively steep land may require even more roads than conventional logging. Also, if low quality trees are not removed along with the good ones, we have the old "high grading" practice, which has so seriously damaged the value and sustainability of Appalachian forests over time.

If you are thinking about hiring a horse logger (or any logger), find out who he has worked for in the past year and look at his work. There are lessons in Jason's work for all of us. He shows that you can have a positive attitude and be excited about your work, even if your daily view is the south end of a northbound horse. As Rutledge says, "Our goal is to take the best of the past to make a better future."

To learn more about Jason Rutledge and his work, check out his websites. The Draftwood Forest Products website is located at: www.draftwoodforestproducts.com. The affiliated Healing Harvest Forest Foundation website is located at: www.community.roanoke.com/HealingHarvestForestFoundation. Jason may be contacted at: Healing Harvest Forest Foundation, 8014 Bear Ridge Rd. SE, Copper Hill, Va. 24079; 540-651-6355; rutledge@swva.net **U**

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Figure 4: Hybrid 'walking' steep terrain harvester. (Photo: Karl Stampfer)

lize itself, or make minor excavations. While their capital cost may still be prohibitive, their ability to operate on slopes up to 60% is very impressive.

No doubt our understanding of the environment will improve over time and the debate about acceptable standards for harvesting will continue. The forest industry will need to look toward new technologies and systems to provide the required 'environmentally sensitive harvesting' techniques. However, regardless of the machinery involved, it is the people: landowners, foresters, and loggers, that must make the conscious decision about what harvesting strategy to use and what equipment to employ to protect water, soil, and overall forest quality. **U**

Rien Visser is assistant professor of industrial forest operations at the Virginia Tech Department of Forestry. Rien hales from New Zealand and is an expert in steep slope logging techniques. He may be reached at: 540/231-6924; rvisser@vt.edu.

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improve songbird, wildlife, and game habitat, generate income, and minimize fire hazard.) The forester also marks trees for harvest, manages sealed bid contracts for the harvest (assuring the best value) and even manages the harvest to make sure all the terms of the contract are met.

The MacFarlands hear how the co-op takes the member's timber to saw, kiln-dry, and sell for the highest value, as either lumber or a value-added product. Members receive a check for their timber including the value added to it, less the costs to add that value. The neighbor comments, "Even after paying the forester and logger, the members made more money than if they'd just sold logs to the sawmill!" Other members state how pleased they are that not only did they receive income for their worst first harvest, but their forest is still there...more vibrant and productive than before.

In our scenario, the MacFarlands learned that by working with a cooperative, an individual landowner gains the economic reward of adding value without individually investing in machinery, without hiring employees or finding subcontractors, and without needing to do any marketing. Most of the middlemen, brokers, and other profit-robbing intermediaries are removed from the process since, through the co-op, members maintain ownership of their timber from the stump to the final customer.

In Wisconsin, where there are a number of forest landowner cooperatives in the same region, there is even further cooperation (between individual co-ops) with joint marketing, inclusive advertising, and by pooling inventory to meet large or unusual orders. As of spring 2002, forest landowner cooperatives are organizing in all regions of the country. There are efforts afoot in Alabama, Kentucky, Iowa, Nebraska, Michigan, New England, the Midwest, and in the Virginia and North Carolina mountains. For more information on forest landowner cooperatives, visit the Community Forestry Resource Center's website at: www.forestrycenter.org. **U**

Harry Groot is a forest landowner in Montgomery County and operations manager of Next Generation Woods, a forest products manufacturing firm near Riner, Virginia. Harry may be contacted at: 540/639-3077; sunrise@usit.net; www.nextgenwoods.com.

CONTACT UPDATE SPONSORS AND NATURAL RESOURCE MANAGEMENT AGENCIES:



Virginia Department of Forestry
900 Natural Resources Dr., Suite 800
Charlottesville, VA 22903
804/977-6555
www.dof.state.va.us



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324 Cheatham Hall (0324)
Blacksburg, VA 24061
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www.cnr.vt.edu/forestupdate



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P.O. Box 11104
Richmond, VA 23230-1104
804/367-1000
www.dgif.state.va.us



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