Kentucky Forestry Economic Impact Report 2014



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About the Data

Economic data were compiled and developed specifically for this report from a variety of credible sources and partners. Overall forestry sector revenue and indirect impacts were developed using statewide IMPLAN data from 2012, the most currently available data at the time and adjusted for 2014 (discussed below). Direct economic impact refers to the economic activity directly associated with an industry sector. Total economic impact refers to the complete economic activity associated with an industry sector and includes direct, indirect, and induced effects. The IMPLAN data was adjusted to provide current year's estimates based on annual employment figures from the Kentucky Forest Products Industry Directory maintained by the University of Kentucky, Department of Forestry Extension and the Kentucky Division of Forestry (KDF). The availability of current employment data in the directory also allowed adjustments of other sources of information such as the USDA Forest Service's Timber Product Output data allowing reasonable estimates of current year's outputs. Data from KDF through its Delivered Log and Product Prices is also essential for this report as is the Forest Inventory Analysis provided jointly by KDF and the U.S. Forest Service. Data from USDA NASS Census of Agriculture, RISI, the Kentucky Master Logger Program, and Kentucky Forest Industry Association members also provided value data used in this report.

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All photos courtesy: Thomas Barnes, Billy Thomas, and Renee' Williams

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Abstract

Forests cover one-half of Kentucky and provide a wide range of benefits to the commonwealth. One of the most notable benefits is the economic contribution that we gain from the utilization of timber and wood resources. Analysis of Kentucky's forest and wood industries in 2014 indicated an estimated direct economic impact of $8.3 billion (up 4.4% from 2013). These industries employed over 28,200 individuals. Total economic impacts were estimated at $12.8 billion and 57,700 jobs in 2014. Kentucky is one of the leading producers of hardwood forest products in the south and exports wood products across the nation and the world. This economic impact was generated from forests located in all 120 counties of the commonwealth providing resources harvested by over 1,500 logging firms and processed at 703 facilities located in 109 counties. These industries include sawmills, pulp and paper mills, and a wide variety of secondary producers such as cabinet, barrel, and flooring manufacturers. The gains started in the second half of 2013 continued in 2014. Delivered log prices increased significantly with major species and grades exhibiting average delivered prices 15% higher than 2013. Analysis indicates that Kentucky will remain the leading producer of hardwood sawlogs in the South and one of the top three in the nation. This report highlights the economic contribution of the forestry sector to Kentucky in 2014 and provides insights to the sectors predicted performance in 2015.

Acknowledgements

The authors thank Kentucky Division of Forestry personnel Larry Lowe and Stewart West for providing necessary and invaluable information to this report; Chris Oswalt with USDA Forest Service's FIA unit in Knoxville; Mark Schuster, KDF coordinator of the Kentucky Master Logger Program; members of the Kentucky Forest Industries Association; and Terrell Baker with the University of Kentucky, Department of Forestry. Special thanks go to Reneé Williams, Information Specialist with the University of Kentucky, Department of Forestry Extension for publication graphics and layout.

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Overall Impact

Direct Impact: $8.3 billion
Total Impact: $12.8 billion

In 2014, the forest industry was estimated to provide $8.3 billion in direct economic contributions (an increase of 4.4% over 2013). Forest industries also generated an additional $4.4 billion in indirect and induced revenues resulting in a total economic impact of $12.8 billion in 2014.

Direct Employment: 28,202
Total Employment: 57,753
Earned Income: $1.4 billion

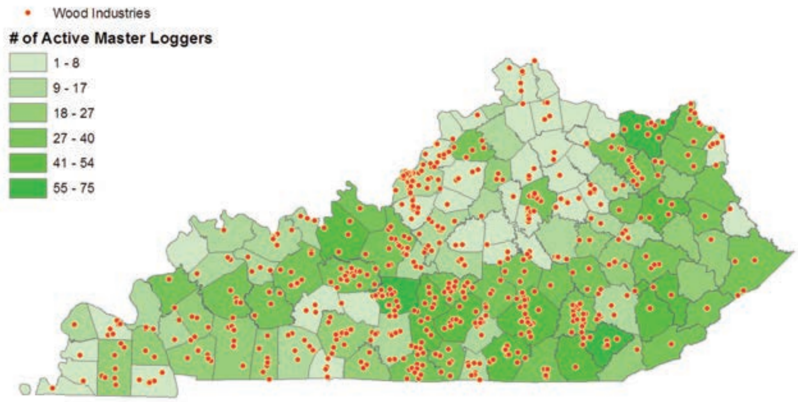
Employment increased with the forest industry directly employing an estimated 28,202, a 4.6% increase compared to 2013 and a total contribution of 57,753 jobs in the commonwealth with earned income of $1.4 billon. While forestry sector contributions increased, the number of facilities remained the same at 703 facilities in 109 counties.

Sawmills and logging are estimated to show increases in direct revenues in 2014 totaling $987 million, with secondary manufacturing increasing to $2 billion. Kentucky's paper producers are estimated to have increased 5.5% in 2014 to $1.2 billion compared to 2013. Analysis indicated that paper converters rallied in 2014 to $3.5 billion a 4% increase compared to 2013. Wood related exports increased in 2014 with $272 million shipped compared to $210 million in 2013. While Europe was still the leader in export purchases, $100 million, Asia increased 31% compared to 2013 purchasing $90 million from Kentucky. Wooden barrels led exports followed by oak lumber.

Economic Impact of Forest and Wood Industries

Kentucky forest industries include 703 wood using facilities and more than 1,500 logging firms across the commonwealth (Fig. 1). Located in 109 out of 120 counties, the $12.8 billion in economic impact is certainly important for rural communities. However, as indicated by the clustering of industries in urban areas, they are also an important economic force in many of our metropolitan areas.

Figure 1. Kentucky Wood Industries and Master Logger Distribution 2014



Source: Kentucky Master Logger Database: Kentucky Forest Products Industry Directory

The forest and wood industry is comprised of a range of sub-sectors. Figures 2 and 3 provide a breakdown of the forest and wood industry into six distinct sub-sectors including logging, primary wood manufacturing, pulp and paper manufacturing, secondary wood manufacturing, paper converters, and wood residue manufacturing.

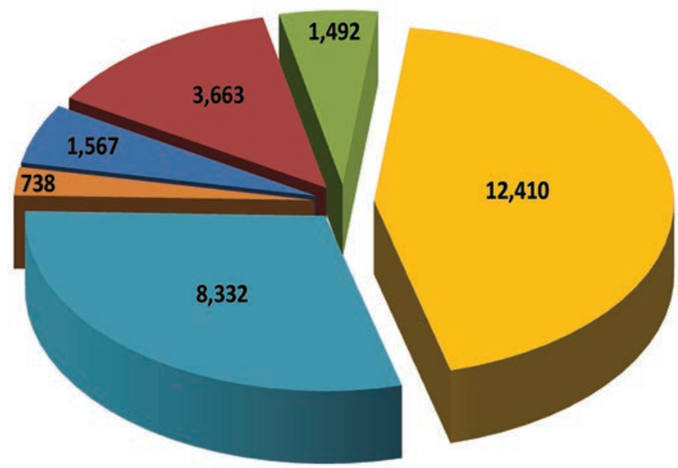
Logging: Logging firms had a direct economic impact of $134 million. While this is the smallest sub-sector it had the largest impact. Without the capacity to harvest and transport timber other larger sub-sectors like primary milling, pulp and paper production, and a portion of the secondary industries would functionally cease to exist.

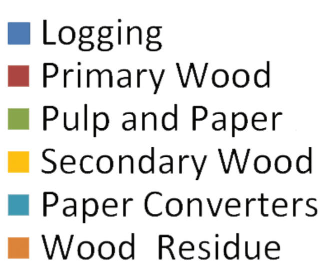
Solid wood manufacturing: Solid wood manufacturing, including both primary wood manufacturing (ex. lumber mills) and secondary wood manufacturing (ex. cabinet manufacturing) provided $2.9 billion in direct revenue and more than 16,000 jobs an increase of 9% over 2013.

Paper: Paper represented a sizable portion of the forestry sector at an estimated $4.8 billion overall including pulp and paper manufacturing and paper converters, industries that manufacture finished paper products. This is an increase of 13% over 2013 with employment of over 9,800 people.

Wood residue: Wood residue manufacturing (ex. mulch) was also important providing $529 million and 738 jobs to Kentucky's economy an increase of 2.2% over 2013.

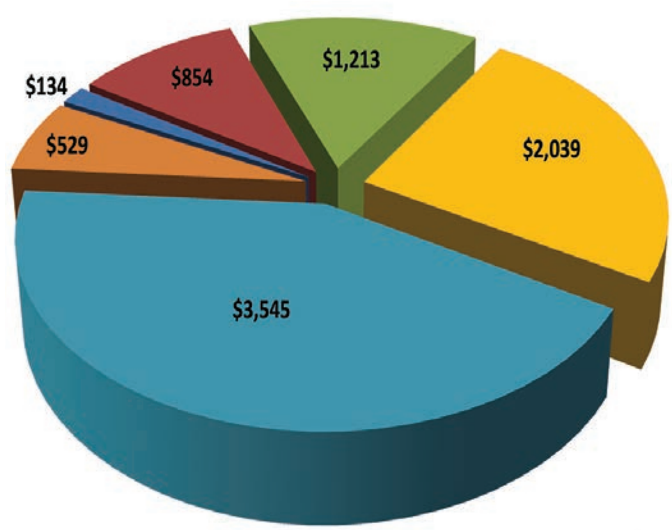
Figure 2. Direct Employment by Kentucky Forestry Sub-Sectors





Figures 2 and 3 source: IMPLAN Data for Kentucky and the Kentucky Forest Products Industry Directory

Figure 3. Direct Economic Impact by Kentucky Forestry Sub-Sectors in Millions



Timber Output and Prices

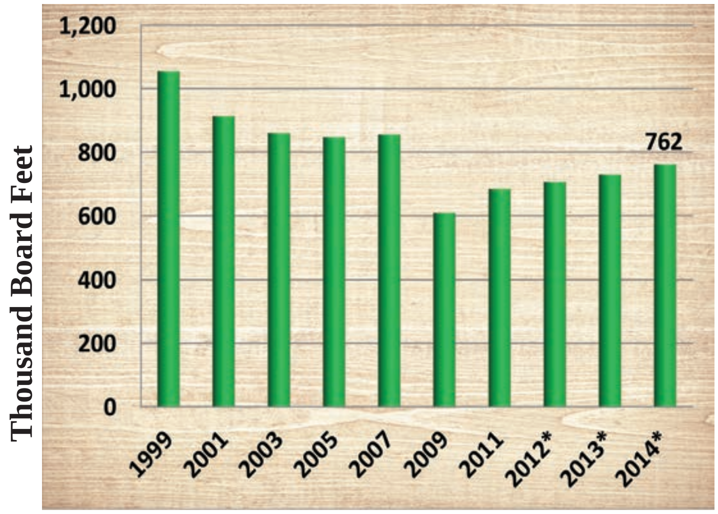
Timber product output is estimated to have increased in 2014 compared to 2013. Total volume of sawlogs produced was estimated at 762 million board feet an increase of 4.4% over 2013 estimates. This corresponds to overall forest industry economic impact and increases in pulp and paper and primary milling sub-sectors. While the overall strength of the forestry sector increased in 2014, the year resulted in mixed pricing trends for delivered log products. Stave logs averaged $1,056/MBF in the 4th quarter of 2014 a 20.7% increase compared to the 4th quarter of 2013. Lumber logs increased 15% across all grades in 2014 (Fig. 7). All species and the majority of grades were up with hickory experiencing the most significant increases of 34%, 30%, and 42% for grades 1, 2, and 3. Other species showed similar results with a 10% increase in grade 1 log prices and 20% and 27% for grades 2 and 3 respectively. Black walnut still maintained the highest prices for grade 1 logs ($1,606/MBF), followed by red and white oak, $787 and $804/MBF, and ash and yellow-poplar ending the year at $587 and $512/MBF. Pulpwood prices were static but tie logs increased by 8% for non-oak hardwoods and 21% for oak in the 4th quarter of 2014 compared to the 4th quarter of 2013.

Figure 7. Delivered Grade 1 Logs Prices for Major Species in Kentucky

Species	Grade 1	Grade 2	Grade 3
	Percent Change 2013 - 2014		
Ash	4	-3	19
Hickory	34	30	42
Hard Maple	5	21	43
Red Oak	19	16	29
White Oak	-1	33	18
Walnut	11	30	32
Yellow-Poplar	22	16	-2
Average	10	20	27

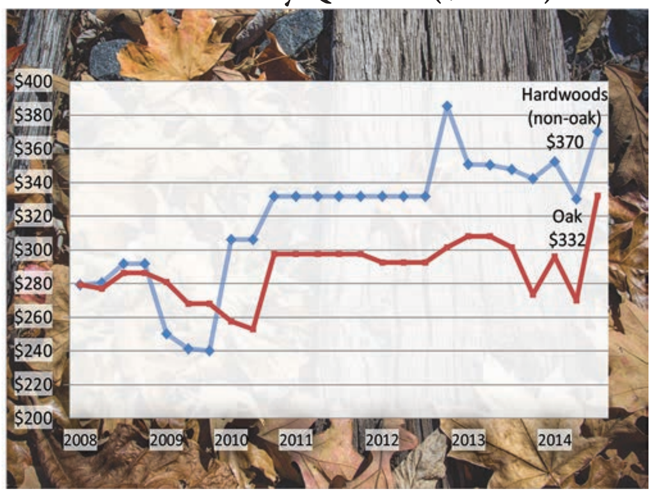
Source: Kentucky Division of Forestry's Delivered Log Price Data comparison between the 4th quarters of 2013 and 2014.

Figure 4. Kentucky Hardwood Sawlog Production 1999-2014



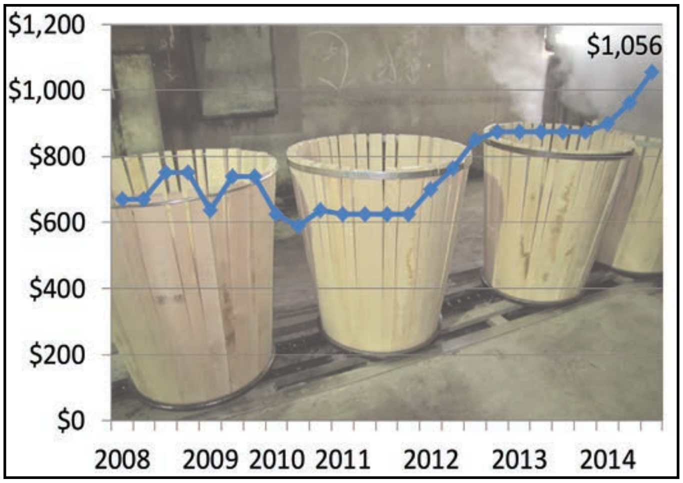
Source: U.S. Forest Service Forest Inventory & Analysis Timber Product Output Data and the Kentucky Forest Products Industry Directory
*estimated

Figure 5. Delivered Tie Logs Prices in Kentucky 2008-2014 by Quarter ($/MBF)



Sources above and below: Kentucky Division of Forestry's Delivered Log Price Data

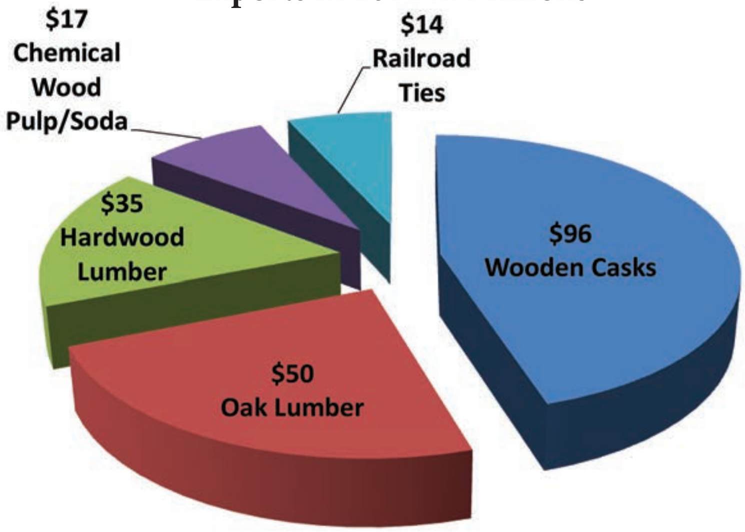
Figure 6. Delivered Stave Logs Prices in Kentucky 2008-2014 by Quarter ($/MBF)



Exports and Outlook

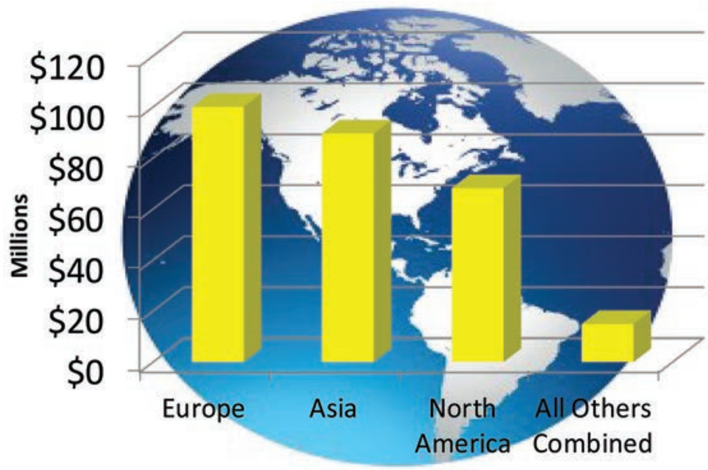
Kentucky's wood and paper related exports exceeded $272 million in 2014. Europe was the leading destination for exports at just over $100 million followed by Asia at $89 million in exports. Oaks continue to dominate Kentucky wood exports led by wooden casks (barrels) at almost $96 million followed by oak lumber at over $50 million accounting for over half of all wood related exports.

Figure 8. Top 5 Kentucky Wood, Paper, and Pulp Exports in 2014 in Millions



Source: U.S. Department of Agriculture Foreign Agricultural Services

Figure 9. Destinations of Kentucky Wood, Paper, and Pulp Exports 2014

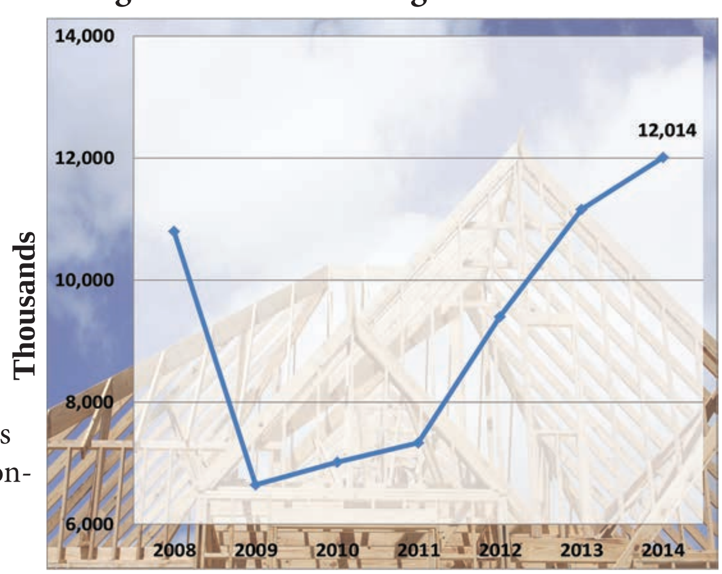


Source: U.S. Department of Agriculture Foreign Agricultural Services

2015 Outlook

The upward trajectory of the U.S. economy in 2015 will lead to continued increases in the forestry sector. Market analysts predict that hardwood lumber demand will peak in 2015 and that southern hardwoods will maintain a strong share of the market. Tie markets and delivered tie log prices are set to rebound in 2015 and stabilize in 2016. Cant, mat, and pallet logs will directly reflect the U.S. economy and will continue strong in 2015. Hickory and ash log prices were strong in 2014 due to increases in handle and flooring manufacturing. This trend should continue into 2015. The increase in the worldwide consumption of whiskey has distillers increasing storage capacity and increasing barrel production fueling the demand for white oak stave logs indicating an increase in delivered stave log prices. This will create considerable interaction among stave, veneer, and high quality lumber log prices in 2015. While overall growing stock is remaining relatively stable there is concern over supply factors particularly the abundance of high grade logs and the commonwealth's logging capacity. The logging sector continues to face significant hurtles. While the price of fuel came down the last quarter of 2014 and is expected to remain depressed the first quarter of 2015, insurance costs and the price of tires and parts have increased. This, combined with a workforce shortage, leaves this sector of the forest industry in a fragile position. Increases and stabilization in delivered log and pulpwood prices will be required to fully allow this subsector to rebound from significant losses encountered in 2008 through 2011.

Figure 10. U.S. Housing Starts 2008-2014



Source: U.S. Bureau of the Census

Kentucky's Forests: More than trees, logs, and economic impact

While this report documents the extensive impact that Kentucky's forests provide to the commonwealth's economy there are countless other benefits as well. Environmental benefits of trees and forests include ecosystem services such as: cleaner air and water, carbon sequestration, biodiversity, wildlife habitat not to mention providing Kentuckians and thousands of visitors with recreational opportunities, aesthetic beauty, and many other intrinsic values. Accounting for these significant impacts is a challenge that we are continually working to meet and we look forward to being able to provide reliable statewide data on the value of these vital ecosystem services provided by the commonwealth's forests. Kentucky's forests are mostly owned by private woodland owners and their properties form the base of this important industry; other than timber sale revenue they largely provide these benefits free of charge to society.

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FORFS 15-03