The Economic Contribution of the Kentucky Forest Sector

Kentucky's family owned forests (or woodlands) not only supply countless environmental benefits but are also the first link in the supply chain of the Kentucky forest sector. For the last six years UK Forestry Extension has been documenting the economic contribution of our forests to highlight their importance and the need for more support. Since 2015, the overall Kentucky forest sector has remained stable ranging from $8.79 billion in direct contributions to an estimated $8.35 billion in 2017. The total economic contribution ranged from $13.67 billion in total contributions to an estimated $13.25 billion in 2017. Figures 1 and 2 show the 2016 distribution of employment (26,000+) and economic contribution by each of the six forest sub-sectors that make up the Kentucky Forest sector. Utilizing 2016 economic data along with employment and production information from Kentucky's forest sub-sectors allows the estimation of changes in the economic contribution of the forest sector in 2017 (Table 1).

Most of the economic contribution is derived from the harvesting of timber and processing of the wood resource. Importantly, this economic contribution is generated from timber resources in all 120 counties of the Commonwealth, harvested by over 1,200 logging firms and processed at facilities located in 112 counties. Kentucky forest industries include 742 wood, paper, and paper converting manufacturing facilities across the Commonwealth (Figure 3). The distribution of these facilities indicates the economic contribution is an important economic force for both rural and urban communities.

An estimated 762 million board feet of Kentucky hardwood logs were harvested in 2017, which was less than half the volume grown. However, there is an increasing concern over the sustainable supply of high quality logs of some species such as white oak used for bourbon barrels, veneer and high-quality lumber. Table 2 provides delivered log prices collected by the Kentucky Division of Forestry.

As indicated, Kentucky's forests directly provide the wood resources for a significant portion of the forest sector's economic contribution. In total, each acre of harvested timber

Figure 1. Direct Employment by Kentucky Forest Sub-Sectors (2016)

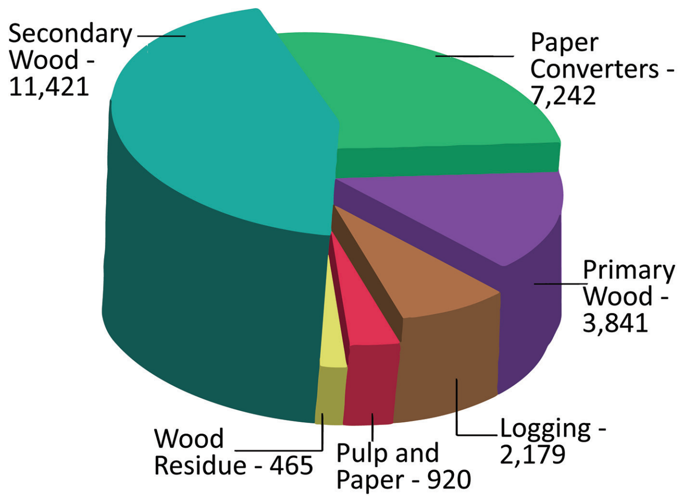


Figure 2. Direct Economic Contribution by Kentucky Forest Sub-Sectors in Millions (2016)

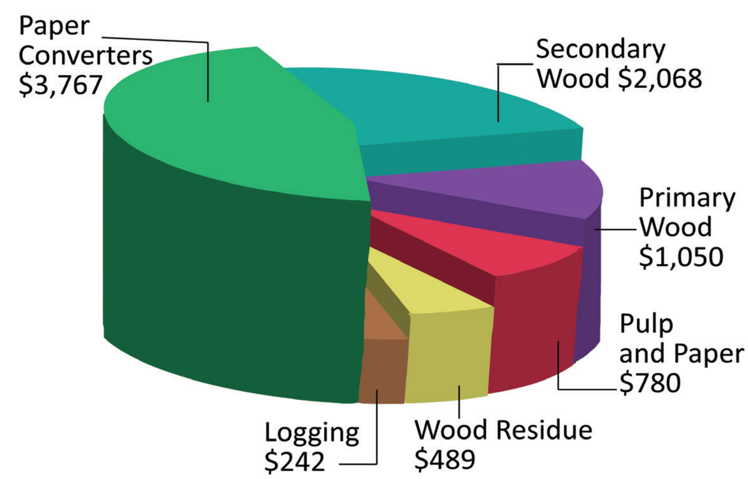
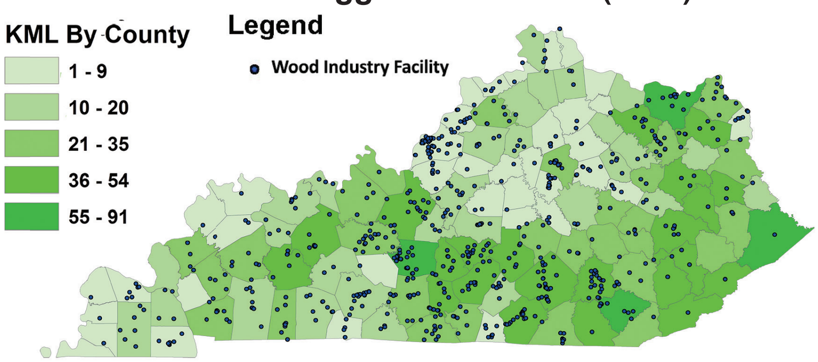


Figure 3. Kentucky Wood Industries and Master Logger Distribution (2018)



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

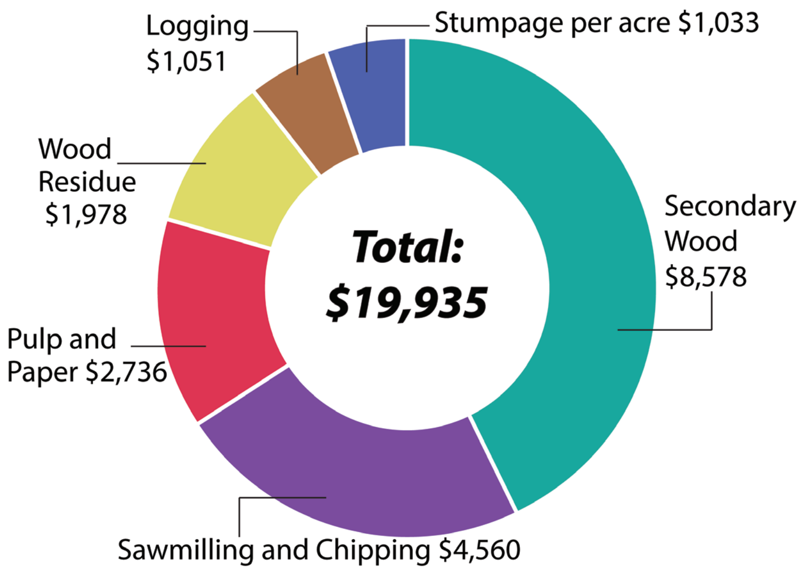
Table 1. Estimated Kentucky Forest Sector Economic Contribution in 2017		
Forest Sub-sector	**Millions**	**% Change from 2016**
Logging	$255	+5.3%
Primary Wood Mfg.	$1,106	+5.3%
Secondary Wood Mfg.	$2,081	+0.62%
Pulp and Paper	$664	-15.0%
Paper Converters	$3,767	0.0%
Wood Residue	$480	-1.84%

Figures 1, 2 and Table 1 Sources: IMPLAN Data for Kentucky and the Kentucky Forest Products Industry Directory

Table 2. Kentucky Delivered Log Prices in 2018 in $/MBF and Change from 2017.			
	Log Quality		
Species	**High**	**Medium**	**Low**
Walnut	$1,929 -9.8%	$1,255 26.2%	$435 8.1%
White Oak	$1,183 -2.3%	$691 17.2%	$315 0.3%
Red Oak	$827 1.8%	$552 9.8%	$312 40.3%
Sugar Maple	$840 11.4%	$557 22.6%	$295 10.3%
Ash	$664 14.7%	$454 8.3%	$267 30.7%
Yellow-poplar	$566 6.2%	$377 4.7%	$244 28.6%
Hickory	$552 27.2%	$410 23.6%	$254 49.6%
Red Maple	$452 7.9%	$368 21.1%	$213 12.1%

Table 2 Sources: Kentucky Division of Forestry's Delivered Log Price Data *(MBF = 1,000 board feet)*

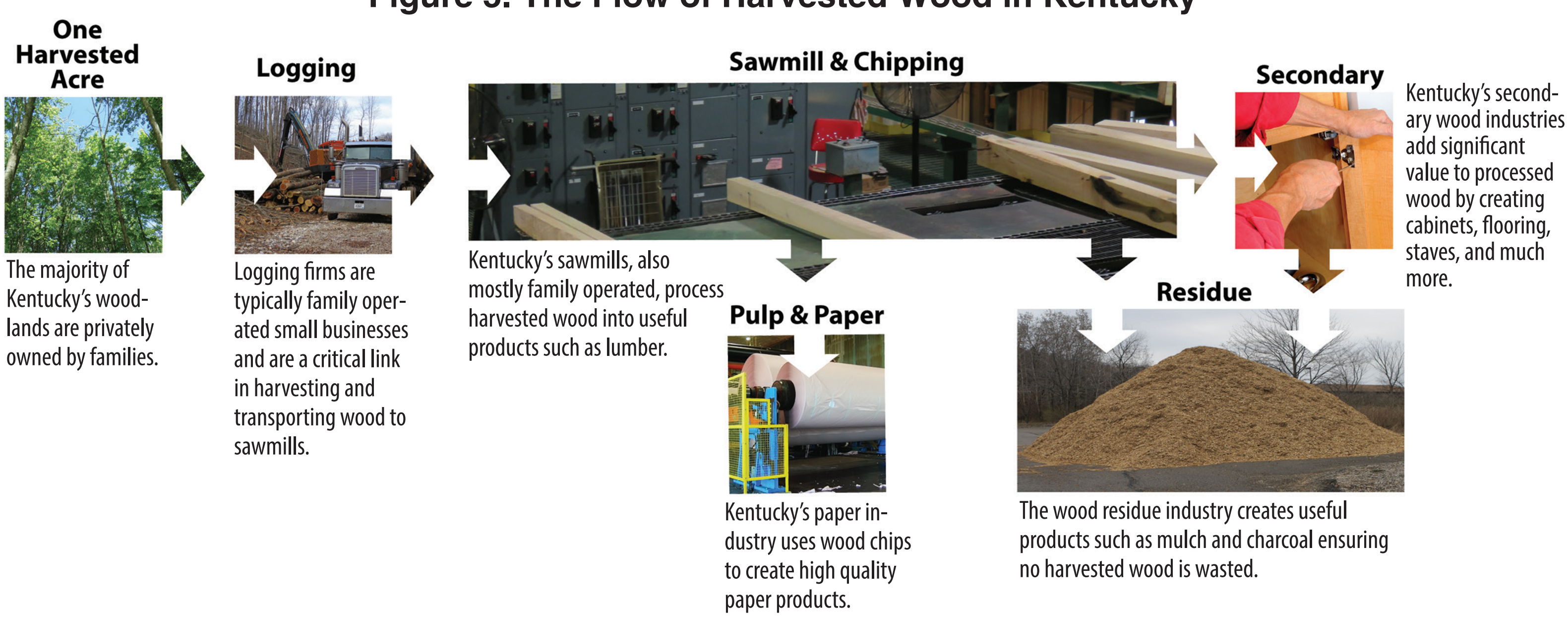
Figure 4. The Economic Value of a Harvested Woodland Acre to Kentucky



Source: IMPLAN Data for Kentucky and the Kentucky Forest Products Industry Directory

contributes an estimated $19,935 to Kentucky's economy; Figure 4 highlights the distribution of this economic contribution starting with the woodland owner. The most value is added by the secondary industry. Thus, ensuring that our raw material is processed into a final product in the state is extremely important to our economy. While woodland owners and logging are individually the smallest direct contributors, without woodlands and logging, the vast majority of our wood using industries would collapse. Figure 5 depicts the wood supply chain for the majority of harvested wood in Kentucky.

Figure 5. The Flow of Harvested Wood in Kentucky



This conceptional model traces the flow of harvested wood through numerous forest industries in Kentucky. Woodland owners grow, manage, and protect their woodlands and are the foundation of the Kentucky forest sector. Logging firms harvest and transport the wood to sawmills that convert the wood into products utilized by other wood industries such as cabinet and flooring manufacturers, paper makers, and residue users. Nearly all of the wood harvested in Kentucky is transformed into useful products and energy.