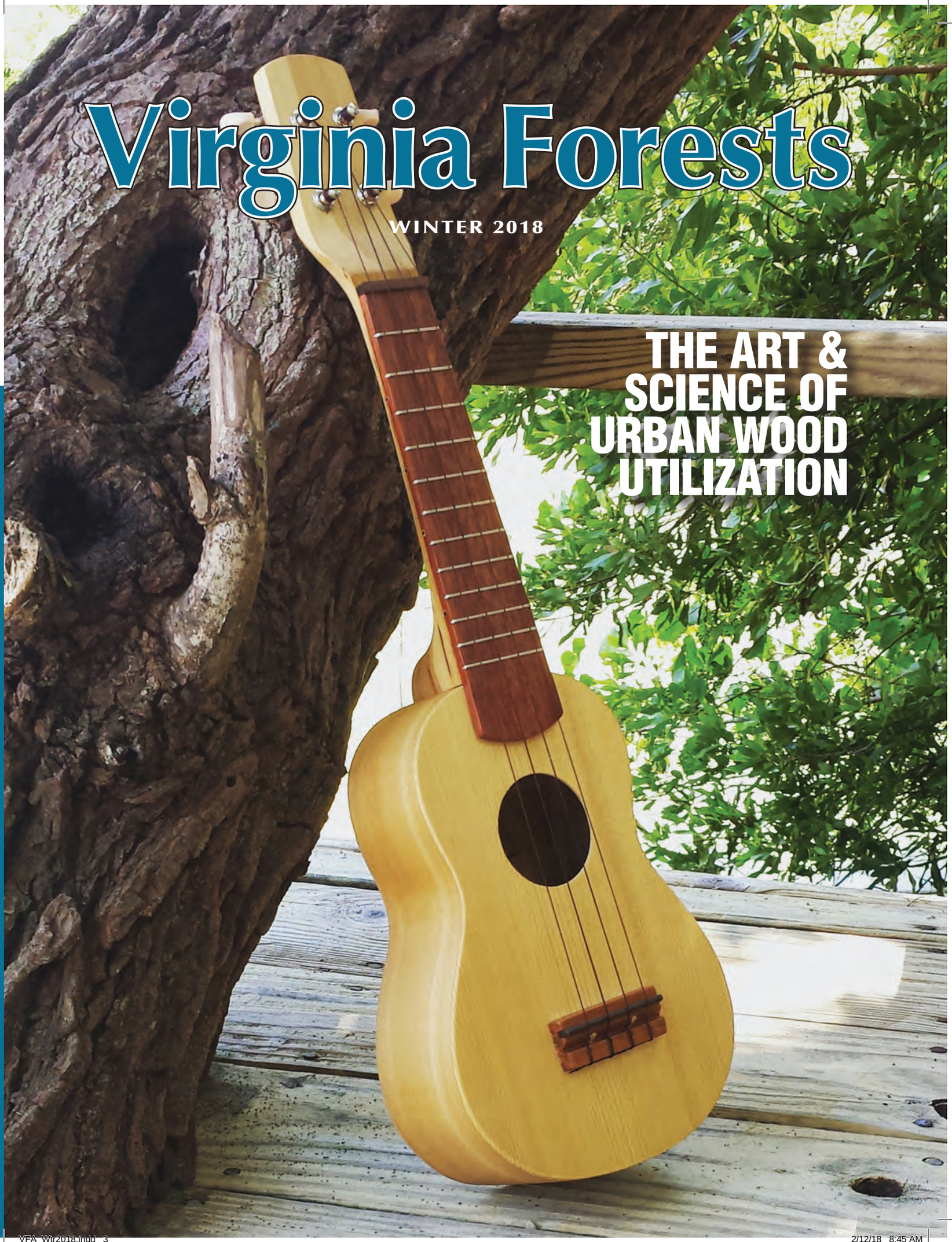

Virginia Forests

WINTER 2018

THE ART & SCIENCE OF URBAN WOOD UTILIZATION

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Virginia Forests

Winter 2018

Volume LXXIII, Number 4

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We promote the stewardship and wise use of the Commonwealth's forest resources for the economic and environmental benefits of all Virginians.

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The process of crafting many of Larry Hinkle's ukuleles begin with a fallen tree. He harvests logs from trees that have come down and might otherwise become firewood. (photo courtesy Larry Hinkle)

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ON THE COVER: Ukulele by Larry Hinkle (photo courtesy Larry Hinkle)

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UPDATE
FROM THE EXECUTIVE DIRECTOR

Connecting With Forest Landowners

I was participating in a meeting in Albuquerque, NM as the thoughts for this column began taking shape in my mind. I was late in preparing it and our magazine editor, Lesha Berkel, who does a fantastic job pulling each issue together with our Magazine Editorial Committee, was waiting patiently. After my small part in the publishing of more than 90 issues of *Virginia Forests*, I sometimes struggle with a new message to share, and more often than not I am inspired to write about something that corresponds with an experience.

The American Forest Foundation's Woodlands Operating Committee meeting in Albuquerue was one such experience. The other folks in the meeting were smart, talented and successful; all national forestry leaders. The AFF committee and senior staff spent time reviewing the current status of the American Tree Farm System and pondering the future of the long-serving institution.

Engaging forest landowners and motivating Tree Farm volunteers was a major part of the conversation. Qualified consultants outlined a planned process to survey Tree Farmers and program volunteers that would include interviews with the organization's members as well as landowners not enrolled in Tree Farm, with a goal of determining Tree Farm growth, strength and impact.

Two important questions come to mind. First, how are woodland owners motivated to participate in forestry organizations and to speak out as champions for forest management and appropriate forest policy? Second, how does the forestry community engage landowners to assist them in reaching their personal forest goals? These questions bear some thoughtful consideration, whether we are talking about a Tree Farmer or one of VFA's several hundred forest landowner members,

There are conservatively more than 300,000 individual or family forest landowners in Virginia. Perhaps the most important question is simply stated: What should we be doing to serve forest landowners? Where is their true interest and joy in relation to their beloved woodlands?

Paul Howe and Sarah Kammer, VFA Programs Coordinator, at the Tree Farm National Leadership Conference meeting in Albuquerque, New Mexico.

I would value any and all constructive thoughts from VFA members and others in our forestry family to help me sort through these questions. I look forward to hearing from you!

FROM THE EDITOR. Our fall issue of *Virginia Forests* magazine touched on the ever-expanding ways that new technologies, especially computers, cell phones and UAVs, have impacted our lives and our work in the forestry community. Undoubtedly, the development and use of innovative tools, products and applications offers many benefits—and challenges—as we share ideas, conduct research, express opinions, and build relationships.

With this in mind, visitors to the VFA website (vaforestry.org) have the opportunity to share their own technology- and forestry-related stories. In this issue, we are pleased to share a story on forest genetics by John Pait of VFA member-company ArborGen, Inc.

We are grateful for the engagement of our members in these relevant and timely conversations and look forward to hearing from you! *—Lesha Berkel*

Your Forestry Story

Today's Advanced Genetics in Forestry is Improving Yields as Well as Mitigating Risks

Investing in Forest Genetics Can Raise Returns & Reduce Risk

by John Pait

Genetic improvement for reforestation began more than 60 years ago and is now yielding elite seedlings which can substantially increase timber productivity, raise financial returns and reduce investment risk. The technologies involved use conventional breeding and testing methods like those used in agriculture and are beginning to include the use of more advanced technologies to accelerate the rate of improvement. Combined with good forest management practices, this genetic improvement is making plantation forestry more

—continued on page 31.

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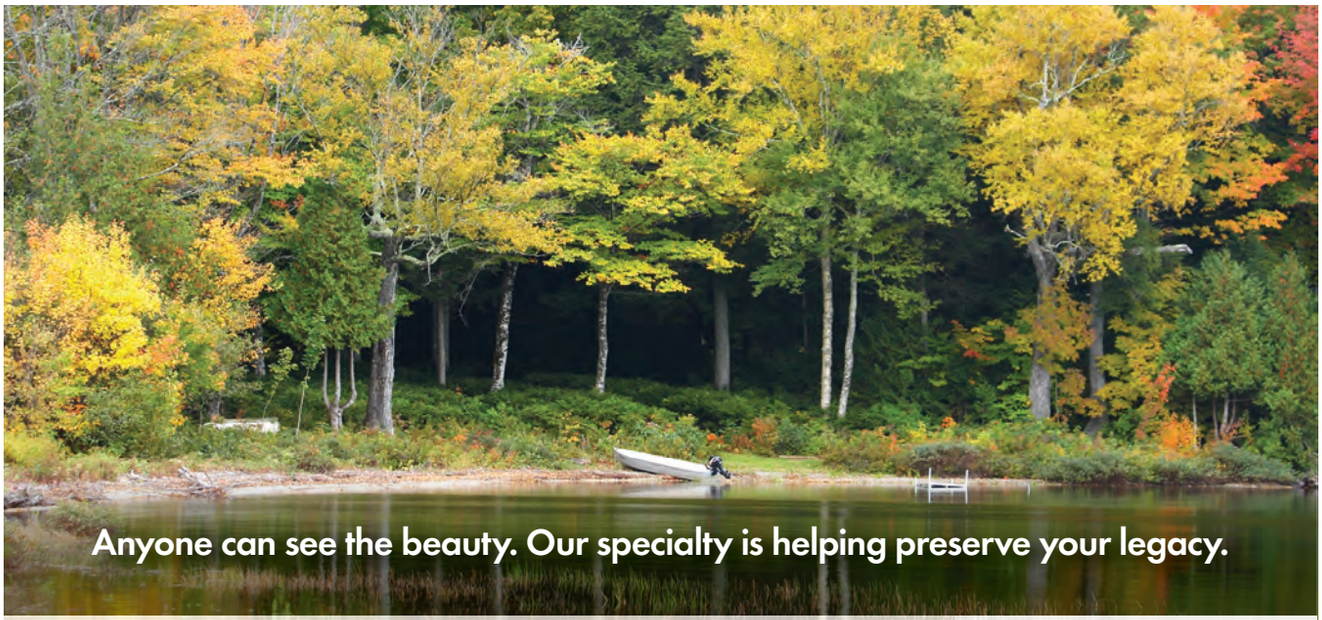

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The Virginia Forestry Association, chartered in 1943, is a non-profit, non-governmental, privately-supported association of forest landowners, wood product industries and businesses, loggers, foresters, forest use groups, and conservation-minded citizens. New board members are elected annually by mail ballot to all VFA members. To ensure a balanced geographical representation, the state is divided into five areas and one "at large" category. Any VFA member may be a candidate for the board.

New Beginnings

John Hancock

It is early January as I make a few notes, and it seems appropriate to mention the many new things going on in 2018.

Virginia has installed a new governor, Ralph Northam. Two of our "own" have been selected for key roles in the Northam administration.

Bettina Ring will serve as Secretary of Agriculture and Forestry. Bettina's roots in Virginia forestry, her consistent leadership, ability to forge relationships, and forward-looking thinking make her the perfect fit for her expanded responsibilities. She has been a long-time active member in VFA.

Rob Farrell has been tapped to serve as Virginia's State Forester. Rob has served as a leader in the Department of Forestry as well as VFA. He was a key member of the task force that completed our recent restructuring. He was named Outstanding Member of the Year at the 2017 Summit and has served on the Executive Committee this past year. I look forward to continuing to work with Rob as he takes on yet another challenge.

Shannon McCabe is about to begin serving as Executive Director of the Association of Consulting Foresters, and we wish her the best of luck as she starts this new chapter of her career. VFA has also welcomed two new staff members, Sarah Kammer and Elizabeth Buhl. Sarah and Elizabeth have both hit the ground running. Sarah is now preparing for an external Tree Farm audit coming up in April, and Elizabeth is helping Carl Garrison and his committee prepare for the Virginia Forestry Summit coming up in early May.

The 2018 General Assembly (GA) is in session, and our Executive Director Paul Howe has his hands full. He will be meeting and educating the many freshman GA members, getting the lay of the land with the political reality of an almost evenly divided House, and working with our many partners to advocate for the forestry community on a number of pieces of legislation.

VFA has a wide-ranging membership but a common purpose. We aim to provide lawmakers with timely and accurate information that promotes our economic, ecological and social impact. Advocating on behalf of our diverse membership is one of the highest priorities of our organization.

Former VFA President Brad Fuller has been leading our Branding and Marketing Task Force. The concept for this important effort came out of our recent strategic plan. The task force's work will ensure that our communications and focus are consistent with VFA's mission, values and vision. Look for our new brand to roll-out at the Summit.

And, speaking of the Summit, we will be celebrating 75 years of history this year! We have a long, consistent record of serving as a voice for Virginia forestry. We take pride in our achievements, but more importantly we focus on where we are going. It's exciting to think about what the next 75 years will bring and what other "new beginnings" lie ahead.

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Wood Utilization in Virginia's Interface Forestlands and Urban Forests

by P. Eric Wiseman, Ph.D.

What's the Buzz About?

There's been a buzz around Virginia"s interface forestlands and urban forests in the last few years, and it's not been just from chainsaws. Lately we're hearing more and more about the utilization of urban wood.

The concept is not new—people have been putting this leftover wood from urban tree removals and lot clearing to good use for years. However, there are new and emerging factors at play that are leading to a growing interest in urban wood utilization.

One is the revival of boutique industries that are capitalizing on the "buy local" movement. Many people want local produce and local beer, so why not local wood products? Another is the sustainability movement. As we seek ways to divert materials from landfills and sequester carbon that has been soaked up by trees in the urban forest, many communities are striving to recycle trees into long-lived wood products. Related to this, the costs of handling, trucking and disposing of wood can be significant for companies that provide lot clearing and tree care services in urban areas where traffic is snarled and disposal sites are few.

These are certainly not new issues, interests or needs, but they are coming at a time when technology is rapidly changing and breaking down many of the barriers that have prohibited value-added recycling of urban wood in the past.

A Study of Urban Wood Utilization in Virginia

Virginia Tech faculty and students have had the privilege to collaborate with Virginia Department of Forestry, Virginia Cooperative Extension, and other professional organizations over several years on a broad-based initiative to improve our collective opportunities and capabilities in utilizing urban wood.

At the outset, the Virginia Urban Wood Group had the foresight to recognize that a huge information gap existed in Virginia. There were plenty of anecdotes and case studies from near and far about urban wood utilization, but there was no scientific information that answered questions about urban wood utilization practices in Virginia, or how these practices were viewed by those working in related private-sector businesses or by government employees working within Virginia municipalities.

By answering these questions through a research study, we hoped to provide the Virginia Urban Wood Group with concrete information to support their educational and technical assistance programs as well as their long-range strategic planning to vitalize a budding industry. Included here are the highlights of a study conducted by Virginia Tech during 2014–2015. The full report about this study can be found at http://treesvirginia.org/images/pdfs/wwu.pdf.

Conducting The Study

Our baseline study of urban wood waste utilization in Virginia was actually carried out as two concurrent stakeholder surveys. One survey looked at interface forestlands (where urban and rural lands converge), and the other looked strictly at urban forests (dense residential and commercial areas, often within a city limit). Collectively, we referred to these as urban/interface forestlands (UIF). Although there are many commonalities and overlap of stakeholders and geographic footprint between these two UIF arenas, we surmised that the two should be separated for purposes of study administration.

Leading the interface forestland study was Dr. Brian Bond, assisted by graduate student Oxana Maria Angulo, both in Virginia Tech's Department of Sustainable Biomaterials. The urban forest study

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was led by me, Dr. Eric Wiseman, in Virginia Tech's Department of Forest Resources and assisted by graduate student Jordan Endahl.

The survey for interface forest lands was administered to stakeholders such as primary wood products manufacturers, biomass users, firewood producers, mulch producers, consulting foresters, loggers and those involved in land clearing. For the survey of urban forests, stakeholders comprised two primary groups: municipal government employees and private-sector arborists.

We identified 91 urban municipalities around the state and contacted individuals working for those governments who were most knowledgeable of waste wood generation and utilization within the jurisdiction. Municipal government workers comprised urban foresters, solid waste managers, engineers and planners. Private-sector arborists were identified through cooperation with the Mid-Atlantic Chapter of the International Society of Arboriculture. Contact information was obtained for individuals who were Certified Arborists, a professional credential held by an assortment of tree care service proprietors and consultants. A survey was sent by mail to interface forestland stakeholders while urban forest stakeholders participated in a web-based survey.

What We Learned

When identifying those involved with interface forest wood, it is important to first determine whether respondents had any experience in interface wood utilization or generation at all, and then distinguish between those who generated wood for utilization from those who utilized the wood. Of the interface forestland stakeholders who responded to the survey, 38 percent neither generated nor utilized interface wood, 32 percent utilized, 10 percent generated and 14 percent both utilized and generated.

Among those stakeholders involved with interface wood waste utilization, 95 percent were primary manufacturers, indicating that the largest use of this material is for primary products, broken down almost evenly between lumber or lumber products producers (56 percent) and ground or chipped product producers (44 percent).

When Virginia SHARP loggers whose primary activity was logging were asked if they harvested trees from interface forestlands, the majority (56 percent) did not harvest trees there, while 40 percent did conduct these harvests. For those whose primary activity was not logging, the majority (58 percent) also did not harvest trees there, whereas 36 percent did conduct these harvests.

In the urban forest survey, as with interface forest lands, it is also important to distinguish between those who generate and utilize wood waste. On the municipal side, we found that 87 percent of surveyed municipalities generate wood waste. The majority of this material is generated either

Who are Interface Forestland and Urban Wood Stakeholders?

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from maintenance of public greenspaces and rights-of-way (71 percent) or collection of citizen yard debris (21 percent).

Overall, this municipal wood waste is generated in similar proportions through tree pruning (31 percent), tree removal (32 percent), and curbside pickup of residents' yard debris (32 percent). Within private tree care contractors, about two-thirds of survey respondents indicated that they generate wood waste that originated on residential properties (46 percent), commercial properties (17 percent), and public greenspaces (14 percent). Most of this wood waste comes from either tree pruning (45 percent) or tree removal (43 percent).

Urban and Interface Wood Utilization

Companies that work with interface wood are predominantly primary manufacturers (95 percent) who produce a lumber or lumber product (56 percent) or a chipped or ground product (44 percent). Sawmills made up the largest user group (49 percent), followed by compost producers (16 percent), and mulch producers (13 percent). Other users included biomass producers, cabinet manufacturers, wood boiler users, and land clearers. While questions were asked to each stakeholder group regarding the type of material and volume used, the useable response rate for these questions was too low to make reasonable comparisons.

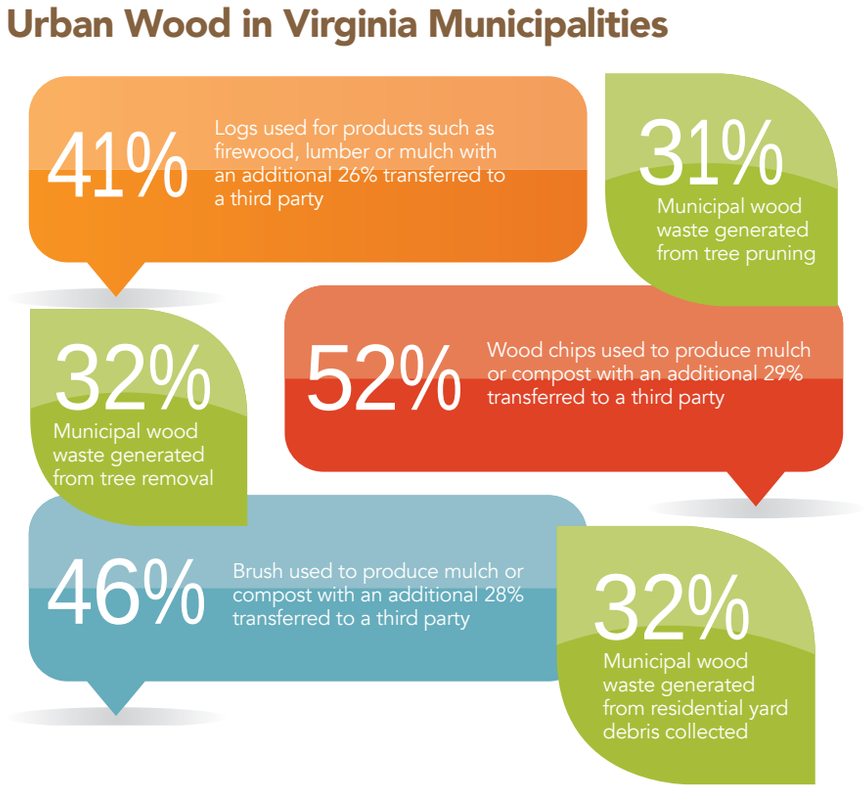
In urban forests, wood waste is generated as a by-product of tree maintenance and land clearing activities. Therefore, it is not a purpose-harvested commodity as is seen in the interface forest. Because Virginia municipalities do not always prohibit landfilling of wood debris, we were surprised to find fairly high rates of utilization amongst municipal operations. They reported that 41 percent of logs, 52 percent of wood chips, and 46 percent of brush is being utilized as some type of wood product. The majority of directly utilized logs are processed into firewood (42 percent of utilization), lumber (18 percent), or mulch (8 percent). Nearly all directly utilized wood chips are processed into mulch (75 percent) or compost (21 percent). Directly utilized brush likewise ends up being processed into mulch (76 percent) or compost (21 percent).

Municipalities rarely utilize logs in-house for high-value products such as furniture (6 percent), cabinetry (6 percent), or veneer (5 percent), but this is not surprising given the lack of specialized equipment and personnel to do so. Likewise, biomass fuel is rarely produced from wood chips (4 percent) or brush (4 percent).

An appreciable amount of municipal wood waste is being transferred to a third party (26 percent of logs, 29 percent of chips, and 28 percent of brush). While the fate of these materials were not tracked in this study, presumably a large proportion of this material is also being processed into products.

Private tree care contractors in urban forests reported somewhat lower rates of direct (in-house) utilization for products from logs (29 percent), wood chips (31 percent), and brush (35 percent). Given that tree care contractors frequently transfer these material to a third party (42 percent of logs, 53 percent of chips, and 32 percent of brush), overall utilization of their wood waste is probably much higher.

When tree care contractors utilize wood waste in-house, they tend to process logs into firewood (52 percent of utilization), mulch (17 percent), or lumber (17 percent); process wood chips into mulch (63



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percent) or compost (20 percent); and process brush into mulch (52 percent) or compost (28 percent). They rarely produce high-value products such as furniture, cabinetry or flooring (6 percent).

Interface & Urban Wood Utilization Barriers

Companies that work with interface forestlands were asked in the mail survey what barriers businesses might encounter with utilizing interface wood. The barriers reported were quite varied and no single barrier had strong consensus. The three most common barriers were: wood contamination (reported by 16 percent of respondents); lack of infrastructure to handle materials (15 percent); and variable supply of wood material (15 percent). Interestingly, lack of market demand was not listed by any respondent as a barrier to interface wood utilization.

For logging businesses that harvest interface woodlands, the three most common barriers were liability (reported by 31 percent of respondents), wood contamination (22 percent), and quality of wood material (18 percent).

Companies not yet working with interface wood were asked why they weren't involved in the business. The major reasons were inadequate volume, and they only purchase gate wood (both 20 percent of respondents), followed by too small volume to make profit and only use contract logging (both 14 percent). Loggers not yet working with interface wood indicated that the volume was too small to make a profit (40 percent of respondents), followed by not enough wood volume available (27 percent), and lack of knowledge on utilizing interface wood (20 percent).

Respondents to the urban forest survey were asked to rank nine potential barriers to urban wood utilization. Lack of local processors (someone to make wood products) was the most frequently cited barrier, identified as a top-three barrier by 42 percent of municipalities and 48 percent of private tree care contractors. Other frequently-cited barriers in urban forests were lack of in-house space for stockpiling (52 percent municipal and 41 percent private), lack of in-house equipment for processing (56 percent municipal and 30 percent private), and logistical difficulties of transporting to local processors (29 percent municipal and 40 percent private).

The biggest point of departure between municipalities and private tree care contractors was their perception of on-site logistical difficulties in handling wood waste. Because private contractors are predominantly working on residential parcels, space for felling and maneuvering saw timber is limited and requires additional time and equipment to extract in salvageable lengths. About 37 percent of private contractors ranked these logistical difficulties as a major barrier compared to 23 percent of municipalities. Concern about a viable market for waste wood products was also expressed: 34 percent of private contractors and 27 percent of municipalities cited lack of local consumers as a major barrier.

Next Steps

Moving toward greater utilization of interface and urban wood is a tough nut to crack. For every success story, there are three stories about frustration or failure. It's a complex matter that is heavily influenced by local geography and fickle market conditions. There is no "one size fits all" formula for success.

So where do operators find motivation and success with urban wood utilization? Interviews with some of the companies involved with interface forestland products emphasized the importance of focusing on unique wood products and not trying to compete with commodity products. They also attributed their business success to sharing with customers the story of how they came up with the business, the importance of not wasting raw material, and how their product is helping the environment.

Likewise, in the urban forest survey, the most commonly agreed upon reason for increasing wood waste utilization was environmental concerns. More than two-thirds of respondents from both municipalities and private tree care contractors cited environmental sustainability as an important incentive to increase utilization.

However, the reasons to pursue urban wood utilization have to make economic sense, whether in the public or private sector. One way to increase economic viability is to divert wood waste into higher-value products. The fact that about half of logs generated in urban forests end up as firewood is a good indication that some value is being left on the table. Training urban foresters and arborists how to grade and buck saw logs in order to recover maximum value is just one of the facets of outreach by the Virginia Urban Wood Group. Another big step is creating technology to connect wood waste generators with sawyers and wood workers so that strong market networks will emerge to support a viable urban wood products industry.

P. Eric Wiseman, Ph.D. is Associate Professor of Urban Forestry and Arboriculture at Virginia Tech Department of Forest Resources and Environmental Conservation. The department has an active urban forestry research and outreach program and many of these resources are available at urbanforestry.frec.vt.edu.

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Virginia's **Urban Wood** Program

by Joe Lehnen

Brookside Portable Sawmill (photo ©Virginia Department of Forestry

In August of last year, attendees from across the southeast and beyond came to Richmond for the first-ever Mid-Atlantic Urban Wood Forum. This two-day forum, sponsored by the Virginia Department of Forestry, Trees Virginia, the Virginia Urban Wood Group and the U.S. Forest Service-Southern Region, focused on the enhanced uses of our urban wood resources. Urban wood experts from across the United States presented stories of success and failure and offered steps forward for effective, profitable and vibrant urban wood programs.

The Virginia Urban Wood program was the brainchild of Charlie Becker and the late Paul Revell who co-authored a successfully funded U.S. Forest Service grant that laid the foundation for this new program. The program was launched in 2016 with the formation of the Virginia Urban Wood Group whose goals include utilizing innovative workforce solutions to assist in the development of small acreage service providers, improving the utilization of Virginia's urban and small woodlot forest resources via enhanced marketing opportunities and seeking opportunities to fulfill the management needs of small property landowners.

In Virginia, 70 percent of woodland owners have tracts of one to ten acres, which equates to 856,000 acres of forest land or 8.9 percent of Virginia's family forests. These figures do not include all of the additional wood volume in millions of

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tracts that are less than one acre in size. This resource and these landowners have been under utilized and under served for decades.

Understandably, much of the issue is the economies of scale of traditional logging operations. After all, moving equipment and crews for ten trees, one acre of forest land or two loads of logs is often impractical. That is the reality for the traditional harvesting operation. Yet in today's world there are profits being made by those companies with a two- or three-person crew; a trailer; a small, often portable sawmill; and some wood crafting abilities.

Small acreage landowners in Virginia and across the country often beg for people to harvest their trees and to do something useful with the resource. That second aspect of utilization is almost of equal importance with the removal of the trees.

Nationally, urban forests account for roughly 28 million acres containing more than four billion trees. This figure does not include the billions of trees on small suburban and rural parcels. Each year between three and four billion board feet of urban wood goes to landfills across the United States. That's right, landfills.

Wood that could be used for better purposes is tub ground into mulch and in some places distributed free of charge merely as a means of removing the wood resource from the landfill landscape.

The Virginia Urban Wood Group is in the process of changing the concept that urban wood equals waste wood. They are hoping to convince an ever-increasing number of forestry service providers that there is value in urban trees, and that small companies can profit by utilizing them effectively and strategically.

In reality, not every urban tree might be worth thousands of dollars, and many city and small-lot trees have a destiny as firewood or wood chips. Yet with a good business sense, creativity and some marketing skills, urban and small parcel wood can be a profitable adventure for anyone interested in pursuing this wood resource.

The potential value of urban wood is often underestimated. The most important misconception is that valuable trees have to be tall, straight, with no obvious defects and only of a presently commercially sold species.

In the world of urban wood, trees need to be viewed in a brand new manner. Products made from urban wood come from most any tree species imaginable, both domestic and imported. There is a huge public demand for creative and unique wood pieces. Products that maintain the natural or "live" edge of the tree are in high demand. Live-edge tables and shelving have seen solid market gains over the past two to three years.

Consumers are also displaying a strong desire for local wood. The closer the tree grew to where they live

There's Money in Urban Trees!

Last year a large elm tree had to be removed at a Virginia golf course. One slab from that tree, made into a table, sold for $5,000. In Northern Virginia, a single, ten-foot slab was cut from a maple tree destined for the landfill. The slab, complete with a narrow, two-foot linear cavity in the middle of the board which was routed and filled with tempered glass, sold as a bar top for $12,000.

Photos courtesy of Virginia Department of Forestry

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and the fewer miles it has traveled to be manufactured into a product, equates to higher intrinsic and economic values. There is a strong "local wood movement" throughout Virginia and the country. It has seemingly co-evolved with the local foods, local wines and the local beer culture that is blanketing the Commonwealth.

Of equal importance is wood that comes from a tree that has a story to tell. There is increasing demand—and therefore value—for products from trees with historical significance or of local importance. An example would be a large old tree that grew on a college campus that is now slated for removal or has died of natural causes. Products made from that tree and marketed to alumni often sell-out within days of the initial offering.

The Virginia Urban Wood Group continues its work to improve the value and wise use of urban wood and small parcel wood resources. The Urban Wood Group has begun relationships with two jurisdictions to institute total tree-cycling into their urban forestry programs. The main goals are to reduce municipal wood/tree debris entry into the landfills and to utilize all parts of the tree for its best uses throughout the life of the tree. The Virginia Urban Wood Group is also working very hard to develop and encourage folks who are interested in helping the small parcel forest landowner manage their property to create healthy, vibrant forests for all Virginians.

Joe Lehnen is Utilization & Marketing Specialist with Virginia Department of Forestry.

Virginia Urban Wood Group

Connect with the Virginia Urban Wood Group

There are many inspirational urban wood success stories that can be found on the Virginia Urban Wood Group's web page, www.vaurbanwood.org Informational urban wood videos, presentations from the Mid-Atlantic Urban Wood Forum and urban wood research can also be found on this site.

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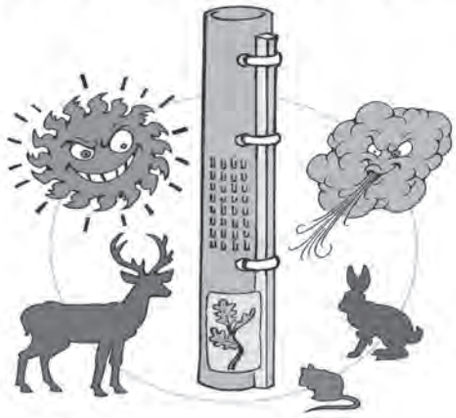

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Larry Hinkle, Ukulele Maker

by Anne Beals

In 1879 a ship left Portugal on its way to Hawaii. On the way it stopped at the islands of Madeira and Cape Verde, where they picked up immigrants and the little guitar-like instruments called "machetes." Legend has it that one of the sailors was very demonstrative when he played, jumping around like a flea. And that's what ukulele means in Hawaiian—leaping flea! But according to Queen Lili'uokalani, the last Hawaiian monarch, the name means "the gift that came here," from the Hawaiian words *uku* (gift or reward) and *lele* (to come). The Hawaiian Royal Family declared it the national instrument.

Larry Hinkle of Fredericksburg has played guitar since he was a kid, and he's been a quality woodworker almost as long. On a family vacation to the beach several years ago, he took a ukulele along because a branch of the family was moving to Hawaii, and he fell in love with the instrument.

Larry uses local wood for his projects. He keeps an eye out for trees that are being taken down in the city, brings them to his shop, mills and air-dries them for about a year per inch of thickness. He's made a reproduction of an original Chippendale style William Walker (c. 1770) chair for Kenmore, George Washington's sister's home in Fredericksburg (pictured at right). The black walnut came from a tree across the street from the house.

He's made a desk out of elm that came from a tree at Belmont, the home of artist Gary Melchers and another one of Fredericksburg's historic locations. The tree at Belmont had been planted by Corrine Melchers around 1920 but was rendered a danger to the studio by Hurricane Isabel in 2003.

Hinkle has made instruments out of walnut from a friend's yard on Fauquier Street, and he will collect a wide variety of wood from around town—cherry, maple, walnut, white oak. Lately he's found that sounding boards from retired pianos make great ukes, and they are usually Appalachian spruce. "They've already been broken in with all that good vibration from being played for years," he said. He uses all kinds of wood for the instrument's back and sides, cherry for the neck, and the spruce for the top.

Hinkle teaches sculpture at the University of Mary Washington and hopes to bring woodworking into the curriculum. Local tree service companies know him well and keep him informed. He enjoys saving local wood "from the fireplace and the dump" and turning it into beautiful and musical things.

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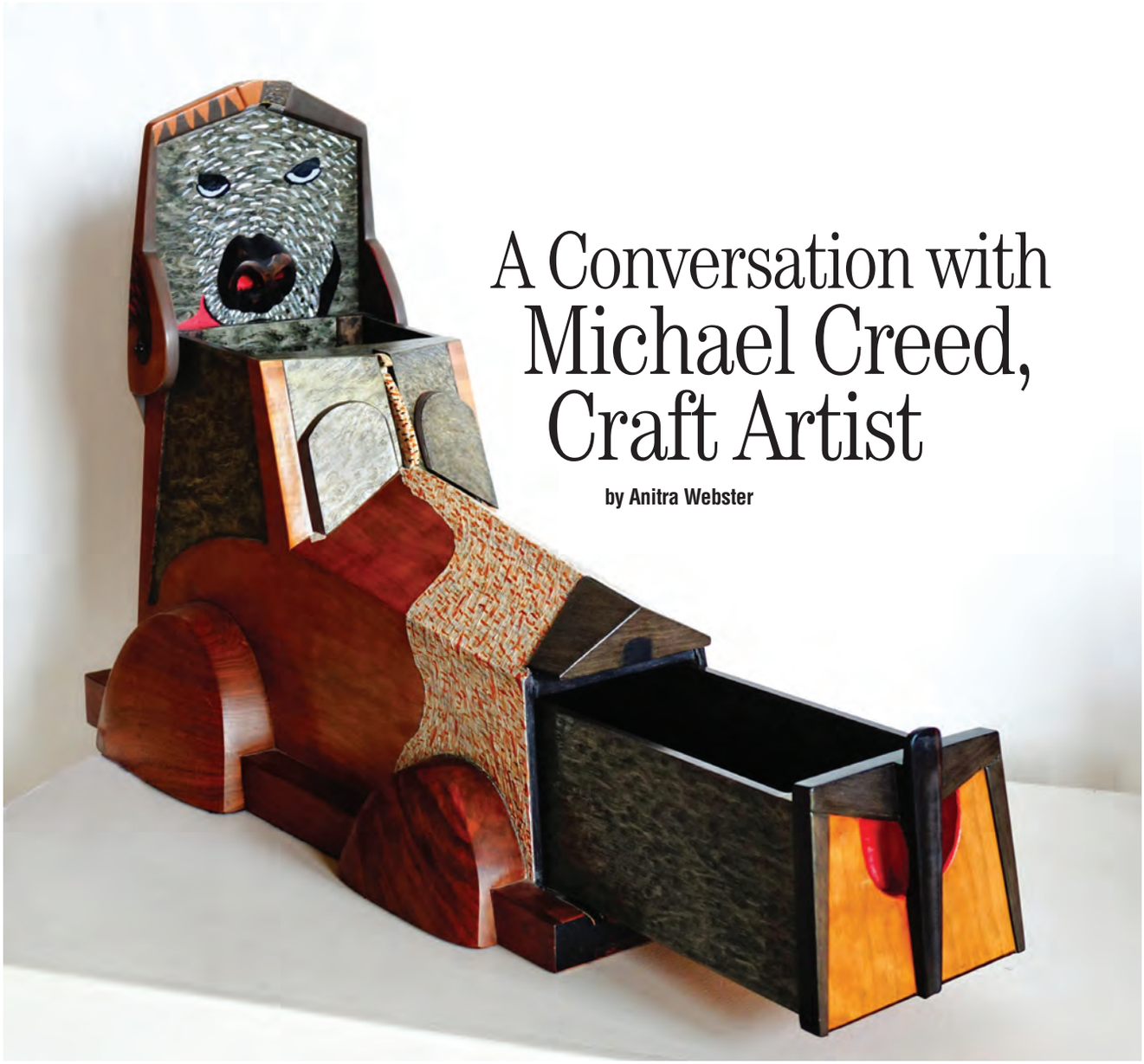

A Conversation with Michael Creed, Craft Artist

by Anitra Webster

Whimsy, light hearted, humorous. These are words that describe Michael Creed's wooden sculptured creations.

In our hurried lives of today, we need to remind ourselves to stand back and take a few moments to appreciate what we have around us. Let's begin with our trees. It is one thing to look at a tree, calculate its board feet, and ask if it is perhaps veneer quality. But remember, that same tree has the potential of being a sculpted, polished craft item, a piece of art. It may be designed into a handsome desk, a coffee table, or a walking cane.

GRRR...Rover
WILD CHERRY, BLACK WALNUT, DYED BIRD'S EYE MAPLE AND PAINT
(photo by Susan Saandholland)

Michael Creed, a resident of Lynchburg, Virginia, is a self-taught craft artist. He has spent the past 39 years in his local shop creating a vast array of commissioned items, restoring antiques, dreaming dreams of works of art that are now in many homes locally and sites across the country. He works primarily with Virginia woods—black walnut, wild cherry, poplar, white and red oak. He incorporates imported woods for artistic emphasis, woods such as mahogany, purpleheart from Ghana, padauk from the Bay of Bengal (Southeast Asia), Baltic birch plywood from Latvia and Estonia.

Creed began his work with wood when assisting a local house wright

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to restore one of the splendidly build homes from earlier days in downtown Lynchburg. Michael found his calling in the creativity of providing the flourish, the extra touch, to the wood restoration in that house over the three years it took to complete the project. He was discouraged from a classical study of art. Instead he followed his own inspiration and imagination and read every book in the public library that dealt with crafts, art, archeology, and art history.

As a living tree moves with the wind, so do many of Creed's wooden creations incorporate motion. But the movements are ones of surprise. He describes his works as having kinetic energy, a wonderful, quirky energy. There are hidden drawers, winged extensions of a tabletop, all unique and all engineered to extend the creativity of the sculpture and to enhance the piece's usefulness.

Pelican's Perch ,
a library ladder and chair
LAMINATED BALTIC BIRCH, SOLID BLACK WALNUT, DISTRESSED SHOE LEATHER, PAINT AND VARNISH
(photo by Susan Saandholland)

The artistic process that works for Creed begins with an idea. He sketches his idea and looks it over to find the next step. In an unhurried fashion he makes additional drawings, perhaps adding color. Before going to wood he makes a maquette, a paper mache model, of his evolving creation. All through the process, he asks himself if what is before him is to be carried forward or discarded.

Creed has brought his own skill and artistic insights to the fine art of wood sculpting. It is a long, long way from the pastime of wood whittling.

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Wood: Building Material From the Past to the Future

by John Matel, President, Virginia Tree Farm Foundation

Well-functioning ecosystems are the basis of all prosperity, and ecosystems are all about complex, adaptive relationships and cycles. Our concept of ecological systems, however, is limited when we separate human from "natural" ecology. Humans could not separate from nature even if we wanted and, in my opinion at least, desiring a separation is a type of insanity.

Where does forestry fit? There are more factors than we could include in whole libraries. On the practical level, forests protect and renew water, soil and wildlife. These "ecological services" are worth billions of dollars every year, as we learn to our sorrow when we lose them. Forests are also places of recreation, renewal, beauty and tranquility. On the spiritual level, they provide glimpses into the book of life for anybody willing to look.

Let's focus on one cycle—wood. Wood is the forest product that first comes to mind and the one that provides most income to Tree Farmers. We have no trouble seeing the cycle from seedlings to harvest. We plant around 1.2 billion seedlings in the South every year. Virginia's Garland Grey nursery alone shipped more than 30 million loblolly seedlings last year.

As trees grow, they do all those good things I mentioned above. They also absorb carbon in their roots, leaves and stems, and they add it to the soil. One tree can absorb as much as 48 pounds of carbon dioxide each year and can hold more than a ton in its wood.

Benefits do not stop at harvest. Wood is the most ecologically-friendly building material. Consider its production. Steel and concrete are made in factories using materials mined from the earth. Few people want to hike or relax in mines or factories. Wood grows naturally in forests.

Wood in structures holds carbon for as long as the structure endures. This may be decades or centuries. (The Hōryū-ji wood pagoda in Japan has been standing since AD 711. This is doubly remarkable, since earthquakes leveled local stone and masonry buildings several times.) When its work is done, wood can be burned for fuel or composted. Then it is back into the earth, where it fertilizes new seedlings, cycling again. Wood is 100 percent renewable.

Low-rise buildings in the U.S. are already mostly wood. New technologies like cross laminated or dowel laminated timber mean we can build mass timber wood structures taller, faster and better than ever. The world's tallest wood building is the 18-story, 174-foot-tall Brock Commons in British Columbia. (Maybe not so tall, considering nearby Douglas fir can reach heights of 330 feet.) Taller buildings are planned, but the big market for mass timber will be in mid-rise (6-14 story) building. Changing the way we build to use more wood can contribute to a regenerating cycle.

Tree Farmers do our part by producing wood sustainably and in ways that protect and regenerate total forest ecology. Trees are more than wood and forests are more than trees. We grow healthy forests that produce good wood.

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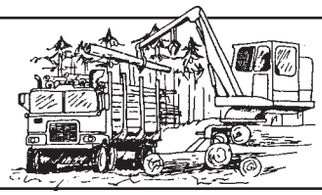
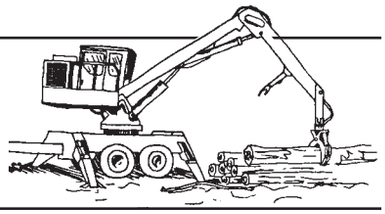


THE LOGROLL

Notes & News for Loggers



by Scott Barrett, Ph.D.
SHARP Logger Program Coordinator
Extension Specialist, Forest Operations, Virginia Tech Department of Forest Resources and Environmental Conservation

Sometimes, Logging is the Easy Part

Sometimes, logging is the easy part. That might sound strange at first. Logging can be a difficult and challenging occupation, especially for operations that utilize manual felling and frequently have workers on the ground as opposed to working from inside equipment. In fact, logging is often listed as one of the most dangerous occupations in America.

Despite the physical challenges, the challenges of dealing with the weather, with equipment and any number of unexpected issues, most loggers are in the business because they want to be there. They enjoy working in the woods and doing what is needed to harvest trees and get them to a mill. That's why I say that sometimes logging is the easy part—the actual harvesting of trees is why many logging business owners got into the business, and they love logging.

As many logging companies have grown, their production has increased, and often the size of their business has increased to meet this demand. Many have multiple crews which means that there are more employees, more

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equipment, and more business management issues that must be addressed.

In addition to the challenges of keeping everything moving in the woods on a logging operation, logging business owners have to deal with the administrative requirements for operating a business with substantial cash flows. There is also a lot of time and effort put into the record keeping and compliance associated with legal requirements. As small businesses, most logging operations don't have entire departments staffed with full-time employees to handle things like accounting, compliance with trucking and transportation regulations, or human resources. Often there are only one or two people responsible for making all of these kinds of decisions that keep the logging operations running.

Legal issues and challenges are likely something that most people hope they never have to deal with. However, with the complexity of many logging businesses it is likely that owners will be faced with a legal issue or challenge.

Ensuring that your business is in compliance with legal requirements is important for effectively managing a business. While the unexpected can always happen, there are things you can do to be sure your business is prepared.

Being prepared for legal issues and learning how to improve business management is important to any successful enterprise. The Virginia SHARP Logger Program strives to offer classes that are useful and can help loggers in the many areas of their business. On April 20, 2018, the SHARP Logger Program is co-sponsoring a workshop focusing on legal issues and challenges for logging business owners. The workshop will be held in the Richmond area and include topics such as contracts, management, employment laws (what's acceptable and what's not during the hiring process), the importance of safety handbooks and safety rules, and other topics relevant to logging business owners. If you are interested, you can find out more on the SHARP logger website about this and other classes. To learn more, visit sharplogger.vt.edu.

If you have ideas for other topics that could help you with business management in your logging operation, let us know! We may be able to offer a class that would help. Even though logging is a tough job, sometimes logging is the easy part.

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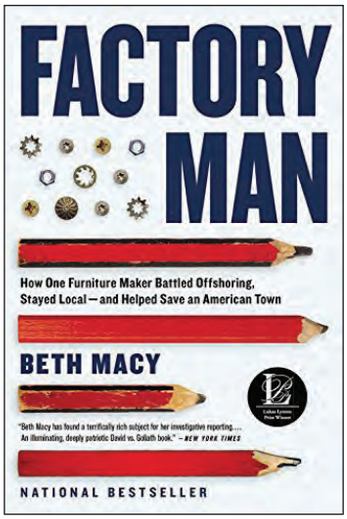
Factory Man

How One Furniture Maker Battled Offshoring, Stayed Local—and Helped Save an American Town

By Beth Macy

Reviewed by Anne Beals, Magazine Editorial Committee

When someone has the foresight to set up a business with all the parameters in place, success can be assured. In 1902, JD Bassett was living in the Martinsville area of Virginia. There, he saw a rich bounty of raw material in the available timber, and the people living in the red dirt hills and hollows of Henry County and in the surrounding area were eager to get out of subsistence farming and logging.



Basssett needed to attract labor to work in the furniture mills he planned, so he named the new post office after himself, and built a town around it. He supplied railroad ties to the new rail line being built through some of his family land. Thanks to this railroad, the raw materials so readily available to him on Virginia's hillsides were easily brought to his factories and, in turn, were sent out to the world in the form of finished furniture.

Bassett has been a staple of the Virginia wood products world for so long that many of us involved in the business today may be acquainted with descendants of the founders.

Thus began the Bassett furniture empire. Within decades it was to become the largest manufacturer of furniture in the world. Bassett habitually paid above the minimum wage, and the company was the first in Virginia to employ African American workers. JD was no fool. He needed labor to support his booming business. Today, Bassett remains dedicated to U.S. resources and manufacture.

A family-owned company, especially one making the huge profits that Bassett did, and spawning the huge personalities that it takes to build a dynasty, can go through many different permutations. Bassett was no exception. There were many offshoots: Lane, Vaughn, Spilman, Hooker, Stanley—all started by family members.

The family started out in the forests of Virginia and built a furniture dynasty that took them to the halls of government and involved them in trade around the world.

The *New York Times* called this book a "real David and Goliath story." The author, a Virginia journalist, had a difficult time at first getting family members to talk to her about their history.

"Bassett family members believed that their family history should stay where it belonged, in the closet," she explained. So she worked on building a parallel history of the economics of the furniture world and the Bassett family. The history of the local area encompassed investigations of former employees, who were almost to a person still extremely loyal. She includes entertaining stories of the town itself and the surrounding area and touches on the effects of the local and worldwide economies upon the business.

The parallel history of the family included family trees, personal anecdotes, involvement in local and state and national government, national and international trade and finance, and, finally, interviews with a family descendant about what had become in subsequent years Bassett Furniture Industries.

A work of impressive investigation, this book educates one about what it takes to build a successful business, the local and international economic pressures that may affect it, and how to deal successfully with international competition.

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IS IT WORTH IT?

The Value of Contributions and Support

by Brad Fuller, VFEF Board of Directors

Everyone these days is soliciting. Our phones ring consistently with calls for everything from worthy humanitarian requests to car warranties to scams trying to bilk us out of our life savings.

As individuals or companies, what or who do we want to support—if anything at all? How do we choose those organizations or initiatives that are "blimp worthy," as one current media advertisement states?

The Virginia Forestry Educational Foundation's mission is to financially support statewide youth education promoting sustainable forests for the environment, social, and economic benefit of all Virginians. The Foundation is to be operated exclusively for charitable and educational purposes.

Recent research has identified many benefits of youth environmental programs:

Environmental education benefits students by:

- Improving academic achievement
- Breaking the indoor habit
- Improving student health
- Supporting STEM
- Meeting 21st century needs
- Cultivating leadership qualities
- Improving focus and cognition

Environmental education benefits schools and educators by:

- Creating enthusiastic students
- Fostering innovative teachers-leaders
- Addressing academic standards saving schools money

Environmental education benefits the larger world by:

- Fostering healthier schools
- Supporting sound decision making
- Contributing to sustainability
- Conserving our natural resources

By these measures, it seems clear that the Virginia Forestry Educational Foundation meets the criteria for "worthiness" in the youth education category.

Photos courtesy of Virginia Department of Forestry

In addition, the foundation financially supports forestry-related majors in the form of educational scholarships. Funding forestry's future is the main reason VFEF scholarships are awarded in various related disciplines. This assistance helps students fund their education from an accredited university. This accreditation is a major component to the enhancement and recognition of the forestry profession.

Foresters and others in related forestry fields are not always held in as high esteem as other professionals such as engineers, lawyers, and/or accountants. The path to a forestry degree is multi-faceted. The assistance offered through VFEF contributes to the achievement of a degree by lessening the financial burden. With VFEF financial assistance a young person's goal to pursue a forestry-related career may be more achievable. We may also attract other individuals to take a closer look at forestry degrees and ultimately enhance and promote our profession.

Financial support for the Virginia Forestry Educational Foundation is critical to promoting both the objectives of youth education and forestry-related scholarships. Your contributions and support for the Virginia Forestry Educational Foundation definitely meet the criteria of worthiness.

VFEF welcomes your support! *You can give online at www.vfef.net or mail your contribution to VFEF, 3808 Augusta Ave., Richmond, VA 23230.*

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TAX TIPS for FOREST LANDOWNERS for the 2017 Tax Year

by Linda Wang, Ph.D.

Specific federal income tax laws and rules apply to timber-related income and expenses. The tax tips provided in this bulletin are intended to assist timber owners, foresters, loggers and their tax preparers in filing the 2017 tax returns. This material has been prepared for informational purposes only, and is not intended to provide tax, legal, or accounting advice. Please consult your own tax, legal, and accounting advisors before engaging in any transaction. The information is current as of September 30, 2017.

Timber Property for Tax Purpose

For Federal individual income tax purpose, there are three types of timber properties: 1) property held mainly for *personal-use* purpose (for personal enjoyment, not for income generation). The deductions are generally limited for personal use property; 2) property held as an *investment* (generating profit from growing timber or asset appreciation); or 3) property held as *business* (with regular, active, and continuous commercial timber activities). Timber business can deduct expenses but are subject to passive loss rules (where passive loss cannot be used to offset non-passive income). If the profit motive is not met, your timber may be considered a *hobby* rather than business (losses from hobby activities are not deductible). Finally, timber is generally not treated the same as a business of *farming* for tax purpose. Certain tax provisions for farming may not be available for timber.

Example 1: Mr. Anderson replanted his 30-acre property after the timber sale. He reports his timber as an investment property.

Example 2: Mr. Smith owned his woodland primarily for personal vacation property. Expenses may not be tax deductible for personal-use property.

Timber Expenses and Property Taxes

Expenses paid for growing timber for profit are deductible. For example, expenses may be paid for services of forester, attorney or accountant, firebreak maintenance, overnight travel, vegetation competition control, insects, disease and fire control, pre-commercial thinning, and depreciation from equipment used. Investment timber expenses are deductible on Schedule A, subject to a two-percent of adjusted gross income (AGI) floor. Business timber expenses are deductible in full for "material participants" on Schedule C. State and local property taxes are fully deductible on Schedule A (investment) or Schedule C (business) and are not subject to the two-percent AGI floor.

Example 3: Mrs. Walter grew timber for profit as an investment and paid $1,500 timber management expenses. Her AGI was $50,000. Her timber expense deduction is $500 ($1,500 – 2% x $50,000 AGI) after the two-percent AGI floor.

Timber Sales and Form 1099-S

Sales of standing timber held as an investment are taxed as capital gains rather than ordinary income. If you own the timber for more than one year before the sale, the sale is eligible for long-term capital gain, which is taxed at lower tax rates than ordinary income. Report the sale of standing investment timber on Form 8949 and Schedule D. Sales of standing timber by a business qualify for long-term capital gain (Sec. 1231 gain) if the timber has been held for more than one year (Sec. 631(b)). Report the sale on Form 4797 and Schedule D. Timber sale expenses, such as fees paid to foresters, are deductible from the sale proceeds. Form 1099-S are required for lump-sum and pay-as-cut standing timber sales, except corporate and high-volume business sellers.

Example 4: In 2017, Mrs. Young sold pine standing timber held as an investment for $9,000. Its adjusted basis was $3,000. The selling expenses are $1,000. She reports $5,000 ($9,000 - $3,000 - $1,000) as a capital gain on Form 8949 and Schedule D.

Special rules apply for the following type of sales: if you cut your own timber or have it cut by a contractor working at your direction, and sell the cut timber products or use the products in your business, the gains are ordinary income unless you elect to use Sec. 631(a) on Form T, Part II.

Example 5: Mrs. Henderson manages her timber farm as a business. In 2017, she hired a logger to cut her timber and sold the log products to the mill she selected for $10,000. She paid $4,000 to the logger. The fair market value of the standing timber on January 1, 2017 was $3,000 and her timber basis was $2,000. Under Sec. 631(a) election, gains of $1,000 ($3,000 - $2,000) from standing timber are

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capital gains and the $3,000 ($10,000 - $3,000 - $4,000) from the sale of log products is ordinary income. Without a Sec. 631(a) election, the gains of $4,000 ($10,000 - $2,000 - $4,000) are ordinary income.

Timber and Landscape Tree Casualty Loss

Timber and landscape trees destroyed by a casualty event such as the hurricane, fire, earthquake, tornado, hail or ice storms may be tax deductible. But the amount of deduction varies depending on the type of properties. Deductible casualty loss for timber held for business or investment purposes is the smaller of the adjusted basis of timber and the difference of the fair market value of the timber immediately before and after the casualty in the block. Salvage sale of timber is reported separately and a taxable gain may result if the salvage sale exceeds the adjusted basis of the timber and related selling expenses.

Example 6: A hurricane damaged Mr. Smith's woodland tract, resulting in $8,000 fair market value loss of his timber. Assuming his timber basis is $2,000, the amount of casualty loss deduction is only $2,000, not $8,000.

For landscape trees in the private residence, deductible casualty loss is subject to a $100 limit per casualty and 10 percent AGI floor. However, for taxpayers affected by Hurricane Harvey, Irma and Maria, the 10-percent AGI floor was eliminated. The requirement for taking "itemized deduction" is also eliminated.

Installment Sales

An installment sale allows you to defer tax by spreading your gain over two or more years. Interest is charged on deferred payments and is ordinary income.

Example 7: You sold $10,000 of timber ($7,500 after deducting timber depletion and sale expenses) in 2017. Your gross profit percentage is 75 percent ($7,500 ÷ $10,000). The buyer paid you $6,000 in 2017, and you took a note payable in 2018. Report a $4,500 gain ($6,000 x 75%) for 2017, using Form 6252.

Reforestation Costs

Taxpayers may deduct up to $10,000 ($5,000 for married couples filing separately) per year of reforestation costs per qualified timber property (QTP). Any amount over $10,000 per year per QTP may be deducted over 84 months (amortized). Trusts are eligible for amortization deduction only.

Example 8: Assume you spent $17,000 to reforest, deduct $10,000, plus 1/14th of the remaining $7,000 ($500) in 2017. Deduct 1/7th of the $7,000 ($1,000) for 2018–2023 and the last 1/14th ($500) in 2024. For investment timber, report the reforestation deduction as an adjustment to gross income on the front of Form 1040. For business taxpayer, report it on Schedule C. Elect to amortize and take amortization deductions on Form 4562. Attach a statement to your return showing the date, location and amount of the expenditure.

Timber Basis and Depletion Deduction

For purchased property, the timber basis is the amount you paid for it. For inherited property, the basis of timber is its fair market value on the decedent's date of death.

Example 9: You inherited a woodland property five years ago. Your forester provided a retroactive appraisal of the timber quantity and value on the date of the decedent's death. Your timber basis was set up as: $25,000 for 100 thousand board feet of pine sawtimber and $4,000 for 200 cords of pine pulpwood.

Example 10: You sold 50,000 board feet of sawtimber in 2017. Your depletion deduction from the sale is $12,500 ($25,000 of total timber basis ÷ 100,000 board feet of total volume x 50,000 board feet of timber sold).

Depreciation and Sec. 179 Expensing

For timber held to produce income, you may take depreciation on the assets used such as logging equipment, tractor, computer, car, bridge, culvert, fence, temporary road, or the surface of permanent road. For example, logging equipment and light-duty truck are depreciated over five years. Land, however, is not depreciable. Also, business taxpayers may deduct up to $510,000 in the first year for qualifying property in 2017, subject to a $2,030,000 annual phase-out and business taxable income limitation (Sec. 179 expensing). Separately, business taxpayers may take bonus depreciation equal to 50 percent of the cost of qualifying new business property.

Net Investment Income Tax

For single taxpayers with AGI over $200,000 (or 250,000 for couples), investment and passive business timber sales are subject to a 3.8-percent net investment income tax.

Example 11: Mr. and Mrs. Walter's AGI is $270,000, including a $40,000 capital gain from their investment timber sale. The timber gains of $20,000 ($270,000 - $250,000, which is less than the $40,000 gains) are subject to the 3.8-percent tax ($760 tax), in addition to the capital gain tax on the sale.

Cost-share Payments

If you receive a payment from a qualified program, you may exclude part or all of the payment from your

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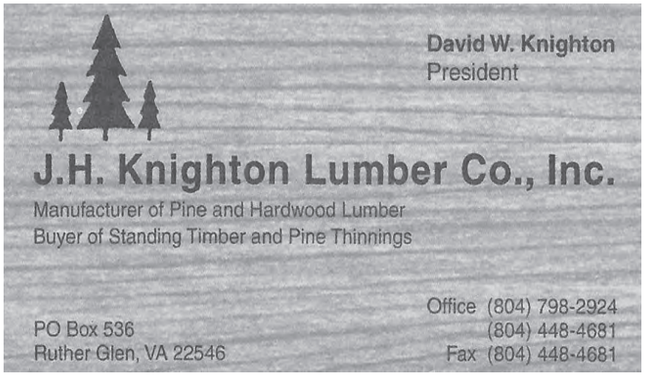

income if the cost share payment is used for capital expenditure. Otherwise, it is ordinary income. Qualified federal programs for income exclusion include the Forest Health Protection Program, Conservation Reserve Program (CRP), Conservation Security Program, and Environmental Quality Incentives Program. Several state programs also qualify for exclusion. The excludable amount is the present value of the greater of $2.50 per acre or 10 percent of the average annual income from the affected acres over the last three years.

Example 12: The CRP paid you $6,000 as cost share for your qualified capital expense in your timber property. If you had no income from the property in the last three years, you could exclude up to $6,250 (($2.50 x 100 acres) ÷ 4%) from your income. The interest rate is from the Farm Credit System Bank. If you had $9,600 of income from the property in the last three years, you could exclude up to $8,000 ((10% x ($9,600 ÷ 3)) ÷ 4%). Attach a statement to your tax return describing the cost-sharing program and your exclusion calculations.

Filing Form T (Timber)

You must file Form T (Timber), Forest Activities Schedule, if you claim a timber depletion deduction, sell cut products in a business (under Sec. 631(a)), or sell outright timber held for business use. However, if you only have occasional timber sales (one or two sales every three or four years), you are not required to file.

Conservation Easement

Donors of qualified conservation easement can take a tax deduction. The deduction is up to 50 percent (or 100 percent for qualified farmers and ranchers including forest landowners) of the taxpayer's AGI in a year. Any excess donation over the 50- or 100- percent limit may be carried forward to 15 years.

Linda Wang, Ph.D., is National Timber Tax Specialist, U.S. Forest Service.

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Page Hutchinson, forest education specialist for the Virginia Department of Forestry, conducts an interactive presentation for third graders at Beulah Road Elementary in Chesterfield County, Virginia.

Dominion Energy's *Project Plant It!* Notches New Milestones in 2018

By Suyapa Marquez, Senior Community Affairs Representative, Dominion Energy

For the 12th consecutive year, Dominion Energy's Project Plant It! celebrates spring by teaching children about the role of trees in the ecosystem and giving them a free redbud seedling to plant for Arbor Day. The program will distribute 60,000 redbud tree seedlings in 2018, a 20 percent increase over the amount in 2017, in the states served by Dominion Energy.

The award-winning environmental education program, which was established in 2007, is available for children of all ages and grade levels, including those in schools, scout troops, civic and church groups, preschools, environmental clubs, home-schools and other entities that work with youth.

"Project Plant It! is one of the many ways Dominion Energy supports education and invests in local communities," said Hunter A. Applewhite, president of the Dominion Energy Charitable Foundation, the philanthropic arm of Dominion Energy. "When it's time to celebrate Arbor Day on April 27, 2018, Dominion Energy will have distributed 500,000 tree seedlings to participants since 2007 – an exciting milestone. This innovative tree-planting program for children aligns with our mission to promote environmental stewardship in a fun, meaningful and memorable way."

"When it's time to celebrate Arbor Day on April 27, Dominion Energy will have distributed 500,000 tree seedlings to participants since 2007."

The redbud tree seedlings are grown at the Arbor Day Foundation's farm in Nebraska. Prior to Arbor Day, the seedlings are packaged and shipped to the participants. Instructions for indoor/outdoor planting are included in the packaging.

In addition to the Arbor Day Foundation, another longtime partner with Project Plant It! is the Virginia Department of Forestry (DOF). Representatives of the DOF have assisted with tree-planting events at schools in communities of Virginia. Also, the DOF's forest education specialist, Page Hutchinson, schedules interactive forester presentations at selected schools each year.

Educators appreciate the STEM-based lesson plans and instructional tools that can be downloaded at no charge from the program's website, projectplantit.com. This year, to further engage children about the many benefits that trees provide to the environment, a new lesson plan about conservation of natural resources has been added to the Educator's Guide on the website. This custom-designed manual now includes 12 lesson plans that support third-grade learning standards for math, science, language arts and social studies. All of the lesson plans can be adapted easily to grade levels from preschool through high school.

Along with the Educator's Guide, the website features interactive games and educational videos about trees, along with a variety of outdoor activities that families can enjoy together.

According to the Virginia Department of Forestry, the half-million tree seedlings distributed from 2007-2018 equate to about 1,250 acres of new forest if all of the seedlings are planted and grow to maturity. For more information about Project Plant It!, visit www.projectplantit.com.

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Resource Review

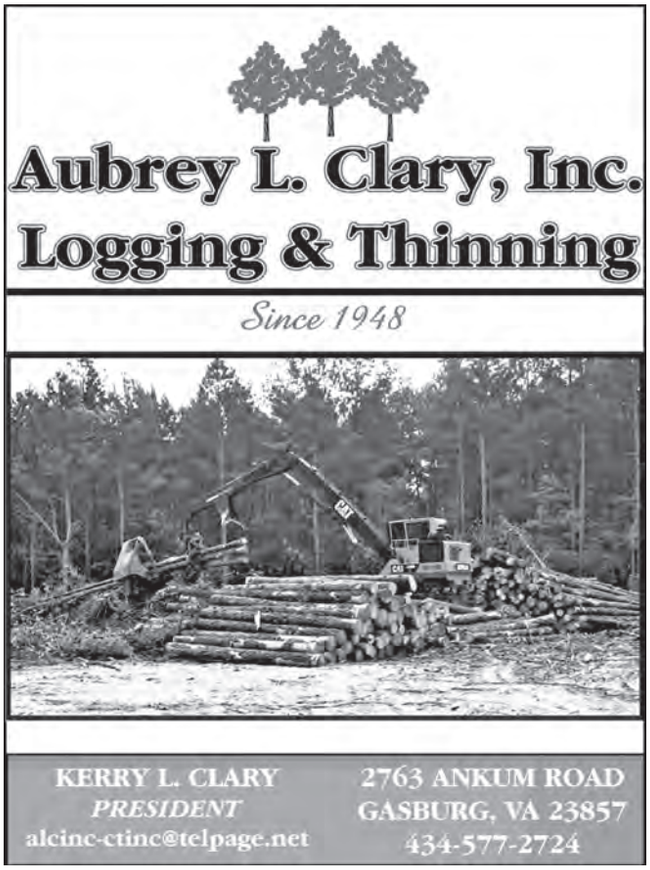
VFA Welcomes Events and Communications Coordinator Elizabeth Buhl

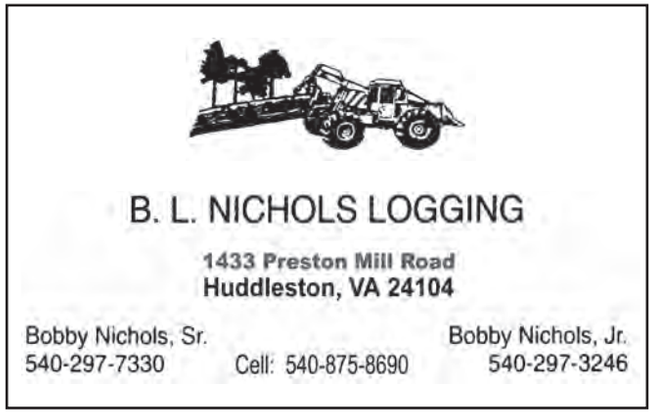
Virginia Forestry Association is pleased to introduce Elizabeth Buhl, Events and Communications Coordinator. In her role, Elizabeth is responsible for planning and executing the Virginia Forestry Summit as well as other VFA events in addition to producing and distributing VFA's electronic communications.

Elizabeth, a Richmond native, graduated from the University of Mary Washington with a bachelor's degree in business administration and marketing. She has worked previously in marketing for a government consultancy and a private school in Fredericksburg, as well as owned an event planning business, specializing in weddings, private parties, and corporate events. Elizabeth is an active member of the Virginia chapter of Meeting Planners International, recently elected as a director on the 2018-19 Board and serving as Chair of the Membership Committee. Welcome, Elizabeth!

Bettina Ring Appointed Virginia Secretary of Agriculture and Forestry

On December 14, 2017 Governor Ralph Northam announced the appointment of State Forester Bettina Ring as Virginia's Secretary of Agriculture and Forestry. Ring was appointed State Forester by Governor Terry McAuliffe in 2014. Prior to that,





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she served as Senior Vice President of Family Forests at the American Forest Foundation where she was responsible for overseeing the American Tree Farm System®. Ring spent 14 years at the Virginia Department of Forestry, departing the agency in 2001 as Deputy State Forester. In the years following her Department of Forestry service, she held various leadership positions within nonprofit organizations focusing on natural resources management and conservation, including the Colorado Coalition of Land Trusts, The Wilderness Land Trust and the Bay Area Open Space Council.

Rob Farrell Appointed State Forester

Rob Farrell has been selected as State Forester of Virginia. He is the eighth State Forester in the 104-year history of the Virginia Department of Forestry. Farrell was appointed by Governor Ralph Northam.

Farrell, who also serves on VFA's Board of Directors, has worked for VDOF for 18 years, starting out as an area forester, and then holding the position of assistant director of forestland conservation before taking on the role of Deputy State Forester in 2012. Farrell also served as acting State Forester of Virginia from January through April 2014.

"It's an honor to be appointed as Virginia's state forester by Governor Northam, and I look forward to leading the Virginia Department of Forestry in support of the Northam administration," Farrell said. "The agency's mission remains the same. We will protect Virginia's forests and citizens from wildfire and we will be ready to

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respond to other natural disasters and emergencies. We will continue to help forest landowners manage and grow their forests. We will work with Virginia loggers to get the wood out of the forest with the least impact possible. We will support and grow the forest products industry in Virginia because having strong markets for forest products is the key to having healthy managed forests."

Virginia Forests Service Directory
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WestRock Signs Agreement to Acquire KapStone

WestRock Company and KapStone Paper and Packaging Corporation announced the signing of a definitive agreement, pursuant to which WestRock will acquire all of the outstanding shares of KapStone for $35 per share and will assume approximately $1.36 billion in net debt, for a total enterprise value of approximately $4.9 billion.

Founded in 2005 and headquartered in Northbrook, Ill., KapStone is a leading North American producer and distributor of containerboard, corrugated products and specialty papers, including liner and medium containerboard, kraft papers and saturating kraft. KapStone also owns Victory Packaging, a packaging solutions distribution company with facilities in the United States, Canada and Mexico.

Read the full press release at westrock.com/en/news.

Tree Stewards Mini-Grant Awards Help Group Teach About Trees and Tree Care

Tree Stewards are trained community volunteers committed to promoting healthy urban and rural forests in Virginia. Tree Stewards provide training classes, educational programs and project in their communities intended to increase public awareness of the value of trees while teaching about trees and tree care. With classroom training and hands-on practice, Tree Stewards are equipped to identify trees, counsel on tree selection, demonstrate proper tree planting and follow-up care, and guide removal of invasive plants that threaten trees.

The Trees Virginia Tree Steward Mini-Grant Program is intended to help Virginia's Tree Steward groups fulfill their urban forestry responsibilities to their communities. This year. Tree Steward groups in Arlington/Alexandria, Lynchburg, Fredericksburg, Charlottesville and Roanoake each received mini-grants for tools, materials and equipment.

VFA also keeps you up to date on the news, events and issues that impact Virginia's forests and forestry community with its eNewsletter, ***What's Happening in Virginia Forestry Today.*** *Check your inbox or contact VFA at 804-278-8733 if you would like to subscribe.*

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FOREST GENETICS, continued from page 3

productive and efficient than ever allowing for a more sustainable supply. Genetics is a long term investment decision.

While silviculture can fix some problems such as vegetation control, once you have committed to the genetic quality of the seedlings you plant, nothing will change those genetics. You can't go back.

The specific genetic methods used depend on the tree species involved but fall into three categories with ascending levels of yield and value increase: open pollinated, control pollinated and Varietal seedlings. With more than 20 years of mass control pollinated and Varietal testing, we now have data that confirm the performance of these elite products.

Currently, there are almost two million acres of these advanced genetics planted in the southeastern U.S. Deploying these genetics compared to open pollinated industrial benchmarks can create substantially more value driven by substantial gains in growth, better log straightness, stronger disease resistance and reduced forking.

While open pollinated families are produced by allowing the best mother trees in an orchard to be fertilized with windblown pollen from many other orchard father trees, mass control pollinated technology takes it a step further. These trees are similar to hybrid corn and are produced by crossing a single best mother with a single best father. This occurs by bagging the unopened flower of the mother tree and injecting pollen from the father tree into the bag when the flower is receptive to fertilization. The time period for this to happen is only three to four days and is all done by hand.

Varietal forestry takes breeding and selection to another level of genetic excellence. Pine Varietals are an exact replica of selected single trees (for ArborGen the top one percent of tested trees) with the highest growth performance, disease resistance, log straightness, and reduced forking. The process combines vegetative propagation with tissue culture and rooted cuttings. With appropriate silviculture, the landowner can expect both earlier thinning and final harvest ages as well as significant increases in the volume of sawtimber grade logs per acre. Varietal stands will also have a much higher number of pole trees per acre with slightly longer crop rotations.

Financial performance using today's modest log prices and measured as Bare Land Value (BLV), a perpetuity Net Present Value) and Internal Rate of Return (IRR) increases due to both gains in growth rate and a higher proportion of sawlogs. Varietal seedlings can yield a BLV gain of 102 percent with an IRR rate of return of 12.8 percent, and mass control pollinated seedlings can yield a BLV gain of 80 percent and IRR of 14.3 percent over the second generation open pollinated benchmark/control. These results provide clear insight on the finan-

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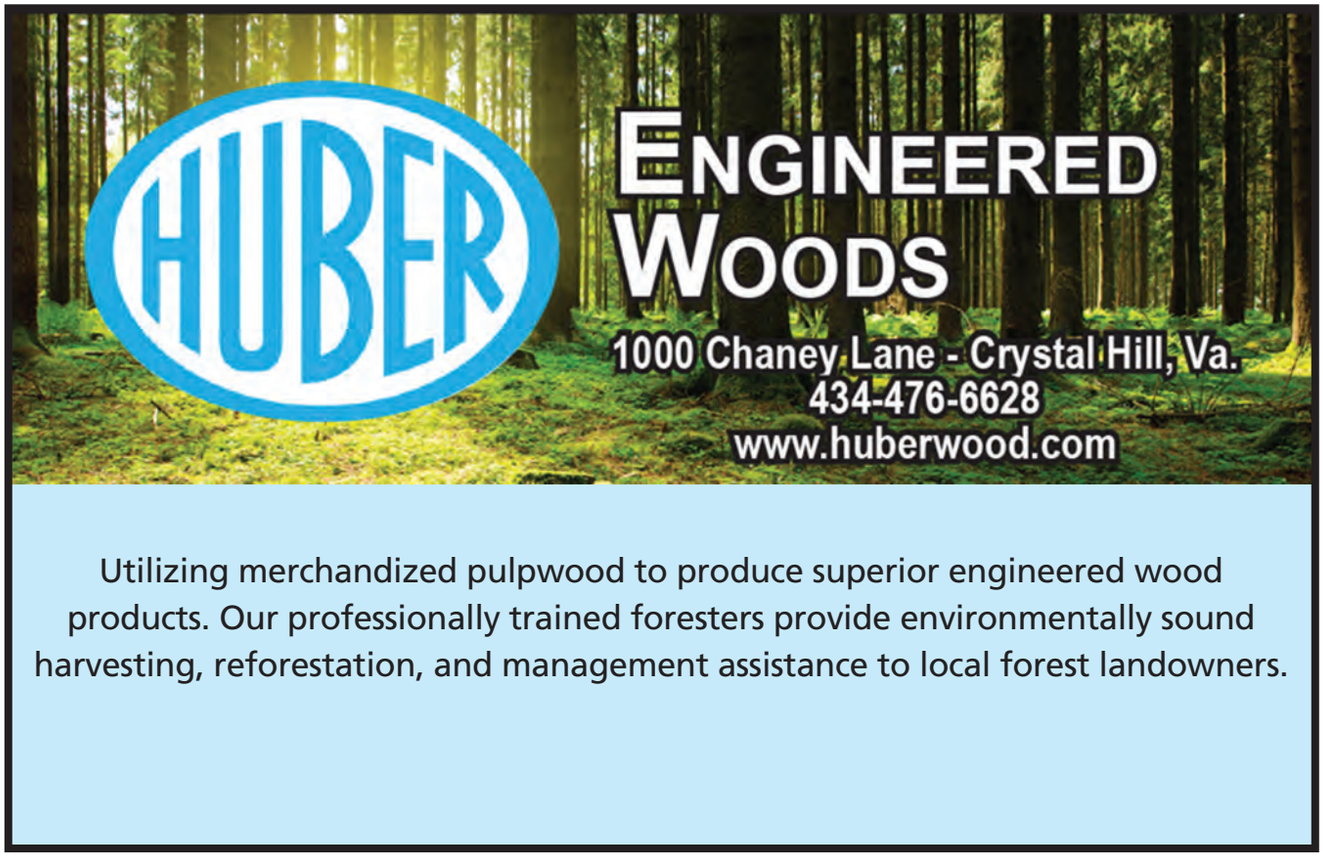
cial justification for using genetically elite seedlings in loblolly pine reforestation based on scientifically sound field data. Additionally these results show that planting elite genetics even in current poor timber markets is the most financially efficient strategy for landowners. In fact, planting more advanced genetics reduces financial risk by increasing per acre yields and cash flows over lower performing genetics if log prices decline. Risk analysis indicates that planting mass control pollinated and Varietals generates financial gains large enough to achieve high BLV's even when timber prices fall.

Choices among differing genetic products should be made with accurate performance information from experienced forestry professionals. It is critical when you are evaluating seedling products from seedling providers that you are comparing genetic "apples to apples." Seedling providers such as ArborGen can provide genetic performance data to landowners. Additionally, Performance Rating System scores (PRS) from the North Carolina State University Tree Improvement Cooperative are available for trees that have been tested in its field trials. It is critical when deciding between different genetic choices that the checklots in NCSU PRS data are from the same geographic location or provenance. For example, if you want to compare two families for use in South Carolina, the appropriate checklot in the PRS scoring will be the South Carolina checklot. Your forestry seedling vendor or consultant should be able to readily provide you with the information to provide the correct comparisons. Demand data transparency in making your seedling selection. As the economic and social pressure on forestry continues to increase, forest landowners need new tools to maximize the value of their land. Along with good silviculture, advanced genetics are the keys to addressing these pressures and keeping forestry profitable. These new products are proven in terms of both field performance and financial return. Landowners should familiarize themselves with these products to ensure they, their business and their family get the most they can from their forest lands.

John Pait is Vice President, Sales, Marketing and Product Development at ArborGen Inc. A native of Atlanta, GA, he earned B.S. and M.S. degrees in forest management and silviculture at the University of Georgia Warnell School of Forestry and Natural Resources. At ArborGen, John provides commercial and strategic leadership for its global business including seedling sales, marketing, and product development. John serves on the boards of the Forest Landowners Association, the Forest Resources Association and the National Science Foundation Center for Advanced Forest Systems.



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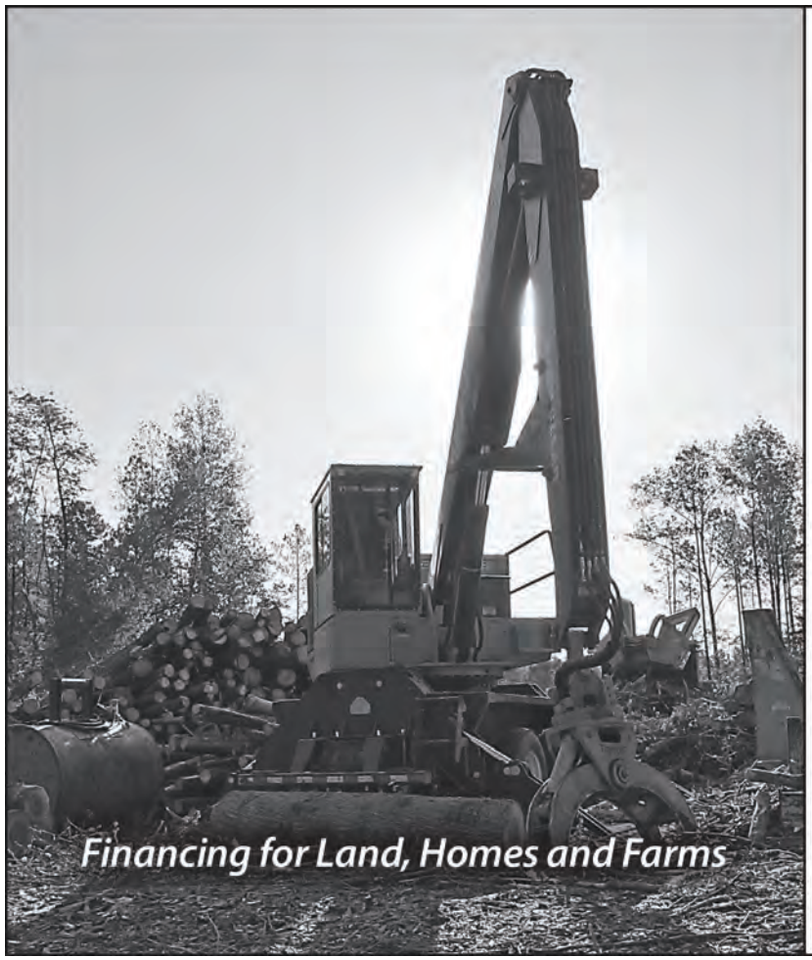

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