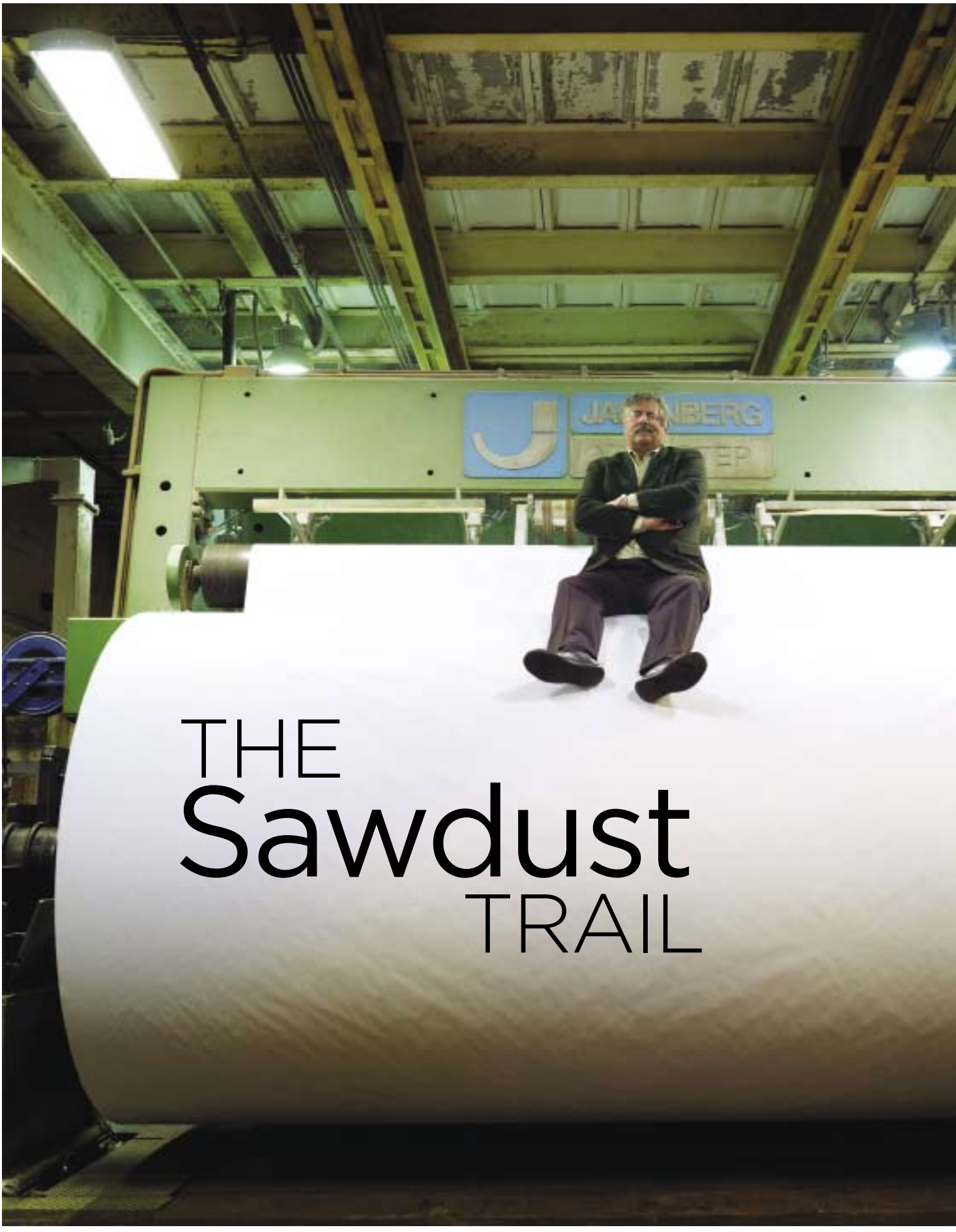


THE Sawdust TRAIL

PAPER CHASE
Flambeau River Papers boss Butch Johnson, just one of thousands of Wisconsinites whose lives are wrapped up in the industry.

On the backs of river rats and lumberjacks, Wisconsin became America's leading state for paper manufacturing. But drastic economic changes threaten the industry.

BY LEAH DOBKIN
PHOTOS BY CARL COREY

Robert Buchanan has vivid memories of growing up amid the paper industry in the Fox Valley. The future leader of the Fox River Paper Co. in Appleton could see a paper mill from his bedroom window, and he walked past his father's factory on his mile-long trek to school, with the pungent smell of paper manufacturing in the air.

"The industry is imbedded in my soul," says Buchanan.

Buchanan's grandfather left Springfield, Mass., in 1883 to start Appleton Wire Works, a company whose wire belts formed paper from wood pulp. "Men of vision understood new markets were being developed in the Midwest," Buchanan says. Both his grandfather and then his father ran the company, which became a major supplier in the Midwest, and then his father bought the Fox River Paper Co.

Buchanan succeeded his father as CEO and says he had "a lot of fun and a lot of heartache." In the latter category was his decision to sell the company to Neenah Paper in 2007. "It was difficult finding the right solutions for shareholders and employees," Buchanan says.

HISTORY LESSON
From timber piles and river logjams...

The success and sell-off of companies like Fox River Paper exemplifies the peaks and valleys of a hugely important industry. Wisconsin ranks first in paper production and is also among the top pulp producers in the country. Forest products built our cities and are critical to our economy.

Wisconsin's highest-paying manufacturing jobs are in the forest products industry, and they represent one in eight manufacturing jobs. And for every 10 jobs in forest products, as many as 16 more are needed in related sectors, such as trucking. That impact is felt even in urban Milwaukee County, where 4.3 percent (or roughly 3,800) of its manufacturing jobs are directly connected to the forest industry, according to Terry Mace from the Division of Forestry in the Wisconsin Department of National Resources. That includes paper companies, pallet manufacturers, printing and institutional furniture.

More than 55,000 products we depend on daily come from Wisconsin's renewable forests: solid-wood products like charcoal, baseball bats and toothpicks; wood alcohols such as colognes and paint removers; and products using wood cellulose, like rayon clothing, carpeting, food additives and thickeners, sandwich bags and football helmets.

Yet despite all these products made from trees, the state has actually increased its forestland over the past 50 years. Wisconsin is known internationally as a leader in forest management.

But the recession, slumping housing market, global competition, and resulting plant closings and consolidations have combined to severely affect the forest products industry. From 2002 to 2008, Mace estimates paper production decreased by 30 percent and wood production by 50 percent in Wisconsin.

At the peak in 1999, says Earl Gustafson, a vice president for the Wisconsin Paper Council, there were an estimated 57 paper and pulp mills in the state employing 52,000 workers. Today, that's down to about 48 mills and 32,000 workers.

Can the industry rebound and retain its top ranking in the nation? As experts ponder the future, they look to the past for clues, to the colorful history of Wisconsin's Sawdust Trail.

RAGS TO RICHES

When the *Milwaukee Sentinel* began publishing in 1837, it was literally a rag. The paper used to print it was actually made from rags. By the 1840s, the state's first paper mill, located at the junction of the Milwaukee and Menomonee rivers, supplied the *Sentinel.*

"Some mistakenly think Wisconsin's trees attracted papermaking to Wisconsin, but paper mills were here at least 25 years before wood pulp was used in papermaking. Earlier papers were made from plant fibers, such as straw, cotton, flax and jute in addition to rags," says Dave Lee, executive director of the Paper Industry International Hall of Fame and Paper Discovery Center in Appleton.

Wisconsin's original geographic advantage was its abundance of rivers. It takes a lot of water to manufacture paper, and a plant located on a river could also harness the hydroelectric power. At the time the first paper mill began production here, Wisconsin ranked fourth among the 30 states in the union in total mileage of waterways, with some 84,000 miles of rivers and streams.

But the industry had definite limitations. "Dam washouts and an inadequate supply of rags prevented the industry from becoming firmly established in southern Wisconsin," says Jeff Landin, president of the Wisconsin Paper Council.

Wisconsin, however, had another resource in great abundance. When the first Europeans arrived in Wisconsin in the 1600s, three-quarters of the state was covered by forests. By the early 1800s, settlers had cut or burned the southern forests and converted them into farms. But further north were plentiful forests. There were few roads, but within reach was a system of water transit, the 12,600 rivers and streams that wind through the state.

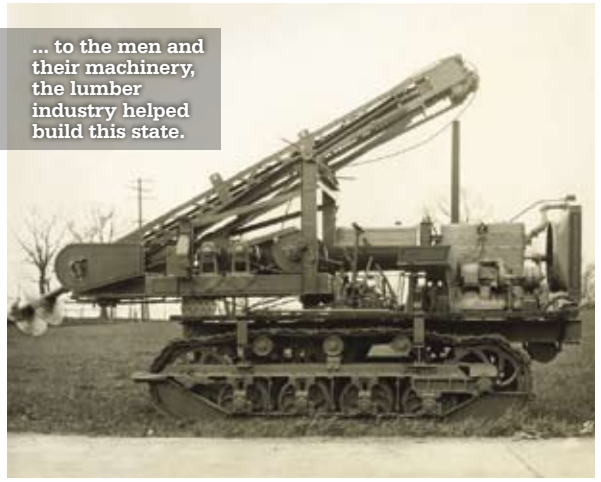
"Wisconsin has numerous and strategically located rivers, which helped make it the largest paper producer in the country," Landin says. "Milwaukee became a regional and national center for printing and paper-converting."

Logs were escorted by "river rats," agile lumberjacks who herded the slippery logs down swollen spring streams and rushing rivers to sawmills. Half acrobats and half bronco riders, they rode the bouncing, twirling logs through icy whitewater.

River rats had the most dangerous of all lumber jobs, says Henry Schienebeck, executive director of the Great Lakes Timber Professionals Association in Rhinelander and a third-generation logger. "Being a river rat was quite an adventure," says Schienebeck. "And the bragging rights of a successful run would be pretty awesome."

Flat-bottomed boats called bateaux shadowed the river rats downstream. Sometimes, the pile of logs became overwhelming: These boats carried dynamite to break up massive logjams, like the

Left image by *Milwaukee Journal Sentinel*, Wisconsin Historical Society; other photos by Wisconsin Historical Society



... to the men and their machinery, the lumber industry helped build this state.

one in 1884 at Grandfather Falls on the Wisconsin River, north of Wausau. Records show that there were 32 million logs piled 30 feet high and backed up for four miles.

By the late 1860s, logging had become a critical part of Wisconsin's economy, and lumberjacks working in logging camps were crucial to the effort.

By the late 1860s, logging had become a critical part of Wisconsin's economy, and lumberjacks in logging camps were crucial to the effort.

THE BARK EATERS

At 92 years old, Martin Syring is probably one of the last people left who lived in a logging camp. The young lumberjack later became a homebuilder. Now retired, he lives in Marshfield in central Wisconsin.

Syring's grandfather migrated from Germany to be a homesteader and his father was a saw filer for various logging companies. At the time, he says, a two-man team using a crosscut saw was the standard way to cut down trees. "Everything was hand-worked and you had to keep them saws sharpened up," Syring recalls.

From the middle of the 1800s to the early 1900s, the logging companies kept moving north, depleting the forests behind them. Syring's father followed along for years until he decided to give up the sharpening file and pick up the hoe. He bought a homestead from a logged parcel littered with stumps. Martin was born there.

It was hard work removing all the tree stumps. "We would clear an acre or two every year and finally we had 30 acres. And that was enough to live on," says Syring. The family concentrated on raising milk cows.

The farm was all but surrounded by logging camps, and they attracted Syring. In 1935, jobs were scarce, so the 18-year-old joined a logging camp. "I always liked the woods," says Syring. "But it wasn't for everybody."

He was the youngest and perhaps the skinniest lumberjack, weighing only 120 pounds. "I was called the odd fellow," he recalls, because he did so many different jobs. "If a guy was sick that was sawing, I would go out that day and saw with his partner, or take a team of horses out if a teamster was sick, or even hook [load logs]. You pull that old crosscut saw all day long; that was hard work. The rest of them jobs weren't bad."

Although Syring signed up voluntarily, that was not always the case. Gordon Connor, the soft-spoken, 71-year-old president of Nicolet Hardwoods Corp., says logging companies often used headhunters who worked with bartenders from various towns to snag guys down on their luck. "They would give them some strong drink that would knock them out for a while and round up a load of guys onto a railcar and head them off to a camp," says Connor. "The headhunter would get $25 a head to deliver 20 guys."

But you couldn't retain these loggers without a crackerjack cooking team. Each camp had a cook, a cookie (the cook's flunky), a hash slinger (waiter) and a bull cook who kept the fires going. "The cook was the most important person in camp and paid the best, because if you couldn't keep a good cook, you couldn't attract the best lumberjacks," says Connor. Lumberjacks consumed 6,000 to 10,000 calories a day.

One of Connor's fondest memories from hanging around the camps as a child was the homemade donuts and cookies. Syring has his own culinary nostalgia: "You'd have a pile of pancakes a foot high. I could eat half a dozen at a sitting, and they'd always have some kind of a meat, such as venison."

It was not uncommon for just one meal to include stovelids (flapjacks) with blackstrap (molasses), rolling stock (doughnuts), bacon, fried murphys (fried potatoes), prune pies, beans, cakes, brown sugar cookies, cereal, jerkwater (coffee), cheese and milk.

At 5 or 6 a.m., the bark eaters (lumberjacks) would wake up to the sound of the

WUWM MILWAUKEE PUBLIC RADIO

LEAH DOBKIN TALKS ABOUT WISCONSIN'S CHANGING PAPER INDUSTRY ON WUWM'S "LAKE EFFECT," FEB. 19 AT 10 A.M. AND AGAIN AT 11 P.M.

TIMBER TWOSOME
Husband-and-wife logging team Kim and David Buechner are married to the job.

gabriel, usually a tinhorn or a triangular dinner bell. They would jump out of their muzzleloaders (bunks) and race to the cook shack.

All you would hear was the clanging of metal plates, cups and silverware. No one talked "or you wouldn't get the food down," Syring recalls. If you took too long, "they'd take the food away. The bosses didn't want you to sit there and jabber, that's for sure."

Logging sites were typically one to three miles away from camp. Lumberjacks worked from dawn to dusk, from "kin to kant" or "can see to can't see." They had a quiet dinner and then some homespun entertainment. Lumberjacks would bring their instruments. Syring's camp had a little concertina, guitar and music box. "You'd listen to the music, but you were pretty tired. You didn't feel like dancing." By 9 p.m., lights were out.

The only day off was Sunday, which was wash day. All the men did their own laundry in boiling water to kill the lice and fleas.

Besides these pests, the cold was another constant battle. Syring wore a wool cap with earflaps, a plaid wool coat, big chopper mitts made from leather and wool, and rubber-soled leather boots. You'd get used to the weather, he recalls: Once you started working, you had no problem staying warm.

Rarely did they miss a day in winter. One day, he recalls, "the boss stuck his head in our bunkhouse and said, 'We're not going out today; it's too cold for the horses.'" Horses, especially when working, can inhale too much cold air and freeze up their lungs. But some men went out to work anyway for the extra cash, Syring recalls. It was 30 below zero, not counting the wind chill.

Injuries were also a constant danger. Syring vividly remembers an accident that happened that winter.

"We had a boss get killed. He got up on top of a big roll of logs, 25 feet high. We decked them logs with a jammer, a derrick for loading logs. A team would tighten that cable and pull that log up to the top of that pile. That team was a pretty snappy team, but the jammer tore out on the bottom and the whole roll come down and the

boss went down with it. I was the youngest guy [and fastest] and I run down the road to get more guys to come help. We needed more cam hooks to roll the logs off him so we could get him to a hospital, but he was already dead when they got there. Well, nobody went up there [on top of the logs] anymore after that."

THE RISING INDUSTRY

By 1893, Wisconsin was one of the largest lumber-producing areas in the world. Paper mills popped up like wild mushrooms throughout the state. Given the importance of water transport, the industry began moving north along the state's major rivers – the Fox, Wisconsin, Chippewa, Menomonee, Peshtigo, Eau Claire and Flambeau.

The Fox Valley became the state's papermaking center: By the 1870s, it boasted the largest concentration of paper mills in the world. Lake Winnebago, at the upper end of the Fox, drains down to Green Bay, falling about 170 feet. Dams and locks were built along the river to provide power and transportation for goods. Cities like Appleton, Neenah, Menasha and Kaukauna experienced a rags-to-wood-pulp riches story.

But one of the largest paper companies was outside the Fox Valley: Consolidated Papers Inc. in Wisconsin Rapids. In 1894, several small water power concerns on the Wisconsin River organized to form a consolidated company. It soon added paper manufacturing, and by 1904, had the world's first electrically powered paper machines. The company would grow to absorb other paper companies, a timber company and other concerns, giving it control over water, timber and the manufacturing process. Its timberland base spread across 670,000 acres of Wisconsin, Michigan, Minnesota and Ontario.

George W. Mead's great-grandfather helped start the company, and after his death in 1902, Mead's grandfather took over and ran the company until 1950. Mead's father succeeded his grandfather until his retirement in 1966.

"My grandfather's most important accomplishment was to buy the rights to a patent involving coating paper more cheaply," Mead says. "Time Inc. was just starting up *LIFE* magazine, which needed low-cost coated paper to properly reproduce photographs. A very close relationship was established, which proved to be mutually profitable over many years."

George W. Mead joined Consolidated Papers in 1952. "You had to prove yourself, pay your dues," he says. "My first job was as an engineer deep in the bowels of the plant."

He progressed through the ranks to become company president, but only after having to "double-pay" his dues, first as the grandson, and later the son, of the company president. He remembers his grandfather's style vividly:

"A senior New York banker, Stillman Rockefeller, visited us around 1960. Although quite junior, I was invited to lunch, way at the foot of the table, but I could clearly hear the following: Rockefeller: 'Mr. Mead, anyone as conservative as you would shave with a straight-edge razor!'" Grandfather Mead: 'Mr. Rockefeller, of course I shave with a straight-edge razor!'"

The old man might have raised his eyebrows at the many changes that occurred under his grandson's tenure as CEO from 1966 to 1993. Consolidated Papers grew to become one of the most technologically innovative paper companies in the U.S., with 49 national and 30 foreign patents, and a major employer in Wisconsin. By 2000, when the company was acquired by Finnish-Swedish paper giant Stora Enso Oyj, Consolidated was doing $1.84 billion in annual sales. It was a different story entirely for the industry's smaller operators.

LUMBERJACK & LUMBERJANE

David and Kim Buechner are a lumberjack and lumberjane, a husband-and-wife logging team in Butternut, Wis., a town of 428 people just north of Park Falls. They grew up in the industry.

Kim's mother worked in the wood veneer mill, down the road from a broomstick factory in Butternut. Her father worked at the local paper mill. David's father built roads and logged his 400 acres in the winter to help pay property taxes. His father gave him an ax when he was only 5 years old.

When they started Ace Logging five years ago, David and Kim hired a full-time worker who cut the trees down. David did the skidding – removing and piling the logs – and Kim did the books and miscellaneous things, such as changing oil and fixing machinery.

Two years after starting the business, the unthinkable happened. Kim, at age 39, had a heart attack, and a week after her triple-bypass surgery, she had three strokes. She recovered, but about nine months later, David had quintuple-bypass surgery.

The medical bills piled higher than the lumber, and the financial strain endangered their business. They decided they couldn't afford to have somebody working for them; instead, Kim would run the heavy equipment and become a full-fledged lumberjane. "David says I'm pretty good at what I do, and we've always done everything together," Kim says. "The only difference between the men and me is that they go to the bathroom in the woods. I prefer my empty ice cream bucket in our trailer."

David runs the processor to harvest the logs, and Kim runs the forwarder and Caterpillar to move the timber and make the skid roads. The arrangement helps pay their medical bills and the payments on $400,000 worth of logging equipment. Kim and David used to work seven days a week, but more recently only six. "Sunday is designated fishing day. But some work days, we'll just decide to stop early and hit the fishing hole. Being your own boss does have advantages," says David.

The Buechners gross $300,000. "But at the end of the tax year, what the top line says and what the bottom line says makes you sick," says Kim. There have been times when they don't even net $7,000 by year's end. The payments on their equipment are $60,000 a year, but they have friends in the business who pay $180,000 annually.

Many loggers are idle during the recession, but the Buechners are surviving because theirs is a smaller operation that takes on specialized jobs and maintains a lower overhead. "It doesn't pay to buy a $700,000 piece of logging equipment that can cut 400 cords when there's no use for it," David says. "Right now, the mills all cut back. These people that have this big equipment and these big payments, they're sitting home."

The latest logging equipment looks like something built by NASA, computerized and climate controlled. Kim's older forwarder has fewer bells and whistles.

On the day of the Great Chicago Fire, a seven-county area in Wisconsin was engulfed in flames. Between 1,200 and 2,500 people died, many times the 300 deaths in Chicago.

Inside, when she's scrambling around the forest to pick up cut timber, it bounces her around as if she's in a popcorn maker. That can take its toll. "My back is bad. David's is horrible. He's been doing this his whole life," Kim says. "He has to go to the chiropractor at least once a month so as not to be in pain all the time."

Still, Kim says she wouldn't work anywhere else. "Nobody else has a view like this. I mean, you can be driving the forwarder, and a fawn runs out in front of you chased by a bear or a wolf, and you can get between that deer and that wolf and save that deer, which I do."

She's also proud of their environmental impact. "A lot of people say, 'Oh my God, you're killing the trees.' We're not. We're helping the environment. It's like gardening. You plant [a forest], you prune it, you weed it and take the bad ones out."

"We're doing something good for the country," David adds. "We took pretty near all the bad stuff out of there. Now it's going to grow up and be a good forest."

Still, it's backbreaking work for long hours and low pay. Why keep on with it? David considers: "You know, I don't know anything else. This is all I've done. And around here, there's not much else." Kim agrees: "I've worked in the lumber mill. I've done other things, and I'd have to say this was the best job that I've ever had."

"We don't want to move," David adds. "We like living in a small town like Butternut. We hunt, we fish, we work. That's what we do."

CHANGING TIMES

As the lumber barons depleted the northern forests, they left what were called "cutover areas," vast cemeteries of dead stumps. The leftover debris combined with dry weather fueled disastrous fires that plagued the cutover areas.

On Oct. 8, 1871, the day of the Great Chicago Fire, a seven-county area in the northeast corner of Wisconsin was engulfed in flames, the less-chronicled but far more horrific Peshtigo Fire. Between 1,200 and 2,500 people died, many times the 300 deaths in Chicago, and the most caused by any single fire in American history. More than a million acres erupted into a fireball that author Theodore Kouba described as a howling hell of flames. "People boiled in the river in Peshtigo," says Richard Connor, 73-year-old president of Pine River Lumber Co.

One year later, in 1872, Connor's two great-uncles and great-grandfather established an Indian trading post and purchased land for farming and timber. Throughout much of central and northern Wisconsin, the Connor family built mills, railroads, stores and schools, as well as factories for flooring, furniture and cabinet plants. They were also early proponents of selective cutting to sustain forests, beginning this approach in 1929. "It was cut-out-and-get-out timber practices, but our family demonstrated how to manage forests to provide multiple-use sustained yield," says Sara Connor, Richard's cousin.

Sara, 60, is president of the Forest History Association of Wisconsin and helps run the Camp Five Museum in Laona. The museum includes a logging camp, farm and steam train owned by the Connor family, and dates back to the late 1890s. Laona is just east of Rhinelander, and the forests owned by the Connor family are surrounded by the verdant Chequamegon-Nicolet National Forest.

"Just look at how beautiful and diverse our forests are; they are unique in the state," says Sara. The Connors' forests boast hardwood and coniferous trees of many different ages and sizes, and undergrowth that could support animal life in a Disney-like forest.

As northern Wisconsin became checkered with cutover areas of denuded timber, logging companies and the government enticed immigrants and others to buy the barren land for farming. But most of the land wasn't suitable for agriculture because of the short growing season and poor soil. Many families went bankrupt or sold their property.

Eventually, the realization set in that northern Wisconsin is more suitable for forests, and that good management is essential to maintain the forest products industries, recreation and wildlife. As early as 1911, the state created a forestry nursery program. By the 1920s, reformers began pushing for new state laws that encouraged sustainable forest management. In 1930, the state instituted a millage tax, a steady source of designated funding to support the acquisition, development and protection of forests.

The state's nursery program has produced 1.5 billion seedlings since its inception. Debra Kidd, spokesperson for the Chequamegon-Nicolet National Forest, calls Wisconsin's forests "one of the greatest conservation stories in the world."

Well-conserved forests also help conserve the industry that depends on them. Terry Mace of the state's Division of Forestry points to the millage tax: "A stable funding source keeps a stable forestry program, which feeds into a stable forestry industry and jobs."

One beneficiary is Park Falls, Wis., the Ruffed Grouse Capital of the World, whose one major industry is paper. It's been that way since 1896, when the company now known as Flambeau River Papers began operations on the Flambeau River. The company was the town's mainstay until its closing in 2006.

That put 300 people out of work, roughly 10 percent of the town's population. Then Butch Johnson, a CEO of two timber companies, bought the mill with the help of state government loans and grants and other investors. It's now being reinvented as a green company.

Butch is a big man with a booming voice and a soft heart. His company employs 315 people and annually produces 153,000 tons of paper products and by-products like magazine inserts, artist

HORSE SENSE
Horse logger Taylor Johnson with his two co-workers, Daniel and Mark.

paper and wood chips. It has maintained production despite shrinking demand by keeping prices in the middle." You don't have to be the fastest zebra," says Johnson, "you just can't be the slowest."

Flambeau's wood pellet production plant creates a new market while using previously wasted scraps. Wood pellets are an increasingly popular alternative heating source, and the plant produces 80,000 tons per year. It has the capacity to produce 320,000 tons – all done using wood residue from the manufacturing process and condensing it into pellets. Flambeau is one of 13 pellet plants now operating in the state, says Mace.

Academic and industrial experts are discovering other ways to harness alternative energy from wood, says Scott Bowe, who works with the Forest Products Laboratory at UW-Madison and is a professor for the UW Forest and Wildlife Ecology Department. Wood can be fed to bacteria to produce ethanol. Wood can also be gasified into what Johnson calls "green or tree diesel" and "green wax." Flambeau and NewPage, a large paper company with four mills in Wisconsin that evolved from Consolidated Papers, received a U.S. Department of Energy grant to create this diesel fuel. The new biorefinery at Flambeau River Papers will be operational by 2012.

The Flambeau and NewPage projects will together produce about 3 percent of Wisconsin's total diesel fuel, notes Johnson. Flambeau, he predicts, will ultimately be free of fossil fuel – "and with a biorefinery that will put out alternative fuel, supplying the paper mill with all its energy."

A plant in Hayward that makes wood panels and is operated by Tennessee-based

Wood byproducts are now used to make a long list of products. "We're like butchers who use everything in the pig except the squeal," Butch Johnson says.

Louisiana-Pacific sells its mill wastes to Xcel Energy, which is installing biomass gasification technology (and replacing a coal-fired unit) at its power plant in Ashland. When completed, Xcel will use 100 percent biomass in all three boilers, making it the largest biomass plant in the Midwest.

The Hayward plant has also pioneered a new product called TechShield, a radiant barrier panel installed in buildings and homes to minimize heat loss in the winter and heat gain in the summer.

Flambeau River Papers, meanwhile, has become a leader in producing lignin products, which is extracted from wood fibers when making paper. Lignin is an adhesive that holds wood fibers together and is used in making ceramics, medical treatments, vanilla flavoring and deodorants. A sweet residue can also be separated from the lignin and made into a substitute sugar called xylitol. An increasingly popular ingredient in gum, hard candies, mints, toothpaste and mouthwash, xylitol has proven to be both an anti-carcinogen and effective at reducing cavities.

Another byproduct of papermaking is the Flambeau plant's wastewater treatment sludge. It is distributed free to local farmers, who use it as fertilizer. Johnson also plans to sell wood ash for fertilizer and road cement once the biorefinery is up and running.

"We're like butchers who use everything in the pig except the squeal," Johnson says.

Bowe offers a radical new vision of the industry: "Paper companies may end up making more money producing chemicals and energy from various wood residues than they do from paper." Anything you can make from petroleum you can make from wood with a little chemical tinkering, says Dan Keathley, chair of the Great Lakes Forest Alliance.

Accompanying these efforts are continuing improvements in pollution controls. "At one time pulp and paper mills fouled our rivers and air," says Gov. Jim Doyle. "But the paper industry has become a proactive partner in improving the environment."

While the number of paper and pulp mills and employees has shrunk significantly in the last decade, a post-recession rebound is quite likely, experts say. The move to sustainable forests has given Wisconsin a perpetual source of raw materials for the state's increasingly innovative companies.

"The availability of certified wood is one factor that has Wisconsin poised to perform especially well," says Paul Pingrey, who is in charge of forest certification for the DNR. "With the increased awareness of society's impact on the environment, the public is going to want assurances that paper, lumber and other goods come from well-managed forests. Wisconsin and the Great Lakes region are in a better position than any part of the country to answer that call."

THE OLD TRADITION

Even as high-tech companies are creating startling innovations, the old traditions persevere. Taylor Johnson, 35, makes his living with an ax, chainsaw and a couple of horses. Johnson is a fifth-generation horse logger and the only full-timer left in Wisconsin, as far as he knows. His great-grandmother grew up in a logging camp and was the camp's cook and beer brewer. She met her husband in a logging camp and gave birth to Taylor's grandfather. His great-uncle was a river rat, his father and uncle were both horse loggers, and Taylor inherited their adventurous spirit.

He's part Irish, part Swedish, about 5-foot-9 and stocky, with arms thick as tree limbs, a ruddy complexion and sun-bleached eyebrows. Johnson's co-workers are Daniel and Mark, two chestnut Belgian draft horses he bought from an Amish farmer. Mark is 6 years old and Dan is 11 years old. Each weighs about a ton.

When horse shopping, Johnson selects only "confident" horses. "I don't mind if he gets excited as long as he's a thinking horse," he says. He rejects a horse that has a swirl of hair between the eyes. "Odds are that horse will have mental problems." And horses with one foot straight out are sure to have physical problems, he says.

Dwarf mules have often been used in horse logging, but Johnson says they're too expensive, though he likes them. "I trust mules more than most horses because they are less likely to run into a tree," he says. "When you log with horses, you have 4,000 pounds of flight animal in your hands. They can break you in half and not even know it 'cause they're so strong."

Johnson had to teach his agrarian horses how to log because all they knew was to march up and down fields. Logging horses also need to get used to a lot of noise without getting spooked.

"Horses are very sensitive and can feel tension even if you are not holding the reins tightly," Johnson says. "A guy brought a horse out yesterday to be trained. I hooked him to a log and he got excited and tipped over. I stood there waiting for him to gather his thoughts. He saw I wasn't excited, so he just got up like nothing ever happened. But if I would have panicked, he would have panicked."

Work days may last 14 to 15 hours (the horses generally work five to seven of those hours). As Johnson prepares Dan and Mark for a day's work, he whistles happy tunes and whispers "you're a good boy" to each one. He makes a special concoction of vinegar and detergent, gently rubbing it into their bodies to ward off horseflies. He places extra pads under their straps and carefully checks for burrs and mud before putting the harnesses on. "With even a little mud under their harness, they can develop sores, because they're pulling such heavy loads. They depend on you to keep them safe and healthy."

When it's time to get to work, Johnson backs the horses into the hitch attached to the forecart, which is used to transport freshly cut logs from the forest to the skidway, a road along which he piles the wood. There's a tractor seat on the forecart, but Johnson stands holding the reins, looking

like a gladiator in his chariot. As he works, the forest fills with the sounds of wheels squeaking, chains rattling and hoofs clopping on the ground.

Johnson likes the fact that this is low-impact logging. "The ferns aren't even knocked down because the horses can feel and step around them."

Horse logging fills small, specialized markets. It's for landowners who don't want heavy machinery on their property, have smaller jobs, and need thinning and removal of diseased trees. Johnson's customers tend to be cottage industries, such as craft furniture makers and the Amish. Horse loggers are not in competition with large companies and mechanized loggers. "There's a spot for me in this industry. I wouldn't begrudge their spot," he says. "Big guys also help me. They sometimes buy wood from me."

All loggers are having tough times, but Johnson believes small businesses are better able to weather the recession. Mechanized loggers with larger volumes have so much debt and expenses. Johnson only cuts what he can sell. "I'll cut one truckload of 10 1/2-foot aspen," he says. "It's not as big a risk."

It's tough, physical, dangerous work. Once, Johnson jumped off the flatbed truck after loading some wood and forgot to take the hatchet in his belt off. He cut a tendon and an artery in his right hand. Blood was spewing everywhere. Miles from a hospital, he quickly made a tourniquet from his suspenders, secured his horses and said a quick prayer to calm himself. His truck was a stick shift, so he drove with his left hand and shifted with his arm as he drove miles of dirt roads.

He made it to the hospital. "People were gasping and a nurse went into panic mode. I was hooked up to monitors and gave my last living will and testament." Johnson jokes about it, but he was laid up with a splint for months and took a year to regain muscle strength and flexibility.

Johnson has also had everything from bloody noses to back injuries. "Once, a falling limb broke my hard hat in half and knocked me down to my knees." He was lucky. His dad broke his neck and back, his uncle broke his back, and his cousin lost an arm while logging.

"If I can stay healthy, I'll be doing this when I'm 80 years old," he says. "I like the adrenaline factor. Everything else seems boring. And I like the quiet of the woods."

He's not lonely working alone in the forest, but he does get a forlorn feeling sometimes when thinking about the dying tradition he represents. He is the last horse logger alive in his family. Perhaps his son will pick up the reins when he grows up. "It's a big piece of our rural heritage."

Once, all logging in Wisconsin was done by hand. Now, across the North Woods, the machines have taken over. "Horse logging is getting to be a lost art," he muses. "Old loggers see me and they get emotional just to see the horses in the woods again." ■

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