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Fighting fire through rural economic opportunities

Madison, Wis.— Jim Jungwirth of Hayfork, Calif. discovered he could make a small business work by making flooring out of forest restoration by-products. Ron Porter of Hamilton, Mont. found that it was profitable to make structures out of small trees left in their round shape. And Robb Walt of Littleton, Colo. is using scrapwood to make wood chips that can provide power to energy-starved communities.

These businesses have a few things in common. They benefit rural areas hit hardest by the decline of logging on our national forests, use wood resources that in the past were thought to have little value, and make a profit while helping improve the health of our forests.

One other thing they have in common is they've gotten help from the USDA Forest Service Forest Products Laboratory (FPL) in Madison, Wisconsin.

"We've got a lot of small timber that needs to be taken out of the forest to help alleviate the fire problem," said Susan LeVan, program manager for FPL's Technology Marketing Unit (TMU). "In the past, most of this timber was thought to have little value. But we specialize in helping small, rural communities find profitable niche markets for it."

The wildfires of 2000 and this past summer are evidence of the increased fire risk our forests face. More than 6.5 million acres burned last season. In the past when forests were more open, fires could burn naturally. But now thanks to years of successful fire suppression policies, forests have become overstocked with "small-diameter" trees (typically four to eight inches in diameter.) This dense understory creates a "ladder" for fires to climb into the crowns of trees, causing fires to burn hotter and more destructively.

Recent estimates indicate that over 73 million acres of national forest lands run an increased risk of fire hazard and need treatment.

The problem is that pulling the undesired timber off the land is expensive.

"If we can find a way to offset at least part of that cost by showing that this wood has value in previously untapped markets, then rural communities, the forest and the taxpayer all win," said LeVan.

Value Added Products

"A phrase I use a lot is 'value-added.' The concept is actually simple. To improve forest management economics, we need to use timber for its highest possible use," explained LeVan.

"For example, in Hayfork they're making flooring and furniture out of Douglas-fir. Thinning this material costs about \$208 per thousand board feet (mbf), but the green logs are only worth about \$200 mbf. But when that lumber is cut and dried to make flooring, the manufacturing costs are about \$800 mbf, but the value is around \$1200 mbf."

Engineered wood products such as glued-laminated timbers (or "glulams") are another good example of a high-end use.

Glulams are beams made by gluing together smaller pieces of wood (approximately the size of two by fours.) They can be engineered for use in many different structural applications and are commonly used by builders instead of using large old-growth timbers.

"The great thing about glulams" said LeVan "is that you only need quality wood on the outside of the beams. The inside can be lower grade material."

The market for engineered wood products is expected to increase as a number of species once thought to be unusable are in fact proving to be a good source of material. Red maple is one example.

"Red maple is an invasive species that is a real problem in the east. In the past, there was little incentive to take the red maple out of the forest since it was thought to have little value. But through FPL research, we've found that we can use it to make excellent trusses," LeVan commented.

A battered women's shelter in Duluth, Minnesota, was recently built using red maple trusses designed by FPL.

Helping rural communities

Through projects like these, LeVan sees opportunities for communities hit hard by the decline of logging in the West.

"We think there is a lot of potential value in making outdoor recreation structures like picnic shelters or informational kiosks out of small-diameter timber," LeVan said. She hopes to market this idea by having two kiosks on display at the 2002 Winter Olympic Games in Salt Lake City.

One of the kiosks was built by Ron Porter, who owns a small post and pole business in Montana's Bitterroot Valley--an area devastated by last year's fires.

Jungwirth started making value-added products in Hayfork, California, six years ago when the primary lumber manufacturing market went dry.

"I thought I could create jobs by making products that are beneficial to the forest," he said.

He uses small-diameter timber, some western hardwoods and recycled barn furniture to produce profitable niche products. He started his business with a \$25,000 investment and two employees. The company's income has increased more than 80 percent since their first year and now employs nine full-time and three part-time employees.

It is success stories like these that LeVan hopes can be duplicated throughout the country.

Said Jungwirth, "When we visited FPL we felt like we were visiting the future."

The USDA Forest Service Forest Products Laboratory was established in 1910 in Madison, Wis., with the mission to conserve and extend the country's wood resources. Today, FPL's research scientists work with academic and industrial researchers and other government agencies in exploring ways to promote healthy forests and clean water, and improve papermaking and recycling processes. Information is available at FPL's Web site: www.fpl.fs.fed.us. Through FPL's Advanced Housing Research Center, (www.fpl.fs.fed.us/ahrc/), researchers also work to improve homebuilding technologies and materials.

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