

BETWEEN THE BRANCHES

ISSUE 64 APRIL 2026

IDAHO
Family
BUSINESS

Workforce
DEVELOPMENT

6040

CASE STUDY + PERMITTING UPDATE

CHAUVY
TRAVAUX
FORESTIERS



Flexibility in
NOVA SCOTIA

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BETWEEN THE BRANCHES

ISSUE 64 APRIL 2026

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FROM THE *Editor*

This issue of *Between the Branches* focuses on three contractors from different parts of the world who are mixing full-tree and cut-to-length equipment into custom harvesting systems best adapted to their requirements.

In France, Aurélien Chauvy cuts with both track and wheel harvesters and transports long length logs to roadside with a 612 skidder, while moving short wood with a forwarder. In Idaho, Tony Zimmerman is running a track harvester and forwarder, as well as a shovel logger and 120 winch assist to tackle a range of steep slope timber sales. And in Nova Scotia, Shawn MacPhee maintains a flexible machine fleet. It allows him to operate a two-machine CTL system or switch to a feller buncher with in field processing, depending on contract requirements. His son Nathan also relates his experience with the new 1055D forwarder. Flexibility and adaptability allow these contractors to stay competitive and bid on a wider variety of contracts.

We present an excellent business case on the use of the 6040 carbonizer in the mountains of North Carolina. Blair Sheppard and Sam Burnette's new venture is solving many problems: processing and reducing storm damaged timber and forest debris, creating biochar with many beneficial downstream uses, and restarting a stalled local economy hammered by a large mill closure.

Still on the biochar front, Product Specialist Matt O'Connor provides an in-depth update on carbonizer permitting pathways in the United States.

Samantha Paul reports on the efforts of Stephanie Fuller Johnson regarding workforce development and advocacy in the forestry and logging sector. Stephanie grew up in a logging family in Alabama, and she is keen to educate young people on the viability of a career tied to the forest.

Meet Tigercat's long-time parts manager, learn about the latest new products, and gain a better understanding on the importance of maintaining correct undercarriage track tension.

– Paul Iarocci

COMMUNICATIONS MANAGER AND
DEALER DEVELOPMENT

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TCi IN GERMANY

In October 2025, Bosco Machinery was appointed as the official TCi equipment distributor for Germany.

Founded with a clear focus on collaborating with Tigercat Industries, Bosco Machinery is led by a dynamic team with extensive experience in the forestry industry. The company's mission is to deliver superior service, a customer-friendly approach, and reliability that forestry companies can depend on every day. "We are excited to represent the brand in Germany and bring their proven solutions closer to our customers," said Davide Porzio, Co-Founder and CEO of Bosco Machinery. "This partnership will set new standards for service, quality, and performance in our industry."

Building on a strong foundation of seven experienced mechanics who already service forestry machinery daily, Bosco is investing in a

purpose-built workshop and well-stocked spare parts warehouse to ensure maximum machine uptime. Recognizing that much work occurs in the forest, Bosco operates three fully equipped service trucks. This combination of mobility and workshop expertise ensures fast,

reliable service wherever customers are working.

Bosco aims to be a trusted service partner, and a one-stop shop for professional forestry companies, delivering quality, performance and support. ■



(L-R) Davide Porzio, Founder and CEO, Jan Seidel, Founder and Managing Director, Hermann Jermis, Sales.

AUROX WINS AWARDS FOR 1165

During the EKO-LAS 2025 forestry trade fair in Poland held last summer, TCi dealer Aurox Forestry Machinery won the Grupa MTP Gold Medal, awarded by the competition jury, a group of industry experts. In addition, a show attendee poll held during the trade fair resulted in a second medal for Aurox. The Consumers' Choice Gold Medal was awarded to the TCi 1165. ■

Aurox President Krzysztof Madej (middle), along with Matt Roberts, Tigercat Industries Vice President Sales, and Aurox Salesman, Artur Lasota (right) were on hand to receive the awards.



ADDITIONAL PRODUCT SUPPORT IN *Southern Africa*

Craig Thompson is the newest product support representative for Tigercat and TCi machines on the African continent. Craig brings extensive experience in automotive and forestry equipment service, along with specialized knowledge in hybrid and electric vehicle systems, accredited through Mercedes-Benz.

Craig joins Tigercat Industries Factory Support Representative, Jeff Cave, based in Johannesburg, to support AfrEquip and Kanu Equipment in Southern Africa. “I am passionate about finding, designing, and implementing solutions to problems,” says Craig. “I look forward to assisting with any challenges that come our way.”

Prior to joining Tigercat Industries, Craig ran his own business supporting the equipment and vehicle fleets of wood products manufacturer and large Tigercat end user, PG Bison. His technical expertise and solution-focused approach make him an ideal addition to the Tigercat-TCi product support team. ■



REVAMPED 568 *with* D7



Designed for track carriers, the TCi 568 is a robust, high-capacity harvesting head optimized for roadside processing in the 15-55 cm (6-22 in) diameter range. It has the feed speed of a 22-inch head with the feed power of a 23-inch head. Recent design enhancements have boosted performance, increased the strength and durability, and elevated the overall harvesting and processing experience.

The TCi D7 control system comes in either Priority or Optimized bucking control, and both use wireless communication between the head and the machine cab. Cab hardware and wiring have been simplified to use a single module that has constant power for quicker startups and faster processor

speed to improve performance and consistency.

The 568 now uses a full-time four-wheel drive system which reduces wheel spin, improves braking performance, and achieves greater feed power than other heads in its class. Balanced frame motors and an optional mechanical frame drive locker improve alignment when feeding multiple stems. Three independent valve sections — one for each arm motor and one for the two frame motors in series improve feeding efficiency. Improved tree centring provides better contact with the length measuring wheel.

The measuring wheel arm cylinder pin and bushing arrangement has been improved, providing better reliability and serviceability. And

according to Product Manager Duane Barlow, “We added additional internal guarding and a deflector guard on the measuring wheel arm to help reduce debris accumulation around the measuring wheel.”

The main chassis profile has been refined and strengthened for increased durability and longevity. The main saw box design provides improved chip exhaust, easy cleaning and better protection of the find end sensor. The top saw box cover design makes it easier to service the saw motor. Top knife enhancements include an additional grease fitting, a keyed thrust washer to prevent retaining bolts from loosening, and an upgraded spring unit. ■

850 SERIES PROCESSOR UPGRADE

New 850B processor is upgraded for improved roadside processing performance.

The 850 processor, Tigercat's purpose-built alternative to excavator conversions, has been upgraded for improved performance. The new 850B retains all the advantages over converted excavators used in roadside processing applications — easier service access, a more comfortable cab with better visibility, and superior cooling capacity.

The performance and fuel efficiency differential has been further increased. Initial field testing confirms that the 14% increase

in power to 187 kW (251 hp) results in improved machine performance and response — quicker, smoother boom cycles, improved feed acceleration and braking, and more powerful swing. In addition, hydraulic system refinements targeting boom efficiency reduce fuel consumption. ■



TCi 5185B ENHANCEMENTS FOR LARGE TIMBER

5185 fixed felling saw is upgraded to B-series with enhancements to improve productivity in large diameter timber harvesting applications.

Tigercat Industries has released the first TCi 5185B fixed felling saw. Enhancements are targeted at further improving performance and productivity in large timber falling applications.

The key improvement is the new Tigercat 750RP saw unit with a full 240-degree bar feed angle, enabling single-side back cuts. This greatly reduces machine travel when felling large trees to enhance overall productivity, reduce potential tree damage, minimize ground disturbance, and improve fuel efficiency.

The 750RP saw unit is an evolution of the proven Tigercat 750, incorporating a ring-and-pinion hydraulic drive instead of the external cylinder, while retaining other proven service parts. New Tigercat-programmed carrier saw control gains saw home and saw position sensors, proportional bar feed, and electronic saw motor control. The result is enhanced overall productivity with from-the-seat tuning, on-display feedback, and operator-selectable saw functions to tailor performance.

Cutting capacity has been increased by enlarging the saw box to fit a longer 1145 mm (45 in) bar. The top horn can be equipped with different styles of interchangeable grip plates to customize for different applications and seasons. ■



6440 CHIPPER

Tigercat Industries introduces new model in material processing family of products.

The Tigercat 6440 is a heavy-duty drum chipper designed for high production and ease of operation. The high horsepower engine uses a through-drive and belt system where the rotor drive belt is driven off the motor using a flex drive coupling and drive adapter. The engine base extends and retracts to engage or disengage the drive belts, eliminating the need for a clutch.

The discharge chute is on a low 25-degree angle to allow for high volume output without the need for a chip accelerator. An optional chip accelerator is available for microchip applications. The discharge end chute pivots side to side, and up and down. Discharge

end outrigger cylinders provide 620 mm (24.5 in) of stroke to adjust the height. Infeed outriggers provide 355 mm (14 in) of stroke to stabilize the machine.

The standard chip rotor consists of eight staggered knives, and the optional microchip rotor has sixteen knives. Chip pockets are lined with replaceable wear plates. An easily accessible platform and large pivoting rotor hood provide a comfortable work area when changing knives. A large storage box located nearby holds tools and replacement knives.

The front belt cover may be removed in three separate pieces. The side access door on the middle

cover allows for belt inspection and tensioning. A sonic belt tensioner is supplied with the 6440.

Access doors located at the bottom feed roll, infeed head pulley, side doors, and top slide plate allow for effective debris clearing. Platforms and steps are located around the machine at maintenance and service point areas to access engine air filters, hydraulic oil filters, and the fuel fill. A centralized service area in the centre of the machine provides access to hydraulics, electrical components, and engine filters. ■





CONVERTIBLE CARRIER, *New* MULCHING HEAD

Tigercat Industries releases compact leveling track carrier along with new TCI 4154-15 mulching head.

In response to growing requirements for fire mitigation interventions and increased management of forestland in the western US, Tigercat has introduced the compact LX825 track carrier.

Built on the same upper platform as Tigercat's flagship LX830E feller buncher, the LX825 is a quicker, lighter, and more agile near-zero tail swing carrier with an all-new leveling undercarriage.

The machine can be equipped with a choice of two hydraulic systems: the standard feller buncher

system, or an optional convertible hydraulic system which allows the machine to switch back and forth between a disc saw, intermittent saw, bar saw, shear, or mulching head. This increased utility enables forest management contractors to masticate brush, understory and undesirable timber, while retaining the ability to fell merchantable timber.

The compact design, function speed, and overall agility allow for precision thinning and masticating to reduce fuel load and improve forest resiliency.

Mulching head to match

The new TCI 4154-15 mulching head, perfectly matched to the LX825, is designed for easy access to service points and wear items. The inlet and mulching chamber are designed to pull in debris and completely masticate the material before it exits the chamber, ensuring high quality forest treatments. The mulcher wrist pivots 130 degrees side-to-side for maximum dexterity in tight in-stand treatment applications. The pin-on rake aids in clearing brush and debris. ■

ON THE GROUND AT OLC



The LX877 feller buncher, one of three sloped tail machines on display.

Tigercat Industries and Triad Machinery highlighted a lineup of steep-slope, material processing and wildfire mitigation equipment at the 88th Annual Oregon Logging Conference.

Held February 19-21, 2026, in Eugene, Oregon, Tigercat Industries joined Triad Machinery at OLC to showcase an extensive equipment lineup. As the largest equipment show west of the Mississippi, the event drew nearly 300 exhibitors to

the Lane County Event Center and Fairgrounds.

On display were the 120 winch assist, 180 swing yarder, LX877 feller buncher, LSX877 and LS857 shovel loggers, and 6900 grinder.

Addressing fire mitigation and site preparation needs, the LX825 mulcher with 4154-15 mulching head and a TCI 920 equipped with the optional fire dozer package were displayed. The exhibit reflected Tigercat's range of forestry, material processing and site preparation products, supported locally by Triad Machinery's sales and service network.

Beyond the equipment, Tigercat field representatives, product managers, engineers, and senior leadership engaged directly with contractors and dealer personnel to gather operational feedback and discuss evolving application requirements.

"OLC is always a great opportunity to spend time face to face with our dealers and customers in the Pacific northwest," said Kevin Selby, Vice President, Sales USA for Tigercat Industries. "Those conversations matter. You learn a lot just by being on the ground together. The show had strong traffic, and again the Triad Machinery team did an excellent job putting together a professional display we're proud to stand behind."

In addition, Ryer Becker from the University of Idaho College of Natural Resources brought a mobile training unit equipped with two Tigercat simulators. The simulators provided a hands-on

training experience for operators and students, highlighting the expanding role of virtual training technology in workforce development.

"The joint Tigercat and Triad exhibit reflects the strength of our partnership and reinforces our continued focus on product refinement, meaningful customer engagement, and delivering reliable support to forestry operations," said Andrew Lundgren, President of Triad Machinery. ■

A family on top of the 120 winch assist, a fully remote controlled system engineered for steep slope harvesting.



The compact yet powerful LX825 track carrier equipped with the 4154-15 mulching head, ideal for mastication and fire remediation applications.



WHAT'S YOUR JOB?

Brian Jonker

PARTS MANAGER



Chris McMillan talks to Parts Manager, Brian Jonker about the development of the Tigercat parts department over his 30-year career.

Parts Manager, Brian Jonker started with Tigercat in February 1996 working on the shop floor in the cab assembly area. Six months later, he moved into the parts department. At the time, it was a two-person operation and Brian became the third team member.

In early 1997 James Farquhar, the department manager at the time, transferred to the service department, and later moved to Alberta, taking on a district manager role for central Canada. When the parts manager position became vacant, Brian seized the opportunity.

As the department grew, a major challenge was where to locate it. When Brian joined the team, the parts department had just moved from 86 Plant Farm in Brantford to 140 Consolidated Drive in Paris, where it shared space with track machine assembly.

As the operation outgrew that location, a building just up the road at 40 Consolidated Drive was purchased and became the Tigercat head office. The shop portion of the building became the new parts warehouse, and an adjacent office area accommodated the parts, service and warranty teams.

This move also led to the development of the Tigercat rebuild department. A portion of the shop area was dedicated to testing returned components such as pumps, motors and axles, and rebuilding them for resale. The reman program evolved into TEC (Tigercat Exchange Components) and is available to customers in North America.

As the parts department continued to expand, it was relocated to 54 Morton Avenue in Brantford. When the building across the street became available, it was purchased as a dedicated parts warehouse and rebuild centre.

Brian credits his coaching experience as a great asset, helping him to be a more effective leader and manager.





THE COMPONENT REBUILD DEPARTMENT IS CRITICAL, PROVIDING FAILURE ANALYSIS DATA THAT IS USEFUL IN THE ONGOING EFFORT TO IMPROVE OVERALL MACHINE RELIABILITY, WHILE PROVIDING COST EFFECTIVE REPLACEMENT PARTS TO END USERS.

Brian comments on the importance of the rebuild centre. “It’s a big part of what we do for many reasons. The team works closely with engineering to help develop and select products, and they are the first line of defence when parts come in for troubleshooting and identifying problems. They also provide a high-quality rebuild product that we can turn around and sell back to our customers at a reduced price from new, with the same warranty as new components.” There are currently

fourteen highly skilled technicians working in the rebuild department.

Additional warehouses

With a large machine population concentrated in the southern United States, a building was purchased in 2000 in Vidalia, Georgia to serve as Tigercat’s US warehouse. In 2015, a larger building in nearby Ailey was purchased due to ever increasing parts demand.

“Currently, the Georgia warehouse ships about 85 rush orders a day,

which represents roughly 240 line items. We do almost the same amount from here,” says Brian. “The big difference is that we ship many more stock orders from here, as well as all international shipments, so the overall volume is greater than Georgia. But for day-to-day rush items, we ship just as much from there.”

In early 2024, the western US parts warehouse opened in Kelso, Washington. “The Kelso warehouse does about one-third of what the

others do. They handle around 25 rush orders a day at roughly 50 line items, and they also ship stock orders for the west coast — both for British Columbia and the US side, including Oregon, Washington and California,” says Brian.

“The growth of the department has been very much relative to the machine population, but the biggest jump we saw was in 2010, when the parts business increased by over 30%. The world had just come out of a major recession where there was a lot of uncertainty about the future. Once things started to normalize, there was an increase in parts sales as customer confidence increased.”

The Tigercat parts department prides itself on getting parts to dealers and customers quickly to minimize machine downtime. Brian notes that the fill rate on rush

orders is 90%, with overall fill rates around 86%. “So, nine out of ten items that are supposed to leave the same day do leave the same day,” he explains. “The success of the Tigercat parts business is critical to brand value and key to new machine sales.”

Coaching and managing

Outside of managing the parts department, Brian spent eighteen years as head coach of the Mohawk College Mountaineers basketball team. During his tenure, the team won two Ontario College Athletic Association (OCAA) championships, made three Canadian College Athletic Association appearances, and won one national title. Brian was twice named OCAA West Division Coach of the Year.

Brian says that his coaching experience has been a great asset,

helping him to be more effective in his role managing a large and dynamic department. “For a lot of aspects, they’re almost one and the same,” Brian explains. “You must hire or select good people, and I have a pretty good track record of surrounding myself with great people. From there you hope to put them in positions so they can come to work every day with confidence. Hopefully, they enjoy what they do because they know it’s something they’re good at and can succeed at. Most importantly, it’s about the relationships you build within the team. Collaboration, communication, and genuinely getting to know people beyond just what they do at work makes a big difference. It helps build trust, strengthen relationships, and create a tighter team.” ■



Track TENSIONING

Why it's important and how to do it safely.

– Chris McMillan

All Tigercat track machines use heavy duty track components that are designed for harsh forest conditions, steep slopes and tough terrain. The key to the longevity of these track systems is proper care and maintenance.

One of the most important items to check regularly is track tension, also referred to as track sag. If the tracks are too loose, there is a possibility they could come off the sprocket. With too much tension, the chains, bushings, and sprockets will wear significantly more quickly. Maintaining proper tension in the track system can increase component life by up to 50%.

The proper tension in the track system depends on the environment in which the machine is working. A machine working in soft, wet and muddy conditions may not need as much tension as a machine working in dry, hard or rocky ground. Generally, the chain tension should be set high enough to prevent the sprocket from jumping. If soil packs into the track system, it will increase track tension. In this case, starting with less tension and checking track sag more frequently is recommended. Check your operator's manual for the correct parameters.

Measuring track sag

There are two ways to measure track sag depending on whether the undercarriage is equipped with top rollers or top slides.

For undercarriages with top slides, the track sag must be measured from the bottom of the undercarriage. Follow the steps in the operator's manual for safely raising and blocking the undercarriage.

For undercarriages with top rollers, if possible, it is best to measure the track sag from the bottom — the same as with top slides. If not, the sag can be measured between the top rollers by placing a straightedge over the top rollers and measuring the distance between the straight-edge and the top of the grouser at an equal distance between rollers.

For both methods, be sure to rotate the track forward and in reverse several times and stop while in reverse, to ensure it isn't binding on the sprocket. Again, follow all steps and safety precautions listed in the operator's manual.

Safety first

Before performing any work on the track system, park the machine on

a firm, level surface as shown in the operator's manual.

Turn the machine off and install a lockout tag on the battery disconnect switch.

Only use a high-pressure power operated grease gun if you have been appropriately trained to do so.

Training should include:

- Proper operation of the tool
- Safety precautions for using the tool
- Hazards of using the tool
- Treatment of related injuries

When adjusting the track tension, ensure that you are not positioned in front of, or in line with the grease fitting, fill valve or fill coupler in case they break free from the tensioner.

Adjusting track sag

Adjusting the track sag consists of adding or removing grease from the idler adjusting cylinder until the proper tension is reached.

There are two idler styles used on Tigercat undercarriages; one uses an installed fill valve and the other uses a fill coupler that attaches to the fill valve.

CAUTION: THE GREASE IN THE IDLER IS UNDER VERY HIGH PRESSURE. DO NOT REMOVE THE ADJUSTMENT FITTING VALVE BODY FROM THE ADJUSTING CYLINDER.

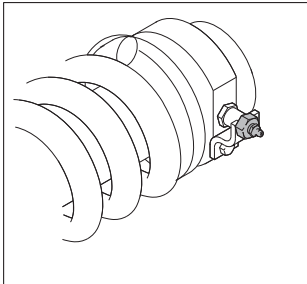
FILL VALVE STYLE

To tighten the track:

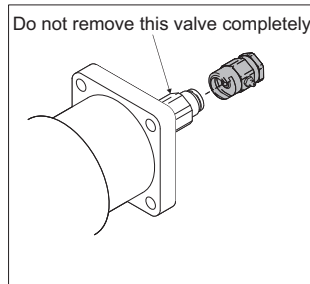
1. Connect a grease gun to the grease fitting on the fill valve
2. Add grease until the sag dimension is within the recommended limit
3. Remove the grease gun from the fitting

To loosen the track:

1. Slowly loosen the valve body until grease begins to escape through the relief passage in the valve body (The valve is mechanically restricted from being removed completely)
2. Grease will be seen escaping around the valve body threads
3. Continue to remove grease until the sag dimension is within the recommended limit
4. Tighten the valve body when the track sag is correct



Fill valve style.



Fill coupler style.

FILL COUPLER STYLE

To tighten the track:

1. Attach the coupler to the fill valve
2. Connect a grease gun to the grease fitting on the coupler
3. Add grease until the sag dimension is within the recommended limit
4. Remove the grease gun from the coupler fitting
5. Remove the coupler and store in a safe place

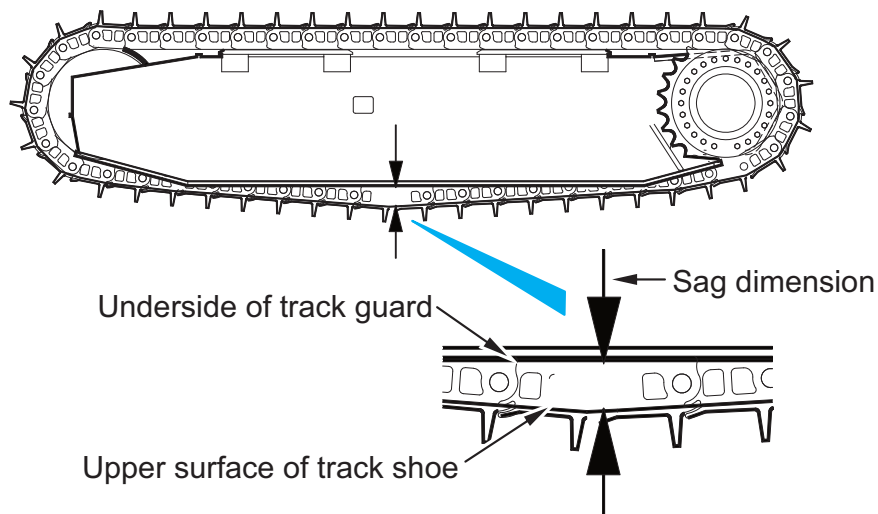
To loosen the track:

1. Slowly loosen the valve body until grease begins to escape through the relief passage in the valve body (The valve is NOT mechanically restricted from being removed completely)
2. Grease will be seen escaping around the valve body threads
3. Continue to remove grease until the sag dimension is within the recommended limit
4. Tighten the valve body when the track sag is correct

Following the maintenance recommendations outlined in the operator's manual, and regular inspection of the tracks will help to extend the life and efficiency of all related components.

For best performance, always use genuine Tigercat replacement parts. ■

It is best to measure track sag from the bottom of the undercarriage.





CHAUVY TRAVAUX FORESTIERS

Aurélien Chauvy's unique harvesting system and well-trained operators excel in the steep woodlots of Ardèche, France.

– Paul Iarocci

Aurélien Chauvy grew up on a farm in the picturesque Ardèche region of France. This is a place where narrow roads twist and turn through lush forests and pass by ancient villages seemingly untouched by the modern world. He developed a childhood fascination with machinery, and by age 21, Aurélien had left the family farm in pursuit of a life in the forest. He started off simply, with a chainsaw and a locally manufactured secondhand Camox cable skidder.

Seven years later, Chauvy Travaux Forestiers is a successful timber harvesting and hauling company. Purchasing timber from small

private woodlot owners, Aurélien markets logs to five sawmills in the region. The company harvests around 40 000 cubic metres annually.

There was no magic to growing the company, Aurélien says, just long hours and hard work. As the business progressed, and he was able to further mechanize and purchase more productive equipment, Aurélien focused on finding the best and brightest operators. He emphasizes that operator quality is key to getting the most production, uptime, and lifespan out of the machines. The Chauvy Travaux Forestiers operators are young and formally

trained. France's forestry schools combine a strong academic program with a practical co-op component, where students learn the realities of operating machines.

To get his product to the mills as quickly as possible, Aurélien also invested in his own trucking operations. He currently has three log trucks. Two additional trucks take care of machine transport from jobsite to jobsite. He purchases timber from private woodlot owners with volumes ranging from under 1 000 to about 3 000 cubic metres. The machines move frequently.

The company operates in a 40-50 km (25-30 mi) radius around the home

base of Arcens. Typically, the crew produces and hauls two truckloads or about 100 cubic metres per day. The preferred product length is 16,3 metres (53 ft). The processor operator cuts out all defects and also produces three-metre sawlogs, the next-best product. Mixed diameter short wood pallet logs make up the remainder. Several species of hardwood and softwood are marketed to Aurélien's sawmill customers in the region.

With steep terrain, a mix of selective and final felling, highly variable timber size, and a requirement to supply long and short log lengths, Aurélien needs a unique mix of equipment to run the operation efficiently. He also employs hand fallers for the largest trees and steepest terrain.

A critical part of the system is the TCi 612 dual winch skidder equipped with a telescopic crane. All steep hillside extraction is performed with the dual winches. The 612 also transports all the long-length wood from the forest to the roadside. For steep terrain clear felling, Aurélien employs a track harvester. The lower angle terrain is harvested with a TCi 1165 rubber tire harvester. All selective felling, which makes up about 40% of the total annual volume, is also performed by the 1165. As this is his first brand-new harvester, he emphasizes that he now spends significantly less time on maintenance compared to his previous high-hour machine. The key strengths he highlights are the machine's stability and visibility. Short wood is sorted and hauled to roadside with a forwarder.



The TCi 612 skidder transports processed tree-length logs 200 metres to the public roadside.



The telescopic crane adds flexibility, allowing the operator to extract trees, build bunches and sort products.

The harvest volume on the woodlot we visited is on the high side by French standards — 3 000 cubic metres. The site is accessed via an old gravel track, 200 metres (650 ft) from the paved road, at the base of a steep slope. In addition to the harvesting equipment, the company also owns an excavator for road building, and this contract includes a provision to build a skidder extraction road to access the top of the hill. When considering the road building required to access the timber at the upper reaches of the tract, Aurélien figures it will take two months to finish the job entirely.

This is where the versatility of the dual winch skidder comes into play. The machine can anchor at the top of the cutting area and extract timber up the hill with the cables. The double winch

with two separate cables allows operator, Vincent Marion to work more quickly. He can latch on to scattered trees, maximizing payload for each cable extraction cycle. The telescopic crane adds versatility for extracting trees within close reach of the road. It is handy for positioning the trees behind the winch and shield assembly, and for unloading and stacking adjacent to public road areas where there is very little space. Sorting products in the forest is also a crucial function. The logs are transported to roadside in coordination with the arrival of a particular truck that is hauling a specific product to a mill. The crane helps to ensure that the logs are sorted, optimized, and delivered to the correct customer to achieve maximum value.

Vincent says it is a very good, strong machine. The crane is well

positioned for clear visibility to the rear. The cabin is quiet and well equipped for long shifts. Operating a skidder in France is a very active job. The operator is often out of the machine, pulling cables down steep inclines, manually limbing trees and frequently operating the machine via remote control.

“The 612 is perfect because it’s very strong and it’s comfortable,” says Aurélien. “It’s easy to work with from a maintenance perspective and from an operating perspective, so yes, the operator likes it.”

The 612 skidder was designed specifically for the operating conditions in France. French loggers appreciate that Tigercat Industries has entered the market with a strong alternative to European manufactured skidders. Vincent and Aurélien agree that they could never make production with a

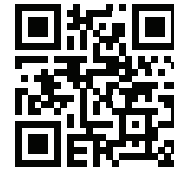
Tci 1165 harvester in a selective felling application.



grapple skidder or a single winch. The configuration of the 612 is very important for their operations.

“The TCI is built better than the other skidder offerings and the locally made skidders,” Aurélien explains. “People think that it is too big and heavy, but that is just a false perception. It really is not.” He says the 612 achieves 25% greater production than smaller European

skidders that have typically been used in France. “The visibility, position and control of the crane, and the extra power make it a better skidder,” he adds. “It is much more stable to lift much heavier loads to the side with the crane without a wheel coming off the ground. It is not confined to skidder tracks and often works in the forest in very difficult terrain.” ■



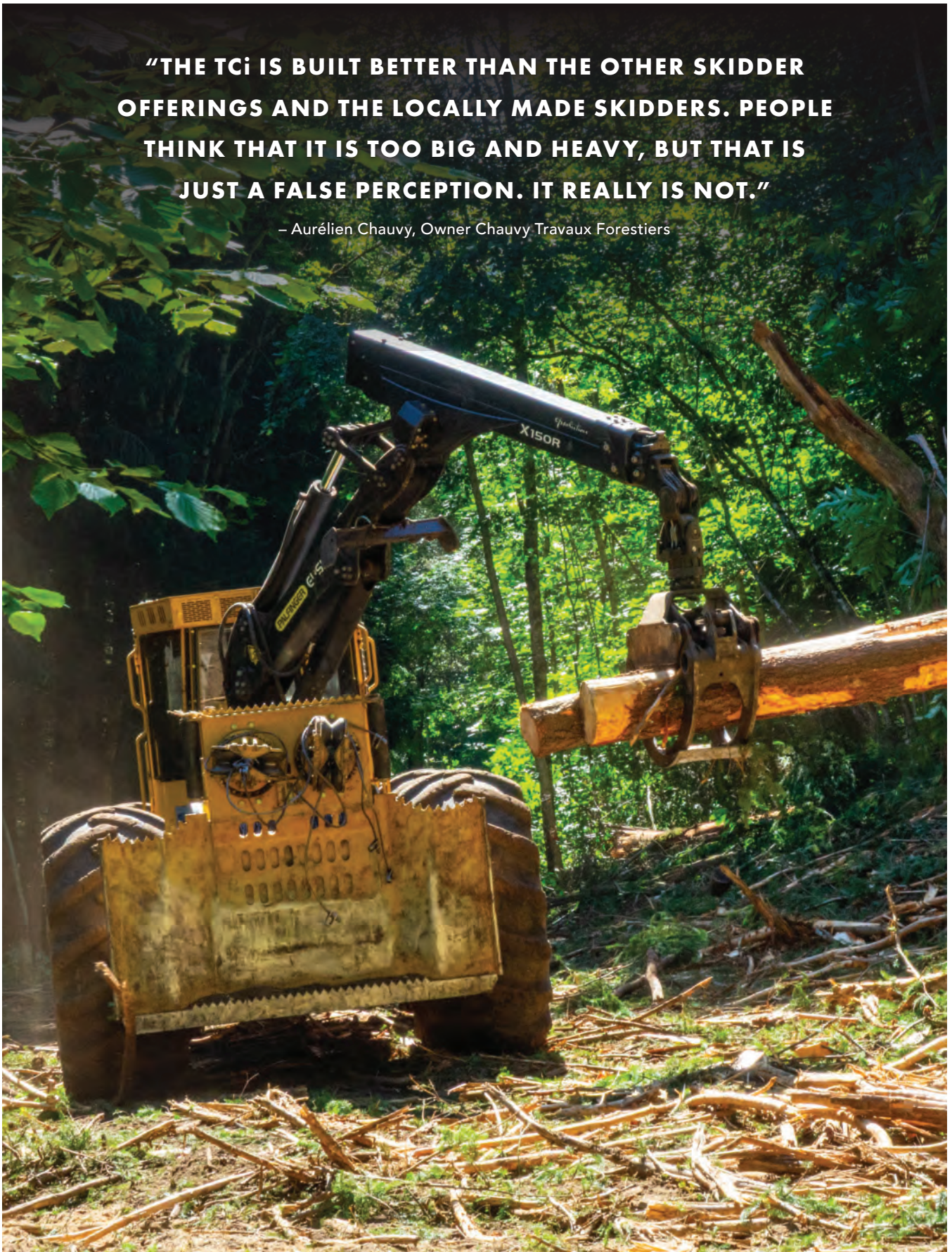
Aurélien Chauvy purchases his TCI machines from Cuoq Forest Diffusion, TCI dealer for France. Learn more about Cuoq’s service offering and capabilities.

Aurélien notes that the 1165 is very stable and operator visibility is excellent, a great advantage in tight selective felling.



“THE TCi IS BUILT BETTER THAN THE OTHER SKIDDER OFFERINGS AND THE LOCALLY MADE SKIDDERS. PEOPLE THINK THAT IT IS TOO BIG AND HEAVY, BUT THAT IS JUST A FALSE PERCEPTION. IT REALLY IS NOT.”

– Aurélien Chauvy, Owner Chauvy Travaux Forestiers





Tigercat 1055D

Tigen

MacPhee Ent

Tigercat
MADE IN CANADA

Flexibility in NOVA SCOTIA

Shawn MacPhee's harvesting system is built around Tigercat's 845 platform and now includes a 1055D forwarder. Cost effectively harvesting small diameter timber on shrinking blocks, means deploying machines with a flexible approach.

– Paul Iarocci

Shawn MacPhee, owner of Shawn MacPhee Enterprises Limited, describes the origin of his Nova Scotia company succinctly. “I started mechanic work, moved into trucking, and started logging in 1997.” In the early years, Shawn ran several sets of wheel harvesters and forwarders. Initially the company hauled to Bowater Mersey Paper Company. When it ceased

operations in 2012, Shawn pivoted to other mills and markets.

Around 2004, he purchased his first secondhand Tigercat 845 series harvester, marking the start of his transition from wheel harvesters to track carriers. These days, Shawn's harvesting system is built around the 845 platform. In 2014, Shawn purchased a new H845C from the Wajax, Dartmouth branch. Since then, Wajax Sales Specialist Sandy

Hodgson has handled the bulk of Shawn's new equipment needs.

Shawn laments that the 845 platform has been discontinued, stating that for the type of wood and conditions he is normally up against, it is the perfect sized machine, doing the job at a lower operating cost than larger carriers. He says that it is more convenient to float from site to site. He appreciates the long lifespan of the

Nathan MacPhee operates the 1055D forwarder, the first unit put to work since the model was launched last year. Nathan asserts that it is the perfect size for his needs.



Shawn and Nathan MacPhee (opposite page).



lighter weight F8 undercarriage, and lower costs associated with redoing the undercarriage. It burns less fuel than larger machines, reducing operating costs. It has all the swing torque required for the terrain conditions and tree size. Shawn asserts that for the wood that he typically encounters, there isn't another machine that could cost effectively produce more volume. He says that, especially when harvesting at the stump, the ER boom is a great benefit to the operator.

Seven years ago, he purchased Tigercat's first 845 E-series feller buncher from Wajax. Shawn ran the buncher four years steady until it was paid off. Now he can afford to deploy it more selectively. With only 12,000 hours on the meter, "That

buncher will last us a long time," he says, noting that in Nova Scotia, very few loggers are processing behind a buncher these days. "It is just too costly. If it is poor wood, the buncher can be an advantage, especially if the contract calls for a clean site." The feller buncher is critical for clear fell contracts where everything — merchantable and non-merchantable — must be felled. Shawn also likes the buncher for training purposes. It is far easier to train a green operator on a feller buncher versus a harvester, and with a limited labour pool and aging workforce, training young operators with no experience is a reality.

The company also runs two H845D harvesters, purchased new from Wajax in 2017 and 2018, and a

42,000-hour H845B. So, depending on the contract, Shawn can fall with the buncher and follow up with in field processing, or run a true CTL system, falling and processing off the stump. "In decent wood, the harvester cutting off the stump is more cost effective — a little slower but far lower operating costs." The main products are stud wood, pulp, firewood, and biomass. The timber generally isn't large enough to yield many sawlogs.

Shawn moves a lot. He exclusively cuts private wood, and the blocks are getting smaller. "50 to 100 acres is considered a big contract these days," he says. Having multiple machines and a flexible harvesting system allows Shawn to split up and deploy the machines to different jobs or to change the

Shawn purchased the first 845E feller buncher. On certain contracts, he chooses to run the feller buncher and follow with in field processing.

harvesting system to best match up to the requirements of the contract. For this reason, in addition to his two regular production forwarders, he also maintains a Tigercat 1075C as a spare that can be subcontracted or deployed as required to his own crews.

His newest machine is Tigercat's latest forwarder offering, the 1055D. Shawn's is the first 1055D unit to operate in a regular production capacity since Tigercat launched the totally redesigned model last summer. He acknowledges that he took quite a chance on a brand new, unproven machine. Shawn says that it was Tigercat District Manager, Chris Baldwin who gave him the peace of mind and confidence to bet on the

1055D. "He's a phenomenal guy. You guys are lucky to have him. He has treated me and Nathan better than anybody I've ever had dealings with."

Shawn's son Nathan has been working in the woods operating machinery since he graduated high school. He is the primary operator of the new 1055D, and also has seat time on the 1075C. When Shawn first purchased the secondhand 1075C, Chris rewired the controls to accommodate Nathan's limited use of his right hand. It was a big job, and it stuck with Shawn. Upon request, the 1055D was delivered from the factory with the primary functions moved to the lefthand control pod and joystick.

"Nathan is a pretty good kid," says Shawn. "He's the first one on the job in the morning, and the last one to leave. On account of his handicap, he works harder to make up for it, and he'll often work Saturday and Sunday." Shawn says the smaller and lighter machine is much better suited to the company's needs than the big 1075C. "Where we were today, that is big wood for us. We are used to trees where we are getting two sticks of stud wood." Shawn explains that they do some forwarding for Irving in their thinning operations. "And we do a lot of work for Tufts Forestry, who has been buying blowdown wood since the hurricane [Ernesto] in 2024. The 1055D is better suited for everything we do."

Nathan likes the fixed bunk system and comments on the great visibility to the crane and work area.



A lot of service and component access enhancements that have been designed into the 1055D are highly valued by Nathan. He likes the new powered front hood and appreciates the easy access to the batteries that have been relocated to an exterior compartment on the right side of the hood. On the opposite side, there is a large tool storage area that also houses the main disconnect switch. There are additional compartments for spare hoses, tow chains, and tools on each side of the machine. In addition to the power operated cab access ladder in the front, there is a mid-frame manual fold down ladder to access the fuel tank. Dedicated

lighting illuminates daily service areas including the fuel fill area. The lights are timed to turn off automatically if left on after fueling. Nathan comments that the quick coupler for the hydraulic fill is very helpful.

Nathan also comments favourably on the cabin. "I like the food warming oven in the cab; that is a nice feature. I like the large control system screen and the back-up screen. I like the lightweight cab door. It is very easy to work. The back window is massive. It's curved so you can see everything. If you have to get the crane way up, with the lighting and the curved

window, it makes it easier to see. The back-up light and camera are a massive help to me." Nathan likes the tire pressure monitoring system and comments that the new cab is a nice space to be, with generous storage areas to keep things organized during long shifts. "It has nicer keypads. Everything just feels better." Nathan also comments that the cab is much quieter.

He also prefers the fixed bunks, noting that the telescopic bunks on the 1075C freeze in wintertime. "I really like the size of this machine because we do a lot of tight spots. Just as an example, when we are road building and we put in a

Shawn's 42,000-hour H845B harvester works every day.



“THE BACK WINDOW IS MASSIVE. IT’S CURVED SO YOU CAN SEE EVERYTHING. IF YOU HAVE TO GET THE CRANE WAY UP, WITH THE LIGHTING AND THE CURVED WINDOW, IT MAKES IT EASIER TO SEE.”

– Nathan MacPhee, 1055D Operator



The D-series cabin underwent a complete redesign. The result is improved sightlines, better ergonomics, more storage space, and a quieter working environment.

bridge, we have to leave a buffer on each side and that makes it harder for a big machine to get through. The 1075 is just too big for us.”

The company produces around 750 tonnes per week, hauling all the product with one company-owned log truck and one full-time hired truck owned by Frank Daye Trucking. Shawn also owns a float truck. Although the company produces less volume than in the past, roadbuilding and floating machines for other contractors help

to round out the revenue.

The Nova Scotia industry has a six-week breakup period in early spring. “All the machines come into the shop, but we like to keep at least one harvester running through the breakup.” Shawn takes on as much of the repair work as possible. “We try to keep all the guys working, and it gives them something to do during the breakup.”

The employee count hovers at seven or eight. Shawn’s operators

and drivers are a mix, with young workers at one extreme, and a couple of highly experienced veterans on the other end of the spectrum. It’s a challenging local industry, and the commonality among the crewmembers is that they all put in long hours and they like the work. “It’s not a glorious job, so you’ve got to like it,” says Shawn. “You’ve got to like working in the woods.” ■

WIN-WIN SOLUTION



Two innovators in North Carolina share perspectives on the great potential of the circular biochar economy, and how the mobile, high throughput 6040 carbonizer fits in.

– Paul Iarocci

The Tigercat 6040 carbonizer is designed to convert forest debris and wood biomass into high quality organic carbon. The following use case details the suitability of the 6040 for debris management and carbon sequestration, while creating an entirely new value stream.

Public sector perspective

After retiring from a rewarding and successful technology-focused career, Barbara Bleiweis relocated to Charlotte, North Carolina. Chairing the HOA in her new neighbourhood became

a springboard for a second career in public service. In 2018, she was elected Supervisor for the Mecklenburg Soil and Water Conservation District. In this role, Barbara became involved in stream maintenance and bank stabilization, critical elements for flood mitigation. She advocated for farmers and facilitated county support for farmland preservation.

In 2025, she took on more responsibility and increased her positive influence over soil and water conservation when she became Chair of the North Carolina Soil and Water Conservation

Commission. The seven-member commission provides oversight, rules and policy for state soil and water conservation programs. In addition, it is responsible for determining cost share allocations to the state's 96 conservation districts. In turn, the districts aid landowners in better managing land and water resources. "Private land becomes a state problem when there is a storm or fire," Barbara explains.

With boundless energy and a passion for resource conservation, Barbara serves on several other boards including the North

The 6040, owned by Heritage Tree Recycling, onsite near Mount Mitchell.

Carolina Foundation for Soil and Water Conservation, the National Conservation Foundation, Helping Hands Outreach Foundation, and the Charlotte Water Advisory Board.

Barbara views ever increasing impervious ground surface coverage, along with loss of farmland and timberland as the greatest threats to soil and water. All three issues are caused or exacerbated by urbanization and development. However, Barbara has found another common thread. Water quality, flood mitigation, forest management, and agricultural land preservation are also bound together by the potential of a common solution.

The solution is biochar and Hurricane Helene acted as the catalyst. Always one to turn a challenge into opportunity, Barbara

responded to the storm impact by launching an initiative to revitalize

**“THE ISSUE OF
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CONTAMINANTS.”**

– Barbara Bleiweis

western North Carolina’s wood products industry through public-

private partnerships to develop production of biochar, along with a downstream market and supply network.

Barbara envisioned a circular solution that would convert waste wood biomass to a product that solves the kind of problems that she deals with every day. The biochar economy would help government agencies with many soil and water related issues, while helping western North Carolina crawl out of the debris problem overhanging the state since the storm hit in September 2024. She is using her considerable skills to apply for grants to prime this new economy and prove out her ideas.

Excess wood debris is a problem facing municipalities throughout the United States. Even after all the mulch and compost production,

Blair Sheppard (pictured) and Sam Burnette co-own Heritage Tree Recycling.



there are still over 250-million tons of clean wood and vegetative debris entering landfills. Up until now, it was a problem with no real solution. Barbara was one of the first people in civil service to understand and articulate this. Her goal is to facilitate funding to each conservation district to purchase a carbonizer, turning municipal wood debris into a useful product.

The business case

In 2023, Pactiv Evergreen, a paper mill in Canton, North Carolina, closed its doors to over 1,000 employees after 100 plus years in operation. Historically, it consumed two-million tons of chips annually. The closure devastated the economy in the western part of the state. A year later, Hurricane Helene smashed into the Blue Ridge Mountains, wreaking havoc and devastation. Because the mill closure had already eliminated the outlet for much of the state's hardwood, post-storm cleanup work was incredibly challenging. There was simply no way to deal with all the wood debris that had to be processed, reduced and redistributed.

North Carolina resident Blair Sheppard is former Dean of Fuqua School of Business at Duke University. His prior role was Global Leader of Strategy and Leadership at PwC. Blair was also thinking about Helene and the mill closure. In the context of these significantly disruptive events, he wondered how he could help.

As Blair describes it, when the paper mill closed, it wasn't just 1,000 jobs lost. Chip mills went out of business. Hardwood loggers,



Barbara Bleiweis is heavily involved in soil and water conservation in North Carolina. With an influential voice, she is a big believer in the potential of the 6040 to solve many problems related to debris management, erosion, flood mitigation, forest management and agricultural land preservation.

having lost the outlet for pulpwood, couldn't survive producing sawlogs alone, and soon left the industry. Sawmill owners, starved for logs, shuttered the mills. Truckers, foresters, composters, grinder operators, and all the related support businesses were stressed or lost entirely. A large swath of the local mountain economy, reliant on one major employer, was wiped out. Then, in 2024, after all the infrastructure and services around logging and trucking had withered away, the storm hit.

Blair predicted that if there was a way to utilize storm debris, pulpwood, tops and

unmerchantable hardwood logs, some great things could happen in the local economy. If waste wood becomes a value stream, it replaces the paper mill outlet. Hardwood loggers and truckers come back, knowing that operators in the value chain can derive a product, and deliver it at a reduced cost compared with wet wood. The value stream subsidizes the lumber business, which brings the sawmills back online. Composting businesses can thrive. "So, if you add all that up, you end up having maybe 100 to 140 mid-sized businesses in the state creating generational wealth." The driver of all this would be the production of biochar. It would be

NORTH CAROLINA IS ONE OF THE FASTEST GROWING STATES IN THE COUNTRY RIGHT NOW. THEY NEED A LOT OF ASPHALT AND CONCRETE. BIOCHAR ENHANCES BOTH.

– Blair Sheppard

the new outlet for the parts of the tree that can't produce a sawlog.

“The problem with the paper mill is that with one decision to shut the mill, the whole system dies,” Blair explains. “With a network of mid-sized companies, no one can take the system out. It's way more resilient and it's also more suited to the mountains. It works for this kind of culture. People like owning their own business here. The problem is those small entrepreneurs got dependent upon one very big firm.”

Before committing to biochar production, Blair did his research. He talked to county commissioners who were very concerned about the local economy. He spoke with foresters, loggers, landscapers — anyone he could think of who generated feedstock. “I haven't had anyone say they don't like the idea. And I've never run across an idea like that before.” He crunched numbers factoring in operating cost per hour, production per hour, and quantified three potential revenue streams: tipping fees, the primary revenue source, downstream revenue from biochar sales, and carbon credit sales. Based on the research, Heritage Tree Recycling, owned by Blair and his business partner Sam Burnette, purchased a Tigercat 6040 carbonizer from Bullock Brothers in May 2025. The company won a bid with the US Forest Service to process storm

debris on Federal forestland, placing the machine on an old heliport site near Mount Mitchell, the highest peak in the US east of the Mississippi.

“We are maintaining autonomy and building wealth locally, while actually creating something that repairs the damage that was done in the mountains. And it complements tourism because the forests are looking better.” Blair's goal is to figure out the best way to scale his business and the local industry as a whole. “What I'm trying to do is start a business that proves this idea and then figure out how to scale as quickly as possible. In my two former jobs I was never home but this state has been great to us, so I'm now trying to give back.”

Downstream uses

Barbara is enthusiastic about the great potential of biochar to mitigate or solve many problems within her sphere of influence. “The issue of sedimentation is a very big deal for developers,” she explains. “Biochar acts as a mechanical block for silt in streams and minimizes the entry of contaminants.” It also minimizes nutrient overload in waterways, absorbing nitrate and phosphate runoff that causes toxic, oxygen-sucking algae blooms. Barbara is studying initiatives to apply uncharged biochar on farmland. Carbon is very slowly

released into the soil. Nutrients are absorbed by the biochar and then released slowly over time. Excess phosphorus from fertilizer applications that would normally run off into water systems is retained, saving money and reducing the overall use of chemical fertilizers. Barbara is passionate about her ideas and committed to engaging other stakeholders. “I don't like to educate. I like to motivate.”

To give another example, Barbara is closely following the research on biochar as a soil amendment for forestry conservation. “Biochar could suppress tree growth of certain non-preferred species and encourage oak which is preferable.” Considered a keystone species in North Carolina, oaks are long lived, support diverse ecosystems, and aid in soil health, water filtration and carbon sequestration on a large scale, due to their size and lifespan.

Blair is thinking of several downstream industries with potential to become another source of revenue for mountain communities. With many development and construction projects underway in the state, concrete and asphalt producers are high on his list. “North Carolina is one of the fastest growing states in the country right now. They need a lot of asphalt and concrete. Biochar enhances both — asphalt, particularly in warm weather,

**"WE ARE MAINTAINING AUTONOMY AND BUILDING WEALTH
LOCALLY, WHILE ACTUALLY CREATING SOMETHING THAT
REPAIRS THE DAMAGE THAT WAS DONE IN THE MOUNTAINS."**

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Eighteen months after Helene, the volume of debris on the ground is staggering. The material was pushed in landslides, ending up in mud or tangled in streams and riverbeds.



and concrete in all conditions, increasing the strength 30 to 40%. And because biochar is no more expensive than the traditional feedstock for those two products, it's a natural fit."

Blair rhymes off several other uses. Biochar as an additive in cattle feed significantly reduces methane release and delivers animal health benefits. Other construction uses include roofing and insulation products. Part of the water treatment process is breaking down ammonia into nitrogen. Biochar can capture the nitrogen, and this charged biochar can then be repurposed as fertilizer.

Challenges

Mount Mitchell is a very windy place. Sam, who runs day-to-day operations, is cognizant of wind speed and direction, factors that can limit production. The financial model must factor in lower machine availability due to adverse conditions. Another glaring challenge is related to dirt content in the feedstock. Two years out from the storm, there are still 14-million tons of debris clogging private, state and national forests in North Carolina. The trees didn't just blow down. The material was pushed in landslides, ending up in mud or tangled in streams and riverbeds. This doesn't bother Blair and Sam too much.

"Half to two-thirds of it is just caked in dirt. You can't get it all off. It sits in a place that's wet, so the bottom half of the wood is terrible stuff to burn. It still burns, and we still create grade-C biochar at 13 tons per hour." Good, clean wood yields higher production rates at 20

tons per hour and grade-A biochar with 86% carbon content. "Both grades pass every other test with flying colours. The ratios are right, so this is carbon that's going to last a thousand years. For the grade-C product, we are thinking about it as a debris management model." The product is still being reduced by 90%, drastically reducing transport costs relative to grinding. The carbon is still sequestered, and the product is useful to local farmers.

"In Yancey County, there are 22 farms that are now just silt and sand. Those guys need a blend of biochar and compost. So, for regenerative farming, we will need one grinder per carbonizer." As part of the resilient biochar economy that Blair is trying to build, he plans to partner with compost producers who will regrind and compost biomass to create a blended biochar compost product to recondition soils that were destroyed by flooding and erosion. "Again, we're trying to create this model where there's a bunch of mid-sized businesses working together in the network."

Fit for purpose

Blair learned that the standard FEMA storm cleanup model, designed for flat coastal regions, doesn't work in the mountains. Coastal areas have a lot of flat land and not too many trees. It is relatively easy to set up large, centralized yards that can accept massive volumes of debris and stage multiple grinder systems. Conversely, mountains have a lot of forest coverage and not so much flat land. If the biochar economy can scale quickly, Blair envisions multiple operators with carbonizing and grinding capacity. "The grinder

would create the compost that you blend with the biochar. You've got everything you need to deal with the next disaster," Blair asserts. "You never have to bring someone from the outside. It's not just resilient; it's building independence. When the debris is gone, you turn to the pulpwood, and when the next storm hits, you leave the pulp for a while and turn back to debris."

Blair characterizes the 6040 carbonizer as a technology with the potential to positively disrupt. "There will be critical technologies that, if you can get them to scale, the whole system changes. This is a perfect example. If we get carbonizers to scale, we change entirely how we deal with debris. We could replace paper with biochar, which is a much more sustainable industry, and the downstream consequence is we are sequestering carbon. Everybody wins. The downstream industries are all growing in the teens per year. It doesn't matter what the policymakers say; if the economics work, if the business model is sound, it is going to happen." ■



GROWING THE FOREST WORKFORCE

How one champion is strengthening the next-generation forestry and logging workforce.

– Samantha Paul

Long before she ever stepped into a workforce development role, Stephanie Fuller Johnson was already immersed in forestry. She grew up in a multigenerational logging family in Lanett, Alabama, where forestry was less a career choice than a way of life. “Our lives revolved around it. My dad was up with the sun and didn’t come home until it went down; long, demanding days that showed his commitment to the work. I

remember how close his crew was. They felt like an extension of our family. Spending time in the woods, seeing their respect for the land and the trees they harvested, left a lasting impression on me. It was an incredible childhood, and I wouldn’t trade it for anything.”

Her family’s involvement in logging stretches back four generations, a legacy Stephanie and other family members continue to pass

forward. Two of her four brothers-in-law work in forestry. Stephanie’s husband is a forester, and one sister co-owns a logging company. “We’re kind of tag-teaming it,” she says of her family’s shared career path. Her father, Todd Fuller, spent roughly four decades in the woods. He ran a small but highly productive operation with a Tigercat buncher, skidder and loader. He was known for his strong preference for Tigercat machines. “When I got my

first car in high school, I proudly had a metal Tigercat license tag on the front of it,” she recalls. The Fuller’s Logging crew had nine employees and regularly moved between 90 and 100 loads (over 2,500 tons) of wood per week, an impressive output for a small outfit.

Each summer, forestry students from Auburn University visited her dad’s jobsite to observe harvesting firsthand. Watching them learn and seeing her father treated as a role model stayed with her. Those early experiences shaped how she saw the forestry industry. Despite her upbringing, Stephanie didn’t initially plan to work directly in

forestry. In college, she studied economics with the intention of pursuing rural economic development. She knew she wanted to support the types of communities she grew up in, places where forestry drives local prosperity.

Creating pathways

Stephanie’s path into forestry workforce development came through a chance meeting just before graduation in January 2019. At an inaugural reception, she connected with the Forest Workforce Training Institute’s President, Chris Isaacson, a moment she describes as an instant fit

that aligned her passion for rural development with a direct role supporting the forest industry.

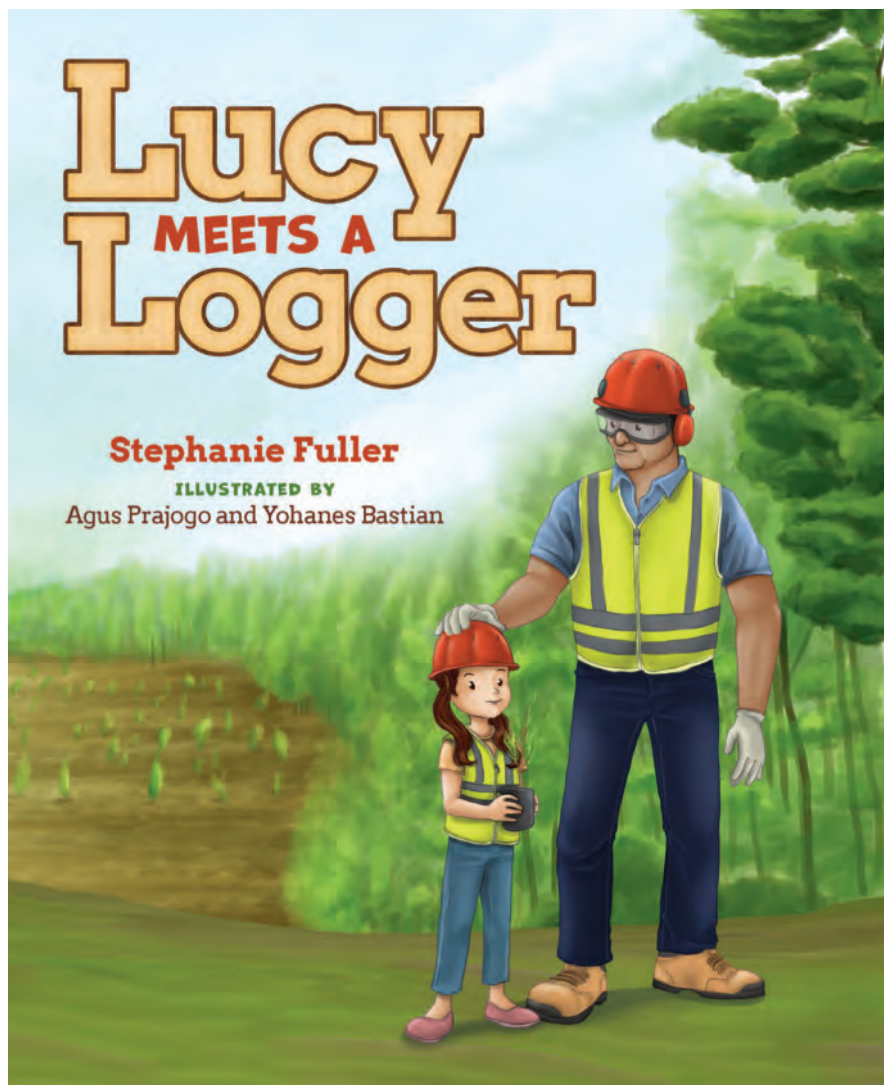
She joined the Forest Workforce Training Institute in 2019, when it was still in its infancy. The nonprofit was created by the Alabama Forestry Association after industry leaders recognized a critical gap — no state or national level organization existed that was dedicated specifically to recruiting and developing talent for forest industry careers. “Loggers, sawmill operators, paper producers, and landowners all agreed that workforce development required specialized attention because

**“THE WOODS ARE NOT SIMPLY A JOBSITE,
BUT A VIABLE AND LASTING CAREER PATH.”**

– Stephanie Fuller Johnson, ForestryWorks



Part of the ForestryWorks booth at the Mid-South Forestry Equipment Show, October 2025.



The first release in the *Tiny Timber Crew* book series, an educational collection focused on the sustainable forest industry for early readers.

forestry is a uniquely complex sector with distinct training needs,” she explains. The Institute, often branded publicly as ForestryWorks, was designed to fill that gap.

Stephanie’s initial role was straightforward but demanding with boots-on-the-ground outreach. She travelled to schools and career events across Alabama introducing K-12 students to forestry careers and helping them understand what modern logging and forest management looks like.

Then 2020 changed everything. When in-person visits shut down,

the organization faced a stark reality. Its primary outreach model had vanished overnight. The disruption forced them to rethink communications strategy, develop digital resources, and invest in online marketing and educational tools. The result was eye-opening. Stephanie says, “It made us really think. Are we effectively reaching everybody that we can reach and how are we communicating with these people?” Online communication significantly expanded ForestryWorks’ reach beyond state borders, allowing the organization to connect with

students, educators, and industry partners nationwide. By the end of 2020 and into 2021, Stephanie was helping develop national partnerships and programs across multiple states.

One exciting resource to emerge in 2020 was a book that Stephanie authored. *Lucy Meets a Logger*, is the first title in what has since grown into the *Tiny Timber Crew* children’s book series. The idea was simple but purposeful; introduce young students to an industry they rarely see firsthand, explain how sustainable forestry works, and show the wide range of careers on offer. “Many children may spot a log truck on the highway, but they don’t see what happens in the forest, or the people behind that work. You can’t be, what you can’t see,” Stephanie believes. “That is why it is so important to get the exposure to the younger generation early on.” Stephanie modelled Lucy after herself, while Mr. Logger was inspired by her father. Her hope was that other children, especially girls, could see Lucy and think, I could do that too.

The books also filled an unexpected need during a time when in-person classroom visits weren’t possible. Parents and teachers could still introduce students to forestry through storytelling, helping them understand concepts like sustainable forest management in an accessible way. “The response to the book has been overwhelmingly positive, and I am humbled by the support it has received,” Stephanie says. With few children’s books portraying the full picture of sustainable forestry, the series quickly gained support, with over 6,000 copies sold and hundreds



Stephanie engaging elementary students during a reading session in Brewton, Alabama.

more donated to school systems across the United States each year.

Following *Lucy Meets a Logger*, the series expanded to showcase other parts of the industry. New stories follow characters visiting tree farms, sawmills, pulp mills, and more. Each member of the Tiny Timber Crew discovers a different job, reinforcing the larger goal of the series — to provide engaging resources that share an accurate story of sustainable forestry and introduce young readers to career paths they might never otherwise encounter.

National program, local focus

From the beginning, leaders behind ForestryWorks suspected

their workforce challenges weren't unique to Alabama. Timber products move across state lines daily, and labour shortages or skills gaps in one region often mirror those elsewhere. By 2020, that assumption proved correct. The organization began expanding outward, using Alabama as a testing ground for new programs before adapting them for other regions.

The model is deliberately flexible. Forestry conditions vary dramatically by geography from year-round logging in the south to highly seasonal operations in northern states. That means workforce initiatives must be customizable rather than

standardized. Instead of imposing a one-size-fits-all template, ForestryWorks collaborates with local partners such as state forestry associations, universities, and government agencies to tailor programs to regional needs.

Stephanie describes the approach concisely as, "A national program with a local focus." The organization produces materials and resources for students in both English and Spanish, so children from diverse backgrounds can see their families' work represented. In some regions, for example, Hispanic workers make up a significant portion of forestry crews and mill labour. Providing educational content in their language helps

families understand and take pride in those careers.

Stephanie spends time reading to students and speaking at schools, where questions can be unpredictable but insightful. Children, she notes, often challenge speakers more than adults do, pushing her to explain forestry concepts in simple and engaging ways. “It’s fun seeing a light bulb go off on a young student when they learn toilet paper comes from trees.”

Sustaining forests and careers

“The forest industry offers a wide range of career paths suited to different interests and education levels,” says Stephanie. “Opportunities exist for individuals

entering the workforce with a high school diploma who want hands-on, technical training, as well as for those pursuing engineering degrees or other post-secondary credentials. Exposing students to this breadth of options is essential if they are to see forestry as a career path.

The impact of these efforts is evident in the stories emerging from schools across the country. Students who completed the ForestryWorks Forest Worker Certificate Program have gone on to secure summer internships with foresters and are now preparing to enter forestry programs at the post-secondary level. The Sawmill Worker Certificate Program produced similar results. “After

touring a sawmill, four students from a single graduating class applied for positions at that facility after graduation.” These outcomes can be attributed to a clearer understanding of the career opportunities available.

In Alabama, a free four-week summer Logging Equipment Operator Training School provides participants with foundational skills to join a logging crew. The program has consistently achieved a high rate of job offers for graduates. Career progression is tangible with former students advancing from entry-level operator positions to crew foreman. As fewer logging companies are passed down from one generation to the next, more

A proud moment: Stephanie and her father with their trusted Tigercat skidder.



“MANY CHILDREN MAY SPOT A LOG TRUCK ON THE HIGHWAY, BUT THEY DON’T SEE WHAT HAPPENS IN THE FOREST, OR THE PEOPLE BEHIND THAT WORK. YOU CAN’T BE, WHAT YOU CAN’T SEE.”

– Stephanie Fuller Johnson

newcomers have the chance to move into leadership positions and even become owners.

Stephanie tells students all the time, “It’s in our collective interest to be responsible stewards of the land and to protect the sustainability of the supply chain. If we fail to care for the forests we depend on, we undermine the very foundation of our work. Without responsible management, there is no long-term future for the industry, and no jobs ten years from now.”

Stephanie adds, “Harvesting trees isn’t the end of the story, it’s part of a cycle. In many regions of the United States, two or three seedlings are planted for every tree

harvested, ensuring future supply while maintaining healthy forests. That cycle also plays a role in climate change. Trees absorb carbon as they grow, and when wood is turned into products — lumber, paper, or building materials — that carbon remains stored for the life of those products. Understanding that system is critical, not just for public awareness, but for attracting the next generation of forestry professionals.”

Despite rapid growth and national reach, ForestryWorks’ mission is simple: support today’s forest industry while preparing tomorrow’s workforce. It is a goal grounded in Stephanie’s own experience, shaped by family,

and an early understanding of the role forests played in her life long before she chose to work in them. “The woods are not simply a jobsite, but a viable and lasting career path.” Through Stephanie’s work with ForestryWorks, the next generation of forestry professionals will find their way into the industry much as she did — through direct exposure and a clear understanding of what the industry offers. “My father probably wishes that back when he started his company there were organizations like ours that focused on these efforts. I think he is happy to see that the next generation is going to be supported in this way.” ■



ForestryWorks

ForestryWorks is a nonprofit initiative led by the Forest Workforce Training Institute in collaboration with industry partners to help address workforce challenges across the forest sector. The program offers career exploration tools, training resources, and classroom curriculum designed to introduce students and job seekers to opportunities in the industry. As a national effort with a local focus, ForestryWorks supports regional workforce development while advancing its mission to build a sustainable pipeline of skilled professionals for the forest and forest products sector.

Explore more at www.forestryworks.com, and visit www.tinytimbercrew.com for videos, classroom activities, and book purchases.

ALL IN
THE
Family



New state, new approach, new system for Idaho transplant Tony Zimmerman, but the brand remains the same.

– Chris McMillan

The November 2011 issue of *Between the Branches*, covered Tony Zimmerman and his company, Premier Logging, in Oregon, Illinois. At the time, he was supplying biomass for a large power plant in Wisconsin that has since closed, as well as marketing pulpwood, stud wood, and various hardwood products to local mills. Employing an 822C feller buncher, an H822C harvester and a 1055 forwarder, Tony's buncher-processor-forwarder system tackled row-thinning contracts, yielding high production with low residual stand damage.

Fast forward fourteen years. Tigercat team members visited the operations of Foresight Logging in Idaho to observe the company's new 120 winch assist machine. The owner of Foresight, the same Tony Zimmerman, walked up to greet his visitors. He was excited to talk about his latest business venture with his sons, and his current fleet of Tigercat machines.

Back in 2012, Tony was struggling to find experienced operators to run his machines. Eventually, he decided to pack it in and sell his equipment fleet. He and his family moved to Idaho. Tony fell back on his forestry background and started buying and selling timber. "I started buying timber contracts and managing private timber," explains Tony. "I saw there was a niche for it here and started

utilizing subcontractors. I bought both tractor ground and line skid ground, and that went really well. I had no intentions of getting back in the woods, production logging."

A family affair

Tony's son Joe always had a love for the woods. He has fond memories of riding on his dad's lap as a kid while running the old 1055 forwarder. Joe would tell Tony that he needed to get back in the woods, but Tony wasn't in the position to do it, so Joe went to work for one of Tony's subcontractors loading trucks and piling brush.

When Tony's son Tommy turned sixteen and finished school, he joined his dad and began to learn the timber buying business. By the time he turned eighteen, he told his dad he was ready to start buying timber. "I said, 'Okay. It's a dog-eat-dog world out there.' I figured he had to learn some time," Tony recalls. "I think he bought his first timber sale in 2020. It went well for him, and he progressively started buying more. In 2023, Tommy lined up a really good land timber deal for me that we were able to execute on, and it kind of propelled us into the next level because it freed up a whole bunch of working capital."

Late in 2023, Joe again proposed that the family should get back into harvesting. Tony started to think seriously about the idea.

"I was relying on the subs to do the logging, and the costs were steadily increasing. I was watching my margins shrink, and I'd look at my financials at the end of the year and see how much I was paying in logging, and it was an astronomical figure."

Back to the woods

Tony decided to make the transition, purchasing a Tigercat 1085C forwarder in March 2025. He stopped into Triad Machinery's Spokane branch and spoke to Territory Manager Jeff Casselman. "I wanted the biggest forwarder I could buy, because I knew this was big wood." Jeff asked about his background, and if he had owned any Tigercat machines in the past. Tony explained his experience with Premier Logging and his previous Tigercat fleet.

Jeff mentioned that there was a 1085C in the shop and invited him to have a look. As Tony stepped into the shop he saw a familiar face. Jon Cooper (Tigercat VP of Engineering) was there, along with Damien Donohoe (Product Support Representative) working with the dealer technicians to troubleshoot the machine. "Jon remembered me from back in the Lake States because he had been out on my job years ago. I think we were one of the first large-scale Tigercat customers in the midwest back in 2008."

The Foresight crew: (L-R) John Zimmerman, 1085C Operator; Tommy Zimmerman, Forestry Specialist; Tony Zimmerman, LH822E Operator/Company Owner; Joe Zimmerman, LS857 Operator; Anthony Zimmerman, Forestry Specialist.

Jon asked Tony what his plans were and Tony explained that his sons had convinced him to go back to logging. “Jon asked if I missed it and I said, ‘I really miss it, and my boys want to do it.’ I think there’s nothing better for a father than to work with his sons.”

Tony purchased the 1085C from Triad, and then in May 2025 he purchased an LH822E harvester equipped with a Tigercat 544 harvesting head. Gary MacDonald, Tigercat Field Representative and Operator Trainer, spent time on Tony’s jobsite to understand his requirements, tune the head accordingly, and familiarize the crew with the operations and maintenance of the head.

With Tony operating the harvester, Joe forwarding and loading trucks, and his younger son John running an excavator and building

roads, the family was back in the harvesting business. Eventually, Joe got so good on the forwarder that Tony was having trouble keeping wood in front of him.

Expanding beyond CTL

With a fully operational CTL crew, Foresight Logging was vertically integrated into the timber buying business. Mission accomplished. Then a significant Idaho state timber sale came along with some pretty steep ground. 70% of the tract was designated as cable assist terrain. Tony figured that by using a feller buncher subcontractor and purchasing a Tigercat shovel logger to grapple the trees downhill, he could process and load trucks at roadside. He was looking at various possibilities to borrow or purchase a used winch assist machine to tether the feller buncher and shovel logger.

A friend of Tony’s offered a different idea, suggesting that Tony could purchase a shovel logger with a 5195 felling saw. This would eliminate the requirement to use a contract feller buncher. Tony could cut and shovel the entire tract himself and likely save time in the process.

Tony called Jeff Casselman and explained that he needed an LS857 with a 5195 felling saw. Jeff called him back fifteen minutes later with good news. That exact configuration was sitting at the Spokane dealership and could be delivered to the job the following week.

Steep slope expert Kushiah McCullough (Factory Representative, Pacific Northwest), came out in July for the delivery of the LS857 to provide some training on the new machine. Tony wanted

In steep terrain, mating the LS857 shovel logger to the 120 is a game changer for operator Joe Zimmerman. The traction assist frees his mind to think more about production.





Joe fells and shovels the trees down the slope for Tony to process. Combining felling and shovel logging functions with one machine saves time and money.

Joe to train on the shovel logger. John would learn to operate the 1085C and take his place on the forwarder. For the next few weeks, Tony was busy working on a bid for a timber sale, giving Joe the time and space to learn the new machine.

Kushiah also advised that Tigercat had its own winch assist that was fully integrated with and matched to the capabilities of the LS857. There was a unit in inventory on the coast available for a demo. Tony said that if he got the bid and the demonstration went well, he would commit to purchasing the unit. By this time, Joe had become well acquainted with the LS857 and working on slopes — something he hadn't done before. "Once I got

comfortable with it, I realized that you could go anywhere in these machines."

The 120 winch assist machine arrived and they hooked it to the LS857. As Tony puts it, "Joe took off like a pig in mud." Tony ended up winning the contract. He purchased the 120, later remarking that it was probably one of the best investments he ever made. When asked about the performance of the 120, Tony replies, "The speed is everything. I've been around the Falcons, the TimberMax and the T-winch, and there's a reason we bought the Tigercat." For Tony, it reinforced that, "I just like to stay yellow."

Joe adds, "When that 857 is hooked up to the winch, it's full rabbit

mode right up the hill — no issues. You want to be hooked up to the winch. Otherwise, a lot of your time goes into staying safe when you're slinging the wood downhill."

Future of Foresight

Tony currently has four of his boys working with him, and one other full-time employee who piles brush, and builds and grades roads. Sons, Anthony and Tommy are the forestry specialists. They line up the timber sales and plan out the logging operations, whether it be with subcontractors or the family logging crew. They mark diseased trees and create maps and logging plans. They are mostly self-taught but also attend classes at the University of Idaho.

Tony processes with the LH822E. It is equipped with the 544 harvesting head.



Joe and John work on the logging crew with Tony. At seventeen years of age, John started operating the 1085C in August 2025. Watching him at the jobsite, it looks like he's

been doing it for years. Nineteen-year-old Joe continues to run the LS857 and Tony rounds out the crew on the LH822E harvester. And fortunately, if Tony chooses to

further expand the business, he still has three more boys at home who are just waiting to get in the woods with their father and brothers. ■

John Zimmerman follows Tony in the 1085C. Tony wanted the biggest forwarder he could get.





CLEARING *the* PATH

Carbonizer Product Specialist, Matt O'Connor provides an update on permitting progress in the United States for the innovative 6040 carbonizer.

The Tigercat 6040 carbonizer is a mobile, track-mounted unit that transforms woody debris into high-quality biochar onsite. It reduces volume by 90% and sequesters 20-30% of the available carbon in the feedstock, while slashing emissions by up to 98% compared to traditional processes.

Breakthrough technology should be effective and easy to deploy. When Tigercat Industries introduced this mobile carbonizing solution, it entered a space with no established regulatory framework. Recognizing that customers need confidence before investing in new equipment, we made a deliberate decision:

work together with regulators from day one to build clear, repeatable permitting pathways.

Following, is a summary of what we've accomplished to date with the US Environmental Protection Agency (EPA) and state agencies — and how it creates real peace of mind for future 6040 owners.

Defining milestone with the EPA

Early in the process, Tigercat applied to the EPA's Office of Land and Emergency Management for a non-applicability determination under the Clean Air Act (CAA). The key question was straightforward:

When the 6040 processes clean, untreated cellulosic biomass (such as forest residues or clean wood debris) to produce biochar, is the wood considered solid waste or a process ingredient?

The EPA's favourable response was clear: the feedstock is treated as a process ingredient, not discarded material. This determination means the 6040 is not regulated as an Other Solid Waste Incineration (OSWI) unit under CAA Section 129 and does not require a Title V operating permit for clean wood biochar production (provided no other Title V triggers apply).

TIGERCAT'S DEDICATED PERMIT ASSISTANCE TEAM PROVIDES HANDS-ON SUPPORT — REVIEWING SITE PLANS, PREPARING DOCUMENTATION, AND COORDINATING WITH LOCAL AIR DISTRICTS AND REGULATORS SO CUSTOMERS CAN FOCUS ON OPERATIONS RATHER THAN PAPERWORK.

Additionally, because the 6040 is a self-propelled, track-mounted vehicle designed for mobility across off road terrain, it is not classified as a stationary source under Clean Air Act Section 111 (which defines stationary sources as buildings, structures, facilities, or installations that emit or may emit air pollutants). Section 111 focuses on New Source Performance Standards (NSPS) for stationary sources. The unit's mobility and non-stationary nature further support its exemption from stationary-source-specific requirements under Section 111, aligning with the EPA's distinction between stationary sources and mobile/non-road sources regulated (if applicable) under other CAA titles.

Exemption from CISWI rules

The 6040 is also exempt from the Commercial and Industrial Solid Waste Incineration (CISWI) rules (under CAA Section 129 and 40 CFR Part 60, Subparts CCCC and DDDD), which apply to units that combust solid waste at commercial or industrial facilities. By treating clean cellulosic biomass as a process ingredient for biochar production (rather than solid waste), the EPA has confirmed that the unit does not fall under CISWI applicability. This aligns with EPA guidance on clean cellulosic biomass used in pyrolysis processes: when the feedstock is clean (no contaminants beyond

levels typical of virgin biomass) and the output is a beneficial product like biochar, the process is not considered solid waste incineration. This exemption avoids the stricter emission limits, monitoring, and permitting burdens associated with CISWI units, further simplifying deployment for mobile, low-emission systems like the 6040.

This combined ruling delivers multiple practical benefits:

- Significantly lower permitting complexity and administrative burden
- Avoidance of stricter incineration standards under Sections 129 and 111, including OSWI, CISWI, and NSPS
- Legal recognition of beneficial reuse instead of waste disposal
- Stronger foundation for carbon credit eligibility

We followed up by requesting additional guidance to promote consistency across EPA regions and delegated state programs, helping lay the groundwork for a more uniform national approach. Comprehensive Tigercat Industries funded source testing has also established reliable emission factors for particulate matter, black carbon, and CO₂, giving operators and regulators the data required for straightforward compliance.

Success in California

Theory is important, but real deployments prove the path works. In California — one of the most active wildfire-prevention landscapes — we've completed successful pilots in Tehama, Lake, and Nevada counties using only clean feedstocks. Regulators have responded positively, with minimal scrutiny under 40 CFR 241.3 and quick California Environmental Quality Act (CEQA) categorical exemptions (Classes 4 and 7) due to the minimal environmental impact of the 6040.

Notable highlights include:

- A twelve-month pilot at the Middletown Wastewater Treatment Plant in Lake County
- An efficiently processed permit in Nevada County for extended operations at La Barr Meadows
- In early 2026, Earth Foundries partnered with Falk Forestry to process fire-damaged timber from the August Complex Fire in the Mendocino National Forest, which borders Tehama County. This project serves as a model for modern forest restoration, keeping organic material local while reducing long-term wildfire risk



Tigercat
TV



Watch the Tigercat 6040 carbonizer convert wood debris from a logging operation into valuable organic carbon to be used as an agriculture soil additive.

Key to simplifying the permitting process for the Tigercat 6040 in the US is recognition by government agencies that the wood debris feedstock is a process ingredient, that the process generates very low emissions, and that the 6040 produces a useful product.

Progress in other states:

- In Virginia and Pennsylvania, clean wood operations typically require no additional permits outside nonattainment zones (nonattainment zone is an area that does not meet National Ambient Air Quality Standards for air pollutants)
- Straightforward initial operating permits from the Department of Environmental Quality (DEQ) at reasonable cost in Oregon. A notable example includes Tioga Logging's successful operations, which helped demonstrate the unit's low-impact performance and contributed to the issuance of a general permit by Oregon DEQ for qualifying mobile biochar production systems like the 6040 — further streamlining approvals for similar deployments statewide
- North Carolina, Florida, and Texas are following a similar path to Oregon, with deployments (including municipal collection sites in North Carolina, and ongoing operations in Florida and Texas) showing straightforward permitting for clean wood processing. Site-specific reviews have aligned with the EPA's non-waste determination, enabling efficient approvals focused on low-emission, beneficial-use applications without heavy OSWI or CISWI burdens

Streamlining for the future

As Tigercat Industries delivers more 6040 units across the country, it is actively collaborating with state environmental agencies to develop or qualify for general permits specifically designed for mobile carbonizers and to create templated permitting approaches tailored to each state, drawing on lessons from early pilots to build repeatable, predictable frameworks.

These efforts aim to reduce variability from one jurisdiction to another and shorten approval timelines for operators. In parallel, Tigercat's dedicated permit assistance team provides hands-on support — reviewing site plans,

preparing documentation, and coordinating with local air districts and regulators so customers can focus on operations rather than paperwork.

For those pursuing carbon credits, the assistance team guides operators toward simple, third-party monitoring, reporting, and verification protocols that turn environmental performance into additional revenue.

Confidence for every customer

The permitting landscape for any truly innovative technology can feel uncertain at first. That's why Tigercat has invested significant time and resources into proactive engagement with the EPA and states — not just to meet requirements, but to shape clearer, more supportive pathways.

Today, the message to prospective buyers is simple and reassuring. The regulatory groundwork has been laid. The EPA's key determination is in place, including non-applicability under Sections 129 and 111 and exemption from CISWI rules. Several carbonizer operators have proven pilot successes on record with expanding operations in North Carolina, Florida, and Texas, and general permit progress in Oregon. Tigercat is engaged in ongoing work to standardize processes state by state.

Tigercat Industries and the Tigercat-TCi dealer network are here to support you every step of the way. If you're considering a 6040 carbonizer for your operation, contact your nearest dealer to start a discussion on your location, planned use, and how our permitting experience can help make deployment smooth and successful. ■



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