THE LANDING CONTROLL OF THE SPRING 2021

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EDITORIAL



Graham Hinch,

Director, Western Hemisphere Sales and Marketing

It goes without saying that loggers work hard. But to reap greater profits from your logging operation, you need to work smarter, not just harder, as the old business adage says. Precision Forestry offers a variety of unique solutions that help drive efficiency in the woods — beyond iron and horsepower. Complementing your work ethic with machine intelligence and system-level integration can help you maximize profitability.

For years, forestry equipment manufacturers have focused on building bigger, stronger, and faster machines to increase production. Due to transport and other restrictions, it's gotten to the point where machine size is maxing out. Loggers need to improve efficiency to drive more profitability. Precision Forestry leverages machine and data capabilities that help you make smarter decisions on and off the jobsite. These solutions not only help you guide operators to work more efficiently but provide insight to help you improve your bottom line.

To learn just a few of the advantages of Precision Forestry, see Tech Tips on page 3. The Mountaineer Mechanized story on page 12 describes how a logging company in West Virginia is using Precision Forestry solutions and steep-slope methods to reinvent Appalachian cable logging.

The possibilities of Precision Forestry are almost endless. Each of you has unique challenges that may be limiting the success of your business. I encourage you to reach out to your local John Deere dealer and share with them the challenges you face. Precision Forestry is not one size fits all; it is highly customizable. By understanding your unique needs, John Deere and your dealer representative can incorporate solutions that will help you meet your challenges head-on — and help deliver greater success in your future.





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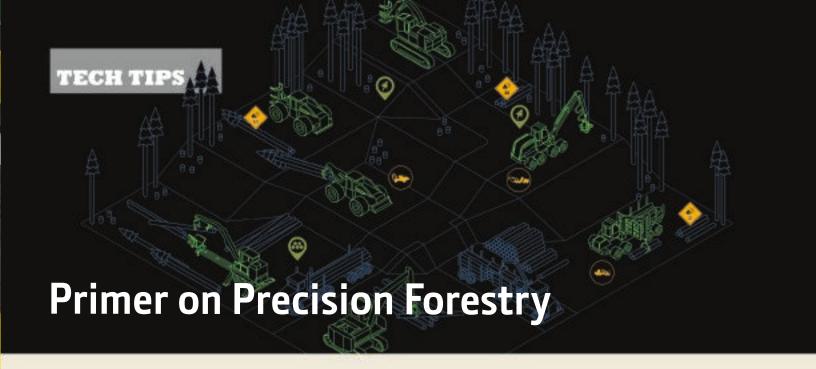
Mountaineer Mechanized is reaching new heights by introducing the latest steep-slope logging methods in West Virginia.

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Logger Jason Dawson has participated in team-roping competitions with his father since he was 14 years old.

Cover image:

Cable-assist felling operations head east of the Mississippi.



"These new solutions can help boost efficiency and profits?" Precisely.

Precision Forestry helps you make smarter, more efficient, and costeffective decisions while improving your bottom line. The possibilities are almost endless, and one size definitely does not fit all. Speak with your John Deere dealer to learn how to customize solutions that match your unique operation and challenges. Here are a few ways Precision Forestry can help improve how you do business.

Smarter machines. Precision Forestry helps John Deere to create machines that are easier to operate, which address a major challenge in the industry — training and retaining new operators. Smart machines provide real-time feedback to help operators work more efficiently and safely. Precision Forestry also allows you to collect and analyze machine data to better manage your fleet and diagnose issues, so you can protect your assets. Ultimately, Precision Forestry helps you get more productivity and efficiency out of your existing fleet instead of continually upgrading to bigger machines.

Making your operation more efficient. For years, the only way to get the most out of your operation was through improving your capability by brute force. This was dependent on machine efficiency, fuel burn, and operator skill level — all variables that are often difficult

to control. But your business cannot depend on the performance of any one machine or operator. To be successful, your whole operation needs to seamlessly work together to increase production at the lowest cost possible. Improving efficiency across your entire operation makes it easier to manage these variables and lessen the impact of any one variable, for more consistent, predictable results. Precision Forestry helps you achieve this through improved planning, communication, and execution.

Planning for success. Typically, loggers have looked at the logging system from stump to dump, whether it is full tree, cut to length, or a hybrid. Planning is often ignored, but it represents a tremendous opportunity to save time, money, and resources. By using data to make informed decisions and connecting your entire jobsite to drive those decisions, you can unlock more potential profitability.

John Deere Precision Forestry solutions. John Deere TimberMatic™ Maps and TimberManager™ provide real-time insights to both operators and business owners. These solutions help improve all aspects of a logging business, including day-to-day tasks, decision-making, and overhead control. Owners can manage detailed information for multiple sites in real time — without the need to visit a jobsite.



Sites can be managed through the control panel as Awaiting, In Progress, Completed, or Archived. This allows you to plan production estimates, maps, and landing locations for upcoming jobs; keep tabs on multiple crews, machines, and jobsites on current projects; and manage past jobs that were completed or delayed due to weather.



On an active site, jobsite data including machine location is updated every two to three minutes. Target tonnage and site-specific production information, including stem count and estimated tonnage harvested, is available. You can also view job progress, the area covered by the cutter and skidder, and the percentage of bunches transferred to the landing.



The map shows bunches that still remain in the forest. A bunch is marked each time the cutter dumps its head. Clear observations can be made about wood remaining to be skidded to the landing.



Australia boasts the seventh largest forest area of any country, with 134 million hectares, representing three percent of the world's total forest. Almost two million hectares of Australia's forest area is sustainable commercial plantation. Most plantation harvesting occurs on the country's coasts.* Sunchip Group's main harvesting operation is on a pine plantation in the Tuan Forest in Queensland on Australia's East Coast, where approximately 4,000 trees are harvested and processed each day. The company also runs a steep-slope operation in New South Wales and another operation in Queensland. Established in 1997, Sunchip Group has grown to become one of the largest timber contractors in Australia. Today the company employs 150 people while harvesting and hauling up to 1.5 million metric tons of wood annually.



Excellent traction

^{*}Source: www.agriculture.gov.au.

Managing Director Mark Blackberry is committed to the growth and development of the Australian forestry industry, and in 2016 he was inducted into the Australian Forestry Contractors Association Hall of Fame. He also emphasizes a strong focus on the safety of his workers and suppliers. In 2014, Sunchip Group was the first logging company to be a finalist when it was runner-up for the 2013 TruckSafe John Kelly Memorial Award.

The Queensland operation runs all John Deere equipment, including two 953M Tracked Feller Bunchers with FR24B felling heads. It also runs four Deere skidders including two 948L-II Skidders and two preproduction 768L-II Bogie Skidders, which haul logs to four 3156G Processors with Waratah 624C heads at the landing. The full trees are processed with the main product being 18-meter stems for the mill, which are loaded onto trucks using two Deere 3156G Loaders. Sunchip also has two Deere 1910E Forwarders used for sorting and loading the logs that are an export by-product from the stem operation.

The company was impressed by the new John Deere 768L-II Bogie Skidder after demoing it. Combining excellent tractive ability and flotation with low

ground pressure, the six-wheel machine's bogie axles allow operators to navigate wet terrain not accessible with four-wheel skidders. adding more days to the work calendar. "During our four-month rainv

season, we need a skidder that can still be productive," says Blackberry.

The 768L-II is designed to carry big loads over long distances. "On long hauls, this machine really comes into its own," says Blackberry. "It can pull heavy loads and travel fast to help us maximize productivity."

Operators appreciate the reduced machine vibration and smooth ride. "With six wheels. the bogie skidder rides much better," says Blackberry. "It's comfortable and easy on the operator over mounds and stumps."

The balanced bogie axles improve stability, which allows the operator to confidently pull heavy loads and maneuver on hillsides. The machine's long wheelbase and large boom-arch envelope boost the reach and lift capability of the boom and grapple. "If you're on a hill with the bogie skidder, you don't have to get as close to the bunches because it's got the longer boom," says operator Logan Hughes. "There's more room to maneuver. If you're on a four-wheeler, you have to get right up to the bunches, which isn't always easy."

The machine's arch design provides an expansive rearward view to the grapple and jobsite behind the machine. "Visibility is good, especially toward the grapple," says Hughes. "I like the cab. Similar to other John Deere skidders, it's spacious and has ample legroom."

The 768L-II's durable bogie axles are designed to help keep the front bogie tires firmly in contact with the ground, maximizing tire and axle-component wear life. "It's been a very reliable machine," says Blackberry. "We're confident it's going to be available every day. Access to service points and components is wide open for daily maintenance or any repairs. We have a service contract with our dealership, RDO Equipment Australia, and their techs always alert us when periodic maintenance is coming up. We also have a very close relationship with their sales professional, Brian Daubney, who handled the initial sale and manages our account with RDO."

Blackberry believes the new 768L-II Bogie Skidder makes a good permanent addition to Sunchip Group's fleet. "Most of the time here, we are doing long drags over wet, tough ground. This machine is perfect for that application, so much so that we bought the first machine and have since added a second bogie skidder to the fleet."

Sunchip Group is serviced by RDO Equipment Australia, which opened a service depot in Maryborough, Queensland, specifically for the equipment sale to Sunchip Australia.

AUSTRALIAN TIMBER

134 M

HECTARES



3% of World 3 total forest of world's

Largest forest of any country

ALMOST MILLION

HECTARES

of sustainable commercial plantations

STORY: KEVIN ORFIELD

PHOTOGRAPHY: NATE LUKE

GEORGIA LOGGER GETS FIRST LOOK AT TENACIOUS NEW 768L-II BOGIE SKIDDER

AT A LOGGING SITE NEAR THE CITY OF ROME IN THE NORTHWESTERN CORNER OF GEORGIA. A LOGGING CREW **BATTLES STEEP SLOPES AND MUDDY CONDITIONS AFTER** SEVERAL DAYS OF RAIN. IT RAINS IN GEORGIA. A LOT. THE PEACH STATE IS THE SEVENTH WETTEST STATE IN THE UNITED STATES IN TERMS OF AVERAGE ANNUAL RAINFALL.

Logging is different here than in Georgia's Coastal Plain region to the south, which is covered by loblolly and slash-pine forest plantations. "We cut mostly hardwood in a lot of steep ground," says Matt Owens, owner of Matt Owens Logging. "We're at the southern end of the Appalachians. The areas we log can be flat, in river bottoms, on rolling hills, or on the side of a mountain — all within a few miles of each other."

A new six-wheel John Deere 768L-II Bogie Skidder makes its way up a steep ridge pulling a heavy load of hardwood. The machine is designed to excel in foul weather and adverse terrain. Owens surveys the scene and talks to a few of his crew before jumping into his machine of choice, a Deere 859M Tracked Feller Buncher. Near the landing two other crew members run a Deere 843L-II Wheeled Feller Buncher and a 748L-II Grapple Skidder. Although these highly capable machines play an important role, tracked machines and bogie skidders have become essential in this environment.

As the rain subsides in the early afternoon, the sun appears, creating hot, muggy conditions. The operators are thankful for the air-conditioned cabs. And Owens, who is demoing Deere's new bogie skidder, is grateful for the machine. "The bogie will go places a four-wheel skidder would never have dreamed of going."

NOBODY'S FOOL

The southern U. S. produces over 60 percent of the country's total annual timber harvest, with Georgia accounting for nine percent. Of the state's 37 million acres of land, over 24 million acres are forested — or about 67 percent. Twenty-two million acres are privately owned and commercially available — more than any other state.*

Owens works exclusively with private landowners. "We buy all our own timber and market to whomever we want. We set our own rates so we don't have to depend on the mill telling us what the cut-and-haul rate is. We're 100-percent independent, which gives us the freedom to do what we want."

The crew typically produces 50 loads a week. Tracts range from 40 to 400 acres and are typically 80-percent hardwood, including oak, hickory, and poplar. The wood is used for hardwood lumber, furniture, flooring, mats, and guardrails. "We try to cut a lot of hardwood on steeper tracts," says Owens. "Our niche is to cut what other people can't or won't do. We try to buy steeper tracts because a lot of times that's where the better wood is, and nobody will fool with it."

*Source: Forest Science, December 2018; Truesouth.com; qfaqrwo.org; allongeorgia.com.



OUR NICHE IS TO CUT WHAT OTHER PEOPLE CAN'T OR WON'T DO. WE TRY TO BUY STEEPER TRACTS BECAUSE A LOT OF TIMES THAT'S WHERE THE BETTER WOOD IS, AND NOBODY WILL FOOL WITH IT."

MATT OWENS

Owner, Matt Owens Logging

TIME TO SHINE

The six-wheel 768L-II Bogie Skidder delivers outstanding traction, stability, and flotation, so it can work on steep slopes and in wet conditions. "A four-wheel skidder doesn't do that well in that environment," says Owens. "Bogie skidders won't necessarily outperform a regular skidder on flat, dry ground. But the six-wheel 768L-II does very well on wet, rough, or steep terrain — that's when it really shines."

The 768L-II's long wheelbase and large boom-arch envelope boost the reach and lift capability of the boom and grapple. Its tight-turning radius enhances agility at the landing. "The lift power on the 768L-II is great. The longer boom gives you more reach and dexterity in the woods. At the landing, this makes it easier to place wood where you want it by the loader."

Arch design provides an expansive rearward view to the grapple and jobsite behind the machine. "Visibility to the rear is great because the cab is pretty elevated."



"THE SIX-WHEEL 768L-II DOES **VERY WELL ON WET, ROUGH, OR STEEP TERRAIN — THAT'S**

FROM FARM TO FOREST

Owens grew up on the family farm started by his greatgrandfather. His children represent the fifth generation.

His father hauled logs and his grandfather did some logging, but Owens is the first to log full time. "Back in the 1940s and '50s, my grandad logged and had a dairy.

He'd milk cows and then go to the woods. In the spring he'd plant crops, then go to the woods. He knew someone who had a portable sawmill."

About IO years ago, Owens cut a tract of white oak and hickory that his grandfather had cut in 1953. "They would fell trees using a crosscut saw, haul them with a mule, and then load the truck with skid poles. It was mature hardwood by the time we cut it again."

Owens started logging all by himself in 2001, using a chain saw, a tractor with a front-end loader and grapple, and a straight truck. After a few years, he started hauling treelength logs. "I removed the logging bed from the straight truck and put in a fifth wheel so I could use a trailer. And I got my first John Deere machines — 440A and 548D Skidders. In 2005, I bought my first new skidder, a 648G-III.

"I grew up with John Deere tractors on the farm," Owens adds. "The forestry equipment has lived up to everything I expected in terms of quality and reliability. And that's what we need from our logging equipment — machines that will work in rough, steep ground day after day."

MATT OWENS

WHEN IT REALLY SHINES."

Owner, Matt Owens Logging



SWAN STER

BOOM

The 953ML comes factory equipped with a live-heel swamp-logger boom with up to 60-inch grapple capacity.

LIGHTING

Optional LED boom light improves overall nighttime illumination.

COMFORT

Spacious climate-controlled cab features expansive jobsite visibility, ergonomic controls, and standard fully adjustable air-ride seat.

"IT'S A HERO MACHINE FOR SWAMPS.
IT REALLY GETS THE JOB DONE AND
IS REALLY GOING TO STAND OUT."

Trey Freeman, foreman and shovel logging machine operator, Long Bay Trucking, Bolton, North Carolina





ACHE

MOUNTAINEER MECHANIZED INTRODUCES THE FIRST WINCHASSIST TETHERING SYSTEM EAST OF THE MISSISSIPPI RIVER

It's fitting that the Mountaineer Mechanized logging company took its name from the state symbol. Known as the "Mountain State," West Virginia is located entirely within the Appalachian Mountains. Logging in steep slopes and rough terrain is extremely challenging. Although West Virginia has a long history of logging, common harvesting practices haven't always had a minimized impact on the environment and didn't extract maximum value from timberland. Until now.

Successful logging in the region requires new thinking — an innovative approach that combines the best logging machines with the latest technology solutions. It involves employing steepslope logging methods that have been successfully used in the Pacific Northwest and New Zealand but not in the eastern United States.



TAKE ME HOME, LOGGING ROADS

Founded in 1976, Lyme Timber is a private timberland-investment manager focused on sustainable management and conservation. The company currently manages 1.6 million acres of timberland in Wisconsin, Michigan, New York, Pennsylvania, West Virginia, Tennessee, Alabama, Florida, and California, and is responsible for the harvest of over 2.5 million tons of logs, pulpwood, and chips each year.

Lyme Timber acquired 163,500 acres of well-stocked timberland in southern West Virginia in 2017. Two years later Lyme Timber launched Mountaineer Mechanized to manage operations on this timberland.

Before Mountaineer Mechanized was up and running, Lyme Timber conducted intensive research on winch-assist harvesting, including visits to tethered logging operations in Oregon and Washington. It brought experts from the Pacific Northwest to West Virginia to evaluate terrain, tree

size, and volume. It also partnered with John Deere and Technical Forest Solutions from Kelso, Washington, to identify potential harvesting systems and equipment configurations for steep slopes.

Lyme Timber concluded that winch-assist technology has enormous potential in Appalachia but has not been adopted due to significant startup capital, research, and training requirements. "The land that Lyme acquired had been underperforming for years," says Currie. "We looked at logging capacity in the region and had concerns about our ability to scale up harvesting in a safe and efficient manner."

GAME CHANGER

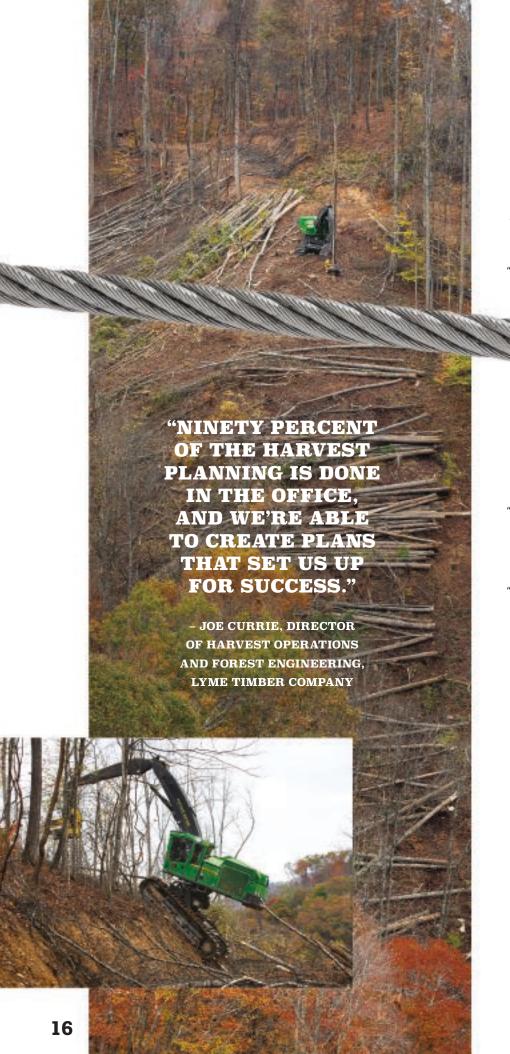
John Deere was selected as a key advisor and preferred equipment supplier for Mountaineer Mechanized. "We get great service and support from our local John Deere dealer, Leslie Equipment Company," says Currie. "And Deere has worked closely with us in recommending and modifying the right equipment we

need to innovate. The real game changer is winch-assist cutting and the mobile yarder with grapple carriage. We've also gotten invaluable support, training, and advice from Frank Chandler and his team at Technical Forest Solutions "

Tree felling is done using a John Deere 959MH Harvester with a FL100 Directional Felling Head. Winch-assisted traction allows the machine to mechanically cut on steep mountain slopes. The harvester is tethered to a Deere 3154G Road Builder parked at the top of the hill. The operator controls the winch system from the cab using radio controls.

Eighty-five percent of the wood is extracted using a cable-yarding system, which employs a large grapple carriage traveling up and down suspended lines. A John Deere 3754G Road Builder with a cab riser provides a base for the cable system. With the assistance of cameras and video screens, the operator pulls the wood uphill where it needs to be moved





for processing. When the wood reaches the top of the hill, a Deere 3756G Log Loader with a specialized grapple "clears the chute" by swinging logs to the skidding road. From there a John Deere 848L-II Grapple Skidder hauls the logs to a truck landing, where they are processed by a Deere 2954D with a Waratah 624C head.

SET UP FOR SUCCESS

The cable-assisted felling operation leverages the latest in telematics and map-based production-planning and tracking technologies. "We are heavily engaged in technology, from harvesting planning in the office to equipment maintenance," says Currie.

At the office, Currie and Main Project Manager Brendan Moore use Esri® ArcGIS Pro, an industry-standard geographic information system (GIS), to create a harvesting plan from LiDAR, including hill shade, slope maps, and canopy-height data. "I can design cut blocks from my home in Vermont," says Moore. "We can verify the plan on the ground with our foresters and then send it to the operator of the 959MH. He can follow the boundary on the screen and cut the area we want him to cut."

"Ninety percent of the harvest planning is done in the office, and we're able to create plans that set us up for success," says Currie. "We know our yarding distances and can measure our deflection and payloads at each setting. We can do all this beforehand so there is no wasted movement on the hillside. Before the first tree is cut, we already know this is going to work."

Using John Deere TimberManager™ in the office and TimberMatic™ Maps in the machine, the harvesting plan can be uploaded directly into the 959MH Harvester. On a large screen, the operator can see the cut boundary and protected areas. "The whole harvest plan is encompassed on that map," says Currie. "The operator can see areas of interest and obstacles, including gas lines, boulder fields, roads, and extraction corridors. Excessively steep slopes are highlighted so he can plan his cutting strategy or avoid them altogether. He knows where the cable-yarding tower and tailhold will be located at all times. The GPS signal shows him where he is on the map so he knows where to cut and where to move. It's phenomenal."



As the job progresses, the system also tracks tree-cut locations and inventory, and displays the locations and travel history of the shovel loader and skidder. The harvest plan can be updated immediately and continuously. "TimberManager and TimberMatic Maps make it so easy to update the information," says Moore. "Plans always change, and we can provide updates to the operator in the machine in a matter of minutes."

John Deere JDLink™ telematics allow Currie and Moore to manage the entire fleet from a desktop or mobile device, providing remote access to machine hours and

location, fuel consumption, idle time, and maintenance reminders. Alerts immediately flag problems, and dealers can remotely diagnose issues. If necessary, a technician can be sent to the site with the right part on the first trip.

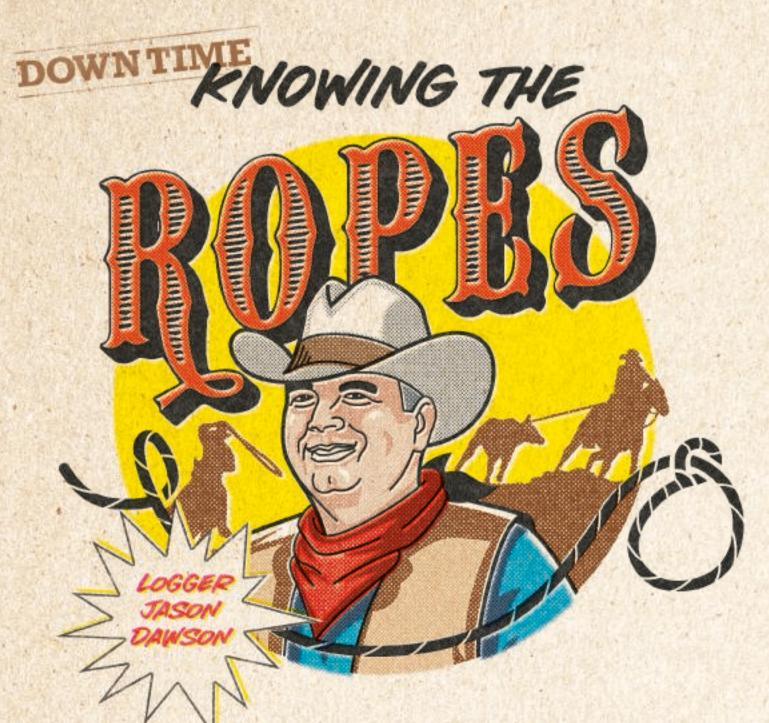
"Technology is integral to our operation," says Moore. "We couldn't do this without it. John Deere equipment makes it so easy to manage data and work remotely, which is a big cost saver. And in the future, I believe technology will only get more and more integrated and synchronized among machines and devices."

"I feel fortunate to work in this industrial high-technology timberland setting," adds Currie. "It's great to be a part of this. All the pieces have been put in place to enable it. Mountaineer Mechanized is demonstrating how productive logging, sustainable silvicultural practices, and a safe working environment can coexist."

Mountaineer Mechanized LLC is serviced by Leslie Equipment Company, Beaver, West Virginia.



To see more of the story, visit JohnDeere.com/TheLanding



Logger Jason Dawson fondly remembers growing up in the small town of Summerville, Georgia, during the 1980s. "I had a lot of fun as a child," he recalls. "We didn't have phones or technology. We played outside." That included a lot of horseplay, so to speak.

Dawson's father, grandfather, and uncle started logging in 1977, the year he was born. But growing up on the family farm spurred an interest in horses at an early age. When he was 14, Dawson began participating in team-roping competitions with his father James. "Just about every weekend, we'd go roping somewhere," he recalls. "It was a great experience. I always enjoyed getting to spend time with my dad."

Team roping is a timed rodeo event that features two mounted riders and a steer. As the steer is released from a chute and breaks out running into the roping arena, both riders take off in hot pursuit. The first roper, or "header," ropes the head and positions the steer for the other roper. The second roper, or "heeler," then ropes the steer by the hind

feet. Both riders back up slightly to stretch out the steer's hind legs, which immobilizes the steer. An official then waves a flag and the time is taken.

Today tens of thousands of amateur ropers compete for prize money in team-roping events across the United States. Dawson and his father compete in events sponsored by the United States Team Roping Championships organization, the largest performance equine group in the world.

Dawson's father still team-ropes every weekend. "My father loves it," he says. "Having young children, I don't have as much time as I once did, but I still rope with him whenever I can. As a parent, I can now fully appreciate how that time I spend with him means just as much to him as it does to me."





DON'T SUSPECT RECORD DAYS. PROVE THEM.

As your crew harvests timber, you're also harvesting data. And within that data, you'll find better ways to work. John Deere Forestry TimberManager™ is the business owner's view to the worksite, while TimberMatic™ Maps gives operators a real-time view of on-site production. Together, these Technology Solutions streamline your operational management to help you OUTRUN.



JohnDeere.com/Tech

