

# The Forestry Source

News for forest resource professionals published by the Society of American Foresters

January 2012. © The Society of American Foresters, 2012 ([www.eforester.org](http://www.eforester.org))

## Forest Sector Reeling During Economic Downturn

By W. Brad Smith and  
Richard W. Guldin

Forest products industries in the United States have reacted to changing market situations as economic conditions have changed since 2007. Mill closures and job losses throughout the forest-products sector have swept the nation, often with significant local impacts. We have consolidated and analyzed data collected by the US Forest Service's Forest Inventory and Analysis (FIA) program and Forest Products Laboratory (FPL), the US Department of Commerce, and other sources to provide an overview of the recent trends and the current state of the forestry and wood-processing sectors of the U.S. economy. Looking forward to an economic recovery, the future will be different for the forest industry sector and for forest management than existed prior to 2007.

Since the economic downturn began in 2007, there have been two major driving economic forces affecting the US forest sector. The paper side of the forest sector has been most heavily influenced by global economic trends and shifts in global markets for pulp-based products. The solid-wood side of the forest sector has been influenced primarily by domestic driving forces — the principal components being the drop in new residential construction from 1.7 million units annually to 450,000 — and a decline in home remodeling as residential mortgages tightened and home sales dropped.

### Mills and Jobs

FIA statistics show that since 2005, 1,009 sawmills, 15 pulp mills, and 148 other mills closed: together, 19% of all mills in the forest sector. These closures of primary mills were accompanied by slowdowns or closures in

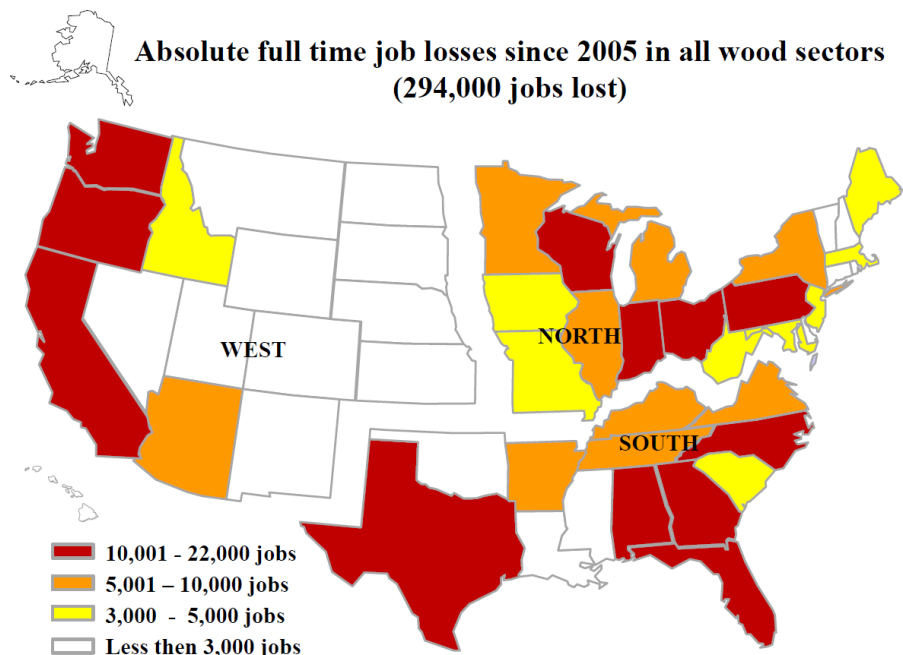


Figure 1. Forest-industry jobs lost since 2005: about 113,000 in the South, 110,000 in the North, and 71,000 in the West.

hundreds more secondary wood manufacturing facilities, resulting in an overall loss of 294,000 full-time jobs over the past five years (see Figure 1). Thousands more part-time and self-employed jobs were lost as well.

While greatest absolute loss of full-time jobs in the wood sector was in the South, with 113,000 jobs lost, the greatest full-time workforce impact was in the West, where 32% of the total 2005 workforce, 71,000 jobs, were lost. In three western states — Arizona, Montana, and Wyoming — more than 50% of the workforce has been affected. The North region had the second highest regional loss of wood-sector jobs (110,000) and the most mill closures (505 predominantly smaller hardwood mills).

The ripple effect of the mill closures and loss of jobs resulted in an overall annual decline of \$9 billion in full-

time wages in the wood-processing sector. Sawmills and solid-wood processing facilities accounted for \$7 billion (78%) of the full-time wage loss. Billions more dollars in part-time and self-employed wages also were lost.

The effects on milling capacity differed significantly between the pulp and solid-wood sectors. Overall, pulp mills utilized between 85% and 90% of available capacity during the downturn, despite the loss of 15 mills. However, the story for sawmills has been quite different. In addition to losing nearly 1,000 mills, the remaining sawmills worked at about 60% of available capacity between 2005 and 2009 (Figure 2), and many individual mills operated well below 50% capacity, with significant reductions in workers and payrolls. Therefore, when the economy begins to recover and homebuilding and remodeling expands, the demand for dimension lumber and plywood/panels will probably be met by expanding production at those mills that survived the economic downturn.

Evidence from the used mill equipment sector reinforces this projected recovery response. When mills close, firms specializing in the resale of used equipment usually liquidate the assets. When quality technology or equipment is available in the closed mills, it has a market value with the survivors as they position themselves to expand and become more efficient in an economic recovery. New and used wood-related machinery shipments have been steady during the downturn, according to market consultants. Sales of such machinery have been down only 12% during the downturn, compared with 20% to 50% sales declines in most other segments of the wood sector.

History suggests that the pulp-and-paper sector is

more resistant to plant closures during downturns, because of the extremely large initial capitalization required to construct or rebuild a mill. Also, trends in pulp and paper demand is driven by longer-term shifts in markets, such as increased paper recycling and reduced circulation levels for newspapers as advertising shifts to electronic media, rather than being directly linked to shorter-term economic conditions. Sawmill and plywood/panel operations, on the other hand, tend to be more volatile, relying heavily on the demand for solid-wood and panel products as driven by the relative health of the domestic housing industry.

Sawmills and plywood/panel mills that closed tend to remain closed, even in ensuing economic recoveries, for reasons we delve into later in the article. During an economic recovery, the remaining mills are positioned to expand to meet new demand as housing rebounds. This consolidation pattern has been typical of the sawmill sector for decades. As an example, there were 12,000 sawmills in the South in 1953, while today there are 1,228. Since 2005, the South has seen 457 sawmill closures. Similar patterns are played out in the North, with 505 closures, and the West, with 47 closures since 2005. Prospects for most of the recently shuttered mills are grim.

If the downturn continues for a protracted period and the 279,000 unemployed mill and wood manufacturing workers are fortunate enough to find other employment, the long-term effect on losing their skills will be to impede the wood industry's ability to recover quickly, because new workers will have to be trained. In addition, if the 15,000 logging and forest management workers who lost jobs during the downturn find work in other sectors, their skills to manage forests and harvest standing timber will have to be replaced as well.

### Short and Long-Term Impacts

Current annual US lumber production is 30 billion board feet, down 20 billion board feet (40%) since 2005 — the lowest output since 1982, which was also a recession. Prior to the recession of the early 1980s, one has to go back to the 1960s to see normal lumber production levels that low in the US. A bright spot in 2010 was a weak upward trend in harvesting due to increased exports to China and other global markets. However, overall shipments remain well below 2005 peak levels: imports are down 50% and the value of shipments of US wood and wood-related products has declined \$46 billion annually from 2005 levels. Fifty-nine percent of the lost shipment value was in secondary manufactured products, including cabinets, furniture, flooring, trusses, and laminates, that are directly related to the housing downturn. Lumber accounted for 25% of the shipment value decline.

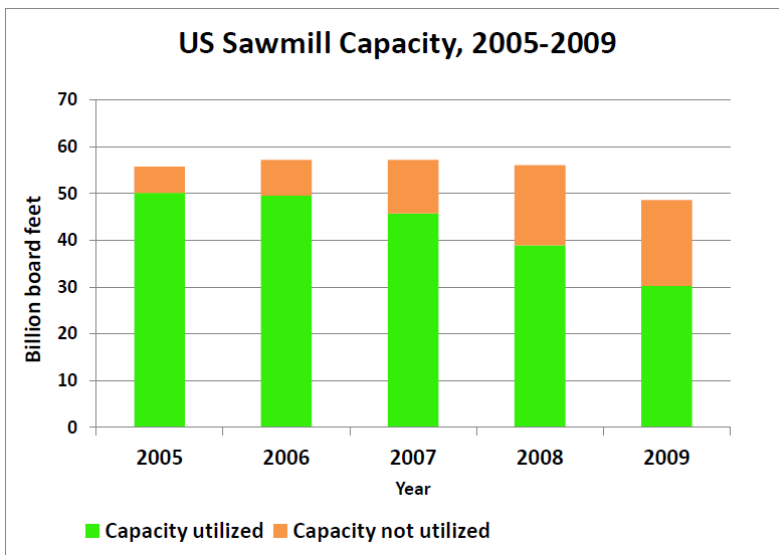
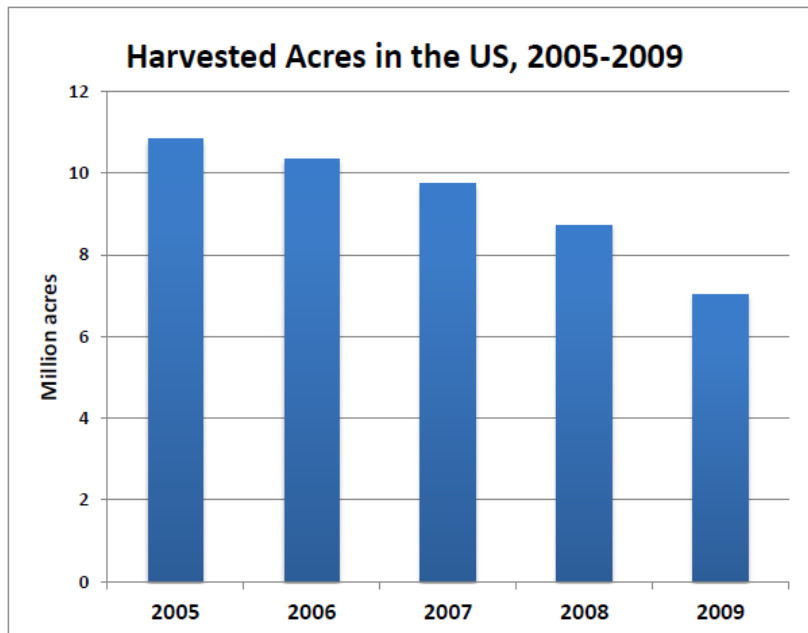


Figure 2: US sawmills worked at about 60 percent of available capacity between 2005 and 2009.

Total annual US harvests are down 4 billion cubic feet (30%) since 2005 — the lowest national harvest level since the 1960s. In 2005, timber harvesting took place on nearly 11 million acres across the US, and by 2009 this area had declined to about 7.5 million acres (Figure 3). Between 2005 and 2010, the equivalent of one full year of average harvest area was not cut in the U.S. If the current pattern persists, another 25 to 30 million acres could go unharvested by 2020, having serious implications on management plans and the future health of production forests as trees continue to grow, health and vigor begins to decline due to crowding, fuel levels build, and the potential risks increase for infestations of insects and other pathogens. The low current demand for wood products means that, even if landowners or land managers want to push more logs onto the market, mills aren't buying much, and when they do, the stumpage prices they offer to landowners are very low. In short, putting more logs on the market won't keep mills open, because there is so little demand for wood products. The low current demand for wood products also seriously affects the acres in need of salvage, such as the large areas killed by beetles, because markets for this material are further diminished. Increased fire risk in unsalvaged areas is a growing concern.

According to recent global statistics, the US's share of world wood-products production is declining. Over the past 10 to 20 years, the US pulp-and-paper segment has positioned itself to compete in global markets and has thus been more resilient in the face of the recent economic downturn since 2005. In the solid wood sector, however, the situation is more serious. Unless the US housing market soon rebounds and thus increases domestic demand for solid wood products — or unless the nation's solid-wood industry re-positions and re-structures itself to be more competitive in global markets — employment, wages, and the value of shipments are unlikely to recover to 2005 levels.

This is a very simple overview of a very complex situation. But the swift and dramatic economic changes since 2005 suggest that forestry and wood processing/manufacturing in the US are at a crossroad. The future of the industries, employment levels and wages, and even the near-term conditions of America's forests all depend on the path taken from here: survival of



**Figure 3. Timber harvesting declined to about 7.5 million acres in 2009 from nearly 11 million acres in 2005.**

the fittest and most efficient, or development of policies and strategies that allow our entire wood sector to be more competitive in global markets. Downturns create opportunities for firms and policy makers to rethink, incentivize, and revitalize infrastructure to be more efficient and sustainable in the future, both economically and environmentally. Are we willing to take advantage of the current opportunity to consider setting a new course? Are we considering the “upstream” impacts of the current and potential future economic conditions in the forest sector on managing forest health, resiliency, and sustainability?

*W. Brad Smith is a research forester with, and Richard W. Guldin is director of research and development, quantitative sciences, US Forest Service.*

**Sources of data for this article:** US Forest Service Forest Inventory and Analysis, historic national assessment documents (RPA), and Forest Products Laboratory (FPL); FAO global forest resources assessment; US Department of Commerce, Bureau of Economic Analysis; US Bureau of the Census quarterly capacity reports; and McGladrey Capital Markets, LLC. Dec, 2009. “The Hardwood Sawmill Market - A Time for Consolidation,” Basic Industries Group, Costa Mesa, CA.