





MEASURING THE PELLET IMPACT

THOUGH BIOMASS HAS MADE A MAJOR IMPACT ON FORESTRY IN RECENT YEARS, A CLOSER LOOK REVEALS THAT MANY OF THE BENEFACTORS ARE LANDOWNERS CLOSEST TO PELLET MILLS.

**BY HARRISON HOOD, THOMAS G. HARRIS,
AND JONATHAN SMITH | TIMBERMART-SOUTH**

With the development and growth of the bioenergy market in the U.S. South, landowners often wonder about the impact on their local markets.

With the additional wood demand these facilities have placed on the markets in which they operate, specifically in regard to pulpwood, one might suspect these local markets have experienced a rise in stumpage prices. But do the numbers actually support this?

To clarify, this article examines one specific sector of the bioenergy industry – wood pellets. As the name suggests, this is pelletized wood that is used as fuel for power generation, as well as commercial and residential heating. To a large extent, these pellets are increasingly used by the UK and other European countries to replace coal as a means of producing cleaner energy. It is also important to note that the primary timber product that is used to produce these wood pellets in the U.S. South is pine pulpwood.

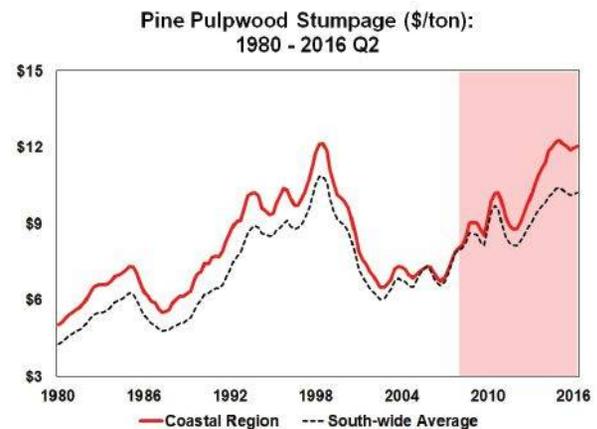
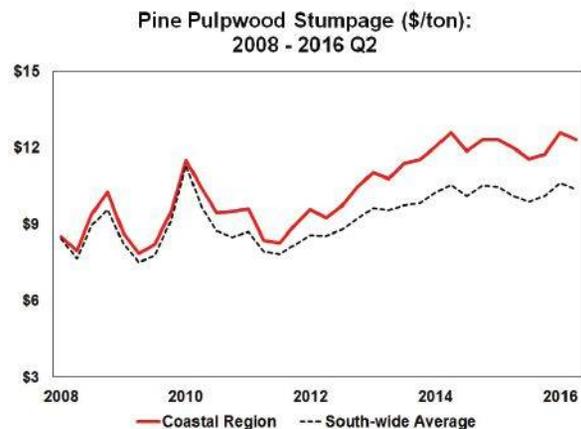


TimberMart-South (TMS) is a non-profit organization that publishes quarterly stumpage and delivered timber prices in 22 regions across the U.S. South. We've been surveying and reporting timber prices since 1976, so in addition to looking at how timber markets have changed since the pellet industry became a major factor in the South, we also looked at price levels over a more extended period to compare historical conditions to what's transpired in recent years.

But before we go any further, we'd first like to provide a bit of history. Since 2000, more than a dozen

pulp mills have shut down in the South and total pulp/paper capacity is down about 8.5 percent. However, starting in the late 2000s, bioenergy facilities started to pop up in the South in the wake of a growing pellet export market. In 2010 there were six pellet facilities operating in the South, with a combined annual capacity of about 2.6 million tons of pulpwood.

Fast-forward five years and the number of pellet mills operating in the region has skyrocketed to 37, with a combined capacity totaling 15.5 million tons per year. While some of these facilities are small in scale, total



capacity at 7 of these mills exceeds 1,000,000 tons per year, and 16 of the 37 mills have a total capacity of at least 300,000 tons of pulpwood per year.

The landscape of the pulpwood industry in the South has undergone major changes over the past decade, but the overall demand for pulpwood hasn't changed as much as it appears. Bioenergy facilities have essentially filled the holes in the market created by the lost pulp/paper capacity, and when you consider just the wood pellet and pulp/paper sectors, total wood demand only increased by about 1 percent from 2000 through the end of 2015.

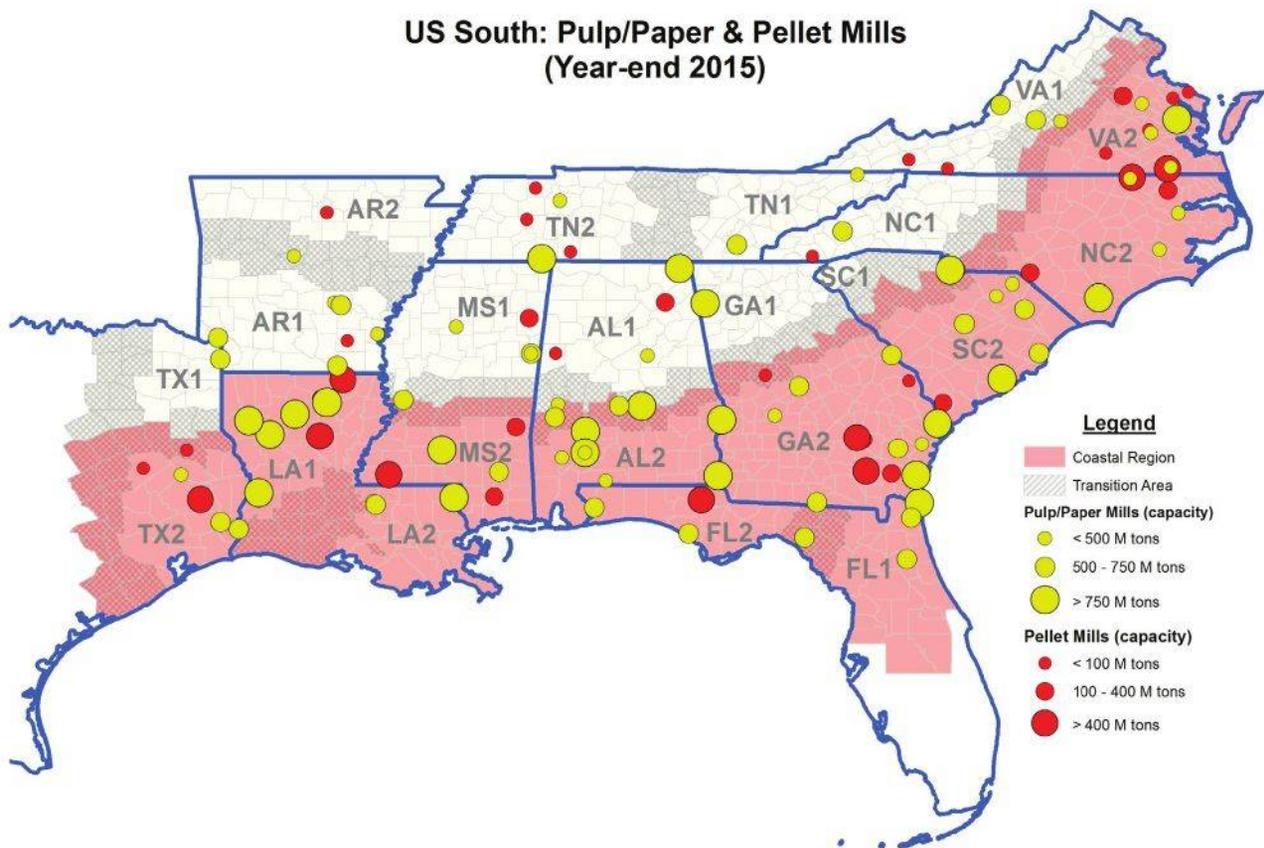
The pellet industry has been heavily subsidized in foreign countries, particularly in response to elevated renewable energy targets by the European Union and its member states. Even so, many landowners across the South have seen the value of their timber rise as pellet mills have moved into their areas, so we wanted to take a closer look to see how southern pine pulpwood (PPW) markets, specifically, have reacted to these changing conditions.

To more quickly and efficiently service these export markets, pellet mills have typically located in close

proximity to ports and along major waterways in the South. We will refer to these areas as the coastal region. This region contains more than 70 percent of all wood pellet facilities in the South, accounting for more than 90 percent of total production capacity. If we were to compare the average PPW stumpage price in this coastal region versus the TMS South-wide average since pellet mills first appeared in the South (2008), we would find that the average price in this region has increased at a much quicker pace than the South as a whole.

Since 2008, PPW stumpage prices in this coastal region have increased at an average rate of about 4 percent per year, compared to about 2.5 percent per year in the South as a whole. Over the past five years, PPW stumpage prices in this region have averaged \$10.76/ton, compared to a South-wide average of \$9.42/ton, or a difference of \$1.34/ton (+14 percent).

However, when we looked back at the 20 years prior to 2000, we found that a coastal region price premium has historically prevailed. Between 1980 and 2000, the gap between coastal region and South-wide



*The following TMS regions are included in the Coastal Region: AL2, FL1, FL2, GA2, LA1, LA2, MS2, NC2, SC2, TX2, and VA2.

Year	Number of Facilities		Annual Pulpwood Capacity (million tons)	
	Pulp/Paper	Pellet	Pulp/Paper	Pellet
2000	88	0	162.4	0
2005	78	0	154.5	0
2010	75	6	153.6	2.6
2015	73	37	148.5	15.5
Net Change (since 2000)	(15)	37	(13.9)	15.5

PPW stumpage prices was actually a bit wider, with coastal region prices averaging about 16 percent higher than South-wide average prices over this period.

So what does all of this mean? At first glance, it appears as though a growing pellet industry has pushed pulpwood prices higher in some areas, but a more reflective look reveals that current market conditions closely mirror the long-term trend. Our short-term memories have a difficult time recalling what things were like prior to this bioenergy buzz, and even more so how things were back when the big pulp and paper companies were vertically integrated. The major changes this industry has gone through over the past 15 or so years have allowed us to forget that Southern pine pulpwood markets have traditionally been strongest in these Coastal Plain regions.

Uncertainties surround this industry and regardless of what the future holds for the bioenergy market in the South, over the past several years landowners have felt this industry's presence as pine pulpwood stumpage prices have averaged about 15 percent higher in markets containing pellet facilities.

However, an important caveat is that the coastal region of the South, which contains more than 90 percent of the pellet industry's total capacity, also has lost a dozen pulp and paper mills since 2000, and during the 2000s the pulpwood price premium this region had historically received was basically eliminated. Over the last five years or so, the bioenergy industry has increased wood demand to more "normal" (historical) levels in this region. Markets have responded and we've seen that pulpwood price premium re-emerge in the coastal region of the South.

The law of supply and demand states that an increase in demand, given no change to supply, will result in a new equilibrium represented by higher prices. But explaining market change isn't always that simple. The elevated prices many landowners have experienced in recent years isn't

just linked to the increase in wood demand brought about by bioenergy facilities (or any other type of facility for that matter). Rather, there are numerous factors that drive change (e.g., wood demand, weather, market conditions, and thinning regime changes), not just one.

This is a broad-based look at markets, focusing on one product. Please consult a local professional forester for current market conditions and selling advice.

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