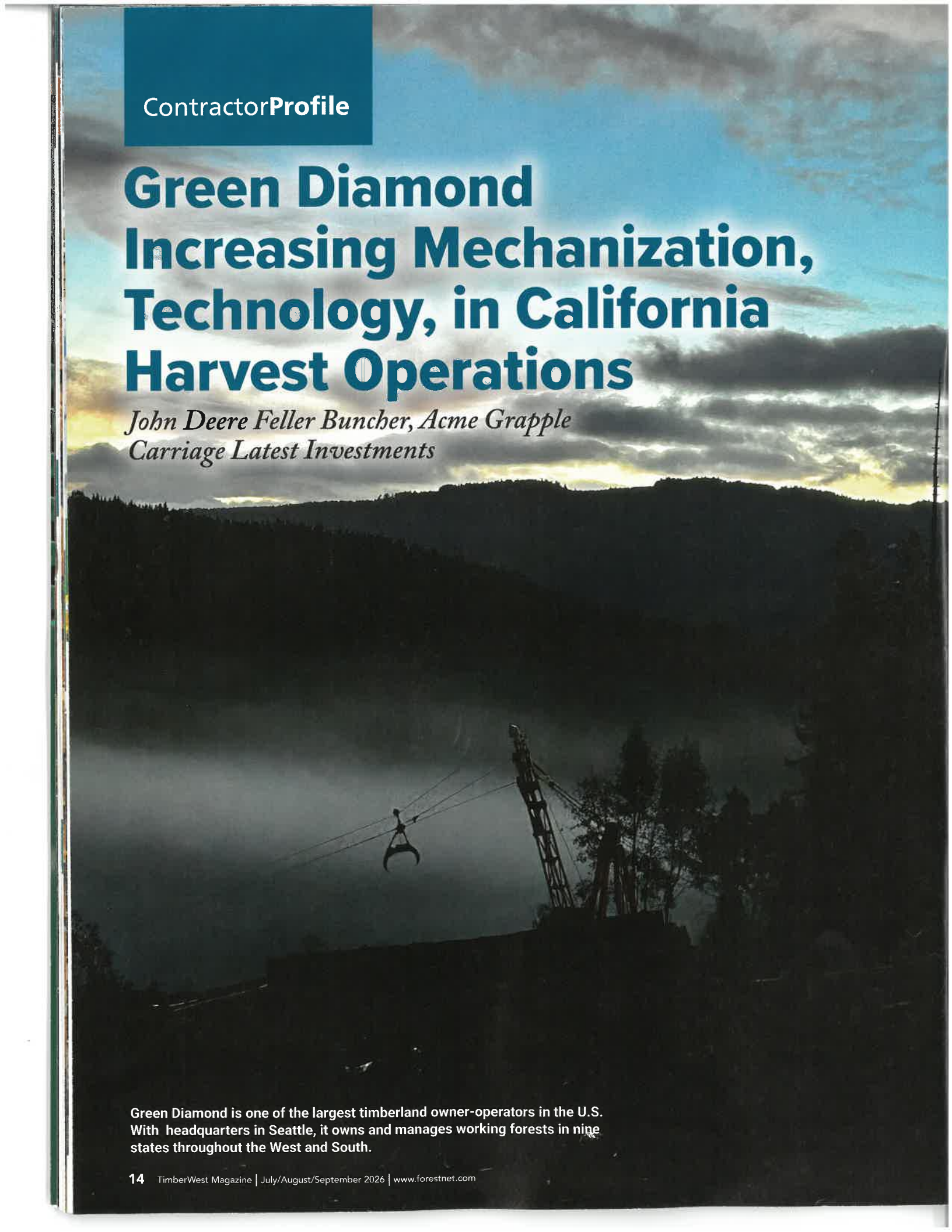




Contractor**Profile**

Green Diamond Increasing Mechanization, Technology, in California Harvest Operations

*John Deere Feller Buncher, Acme Grapple
Carriage Latest Investments*

Green Diamond is one of the largest timberland owner-operators in the U.S. With headquarters in Seattle, it owns and manages working forests in nine states throughout the West and South.



Green Diamond purchased an Acme Manufacturing GS23 motorized grapple/slackpull carriage earlier this year to pair with a Madill 255B yarder.

KORBEL, California – Green Diamond, one of the largest timberland owner-operators in the U.S., has been investing in mechanization and technology to improve safety and production in its operations. To support its team in California, for example, the company this year added equipment to enhance its harvesting work on steep slopes.

Green Diamond, with headquarters in Seattle, is a sixth-generation, family-owned forest products company that owns and manages working forests in nine states throughout the West and South. It is one of the five largest timberland owner-operators

in the U.S. with more than 2 million acres under management. The company employs about 315 people in a diverse range of roles, all supporting the active and sustainable management of forestlands. Green Diamond's forestlands are 100 percent third-party certified under either Forest Stewardship Council® (FSC) or Sustainable Forestry Initiative® (SFI) standards.

Green Diamond has an office in Korbel in northern California, near the coast. It has additional offices in Washington, Oregon, Montana, and Georgia.

Green Diamond started to acquire forestland in northern California in the late 1940s and currently owns and manages about

400,000 acres in Humboldt, Del Norte, and Mendocino counties. It also operates a chip export facility on Humboldt Bay. In California, management practices are certified under FSC standards, which help guide its forest stewardship approach and inform the company's engagement with state and federal agencies, Tribal neighbors, and other regional stakeholders.

The company's operations in California employ about 171 people in a variety of roles, from accountants to biologists, foresters, harvest administrators, lab technicians, supervisors, and more. Of the 171 employees,

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ContractorProfile

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46 are union-represented and make up the company logging, road maintenance, and shop crews.

Green Diamond actively acquires and invests in timberland. The company also purchases low-value timber that is delivered to its chip facility and processed into clean wood chips and sold into international and domestic markets.

The company has increased mechanization in recent years, noted Connor Goldstein, Green Diamond's planning and operations manager for California. He is responsible for operational execution of all harvesting permits and activities – from road work to logging and hauling – and long-term planning and sequencing of annual timber harvests. The company has made significant investments in mechanization in the past decade, he noted.

For cable logging operations, for example, the company invested in radio-controlled chokers, processors, tethered machines for steep-slope felling

and log positioning, grapple carriages, a leveling shovel to support carriage loading, and a heavy-lift drone to assist with yarder road layout. For shovel logging operations, it moved to full mechanization by adding processors and steeper slope capabilities with leveling shovels.

"Additionally, we've embraced modern technology, including tablets with geo-referenced maps and unit-specific information in equipment cabs, mobile Starlink units for communication in areas with limited cell phone and radio coverage, processor-based

optimized bucking systems, and equipment telematics to assist with breakdown diagnosis and repair," said Goldstein.

The California Green Diamond crews are divided into groups by function, each with a supervisor to direct their work. The logging crew consists of 25 employees running two cable yarder sides, three shovel sides, a tethered directional falling saw, and a feller buncher. The road maintenance crew consists of 15 employees with various equipment to build and maintain roads. A shop has a staff of six mobile mechanics to service and maintain equipment and trucks in the field.

"We mostly work on company-owned land in Humboldt and Del Norte counties on the north coast of California," said Goldstein, "but have recently branched out into contract logging and roadwork for other entities and have worked for a variety of customers ranging in size from homeowners up to other large timber landowners."

Apart from hand falling and log hauling, Green Diamond now conducts all logging and roads functions that it hires contractors

LOGGER'S TIP

'Prioritize people and relationships and communicate clearly and frequently. This industry is strong and sustainable because of the people within it. We all have something to learn from each other and it is important to listen, have transparent conversations, and act with integrity when interacting with your peers and stakeholders.'

Connor Goldstein,
Planning and Operations Manager
Green Diamond-California



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to do. "We believe that it is important to understand the ins and outs of each function to be better partners with the contractors we hire to do the same tasks as well as create operational flexibility across the property," said Goldstein.

The region's forests are primarily redwood and Douglas fir dominated with elements of Sitka spruce, hemlock, grand fir, red alder, and tanoak. The terrain is variable, from flats to rolling hills up to steep and deep hills into river valleys. Redwood is the predominant species near the California north coast with Douglas fir taking over to the east and in higher elevation. "A benefit and challenge of productive redwood ground is that redwood resprouts from the stumps that do not rot away," noted Goldstein.

Harvest units with a lot of legacy stumps can be challenging to find paths for heavy equipment, walking through and clearing out for rigging crews, and finding clean falling paths for timber fallers. Much of the forestland historically was harvested using tractors, resulting in an extensive legacy skid trail network. Other areas originally were logged with large tower yarders, leaving few road systems and long, deep yarding settings.



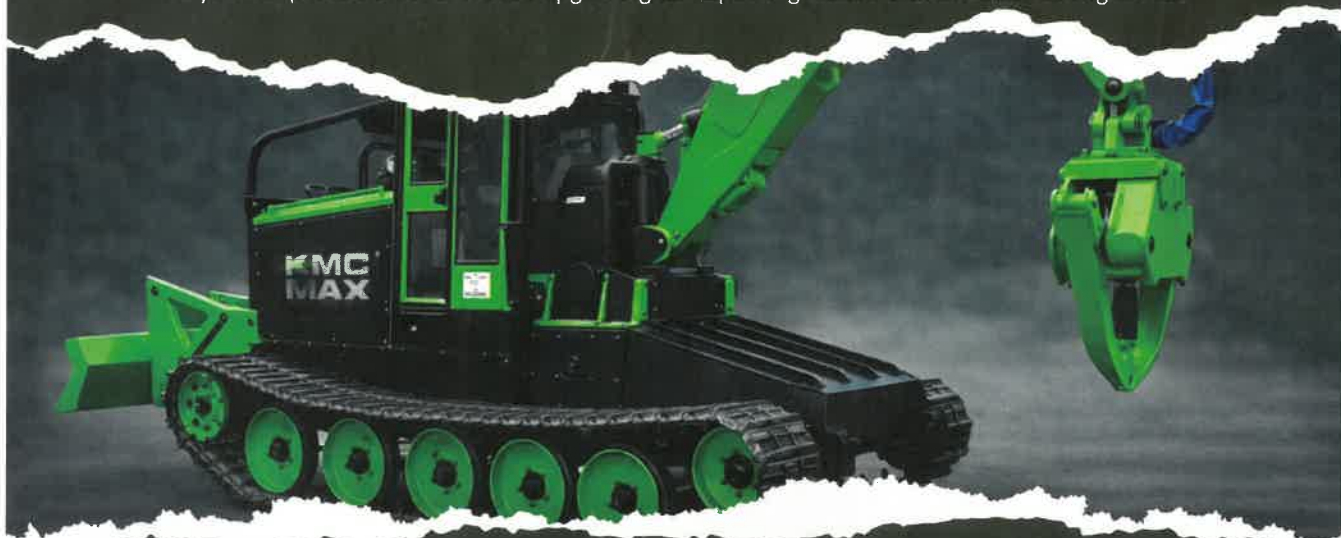
The company recently acquired a John Deere 959M feller buncher from Papé Machinery under a rental-purchase option (RPO).

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"As operations have transitioned to shovel logging and mid-sized swing yarders, re-configuring these previously harvested units has often presented unique challenges," said Goldstein.

The company recently acquired a new John Deere 959M feller buncher from Papé Machinery under a rental-purchase option (RPO). "Papé worked closely with us to structure an RPO that met company needs, found us a machine on relatively short notice, and assisted our operator with the start up," said Goldstein. "We have not run the machine for very long but have been impressed with its power and performance."

Green Diamond has not operated a company-owned feller buncher in California for several years. "When the opportunity presented itself, we decided to incorporate one into our operations to broaden our team's skill set and better understand the economics, productivity, and operational experience associated with running a feller buncher," said Goldstein.

The company also has a tethered Tigercat 855 with a directional felling head. The John Deere machine works in front of the ground-based sides, and the Tigercat is used to cut for the yarder sides. Most felling is contracted out to a variety of mechanical and hand felling contractors.

The company purchased an Acme GS23 motorized grapple/slackpull carriage in March to work with a Madill 255B yarder. Previously the company did not have a carriage with grapple capabilities for the yarder, which limited production on jobs where the timber is mechanically felled and bunched. "The carriage has been great so far and led to increased safety and production outcomes in the woods," said Goldstein.

The yarder engineer uses the camera on the Acme carriage to grapple directly from bundles cut and arranged by a tethered bar saw or to take logs directly from a Tigercat LS855E leveling shovel logger "handing off" logs to the carriage. Afterward, the rigging crew will use the Acme carriage slackpull function to yard trees from within creek buffers where equipment cannot access. "We have experienced average production increases of approximately 50 percent with the Acme grapple carriage compared to setting chokers in mechanically felled and arranged cable units," said Goldstein.

Early this year the company turned to Peterson Cat to rebuild its Cat 972 G wheel loader. "Peterson has been a great partner to us in the equipment business through



Cat processor and John Deere loader working at a landing; processors are equipped with five Southstar heads and one Waratah head.

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The company's array of logging equipment includes a number of Cat machines: four processors, three shovels, two loaders, and three bulldozers.

leasing, purchasing, support, and repair," said Goldstein. Peterson Cat staff recommended the rebuild instead of an outright replacement. "We received the machine in March," said Goldstein, "and feedback has been great from operators from both a comfort and operations perspective. It runs like a new machine at a portion of the cost, and we look forward to many more productive years with it."

Green Diamond has five logging crews working in California – two yarder sides and three shovel sides. The yarder sides run two or three yarders and a yoder. "With crew shortages and grapple opportunities, we moved down to two yarders full-time with a yoder when possible and are producing a similar amount with two yarders as we did with three in prior years," explained Goldstein. "The third yarder is staged ahead of the other two on another unit to reduce production delays from moving days and breakdowns."

The company has an extensive array of equipment for its California logging operations. The list includes, in addition to machines mentioned above, a Hilltop Aerial heavy-lift drone, three Madill yarders, a Summit Attachments/Madill yoder, three Acme carriages, and an Eagle Claw grapple carriage. Other machines include a Summit Attachment tether (Cat 330), a John Deere processor, a Link-Belt processor, four Cat processors, a Tigercat shovel, three Cat shovels, five loaders (two Cat and three Link-Belt), and three Cat bulldozers. Processors are equipped with five Southstar heads and one Waratah head.

In addition, roads equipment includes additional bulldozers, excavators, dump trucks, graders, brusher, water truck, and roller.

During the peak summer logging season, Green Diamond contracts with around 20 logging sides, 12 feller bunchers or hand felling sets, 14 roadsides, and 20 trucking companies. "Many of these contractors have worked on the property for decades, and those long-term relationships are apparent in the consistent quality of work year after year," said Goldstein.

In peak season the Green Diamond company logging crews may be spread out across 10-12 clearcut units between falling, logging, processing, and loading. California clearcuts average about 25 acres. "Because of that, we like to decouple our ground-based sides across multiple units to create space and time between each harvest function," said Goldstein. "This maximizes system production and reduces the risk of production loss from breakdowns." The road crew works

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ahead of them, opening, building, and maintaining roads.

Green Diamond's California timberlands supply a variety of mill customers in northern California and southern Oregon. Those mills include, among others, Humboldt Sawmill Company, Sequoia Forest Products, Mad River Lumber, Redwood Empire Sawmill, Roseburg Forest Products, North Fork Lumber, Schmidbauer Lumber, Trinity River Lumber, Northwest Hardwoods, and others. Haul distances range from 5-200 miles. Products are mostly sawlogs, a smaller portion of peelers, and occasional pulp.

"Market conditions are challenging," observed Goldstein. "Demand for wood and prices are both depressed, especially in the redwood market. We are seeing some limited positive signs with Douglas fir and are hopeful it will continue."

Green Diamond places a strong emphasis on safety and continually seeks ways to strengthen its safety culture, according to Goldstein. Along with required training, the company provides employees with opportunities to participate in elective safety courses throughout the year. Notable recent training courses have included helicopter extraction exercises and wilderness first responder training.

Employee benefits include health insurance, retirement, annual bonus plan, safety incentive plan, paid holidays, sick leave, vacation, recreational access to the property, paid training opportunities, wellness subsidy, personal protective equipment provided or reimbursed, and parental leave.

Equally important to operational success is maintaining a workplace where employees enjoy working together," said Goldstein. "Green Diamond supports a strong culture through events such as team dinners, company picnics, and holiday parties that help build relationships across the organization. Many of our employees spend decades with the company, and we regularly celebrate retirements marking 40 or more years of dedicated service."

Green Diamond is a member of four California trade organizations, including Associated California Loggers, and also is active in forestry organizations, such as the National Alliance of Forest Landowners.

"There is a whole team of employees who work together to accomplish our annual harvest goals," noted Goldstein.

"Green Diamond benefits from a talented workforce, experienced supervisors, and top-quality contractors," he added. "These strong relationships have been built over many years and continue to be a key focus, as they form the foundation of mutual success and long-term sustainability."



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