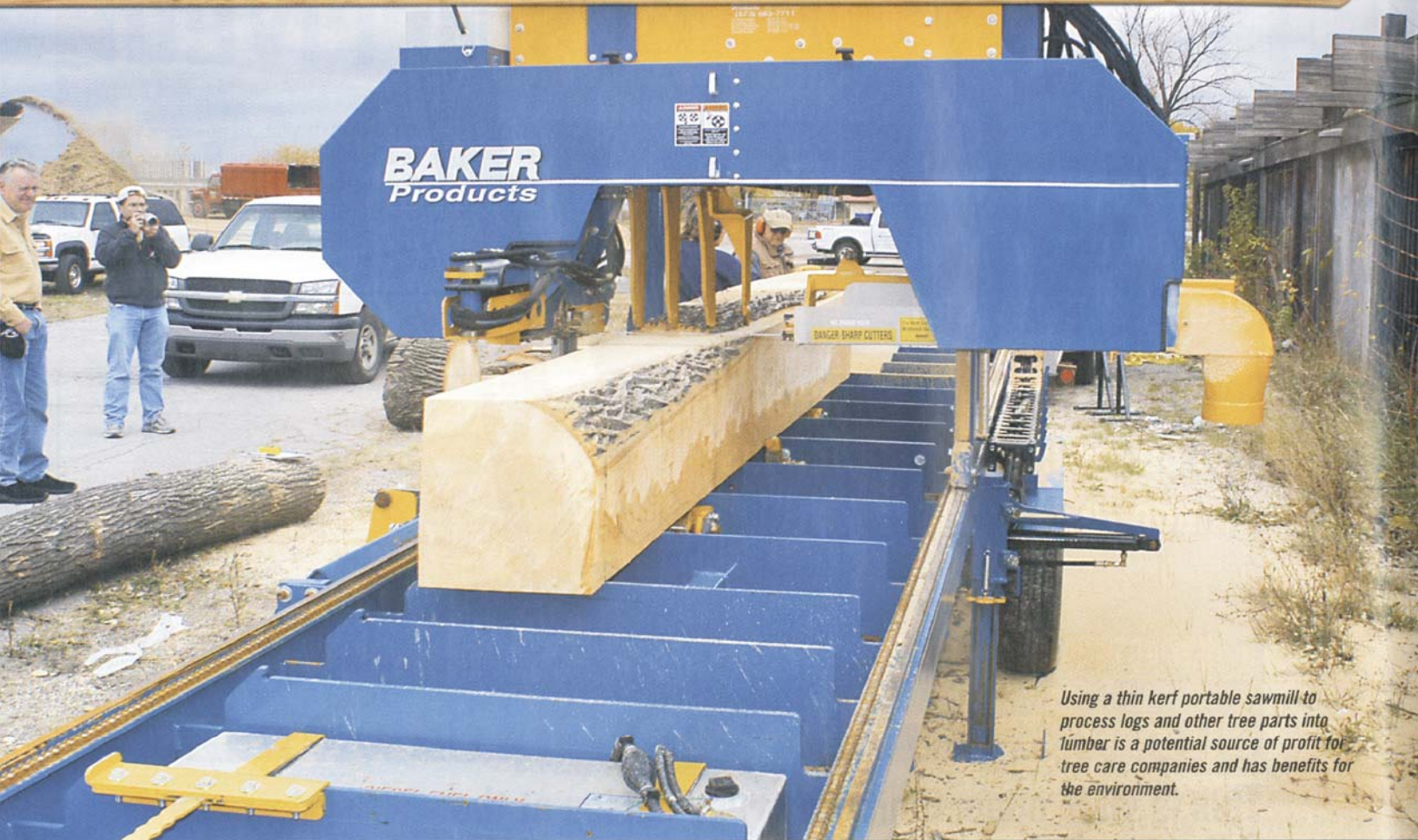


# Thin Kerf Sawmills: Why Waste Profits When You Can Profit from Waste?



*Using a thin kerf portable sawmill to process logs and other tree parts into lumber is a potential source of profit for tree care companies and has benefits for the environment.*

By Jack Petree

**W**illiam Jewell makes his living rescuing wood fiber from historically significant trees and wooden structures then finding ways to put the wood's natural beauty on permanent display through the creation of functionally useful and artistically shaped objects of the woodcrafter's art.

Using a thin kerf portable sawmill to process logs and other tree parts into lumber, Jewell, operator of Historical Woods of America, demonstrates each day that some part of the fiber that tree service firms sometimes have to pay to get rid of could be, when milled, a potential source of profit and an environmental enhancement benefiting the community.

## Waste avoidance can be profitable

From the standpoint of an arborist, waste avoidance can mean substantial cost avoidance. Any "waste" that can be processed into "product" doesn't have to be disposed of and that can mean reduced disposal costs. Even better for the company with wood to dispose of, processing done at a profit allows for a positive cash flow realized from what was once nothing more than a source of red ink.

"Soft" profits are also important to consider. While the general public is often not willing to spend to be "green," that same public will make positive purchasing decisions based on the perceived greenness of a company if all other things are equal. A number of major tree service firms across the nation have made a green approach to their business a key element in their marketing programs, realizing people will

select a firm recognized as being environmentally sensitive over a more ordinary firm if that choice is an easy one for them to make.

For the public, the benefits of waste avoidance are also significant. If even half the sawable material discarded each year in managing the urban forest were to be utilized for lumber, thousands of acres of forested land would be left growing to serve the public's future needs for wood products rather than being harvested prematurely. All those trees continue to scrub greenhouse gases from the atmosphere as they continue to grow.

Atmospheric carbon releases are also avoided when waste wood is sawn into lumber, rather than burned, because recovered fiber contains the carbon taken out of the air as the tree "breathed." The carbon is

trapped (sequestered) in the wood's cell structure. The tons of carbon sequestered in the wood rather than being released to the air as tree parts rot or burn means tons of greenhouse gas emissions that might otherwise be released to the atmosphere are avoided.

### Waste reduction is a national priority

The service firm recovering salable products, either as part of its own operations or in cooperation with other companies such as those William Jewell operates, taps into a significant reservoir of opportunity. The United States' Environmental Protection Agency considers source reduction (the conversion of material once considered to be waste into useful products before it ever enters the waste stream) to be "... the key to solving America's growing solid waste problem." According to the EPA, "If the entire country adopted source reduction principles, the strain on our limited natural resources would be dramatically reduced." Each day, as they ply their trade, arborists deal with the kind of waste the EPA is talking about; waste that would be considered a valued resource if utilized profitably to its highest and best use.

Demonstrating the opportunity, the U.S. Forest Service estimates that in the cities of the United States alone, enough sawable material is produced in maintaining the urban forest to produce in excess of 3.8 billion board feet of lumber each year, an amount equal to "... nearly 30 percent of the hardwood lumber produced annually in the United States."

### Jewell's success

William Jewell found his true calling in life in 1997 when, to help alleviate the stress associated with owning a successful construction company, he began crafting wood projects as a hobby. Through this exercise he discovered he had both a passion for wood and a gift for woodworking. People appreciated Jewell's gift so much that it soon became apparent his hobby could be the basis of an on-going business endeavor.

Studying the potential of an unexpected



*William Jewell, shown here, founder of Historic Woods of America, produces lumber from both ordinary trees and those trees with historic value, recovering wood that otherwise would either be wasted or underutilized.*

opportunity, Jewell began to interact with tree service firms in the Fredericksburg, Va., area as he sought the raw material needed to pursue his new passion. He quickly saw that dozens, perhaps hundreds, of historic or otherwise unique old trees throughout the Mid-Atlantic region, some of them planted in colonial times, were being taken down and burned, ground up, or simply dumped in landfills. Feeling compelled to action in 2001, Jewell purchased a 42-hp, diesel-powered LT40 Wood-Mizer thin kerf portable sawmill and began "saving trees and sawing lumber" to support his work under the business names, Historical Woods of America, (HWA) Inc. and American Log Works, Inc., of Fredericksburg, Va.

Portable sawmills such as the Wood-Mizer mill Jewell chose to buy have come into their own during the past quarter century as entrepreneurial men and women have sought ways to earn a living in a forest products industry that has seen increasing consolidation and globalization. That consolidation in the traditional industry means many of the niche markets once served by conventional sawmills are now underserved or not served at all. In recent years, increasing numbers (some estimate 50,000 or more) of one- and two-person

operations basing their business on "small milling" have taken advantage of the resulting opportunity.

Urban foresters have benefited from the new businesses because logs and other tree debris resulting from tree work are not usually considered desirable by high volume commercial production sawmills. Those logs can, however, be easily and profitably processed by portable sawmills with the lumber being sold to support the operation.

Jewell opted for the Wood-Mizer mill for a number of reasons, but especially for its thin kerf cut.

Kerf is the thickness of the cut made by the saw. Kerf is important because more traditional sawmill technology typically removes 1/4 of an inch or more of wood when a cut is made while thin kerf saws like Jewell's LT40 use blades as thin as .045 inches, removing just 1/8 of an inch of fiber as it cuts. The result can be significantly more usable lumber recovered from a typical log, an especially important virtue when cutting irreplaceable woods like those Jewell works with on a daily basis. The increased recovery of wood also enhances the environmental benefits provided by the sawmills, as they process

Washington's Mt. Vernon plantation, historic Andrews Tavern, the 1854 Rappahannock River Crib Dam and Fauquier Street in Fredericksburg, Va., where George Washington planted 13 horse chestnut trees, one for each colony; trees that are now at the end of their natural life spans. In cooperation with historical societies and other entities, the wood, and the history it represents, is then preserved in the products that Jewell and others like him craft and sell.



*Thin kerf sawmills can allow more usable lumber to be recovered from a typical log, an especially important virtue when cutting irreplaceable woods with historic or personal value.*

Jewell emphasizes that he saves rather than harvests trees. "I reclaim and mill trees that are unsafe, diseased, damaged or are being removed for construction," he puts forward. "I also process timbers removed from historical sites. Salvaging trees and recycling timbers is not only a way to preserve a part of our history but is an alternative to depletion of natural resources as well. Preserving environmental balance is an important part of everything we do at Historical Woods of America."

It is this concern for the environment, and a shared interest in economically disposing of removed trees, that has brought Jewell into relationships with tree services in his home region. He points out that, "Production sawmills are unwilling to take logs from backyards and street curbsides because those trees often are laden with nails, wire or spikes. Mills will not risk damaging a \$500 circular saw blade because someone may have driven a spike into the tree 150 years ago. That means the trees have been, in the past, most often hauled to the landfill, chipped or made into firewood, sometimes at considerable expense to the service firm."

As an alternative, Jewell says, "My portable sawmill can easily be pulled

behind even a small pickup and I can go right to the logs. I can glean large amounts of lumber from these trees without risking expensive damage to my saw. If I do hit a nail, I can change the band saw blade in about 90 seconds and the cost of a new blade is minimal, about \$20. Unless there is severe damage to the blade, it is easily resharpened at little expense."

Jewell's passion for recovering wood from waste has allowed arborists near his Fredericksburg home to begin to realize that logs from trees they remove for their customers can be better utilized than they have been in the past. As an example he refers to nearby Ashburn, Va., where Jim Martin of Growing Earth Tree Care, a member of the Tree Care Industry Association since 1995, has utilized Jewell's services more than once to saw lumber from trees removed from the urban forest. "One memorable project," Jewell recalls, "included sawing flooring from white and red oak logs."

"Jim and I became instant friends as a result of the work we've done together," Jewell adds. "He is a good businessman, puts safety first and is adamant about providing the kind of good service that

produces satisfied customers whose ‘word of mouth’ is the best advertising.”

Jewell wishes more public and private interests would follow innovative companies like Growing Earth Tree Care in realizing there is more to the fiber they remove than waste. Lamenting his own

limitations, Jewell comments that, “I am only one man with one sawmill and there is so much wood wasted that could be put to good use. My primary business is processing trees of historic nature and crafting products from them. I am unable to saw all the logs made available to me and it sad to see them disposed of rather than used.”

According to Jewell there is great potential for both private sawmill owners and tree services to increase revenues while making a significant contribution to the environment by sawing lumber from the stems they recover in managing urban forests.

“Sawing lumber with a portable sawmill can be a profitable business,” he claims. “Arborists with thin kerf sawmills could cut costs and increase income by providing customers with the option of turning their trees into lumber or marketing the lumber themselves. It would be good for the customers, good for business and good for the environment if more people explored this avenue in their own businesses.”



*If trees have to be removed anyway, making lumber for walls, floors or molding of a home or public building, or furniture to go in the home or building, can ease the loss of an important tree for a family or a community.*



*Recovering wood from waste allows arborists to better utilize logs from trees they remove for their customers.*

As just one example of the potential marketing opportunities possible, Jewell observes that people are sentimental and get pleasure from having lumber produced from their own trees. That was the case, he says, with a customer who sold the family homestead for a development. Since the trees had to be removed anyway, Jewell was hired to make lumber for flooring and molding from the homestead trees to be used in a new home the family was building. Now, he says, “Each day the family walks on flooring made from trees pictured in family photos.” All that means, he continues, is that wood otherwise destined to be either underutilized or disposed of was used instead to produce a high-value product with inestimable value to the family.

Jewell is one of those rare people whose life work is also their passion. “The work,” he says, “provides pleasure, fulfillment and pays the bills. This business creates a win-win situation. I either purchase trees outright from these historical sites or return a portion of proceeds from the sale of raw lumber or finished products to them. Wood is saved, the historical site benefits, the environment is improved and history is memorialized.”

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