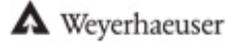


<h2>Our Downside Can Increase Your Upside</h2>		<h2>Weyerhaeuser</h2> <h3>Patented Premium Seedlings</h3>
<p><i>Your Upside</i></p> <ul style="list-style-type: none"> ■ 5 - 20% increase in first-year height growth ■ 6 - 7% greater survival over standard seedlings 		
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Storms, Fires and Other Natural Disasters: Impact on Local Timber Markets

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The destructive fires in South Georgia during the second quarter of 2007 remind us of the proverb "fire is never a gentle master." According to the Georgia Forestry Commission as of June 22, these fires burned over 580,000 acres which exceeds in size the area within Atlanta's perimeter. Now 98 percent contained, the fires required more than 1,500 personnel and \$43 million for suppression and control. The fires have destroyed real property, and disrupted businesses, lives and retirement plans.

Similar to other natural disasters, forest fires can have significant localized effects on timber markets. The effect can be two-fold: (1)

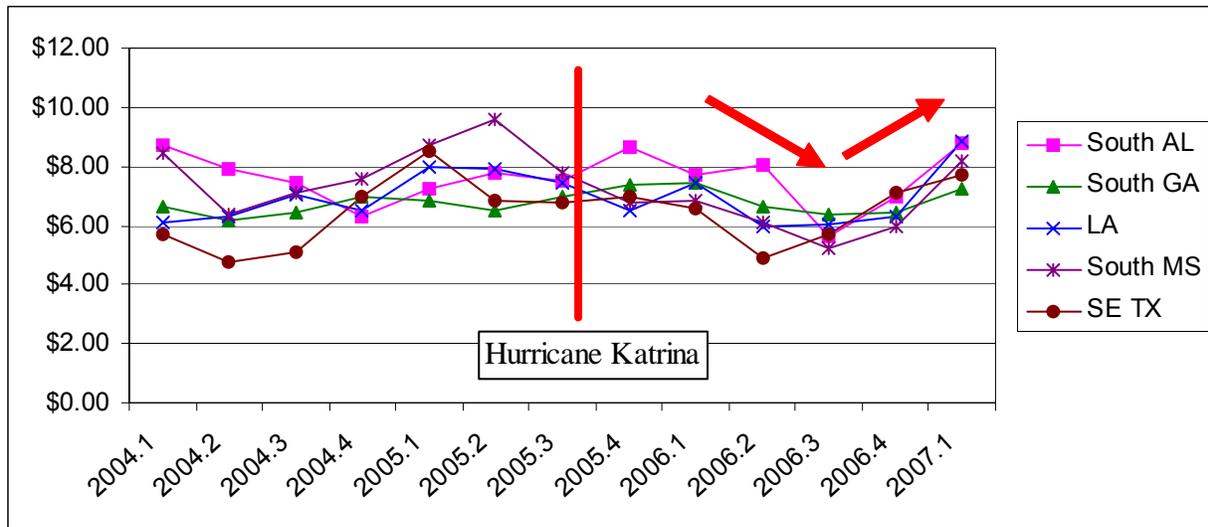
interrupting current forest operations through both smoke and fire hazards and ash and (2) disrupting current and future harvest plans through affecting timber supplies.

Fire and other natural disasters destroy timber stocks with negative implications for local timber markets. Foresters must expand their procurement areas in search of wood for local mills which increase the delivery costs of wood raw materials. The studied effects of weather-related natural disasters help us understand the potential impacts of these recent fires.

Weather Events

Major weather events pummeled Southern timber markets in 2004 and 2005. In 2004, seven hurricanes hit land in a period of less than two months inflicting damages of approximately \$1 billion, affecting up to 24 million acres in Florida and inflicting further damage in six other states. In 2005, twelve hurricanes – including Katrina and Rita – hit the South. Hurricane Katrina landed at the Mississippi-Louisiana border in late August 2005. The direct and indirect costs of Katrina, including higher harvesting costs, lost production and inventory, have estimates up to \$12 billion.

Figure 1. Pine Pulpwood Prices, Q1 2004 – Q1 2007



Price Data: Timber Mart-South

The hardest hit areas included the coastal counties of Alabama, Mississippi and Louisiana. The base case scenario estimates timber sector impact in the three states from Katrina to be \$1.7 billion in sawtimber and \$153 million in pulpwood losses.

Previous research into hurricanes informs us how major events can affect timber prices. Prestemon and Holmes (1997) studied timber prices following a natural catastrophe.¹ In comparing stumpage prices before and after Hurricane Hugo in 1989, they concluded that, depending on the event size, there will be an initial decline in timber prices as short-term supplies increase from blow-down and damaged timber. This study went on to conclude that sawtimber prices recovered to pre-Hugo levels within seven quarters after the storm, while pulpwood prices remained depressed by 35 percent. Further research by Yin and Newman (1999) on how Hugo affected the timber supplied confirmed the initial analysis by Prestemon and Holmes.² In sum, this body of research indicates that prices fall in the short-term and recover in the long-term.

¹Prestemon, J.P. and Holmes, T.P. 2000. Timber price dynamics following a natural catastrophe. *American Journal of Agricultural Economics*. 82: 145-160.

²Yin, R. and D.H. Newman. 1999. An intervention analysis of Hurricane Hugo's effect on South Carolina's stumpage prices. *Canadian Journal of Forest Research*. 29: 779-787.

In Figure 1 above, we see pulpwood price trends following Hurricane Katrina as predicted by the previous research. Pulpwood prices in South Mississippi and Louisiana declined immediately following Katrina, while all of the Southern markets declined as a group during the year following Katrina. Then, as a group, pulpwood prices in these markets recovered in late 2006 and early 2007. While a portion of these changes may be attributable to Katrina, they also reflect cyclical trends in the end product markets for pulp.

Fire Salvage Markets

If there is a silver lining in this case, it is that South Georgia (GA2), in which most of the fires are located, is a robust market with lots of wood-consuming mills. According to the *Forisk Wood Demand Report*, this market has 70 wood consuming mills. This includes 36 pine grade mills that use over 12 million tons annually and 17 pine pulpwood using mills that use over 15 million tons annually.

How do impacts from fires differ from other weather-related natural disasters? Hurricanes have a mechanical effect. Fire has a chemical effect. In other words, hurricanes turn sawtimber into pulpwood; fires literally consume, leaving behind less usable fiber. Operationally, burned timber creates challenges and hazards for loggers. For

example, ash plugs logging equipment such as skidders and dulls saws, slowing harvesting activities. Brown, dry needles on pine trees fall on the logging equipment and machines, accumulating around the exhaust and creating a fire hazard as the needles literally catch fire on the machines. Also, mills that accept charred or burned wood may require additional log preparation and merchandising, which further slows harvesting and increases logging costs. For example, mills may require loggers to fully debark logs in the woods before sending them to the mill.

Even in cases where wood for solid products is salvageable, it may not be needed for a variety of reasons. Sawmills that would normally jump at the chance to utilize this wood under different market conditions may already have full wood yards and do not need any more inventory. Many mills also have standing timber purchased waiting to be cut. Extremely dry conditions have led to more accessibility on normally wet tracts. In addition, the timelines are short as burned wood has, according to wood procurement managers, two months to be salvaged.

A concern for many mills is what can be done with the residual chips from the burned timber. The key is chip quality. For pulp mills, burned material -- whether it's bark or chips or charred wood -- disrupts specialty mills with chemical processes. Fluff pulp mills, on the other hand, can use some burned material, though it depends on the end product of the mill. Charred fibers can leave black specks in white bleached pulp, so mills may require loggers to debark logs in the woods. Alternately, mills that produce brown papers for paper bags have greater raw material flexibility. For sawmills, their goals lie in their ability to market residual chips, in addition to lumber.

Sawmill representatives we spoke with said they will not cut lumber from this wood unless they can also sell the chips. Markets for chips have recently been stronger than markets for lumber. Mills have decided that it is not in their best interest to cut the lumber just because wood is available, if the accompanying chips cannot be sold.

Mendell, Sydor, and Freeman are Principal, Forest Economist, and Market Coordinator of Forisk Consulting, a timber market research and education firm. Forisk and Timber Mart-South are publishing detailed profiles and rankings of 17 Southern timber markets this month. Drs. Mendell and Sydor will be teaching "Advanced Timber Market Analysis" at the Georgia Center for Continuing Education in October. For more information on Forisk's timber market research, please email bmendell@forisk.com.

Weather Etc.

Fire & Storm

Wildfires wreaked havoc across the U.S. this quarter and more fires were breaking out in the West as we went to press. In the South, "monster" South Georgia fires that began in mid-April burned 580,000 acres and Florida fires burned 146,000 acres by the end of June.

Wildland Fires*			
	Total 2006	ytd 2006	ytd 2007
US acres	9,873,000	3,840,000	1,918,000
US # fires	96,000	58,000	48,000
South acres	2,632,000	1,962,000	1,250,000
South # fires	49,000	33,000	25,000

*All wildland fire, not just forest.

Tropical Storm Barry brought the first significant rainfall to beleaguered parts of Florida, Georgia and North Carolina the first week in June.

http://www.nifc.gov/fire_info/ytd_state.htm

<http://www.fl-dof.com/wildfire/index.html>

General Weather: A late freeze hit the South in early April, perhaps affecting acorn production in oaks and delaying leaf development in many deciduous species. Fierce storms with tornado activity hit Texas in April and then heavy rainfall in June caused flash flooding from Oklahoma through northern Texas. The rains in late June were sufficient to eliminate drought in eastern Texas and most of Louisiana.

<http://www.hprcc.unl.edu/products/current.php>