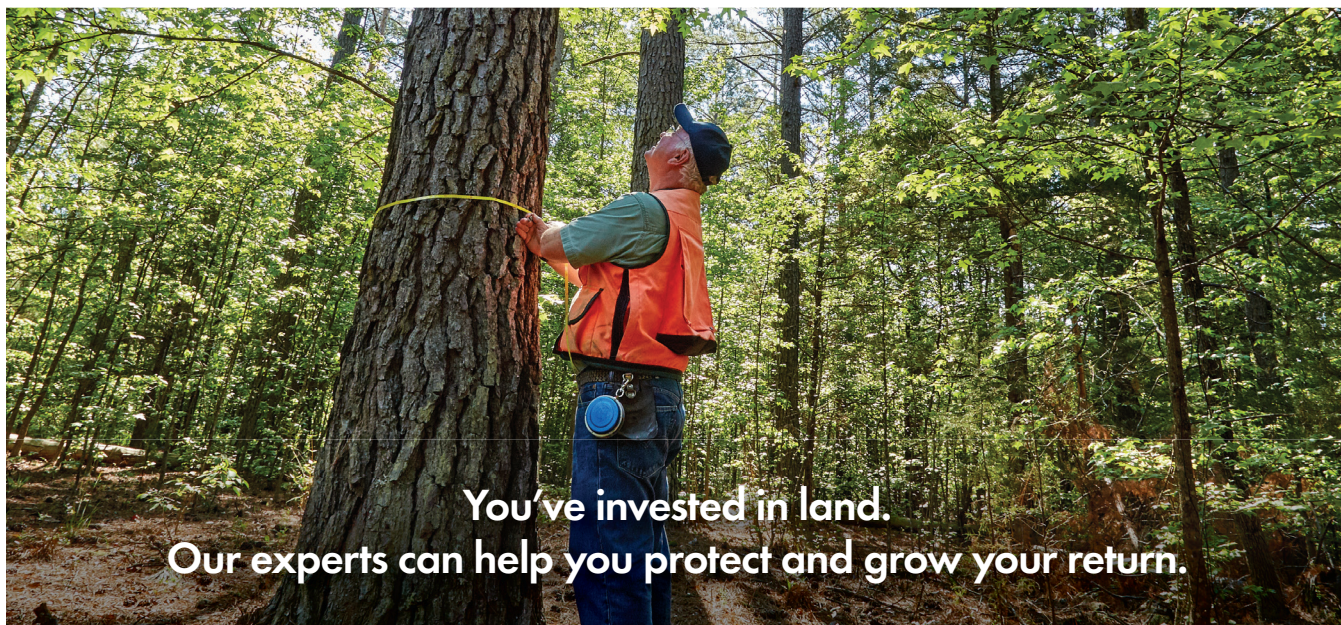


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(Above) Landowners toured CHIPS Inc., a mill located in Troy, Va., as part of Virginia Cooperative Extension's Fall Forestry and Wildlife Bus Tour in November.



(At left) Tree Farmers toured Franklin Lumber mill, located in Franklin, Va., during a 2022 Tree Farmer Meeting coordinated by the Virginia Tree Farm Foundation.

(PHOTOS COURTESY OF VIRGINIA DEPT. OF FORESTRY AND VIRGINIA TREE FARM FOUNDATION)

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Virginia Tech*



ON THE COVER: This fall, landowners toured a pine stand managed by Green Springs Lumber LLC, as one of the stops on a Fall Forestry and Wildlife Bus Tour coordinated by Virginia Cooperative Extension at Virginia Tech.

(PHOTO COURTESY VIRGINIA DEPT. OF FORESTRY)

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You've Spoken. We're Listening.

Over the spring and early summer, VFA conducted a survey of stakeholders as part of the Board of Directors' 2022-23 Strategic Plan. This confidential survey of both members and non-members was billed as an opportunity to help shape the future of the organization. On behalf of the Board and staff, we sincerely wish to thank the 196 individuals who took time to complete this comprehensive questionnaire.



Corey Connors

The purpose of our Stakeholder Survey was threefold:

- To assess VFA's current programming and services to ensure that they are addressing our community's greatest needs.
- To consider adaptations to VFA's current programs and services to ensure that needs identified can be better met.
- To envision new programming that seeks to expand offerings for key constituents that is needed, highly valued, and monetizable.

While it is common for an organization to seek such input, it is best practice to act upon that feedback to make improvements to what VFA provides for our community. In the subsequent months since the survey was completed, the Board and various Task Groups have utilized your feedback to guide positive changes across our organization. Those volunteer entities have developed, or are in the process of formulating, recommendations and action plans based upon your feedback.

As I often share with volunteers during planning discussions, running a trade association is not rocket science. The key to any nonprofit's success is simple: Ask, Interpret, Do. Thank you again for responding to the "Ask," providing us with the foundation of what will enable us to serve our community better. Here is what you shared:

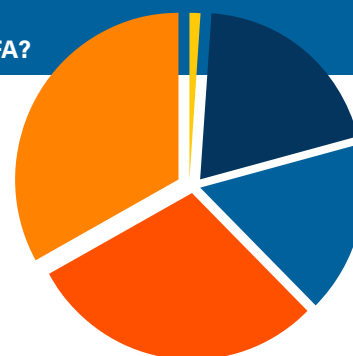
Respondent Demographics

Demographic information volunteered in the survey suggests that there was broad range of respondents by membership type, length of membership, and age. Eighty-one percent of those surveyed indicated that they were currently VFA members, with a plurality of individual/family (40%) and landowner (28%) membership types.

Sixty-three percent of members surveyed reported that they had been a member of VFA for more than 10 years. The vast majority, nearly 89% of all respondents, said that they were 45 years of age or older.

HOW LONG HAVE YOU BEEN A MEMBER OF VFA?

- < 1 Year
- 1-5 Years
- 6-10 Years
- 11-20 Years
- > 20 Years



Your General Impressions: Net Promoter Score & Member Satisfaction

Increasingly, organizations are utilizing the concept of Net Promoter Score (NPS) to measure customer satisfaction either generally or with regards to a specific program or product. NPS is considered the gold standard of customer metrics, measuring the loyalty of stakeholders to a brand. NPS is calculated based on whether respondents would recommend the organization to others.

Answers in the top 20% of potential responses (5 on a scale of 1-5) are "promoters" that will actively fuel growth and recruit others. The next 20% (4s) are considered "neutral," and the bottom 60% are considered "detractors." The NPS scale is measured from -100 to +100. According to the creators of NPS: above 0 is good, above 20 is favorable, above 50 is excellent, and above 80 is world class.

Among VFA members responding to the survey, VFA has an NPS (the percentage of promoters *minus* the percentage of detractors) of 62.5. This suggests that VFA has a strong and loyal membership, though room for improvement is certainly possible.

Another more traditional metric, asking members about their satisfaction with VFA, produced a similar result. More than one-third (37.5%) of members across all categories

WOULD YOU RECOMMEND VFA TO OTHERS?



indicated that they were “completely satisfied” with their VFA membership, while 51.3% said they were “mostly satisfied.” Once again, fundamentally strong, but an opportunity for VFA to better meet the expectations of its supporters. The most important question is: How?

Your Program & Service Feedback

The most substantial portion of the survey, evaluating current and potential VFA programs and services, begins to build a road map for volunteer leaders to consider improvements.

Communications Preferences

From a communications standpoint, VFA seems to be hitting the mark. Nearly 95% of all respondents reported that the organization’s frequency of communication is “just right.” Almost 86% are frequent consumers of *Virginia Forests* magazine (54.7% always, 31% often), while more than two-thirds read the bi-weekly *VFA Voice* eNewsletter (45.2% often; 22.3% always). Surprisingly, almost half of survey respondents do not use social media at all (45.3%), while another 25% suggested that VFA’s social channels on Facebook, Twitter, Instagram, and LinkedIn are of no interest to them.

Feedback to questions found later in the survey provided terrific recommendations as to the content that is of most interest to stakeholders. VFA’s new partnership with LLM Publications on advertising sales and production across our communications platforms should allow VFA staff, magazine editor Lesha Berkel, and our Magazine Editorial Committee to focus on delivering better content through our already well-regarded publications.

VFA Events

Another small curiosity emerged from the dataset: nearly 40% of respondents did not attend a VFA event, either in-person or virtually, during the past three years. This was surprising in the context of who took time to respond to the survey rather than the percentage of VFA members

who attend events, which is considerably lower. Of survey participants, 54% had attended one or both of the in-person Virginia Forestry Summits (2019, 2021), while another 34% attended the 2020 virtual Summit. Less than 10% attended any of the other events (legislative events, webinars) hosted by VFA in that time frame.

When asked what stood out to attendees about existing events, the results were far less surprising. Networking opportunities were, by far, the strongest value cited. While speakers, programs, and tours were also noted, networking was overwhelmingly the factor that added the most value to the attendee experience.

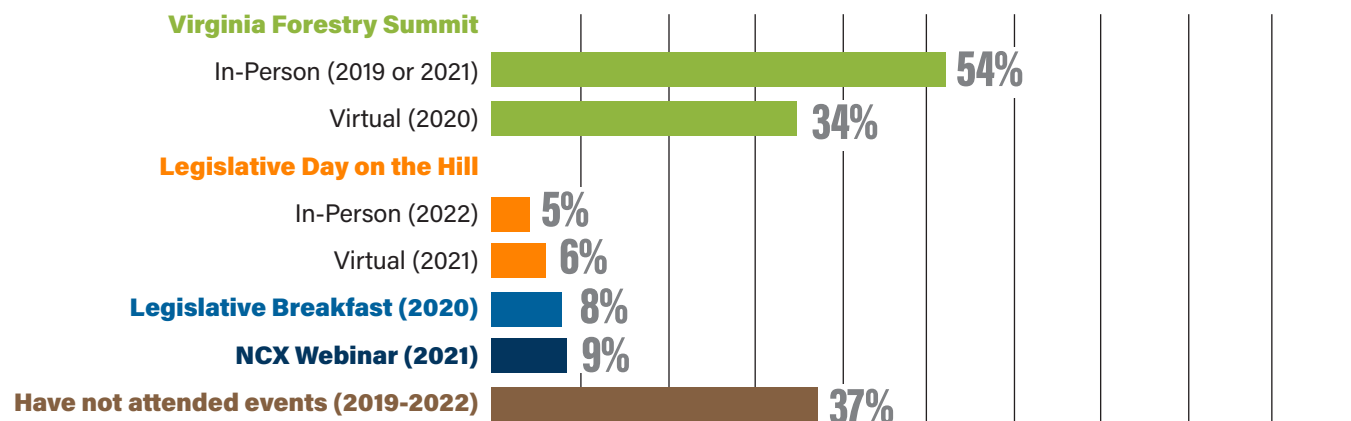
We also asked stakeholders: “What event is VFA *not* doing that you would like to see?” As expected, the responses were as varied and diverse as the population responding to the survey. But four categories were expressed by multiple stakeholders for potential new VFA programming. These include landowner education on a variety of topics; regional events that would allow for networking and providing association updates in a local setting; advocacy events that bring together policy makers and our community; and youth education focused on forestry education and workforce development.

Finally, participants were asked if a new in-person event targeted exclusively at business owners, executives, and senior managers would be of interest to them. The question was prompted by the VFA Board’s consideration of a potential Executive Retreat launching next fall. As the positive response far exceeded projected interest for a first-year event (nearly double, in fact), those interested in such an opportunity are encouraged to keep an eye on VFA communications as the calendar turns to 2023.

What Matters to You

The best associations truly excel at delivering timely, relevant content through appropriate mediums. Whether at an annual event (or events), in a quarterly magazine, through a bi-weekly eNewsletter, or by other means, the quality of

WHICH VFA EVENTS HAVE YOU ATTENDED IN THE PAST THREE YEARS? (132 respondents)



information and perspective offered through an organization's content is key in delivering value to members. We asked two open-ended questions in our stakeholder survey not only to understand what's on your mind, but to design our programs to better help you find answers to your most pressing questions.

"Markets," "carbon," "solar," "forest management," and "forestry" were the five most common responses offered when stakeholders were asked about the forestry community topic of most interest to them right now. Additional responses included "hardwood," "mass timber," "invasive species," "logging," and "fuel." Accordingly, assuming we are paying attention (and we are), you should reasonably expect to see more on these subjects in the Voice and *Virginia Forests* magazine in the coming issues.

We also asked about the one thing that VFA could help you learn to succeed. A sizable number of respondents were not sure. A handful suggested that they were already successful, which was both instructive and most likely true, but may not help us to do better. Fortunately, a resounding 132 members and nonmembers offered a cornucopia of suggestions from which we may draw in the years to come.

In looking at this list, I find it difficult to stay calm about the opportunities that lie before us as an organization. Though there are existing programs that cover some topics identified, including great programs from Cooperative Extension and Virginia Dept. of Forestry that would make no sense to duplicate, there are dozens of untapped ideas and potential new offerings that can allow both stakeholders and the organization to thrive. If you can indulge us with some patience, I believe we can ultimately develop some great deliverables based upon this valuable feedback.

What You Value

If you have made it this far into the article, you may be surprised that references to VFA's government relations efforts have been minimal. Advocacy can be tricky to measure in this regard. While we dedicate considerable resources towards representing your interests in Richmond and across the Commonwealth, there are few programmatic opportunities in which stakeholders actively participate in advancing our mutual interests. But worry not, fellow policy enthusiasts. Your moment has arrived.

Cited separately as "lobbying," "legislative," "representation," and "advocacy" in open-ended responses, VFA's government relations efforts were by far the top benefit of VFA membership identified by stakeholders in our survey. Our success during recent sessions of the General Assembly, our growing Political Action Committee, and the health of our new Advocacy Fund serve as further indications of the value that stakeholders find in VFA's lobbying efforts.

WHAT ONE THING COULD VFA HELP YOU LEARN IN ORDER TO SUCCEED? (132 respondents)

Forestry Management	<i>silviculture, wildlife, thinning, BMPs, invasives</i>
Advocacy	<i>legislation, regulation, politics of forestry</i>
Professionalism	<i>CEUs, ESG, communication skills, technology, youth</i>
Land Ownership	<i>taxes, alternative revenue, easements</i>
Markets & Marketing	<i>benchmarking data, pricing, new markets</i>
Carbon	<i>carbon market access</i>
Generational Transfer	<i>estate planing</i>
Acquisition	<i>purchasing forest land</i>

That said, there were clear indicators throughout the survey that VFA can improve on keeping its stakeholders informed on policy developments and in creating new opportunities for engagement as it relates to advocacy. Recognizing this need and based upon a recommendation by the Volunteer Leadership Task Group, the Board is in the process of establishing a new Advocacy Committee to help take our government relations function from good to great.

Your Parting Shots

Finally, we asked respondents what they thought it was important for VFA's leadership to know. The most common answer was to lean into the broad and diverse nature of our membership by continuing to serve all stakeholders and interests with one voice. There were calls to improve engagement among specific membership and demographic segments. Keeping you informed on the latest developments, policy-related or otherwise, was also suggested multiple times.

There is undoubtedly value in the similar responses we received. But on this critical question, a more granular look at the feedback you provided uncovers a call-to-action:

"To not be afraid to approach the potentially divisive topics/ subjects in a way that fosters productive conversation."

"Innovate and diversify learning options."

"Look for ways to add services even if VFA needed to add staff."

"Work to keep VFA relevant and focused, which is being done."

"Keep focused on the core values (mission) of the Association."

"Keeping forestry in Virginia financially viable for future generations."

We hear you. We understand what you are saying. Though it will take time to execute, we are ready to move VFA forward by improving our service to this wonderful community. Time to "Do." 🌿

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The Virginia Forestry Association, chartered in 1943, is a not-for-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.

PRESIDENT'S COLUMN

How a Non-Forester Got Into Forestry

For this issue, I've decided to delve a little more into my background and how a finance major became a procurement forester. I have been asked a lot about this recently given the staffing shortages, and I thought it might be of interest.

I started my career with International Paper in corporate internal audit in 2004 after college graduation. That was the time of Sarbanes Oxley and as everyone beefed up their audit departments after the accounting scandals of the early 2000s. I traveled and audited all of the various entities within IP corporate staff groups and container plants, but by far my favorite locations were the paper mills. Being around manufacturing was new to me, and I was constantly amazed.

After three years in audit, it was time to look for other jobs (a three-to-five-year rotation was typical for IP's audit group in those days). By this time, I was dating the man who would become my husband (Josh), and he had a job offer to move to Georgetown, S.C.. so off to South Carolina we went. Josh is a traditional accountant—he loves spreadsheets and numbers and can tell you how much caustic the mill used three years ago off the top of his head! I am not. I enjoy solving problems and rely on facts and data to drive my decisions, but the idea of being in a spreadsheet all day bores me. I looked for an untraditional opportunity and landed in the mill's storeroom as their supervisor. This kept me in the finance arena but put me closer to the action (and away from reporting to my husband). I had 15 hourly, union employees and \$25 million worth of inventory to manage at 25 years old. It was rewarding, also incredibly difficult, but I did get to do fun things like crawl inside a power boiler during a cold mill outage.

When a job opened in finance for the East Region Fiber Supply it seemed like a natural fit. I found that I really enjoyed the outdoor aspect of fiber supply while still using my analytical sense to solve problems. About a year later, Josh had an opportunity to relocate to Columbia, S.C. I went to the region manager's office and said while I valued my career with IP, I valued my marriage more and would be looking for opportunities in Columbia. He came back and said the only job available was a procurement forester. I said, "I think I can buy trees," and off I went.

That first year was what we affectionately called forestry with training wheels—I did all things financial while managing the rail sources and purchases from a Timber Investment Management Organization (TIMO). I spent as much time as I could in the woods and in meetings with the other procurement foresters soaking in everything they could teach me. About a year later, IP announced the repurposing of the Franklin, Va., mill and offered Josh the controller job. I interviewed for a procurement forester role and got it. This time I would be in the big leagues!



Stephanie Grubb

—continued on page 28

Virginia Wood Industry and Harvest Trends

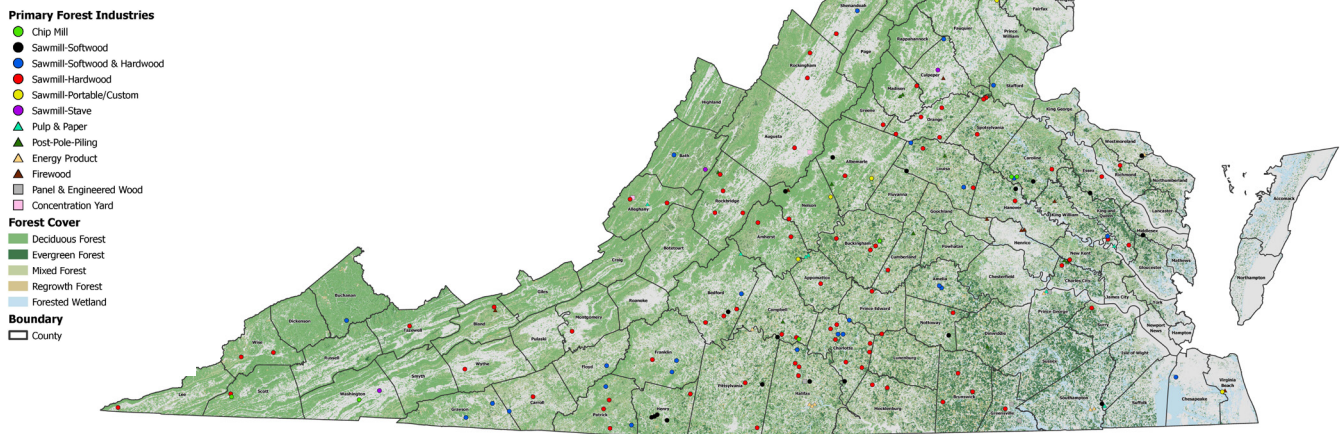
By Sabina Dhungana

VIRGINIA HAS MORE THAN 16 MILLION ACRES OF FORESTLAND. These forest resources provide the required raw materials for the forest products industry in the state. Forest products and markets for those products support rural economies across the state and are vital to helping landowners keep their land as forest. Ensuring that forest landowners have a financial incentive to maintain, manage and protect their forests helps sustain Virginia's forestland which, in turn, helps provide additional benefits such as clean air, pure water, and diverse recreational opportunities.

Forestry is Virginia's third leading industry, generating more than \$21 billion annually and employing more than 108,000 people. Products harvested from forest areas while carrying out sustainable forest management activities provide many products including lumber for building construction, furniture, paneling, cabinetry and flooring, pulpwood for tissue paper, and many other types of paper. There are also many other products that contain wood products that may come as a surprise, such as toothpaste, baby diapers, shoes, stickers and various medical products.

There are over 1,500 forest product manufacturers in the state. Out of that 1,500, approximately 175 are sawmills. Lumber produced from these sawmills is used in construction, furniture, cabinets, flooring, decking, railroad ties, pallets, and other products. More than half of the grade hardwood lumber produced in Virginia is exported. Pulp, paper, and panel industries use more than one million cords of Virginia wood every year. Other forest products, such as posts and poles, animal bedding and shavings, industrial wood products, mulch and soil amendments, fuelwood, wood pellets, and boiler fuels, complement the diverse forest industry sector in the Commonwealth.

FIGURE 1: Virginia Forestry Industry, 2020



When compared to mountain areas, forest markets tend to be stronger in the Coastal Plain and Southern Piedmont. This is due mainly to the available resource base, logging accessibility, infrastructure and the number of existing wood product manufacturers in the area.

The Virginia Department of Forestry (VDof), in cooperation with the United States Department of Agriculture (USDA) Forest Service, conducts the Timber Product Output (TPO) survey. The TPO surveys help collect and maintain primary forest industry (the industry that produces lumber, plywood, pulp, paper and other wood products using roundwood logs as a raw material) information, trends, and wood market opportunities. The survey was previously conducted every five years, but to maintain the most current information about the primary industry sector, the survey frequency was increased to every two years, and has recently moved to an annual cycle. Mill information collected through this survey helps provide a better understanding of the state's primary forest product users and how the industry has changed over time. Additionally, legislators regularly use this data to make informed decisions related to forestry, economic development, and policy. This makes participation in the survey by the primary mills crucial. If you are a mill owner, please help us collect this important data by filling out the TPO survey.

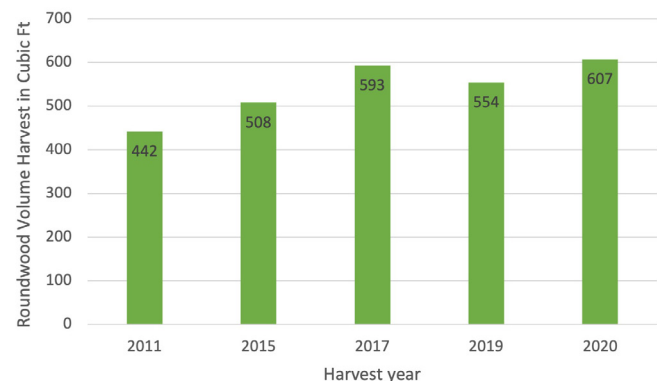
The forest industry map of Virginia (Figure 1) was developed using a TPO survey from 2020. Virginia has a very diverse forest products industry base that includes sawmills, chip mills, pulp and paper product manufacturers, pole, post and piling manufacturers, wood energy producers, firewood producers, and engineered wood product producers, among others as indicated by different symbols on the map.

TPO data from 2011 to 2020 was revisited for a long-term examination of Virginia's forest product harvest levels, as well as the number of and types of forest product mills in

the state. The 10-year snapshot (Figure 2) gives a clear look at the forest harvest levels and trends over the years.

Production of roundwood has been increasing consistently since 2011. Specifically, if we compare data from 2011 and 2020, the total roundwood production in Virginia has increased by more than 35 percent, from 442 million cubic feet of roundwood volume in 2011 to 607 million cubic feet of roundwood volume in 2020. The overall wood

FIGURE 2: Roundwood Harvest in Different Survey Years



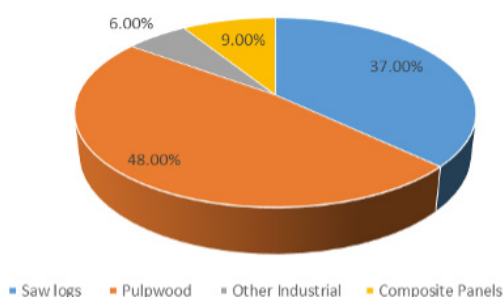
products volume production was at its highest ever in the year 2020, possibly because of the booming housing market, increased wood products demand from around the globe, growing export market, and the overall improvement and growth in the economy.

Saw log production of roundwood has increased by seven percent from 2011 to 2020 (Figure 3), which means mills in Virginia are processing more saw logs. With the total volume of wood products harvested increasing in the year 2020, it's obvious that saw log volume also increased in that year.

On the other hand, roundwood volume production of pulpwood decreased by 20 percent from 2011 to 2020

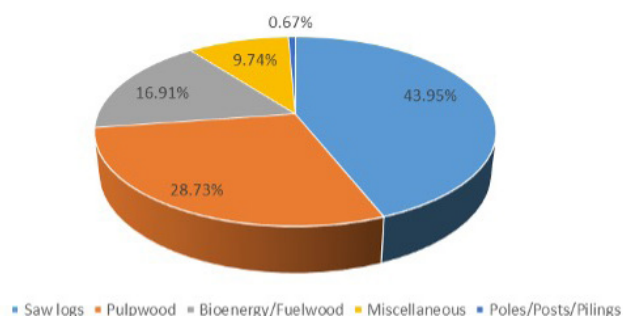
FIGURE 3: Total Roundwood Production in Virginia

Roundwood Production by Type of Product in Virginia, 2011



Total Roundwood Production in 2011: 442 million cubic ft

Roundwood Production by Type of Product in Virginia, 2020



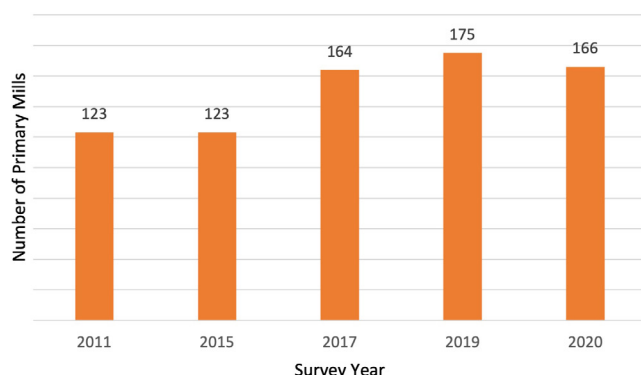
Total Roundwood Production in 2020: 607 million cubic ft

(Figure 3). This suggests that the market demand for pulpwood products has been decreasing since 2011. Bioenergy/fuelwood roundwood production has become a significant market for the wood industry in the year 2020 as compared to the year 2011. Over these years, Virginia's forest industry has adapted and emerged to better respond to changing market demands for diverse wood products

Since 2011, the number of primary mills in Virginia has increased, with a slight downturn from 2019 to 2020 (Figure 4).

In recent years, one of the primary forest utilization issues identified in the Commonwealth is a lack of markets for low-grade wood and biomass residues, which are generated as byproducts from Virginia's 1,500 wood products manufacturers that are operating here, from urban and rural municipalities, forest management activities, and logging operations

FIGURE 4: Number of Mills in Different Years



in some regions of the Commonwealth. Because of this surplus volume of underutilized woody biomass resources in the state, unique business opportunities exist for companies looking to invest in manufacturing that uses woody biomass

as raw materials for their manufacturing and final products. In addition to lacking biomass utilization, mature pine saw timber utilization in certain parts of southern Virginia is also an issue because of the lack of market and processing capacity for these resources. VDOF is trying to address these issues by identifying market opportunities for these products and working together with economic development partners in the state to either recruit or help expand current mill operations to utilize these excess resources.

VDOF's Utilization and Marketing (U&M) program has also established the Virginia Wood Council to help promote Virginia's forest products. The council is made up of representatives from the state's economic development agencies, USDA Forest Service, Virginia Forestry Association, Virginia Loggers Association, Virginia Forest Products Association, state universities, technical colleges, and biomass users and producers in the state. With assistance from this council, VDOF aims to strategically plan the state's wood utilization and marketing activities to promote and support the growth of the forest industry. The council assists with ensuring that VDOF's services are focused on the highest priorities and value-adding opportunities for customers by helping clarify emerging issues and priorities facing Virginia's forest products industry; commenting on the appropriateness of the program's work plan, outcomes, deliverables and timelines to provide priority services; and providing feedback on progress and success in achieving desired outcomes. The council meets annually to discuss progress and lessons from the past year and develop work plans for the next year. The Virginia Wood Council met this year on Nov. 3, 2022. 🌲

Sabina Dhungana is Utilization & Marketing Program Manager, Virginia Department of Forestry. She can be reached at (434) 995-8028 or sabina.dhungana@dof.virginia.gov.



A CLOSER LOOK

Southside Virginia's Amish Sawmills

by John Gee

Driving through Southside Virginia and especially Charlotte County, you will notice "Share the Road" signs featuring a picture of a horse and buggy. Folks who live and work in this area have become accustomed to sharing the road with these horse-drawn buggies. The Amish started settling in Charlotte County approximately 25 years ago and, in more recent years, neighboring counties such as Buckingham, Prince Edward, Campbell, Halifax, and Pittsylvania. They have moved to rural Southside Virginia in response to urban pressures and scarcity of available land in their more well-known Pennsylvania and Maryland historic areas of settlement. Most Amish folks either farm, build, or saw lumber for a living.

In Charlotte County, there are multiple Amish sawmills and commercial firewood processing operations. The firewood processors buy pulpwood and pallet logs (all species except pine and gum) and convert them into shrink-wrapped bundles of firewood that are sold at grocery stores and gas stations. The firewood is run through

a firewood processor that cuts and splits the wood and enters the finishing building, falling on a table that spins in circles at a slow speed. The firewood is placed by hand in a jig for consistent bundles and, when full, a label is placed on the pile and shrink-wrapped. The bundles are stacked on pallets and placed inside a homemade kiln to heat treat. The kiln is fired with a wood burning stove that burns the scrap wood that is generated in the process.

The majority of the Amish sawmills in Charlotte County operate full time, while the others saw only when they are not farming. These mills utilize both pine and hardwood logs to saw a variety of products including pallet lumber, hardwood crane mats, cross ties, flooring, grade lumber and boards to build neighbors' barns. Add these sawmills to the other five large sawmills in the county and competition for raw material is interesting, challenging and sometimes frustrating to timber buyers and sawmill owners, but beneficial to local landowners.

The sawmills in this Amish community range from small, old-fashioned

Frick sawmills sawing a few loads of logs a week to tie/crane mat mills sawing over 150,000 board feet (MBF) per week. These sawmills consist of various makes and models of commercially available circular sawmills and bandmills, along with custom band mills that are built locally in the community. All the mills in the Amish community are run with diesel motors as their customs do not allow hooking up to the electric grid.

There are several interesting things you will notice when you arrive at these mills as they are trying to keep the old-fashioned hard work ethic in the community. Some things you could say are ingenious, and others will just make you scratch your head. One especially notable dynamic is there are no rubber-tired machines, as they have all been replaced with steel tires. This is also due to Amish customs. It can make for a rough ride, but at least they never go flat! The forks on the front of the rubber(steel)-tire loaders have been removed and placed on a two-wheel cart with steel tires in front of the machine and are reattached to the

hydraulic system that powered the original forks. Imagine driving all day long like you are backing a trailer!

Most of the larger mills manage log inventory with multiple knuckle-boom loaders passing logs from one pile to the next, helping to ensure that they have adequate inventory to keep the mill in logs. All 18-foot tie-logs are manually bucked by chainsaws as hydraulic bucksaws are not permitted by their customs. In most non-Amish mills, lumber is trimmed to length with an end trim saw. Not so with the Amish sawmills where lumber is

trimmed by hand with a chainsaw as each pack of lumber is finished.

Although there are some distinct differences with Amish sawmills compared to what we are accustomed to today in modern sawmills, they are an integral part of the stumpage and lumber market in Southside Virginia. Competition for both standing timber and gate logs is strong and thankfully we have healthy forest resources to support our robust industry.

John Gee is with Ontario Hardwoods, Inc. He served as VFA President in 2020 and on the Executive Committee as Past President in 2021.

The availability of strong hardwood markets (fuel chips, pulpwood, low grade logs and grade logs), and opportunities for quality hardwood stands, makes Southside Virginia a perfect fit for the Hardwood Initiative program that the Virginia Department of Forestry rolled out in 2021. The investment in our hardwood forest will ensure that our markets and forest remain healthy into the future. 🌲

A CLOSER LOOK

Local Trees, Global Markets: Ashton Lewis Lumber Co.

by Fred Schatzki



(Top to bottom): Logs arrive at the sawmill. Pre-graded logs are stacked.

Nestled in northeastern North Carolina, just 10 miles south of the Virginia state line, lies a unique sawmill. Ashton Lewis Lumber Co., founded in 1952, has made a name for itself as a producer of exceptionally high quality pine lumber. Mr. Lewis, a native of Dinwiddie County, embarked upon a journey to bring the best of southern yellow pine to the world. He sold operations to his daughter and son-in-law, Nan and Tom Cox, in 1986. The mill was sold again in 2014 to a private investment group. While markets and products have changed over the years, Controller Conner Good says the company philosophy has never changed: “We’re a southern yellow pine producer committed to delivering the highest quality specialty products, produced by men and women that know the difference between good and great.”

Procurement

Procurement Forester David Spence describes the perfect tree for Ashton-Lewis: large diameter naturally regenerated yellow pine sawtimber, 70+ years old, with 8 to 10 rings per inch. The mill uses about 16 loads of wood a day, sawing it into about 100,000 board feet of finished product. Half of their supply comes from Virginia landowners. They actively purchase wood directly from landowners and have a core network of independent suppliers. Relationships with consul-

tants and other mills round out their procurement needs and keep the flow regular and even.

Operations

Logs arrive by truck at the mill and are weighed and unloaded. Each log is individually scaled and pre-graded (the first of several grading processes). Spence advises that this initial grading process assists the head sawyer in figuring out how to “best take apart the log.”

Initial cuts are made with band-saws. Boards are then finished with high-speed pattern planers and a multi-head moulder (depending on finished product). The mill is fully modernized, using the latest technology in scanning and computer optimization to yield the highest content of quality lumber possible. A complete on-site saw room keeps blades sharp and wood running smoothly.

Employees are an integral part of the entire process. Every machine operator is empowered to override computer optimization when they see better value for the customer. All drying occurs on site with computer-controlled kilns, and dry time is dependent on market, product, and customer needs. Finished lumber is graded three times for quality control. Once passed, products are packaged and prepared for domestic and overseas delivery. All parts of the tree are used, including mill residues that fire kilns and provide a source of mulch for non-lumber customers.

Products and Markets

Ashton Lewis' flagship products include high-quality pine flooring, ladder treads, bed slats, and wall paneling, among others. One of the most unusual products is colloquially termed “coffin wood;” that is, exceptionally high quality, clear, tight-grained lumber for the Italian coffin market. All final millwork is



(Top to bottom): Lumber is loaded into the drying kiln. Coffin wood ready for delivery.

completed in-house at the Gatesville location. Final sizing, planing, and tongue-and-groove work is performed on site. A product doesn't leave the mill except in its finished condition. Up to 50 different profiles (in both English and metric dimensions) are available in the moulding mill. Finished lumber is packed in protective wrap and leaves the mill via truck, either to regional distributors in traditional fashion (always under tarp) or loaded in containers and shipped to Virginia ports for foreign destinations such as Spain, Portugal, Italy, Libya, Algeria, Morocco, and Egypt.

The Future

Ashton Lewis continually seeks ways to improve the efficiency and value of their operations. New sawing technology is evaluated and embraced if it fits their model. Recent market factors, particularly fuel costs, have created some challenges. They have

been relatively immune to current trucking issues; the long-term relationships they have built with the industry have ensured ready access to their transport needs.

Ashton-Lewis' participation in job fairs and visits to local high schools assists in their worker recruitment efforts. With about 90 employees currently, they want to ensure that they have the quality workforce in place they need. With exceptional attention to customer service, stringent raw materials procurement, strict quality control, and a philosophy of old-world craftsmanship, Ashton-Lewis represents the what southern pine sawmilling can produce for local, regional, and global forest markets to remain healthy into the future. 🌲

Fred Schatzki is a member of VFA's Magazine Editorial Committee. He works as a Consulting Forester with American Forest Management, Inc.



Apex Clean Energy building in Charlottesville, Va., where softwood cross-laminated timber was used in conjunction with glue-lam beams and concrete.

Potential of Structural Grade Hardwood Lumber for CLT Industry

by Dr. Brian Bond and Dr. Sailesh Adhikari

Cross-laminated timber (CLT) is rapidly gaining popularity in the United States as a more environmentally friendly building material for mid- and high-rise buildings. With the increased demand for CLT panels, there is a growing need for lumber, the raw material for CLT manufacture. Faculty at Virginia Tech, in the Department of Sustainable

Biomaterials, have been working over the last decade to promote the use of Virginia species in CLTs. For example, we conducted the first testing of southern yellow pine CLTs, which are now accepted in the building code. Currently, we are working to get hardwood lumber into the standards for CLT manufacture. Another important step for hardwood lumber use is

assessing the industry's capacity to produce lumber meeting the requirements for CLT manufacture and to determine any difficulties CLT manufacturers might encounter in production.

CLTs are structural panels made of lumber glued in layers crosswise to each other, currently made using softwoods such as pine, spruce,



Yellow poplar lumber, finger-jointed, planed and ready for manufacture into CLT panels. All the lumber was donated by the hardwood industry in cooperation with the Appalachian Hardwood Manufacturers, Inc.

and Douglas fir. An example of a CLT structure made with softwood is the Apex Clean Energy building in Charlottesville, Va. As architects and designers look for materials to significantly reduce their carbon footprint, CLT has emerged as a highly desirable building material. The building industry accounts for 13 percent of global carbon dioxide emissions, and hybrid CLT structures have been shown to reduce the global warming potential by 26.5 percent. CLT's store carbon and require less embodied energy than steel or concrete.

The Beck Group, a Dallas-based architecture and construction firm, estimates the potential demand for CLT panels in the United States by 2025 will be 515,400 m³, requiring approximately 3.9 billion board feet of

nominal lumber. The CLT panels used in buildings are made from lumber that is graded for structural use, following standards developed and enforced by the American Lumber Standards Committee (ALSC). These standards are currently only applied to softwood species. The production of structural-grade lumber in our country only meets 65 percent of our domestic demand, leading to large volumes being imported.

Why couldn't hardwood lumber just be substituted for the current softwood species? The answer is very simple: Hardwoods are not currently accepted in the CLT manufacturing standards, and there is currently no supply of hardwood dimension lumber graded using the ALSC standards. This is the first problem our team at Virginia Tech has been working on. Our testing has resulted in an application to get hardwoods into the CLT manufacturing standards. Then, we need a greater understanding of what issues CLT manufacturers might face when using hardwood lumber, and what would be required for hardwood lumber producers to start producing lumber for this market. To find out, we interviewed four CLT mills in the U.S. and surveyed hardwood lumber producers.

We found that CLT manufacturers currently have sufficient capability to utilize hardwood lumber. The good news was that manufacturers estimated that no further processing beyond what is already done for softwood lumber would be required. However, hardwood lumber meeting ALSC's structural grading rules would need to be available in large quantities. Currently, hardwoods are manufactured to different dimensions and grading rules. Hardwoods are sold on the 4/4-inch basis and are graded based on appearance characteristics rather than strength.

Is the hardwood sawmill industry interested and ready to supply lumber for the CLT market? Of the 124 mills that responded to our survey 88 percent stated that they have the sawing capacity and were interested in the potential market. One barrier to sawing for the structural lumber market is that hardwood sawmills typically have a higher production cost than the softwood mills. Approximately 50 percent of the mills stated they had production costs that would be competitive with softwood lumber production. Another barrier is the lack of current demand for structural hardwood lumber. For mills to begin production for this market



Dr. Sailesh Adhikari, oversees the production of yellow-poplar lumber into CLT panels at a commercial manufacturer in 2021.

45 percent stated that they would need an annual demand of three to five million board feet (MMBF). Forty-three percent indicated that they would not produce unless there was an annual demand of more than 5MMBF. Only four percent would produce with an annual demand of 1MMBF or less. If the market demands a large enough volume annually, 60 percent of sawmills would choose to produce structurally graded hardwood lumber (SGHL) in their product mix if the value was five percent or higher compared to traditional hardwood lumber markets.

The main limitation to producing SGHL is that only 23 percent of the sawmills have the technology to surface all four sides of lumber, as currently required by the ALSC grading standards. At least 53 percent required an upgrade in sorting capacity, 57 percent required investments in acquiring more kiln capacity,

and about 51 percent required investing in new storage capacity. Sixty-six percent would need to invest in hiring ASLC-certified graders to grade for the structural market.

The bottom line is that CLT manufacturers could currently use SGHL without modifications to their production set-up. A large number of hardwood sawmills are interested in the market given its potential increased value. However, for most hardwood sawmills increased investment will be required. Only a small number of mills are currently able to produce lumber for this market with minimal changes.

Through our survey work, hardwood sawmills now have a greater understanding of what is required to meet the needs of this market allowing them to prepare as we move forward in getting hardwood lumber into the accepted standards for manufacturing CLT panels. The first step in building code acceptance.

Our work continues to focus on strategies for sawing hardwood lumber meeting structural grades that will reduce production costs and maximize value. Our work to promote hardwood lumber use in CLT includes workshops on the structural grading of hardwood lumber, log yield studies to produce SGHL, and testing hardwood and softwood hardwood hybrid CLTs. We are grateful to the U.S. Forest Service, Wood Innovations grant program for providing funds for this work, and the hardwood industry and industry associations for their support and partnership. 🌲

Brian H. Bond, Ph.D., is a professor and Extension specialist in the area of wood products in the Dept. of Sustainable Biomaterials at Virginia Tech.

Dr. Sailesh Adhikari is a Research Associate in the Dept. of Sustainable Biomaterials at Virginia Tech with expertise in hardwood lumber manufacturing, cross-laminated timber (CLTs), and hardwood CLTs.



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The Ecology of Timber Markets

Timber markets, interestingly, are a lot like the trees themselves. Over time, some get better and some get worse; some get stronger and some decline; new ones sprout up and old ones fade away. Foresters and forest landowners recognize trees in forest stands as dominate and codominate, intermediate or suppressed, depending on the tree's place in the forest canopy. In Virginia's forest markets, sawtimber and pulpwood are dominate or codominate. People thinking of forest products tend to think first of lumber and paper. However, intermediate and even suppressed trees and timber markets are important to the forest and the market ecologies.

The intermediate products markets have become an alphabet soup in the last half decade. OSB (oriented strand board), LVL (laminated veneer lumber) and most recently, CLT (cross-laminated timber) are examples of the intermediate markets—markets that coexist and arguably depend on the big dominantes to thrive, but that also add significant vigor to the timber market ecology. Biofuels seem to be taking a place here as well. And what about those suppressed understory trees and timber markets, thriving in the shade? Veneer logs, barrel stave logs, poles and pilings, fence rails, quarter saw logs—a truck load of those “shade

tolerant” products is often worth more than two or three loads of those “dominate” products.

Meanwhile, while all of this is going on with trees and timber markets, forest landowners are doing other stuff—continuing to work, farm, raise families, stay involved in their communities, recreate, etc. Then, for whatever reason, a decision is made that the time is right to sell a standing timber asset. With that decision, the forest landowner enters the timber market, and marketing becomes important. Folks lucky enough to be active tree farmers may enter the timber market three or four times in a lifetime. But the vast majority of Virginia's forest landowners get to make the timber sale decision only once.

The counsel of a professional forester, who knows your local timber market ecology, can be invaluable. Like forest ecology, timber markets are complicated: There are some clear basic certainties; there are some subtle symbiotic relationships; and there are always toxic, invasive risks. ACF member foresters are committed to understanding markets and to marketing timber and managing forestlands to the landowners' best advantage. 🌿

—The Executive Committee of the Virginia Chapter ACF



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Logging Into the Future

by Scott Barrett, Ph.D.

SHARP Logger Program Coordinator and Extension Specialist, Forest Operations,
Virginia Tech Department of Forest Resources and Environmental Conservation



doublerequipment.com

Forest management and the whole forest industry depends on having a logging industry that is sustainable from a business perspective. Currently, I am working on a project with a graduate student that will focus on the sustainability of the logging industry, and this got me thinking about what logging will look like in the future.

The equipment and technology on today's logging operations would likely have been unimaginable to loggers 100 years ago. So, is it even possible to predict what logging operations of the future will look like? I'll be the first to

admit that I don't have a crystal ball. However, I have recently returned from an interesting conference that highlighted some of the latest research in forest operations. The Council on Forest Engineering (COFE) held a joint meeting with their European counterpart (FORMEC) (<https://www.cofe-formec-iufro2022.org/>) to offer some interesting presentations focused on new technology, as well as new approaches to using existing technology.

This conference included presentations on some pretty forward-looking concepts such as battery-electric log trucks that could be charged at mills where they deliver wood.


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Another presentation also covered the benefits to workers from battery-powered chain saws. Battery-powered chain saws have the potential to reduce noise exposure and reduce the amount of vibration experienced by the operator. While the battery technology and cost might not be at a place where these are feasible on a large scale, that could change in the future.

While not necessarily new technology, several presentations focused on projects that worked with tethered logging systems or winch assist systems. If you're not familiar with these operations they utilize an anchored winch that is connected to harvesting equipment, and the winch pulls on the equipment to assist it up and down the slope. These systems enable mechanized logging on much steeper slopes than would be possible without the winch. Systems like these are in use already and becoming more common in some areas. I also saw a presentation of a prototype autonomous skidder that was powered entirely by a winch operated from the landing and did not require an operator in the skidder. While still a prototype, this is an interesting concept for steep slope logging.

Another interesting piece of equipment was tracks that replaced the tires on existing skidders or other large rubber-tired equipment. Tires were removed and steel tracks were bolted on. This is a similar concept to quad tracks which are used on many larger agricultural tractors. These tracks reduce the ground pressure of the equipment while also enabling it to operate on steeper slopes than possible with rubber tires. This track system is already in use on some logging operations, and you can see what they look like at doublerequipment.com.

It is always interesting to see new ideas and new solutions for dealing with challenges that arise on logging operations. With so much variability in forests, terrain, and markets there is always room for innovative solutions to logging's unique challenges. While I am still not going to venture a guess on what the logging operation of the future will look like, I do know that the future depends on viable and sustainable logging businesses and the loggers that run those businesses. I hope to have the opportunity to see some of the innovations in technology and equipment that are adopted by logging businesses in the future as they work to manage our forests. 🌲



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Virginia Forestry Educational Foundation Update

Planning for the Future

by Beth Hutchins, VFEF Board of Directors

Forestry in Virginia relies heavily on family-owned businesses. Whether its private landowners, logging operations, consulting foresters, sawmills, manufacturing facilities, wholesale lumber brokers, or by-product processes,



Keeping forests and forest businesses in the family involves careful planning for the future.

sors, there is a reliance on the next generation to maintain and hopefully grow the family business. Today, many of these businesses are struggling to engage those whom they see as the logical successors to run the business. The challenge of succession planning is quickly becoming a major threat to the health of our industry.

Historically, succession planning in a family farm or business was straightforward: sons or nephews were raised with the expectation that they would work in the business and eventually be the next leaders. Today, young people are faced with so many alternative career opportunities that the future of many of these family businesses appears to be in jeopardy. It is necessary to expand succession planning or face having to sell or close the business.

Families in the forest industry have a tremendous opportunity to access an under-utilized resource in our succession planning. Women represent slightly more than 45 percent of Virginia's workforce but are thinly represented in the forest industry. While many wives and daughters have spent time working in the office and running the business, very few have been actively trained to lead operations into the future. As you consider your business succession plans, I have one piece of advice ... don't forget your daughters.

Just ask Kenny Vest. As a principle with Payne & Gunderson Lumber Co., Vest was busy building his business without much thought towards his retirement. In early 2022, when the allure of the golf course began to capture his attention more than selling lumber, Vest realized that it was time to consider his succession plan. As fate would have it, his daughter, Elizabeth Townsend, happened to be considering her own career options after spending 15 years in banking and development. A direct conversation between father and daughter led Vest to agreeing to train Townsend in the art of wholesale lumber sales. Says Vest, "As I was aging out, there were customers who wondered if they needed another

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supplier ... but the customers have known Elizabeth all these years. They see continuity, and they relax. It's so exciting to have her work with me." Vest admits to denying his daughter the opportunity to work with him just after college as he was concerned that he would be too easy on her. According to Vest, Townsend's basic knowledge of the business gained throughout her life simply by being part of the family was further enhanced by her years of outside work experience. She has already made significant contributions to the future of Payne & Gunderson through modernization of order tracking and analysis.

Just like the manufacturing side of the forest industry, surveys indicate that private timberland management is likely to be impacted by the lack of interest from future generations. Given the fact that women statistically outlive men, inherited private timberland ownership among women is continuing to grow. A study conducted by the University of Georgia's Warnell School of Forestry and Natural Resources surveyed stakeholders from government, non-profit organizations, female forest landowners and foresters in Georgia. The results from the study indicated that the primary concern from all stakeholders was a lack of interest in forestland management by future generations. Additionally, the survey highlighted a need for additional education and outreach programs targeting women. Several organizations exist with a mission of outreach and education for women in timberland management, including North Carolina-based ForestHer (www.foresthernc.org), Land and Ladies (www.landandladies.com) and Women Owning Woodlands, (www.womenowningwoodlands.net). It is vitally important that we engage the growing number of women who own or manage private timberland to ensure the ongoing sustainability of our forest resources.

When doing research for this article, I asked various people to tell me about women they know in our business. Whether foresters, business owners, landowners, or loggers, I was struck by the fact that the same 10 to 15 names were always mentioned. In an industry that directly employs more than 18,000 people in Virginia, we have an opportunity to secure the future of our family businesses and forest resource by identifying both men and women as the next generation to lead our industry.

VFEF appreciates your contributions to support programs and scholarships that educate youth about forestry, natural resources and introduce them to careers in the forest industry. Please call (804) 278-8733 or visit www.vfef.net to donate. All gifts are tax-deductible. 🌿

BOOK REVIEW

Virginia Rail Trails

Crossing the Commonwealth

Written by Joe Tennis

Reviewed by Fred Schatzki, VFA Magazine Committee

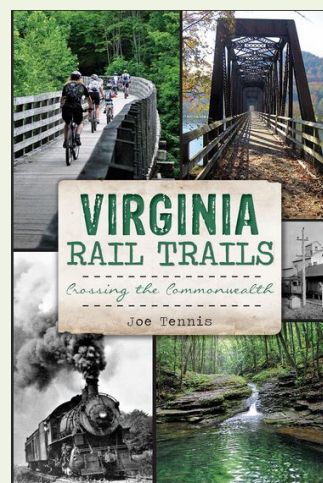
Wending from sea to mountain, Southside to NoVA, Virginia is crossed by old rail lines turned into foot, bike, and horse paths. *Virginia Rail Trails: Crossing The Commonwealth* by Joe Tennis, published in 2014, describes public rail trails. Development of these trails has never been easy, and sometimes steeped in controversy.

There have been disputes as to ownership of the rights-of-way, concerns from neighbors about impact, and the costs involved with removing rails and ties, preparing the surface, and creating access points.

Virginia Rail Trails serves as an encyclopedia, a history primer, and a directory to 45 trails. Each chapter in this book describes a single trail; noting its history, route, and interesting features along the way. Also included are maps of trail sections, photographs of notable features, and directions for access.

Trails can be found in our urban centers, our coastal flats, and our mountain ranges. The story of these trails is the story of our history; trains served to bring people and goods from place to place faster and cheaper than ever before. Their legacy continues to serve as a pathway to see new places, do new things, and observe the splendor of our great state.

With fall arriving, leaves turning, perhaps a nip in the air, *Virginia Rail Trails* provides an excellent guide to getting outside and enjoying the outdoors. At 254 pages it provides an outstanding resource to finding, traveling, and enjoying our rail trails. 🌿



Providing Value for Virginia's Tree Farmers

by Jennifer Gagnon

Virginia Tree Farm Foundation Director and Coordinator of Virginia Landowner Education Program at Virginia Tech

Providing educational opportunities and creating a sense of community for Tree Farmers are important functions of the Virginia Tree Farm Foundation (VTFF). To fulfill these functions, in 2016 the VTFF began hosting Tree Farmer meetings throughout the Commonwealth. To date, meetings have been offered in 24 counties and independent cities.

Each meeting begins with introductions, a short presentation on the history of the American Tree Farm System, updates on VTFF, a discussion of the benefits of being a Tree Farmer, and a call for Tree Farmers to actively participate on the VTFF Board of Directors.

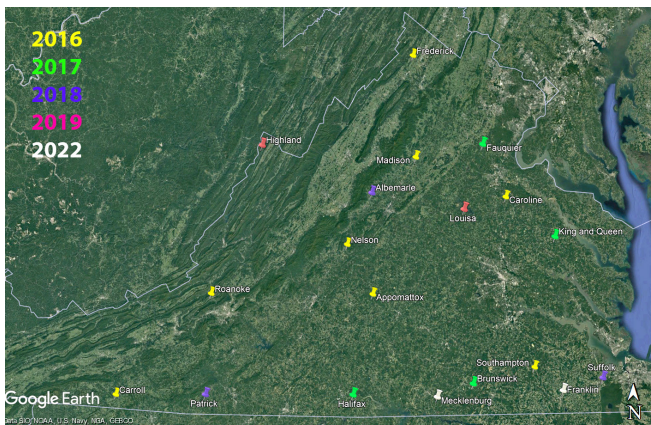
Educational topics at these meetings are varied, but one topic often featured has been legacy planning for woodland owners. Legacy planning is a set of tools that can help ensure that forestlands are kept intact, in forest, and in family when they are passed from one generation to the



build community among Virginia's Tree Farmers and Tree Farm volunteers. A prime example of this was at the 2016 meeting in Caroline County at

Burke Woodlands. The meeting was held on a lovely spring evening, the meal was delicious, and participants were lively. In fact, rumor has it, everyone sang "Kumbayah" at the end of the night. Another, although quite different example of community building, took place at a 2018 meeting at Middle Mountain Tree Farm in Crozet. Heavy rain leading up to the tour resulted in wet woods roads. Just as the tour was finishing and participants were headed for dinner, two of the 12-passenger tour vans sunk in the mud. Participants bonded (and worked up an appetite) as they pushed the vans out of the mire.

Like everything else, Tree Farmer Meetings went on hiatus in 2020 and 2021. But VTFF is thrilled that meetings restarted in 2022 and will continue annually. This year, our first meeting was hosted at Franklin Lumber by Nancy and



Since 2016, 24 Tree Farmer Meetings have been held across the Commonwealth.

next, a concern for many Tree Farmers. Other featured topics have included the Virginia Department of Forestry's loblolly pine seedling program, the state of American chestnut research, and numerous tours of active Tree Farms showcasing various aspects of sustainable forestry and wildlife management practices.

All Tree Farmer Meetings feature a catered meal, allowing for informal conversations among the participants and members of the VTFF. Sharing a meal helps



At the first Tree Farmer Meeting in 2022, Terry Godwin led a tour of the Franklin Lumber sawmill.

Terry Godwin, both active members of the VTFF (Nancy is the VTFF administrator). A homemade barbecue lunch was prepared by the Godwins with homemade dessert provided by Robbie Talbert, VTFF Regional Chair, before a tour of the mill. Franklin Lumber is an active sawmill and provided participants with the opportunity to see how the trees they grow are sawn into boards.

The second meeting was held at Wright Forestry LLC's Tree Farm in Mecklenburg County. Owners Vance and



Vance Wright discussed sustainable forestry practices on his Tree Farm in Mecklenburg County for 20 Tree Farmers and Tree Farm volunteers at the second Tree Farmer Meeting of 2022.



Rachael Wright shared her passion for archeology and discussed her findings from the Wright Tree Farm.

Laurie Wright are both active members of Virginia's forestry community, and Laurie serves on the VTFF. A barbecue lunch was followed by a tour of the Tree Farm led by Vance, who has a strong emotional attachment to the property that has been in his family for three generations. One point Vance repeatedly made was, "Owning land is about memories," something all attendees could relate to. In keeping with that theme, his sister-in-law shared her collection of

archaeological findings from the property, including native American tools and arrowheads.

Tree Farmer Meetings give Virginia's Tree Farming community a chance to see good forest management, share forest management successes and struggles, learn about new opportunities, and enjoy each other's company. They are open not only to Tree Farmers, but also to anyone who is interested in learning about sustainable forestry. 🌿

If you are an active Tree Farmer interested in hosting a meeting in 2023, please contact Jennifer Gagnon at 540-231-6391 or jgagnon@vt.edu for details.

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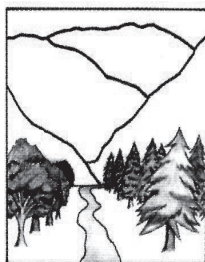
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RESOURCE REVIEW

Dabney S. Lancaster Community College Renamed Mountain Gateway Community College

On July 1, Dabney S. Lancaster Community College became Mountain Gateway Community College (MGCC). The college, located in the Alleghany Highlands, was established by the Virginia General Assembly in March 1962 as a branch of Virginia Polytechnic Institute and State University and in 1967 became a part of the Virginia Community College System.



Mountain Gateway
COMMUNITY COLLEGE

"Mountain," MGCC President, Dr. John Rainone noted, "can serve as a metaphor for the level of success and range of opportunities offered by the college. For 60 years, the College has provided students with education and training to pave the way for their careers and their futures. The term "gateway" opens doors to the middle class, and by supplying local industry with trained workers and residents with opportunities to gain solid paying careers."

MGCC provides forestry training with individualized attention and hands-on instruction from trained professionals. Graduates become field-ready forest resource technicians prepared for all forest management and arboriculture career sectors.

MGCC programs include: Associate in Applied Science (AAS), Forest Management Technology (FMT) and AAS FMT, with a specialization in Arboriculture & Community Forestry; a Career Studies Certificate in Wilderness Emergency Management, (i.e., Wildland Firefighting and EMS); ten embedded industry and governmental recognized credentials in FMT, and 16 within the FMT Arboriculture & Community Forestry Specialization; Student Chapter of the Society of American Foresters; Forestry Club; Woodsmen's Team, and more! 🌲



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In Memoriam: Harold Burkhardt University Distinguished Professor, Virginia Tech

Harold Burkhardt, University Distinguished Professor and dedicated researcher, teacher, and mentor in the College of Natural Resources and Environment, died on Thursday, Oct. 20, in Blacksburg, Va.

Burkhardt, a professor in the Department of Forest Resources and Environmental Conservation, was recognized in 2019 for 50 years of service to Virginia Tech. He had been a member of the faculty since 1969.

The university recognized Burkhardt with the preeminent rank of University Distinguished Professor in 1999 for his contributions that have shaped forest modeling from the late 20th century to the current day.



forest stand dynamics, growth, and yield. He served as Forestry department head from 1995 to 2008, was a senior research fellow at the Forest Research Institute in Rotorua, New Zealand, and was a former editor of the journal *Forest Science*. He was a member of the Board of Directors of the Virginia Forestry Educational Foundation, and active in numerous other professional organizations.

In 1979, Burkhardt founded an industry-university cooperative research program at Virginia Tech aimed at devel-

Burkhardt was selected as Virginia's Outstanding Scientist in 2013. His research interests and expertise were in modeling

oping improved models for predicting tree growth and stand development. This consortium, now called the Forest Modeling Research Cooperative, has 20 members that include industry partners and the Virginia Department of Forestry.

In addition to university and state accolades, Burkhardt received numerous awards and honors related to his research and scholarly accomplishments and was recognized by his peers and professional organizations throughout his career.

Burkhardt earned a bachelor's degree in forestry from Oklahoma State University and a master's and Ph.D. in forest biometrics from the University of Georgia. He was preceded in death by his wife, Katherine West (Kathy) Burkhardt. He is survived by his son, Qato Burkhardt, of Los Angeles, Ca..

For a retrospective on Dr. Burkhardt's life and career, visit <https://vtx.vt.edu/articles/2022/10/cnre-memorial-burkhardt.html>. 🌲

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A Healthy Forest is No Accident

by Matt Dowdy, Magazine Editorial Committee

When I first walk into the forest with a client, I immediately start evaluating the health of the forest. I also look for clues that may help me to determine the forest's history. It is important to estimate the age, past timber harvesting or other management actions that may be evident. Was the forest an old field that has regenerated with pioneer species such as Virginia pine? Are there remnants of old stumps? Was there a high grade timber harvest that removed the best quality hardwoods? Is it a natural loblolly pine stand that is overcrowded, or a plantation that was never spray released to control hardwood competition? Are there multiple age classes present? What are the primary species in both the overstory and understory? Do I see any dead or dying trees? Reduced tree crowns that lack vigor and show signs of dieback? Are the trees healthy and well-spaced with full crowns? Are there invasive species? There are so many clues to find.

The regeneration of a forest can often be traced to historical points in time. Much of our forest was clear-cut around 1900. Later, both World Wars caused a heavy demand for forest products that increased the amount of timber harvesting. Today, many of our forests are classified as even-aged, meaning they all regenerated at the same time. So, if someone tells you to cut the large trees in your forest and leave the little trees to grow, be very cautious. Frequently, the smaller trees are the same age as the large trees. The larger trees just became dominant and absorbed more resources than the smaller trees. If you look up at the trees' crowns, you can see evidence of the dominant, inter-

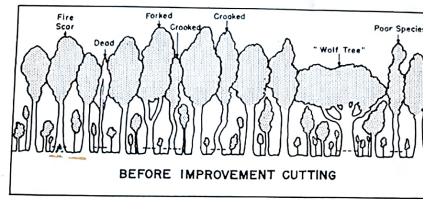
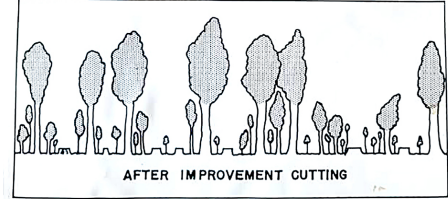


Diagram of before and after forestry improvement cutting which removed injured and poor species. According to the U.S. Forest Service the number one menace to our dwindling national woodpile is the harvesting of timber without providing sound methods for its improvement. Service officials say reasonably good management of the forest would double the tree growth. (From an AP news release, 1947.)



mediate, and suppressed trees, usually of the same age class, reaching for light.

Clues in the landscape also reveal that many farms were abandoned during the Great Depression, as well as during both World Wars. I once worked on a Virginia pine stand with an old home site in the middle. As you moved away from the home site, you could see the forest increase in age. This was the result of the farmer abandoning fields and shrinking the size of his farm as he grew older.

A landowner can manage their forest for a wide variety of benefits, including timber income, wildlife habitat, and protecting water quality. None of these objectives can be managed without a healthy forest. No matter what your objective, forest health should be your number one priority.

It's important to note the difference between conservation and preservation. Conservation is generally considered to be the proper use of the forest. Preservation is generally considered to be the protection of nature from use. In essence, foresters are conservationists. We manage the forest for our client's best use to achieve their stated objectives of producing forest products or creating wildlife habitat and maintaining their enjoyment of the forest. Preservationists want to protect the forest from use. In essence, allow nature to take its course, without direct human intervention and regardless of the consequences.

Although preservationists may have the best of intentions, they generally fail to understand that the forest is a dynamic ecosystem that is always changing and growing. Foresters use the basic principles of forest succession to manage the forest over time. In essence, we are trying to manage the change. For example, early successional habitat generally transitions into young forest around six to eight years old. To maintain this habitat you need to either prescribe fire or create additional habitat elsewhere in the forest.

Frequently, our best management prescriptions are to harvest timber. Harvesting timber generates revenue and can



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frequently achieve our desired goals. It can create natural regeneration or help prepare the site for planting. It can create wildlife habitat and diversity. It can maintain the health of the forest by removing undesirable trees. A healthy forest can also help prevent or minimize the intensity of wild fires. Before a timber harvest, I often advise the old carpenter's adage: "Measure twice and cut once." Have a forest management plan, and prepare for regeneration before you harvest.

A healthy forest depends on healthy forest products markets. Healthy forest product markets give us the ability to remove poor or undesirable trees as hardwood pulpwood or low grade sawtimber. They give us the ability to thin our overcrowded trees. They also give us the incentive to manage our forest.

Without a healthy forest products market, preservation can become the only option. We have seen the results of non-management. Many of our national forests and parks are aging into mature to over-mature forests that lack diversity. They may be aesthetically beautiful, but fail to provide early successional habitat or diversity. Fuel loads in the West are at all-time highs making wildfire suppression difficult.

Imagine visiting your doctor with a broken ankle and being told to just let

it heal on its own because there are no surgeons. As a doctor needs a surgeon to fix a broken ankle, a forester needs a forest products market to make a

healthy forest. As foresters, we are the Doctors to the Forest, managing the forests health for everyone's benefit. 🌲

Matt Dowdy is a consulting forester and member of VFA's Magazine Editorial Committee. Opinions expressed in the column are solely the author's and do not necessarily reflect the policies or position of Virginia Forestry Association.

INTRODUCING: NEXT GENERATION VOICES

WOODS, WATER, WILDLIFE & RECREATION—these make up the cornerstones of the Virginia Tree Farm program and are enduring benefits of a healthy and well-managed forest for many generations. Experiencing the wonder and appreciation of our natural resources is often a cross-generational effort by family members, educators, and mentors.

In our new column, "Next Generation Voices," *Virginia Forests* magazine invites young contributors (schoolage, kindergarten through college students) to share stories, photos, and artwork that show how they are connected to or participating in activities and education related to forestry, wildlife, outdoor recreation, seasonal observations, and more.

Teachers, parents, and individual students are encouraged to submit material for consideration.

We will collect submissions on a variety of topics and choose different themes to feature in upcoming issues of the magazine. A form for submissions will be available soon on VFA's website (vaforestry.org) and in the *VFA Voice*, our biweekly e-newsletter.

To get started, send us your response to the topic, *Ways You Use Wood and Wood Products from the Forest*. You may submit your response by email, to VFA at vfa@vaforestry.org, or call the VFA office at (804) 278-8733 if you need assistance. 🌲



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PRESIDENT'S MESSAGE, continued from page 7.

When my manger called and offered me the job, he said I would buy wood, manage the environmental and certification programs, and be a true 'boots on the ground' forester. I spent the next 10 years in that role and loved every minute of it.

I am asked often why I believe I was successful, and if someone were looking to hire a nontraditional forester, what should they look for? Here's what I would recommend:

Find the right attitude and tenacity. If you find someone who wants to succeed, in my opinion you're halfway there.

Find someone with a natural curiosity. I love asking questions and learning new things. I'm not afraid to say 'I don't know, but I'll find out.'

Be willing to help them learn the hard stuff, especially in a more technical role. I could not go out today and cruise a tract of timber. I have participated in timber cruises but am in no way proficient. If I were to take a role doing that, the company would need to understand that they would have to invest in educating me through likely formal programs and informal cruising with trained professionals. If you're not prepared for this, then a non-traditional forester probably won't be a good fit.

There is finance in everything! I didn't realize it at the time but majoring in finance was the best thing I could have done. It taught me to use reason and data to drive decision-making which I feel is useful in every field. I think any business major would be a good fit in most of our industry jobs.

Help them grow their professional network. I say this not as a shameless plug for VFA membership but because participating in the industry has made me far more confident in my work. It's also helped me meet amazing people who I can reach out to with questions.

I was terrified to take a procurement forester role—others have degrees



in this discipline, and I don't hunt or fish so, on paper, I don't look like a good fit. But I have loved every minute of it and wouldn't trade these experiences for the world. If you are looking to hire, consider a nontraditional candidate and you won't be disappointed!

In closing, here's a photo from my first environmental audit. That was one of my biggest professional accomplishments, and my manager snapped this photo to show me I did belong and how far I had come.

I hope everyone and your families have an amazing holiday season! 🍀

John E. Jones III
President



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