THE
# Northern Logger
& TIMBER PROCESSOR

NOVEMBER 2021


# THE SILVICULTURE ISSUE

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# Late industry news

## Supply Constraints to Blame in US Homebuilding Slowdown

US homebuilding unexpectedly fell in September and permits dropped to a one-year low amid acute shortages of raw materials and labor, supporting expectations that economic growth slowed sharply in the third quarter.

The report from the Commerce Department in mid-October also showed the gap between completed houses and those still under construction was the largest on record in September. Robust demand as global economies emerge from the COVID-19 pandemic is running against worker shortages, straining supply chains and fanning inflation. Nearly every industry in the United States is experiencing shortages.

Housing starts dropped 1.6% to a seasonally adjusted annual rate of 1.555 million units in September, the lowest level since April. Data for August was revised down to a rate of 1.580 million units from the previously reported 1.615 million units.

Economists polled by Reuters had forecast starts would rise to a rate of 1.620 million units. Lumber prices are rising again after tumbling from record highs set in May. Building materials, like windows and electric breaker boxes, are in short supply. Prices for copper, another essential material in home building, have soared more than 16% since the end of September, buoyed by decades-low supplies. The pandemic has upended labor market dynamics, leading to shortages of workers needed to produce and move raw materials and finished goods to markets.

Starts have declined from the 1.725 million unit-pace level scaled in March, which was more than a 14-1/2-year high. Single-family starts, which account for the largest share of the housing market, were unchanged at a rate of 1.080 million units last month. Single-family homebuilding rose in the West and Midwest, but fell in the Northeast and the densely populated South, also likely depressed by Hurricane Ida, which caused unprecedented flooding. Starts for buildings with five units or more dropped 5.1% to a rate of 467,000 units last month.

REUTERS

## National Design Competition Launches to Demonstrate the Role of Mass Timber in Decarbonizing the Built Environment

The Softwood Lumber Board (SLB) and USDA Forest Service (USDA) announced in October the "Mass Timber Competition: Building to Net-Zero Carbon" to showcase mass timber's innovative applications in architectural design, and highlight its significant role in reducing the carbon footprint of the built environment. The competition will serve to strengthen the mass timber sector and support increased employment in advanced wood products design, engineering, construction, and manufacturing sectors.

"The USDA is pleased to partner with the Softwood Lumber Board on a second mass timber building competition to expand wood construction as a natural climate solution," said Chief Randy Moore. "We see tremendous opportunity in the link between mass timber construction, sustainable forest management, and the health and resiliency of US forests, especially as we look to mitigate the impacts of climate change like increased wildfires in the western United States."

The competition will award $2M to multiple project teams to design and construct mass timber buildings in the US that are repeatable and scalable. Project grants are anticipated to be up to $500,000 each. The program will also share lessons learned and research findings, including carbon footprint life cycle assessment (LCA) results, to help support future mass timber projects. Eligible building types include commercial, institutional, industrial, educational, mixed-use, and affordable multifamily housing developments. Beginning in 2021 the International Code Council International Building Code allowed the construction of mass timber buildings up to 18 stories in height.

"With 17,000 commercial and multifamily buildings built annually in the United States, there is significant potential to improve the carbon footprint of the built environmental using mass timber building systems," said Cees de Jager, SLB President and CEO. "Wood construction's embodied and embedded carbon benefits offer the building sector a viable and credible path to net-zero carbon."

Timber sourced for the project must demonstrate sustainable forest management that contributes to forest and watershed health. Several approaches are used to ensure sustainable supply of wood products, including federal, state, and local regulations, third party certifications, best management practices, and an emerging ASTM standard.

The mass timber competition is open to for-profit building sector organizations registered in the US including architects, engineers, developers and building owners; not-for-profit organizations incorporated as a not-for-profit corporation or society formed in the US such as colleges, universities, and associations; US local governments; and Native American Tribal governments and organizations. WoodWorks, a non-profit staffed with architects, structural engineers, and construction experts, will manage the competition.

This is the second mass timber competition hosted and funded by the USDA and the SLB. Applicants can submit proposals beginning early 2022 and winners will be announced in late spring/early summer. To learn more about the Mass Timber Competition: Building to Net-Zero Carbon visit www.softwoodlumberboard.org/net-zero.

## Special FRA Webinar Series: Trucking & Workforce

The FRA will host a special webinar series devoted to trucking and workforce issues, and methods to improve efficiencies across the entire supply chain. These two issues remain a priority for the forest products industry, and this series will feature dynamic speakers with expertise in these areas. Early registration is encouraged, and each individual webinar listed below is eligible for one category 1 SAF CFE credit.

**Benchmarking Log Truck Insurance Premiums in the US South – Preliminary Results**

*Wednesday, November 3, 2–3 PM ET*

Dr. Joe Conrad, University of Georgia, will review log truck insurance premiums and claim costs based on research of log truck owners in the US South. The rates of mechanical defects and crashes of log trucks in the region will be compared to those around the country. FRA is supporting this research, with the overall project goal being to help identify solutions that improve timber transportation safety and prevent future increases in insurance premiums.

**Transition War Stories: Lessons from the Frontlines**

*Wednesday, November 10, 2–3 PM.*

FRA will be joined by John C. Buckley II, Colonel, US Army (Ret), Outreach Strategies Manager at Koch Industries, for a presentation on hiring veterans, including strategies for recruiting, onboarding, and retaining former service members. Buckley currently supports Koch companies in developing and implementing recruitment and retention programs for veterans and people with criminal records.

**Forest Products Transportation: Innovative Strategies to Improve Operational Efficiency**

*Thursday, November 18, 2–3:00 PM ET*

This webinar will address the numerous operational challenges confronting the forest products transportation sector today, and how these sources of inefficiency ultimately led a well-known national provider to enter the timber transportation industry. Learn more about topics such as dedicated fleet capacity, optimized routing and deliveries, and the role of on-site account managers. Webinar presenters include Jeremy Morris of J.B. Hunt and Richard Schwab of M.A. Rigoni.

## Invasives Update in Vermont: Spotted Lanternfly and Tree of Heaven

**Spotted Lanternfly**

The spotted lanternfly (SLF, *Lycorma delicatula*) is an invasive planthopper native to Asia that was first detected in the United States in Pennsylvania in 2014. Since then, this species has been reported as established with an infestation in 11 US states and reported individually without infestation in three US states including Vermont. Although this invasive planthopper is a poor flyer, it can travel long distances by humans, hitching rides on surfaces including but not limited to, vehicles, firewood, nursery stock, and stone shipments.

This insect has one generation per year. Eggs begin to be laid in September and will overwinter and hatch in April. This insect feeds in both the nymph and adult stage, which extends the damage period from April through December. SLF has been reported on more than 70 plant species and can therefore drastically alter our forested and agricultural landscapes. SLF uses their piercing and sucking mouthparts to consume phloem in plant tissue. Heavy feeding can cause oozing, wilting, reduced growth, dieback, and mortality in infested hosts. Oozing/weeping wounds on plants in conjunction with SLF honeydew secretions attract sooty mold to infested plants. This black-colored mold covers the plant and SLF secretions and can reduce photosynthesis as well as attract other nuisance insects, like wasps, with its strong odor. Due to its broad host range, this is a species of high concern.

**Tree-of-Heaven**

In mid-August, a concerned community member brought to the attention of scientists, the presence of the invasive insect, spotted lanternfly. This insect hitchhikes on just about anything including, but not limited to wooden pallets, slabs of stone, cars, campers, and backyard grills. What fate awaits it when it travels abroad largely depends on what plant species are available for it to utilize. It can survive on over 70 species of plants, most notable maples, walnuts, oaks, hops, grapes, and apples, often damaging those important crop and hardwood species. However, it appears that a favored plant, invasive tree-ofheaven (*Ailanthus altissima*) may be important in assisting the spread of this insect.

Tree-of-heaven evolved in China, as did spotted lanternfly. The tree was introduced to the United States in the 1700s as an ornamental plant popular in urban settings (fast-growing, resistant to pollution, provides shade), and was widely planted in the Northeast and California, and has spread to most US states. Several locally evolved trees look similar to the invasive tree-of-heaven: white ash (*Fraxinus americana*), black ash (*Fraxinus nigra*), staghorn sumac (Rhus typhina), smooth sumac (*Rhus glabra*), and butternut (*Juglans cinerea*). Luckily there are a few ways to distinguish invasive tree-of-heaven from its respective local look-alikes.

Tree-of-heaven can establish dense canopies, reducing understory cover diversity, and can be found in forests, forest edges, fields, and human-impacted areas. These trees are short -lived, have been documented producing fruit after two years (though not commonly), and can grow 8’ in the first year of growth. Seeds are easily wind-dispersed and highly viable, and the tree can reproduce from seed or vegetatively. While shade-intolerant, it has been documented as a pioneer species in forests defoliated or impacted by biotic or abiotic stressors. Where it does grow, the trees release allelopathic chemicals, which reduce competition and will persist in the soil, inhibiting succession. This documented behavior and the continued spread of these trees in Vermont are reasons it is listed as a Class B Noxious Weeds in Vermont.

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**Tired of phone and online meetings? Try a walk through a gulch! Pictured: View across Mann Gulch from the south to the north. Read our complete story on page 20.**



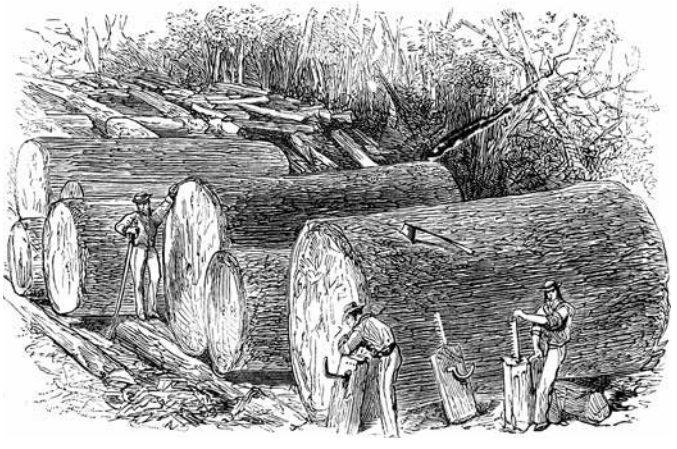

Cover photo by Eileen Townsend.

# An Act of Imagination

I remember when I first started my position at *The Northern Logger*, one of the first things anyone said to me was that foresters had a different way of thinking about the world. Most people think about the world in the span of human lifetimes – 80, 90, 100 years. But foresters think about the world in relation to the lifespan of an old tree – more like 200-year increments. They are constantly considering how the world will look after they are no longer around to witness it, about how the forest will be experienced by future generations. There's something nice about that, and uncommon in the contemporary world.

Looking ahead is important but it can be challenging. It is difficult to know what the forests of the Northeast will look like in 100 years. We know that our globe is warming rapidly and that weather patterns are more extreme than they were in the past. I recently attended a scientific conference where a forester spoke about how many experts expect Maine to have the climate of North Carolina by 2100. The rest of the presentation was about how the scientific community is preparing for tree species migration, thinking about how a species like oak might fit in in regions where it has never grown before. While it is galling to think about the broader effects of a warming climate, it is comforting to me to know that the scientific community is looking ahead and thinking about the quality of the forest. If I ever have grandchildren, I'd want them to benefit from that kind of foresight.

Of course, foresters aren't the only ones who think about the quality of the forest for future generations. Loggers and landowners play a big role in shaping that picture. The best-case scenario is when a landowner, forester, and logger can work together to create a plan for the harvest of a working forest, planning both for silviculture and for long term sustainable economic management of the woodland. Aldo Leopold, the author of *The Sand County Almanac*, thought that this scenario was most likely to happen if forests were owned by small, private landowners with personal emotional investment in their properties, rather than by corporate or federal interests. He believed that small private landownership would help foster the sort of long-term thinking that is so valuable to good forestry.



Whether you agree with Leopold or not, it is obvious that it takes a caring landowner, a smart forester, and a professional logger to create good silviculture. It also takes something that can be a scarce resource in our contemporary lives – time. It takes lots of time to think through a plan for forest management, not to mention communication and the time it takes for the logger to complete the work. Private family forests aren't what they used to be; oftentimes the landowners live far away and are less familiar with what they own.

And, of course, logging isn't what it used to be. While I meet many loggers who can proudly tell me they've cut the same stand of woods three or four times in their career, I wonder whether the future of the industry can sustain that kind of long-term professionalism. My generation, millennials, is much more accustomed to switching jobs every few years. I know several young loggers who've left the industry to work in more stable and lucrative fields. I can't blame them, but they'll likely never return to stands they harvested as young people. The long careers and stability of our parents' generation seems a thing of the past. Unfortunately, I think the forest will likely suffer from these unsettled conditions.

Our "Silviculture Issue" is the issue that we specially devote to forestry-related articles, but really every issue of *The Northern Logger* is about silviculture. Nothing in the forest happens in isolation; likewise, nothing in the working lives of loggers is irrelevant to the long-term quality of the working forest. If loggers don't have markets for low grade wood, it makes a difference in how a forest is harvested. And that difference might not seem like much now, but it could matter to our grandchildren and their grandchildren. We can't think about the practice of forestry as separate from labor and economic issues. To think about silviculture, we need to think broadly.

I wish more people had the luxury and ability to look at an average stand of trees in an average forest and be able to think broadly. I wish we could all look forward, past their own lifetimes, and into the world that future generations will inherit. That kind of thinking is a very different kind of thinking than the sort we are more accustomed to. We are more used to the kind that makes sure breakfast is on the table and that the kids get to bed. Perhaps what we need is to make the space in our lives is time not only to think, but to imagine. Good forestry takes smart thinking, but it also takes an act of imagination – imagining how to create a sustainable, thriving forest for the future.

Eileen Townsend

## NELA Membership

The Northeastern Loggers' Association reminds readers of *The Northern Logger* magazine and all potential members to join the association so we can carry forward vital programming and representation. If you're interested in upgrading your *Northern Logger* subscription or individual membership to an Industrial or Associate Membership, please give us a call at 315-369-3078, or visit our website at www.northernlogger.com.

## Fall Board of Directors Meeting

The NELA Board of Directors met for their Fall Board Meeting during the Loggers' Expo in Bangor, ME. Board President Pat Sadler of Wood Wise Forestry in Rochester, NY presided over the meeting. The meeting agenda included a review of the organization's finances that have been stressed by the economic restrictions associated with the pandemic over the past 18 months. Association leadership was heartened by our ability to host a Loggers' Expo this September, and they expressed sincere appreciation for the participation of exhibitors and attendees at the show. The next meeting of the NELA Board of Directors will be held May 12, 2022 in Essex Junction, Vermont.

## Call for Board Nominations

The Northeastern Loggers' Association owes its long-term success primarily to our volunteer Board of Directors. The Nominating Committee will soon begin considering candidates to fill vacancies on the board for three-year terms starting in May 2022. Anyone interested in being considered for nomination to the NELA Board of Directors should submit a letter of interest to: Nominating Committee, NELA, PO Box 69, Old Forge, NY 13420 or fax 315-369-3736. Please call Joe Phaneuf at the NELA office with any questions.

## 2022 Northeastern Forest Products Equipment Expo – Essex Junction, Vermont

Exhibitor information packages have been mailed to all companies who exhibited at the last Vermont Expo, giving them priority on claiming space at the 2022 Expo. Information will be mailed out to all other companies in our database this month. Let us know if you'd like to get more information about exhibiting at the Loggers' Expo scheduled for May 13-14, 2022 at the Champlain Valley Exposition – just send your company info to us at expo@northernlogger.com.

## NELA Grants Program Targets Educational and PR Programs

Over the years the Northeastern Loggers' Association Board of Directors has awarded tens of thousands of dollars in grant money to deserving industry non-profits in our region. The amount of money available for grant awards varies from year to year depending on NELA's overall financial performance. These grants are intended to assist organizations in the Northeast and Lake States with educational or public relations efforts. 2022 grant application guidelines are fairly simple and are available to interested organizations upon request. Applications are due by December 31 and will be reviewed in early 2022 by our Grants Committee, with funding being determined and distributed in the spring of 2022. Please contact Joe Phaneuf at jphaneuf@northernlogger.com for more information.

## Awards Nominations

The NELA Awards Program recognizes outstanding people and companies in the following categories – Logging Operator, Sawmill Operator, Wood Manufacturer, Forest Products Trucking Operator, Management of Resources, Contribution to Forest Industry Education, Contribution to Safety, Industry Advocate, Use of Wood, and Service to the Forest Industry. Look elsewhere in this issue for nomination instructions. Nominations are due no later than January 31, 2022 and the winners will be honored at the Annual Awards Banquet sponsored by Farm Credit to be held on Thursday, May 12, 2022 in Essex Junction, Vermont.

## NELA Online Catalog


Do you need to replace your copy of *Log Rules and other Useful Information*? Interested in purchasing a set of "Managed Forests Working for You" mud flaps? You can do all of this and more at the NELA and Northern Logger website – www.northernlogger.com. Just click on Association and NELA Catalog and you can order books, t-shirts, hats, or you can renew your subscription to *The Northern Logger*.

## Member & Industry Directory Issue Being Compiled

The December issue of *The Northern Logger and Timber Processor* has historically featured a compilation of useful contact information for our region's manufacturers, distributors, dealers, public lands, industry associations, and member sawmills and logging companies. If you're interested in being listed in this annual industry reference please contact Kristin Armendola at 315-369-3078. The deadline for inclusion in this directory is November 15.

## Don't miss the next Northern Logger E-News, Video or Podcast

There's lots of activity on-line these days and we're happy to keep you abreast of every development. It's free and easy to get your name on the distribution list, all you need to do is send an e-mail to nela@northernlogger.com with "Sign me Up" in the subject line and in the body of the email tell us a little about yourself – are you a logger, forester, etc. – and we'll add you to the list.

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# HOW "EXPANDING GAP SILVICULTURE" CAN HELP LOGGERS AND LANDOWNERS

BY JIM FROHN

When asked about goals for their land, most family forest owners are interested in wildlife habitat, a healthy forest, and recreation. Timber management is not often at the top of the list, but many owners will cut timber when they need funding for other projects or as a tool to accomplish their other objectives for the land. Many owners are also becoming interested in how to make their forests more resilient to insects, diseases, and invasive plant threats, as well as the potential effects of climate change.

The key to addressing many of these goals is to develop a diversity of species and sizes, from seedlings and saplings to mature sawtimber. Traditionally, foresters attempt to provide these elements through uneven-aged management, also known as the selection system. Not to be confused with "selective" cutting, the selection system is a specific management method that requires the maintenance of at least three size classes in each stand with the goal of a specific diameter distribution. When plotted on a graph, it looks like a "reverse-J". As one moves from sapling size trees to sawtimber size trees, there are fewer trees in each diameter class because they take up more space as they get larger. Achieving a balanced uneven-aged stand requires doing inventory work prior to marking the stand to understand the current diameter distribution and where there might be a surplus of trees in some diameter classes and a shortage in others. When marking the stand for cutting, in theory, the excess trees need to be removed and diameter classes with too few trees need to be left until sufficient trees grow into that size. In practice, it might require cutting some twelve-inch sugar maple because there are "too many" in the stand. This might not make sense from a value standpoint if these are good quality growing stock.

There are many problems with the practical application of a selection system. One is that data collection prior to marking a stand costs money that many landowners aren't able or willing to spend. Another is that diameter is assumed to be associated with age, but this is typically not the case. Smaller trees are often the same age as larger trees, but the smaller tree has simply been suppressed and hasn't grown well. Another factor is growth rates between different species. In the multi-species stands prevalent in New England, the different diameter classes often contain different species because of their inherent growth rates. For example, a stand dominated by red oak in the overstory might have an understory made up of mostly shade tolerant beech and hemlock. If size is used as a substitute for age, one would assume the beech and hemlock are younger than the oak, when actually they are close in age. If the larger diameter classes are gradually cut to make way for the smaller diameter classes, the stand will eventually be dominated by low value beech and hemlock rather than oak. Instead of achieving the balanced age classes that the selection system requires, this leads to a degradation of the stand's value.

Other factors make applying the selection system difficult. Stands can be highly variable from one acre to the next due to soil and site characteristics, past land use and disturbance history, and insect and disease issues. The selection system doesn't accurately reflect this variability or how forests regenerate on their own. This system was designed to provide a steady flow of products over time from every stand making it challenging to deal with natural variability and regeneration processes.

## An Alternative

The difficulty of implementing the classic selection system doesn't mean that uneven-aged management can't be practiced. A more practical alternative manages for multiple age classes without having to achieve an exact balance between size classes in each stand. This alternative method is based on natural disturbance patterns and uses what is known to foresters as area regulation to ensure sustainability. The goal is to regenerate a certain percentage of the stand during each entry, as well as to create a more complex stand structure and more options for future management.

This method, known as "irregular group shelterwood with reserves" or "expanding gap silviculture", originated in Europe where it is called "femelschlag". This silvicultural system was relatively unknown in North America until recently, after research by Robert Seymour, University of Maine emeritus professor of silviculture, and others. Seymour's research was done in what is known as the Acadian Forest, which is found across northern New England, Quebec, and the Maritime provinces. This led to naming the irregular group shelterwood with reserves system in this region the "Acadian femelschlag". Combined with natural disturbance patterns including size and frequency of disturbance, the Acadian femelschlag is used to address many ecological issues in forestry.

Prior to European settlement, natural disturbance patterns in the mixed northern hardwood-conifer forest were dominated by small gap-based disturbances such as windthrow of individual or small groups of trees or small patches of insect-killed trees. This led to complex, multi-species and multi-age stands.

Larger scale disturbances did occur, but big, stand-replacing disturbances such as fires and major windstorms were infrequent. The amount of time between these large-scale disturbances was in the hundreds or even thousands of years. Small gap disturbances, on the other hand, regenerated approximately one percent of the forest area each year. This disturbance pattern, however, doesn't necessarily account for the presence of indigenous people on the land and their use of fire to make it more attractive to game, enhance fruit and nut production, and to clear patches of land for crops. Nor does it account for the influence of beaver populations, which likely affected a much greater part of the landscape than they do today.

Disturbance dynamics were also likely different along the New England coast, which experiences more hurricanes than further inland. Additionally, more people lived near the coasts

even prior to European settlement, so the use of fire and clearing of land for crops was probably more prevalent there as well.

The irregular group shelterwood with reserves method is based on the one percent per year gap-disturbance model that was likely common in remote interior forests. The method simulates this natural disturbance regime of frequent but small gaps and creates multiple age classes. The method has several characteristics: creation of distinct gaps for regeneration; leaving the stand outside of the gaps mostly untreated so that regeneration isn't created there until the next entry; and retaining reserve trees.

The reserve trees serve different purposes, including permanent biological legacies, a seed and shade source for regeneration, and as growing stock to gain in size and value. Some reserve trees are left in the stand permanently and are never harvested. These can be uncommon species, fruit and nut producers important to wildlife such as oak, or den trees. Reserving trees helps mimic natural gap disturbances which typically don't have every tree blown down or killed by insects or disease. There are usually a few left standing in the gap.

## Making It Happen on the Ground

This silviculture method works best in relatively uniform, even-aged, commercially viable stands, where a goal is to introduce complexity into a one- or two-aged stand over time. Based on the natural disturbance pattern, one percent of a stand's area is regenerated per year, so the total conversion time is 100 years. The one percent per year, however, isn't practical from a logging perspective. To develop a more viable harvesting regimen, the amount regenerated is based on the cutting cycle and the disturbance rate.

To calculate how much area of each stand to regenerate during each cut entry, multiply the annual disturbance rate times the cutting cycle. If cutting is planned every ten years (the cutting cycle) and the disturbance rate is one percent, ten percent is regenerated each time. If the cutting cycle is twenty years, twenty percent is regenerated each entry. Over the one-hundred years, the entire stand will be regenerated, and different sections in the stand will range from zero to one-hundred years old (seedling to sawtimber sized). Five different harvest entries are planned over the 100-year period.

To make it more economically viable, two percent can be regenerated per year. On the ten-year cutting cycle, twenty percent of the stand area is regenerated every ten years, until

**Advanced softwood regeneration candidate for overstory removal gap cut.**

year fifty when the entire stand has been covered. If a one-hundred-year rotation is the goal, the second fifty years will involve only stand-tending treatments such as crop tree release and improvement cutting.

## The First Cut

The first entry into a stand involves identifying areas of established regeneration. Saplings should be at least a foot tall and up to six feet tall to be considered established. In these patches, the overstory trees can be cut, with some retention trees left for legacy purposes. To make future management in these gaps more efficient, the reserve trees can be left near the edges or clustered in groups. If at least twenty percent of the stand area has desirable regeneration, twenty percent of the stand can be treated with overstory removal. If less than twenty percent of the stand has advanced regeneration, then other gaps are treated with a shelterwood cutting that leaves sixty to eighty square feet of basal area (e.g., approximately 20-30 foot spacing between twelve-inch trees) for seed and shade to encourage regeneration. This overstory can be removed during the next entry. Staying within natural disturbance parameters, gaps range in size from a quarter acre up to one acre, with an average gap of a half-acre. Gap size can be adjusted based on desired species – larger gaps for intermediate tolerants such as white pine and red oak, and smaller gaps for shade-tolerants such as red spruce and sugar maple.

**Above: Natural gap in spruce fir ready for expansion.**
**Below: Natural gap with white pine regeneration ready for expansion.**

Once the twenty percent threshold has been met through overstory removal or shelterwood cutting, the remaining stand area is left intact with a few exceptions. Some limited harvesting can be done along the skid trails that connect the gaps, such as cutting short-lived aspen, white birch, and balsam fir, high-value trees at risk of being lost before the next cutting or releasing a few crop trees. Otherwise, discipline must be exercised to refrain from covering all the stand area with harvesting. The gaps essentially become mini-stands or distinct management units within the larger stand.

For the second harvest entry ten years later, another twenty percent of the stand is regenerated. The original gaps are expanded to regenerate this additional area, hence the name expanding gap shelterwood.

To develop complex structures and ensure retention of biological legacies it is important to leave permanent reserve trees in the gaps. A good rule of thumb is to retain fifteen square feet of basal area in the gap. Once the gap is regenerated, the retention trees are left for ecological purposes, not for seed, shade, or growing stock. The permanent leave trees can include legacy trees such as unusually large specimens, old pasture maples, live trees w/ cavities, mast producers like oak and

cherry, and unusual species for the area such as butternut, red pine, or white oak.

Another important factor to pay attention to in the gaps is what Seymour refers to as "tall regeneration" or two-rotation species. These are shade-tolerant conifers such as red spruce that develop in the understory and take a long time to mature. They may appear to be suppressed, but they will respond to release and grow well afterwards. These trees have a jump start over smaller, younger trees, so are worth keeping.

## Advantages of the Method

Irregular group shelterwood with reserves has several advantages. From an ecological perspective, "sustainability is guaranteed" according to Seymour because it follows natural disturbance rates and leaves ecological legacies. It is also operationally efficient for a multi-aged management system. Layout and marking are easier and more efficient than the selection system because it doesn't require pre-harvest stand measurements or marking to force the stand to fit a diameter distribution. Layout is facilitated by GIS and GPS. It is also more productive for logging because it is essentially a series of mini-clearcuts and shelterwoods connected by skid trails. Each successive entry uses the original skid trails and expands the previously created gaps. Another advantage is that non-commercial treatments such as early stand tending can be efficiently carried out in the distinct gaps.

Landowner acceptance is high because only small openings are created during each entry and there are always lots of trees growing. It is a visually acceptable treatment that ensures regeneration of desirable species (assuming that overbrowsing and invasives aren't problems) while meeting landowner goals of creating a resilient forest and diverse wildlife habitat.

**"regenerating gap cut"**

The system can also be applied to a number of forest types, including spruce-fir, mixed northern hardwood-conifer, oak-pine, and cedar. Successful experiments have been done in a variety of forest types at University of Maine, University of New Hampshire, Purdue University, University of Tennessee, and others.

## Not the Answer to Every Situation

Irregular group shelterwood is not applicable to all northeastern forest types or ownerships, however.

Stands dominated by short-lived species such as aspen, paper birch, and balsam fir aren't well suited to the system. It is best suited to long-lived intermediate species such as yellow birch, red oak, and white pine or shade-tolerant species such as red spruce, sugar maple, and hemlock. Successful application also depends on the original stand condition, landowner objectives, and volumes available to harvest.

Understocked stands, previously high-graded stands, and heavily diseased stands might be better treated with other silviculture methods, at least in the beginning. The technique is not suited to maximizing timber production or economic returns. It might mean passing by some mature trees and losing them to mortality to become snags and large woody material which have habitat value.

This silviculture system may not be practical on small acreages if it results in harvest volumes that aren't economically viable.

Long-term tenure of the land is critical to successful implementation of this system because of the long timeframe needed. Ownership goals such as maintaining ecological processes, improving wildlife habitat, and building forest resiliency, along with growing large diameter, high quality trees can be accomplished with this method over decades.

This silviculture system might be best suited for public lands, land owned by conservation groups, private ownerships that have conservation easements, and multi-generational ownerships.

The irregular shelterwood method, though flexible and adaptable for a variety of forest types, is not the answer to all silvicultural challenges. But it can be an effective, efficient tool for managing forests with multiple objectives that include both ecological and economic goals. **NL**

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# "Daylight on a Stick"

BY WILLIAM J. O'HERN

Visualize how America's Great Northern Forest would have appeared if seen from above in 1820, stretching from Minnesota to Maine. Imagine a sea of continuous forests comprised of a mix of softwood and hardwood trees: Miles upon miles of spruce, balsam, pine, birch, maple, beech, cherry, oak, chestnut, and other tree species spread across a great expanse.

Twenty years later, pioneer families that immigrated to America pushed westward from New England, where small towns had grown to metropolises. "Long lines of people had been coming into the country as the result in part of the 1848 revolutions in Europe," explains Tug Hill author Thomas C. O'Donnell. "Europe was demanding more and more American grain, the Central States were producing untold quantities of it, and labor was being imported from Europe to build railroads and ships to carry the produce." Once wilderness, the character of the land was changing from farmland to booming cities. O'Donnell continues, "Homes had to be built to house the new populations, and harbors and docks for accommodating the ships. America was fast becoming industrialized and one of the industries that matured over night was lumber." With so many office buildings, factories, wagon-and barrel-making shops, docks, shipyards, and so many other businesses being built, wood was in high demand.

By 1850, logging companies were actively harvesting America's forests from the Great Lakes to the Atlantic seaboard. Equipped with double bitted axes and crosscut saws, lumberjacks felled trees and skidded logs with horses to rivers and floating the logs to mills. Twenty years later, logging companies that cut hardwood trees – trees too heavy to float on rivers – loaded them onto flat cars and transported them to sawmills by train.

As logging diminished the virgin forests, concern for protecting and preserving vital forests for future generations emerged among the public. Scientific studies, often from Europe,

COURTESY JOHN FRAM

**By 1850 logs too heavy to float were transported to sawmills by trains.**

COURTESY LAWTON L. WILLIAMS

**Unidentified Gould supervisor and Louie the road monkey at his station on the sand hill that led down to the Moose River Landing,**

in the new field of silviculture advanced woodland knowledge. Foresters, trained professionals who studied what we today call forest sustainability, appeared on the scene. Loggers became educated and imparted their knowledge to other loggers. No one wanted to see forest land disappear, nor did they want a way of life to come to an end.

I enjoy listening to older loggers talk about their careers in the woods. Some of their tales about their experiences can create a lot of nostalgia. Learning about the evolution from old-style logging to mechanized methods is a reminder of the advancements in technology seemingly realized in a short period of time. There have been stories that made me laugh and others that amazed me, but the true stories of averting danger and death are reminders of how dangerous the job could be in the old days of logging and even today.

The Adirondack logging careers of those I've spoken with and heard about have been an eclectic mix: forester, cook and cookie (a cook's assistant), teamster, mechanic, Linn tractor driver, camp clerk, blacksmith, truck driver, chopper, notcher, spudder, road monkey, swamper, straw boss, river driver, dynamite expert, cat skinner, whistle punk.…A complete list would be as long as a pike pole.

Most often, the drama of an Adirondack log drive relived decades after still dwells within the heart of a lumberman, and for the outsider is a reminder that log driving was serious business.

Today's loggers and sawmill workers are contemporary business owners and workers in a global industry. The industry includes workers who do everything from haul logs from the forest to produce paper, furniture, baseball bats, and countless other wooden items. Logging has moved into the 21st century, but the memory of an earlier time remains – the time of lumberjacks and lumber camps. While the colorful old-style 'jacks, fiercely proud teamsters, inventive blacksmiths, prima-donna cooks, log-hopping whitewater men and river hogs have passed on, logging goes forward. Meanwhile, their history continues to draw attention to their times.

The history is particularly rich in New York State. Abundant forestland and plenty of waterways combined to give the

Adirondack Mountains, the Tug Hill country north of Rome, N.Y. and the Southern Tier, a booming lumber trade for more than 150 years. I've heard estimates of nearly 150 logging camps with 7,000 lumberjacks in the Adirondacks alone during the first decade of the 20th century.

I have long been fascinated by this history and made a point to meet those individuals who remembered it before they were gone. I jotted down this note at an informal gathering of former timber industry workers in the 1980s, hosted by Joe Conway and archivist Mary Teal of Lyons Falls, New York: "The tall spruce strains, and then with a c-r-r-r-r-rack! falls to the forest floor with a thud. Swampers move quickly, trimming the evergreen giant with chain saws buzzing and sawdust flying."

In the days of the New York 'jacks, it is easy to imagine someone uttering that iconic cry of "Tim-BERRR!" when that spruce hit the ground. Tim-BERRR! has always had a twofold meaning in logging jargon. Since the days when choppers traveled by the light of a lantern into the woods, it has been a warning call from the feller of a tree to all within the sound of his voice to be careful because a forest patriarch is hurtling down. Bellowed in a woods-worker's tavern, it also was, and is to this day, a summons to all at hand to share in the caller's generosity to "belly up to the bar." For both reasons, that iconic word will continue to resonate in the Adirondack and Tug Hill woods and taverns, recalling a colorful past and promising a productive future.

Another story I remember about the old New York lumber camps is the following remembrance of Norman R. "Norm" Griffin.

Norm was seventy years old and living in Homer, Alaska, when I last interviewed him in 1986. He worked for The Gould Paper Company in 1936. The passage of time had not dimmed his memory. Norm assured me, "Those are the kind of reminiscences that I'll never forget." He said it was during some "hard times in America. I was nineteen years old. My brother, Red, was eighteen. I had worked on a farm from the time I was eleven years old until I was nineteen, then I joined the Civilian Conservation Corps (CCC), staying until I was twenty-one. The Three Cs is one thing that shaped my life along with the brief time I was with the loggers." He supposed it was the camaraderie of shared accomplishment and a feeling that he was a part of a big family in both the CCC and with Gould. He felt it "was unmistakable in that era."

Norm talks about his logging days experiences:

*"Mr. Hugh Dowling, the Bull of the Woods, put me on the payroll and sent me on to Camp 8 as a road monkey for two and a half bucks a day with a dollar a day off for board. My task was to work on the roads which were not much better than trails in tiptop condition. Holes caused by heavy sleighs and tractor treads needed to be filled with snow and then sprinkled with water so the snow would freeze and form a solid and safe foundation. Soft roads, holes and bumps could cause breakdowns or worse – disasters.*

*"We were roused at 5 AM for breakfast. One guy used to say how good they were to us. Wake us up in the middle of the night to feed us. After breakfast we went out to inspect the roads under our charge and shoveled snow into the road from the sides. It was hard work but most of us were pretty tough and didn't complain. It was dark so early in the morning, so we worked by the light of kerosene lanterns mounted on long poles stuck in the snow. Some called it 'daylight on a stick;' others called it 'moonlight in the swamp.' We chewed plug tobacco because if we stopped to light a cigarette the boss would growl at us. At that time, I was the youngest one in the camp, but everyone treated me very well. I heard many wonderful stories, true and otherwise. I also learned some verses of traditional logging songs. One song is about a fight that went on for forty minutes involving a Christian logger named Jack Driscoll, during which he lost two teeth and his opponent, Bob, who lost an ear. Here's a bit of it:*

*Jack he got Bob under*
*And he slugged him once or twice;*
*And Bob confessed almighty quick*
*The divinity of Christ.*
*So fierce discussion ended*
*And they rose up from the ground;*
*Someone brought a bottle out*
*And kindly passed it around.*
*And they drank to Jack's religion*
*In a quiet sort of way.*
*And the spread of infidelity*
*Was checked in camp that day."*

COURTESY DOROTHY PAYTON

**A Linn tractor with log-loaded sleigh headed to the Moose River Landing.**

*More of Norman Griffin's logging memories appear in* Adirondack Logging: Stories, Memories, Cookhouse Chronicles, Linn Tractors and Gould Paper Company History from Adirondack and Tug Hill Lumber Camps *(In the Adirondacks, 2019).*

# A LOOK BACK AT THE 2021 LOGGERS' EXPO

BY EILEEN TOWNSEND


The 2021 Loggers Expo was originally scheduled for May but needed to be postponed due to state regulations amid the pandemic. "We were excited to be able to hold the Expo in September even though it didn't fit our traditional 'mud-season' target for the show" said Show Manager Joe Phaneuf. "A number of factors seemed to conspire against the Loggers' Expo this year – including US/Canada border issues and a rising count of Maine COVID cases in the days leading up to the show. To add insult to injury, while exhibitor set up for the show proceeded under sunny skies, there was all sorts of doom and gloom in the weather forecasts leading up to the show." With all these factors in place it wasn't surprising that show attendance didn't break the 3,000 barrier, coming in at 2,883 (the Loggers' Expo normally welcomes between 5,000 and 7,000 attendees.)

Several long-time exhibitors commented that they were happy to be able attend a live show again, and were pleasantly surprised by the quality of the attendee group this year. "We saw a good number of our long-time customers, and had several quality conversations during this show. Thanks for sticking with the show this year" said one large-equipment exhibitor. "Inside exhibitors felt a little lonely at this show" noted another exhibitor, "but we met some great people and these contacts will likely develop into valuable business relationships down the road." The consensus among exhibitors was that the show didn't measure up to a normal Loggers' Expo from an attendee standpoint – but that they expected to exhibit at the Essex Junction, Vermont show next spring and to return to the Loggers' Expo in Bangor, ME in May of 2023. NL


CRAIG

# SAWMILL FORUM

BY CASEY CREAMER

When you hammer saws, you don't just pull the saw out of the crate, clean it up, and begin hammering on it. You have to inspect the saw to see what is out of spec and by how much. When the saw is finished it should be flat on the log side, with an acceptable amount of wobble, and the right amount of tension in the right location. So, after cleaning the saw, you check to see how much wobble it has and if it is flat on the log side or dished one way or the other. Then you check the tension to see how that looks. After that you start to formulate a strategic plan as to what you want to do first to correct whatever is wrong with the saw and to find the most efficient way of getting it back to flat on the log side, with an acceptable amount of wobble, and the right amount of tension in the right location.

But the process is more complicated than that. I believe that there is much more to my job than just putting the saw back into the proper condition. Yes, that is the main goal, but it doesn't stop there. When a saw comes into my shop, it comes in for a reason. That reason is that the sawyer thinks it isn't running properly. But at times there is a big unanswered (and sometimes unasked) question that comes along with every saw that comes into my shop or any other shop. This saw is not running properly: Why? Does it just need to be hammered properly? What made it stop running properly? Did the mill have some sort of accident? Did the log come undogged? Did the sawyer make a set while in the cut? Did the lug pins shear? Did a slab get wedged in alongside the blade and heat it severely? Was the saw being sharpened inaccurately? Do the collars need to be machined? Are the shanks worn out so it was spilling sawdust and heating the blade?

I approach each blade from a troubleshooting perspective, even if nobody at the mill has asked me to. Sometimes they will send me a blade as part of the troubleshooting process. They are trying to figure out why the mill won't run correctly and I have them send me the saw so I can see what it can tell me. Most of the time, the mills just send me their saw/s without any comment at all. At this point I could just fix the saw and send it back without any comment at all, and I suspect there are a few sawyers out there who wish I would do just that.

But I think it is my duty to try to look for answers to any sawmill questions whether they were asked or not. My reasoning is that if a saw was sent to me because there is something else in the mill that is causing it to not perform properly, then no matter how well I hammer the saw, it still won't run properly until they are made aware of the problem and are able to fix it. And if the saw that I just hammered doesn't perform properly, no matter who is to blame, it doesn't do my business any good nor does it help the customer to be profitable so that I can keep doing business with them for many years to come.

Imagine that a saw comes in and, during the cleaning process, I notice extraneous metal at the collar line on the board side of the saw. That extraneous metal came from the fast (board side) collar. That metal has to be very carefully removed from the saw. When I say "carefully", that means that it is something you shouldn't do yourself. Leave it to the person who also has the need to examine that area of the saw with a straight edge. If I have to remove collar metal from your saw, it is obvious to me that you sheared the pins and now your collars have to be remachined if you want the saw that I just hammered to run properly. At that moment, I feel the duty to inform someone at the mill that the collars have to be remachined. When the sawyer replaces the lug pins there is no doubt that he/she knows the pins had sheared, but I can't and won't assume that the sawyer also realizes that the collars now have to be remachined.

These saws have a lot to tell you if you look at them from an analytical perspective. Collar metal on a saw is obvious to anyone paying attention. But there are many more subtle things that the saw will tell you if you look closely enough. Just recently a saw came in with a very shiny guideline on the log side. When I see a shiny guideline, it tells me that the sawyer has been trying to steer the saw with the guides, which we all know is wrong. If you want to do it temporarily to keep producing until you get to the next break where you can correct the issue, that's okay, but doing it for a very short period of time won't show me the kind of shiny guideline evidence I am talking about here.

It's not uncommon to see a saw that has been steered with the guides. But it is more common to see the board side guide line shiny instead of the log side guide line. That is because it is more common for an improperly running saw to run out of the cut instead of into the cut. Therefore, the sawyer might try to hold it in with the board side guide. When I saw the wear on the log side guide line, I expected to see a saw that was dished towards the log side. It would make sense that if the saw was dished towards the log side it would be running in and the sawyer might try to prevent that by holding it out a little with the log side guide. But this saw was dished towards the board side. Why would the sawyer be trying to hold it out?

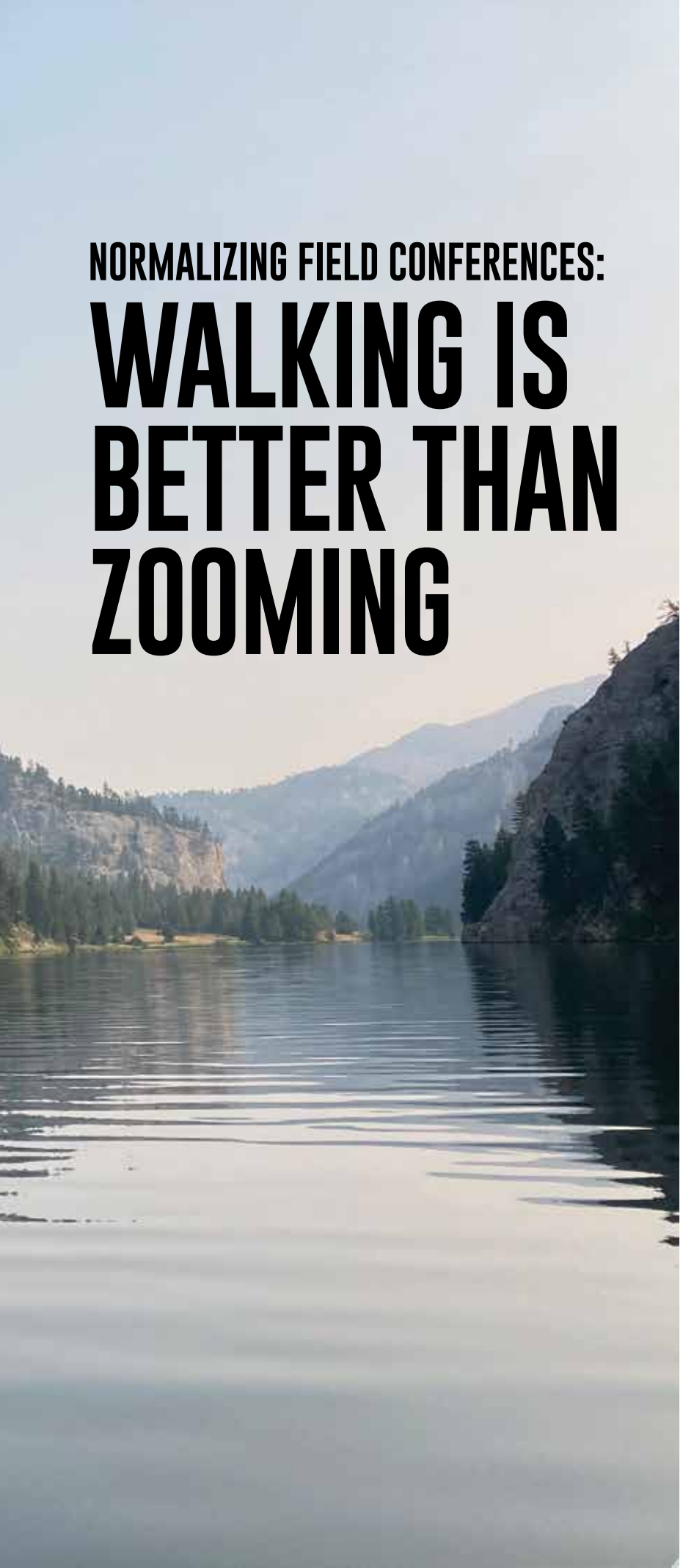
I came to the conclusion that the saw

was probably sawing a straight line, but it wasn't the line the sawyer wanted. Meaning rather than the saw running off line, there was an alignment issue at the mill. It might have been something as simple as misalignment of the headblocks. So, the saw cut okay, but because of the alignment issue the lumber measured wrong. The simple solution should have been to correct the alignment issue. Maybe the sawyer thought it was a saw issue instead of an alignment issue. So, he held the saw out a little to get his lumber to measure properly, and in that process, he managed to dish the saw towards the board side by pushing it that way with the guides. By the time the saw got to me it looked like a normal saw that was dished towards the board side and presumably running out of the log. But with the log side guide line looking shiny, it threw up a red flag that prompted me to inform the mill that they also have an alignment issue that has to be corrected if they want the saw that I just hammered to perform properly.

It's all about looking at the complete picture. "Don't ask, don't tell" is not part of the equation.

*Interested to learn more from Casey Creamer? You can watch our video on how Casey hammers circular saws on* The Northern Logger *YouTube page. Just search for "The Northern Logger" on YouTube and click the video entitled "How to Hammer a Circular Saw with Casey Creamer." Please send future questions about sawmills and their operation to Casey Creamer, saw doctor and president of Seneca Saw Works, Inc., PO Box 681, Burdett, NY 14818, (607) 546-5887. You can also reach out by email: casey@senecasaw.com.*

*A note to our readers: Last month, we featured a photo of a saw doctor incorrectly identified as Casey Creamer. It was actually a photo of Charlie McMann, who runs The Saw Shop in New Hampshire.*



# NORMALIZING FIELD CONFERENCES: WALKING IS BETTER THAN ZOOMING

BY ALISON BERRY, STEVE BICK & HOLLY FRETWELL

As we look towards a post pandemic world, don't be surprised if, after the initial pleasing aspect of in-person meetings wears off, you begin to see the drawbacks in this format. Beyond the inevitable realities of having to change out of pajamas and leave the house, meetings are not always the best use of time. Although it is nice to connect with colleagues, we all remember tedious staff meetings and seemingly endless conferences with insufficient time for both discussions and networking. *"Save all your questions for the end"* is the ultimate buzzkill for collegial discussion.

How about an actual walk in the woods instead? What if, rather than sitting in front of the screen to Zoom or in an auditorium with hundreds of others, your next meeting or conference is a lively discussion with interactive learning while exploring a new environment?

The basic concept is not new – imagine a grown-up version of the field trips that we experienced in our school years. The unique spin to the idea is to value the experience on par with a formal conference or meeting.

On a recent outing, the four of us exchanged ideas on worthwhile topics throughout the day using the landscape to inform and enhance our discussions.

The back story is this: On August 5, 2021, four forestry-minded professionals set out for a day hike into Mann Gulch, on the Helena-Lewis and Clark National Forest in Montana. It was the 72nd anniversary of the tragic Mann Gulch fire that claimed the lives of thirteen young men, familiar to many as the subject of Norman Maclean's classic book, Young Men and Fire. Although each of us had explored nearby sites, none of us had previously made the hike into Mann Gulch.

The group included four transplants to Montana, with common interests in local geography and various backgrounds in the field of forestry. Holly Fretwell, the lone western native, is originally from Washington State, and has spent her adult life living and working in Montana, researching and writing

**The view from the boat ride from the marina to the base of Mann Gulch – not a bad place for a meeting!**

**Above: The group walks down into Meriwether Canyon at the end of the day. Opposite page, top: Holly Fretwell and Alison Berry hiking up the north slope of Mann Gulch. Bottom: This is the marker at the site where Forest Service Guard, James Harrison, was found.**

on public land and forest policy issues. Nate Anderson grew up in New Hampshire and now works as a research forester with the US Forest Service's Rocky Mountain Research Station in Missoula. Originally from Massachusetts, Alison Berry is a natural resource research consultant with Woodland Resources in Bozeman, Montana. Steve Bick is a private sector forestry consultant in New York, spending part of each year in Montana. He pretends to be a part-time Montanan (at least when he's not pretending to be a Vermonter).

This was the first time the four of us had met as a group, though we have worked together in various combinations in the past. While our common interest in the Mann Gulch tragedy brought us together, we had much more to talk about.

For a more typical conference or professional meeting, one might send out an announcement to a hundred people, only to have twenty people sign up. At the conference, only a fraction of attendees will gain valuable insight that they can apply to their work. When field experiences are integrated into conferences, they are often disconnected from discussion and presentations as pre- or post-sideshow tours.

Why not take a more selective approach, and assemble a group that is sure to benefit from the experience, and who you would like to exchange ideas with?

For the Mann Gulch hike, Steve took the initiative to invite a group that would provide a stimulating discussion. He also arranged a few logistics to make sure the trip would go smoothly. Mann Gulch is accessed via a short boat trip down the Missouri River, with a shuttle service offered at nearby Gates of The Mountains Marina on Holter Lake near Helena, Montana. Marina owner and Mann Gulch fire expert, Tim Crawford, met us and shared some of his stories about the site, including his visits with fire survivor Bob Sallee and with author Norman Maclean (both of whom are now deceased).

We hopped into a small boat and motored down river to the entrance of Mann Gulch and arranged for a pickup upstream at the base of Meriwether Canyon later in the afternoon. The day was hot, and skies were clouded by smoke from distant fires. As our boat shuttle headed back to the marina, the group hiked into the canyon to explore and learn about Mann Gulch.

Over the course of the day, we probably had an equal amount of time hiking and stopping to talk. As the group rotated, each person got to know each of the others, and learn about their work and interests. The hiking resulted in what would be called breakout sessions at a typical conference setting, but with spontaneous topics to perfectly fit the common interests and expertise of the participants.

We had ample time to discuss topics like water rights, wildfire policy, forest operations, and incentives for harvesting timber and reducing fuel loads. We spoke about the tradeoffs involved with risking firefighter lives for protection of forest resources such as those in Mann Gulch in 1949.

As we climbed into the gulch, we noted that the forest had not regenerated to match what had existed prior to 1949. Interpretive signs with historical photos showed the gulch had previously hosted a relatively dense forest. Today, the north side of the gulch

was mostly an open meadow, with few scattered pines.

Eventually we reached the stone monuments marking the sites where each victim's body was found. Walking the hillside where lives were lost gave us perspective on what happened there. Still, we struggled to imagine what the firefighters would have experienced, loaded with gear as they tried to scramble up the same steep slope to outrun a raging wildfire. Bob Sallee, one of only three survivors of the blaze, was just seventeen years old that day. None of us could picture our seventeen-year-old selves as ready to face such a challenge.

Upon reaching the ridge, we were rewarded with views back

down to the Missouri River. After a short break, we traversed the ridgeline south to Meriwether Canyon, and stopped for lunch before descending into the ponderosa pine forest.

More talk ensued, and for a while we focused on the differences in working for a federal agency, a non-profit or in the private sector. We talked about the pandemic and how it had changed our work. For some of us, this was the first live meeting of peers in quite some time.

Along with each of these discussions, there was inevitably built-in networking. We discovered we had common acquaintances and caught up on research going on in the field.

Our day wasn't yet over and we had already agreed that we had to do this again. This was clearly a better way of meeting than a video chat blocked off for an hour on an Outlook calendar, or a chance meeting at the formal conferences we had attended in the past.

We've all been doing video conferences for good reasons and the cost efficiency of it has certain benefits. Unlike meeting in person, remote conferences lack strong networking opportunities, particularly with larger groups, which is a big drawback.

Instead, we dug deeper into the concept of field meetings. By bringing together a good, cohesive group with no formal agenda, we were able to have a lot of great discussions. And people need not know each other – as facilitator, Steve was the only one known to everyone in the group.

Alternatively, a modest agenda to direct conversations could easily be accommodated on a field conference. Our

# THE MANN GULCH FIRE

The Mann Gulch Fire was first reported around noon on August 5, 1949 in a remote part of the Helena National Forest in Montana. Fifteen smokejumpers were dispatched from the Forest Service base in Missoula, landing at 4PM about a half mile away from the fire, on the ridge at the head of the Gulch. Already on the scene was James Harrison, a Forest Service recreation guard stationed at the campground in neighboring Meriwether Canyon. Harrison had hiked over in the morning after spotting smoke rising from Mann Gulch.

The fire was initially burning on the south slope of Mann Gulch. The men began to hike down towards the Missouri River, so that they could attack the fire with the safety of the river at their backs.

However, as they hiked the winds increased and changed direction, causing the fire to suddenly expand. Fire soon blocked their path to the river. The blaze changed in character from a lower-intensity ground fire to a fast-moving crown fire as flames leapt into the canopy. By some estimates, the fire scorched 3,000 acres in ten minutes during this blow-up stage.

The men retreated, scrambling up the steep north slope of Mann Gulch, making their way through waist-high cheat grass towards the rocky ridgeline. As the fire bore down on them, crew foreman Wagner Dodge ordered the men to drop their tools to lighten their loads. The men were surprised to see Dodge pull out a match and set a small fire in front of him. He then stepped into the burned area and called to the men to join him.

The crew did not follow Dodge's lead, and instead continued to sprint for the top of the ridge. Unfortunately, most of the men could not outrun the fire. By 6PM—less than two hours after arriving in Mann Gulch—eleven of the men were overtaken and died trying to scramble up the slope.

Two men, William Hellman and Joseph Sylvia, were badly burned but reached the ridge alive, only to die from their injuries the next day in the hospital.

Only three men survived. These included Foreman Wagner Dodge, who was sheltered from the worst of the fire in the burned area that he had created. Smokejumpers Bob Sallee and Walter Rumsey were able to run up the steep slope to the relative safety of the ridgeline.

The Forest Service responded to the disaster by implementing new safety programs for wildland firefighters, emphasizing the importance of identifying and discussing potential escape routes. They also established the Fire Science Lab in Missoula, which continues to be a source for valuable research on firefighter safety and fire behavior.

Wagner Dodge continued to work for the Forest Service for another year, but never jumped on another fire. He died five years later of Hodgkin's Lymphoma. Bob Sallee stayed on as a smokejumper until 1951, then got a degree in forestry and joined the paper industry. He died in 2014 at the age of 82. Walter Rumsey quit the Forest Service after the Mann Gulch fire but continued on a career in natural resources. He died in a plane crash in 1980 at the age of 52.

Writer Norman Maclean grew up in Montana and had a home near Helena in Seeley Lake. After hearing about the fire, he visited Mann Gulch, only days after the fire had been extinguished. His experience there created memories that haunted him for decades. His book, *Young Men and Fire*, tells the story of the Mann Gulch tragedy with detail and insight into the history and culture of wildland fire management in the United States.

agenda really was dictated by the site, so fire dominated the conversation. To discuss a different issue, you might pick a site that would be better suited to the discussion, such as a wetland, active timber harvest, wood processing site or a young forest that was recently regenerated.

After lunch, we continued climbing a bit, going through a small gap, and then descending on an extensive series of switchbacks into Meriwether Canyon. Along the way we saw Hell's Kitchen which, much to our surprise, was an overhanging cave with cool air. This was a welcome break from the heat, dust and smoke of the trail.

Hiking down into Meriwether Canyon exposed us to a far greater diversity of vegetation and tree species, and there were a lot of conversations about what species were present. This inevitably led us to consider who else we should have brought along, so they could explain more about the vegetation to us.

We reached the dock at the base of Meriwether Canyon a half hour ahead of our scheduled pick up. This gave us ample time to talk some more, to cool our feet in the river, and even time for Nate to don his swim trunks and plunge in.

Soon, the boat arrived to shuttle us back to the Marina, where we found a shady spot with a nice view to sip cold beers and reflect on the day. We also made plans to get the group together again, aiming for a trip like this every year.

We developed a few suggestions for normalizing the field conference format:

- Pick a site that will inform the discussion and inspire thoughtful conversation.
- Identify sites and logistics that facilitate inclusion and accessibility for diverse groups.
- Consider providing some background information about the site in advance, like a podcast or brief article.
- Keep your group small and invite people with similar interests but different backgrounds.
- Formal presentations aren't necessary because each of you will have something to share about your work or past experiences.
- Employers should consider incorporating field meetings or conferences into their workflow as an alternative format to traditional meeting options.
- Identify gains from a day in the field that are unlikely to be accomplished in a meeting room, such as meeting educational and training objectives.
- Encourage accrediting bodies such as the Society of American Foresters or various state associations to assign continuing education credits for field conferences.

As Plato may or may not have said "You can discover more about a person in an hour of play than in a year of conversation." Our variation of this is that you can learn more from others in a day of activity than a week of lectures. Gather some colleagues, a map, and a cooler and give it a try. **NL**

# NORTHEAST SILVICULTURE INSTITUTE IS FOR LOGGERS TOO

BY CHARLES LEVESQUE

In 2016 the North East State Foresters Association, a little non-profit organization of the State Foresters from Northern New England and New York (sometimes also working with Southern N.E.), decided it wanted practicing private and public foresters in the region to have a deep graduate-level set of silviculture training opportunities for all the forest types in the region in order to raise the quality of managing the region's forests. Silviculture is one of the areas of study for any forester or forest technician in college; it means "the art and science of controlling the establishment, growth, composition, health, and quality of forests and woodlands to meet the diverse needs and values of landowners and society on a sustainable basis" (SAF 1998).

The plan was to offer 5 two-day training courses, about half in the field and half in the classroom, that covered all of the forest types in the region. The USDA Forest Service provided a grant, and a consortium of silviculture and related topics experts were pulled together by a team from the Universities of New Hampshire and Vermont. The training was given during the warm weather months in both 2017 and 2018, and over 400 foresters from all of the states in the region attended.

Additionally, all of the training was filmed and catalogued – including every in-woods stop on the field tours – and is available online at the Online Silviculture Institute: www.northeastsilviculturеinstitute.org. And special links to silviculture writings by the experts are there too. All of these materials are now available to loggers, landowners and others. There is a fee, but you can get a special *Northern Logger* 50% discount if you contact Charles Levesque at levesque@inrsllc.com or 603-588-3272. During this pandemic period in 2020, usage of the Online Silviculture Institute has skyrocketed. As loggers know, not much face-to-face training has been available this year.

Loggers should consider taking at least a portion of these trainings. Loggers already know a lot about silviculture from their work in the woods and with foresters. These trainings through the Institute can bring their knowledge up to a new level and make what they do in the woods, carrying out forester cutting prescriptions, make more sense and result in better outcomes when no forester is involved in the harvest.

Whether you sample the trainings or do all of them, as a logger you will be getting a level of silviculture and related training that you will not get anywhere else. If you contact Charles Levesque, he will give you a limited time free-access to the Overview 2-day session to allow you to get a sense for the offerings through the Silviculture Institute.

*Charles Levesque is President of Innovative Natural Resource Solutions, LLC, a northeast-based consulting firm that specializes in forestry, the forest products industry and renewable energy. He has also served as the North East State Foresters Association executive director since 1998.*

## SO, WHAT'S IN THE TRAINING?

A visit to the website www.northeastsilviculturеinstitute.org will give a good sense of things, but here is a sample list of some of the training lectures and field stops to give you an idea of what is available:

- Silvicultural Review: Back to Basics
- Invasive Plants in New England and New York
- Forest Hydrology
- Climate Adaptation and Mitigation Consideration
- Spruce-Fir Silvics and Silviculture
- Forest Health (in all forest types)
- Field Silviculture Using Single Tree, Group Selection, Clearcut, Shelterwood and Other Techniques
- Pine-Oak-Hemlock Silvics and Silviculture
- Northern Hardwood Economics
- Northern Hardwood Silvics and Silviculture
- Thinnings, Patches and Clearcuts in Northern Hardwood
- Oak-Hickory Silvics and Silviculture
- Wildlife Management in All Forest Types

NORTHEASTERN LOGGERS' ASSOCIATION, INC.

# 2021 CALL FOR AWARD NOMINATIONS

The Northeastern Loggers' Association, through its annual awards program, will recognize significant achievement during the year 2021 in eleven major categories.

## THE AWARDS

A maximum of one award will be given in each category. There may be circumstances when no awards are given in a category or categories. A plaque will be awarded in each of the categories.

## ELIGIBILITY

To be eligible for one of these awards, or to make a nomination, the person or organization need not be a member of the Northeastern Loggers' Association. A person or organization can nominate themselves or their organization or it may be done by an outside party. The nominee must reside or conduct business in the Northeastern Region of the United States as delineated by the USFS. That definition includes the states of: Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania, New Jersey, Delaware, Maryland, West Virginia, Ohio, Indiana, Illinois, Iowa, Michigan, Wisconsin, Minnesota, Missouri and Kentucky.

## JUDGING

All nominations will be judged by the awards committee of the Northeastern Loggers' Association which is made up of no less than three and no more than five members appointed by the president.

## ENTRY PROCEDURES

Send a brief (not more than 500 words) description of why you think the nominee should be given the award in the appropriate category. Along with the description, send a biographical sketch of the nominee and the names of two individuals who will verify and support the nomination.

## DEADLINE

Nominations, addressed to the Awards Committee, Northeastern Loggers' Association, Box 69, Old Forge, New York 13420, must be received by January 31, 2022.

## THE PRESENTATION

The awards will be given at the annual Loggers' Banquet sponsored by Farm Credit. The Banquet will be held in Burlington, Vermont.

# The Awards Categories

## Outstanding Logging Operator

The nominee must have owned or managed a logging operation for the past five years. The operation should be an example of safety and show the quality of results commensurate with excellent forestry practices.
The award can recognize the person's ability to innovate, or further the sensible use of mechanization in the woods.

## Outstanding Sawmill Operator

The nominee must have owned or managed a sawmill for the past five years. Characteristics to be judged are safety record, innovation, mechanization, utilization and quality of end product.

## Outstanding Industry Advocate

This award will recognize the person or organization with significant accomplishments in promoting public education and acceptance of the forest products industry. The accomplishments should be in the form of campaigns, events, projects or activities aimed at audiences outside the forest products industry.

## Outstanding Service to the Forest Industry

This category is designed to recognize a person who has made exemplary contributions to the development of the forest industry from a technical, managerial or public relations point of view. The person's accomplishments need not be limited to those three broad areas.

## Outstanding Wood Manufacturer

The nominee must have owned or managed a wood manufacturing facility for the past five years. Characteristics to be judged are safety record, innovation, mechanization, utilization and quality of end product.

## Outstanding Management of Resources

The nominee must be responsible for a resource management program. The program can be on public, private or industrial land.

## Outstanding Leadership in Industry

The nominee should be a person who is in a position to give guidance and direction to the industry through efficient operation of his/her own endeavor and through a role in industry associations, task forces, industry committees, etc.

## Outstanding Forest Products Trucking Operator

The nominee must have owned or operated a forest products trucking operation for the past five years. Characteristics to be judged are safety record, innovation and quality – traits associated with excellence in the industry.

## Outstanding Contributions to Forest Industry Education

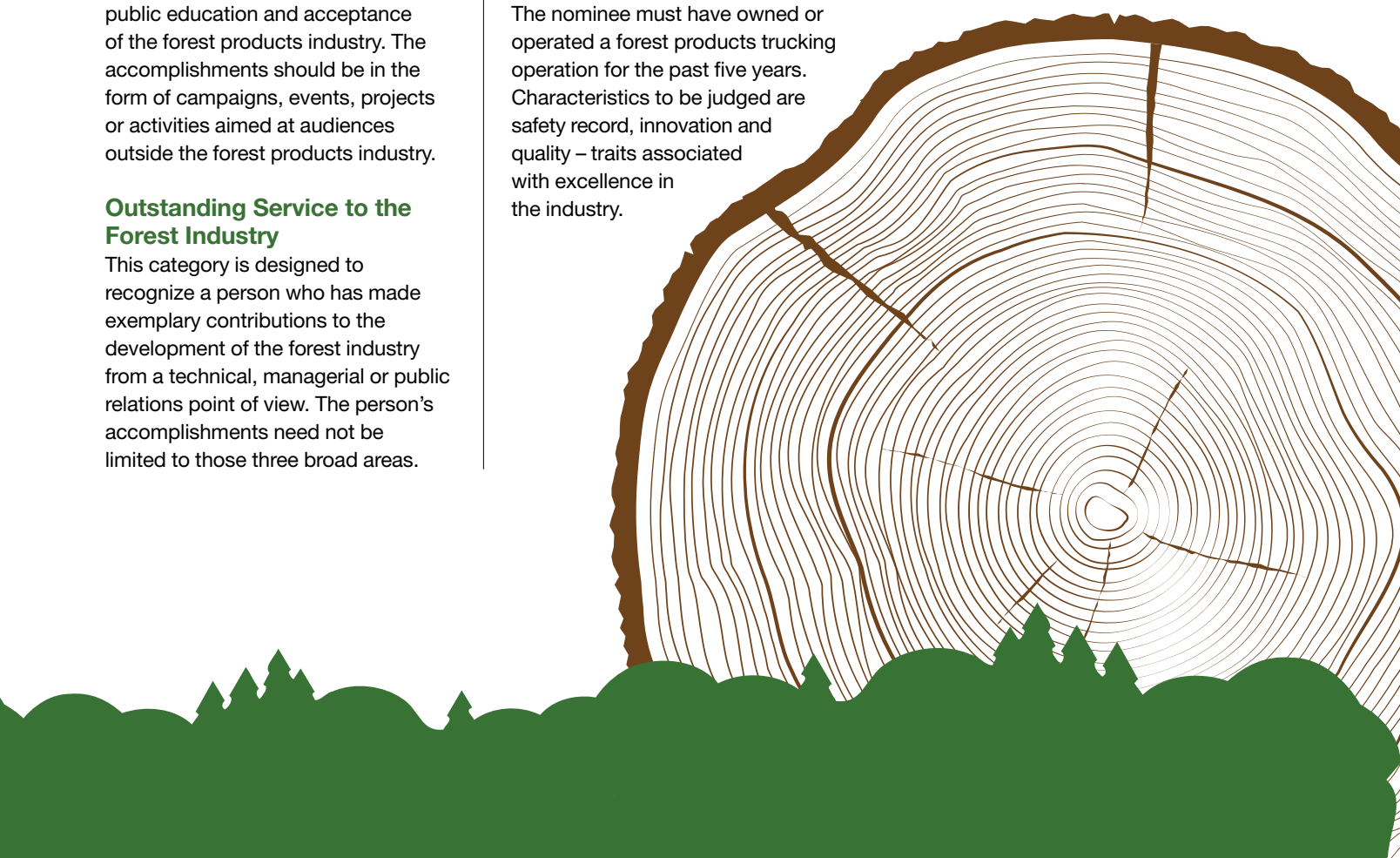
The contributions to education can be technical, vocational, professional or aimed at the public-at-large. The nominee need not be an "educator" as long as the end result of his/her efforts is increased knowledge and understanding of the forest industry or any one of its parts.

## Outstanding Use of Wood

This award will be granted for the use of wood in architectural design, building, or end product use, such as furniture. The use should be judged on the basis of its function, practicality and aesthetic qualities.

## Outstanding Contribution to Safety

Nominees should be people who over the years have had a significant impact on the safety record of any segment of the industry.
It can be through supervision and management, education, or pioneering the use of safety gear.



# on the job

Each month, our readers send in photos from the job. Here are some recent snapshots from around the region. We'd love to see how you get the job done. Send us your photos on social media or by email!

Dan Wallace, New Hampshire

XCut Logging Ltd., all the way from Ireland!

Steve Anderson Forest Products, Felch, Michigan

DTS Logging, Northeast Pennsylvania

JC Farrington Logging, Andover, Maine

Carson Logging, Willsboro, New York

# wood industries classifieds

Cost of Classified Ads: $70 per column inch if paid in advance, $75 per column inch if billed thereafter. Repeating ads are $65 per column inch if paid in advance, $70 per column inch if billed thereafter. Firm deadline for ads is the 15th of the month preceding publication. To place an ad call (315) 369-3078; FAX (315) 369-3736.

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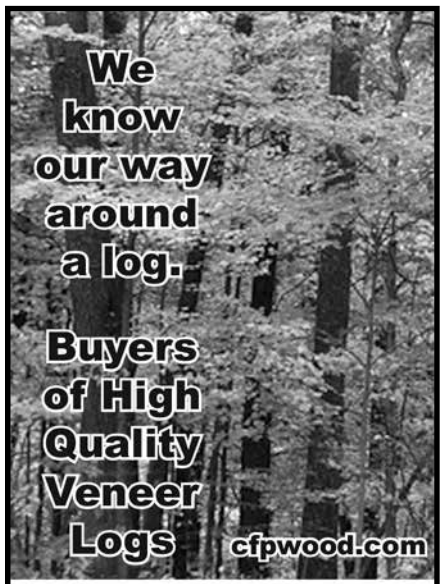


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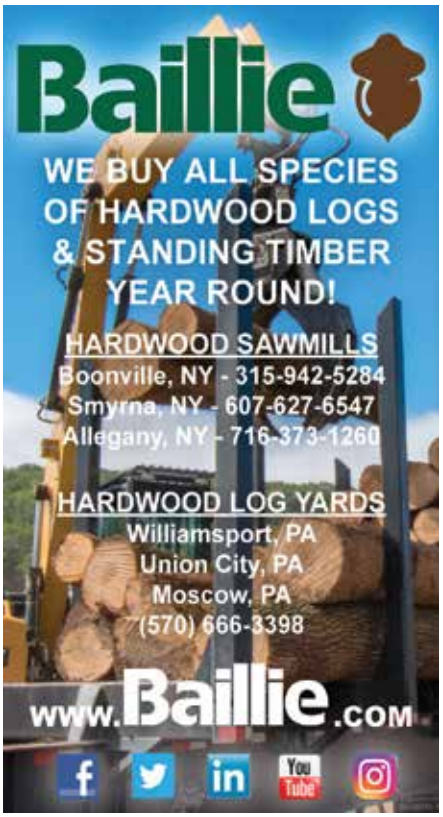


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## SERVICES



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**ADVERTISER INDEX**

## Old Loggers Never Die

This year, *The Northern Logger* wants to try some-thing new: a poetry and short prose section in an upcoming issue of the magazine! Are you a logger who has always aspired to write a few creative lines? Send your contributions to editor Eileen Townsend at PO Box 69, Old Forge, NY 13420 or email: eileen@northernlogger.com.

### OLD LOGGERS

*Old loggers never really die,*
*They just fade away,*
*Into a woodlot far beyond,*
*To cut and skid all day.*

*For surely God needs timber,*
*To furnish glory land,*
*And where else can He get it,*
*But from a timber man.*

*I bet the tree of heaven*
*Is the species that they grow,*
*And probably the angels*
*Will mark the ones to go.*

*White horses will be used to skid,*
*And chariots to draw,*
*Into a mill of solid gold*
*With diamond-plated saw.*

*So cheer up you old loggers,*
*You'll have a place to go,*
*Where you'll never have to slop through mud,*
*Or wade through heavy snow.*

*Just keep on cutting timber,*
*And hope that when you die,*
*You join the greatest crew of all,*
*A loggin' in the sky.*

(Added after the logger's death):

*Now Pa, you've gone and joined them,*
*I'll bet they're glad you're there.*
*I'll bet they're glad to have a man,*
*Like you, their work to share.*

*You've got a brand new body, too,*
*That old one's in the ground.*
*No aches and pains to slow you now*
*As you cut His timber down!*

*They don't make better loggers,*
*They don't make better friends,*
*And they will find, just like we did,*
*They don't make better men!*

Thanks to this month's featured poet, Bill Hall, forester/logger, a friend of many "Old Loggers"!

We look forward to hearing more from the aspiring bards of the north woods!

# save the date

Visit www.northernlogger.com or call 315-369-3078 for more information about these events:

**The Northeastern Forest Products Equipment Expo**
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### CATCH UP ON *THE NORTHERN LOGGER* PODCAST

A podcast is an audio broadcast that can be directly streamed and downloaded to your phone or computer… like a radio show, but more convenient! Podcasts are a great way to catch up on news and stay entertained during your commute or while working. *The Northern Logger* podcast recently put our 36th episode. Our archive of episodes includes tips on forest business management, interviews with successful north woods loggers, chats about invasive species management, and more. We're always looking to hear from readers and listeners for ways to improve our podcast and bring you the news and entertainment you want! You can listen to *The Northern Logger* podcast on iTunes, Spotify, Google Podcasts, or on our website, **www.northernloggerpodcast.com**.

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# WORK SAFE

## Logger Seriously Injured by Falling Chipper Knives

On a clear summer day, a logger was preparing to service an in-woods chipper. The machine was locked out and tagged out in preparation for a knife exchange and other routine maintenance. The logger had over 30 years of experience operating in-woods chippers and was highly trained in all aspects of timber harvesting. He is a member of several professional associations and actively engaged in various leadership positions within the industry.

Chipper knives were placed on top of the chipper directly over a moving apparatus. Other co-workers were unaware of the imminent hazard while performing maintenance on the machine. The logger proceeded to open the control panel door to access the grease fittings during maintenance procedures. The logger was unaware that another employee had placed the sharpened knives on top of the control panel. The knives were not placed in a wooden transport box, and their positioning was especially hazardous since they were left straddling the hinged portion of the panel, which allows the door to open. Once the door began to swing open, the stacked knives fell onto the logger, who was looking down and unaware of the imminent hazard above.

The knives fell approximately three feet and onto the logger's left arm inflicting serious lacerations and extensive muscle and tendon damage in the forearm. The outer edge of the victim's boot was also sliced off; however, his steel toe protection diverted the knife away from his foot preventing any damage to his lower extremities. Other crew members immediately administered first aid, applied a tourniquet, and called 911. The victim was transported by company truck to meet the Emergency Medical Technicians at a nearby intersection. After triage by on-site paramedics, he was airlifted to a regional trauma center for further medical treatment. Trauma surgery was required to restore blood flow to his left arm and hand, as well as to repair the extensive damage caused by the accident. Frequent physical therapy was required to restore a sufficient range of motion in his left arm. The accident resulted in a lost time injury of 12 weeks.

**Recommendations for Correction:**

- Always transport chipper knives from storage location to the chipper in a wooden transport box or similar device.
- Designate a safe area for knife box placement on the chipper during servicing.
- Implement a chipper safety program that includes limiting employee access to essential personnel during servicing, especially during the knife exchange process.
- Always attempt to identify potential hazards in your immediate workspace before performing tasks.

FRA SAFETY ALERTS

## Overloaded Log Truck Traveling Too Fast

In the late morning of a fall day, a log truck was traveling through town on the way to deliver a load of (random-length, double-bunked) pulpwood to a mill. The weather was mild and overcast, and the road surface was dry. The driver had positioned his rig in an inside lane of a four-lane road with a median strip dividing both directions of traffic. As he approached a left-hand curve, a passenger car was close behind him in the adjoining, outer lane going in the same direction. Two foresters who worked at the mill in question were driving toward the log truck from the opposite direction and noticed the log truck approaching the curve. The truck driver's age and commercial driving experience are unknown.

The speed limit was 35 miles per hour, and in the estimation of the foresters, the log truck was overloaded and was exceeding the speed limit. As the truck went into the curve, the trailer began leaning hard to the right – towards the outer lane of traffic where the passenger car was. The driver did not slow down in the curve, and the trailer leaned farther and farther to the right. Both foresters expected the tractor-trailer to tip over and anticipated that the car directly behind it would smash into the truck – and that a serious wreck would result.

Fortunately, the trailer did not tip over, and the driver was able to maintain control and continue on. The foresters noted that had one wheel edge of the log trailer run up against the median strip while negotiating the curve, the trailer would almost certainly have toppled over.

The foresters drove to the mill after lunch and reviewed the pictures that their mill's cameras had taken of each truck at the scales. They found the truck that they had seen and noted that the load was excessively overweight. They were able to determine the wood supplier for whom the trucker hauled and planned to contact the supplier to discuss the unsafe actions they observed (and to remind the supplier about the mill's overweight load follow-up/penalty policy).

**Recommendations**:

- Drivers must follow posted speed limits for the roads and conditions they encounter. Depending on the load's center of gravity and other load and road conditions, traveling right at the speed limit may still be too fast.
- Drivers should be trained to understand load dynamics and center of gravity. A double-bunk load can be more susceptible to rollover than a treelength load because the back bunk typically is fully loaded and the gap between the two racks of wood makes it easier for the log trailer to flex.
- Overloading a log trailer can result in unsafe handling conditions and presents a hazard to the truck driver and others on the highway.
- Many logging and trucking contractors use on-board or portable platform scales to ensure they do not haul loads that exceed the state weight limits.
- Use "close calls" as opportunities for employers to review regulations and safety procedures with drivers and crew members.

FRA SAFETY ALERTS

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