Forest Research Group

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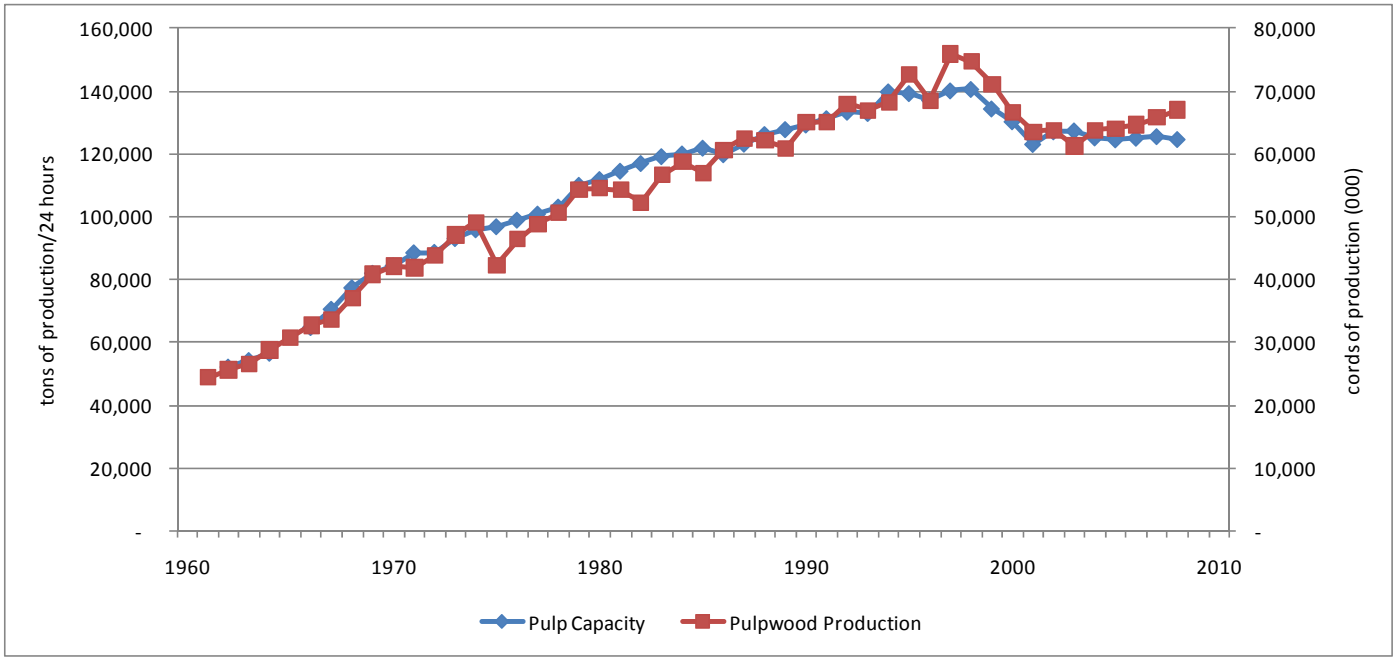
A Brief History of Pulpwood in the South -- Update

In Volume 3 Number 2, *A Brief History of Pulpwood in the South*, we looked at pulp mill capacity and pulpwood production in that region. In early 2006, we were able to look at data through 2003. Both pulp capacity and pulpwood production had fallen after a peak in 1997. There was a lot of talk of paper company consolidation and mill closures back then and the future looked a bit gloomy. But the declines we saw back then have stopped. In this issue of Forest Research Notes, we provide an updated picture.

Figure 1 compares pulpmill capacity and pulpwood production across the South from the early 1960s to 2008. The USFS commonly reports pulp capacity (blue line) in terms of tons per 24 hours. The red line shows thousands of cords of "pulpwood" produced per year. This volume consists of roundwood and residuals. The residuals consist mostly of sawmill chips, but include a small volume of chips made from other residual products such as veneer log cores.

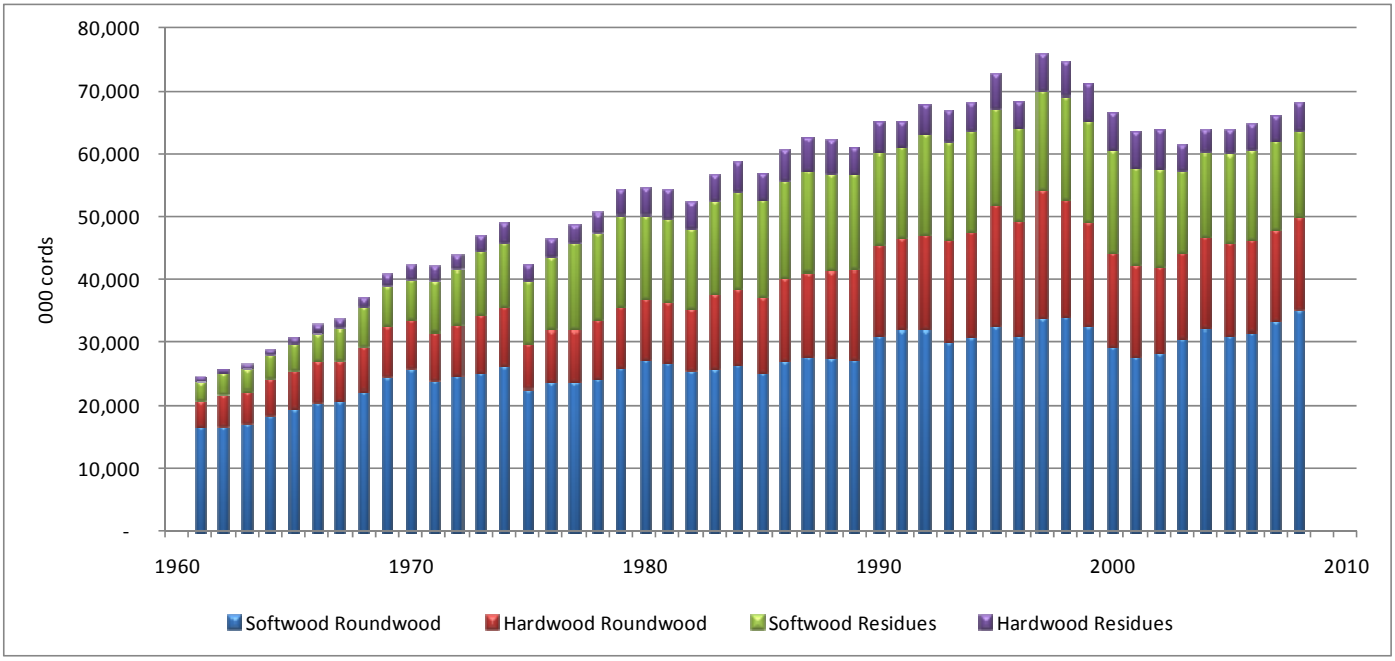
The two lines track each other pretty closely. The two data series are not perfectly correlated because the red line shows pulpmill ***capacity***, not ***production***. Pulpwood production fell almost 14 percent in 1975. We cannot tell from the data supplied by the USFS, but it is reasonable to assume that pulp production fell that year as well, even as capacity increased.

Figure 1. Pulp Capacity and Pulpwood Production in the Southern United States



Source: USDA Forest Service

Figure 2. Pulpwood Production by Species and Product (mm cords)



Source: USDA Forest Service

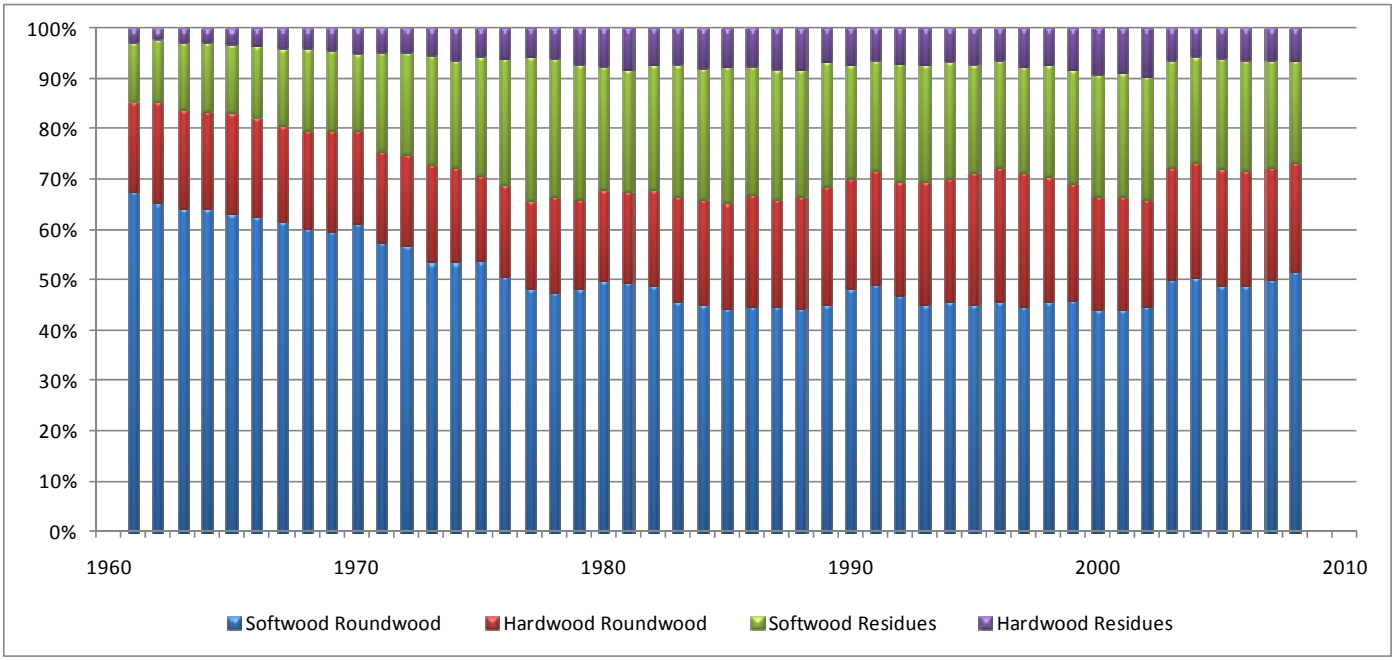
In Vol 3 No 2, we noted that pulp capacity (and pulpwood production) had peaked in 1997. But the decline in capacity and production stopped in 2001. Pulp capacity has been level since then, but pulpwood production has been increasing. This indicates southern pulpmills have not been producing at capacity, as they have been able to consume more wood without increasing capacity--again, we do not have pulp *production* data, only *capacity*. It is unlikely that they are consuming more wood because they are becoming less efficient, in fact, the USFS notes that the mills are continuously increasing the amount of recycled fiber begin used.

The USFS breaks down the pulpwood production by species and product. The annual volume of softwood roundwood generally increased through the late 1990s (Figure 2), but fell steadily as a percent of total pulpwood production from 67 percent in the early 1960s to about 45 percent of the pulpwood volume since the mid-1980s (Figure 3).

Softwood chips increased from about 10 percent of the supply in 1961 to 20-25 percent by the late 1970s and have remained there since. Some of this increase would have come from the development of chip-n-saw mills, which diverted some "pulpwood" volume to lumber production. These small logs would yield one or two 2x4's and a large volume of pulp chips.

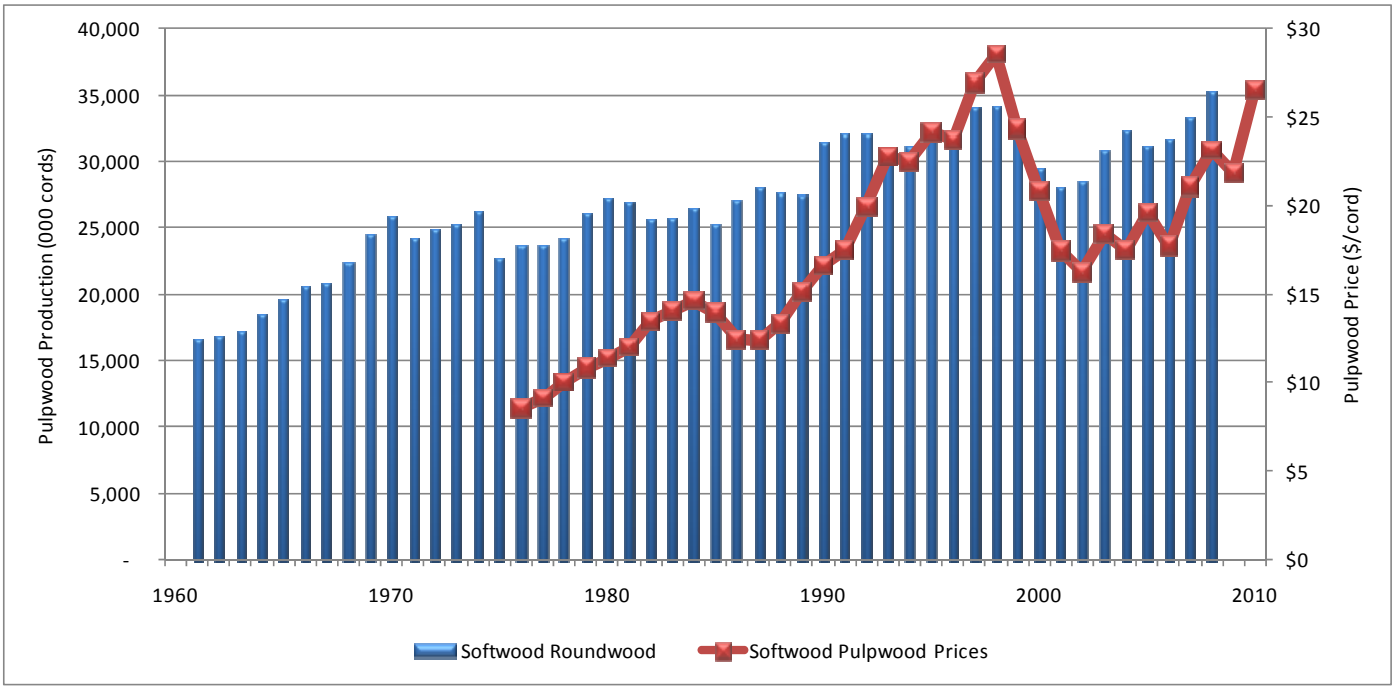
Hardwood fiber sources increased from about 20 percent in the beginning to about 30 percent by the 1990s. The shift in the fiber mix has been encouraged by prices, but limited by technology. Figure 4 shows softwood roundwood volumes and stumpage prices. The nominal price rose at a faster rate than the volume until 1998, but fell sharply after that until 2002. The recovery in volume that began in 2002 has been accompanied by a recovery in price.

Figure 3. Pulpwood Production by Species and Product (percent)



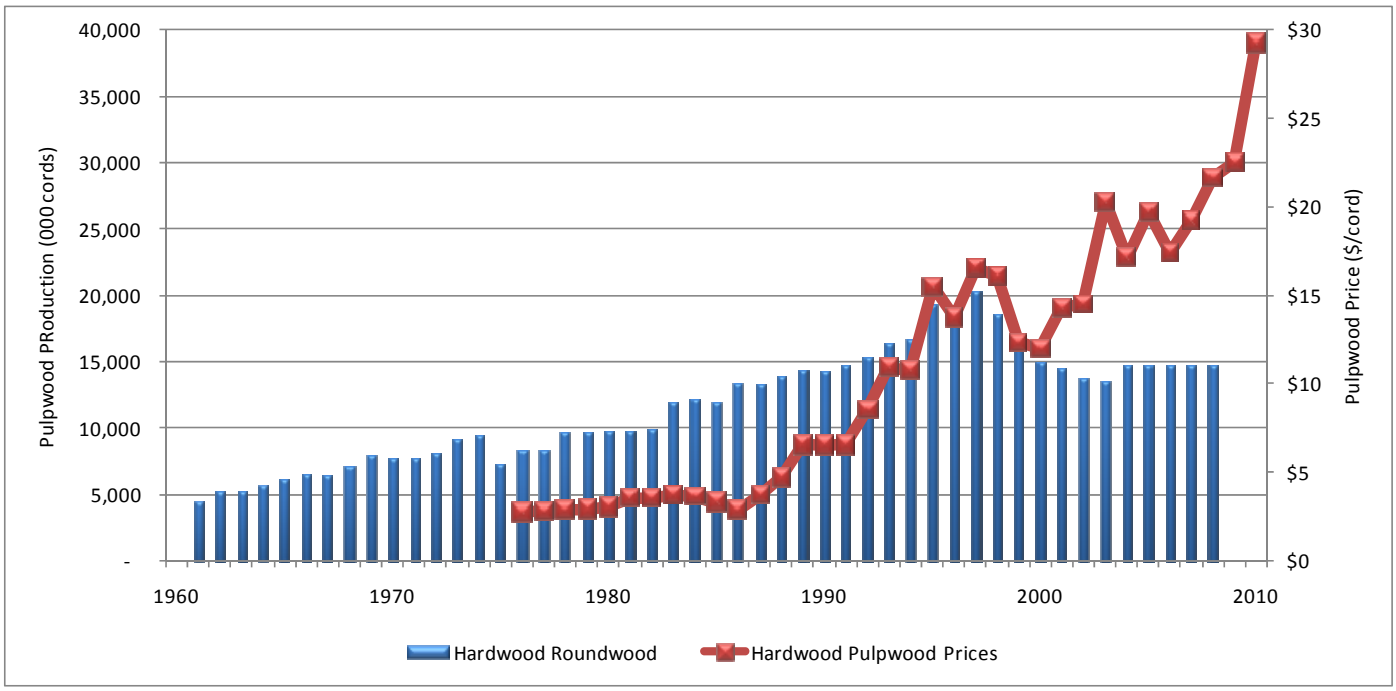
Source: USDA Forest Service

Figure 4. Softwood Volumes and Stumpage Prices



Source: USDA Forest Service and Timber Mart-South

Figure 5. Hardwood Volumes and Stumpage Prices



Source: USDA Forest Service and Timber Mart-South

Figure 5 shows hardwood prices and volumes on the same scales as the softwood data in Figure 4. Hardwood volumes and prices have historically been lower than softwood volumes and prices—except that hardwood prices caught up to softwood prices in 2003 and have kept pace since. Note that hardwood prices recovered more quickly than softwood prices (Figure 4).

Why were hardwood prices so much lower historically than softwood prices? As we discussed in Vol 3 No 2, there are hardwood pulp mills in the South, but the region has relied heavily on softwood species for fiber. Those softwood fibers are longer and make stronger papers than hardwood fibers. When possible, mills use hardwood fiber to lower their costs, but too much hardwood affects the strength of the paper being produced.

Over time, paper makers have been able to increase the percentage of hardwood used. But that increase has driven hardwood pulpwood stumpage prices up. The hardwood prices are unlikely to drop as sharply as softwood prices did recently because those pulp mills that were modified to use more hardwood would have to spend tens of millions of dollars to change them back to the way they were.

Summary

- Southern pine pulp capacity has not continued to decline as it looked like it might when we looked at the situation four years ago.
- Southern pulpwood production--especially softwood roundwood production--has been increasing since our last look.

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