

The Grade Hardwood Lumber Market & What It Means For Ties

By David Caldwell, *Hardwood Market Report*

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Hardwood Industry Success Requires All Cylinders Firing

It takes a village. Or, in the case of the hardwood industry, it takes all sectors of the marketplace performing well. That has not been the case the past 18 months.

For readers of *Crossties* magazine who may not be familiar with grade hardwood lumber markets, traditionally, grade lumber is higher valued than industrial products. That has not been the case recently. Let's do a quick recap of what has occurred in grade hardwood lumber markets.

U.S. hardwood suppliers are dependent on international markets to ship half of all grade lumber production. In 2019, exports of U.S.-produced hardwood lumber declined 352 million board feet (MMBF) from 2018, which was not a banner year either. China was the primary culprit in the sharp decline in hardwood lumber exports, directly accounting for 333 MMBF of the decrease. Evidence of China's slowing economy was seen in Q1 2018, but it was mid-2018 before hardwood sales and shipments began to falter.

Despite record-setting private expenditures on U.S. residential construction and the longest increase in total new home construction since the U.S. Census Bureau began tracking this data, domestic consumption of grade hardwood lumber by secondary manufacturers fell 79 MMBF. Combining the decline in exports and reduction in consumption by domestic end users, the U.S. hardwood indus-

try lost 431 MMBF of grade lumber business. That equates to 5.2 percent of all Eastern hardwood product consumed.

Because of lost market share, prices for grade hardwood lumber tumbled. Red Oak is the most abundant growing stock in the Eastern United States, and Fas is the highest valued grade.

From the most recent peak in mid-2018 to the end of 2019, prices for kiln-dried 4/4 Fas Red Oak fell 32.4 percent in the Northern region, 32.8 percent in the Appalachian region, and 36.4 percent in the Southern region. It is impossible for sawmills to reduce raw material costs—in this case log and timber costs—such extreme percentages in a short period of time. In fact, many sawmill operators purchase timber as far as two years ahead of planned harvesting and delivery to mills.

The railroad tie industry does not compete against higher-grade lumber markets for material. Instead, the railroad industry needs vibrant grade-lumber markets to support a healthy sawmill industry. Profitability for sawmill operators is dependent on a reasonable return on log and timber investments.

The railroad industry does compete against other industrial products. In particular, railroad tie production competes directly against mat timbers and board road. This market expanded in mid-2008, when oil ►

prices hit \$140 per barrel. Since then, pipeline and transmission grid construction has kept demand solid for these products.

Demand Buckets

- Transmission lines
- Pipelines
- Drilling
- Roads and bridges
- General construction

Raw Materials For Mat Construction

- Large sawmills, vertically integrated in producing raw materials and assembling mats.
- Mat builders that purchase lumber and timbers. These mat builders may or may not be sawmills.
- Sawmills that sell to lumber and timbers to mat builders—directly or indirectly.
- Brokers that purchase and resell lumber and timbers to mat builders.

Types Of Customers

- Construction contractor
- Engineering firm

- Utility companies/oil and gas companies/pipeline owners
- Distributor
- Broker
- Competitor mat builder

The board road/mat timber industry is a diverse market sector and is not likely going anywhere soon. Consolidation has taken a fragmented supply stream to a much larger corporate environment capable of managing and maintaining inventories needed to meet end users’ demanding scheduling

requirements. In 2019, the board road/mat timber industry consumed 422 MMBF of hardwood material, up 8.5 percent over 2018.

The wooden pallet and container industry is by far the largest consumer of U.S.-produced hardwood material. This sector uses 73.3 percent of all industrial products and 42.4 percent of total hardwood consumption. From a price standpoint, hardwood pallet lumber and cants do not compete with railroad tie prices. But, the wooden pallet and container industry is

Figure 1

Consumption Recap 2018 to 2019	
Hardwood Lumber Exports	-352MMBF
Domestic Grade Lumber	-79MMBF
Total Grade Lumber	-431MMBF
Industrial Products	+127MMBF
Total Consumption	-304MMBF

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critical to the hardwood supply stream. In 2019, consumption was 3.5 BBF, up 6.4 percent from 2018.

However, demand for wooden pallets and containers is down—a direct result of falling imports and exports from and to China. Yet, long-term projections show a 5.1 percent compounded annual growth rate through 2026.

Figure 1 shows industrial product consumption increased 127 MMBF in 2019 over 2018. But, total consumption still ended the year off 304 MMBF from 2018.

Hardwood production has responded

to the drastic change in demand for grade hardwood lumber. In Figure 2, Eastern U.S. hardwood production was down 7.2 percent in 2019 from 2018 or 588 MMBF.

Figure 3 shows total hardwood supplies, which includes Eastern hardwoods, Western hardwoods and hardwood imports, as well as total hardwood consumption. The graphs point out that total supplies have fallen below consumption. What the illustration does not account for is existing inventories. The fact that there were inventories available is why hardwood prices have not significantly increased, at least not yet. ■

Figure 2

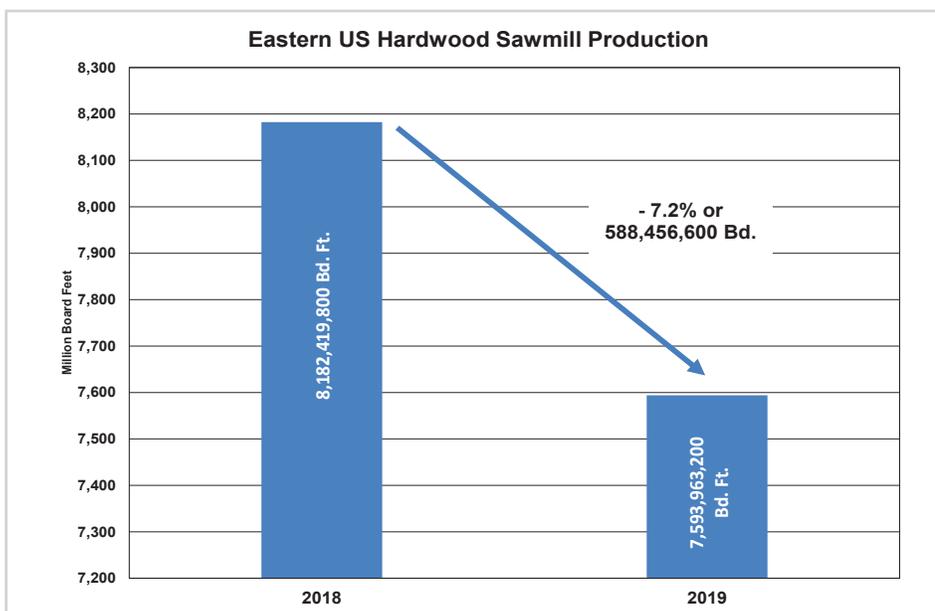
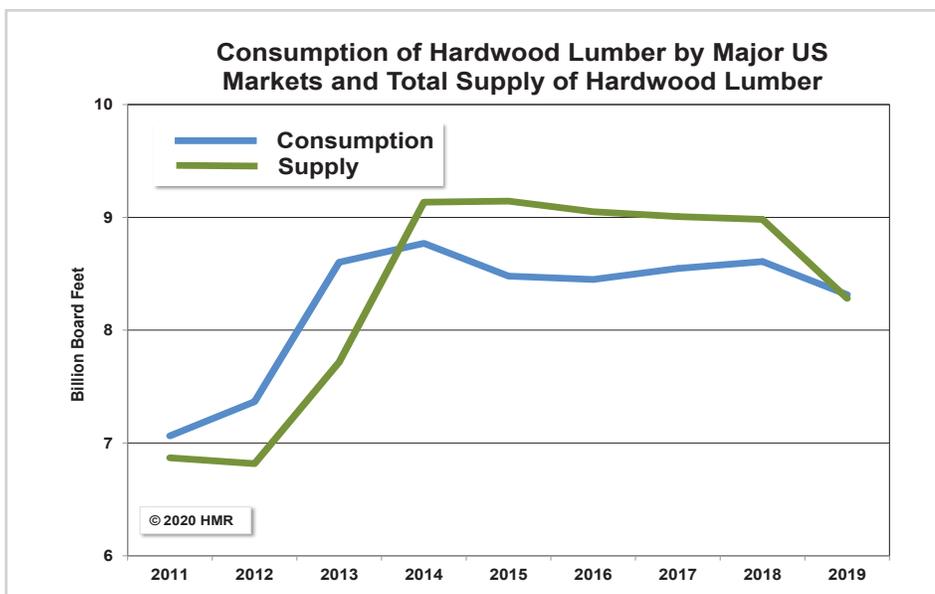


Figure 3



Mat Timber Board/Road Forecast

Tracking the volume of hardwood material used by the board road/mat timber industry is more difficult than for any hardwood sector. Forecasting how much hardwood product will be used by this industry in the future is more challenging.

Part of the challenge is that the some believe installation of transmission lines requires more mat timbers and board road than any other consuming market, with most projects heavily government funded.

Besides the time necessary to initiate and secure approval for a project, most local, state and federal governments are slow to provide finances to fund such projects. Private projects are easier to forecast.

In the case of oil and gas construction, there are reliable sources for future expenditures. The U.S. Energy Information Administration provides a long-term forecast for domestic crude oil production.

The forecast shows oil production will remain high the next 15 years. However, COVID-19 restrictions have, at least temporarily, decreased demand for oil, and global oil prices have plummeted since the pandemic began.

On the other hand, demand for natural gas remains strong and is driving activity in this sector. U.S. infrastructure projects are planned and needed.

There will be delays, but expectations are demand for board road and mat timbers will remain high the next several years. ■ D.C.