

## American Forest Magazine Article

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By Chris Bolgiano

It could have been a scene from long ago: A team of silky chestnut horses with feet as big as buckets slobbered quietly as men in red-checkered shirts unloaded gear. Suddenly the buzz of

chain saws broke the morning silence in this western Virginia woodlot. This was no romantic replay of the past, but a contemporary crew of "biological woodsmen" making a living in today's forests.

"Logging with draft animals is not a matter of nostalgia," says Jason Rutledge, crew boss and a national leader in defining the terms and the practice of a newly revised tradition. "It's simply the best solution to many current forest problems."

WANT TO KNOW MORE?

Plans for the horse logging arch (cost is \$20 to \$25 but free with membership in the organizations below), and information about horse logging in general, can be obtained from:

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Glenn French, President, North American Horse and Mule Loggers Association, 8307 Salmon River Hwy., Otis, OR 97368; 541/994-9765; (e-mail) [gfrench@centurytel.net](mailto:gfrench@centurytel.net)

Agreement is widespread and growing. A recent Internet search on "horse logging" yielded not only home pages for horse loggers from Nova Scotia to Texas to Oregon but also help wanted ads from landowners seeking horse loggers across that same continental span. There were landowner guidelines for writing horse logging contracts, feature stories in various papers on local horse loggers, a directory of horse loggers compiled by Rural Heritage magazine, and the Draft Horse Resource support site, with a chat room where you are disqualified for "cussing or slapping the reins."

What is bringing this old-fashioned art back to the forefront? Ironically, it is modern life. As private forestland gets divided into smaller and smaller chunks, the reduced tract size leads to increasing forest fragmentation. And owners of those tracts are more environmentally savvy.

"The immediate attraction of skidding with horses, mules, or oxen," says Rutledge, "is its low environmental impact." The process of skidding--hauling the tree from where it is cut to where it is loaded onto a truck--causes much of the havoc associated with logging, including damaging standing trees and digging deep ruts in the ground.

Injured trees diminish the wood's future value, and erosion from logging roads and skid trails contributes heavily to sedimentation of rural streams. As Rutledge murmurs a command and his team of horses leans into the weight of three poplar logs, I measure the ruts they leave: exactly 1.5 inches deep, significantly less than a mechanical skidder. Although the crew has been working here for weeks, very few trees show any damage from passing logs.

By comparison, a 1995 study by University of Missouri researchers found that mechanized skidders, which are much heavier and less maneuverable than horses, require wider trails, leave deeper ruts, compact the surrounding soil significantly more, and wound many more residual trees. Plus they're noisy, smoky, and reek of diesel fuel instead of hay-filled barns.

However, Rutledge cautions that, "horse logging can also be environmentally damaging, depending on how the logger operates." One issue: the matter of technique--how logs are hitched to the animals. After years of research, Rutledge adopted a horse logging arch developed by old-time horse logger

Charlie Fisher in Andover, Ohio. The arch, a metal bar cantilevered 14 degrees forward in front of the axle's center line, hoists each log high enough to avoid gouging the ground as it slides forward (see sidebar).

Another issue is philosophical. Past methods of harvesting, particularly high-grading, in which only the valuable trees are removed, have left poor-quality timberlands across much of the country.

Although he discourages the practice, Rutledge warns that "horse loggers can high grade just like conventional loggers." Instead, he advocates "low-grading": cutting the worst trees first, trees individually selected through a matrix of indicators he calls "nature's tree marking paint"--frost cracks, crown damage, presence of certain fungi, and other signs of disease or injury. Research has shown that trees remaining after a thinning can grow two to three times more rapidly than before, adding considerably to their value for the next harvest cycle, which Rutledge figures in 10- to 20-year intervals.

In the meantime, the forest remains essentially intact. "In the mixed eastern hardwoods where I work, I leave about 70 percent of the canopy, plus obvious wildlife features like snags," Rutledge says. "That leaves plenty of diverse habitat and admits some sunlight to the forest floor for natural regeneration from seedlings, but prevents epicormic branching" (undesirable branches stimulated by sun).

In the more densely shaded conifer woodlands of Oregon, Glenn French, president of the North American Horse and Mule Loggers Association, aims for 50 percent canopy retention. "I want sunlight to reach the lower green branches of the remaining trees to stimulate tree growth, but I don't want an opening big enough to allow wind to blow them over," he says.

Like Rutledge and most other horse loggers, French cuts mainly on small, privately owned woodlots. "The landowners that hire me are more concerned with the damage I won't do than with the money they won't earn," he said. "That's the trade-off with horse logging--it's slow and low production, and therefore brings in less income over a given period of time."

The literature on horse logging averages production at 1,000 to 3,000 board-feet a day, depending on topography (horses can handle most landscapes except very steep slopes and rocky ground), skidding distances, type and condition of trees, and size of crew. A recent survey in Alabama, where an

estimated 50 or so horse loggers operate, found that most crews consisted of three people or less, usually family members. Logs were loaded on a side-loading truck and driven to the mill at the end of the day. "Day after day," says Mark DuBois, who helped direct the survey as Extension forester and assistant professor at Auburn University, "each of these loggers is producing an average of 6,500 tons, approximately 2,600 cords of wood per year."

Markets are wildly variable, but if a mill pays an average of 30 cents a board-foot, for example, on less-than-best eastern hardwoods, then 30 acres of those trees at 1,500 board-feet an acre could net \$13,500.

It's common practice for mechanized loggers to take about half what the mill pays while the landowner gets the rest (if no forestry consultant is involved, which is often the case). Horse loggers, however, generally require about 70 percent of mill receipts in order to provide a living wage over the longer time span needed to harvest.

So landowners see less immediate cash, but they also see a continuously functioning forest that is gaining future value. The most valuable trees remain to grow higher-quality lumber at a faster rate, and wildlife habitat, water quality, and scenic values remain at high levels.

There are other, less visible values. More money stays in the local community, because horse loggers do not send off huge payments on equipment. One researcher noted that a horse can be maintained for a year for less than the cost of one mechanical skidder tire. Locally grown hay powers the four-legged skidders instead of fossil fuels.

And as Jason Rutledge points out, "You just don't go out to the barn one morning and find a baby skidder."

And although horse-logged lumber currently accounts for a tiny percentage of the wood products mainstream, the practice's resurgence is not altogether welcomed by the conventional logging establishment.

"There's a segment that fears horse logging will replace all mechanized logging," says Mark DuBois of his Alabama experience. That's hardly likely, especially on high-volume operations such as industrial pine plantations. But horse logging may be poised for a promising future.

The well-established trend in private forestland toward fragmentation and smaller tract size, combined with rising environmental concern and landowner knowledge, is challenging business as usual.

Fewer landowners are willing to incur the massive change to their forest imposed by clearcutting or the annoyance and risk of damage associated with heavy equipment.

A few public land managers have also utilized horse loggers; in the West, especially, there is growing interest in using them to reduce fuel loads in heavily visited tourist areas where forest aesthetics are crucial.

The Canadian province of British Columbia, where the provincial government owns 94 percent of the land, seems to be the first place in North America where governmental policies actually promote horse logging. After the Quesnel Forest District began to set aside small areas for horse logging only, an analysis found that the number of families supported by full-time horse logging increased from eight in 1984 to 20 in 1998.

"We are now committed to offering 15,000 cubic meters a year [about 4.3 million board-feet] for 10 to 15 years to horse loggers," said David Zirnhelt, who served as Minister of Forests from 1996 to February 2000 and was a founding member of the regional Cariboo Horse Loggers Association. Twenty-five hundred cubic meters (about 718,000 board-feet) will keep one full-time horse logger busy for a year; many of the horse loggers are part-time farmers.

Rob Borsato, the current association president, feels that "the long-term nature of this commitment by the government will make a huge difference in attracting people into horse logging."

The biggest problem with horse logging, in fact, may be finding people to do it. Surveys in Alabama and elsewhere indicate that the demand for horse loggers already far outpaces the supply. Estimates of the number of horse loggers in the United States range from 2,000 to 10,000, many of whom learned the trade from their fathers or grandfathers, and many of whom are nearing retirement age. Videos and manuals are available, but it's a difficult occupation to learn without experienced guidance. Jason Rutledge founded the Healing Harvest Forest Foundation in part to address that need through a student earn-as-you-learn program. He also plans to establish a formal apprenticeship system; one of his many

students was working with him when I visited.

Workshops are held by several organizations around the country, and in the Canadian province of Ontario, Sir Sandford Fleming College offers a month-long field-based curriculum that includes silviculture, safety, and "equine technology."

For those who scoff at the power of equine technology to get the job done, remember that until the early 1900s, when steam-powered equipment began to replace them, draft animals hauled out nearly every virgin tree across much of this continent. It may be old technology, but it's tried and proven. AF

Long-time contributor Chris Bolgiano authored the prize-winning *The Appalachian Forest, A Search for Roots and Renewal* (Stackpole Books 1998). [TOP]

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