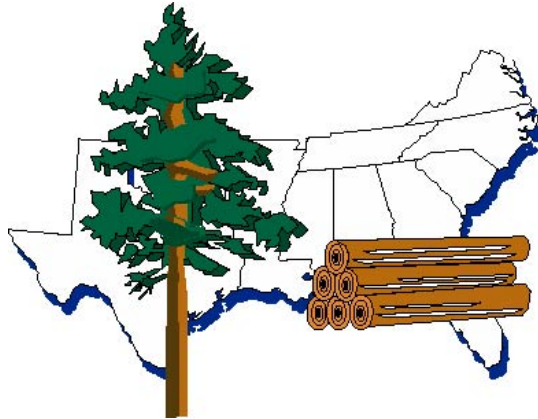


1st Quarter 2010 -- Vol. 15 No. 1



Timber Mart-South Market News Quarterly

The Journal of Southern Timber Market News
*A Quarterly Report of the Market Conditions
for Timber Products of the Southeast US*

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Timber Mart-South

Market News Quarterly

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Prices & Market Conditions

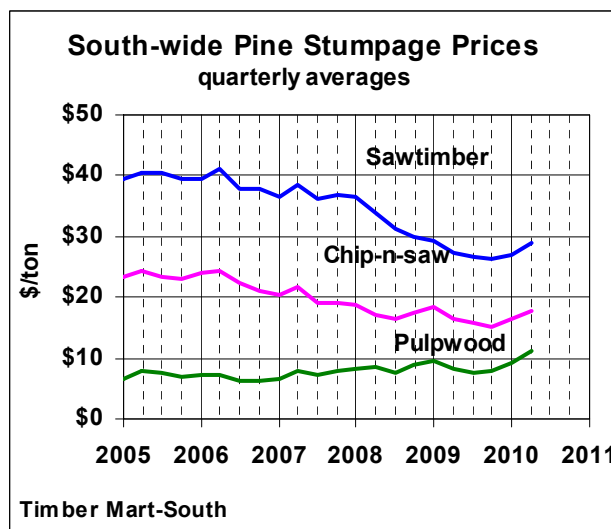
Extremely wet weather continued through the first half of the quarter, affecting both logging conditions and wood supply. Many pulp mills in the South ran low on inventory and competition drove up pulpwood stumpage prices to the highest in years. When the weather broke, however, prices softened.

South-wide average stumpage prices for the five major timber products all continued to increase, three of them for the fourth straight quarter, and all five above prices one year ago. Pine and hardwood pulpwood stumpage prices showed strongest gains, up 24 and 42 percent respectively for the quarter, and up even more from one year ago. Sawtimber stumpage prices increased this quarter but markets still remained weak.

South-wide Average Stumpage Prices \$/ton					
	one quarter			year ago	
	1Q 10	4Q 09	%Δ	1Q 09	%Δ
Pine Sawtimber	\$29.00	\$27.07	+7.1%	\$27.40	+5.8%
Pine Chip-n-saw	\$17.87	\$16.30	+9.6%	\$16.49	+8.4%
Pine Pulpwood	\$11.28	\$9.09	+24.1%	\$8.23	+37.1%
Hardwood Sawtimber	\$22.49	\$20.74	+8.4%	\$20.61	+9.1%
Hardwood Pulpwood	\$12.18	\$8.60	+41.6%	\$7.90	+54.2%

Pine Prices

Pine sawtimber and chip-n-saw stumpage prices have been edging upward for the past three quarters, beginning to recover from a prolonged slide that started in early 2006. However, prices remain near record lows. Thinning continued to be the harvest of choice, capitalizing on historically high pulpwood prices and preserving larger diameter timber for better markets.

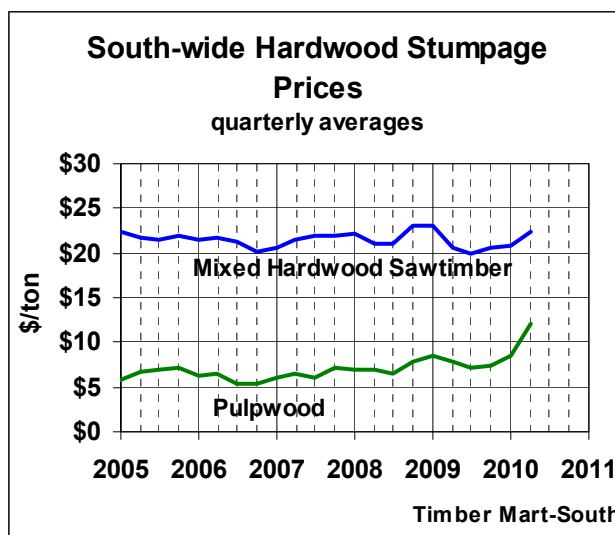


Pine pulpwood prices increased for the third straight quarter, the second quarter in a row of double-digit increases. The 1st Quarter south-wide average approached the \$12.29 all time high set in the 1st Quarter of 1998, another very wet season.

Hardwood Prices

Mixed hardwood stumpage prices increased, generally following the pine sawtimber trend for the past few quarters. Unlike pine, the south-wide stumpage price is about the same as five years ago.

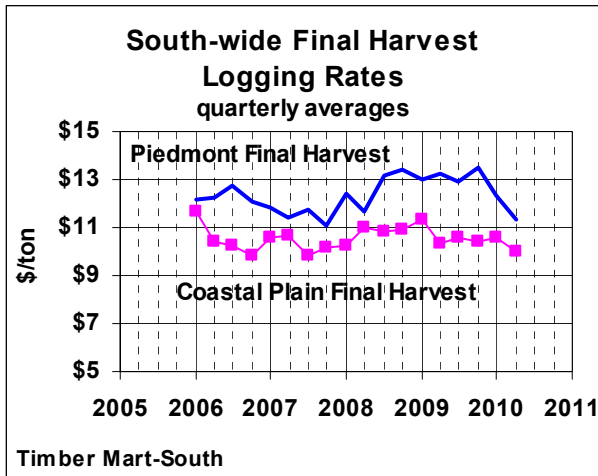
Hardwood pulpwood stumpage prices jumped even higher than pine, surpassing the pine pulpwood south-wide average for the first time since the 3rd Quarter of 2005. Wet weather tends to affect hardwood supply more than pine. Prices are up nearly \$4 from last quarter and almost double



prices five years ago.

Logging Rates

Contract cut and load rates for final harvest decreased in the Piedmont and the Coastal Plain in the 1st Quarter compared to the previous quarter. Rates were also lower than the 1st Quarter of 2009.



South-wide Average Logging Rates \$/ton					
	one quarter			year ago	
	1Q10	4Q09	%Δ	1Q09	%Δ
Piedmont final harvest	\$11.31	\$12.36	-8.5%	\$13.25	-14.6%
Coastal Plain final harvest	\$10.01	\$10.56	-5.2%	\$10.34	-3.2%

For details on final harvest rates and other harvest types, see the Timber Mart-South *Supplemental Report*.

Delivered Timber Prices

Prices for all five major timber products increased this quarter, continuing an upward trend similar to stumpage prices. Pulp quality chip mill prices were also up.

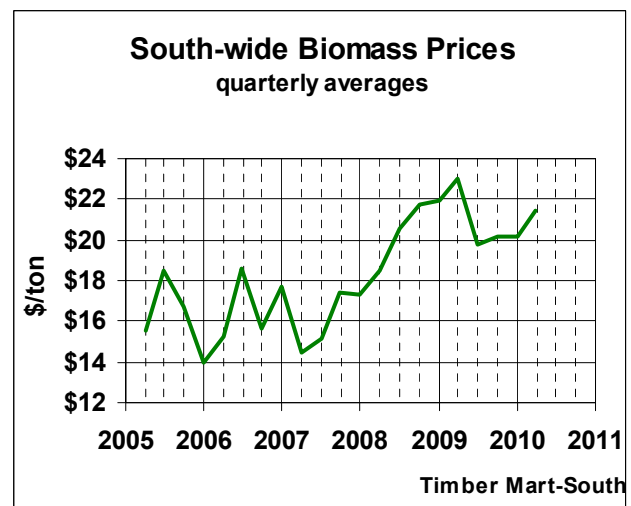
Early in the quarter pulpwood prices were high due to an abundance of mud and a shortage of mill inventory. Reports of “wood panic” abounded. There were confirmed and unconfirmed reports that some buyers imported chips from outside the South, even some from great distances.

South-wide Average Pulp Fiber Prices \$/ton					
	one quarter			year ago	
	1Q10	4Q09	%Δ	1Q09	%Δ
Pine Pulpwood	\$28.88	\$26.96	+7.1%	\$25.63	+12.7%
Pine chips chipmill	\$37.20	\$35.60	+4.5%	\$34.77	+7.0%
Hardwood Pulpwood	\$30.80	\$28.41	+8.4%	\$25.92	+18.8%
Hdwd chips chipmill	\$38.13	\$35.99	+5.9%	\$34.92	+9.2%

Note: Pulpwood FOB at first point of delivery, chips FOB producing mill.

Biomass Prices

Biomass fuel chip prices increased slightly in the 1st Quarter 2010. South-wide average prices were up about 6 percent from last quarter but remained about 7 percent below the peak in 1st Quarter 2009.



For details on biomass and residual prices, see the Timber Mart-South *Supplemental Report*.

Selected Reporter Comments 1Q 2010:

- ❖ Wet weather! Not seen it this wet since the late 1990s (one said 1975).
- ❖ Paper mills are keeping the markets alive.
- ❖ The highest hardwood pulpwood price I have ever received.
- ❖ Most landowners are still keeping timber off the market.

Market Indicators

Economic recovery finally reached the wood products business this quarter. Product prices increased, more due to imbalances of supply and demand than improved fundamentals.

US unemployment continues to hover just below 10 percent. As a result, housing markets are weak and residential housing construction continues to drag along at historically low levels, holding back demand for wood products. Financial markets are sorting through the wreckage of the two-year old recession, and the Federal Government still dominates mortgage lending.

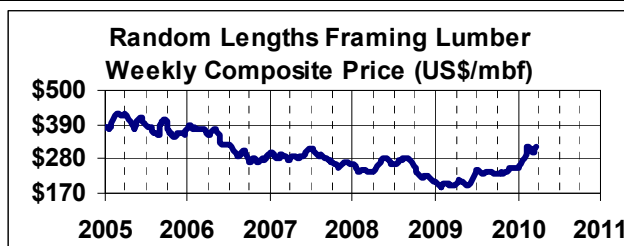
Lumber & Panel Indicators

The **Random Lengths Framing Lumber Composite (FLC)** price ended the quarter at \$319 per thousand board feet (mbf), an increase of nearly 30 percent over the end of last quarter and more than 60 percent above one year ago. The **Southern Pine Composite** was \$343 per mbf, loosely following a similar trend.

After setting historic lows in the first half of 2009, lumber prices remained relatively stable for the remainder of the year at a slightly higher level. Beginning in January lumber prices pushed upwards.

Random Lengths Framing Lumber Composite \$/mbf				
26-Mar-10	31-Dec-09	% +/-	27-Mar-09	% +/-
319	248	28.6%	196	62.8%

Random Lengths Southern Pine Composite \$/mbf				
26-Mar-10	31-Dec-09	% +/-	27-Mar-09	% +/-
343	254	35.0%	231	48.5%

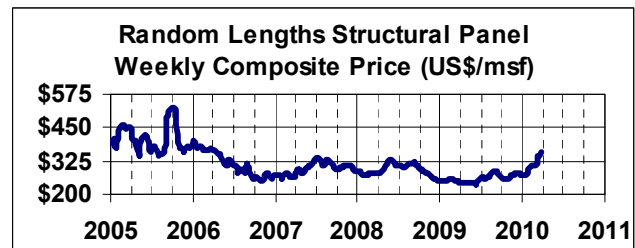


An indication of how long and deeply lumber prices have been depressed, the FLC price generated excitement as it broached the \$315

level this quarter for the first time since June 2006: first the week ending February 29th and then the last week in March. If the FLC remains above the \$315 price for four straight weeks, it would trigger lower tariffs and other provisions of the 2006 Softwood Lumber Agreement between the US and Canada.

The **Structural Panel Composite** price ended the quarter at \$358 per thousand square feet, 3/8 inch basis (msf), up more than 30 percent from the end of December 2009 and up almost 50 percent from the same period last year.

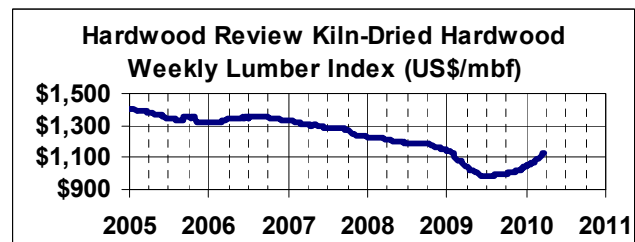
Random Lengths Structural Panel Composite \$/msf				
26-Mar-10	31-Dec-09	% +/-	27-Mar-09	% +/-
358	273	31.1%	240	49.2%



Southern pine plywood prices and southern Oriented Strand Board (OSB) prices also ended the 1st Quarter well above the end of 2009. Both were also higher year-over-year, but plywood prices were only up about 15 percent from the end of March 2009 while OSB prices more closely followed the overall panel price trend, rising more than 60 percent over last year.

The **Hardwood Review US Kiln Dried Hardwood Lumber Index** was \$1,132 per thousand board feet (mbf) at the end of March, extending an upward climb begun in mid-2009.

Hardwood Lumber Price Kiln dried Index \$/mbf				
26-Mar-10	31-Dec-09	% +/-	27-Mar-09	% +/-
1132	1041	8.7%	1047	8.1%

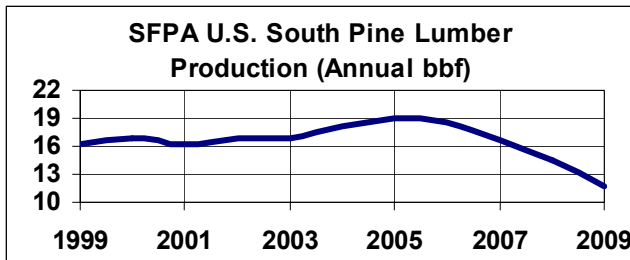


Low grade lumber price increases in the South were due to stronger demand. Low sawmill production and fear of potential shortages have preemptively increased purchases of pallet cants, switchties and framestock: both mixed and oak/hickory.

The Southern Forest Products Association (SFPA) reported that southern pine lumber production was 847 million board feet (mmbf) in January as the 1st Quarter began, more than 8 percent less than in January 2009. If the current historically low rate continues, 2010 production will be 10.2 billion board feet, the lowest level since 1983. See Openings & Closings on page 22.

In 2009, southern lumber production was 11.8 billion board feet, the lowest level since 1986 and only 60 percent of the peak level set in 2005.

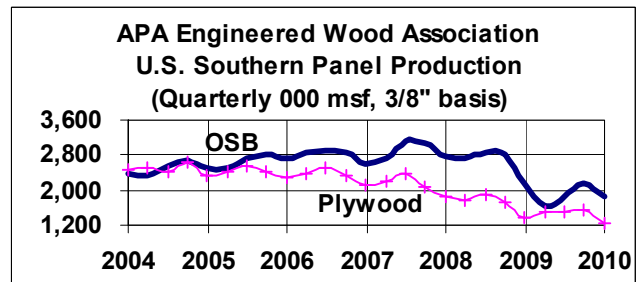
Southern Pine Lumber Shipments bbf				
2009	2008	% +/-	2005	% +/-
11.79	14.57	-19.1%	18.924	-37.7%



Southern panel production eased off in the 4th Quarter of 2009 according to the latest report available from the **APA Engineered Wood Association**, remaining at historically low levels.

Southern Oriented Strand Board (OSB) production lost gains made in the previous quarters: down about 14 percent quarter over quarter and year-over-year. Southern plywood production, flat for most of 2009, declined further.

Southern OSB Production 000 msf				
4Q09	3Q09	% +/-	4Q08	% +/-
1859	2171	-14.4%	2165	-14.1%
Southern Plywood Production 000 msf				
4Q09	3Q09	% +/-	4Q08	% +/-
1261	1548	-18.5%	1383	-8.8%



Annual southern plywood production set a record low since APA began reporting in 1980 for the second year in a row by dropping even further in 2009: producing about 5.8 billion square feet, on a 3/8 inch basis. Southern plywood levels peaked in the mid-1990s at about 13.3 bsf. As late as 2004, production was still nearly 10 bsf per year.

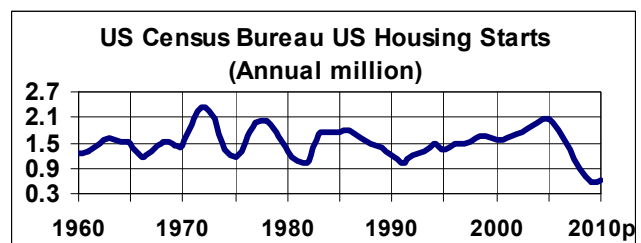
Southern OSB producers began severe curtailments in mid-2008; and in 2009, output was 7.8 bsf, a roll-back to slightly above that in 1999. Peak production was in 2007 at 11.7 bsf.

US Building Construction

As 2010 began, US privately-owned housing starts showed signs of rising from their record low levels. Total year-to-date starts through February were 78,000 according to the **US Census Bureau**, up about 8 percent from the same period in 2009. Southern starts were up slightly as well.

Residential Housing Starts, 000 units year to date			
	Feb-10	Feb-09	% +/-
U.S.	78	72	8.8%
South	42	41	4.7%

Housing construction in 2009 totaled 554 thousand new units. This was about 27 percent of the 2.07 million housing units started in the peak year of 2005. Starts could be about 602 thousand units in 2010 if they continue at the current rate.



Remodeling activity also increased slightly in early 2010. According to the **US Census Private**

Construction Spending monthly report, expenditures on improvements by private owners were up 4.7 percent year-to-date through February compared to the first two months of 2009.

<http://www.census.gov/const/www/c30index.html>

Annual expenditures in 2009 were about \$115.8 billion, down about 4 percent from \$120.1 billion in 2008 and down 20 percent from the peak year 2006. Levels in 2009 were about the same as in 2004.

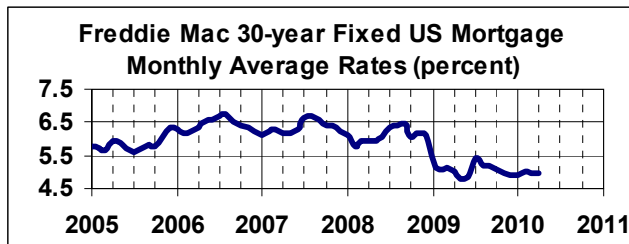
According to the Harvard University **Leading Indicator for Remodeling Activity (LIRA)**, spending has hit bottom and will steadily increase through 2010.

<http://www.jchs.harvard.edu/media/lira/>.

Mortgage activity in March was the strongest since October 2009 when buyers rushed to take advantage of the tax credit that ended in November. A similar pattern prevailed this quarter with the extended tax credit due to expire in April. Refinance was down to 63 percent of the mortgage market, compared to more than 75 percent at the end of December.

Mortgage rates have been steady and relatively cheap. The March average for 30-year fixed-rate mortgages was 4.97 percent according to Freddie Mac, nearly the same as December 2009. The lowest recent average rate was 4.81 percent in April 2009.

30-year Fixed US Mortgage Rates (percent)				
Mar-10	Dec-09	Δ +/-	Mar-09	Δ +/-
4.97	4.93	0.04	5.00	-0.03



The **Federal Reserve Open Market Committee (FOMC)** continued to keep the federal funds rate at zero to 0.25 percent this quarter. Noting

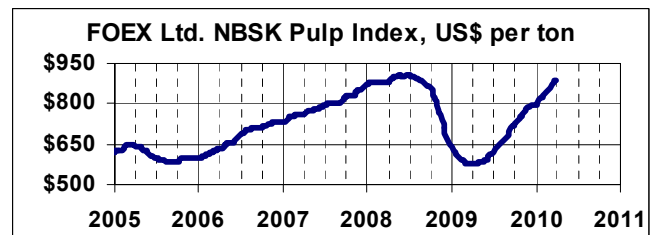
increased strength in the economy and stabilization of the labor market, the Committee ended its purchases of agency mortgage-backed securities and agency debt which has been supporting mortgage lending and housing markets.

Pulp & Paper Indicators

Pulp prices increased for the fourth straight quarter. The **FOEX Ltd. Northern Bleached Softwood Kraft (NBSK) pulp** price index ended March at \$889 per ton, up more than \$310 per ton from the most recent low in March 2009, and approaching the \$907 per ton peak of May 2008.

Bleached hardwood kraft pulp prices, at \$789 per ton, followed a similar trend but increased more than softwood for the third straight quarter.

FOEX NBSK Index US\$/ton				
30-Mar-10	29-Dec-09	% +/-	31-Mar-09	% +/-
889	799	11.3%	577	54.1%
FOEX BHK Index US\$/ton				
30-Mar-10	29-Dec-09	% +/-	31-Mar-09	% +/-
789	700	12.8%	494	59.9%



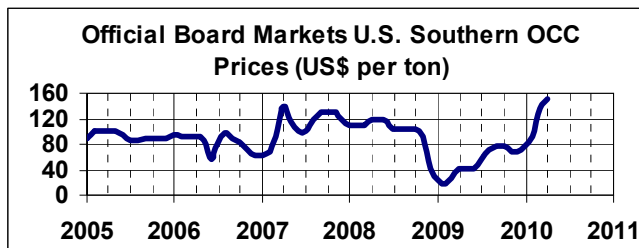
The **American Forest and Paper Association (AF&PA)** reported that US paper production was up about 5 percent year-to-date in the first two months of 2010 compared to the same period in 2009. Paperboard production was up more than 8 percent. At the current rate, total paper and paperboard production in 2010 will be slightly above 2009 and still below the long-term trend. See Openings & Closings on page 22.

The AF&PA released its US Paper, Paperboard and Pulp Capacity Survey for 2009. Capacity fell 2.5 percent last year to 93.9 million tons. The Survey reported that 14 US mills closed permanently and an additional 11 machines were shut down at other manufacturing facilities. The

AF&PA expects total paper and paperboard capacity to decline an additional 3.4 percent in 2010 before stabilizing in 2011 and 2012. US capacity has fallen about 10 percent since the 2000 peak.

Recovered corrugated container prices jumped this quarter. According to **Official Board Markets**, Old Corrugated Container (OCC) monthly average prices in the South were \$153 per ton in March, nearly double the December average. Prices increased this quarter due to a combination of weak sales in the 2009 holiday season, which cut OCC supply, and strengthening demand. OBM said that with the end of the Black Liquor tax rebate program in December, faced with high virgin fiber prices, domestic pulp manufacturers increased recycled grade production early in the quarter. That stepped up OCC demand. In early April, OCC prices were already easing downward as the improving economy increased available supply.

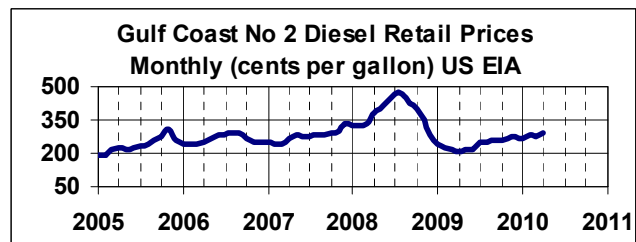
Old Corrugated Containers - US South in \$/ton				
Mar-10	Dec-09	% +/-	Mar-09	% +/-
153	78	96.8%	43	258.8%



Energy & Carbon Markets

Fuel prices continued their gradual four-quarter climb this quarter. The March 2010 monthly average Gulf Coast diesel price was \$2.88 per gallon, up quarter-over-quarter as well as year-over-year. The bottom was a year ago, in March 2009, at \$2.06. Prices remain well below the July 2008 peak of \$4.68 per gallon.

Gulf Coast #2 Diesel – Retail (cents per gallon)				
Mar-10	Dec-09	% +/-	Mar-09	% +/-
288	270	6.7%	206	39.9%

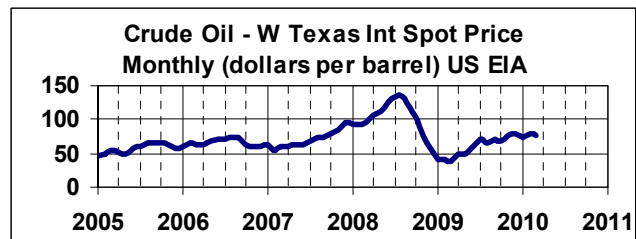


<http://tonto.eia.doe.gov/oog/ftp/area/wogirs/xls/psw18vwall.xls>

Crude Oil prices remained stable this quarter. The February 2010 monthly average West Texas Intermediate Crude price was \$76 per barrel, nearly unchanged from the previous three months. However, at press time spot prices have risen, exceeding \$80 per barrel, and oil futures have settled higher on the New York Mercantile Exchange.

Crude oil prices hit bottom in February 2009 at \$39 per barrel, after falling from the June 2008 peak of \$134 per barrel.

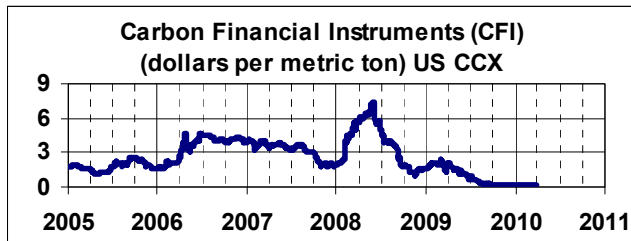
W Texas Int. Crude Oil (dollars per barrel)				
Feb-10	Nov-09	% +/-	Feb-09	% +/-
76.39	77.99	-2.1%	39.09	95.4%



http://tonto.eia.doe.gov/dnav/pet/xls/PET_PRI_SPT_S1_M.xls

Carbon prices were mostly unchanged this quarter in both the US and Europe. The Chicago **Carbon Climate Exchange** (CCX) prices remained at nearly zero again this quarter. However, futures based on CFI units “should Congress pass cap-and-trade legislation” were trading in the \$5 to \$7 per ton range at the end of March, down from the \$9 to \$11 in late December. CFI prices peaked at \$7.40 per ton on June 2nd 2008 when energy and commodity prices were booming. The CFI price collapse appears to anticipate a switch from the current voluntary market to proposed mandatory markets.

Carbon Financial Instruments (dollars per tonne)				
Mar-10	Dec-09	% +/-	Mar-09	% +/-
0.10	0.14	-30.4%	2.03	-95.1%



The **Regional Greenhouse Gas Initiative (RGGI)** held its seventh quarterly auction on March 12th for carbon emissions of utilities in the Northeastern US. Prices, having dropped lower with each of the four successive 2009 auctions, stabilized this quarter.

- ❖ For 2009 vintage: US\$2.07 per ton compared to US\$2.05 in the December auction.
- ❖ For 2012 vintage: US\$1.86 per ton unchanged from December.

Note: A CO² allowance represents a limited authorization to emit one ton of CO². Results are available at:

http://www.rggi.org/docs/Auction_6_Results_Release_MMrep.pdf

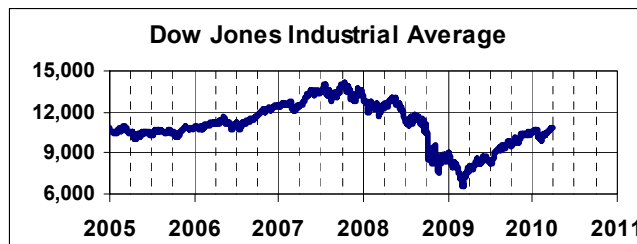
The European **Point Carbon** price for the December 2010 vintage was EU€12.86 per ton on March 31st (about US\$17.33 per ton), unchanged in EU€ from the end of December as well as March 2009. Exchange rate changes mean that Point Carbon prices are about one US dollar per metric ton lower in March than they were in December. Prices peaked at EU€30 in July 2008. Spot prices are available at:

<http://www.pointcarbon.com/news/>

Other Market Factors

Stock markets strengthened for the fourth straight quarter. The **Dow Jones Industrial Average (DJIA)** finished the quarter at 10,857, up 4 percent over the end of last quarter and up 43 percent over one year ago. The DJIA remained at about 77 percent of the market high in October 2007, down over 3,300 points.

DJ Industrial Average				
31-Mar-10	31-Dec-09	% +/-	31-Mar-09	% +/-
10,857	10,428	4.1%	7,609	42.7%



The **S&P 500** finished the quarter at 1169, up 5 percent for the quarter; while the **NASDAQ Composite** finished at 2269, up 6 percent.

Manufacturing activity expanded for the eighth consecutive month in March 2010. The **Institute for Supply Management's** Purchasing Managers Index (PMI) which aggregates activity in US manufacturing was 59.6 in March, up from the low of 32.4 in December 2008. A PMI above 50 indicates economic expansion, and below indicates contraction.

All but one of the 18 manufacturing industries reported growth in March. Both Paper Products and Wood Products reported expansion; Wood Products for the first time in years.

<http://www.ism.ws/index.cfm>



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Expansion of Pulp Production in the Third World

By William Ladrach, President, Zobel Forestry Associates, Inc.

This is a summary of an invited presentation given in February, 2010, to the Allegheny SAF winter conference at Roanoke, West Virginia.

Wood furnish for pulp mills

The major expansion of the world's pulp industry is occurring in Third World economies and the wood furnish for new mills is based on fast-growing plantation trees. In 2007, global wood pulp supply grew at twice the rate of demand, and world market pulp supply is expected to outpace demand until 2012. Most of the increase in demand for wood pulp is expected to occur in China. World-wide, more than 65 percent of current wood production (for all uses) comes from natural forests, equivalent to 1.2 billion cubic meters. However, outside of North America and Eurasia, the great majority of pulp mills use plantation grown wood as furnish.

A 2009 report by the FAO (Food and Agriculture Organization of the United Nations) suggests that tree planting world-wide should be increased by 33 percent during the next 20 years to meet global demand for wood. According to the 2005 FAO report on forestry, most tree plantations are in Asia (65 percent), followed by Europe (17 percent), North and Central America (9 percent), Africa (4 percent) and Oceania (2 percent). There are currently more tree plantations in the temperate regions of the world, but a report by Brazilian forestry consulting firm STCP predicts that by 2020, there will be significantly greater plantation area in the tropics.

Table 1. Projected world forest plantation area (source: STCP)

Year	Tropical	Temperate	Total
	millions of hectares		
2005	70	120	190
2010	108	139	247
2015	166	161	327
2020	255	187	442

A PriceWaterhouse Coopers report lists the world average return on capital employed (ROCE) in forest lands at 4.8 percent for 2007. In the same year, FAO reports that in Latin America industrial forest lands continue to generate income with ROCE's of 9.3 percent in 2006 and 7.8 percent in 2007.

The US pulp and paper industry is largely composed of widely held companies listed on the stock market and must compete with other business sectors (electronics, energy, transportation, pharmaceuticals, etc.) for investors' dollars. The US pulp & paper industry has not been generating favorable returns on capital employed in timberlands and has largely divested itself of its forest lands, selling them to timber



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investment management organizations (TIMO), real estate investment trusts (REIT) and to a lesser degree to limited liability corporations (LLC) and limited partnerships (LP).

Annual pulp and paper production for selected countries

According to FAO Statistical Yearbook for 2009, world wood pulp production was 177 million metric tons. The countries listed in Table 2 had the greatest wood pulp production in 2009 (in thousands of metric tons). The difference between pulp production and paper/ paperboard production is primarily due to three factors:

- 1) Countries with significantly greater paper than pulp production such as Japan, China and Germany are net importers of wood pulp.
- 2) Countries with significantly greater pulp production than paper production, such as Canada, Brazil and Chile, are net exporters of wood pulp.
- 3) The use of recycled paper is increasing in most countries.

Table 2. Largest wood pulp producers in 2009

Country	Pulp 1000 mt	Paper & Board 1000 mt
United States	52,277	83,826
Canada	22,235	18,113
Finland	12,856	14,334
Sweden	12,588	11,902
Brazil	12,083	5,836
Japan	10,850	28,930
Russian Federation	7,010	7,559
China	6,435	78,026
Indonesia	5,177	7,223
Chile	4,675	1,344
Germany	3,001	23,172
South Africa	2,310	3,033
India	2,308	4,183
France	2,260	9,871
Norway	2,240	2,010
Spain	2,065	6,714
Portugal	2,065	1,644

Analyses of selected countries

The following countries have significantly expanded their wood pulp production in recent years and/or are planning to increase their wood pulp production in the near future. All of these are in the third world.

Brazil

Most Brazilian bleached kraft pulp production is with hardwoods, and most unbleached kraft pulp is with conifers.

Table 3. Existing pulp capacity by state in 2009, metric tons per year (source: BRACELPA)

State	Region	Number of plants	Pulp production mtpy*
São Paulo	south	10	3,981,250
Espirito Santo	central	1	2,330,000
Bahia	north	2	2,308,000
Paraná	south	4	1,396,000
Minas Gerais	central	1	1,200,000
Santa Catarina	south	5	934,100
Rio Grande do Sul	south	2	535,000
Pará	north	1	430,000
Maranhão	north	1	56,000
Pernambuco	north	1	28,000
Total Brazil		28	13,198,350

*metric tons per year (mtpy)

Table 4. Brazilian kraft pulp production in 2008 (metric tons per year)

	Unbleached	Bleached	Total
Softwood	1,470,000	106,000	1,576,000
Hardwood	567,000	10,046,000	10,613,000
Brazil total pulp			12,189,000

Many new mills and mill expansions have been announced in the past two years. Some of these were put on hold due to the economic recession of 2008, but others are still planned for construction.

Table 5. Announced pulp mill expansions in Brazil

Company	Locality	State	Region	Capacity 1000 mt	Completion Date
Suzano	not specified		north	1,300	2015
Suzano		Maranhão	north	1,300	2015
Suzano		Piauí	north	1,300	2015
Suzano	Murcuri (on hold)	Bahia	north	400	2015
Veracel I	Eunápolis (joint venture Aracruz & Stora Enso)	Bahia	north	1,100	2005
Veracel II	Eunápolis (on hold)	Bahia	north	1,400	on hold
Cenibra	Belo Oriente	Minas Gerais	central	800	2013-14
Aracruz (Fibria)		Minas Gerais	central	1,400	2015
	(three lines, first line will be ready in 2015)				
Votorantim (Fibria)	Tres Lagoas	Mato Grosso do Sul	south	1,300	2009
Stora Enso		Rio Grande do Sul	south	1,000	2012-13
CMPC	Guaíba (CMPC bought this mill from Aracruz in 2009 for US\$1.43 billion)	Rio Grande do Sul	south	450	2009
CMPC	Guaíba (planned expansion)	Rio Grande do Sul	south	1,350	2011

Brazil has many advantages for expansion of its tree plantation base and its forest industry.

- ❖ Fast-growing tree species.
- ❖ High level of forest research to improve tree growth and health.
- ❖ Arable land available for more plantations at relatively low cost.
- ❖ Trained & motivated work force.
- ❖ Favorable wood transport systems.
- ❖ University technical & professional support.
- ❖ Close cooperation among companies, government, and universities.
- ❖ Strong economy.
- ❖ National Bank for Social and Economic Development (BNDES) supplies financing for industrial development.

According to a report by Jakko Pöyry Oy and BRACELPA, the average yield of Brazilian industrial pulpwood plantations is:

- ❖ 40 m³/ha/year (8 cords/a/yr) for eucalypts on a 7-year rotation (double the growth in 1970).
- ❖ 30 m³/ha/year (6 cords/a/yr) for pines on a 15-year rotation.

Note: Trees are measured over bark.

To keep up with growing demands for wood products worldwide, Brazil's current tree plantation area of 5.6 million hectares (ha), or about 13.8 million acres, needs to be increased to 12.8 million ha (31.6 million acres) during the next 20 years for Brazil to maintain its relative market share in wood products sales.

Harvesters mounted on track or articulated tractor bases can produce 6-meter (20-foot) debarked eucalypt wood, with production rates over 100 trees per hour. Many harvesting operations now work 3 shifts per day, 6 days per week. This is possible working on level land and where trees are uniform in form and growth, established with clonal planting stock. Women are being employed as operators of tree harvesters.

Brazil has established GVW (gross vehicle weight) limits that favor truck hauling and reduce the cost of wood transport. Legal GVW for trucks rigs with 7 axles is 57 metric tons and with 9 axles is 74 metric tons. In comparison, most states in the US have maximum allowances of 36 metric tons GVW (around 80,000 lbs).

In 2009, a new company, Fibria, was formed by the merger of Votarantim Celulose e Papel and Aracruz Celulose. The new company has a combined annual pulp production capacity of over 6 million tons. Fibria owns more than 1.3 million hectares of forest land.

Chile

The country's largest forestry company, Celulosa Arauco y Constitución (Arauco), has a combined annual pulp capacity of 2.2 million metric tons from its mills, four of which are in Chile and one in Argentina. It owns a total of 850,000 ha of tree plantations in Chile, Argentina, Brazil and Uruguay. Arauco's largest pulp mill at Bío-Bío (Region 8) has a capacity of 858,000 tons of bleached long fiber pulp per year.


Advantages to the Chilean forest and pulp industry include:

- ❖ Trained & motivated work force.
- ❖ University technical & professional support.
- ❖ Strong economy.

Challenges to the Chilean forest industry include:

- ❖ Lands in Regions 8, 9, 10 for radiata pine are more-or-less utilized, and the potential for expansion is limited.
- ❖ The topography for much of the plantation area is rolling to steep, and requires specialized harvesting equipment.
- ❖ Chile has good forest fire organizations, but radiata pine is highly susceptible to fire damage. (Burned wood with imbedded charcoal cannot be used for bleached pulp production).
- ❖ Truck haul capacity is limited by topography and roads.
- ❖ Chiloé Island in the South has the potential for expansion of forest plantations, but with slower-growing Douglas-fir and cold-hardy North American pines.

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Table 6. New Uruguayan pulp mills

Company	Locality	Capacity 1000 mt	Cost US\$ billions	Completion Date
UPM (Finland)	Fray Bentos	1,000	1.40	2007
ENCE(Spain)	M'Bopicua, Colonia	1,000	0.93	2010
Stora Enso	unspecified	1,000		unspecified

Uruguay

One new mill was recently completed, one more is under construction and another has been announced.

Tree plantations are fast-growing hardwoods, including *Eucalyptus globulus* and *Eucalyptus dunnii*. The plantations are generally located in the northeast and in the southwest.

Advantages to the Uruguayan forest and pulp industry:

- ❖ Fast-growing tree species.
- ❖ Arable land available for more plantations.
- ❖ Future wood sources may be available from Argentina across the Uruguay River through MERCOSUR trade agreements.
- ❖ Plantations in the Northeast are adjacent to Brazil, and the wood could move to the state of Rio Grande do Sul where new pulp mills are being planned.

There are challenges to the expansion of the Uruguayan forest industry:

- ❖ Road systems are less than optimum for truck transport, especially for moving wood from the Northeast to the South. Transport distances are long from the Northeast across Rio Negro and Lago de Rincon to Montevideo in the South.
- ❖ The encroachment of tree plantations on cattle lands may become a problem with cattle growers in the future.

- ❖ There is strong antagonism by Argentina against the construction of Uruguayan pulp mills along the Uruguay River without the consensus and approval of the Uruguay River Treaty established by Brazil, Argentina and Uruguay to control river water contamination.

South Africa

The national wood pulp capacity is 2.3 million metric tons per year (mtpy). Sappi mills have a capacity of more than 1 million mtpy (groundwood and kraft pulp). The mills are located at Ngodwana, Transvaal Province. Mondi has a 720,000 mtpy kraft mill at Richards Bay, Natal Province, along the Indian Ocean.

There are 1.5 million ha of plantations, mainly *Pinus patula*, *P. taeda*, *P. radiata*, *Eucalyptus grandis* and *Acacia mearnsii*. Most plantations are in the East (Transvaal Prov.), Southeast (Natal Prov.) and South (Eastern Cape). Sappi owns 464,000 ha of plantations plus 75,000 ha in neighboring Swaziland. Mondi has 430,000 ha in plantations.

There are plans to establish 200,000 ha of new plantations with an additional mill construction of 565,000 tons of pulp capacity. Mondi and Sappi are expanding plantations into Swaziland and possibly into Mozambique to the North. Mozambique has plans to establish up to seven million hectares of tree plantations. The increase in pulp capacity in Southern Africa will depend on increasing the tree plantation area.

Table 7. Existing Indonesian pulp mills

Mill	Group	Locality	Province	Island	Capacity 1000 mt	Completion Date
PT Riau Andalan Pulp & Paper	APRIL	Pekanbaru	Riau	Sumatra	750	1995
PT Riau Andalan Pulp & Paper	APRIL	Pekanbaru	Riau	Sumatra	100	1999
PT Riau Andalan Pulp & Paper	APRIL	Pekanbaru	Riau	Sumatra	1,250	projected
PT Indah Kiat Pulp & Paper	APP	Perawang	Riau	Sumatra	1,552	1998
PT Kiani Kertas	Kalimanis	Berau	E Kalimantan	Borneo	525	1998
PT Tanjung Enim Lestari	Marubeni	Muara Enim	S. Sumatra	Sumatra	450	1999
Others					550	
Total Indonesia					5,177	

Indonesia

Indonesia's installed pulp capacity is 5.3 million mtpy. The plantations are primarily *Acacia mangium*. The major mills are in Sumatra, with one in East Kalimantan (Borneo). Essentially all forest lands are owned by the Federal Government, called Timber Estates (HTI or *Hutan Tanaman Industri*), and the government is a passive partner in the HTI forestry projects of the pulp and paper companies. Most of the mills started up using natural mixed hardwoods that were cleared so that the sites could be planted with acacias.

Indonesia has major challenges to expansion of its pulp industry:

- ❖ There has been a history of financial difficulties, corruption, and debts associated with forestry projects and government incentives.
- ❖ There exists social antagonism by local residents to industry takeover and clearing of lands by large pulp companies.
- ❖ There is resistance by environmentalists to land clearing and land conversion to tree plantations.
- ❖ There is a lack of trained manpower to operate forestry and mill equipment.
- ❖ There is a lack of professional & technical personnel with operational experience in plantation forestry and pulp mills.
- ❖ There is very limited university technical support to the forest industry.
- ❖ There is little effective cooperation among companies, universities and government to improve the overall forest industry.
- ❖ Effective forest research is extremely limited.
- ❖ Most public roads are not designed for moving large logging trucks with high volumes of pulpwood.
- ❖ Effective conversion of land within Timber Estates (HTI) to industrial plantations is relatively low due to topographic conditions which include hills, organic soils and swamps.
- ❖ There are difficulties adapting efficient, mechanized harvesting systems to the existing terrain.
- ❖ The growth rate for acacia industrial plantations is relatively low, 20 m³/ha/yr (4 cords/a/yr), compared with the growth of eucalypts in Brazil (on page 14).
- ❖ Large pulp mills depend heavily on the felling and bucking wood to 2.4-meter (8-foot) lengths with chainsaws, hand removal of bark, and manual log transfer to roadside.

Table 8. Recently built and planned pulp mills in China

Company	Locality	Province	Region	Capacity 1000 mt	Cost US\$ billions	Completion date
APRIL	Rizhao City	Shandong	north	1,000		2008
APP China	Ningbo City uses poplar chip furnish	Zhejiang	central	250	0.14	2010?
Jiangsu Oji Ltd	Nantong joint venture with Nantong Econ.& Tech.Develop.Corp	Jiangsu	central	700	1.20	2009
APP China	Qinzhou City	Guangxi	south	300		2008
Hunan Juntai		Hunan	south	400	0.64	2008
	bleached softwood kraft pulp					
China Metallurgical Group		Yuanjiang, Hunan		2008		2008
	joint venture with Tiger Pulp & Paper, planned expansion to 1.4 million tpy uses poplar wood furnish					
Shandong Chenming,		Zhanjiang, Guangdong	south	700	1.20	2009
Lee & Man	Chongqing uses bamboo furnish	Guangxi	south	125		2008
Stora Enso	Beihai City	Guangxi	south	1,000		unspecified
APP China		Hainan	island	780		2008
APP China		Hainan	island	780		unspecified

China (Peoples Republic of China)

Approximately five million tons of new pulp capacity is planned or under construction in China. New pulp mill design capacities are generally lower than most world class mills, such as those being built in Brazil. However, because of the huge differential between pulp capacity and paper capacity in China, much of the additional world pulp capacity being built is aimed at sales to China. The Chinese government plans to establish 5.8 million ha of industrial tree plantations by 2015.

There are challenges to the expansion of China's forest industry:

- ❖ Social challenges of establishing large industrial tree plantations in areas of high population density and where land is controlled by local communities. The APP mill on Hainan Island has a highly limited local wood source and must depend on wood brought in from mainland Guangdong Province, as well as from Malaysia and Indonesia.

- ❖ Difficulties and cost of developing infrastructure for efficient plantation management (roads, fire control, mechanized harvesting) in areas of high rural population density.
- ❖ Large extensions of temperate plantations have been established with slower growing species such as mason pine and with poplars (cottonwoods).
- ❖ Eucalypts planted in the South compete with agriculture for land use.
- ❖ Hilly topography and distance from coastal populations limits efficient industrial plantation development in the Southwest.
- ❖ The potential for expansion of tropical species to the north is limited in southern Hunan, Guangdong, and Guangxi provinces due to the threat of freezing winter temperatures at higher latitudes.

Conclusions

- ❖ New pulp mill construction is centered in tropical and sub-tropical regions of the world.
- ❖ New pulp mills are primarily bleached kraft short fiber (bleached hardwood freesheet).
- ❖ Expansion of industrial conifer plantations outside of North America and Europe is quite limited.
- ❖ Low-cost wood furnish to mills is crucial to the economic success of the forest industry. There must be fast tree growth, efficient harvesting and low-cost wood transport.
- ❖ China and Japan will continue to be major consumers of wood pulp due to the differential between their respective pulp production and paper making capacities.
- ❖ Brazil has a very large potential to expand its plantation wood base and to increase its pulp production capacity. Most future wood pulp expansion is aimed at exports.
- ❖ Indonesia has severe limitations to the expansion of its wood pulp industry.

Predictions

China will continue to expand its industrial plantations and pulp industry in spite of significant challenges. Increasing internal demand for pulp and paper will overcome logistical obstacles and relatively higher costs to produce pulp.

North American long fiber pulp production is not being threatened by Third World competition, but future production may be limited by internal factors such as a reduction in the available wood furnish, aging mill infrastructure and an inability to attract investment capital.

Selected sources

afandpa.org (American Forest and Paper Assn.)

andi.com (Association of Pulp and Paper Industries)

bracelpa.org (Brazilian Pulp & Paper Assn.)

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icfpa.org (International Council of Forest & Paper Associations)

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About the author: For more information on William Ladrach or Zobel Forestry Associates, see <http://www.zfaforestry.com/>.

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Timberland Transactions

There were few major timberland transactions this quarter. None were reported with prices, so there is little to confirm or deny the predictions of lower prices after the “bubble burst”. Those with comments on the market said there were smaller packages available with somewhat lower prices. An unusual number of sales were removed from the market as “no sales” in 2009 and some expect these sales to reappear, perhaps in different form.

Transactions in the South

The **State of Alabama** announced its purchase of 5,400 acres in east-central Alabama from an undisclosed party for its Forever Wild Land Trust. The purchase included 3,377 acres in Barbour County, adjacent to the existing Barbour Wildlife Management Area, and 489 acres in Bullock County. The National Wild Turkey Federation

provided funding for the appraisal of this tract during the purchasing process.

In February **Hancock Timber Resources Group** sold 13,350 acres to **The Nature Conservancy** in the Dragon Run and Mattaponi watersheds of Virginia. After the purchase TNC sold the property to the **Forestland Group** and retained a permanent conservation easement on the property. Terms of the transaction were not disclosed.

Land for Sale

International Paper's previously announced sale of 143,000 acres in the South failed to close and the deal has expired. I-P announced the transaction with American Timberlands in March 2009, structured in two parts, with the deal averaging around \$1,925 per acre. I-P said in February that it has about 200,000 acres, including this property, remaining for sale.

Rayonier will auction about 6,200 acres of timberland in southern Georgia on April 9th and 10th. Most of the tracts have less than 75 acres.

Wausau Paper has about 12,000 acres of timberland in Wisconsin remaining in its sales program which began in 2005.

Weyerhaeuser has received and is evaluating bids for about 88,000 acres of non-strategic timberland in Washington State.

Nova Scotia Sales

The 1st Quarter 2010 was a Nova Scotia quarter. Over 600,000 acres of timberland sold this quarter in Nova Scotia, with about 144,000 acres purchased by the Province. Neenah Paper announced its exit from the pulp business and sold over 475,000 acres to Northern Pulp, which then sold about 55,000 to the Province. There were four more purchases by the Province, totaling about 88,000 acres, from sellers JD Irving, NewPage, and Wagner Forest Management. For sales where prices were available, the average per acre was about \$630.

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Top US Timberland Managers/Owners

At the beginning of 2010, the historic shift of US timberland holdings from forest industry owners to investor groups took a rest. Together, the two sets of top ten managed/owned about 42 million acres at the end of 2009, down from 44 million since the end of 2008.

Timberland Ownership Changes

The mix of top ownership has changed. In 2003, the first year TMS began to track changes in TIMO management separately from Forest Industry, the top ten timberland managers held 8.2 million acres. Of that group of ten, three have since changed hands: Wachovia/Evergreen to Regions Morgan Keegan Timberland in 2004; Prudential Timber to Hancock Timber Resource Group in 2005; and the Forest Systems portfolio to the Campbell Group in 2007. In 2003, the top ten industrial companies owned over 39 million acres. Of those ten, three have sold all or most of their holdings: Boise Cascade in 2005; International Paper, the majority in 2006; and Temple-Inland in 2007.

The range of acreage held has also changed. In 2003, 600,000 acres would not have made it to the Top Ten forest industry list and 300,000 acres would have made it as a Top Ten TIMO.

Top Ten TIMOs

The top ten Timberland Investment Management Organizations (TIMOs) had about 20 million acres of US timberland under management at the end of 2009, about one million fewer than the top ten held one year ago. The next tier of ten organizations, ranging from Timbervest with 830,000 acres to Pope Resources with 110,000, held an additional 4.7 million acres. The combined top twenty managers hold about 24 million acres.

Top Ten TIMOS 2009		
Rank	Company	US Acres Millions
1	Hancock Timber Resource Group	3.0
2	The Campbell Group	3.0
3	Forestland Group	2.7
4	Resource Management Service	2.6
5	GMO Renewable Resources	2.1
6	Forest Investment Associates	2.0
7	Wagner Forest Management	1.3
8	Regions Morgan Keegan Timberland Group	1.2
9	Brookfield Asset Management*	1.0
10	Molpus Woodland Group	0.9
Total		19.7

* A management group but not a "TIMO".

Top Ten Forest Industry

Of the top ten forest industry owners, three are Real Estate Investment Trusts (REITs) and five are publicly traded. The top ten industrial landowners held about 22 million acres at end of 2009, down less than a half million from one year ago. The next tier of owners in this group, from St. Joe with 580,000 acres to Seneca Jones Timber at 165,000 acres, holds an additional 3.7 million acres. Combined, the top twenty owners hold about 26 million acres, two million more than the top ranked TIMOs.

Top Ten Forest Industry Owners 2009		
Rank	Company	US Acres Millions
1	Plum Creek Timber Co. (REIT)**	7.1
2	Weyerhaeuser**	5.5
3	Rayonier (REIT)**	2.2
4	Sierra Pacific	1.9
5	Potlatch (REIT)**	1.6
6	JD Irving	1.2
7	Green Diamond	0.8
8	MeadWestvaco**	0.8
9	Roseburg Forest Products	0.8
10	Roy O Martin	0.6
Total		22.3

** Publicly traded entities.

Openings & Closings

Production fundamentals remained weak this quarter. Some pulp manufacturers who had run strong last year to take advantage of the “black liquor” tax credit plan to take extra maintenance downtime this year. Sawmills remain curtailed, in many cases taking advantage of slow market conditions to install new equipment. The panel sector remained weak as well but there were a few restarts announced.

Shutdowns in the wake of Chile’s devastating earthquake cut world-wide supplies of pulp and some solid wood products such as plywood. For more on the earthquakes in Haiti and Chile, see the story on page 35.

Pulp & Paper:

There was both bad news and good news this quarter. Domtar’s pulp mill in Columbus MS was added to the list of permanently closed mills and Renew shut down its mill in West Feliciana LA. Both AbitibiBowater and Parsons & Whittemore took market-related downtime. Meanwhile, Georgia-Pacific, Clearwater and PCA plan to make investments in their facilities. For more on pulp and paper markets, see “Pulp and Paper Indicators” on page 8.

AbitibiBowater shut down its No. 1 paper machine in February at its Catawba SC pulp mill (TMS SC R1) for a month and furloughed 123 employees. In March the company made staffing changes to improve efficiency at the Catawba mill that affected another 30 employees. The company’s Alabama River Newsprint plant in Perdue Hill AL (TMS AL R1) remains shut down due to high energy costs and poor market conditions. Catawba has annual capacity of 545,000 tons of bleached softwood kraft pulp and 245,000 tons of thermomechanical pulp. Perdue Hill has annual capacity of 215,000 tons of thermomechanical pulp.

Clearwater Paper, formerly the pulp and paper sector of Potlatch, announced in February that it plans to invest in two new tissue converting lines at one of four locations in the Southeast US. The project will convert parent rolls of paper from other company facilities into consumer-sized products.

Domtar announced that it would permanently close its coated groundwood paper mill in Columbus MS by the end of April. The mill has annual capacity of 77,000 tons of thermo-mechanical pulp and employs 219 people. The closure does not affect Weyerhaeuser’s pulp production at the Columbus site: annual capacity about 463,000 tons of bleached softwood kraft pulp and dissolving fluff pulp. Domtar also announced its sale of its coated groundwood paper and book business to NewPage.

Georgia-Pacific announced plans to invest in advanced, proprietary tissue-paper technology. It has approved final engineering for two new paper machines, with final site selection still pending. Startup is planned for 2012.

International Paper proceeded with plans to shut down its paper mill in Franklin VA (TMS VA R2) as previously announced. The mill will cease paper production on April 15th, with the majority of employees working until June 30th. The mill still employed about 800 people this quarter, down from 1,100 last October when the closure was announced. A violent storm in January blew down the steel stack for the mill’s No. 4 recovery boiler, idle since November 2008. The company said the incident did not affect the mill’s operation.

I-P received approval to reroute wastewater discharge at its Cantonment FL (TMS FL R2) pulp and paper mill after years of operating on a temporary consent order and permit. The company and the Florida Department of Environmental Protection expect the relocation to improve the environmental health of the area. I-P had two fires in January at the recycled paper warehouse near its Mansfield pulp and paper mill in Red River Parish LA (TMS LA R1). The company said the mill’s production was not impacted. Mansfield has

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771,000 tons per year of unbleached kraft pulp capacity.

Packaging Corporation of America broke ground in February on the previously-announced expansion of its Valdosta GA linerboard mill (TMS GA R2). The company expects the project to take about three years to complete. The project includes a new recovery boiler, which will replace three boilers built in 1953, as well as a turbine generator and paper-machine drying efficiency improvements.

Parsons & Whittemore Inc. reduced hardwood pulp production at its Perdue Hill pulp mill (TMS AL R2) for at least part of the quarter and took maintenance downtime in February. The softwood mill plans to take maintenance downtime in early May. The company continues to convert part of its production to fluff pulp. The two facilities together have over a million tons of annual pulp capacity: 627,000 of bleached softwood kraft pulp and 379,000 tons of bleached hardwood kraft pulp.

Renew Paper, current owner of the West Feliciana Parish paper mill near St. Francisville LA (TMS LA R2), filed for Chapter 11 protection in January. The company shut down the mill in February when it was unable to obtain sufficient financing for

continued operations. Renew purchased the facility last year and Fluor Corp. helped refurbish the mill, which had remained idle for about two years. Construction costs exceeded Renew's expectations. The mill will be offered at auction with a review of bids scheduled for April.

Wood Products: Softwood Sawmills

There was both bad and good news in wood products manufacturing this quarter, as well. One sawmill announced market-related downtime, but will also install new equipment. Three separate sawmill fires put a dent in lumber production, with one fire shutting down an Anthony Forest Products' sawmill indefinitely. Three idle sawmills are being refurbished and prepared to restart when market conditions improve. Two sawmills are adding new facilities: one a kiln and the other a shaving mill. For solid wood product prices, see "Lumber and Panel Indicators" on page 6.

Anthony Forest Products experienced a sawmill fire on February 27th at its Atlanta TX facility (TMS TX R1). The fire caused about \$15 million in damage but no injuries. The sawmill will be out of operation for an extended period of time following the fire, but the dryer and planer will

continue to operate. The sawmill has annual capacity of about 85 mmbf.

Bean Lumber experienced a fire at its Glenwood AR (TMS AR R1) sawmill on February 14th that damaged the planer. The company took about two weeks of downtime for repairs. The sawmill has annual capacity of about 175 mmbf.

Jordan Lumber curtailed production in March at its Mt. Gilead NC sawmill (TMS NC R2) by about 40 percent. The company plans to continue reduced production through May as new equipment is installed. The sawmill has annual capacity of about 185 mmbf.

M.C. Dixon Lumber Co. has received a State of Alabama grant to help restart its Eufaula AL sawmill (TMS AL R2), closed in early 2008. The grant is to help Dixon pay for site and drainage work as well as install new machinery and controls to upgrade the plant. At press time there was no schedule for restart. The mill plans to employ about 63 people. The sawmill has annual capacity of about 115 mmbf.

Morgan Lumber of Red Oak VA will invest to expand and add a new dry kiln. The project will generate 25 new jobs at the facility. The county received a grant from the state of Virginia to assist with the project. The sawmill has annual capacity of about 50 mmbf.

Rex Lumber received approval in January for financial incentives from Lincoln County MS supervisors to help the company begin operations at its Brookhaven MS sawmill (TMS MS R2). The company hopes to restart the mill in early 2011 and employ about 100 people. County officials continued to debate Rex's request for a new well to supply the mill. According to press reports water supply is also a concern for Great Southern Wood Preserving, Inc. (GSWP), which purchased a lumberyard and treating plant in Brookhaven from Rex and began shipping treated lumber in February.

Scotch & Gulf Lumber reopened its sawmill in Fulton AL (TMS AL R2) in January. Plans to start production were delayed by wet weather and poor logging conditions, which slowed rebuilding the



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mill's log inventory. Scotch had shut down the mill in early 2009 and Gulf Lumber merged with Scotch in October, creating Scotch & Gulf. Startup was staggered, with the sawmill coming on line first, followed by drying kilns and then planer operations. The sawmill has annual capacity of about 130 mmbf.

Shuqualak Lumber in Shuqualak MS (TMS MS R1) plans to add a wood shaving mill to its current operations which include a sawmill and planer. New equipment will produce bedding for livestock and the project will add about 14 new employees.

The Timbermen Inc. experienced a fire at its pallet manufacturing facility in Camak GA (TMS GA R2) in January. Fighting the fire was difficult due to gusty winds and freezing temperatures. The shipping plant and office were damaged but no injuries. The facility employs 93 people. The company operates two other facilities in Warren County that employ about 50 people.

Wood Products: OSB & Panels

The bad news/good news theme extended to the panel sector as well. Louisiana-Pacific made the temporary closure of two of its OSB facilities

permanent but two plywood/veneer plants announced re-starts this quarter.

Armstrong World Industries plans to restart its idled hardwood veneer plant at Vicksburg MS (TMS MS R2) in April. The plant closed in January 2009 due to adverse market conditions associated with the recession and weak housing market. About 124 people were affected by the closure and the company expects to employ 77 in the restart. Veneer produced at the Vicksburg operation will supply two engineered wood plants: one in Statesville NC and the other in Somerset KY. Originally built by Anderson-Tully in 2000, the Vicksburg plant was subsequently sold to Capella Wood Floors who sold the facility to Armstrong in 2006.

Coastal Forest Resources Co. reopened the former Chapman Forest Products plywood mill that closed in June 2009 (TMS AL R2). The city of Georgiana AL received a grant from the state to improve the city's wastewater treatment facility to help the plant reopen. The mill employs about 250 people.

Georgia-Pacific took a week of downtime in January at its OSB plant in Hosford FL (TMS FL R2). The plant has annual capacity of 500 mmsf per year. The Hosford plant and the G-P OSB plant in Brookneal VA (TMS VA R2) each experienced a fire in February although the company reported only minor damage and little effect on production.

Louisiana-Pacific announced in February that it would permanently close two of its idled OSB plants, Athens GA (TMS GA R1) with 375 mmsf capacity and Silsbee TX (TMS TX R2) with 350 mmsf, removing a total of 725 mmsf of annual capacity. The company's plants in Chambord QB with 550 mmsf capacity and the new plant at Clark County AL with 700 mmsf capacity remain down for an indefinite period.

Uniboard announced the startup of its new medium and high-density fiberboard (MDF/HDF) plant in Moncure NC (TMS NC R2). The 225

mmsf capacity plant took about one year to complete and employs about 160 people. Uniboard already produced particleboard and thermofused melamine at the Moncure site. This is the company's third MDF/HDF manufacturing facility in the US.

Biofuel & Bio-energy

New project announcements were fewer than some recent quarters but activity continued to stir up hopes and fears. Analysts predict the industry will continue to develop, but more slowly in the face of the recession. The government's biomass crop assistance program (BCAP) continued to generate questions and concerns even with the publication of new rules and an opportunity to comment upon them.

Government project awards for biomass energy projects continued to flow and several new studies focused attention on both supply concerns and the implications of various public policies.

For current trends in biomass prices, see Market Conditions on page 5.



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New Bio-Energy Projects - US South					
Company	Location	State/ Region	Annual Capacity	Annual Wood Consumption	Startup
Fuel Wood Pellets			000 Tons	000 Tons	
Georgia Biomass	Waycross	GA2	825	1,500	2011
United Biomass	Nahunta	GA2	90	180	running
Eden Pellets	Chesapeake	VA2	60	120	2010
Wood Fuel Developers	Greenville Co.	VA2	n/a	n/a	n/a
Cogeneration/Biofuel			Megawatts	000 Tons	
Energy Quest	Piedmont	AL1	27	270	n/a
ClearFuels	Collinwood	TN2	7	70	2013
Biorefinery/Ethanol			Million Gallons	000 Tons	
ClearFuels	Collinwood	TN2	20	200	2013

Bio-Energy Projects in the South

A new pellet fuel plant project, the largest yet announced in the South, Georgia Biomass in Waycross GA, has already broken ground for construction. Three other new fuel wood pellet projects were announced this quarter, one on startup, and one previously announced project started up. Weyerhaeuser announced plans to invest in a pellet plant, but no region or location was named.

Two new cogeneration projects were announced; however, Adage suspended one of its new plant projects after facing delays in local approvals. Duke Energy announced two conversion projects in the Carolinas but Georgia-Power/Southern Company put its Plant Mitchell conversion on hold pending a decision by EPA regulators on boiler emissions. The GRU project met resistance in Gainesville FL but perseveres. Progress Energy would like to buy

One new biorefinery project was announced. Several others made progress. A Tennessee plant started up, but not primarily using woody biomass.

Wood Fuel Pellets/Briquettes

Carolina-Pacific LLC which manufactures charcoal briquettes in Georgetown SC made its

first briquette shipments to Europe from the Port of Georgetown in March. The company announced plans to eventually have about 66,000 tons per year of production facilities in South Carolina.

Eden Pellets has leased the former site of Chesapeake Hardwood Products in Chesapeake VA (TMS VA R2) with plans to manufacture fuel wood pellets and horse bedding, about 60,000 tons per year capacity. The company expects to start production in April. Products will be shipped north by truck or rail and by container through the port at Hampton Roads VA.

Georgia BioMass LLC, a project owned by **RWE Innogy** of Hamburg, Germany, and **BMC** of Stockholm, Sweden, broke ground in March for a 750,000 metric tons-per-year (825,000 short tons) wood pellet plant near Waycross GA. The operation received about 300 acres donated by the Okefenokee Area Development Authority and expects to use about 1.5 million tons per year of green wood as furnish. The company expects to employ about 75 people and begin production in the 1st Quarter 2011 with most of its pellet output being shipped to Europe via the Port of Savannah.

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Lignetics celebrated the opening of its new wood pellet plant in Kenbridge VA (TMS VA R2) in February. The 90,000 ton capacity facility employs about 30 people.

NexGen Biomass in El Dorado AR (TMS AR R1), announced last quarter, plans to start with an initial capacity of 165,000 ton per year in the 3rd Quarter 2010. Located at the former Georgia-Pacific sawmill, the project at full capacity of 500,000 tons per year will use up to one million green tons per year of pine roundwood, processed on site. Finished pellets will be shipped to Europe through the port of New Orleans. The sawmill equipment will remain for possible re-start when lumber market conditions improve.

United Biomass opened its new Nahunta GA (TMS GA R2) 90,000 ton-per-year wood briquette manufacturing plant in January. The company makes both wood fuel briquettes and fireplace logs. The plant, located at the site of a former mulch manufacturing operation, employs 25 people.

Weyerhaeuser and Mitsubishi Corp. announced a joint Memorandum of Understanding (MOU) to explore collaboration on a commercial scale bio-pellet manufacturing facility somewhere in the US to start up in 2011. Mitsubishi operates two bio-

pellet facilities in Japan and is also actively involved in the management of Vis Nova Trading GmbH, a major producer of bio-pellets in Germany. Weyerhaeuser wants to enhance the value of its timberland by producing a revenue stream from forest management activity residues.

Wood Fuel Developers LLC, a subsidiary of Virginia's Industrial TurnAround Corp., announced in January plans to open a wood pellet plant in Greensville County VA (TMS VA R2). Capacity and startup schedule were not available at press time. The company expects to take advantage of the wood supplies for the closing International Paper's Franklin VA paper mill.

Cogeneration

Adage announced in mid-March the suspension of work on its proposed 55-Megawatt biomass power plant project for Gadsden County FL (TMS FL R2). The **Duke Energy/Areva** joint venture reported that the City of Gretna's decision to defer consideration of the project for six months for further study led Adage to focus work on other US projects. Adage also suspended the project's application for air quality permits from the Florida Department of Environmental Protection. The company continues to develop its previously

announced project in Hamilton County FL which already has full approval at state and local levels.

Duke Energy announced plans to burn sawdust or wood chips with coal at two of its existing coal-burning power plants. The company requested the North Carolina Utilities commission to register its Buck plant in Rowan County (TMS NC R1) and its Lee plant in Williamston SC (TMS SC R1) as renewable energy facilities. Duke tested co-firing sawdust and wood chips at the Buck plant last summer, and chips at the Lee plant for the last half of 2009.

Energy Quest of Henderson NV announced plans to build a biorefinery facility in Piedmont AL (TMS AL R1). The plant will generate about 24 Megawatts per year of electric power using wood waste as furnish and then use algae to generate biodiesel fuel.

Florida Biomass Energy LLC was granted rezoning and approval of a preliminary site plan by the Manatee County Commissioners in March. The energy plant, located south of the Port Manatee, plans to burn wood chips to produce about 60 Megawatts of electricity; however, the location is south of Florida's major timber producing region.

The **Gainesville Regional Utilities (GRU) / American Renewable Fuels (ARF)** biomass power plant planned for Alachua County FL (TMS FL R1) came under scrutiny this quarter when Florida's Public Service Commission questioned the need for the facility's power before 2023. In addition, regulatory agencies questioned the project's affect on both fuel supply and water use. Two other proposed wood-using biomass plants have been proposed, their wood supply regions overlapping that of GRU. Both are in Hamilton County:

- ❖ a 55.5 Megawatt facility by Adage.
- ❖ a 100 Megawatt plant by ARF, the same company developing GRU.

ARF said the business model for the GRU plant is based on a 50-Megawatt plant in Burlington VT that has been operating on wood-waste for

decades. The 100-Megawatt GRU project does not intend to purchase commercial timber and ARF defended its plan by referring to US Forest Service data that projects 1.35 million tons per year of logging residue available in the area of which they expect to use about 0.85 million tons. Critics cited a 2007 University of Florida Institute of Food and Agricultural Sciences study that found there was adequate available biomass supply for three facilities based on only 40 Megawatts each: one each in Gainesville, Jacksonville and Tallahassee.

Progress Energy Carolinas (PEC) announced that it is seeking proposals for North Carolina projects that generate electricity from woody biomass. The company wants proposals from engineers and developers who will build, own and operate their own facilities but with purchase agreements in place with PEC for 100 percent of their power output. The company currently has about 300 Megawatts of biomass power under contract, mostly in Florida, although not all projects are operating. The new proposals would add 40 to 75 Megawatts of capacity, beginning in 2013, not necessarily all from the same facility.

Southern Company announced a delay in the biomass conversion of its coal-fired Plant Mitchell near Albany GA (TMS GA R2). The company expects clarification from the EPA in April 2010 regarding regulations for biomass boiler emissions. Southern Company's Georgia Power had originally planned to begin retrofit construction at Plant Mitchell in April 2011 with the unit to begin operations in June 2012. The company has not yet determined a new project schedule.

Ethanol/Liquid Biofuels

Buckeye Technologies and the **University of Florida** held a groundbreaking on March 1st for the Stan Mayfield Biorefinery Plant at Buckeye's Perry FL facility (TMS FL R2). The project will operate as a UF/IFAS satellite laboratory facility and research the use of biomass to produce cellulosic ethanol and other petroleum replacement products. The project expects to begin operations in early 2011. The existing facility at

Perry has produced wood cellulose products since 1954.

ClearFuels Technology based in Hawaii and **Hughes Hardwood** announced plans to develop a biorefinery in Collinwood TN (TMS TN R2). The plant will be located near Hughes' wood component products manufacturing facility and convert about 1,000 dry tons per day of waste wood into diesel or jet fuel as well as electricity: diesel fuel capacity of about 16 million gallons per year, naphtha capacity of 4 million gallons, and electric power capacity of 6 to 8 Megawatts. ClearFuels expects the facility to employ about 50 people, with groundbreaking in late 2011 and startup in late 2013 or early 2014. The final design for the facility will be based on Rentech's Energy Technology Center in Commerce City CO. That project is supported by a \$22 million grant from the US DOE. ClearFuels plans to build five biorefineries in the US by 2015 with a combined production of 100 million gallons of fuel and 30 Megawatts of power.

Range Fuels, the Colorado firm building a biorefinery near Soperton GA (TMS GA R2), received a USDA Rural Development loan guarantee in March to develop cellulosic biofuel from wood chips. AgSouth Farm Credit is making the \$80 million loan available to Range Fuels, guaranteed through USDA's Biorefinery Assistance Program authorized by the Food, Conservation, and Energy Act of 2008. The plant will have initial cellulosic ethanol capacity of 20 million gallons per year. For research underway near the site, see the Arbogen/Range Fuel news item below.

The University of Tennessee Biofuels Initiative started up its cellulosic ethanol facility in Vonore TN (TMS TN R1) in January. The project combined efforts of **DuPont Danisco Cellulosic Ethanol (DDCE)**, the **University of Tennessee** and **Genera Energy**. The plant employs about 20 and has ethanol capacity of about 250,000 gallons per year. Furnish includes several "bioenergy crops" such as corncobs and switchgrass.

Long-term Biomass Prospects

In the first of an ongoing series of quarterly forecasts, Forest Economic Advisors (FEA) found that production of wood-based energy will resume its upward trajectory in 2010 and continue to grow through 2024. With rising demand for new sources of bioenergy from wood pellets, biomass electricity, and biofuels, consumers are left wondering where the fuel supply will come from, and at what price. FEA projects continued growth, not only from these emerging sectors, but also from traditional forest products companies. The added demand for biomass supplies will force increased extraction of logging residues and intensified use of roundwood in the years to come. While prices will ease in the short term, all biomass grades will experience price increases after 2012 as a result.

FEA's first Wood Biomass Forecast also finds that rising housing starts and an improving economy will boost residue production over the next several years, returning almost 90 percent of the supply that was lost from 2005 to 2009 by the end of 2012. After accounting for increases in biomass demand related to production from the traditional forest products industry, namely pulp and non-structural panels, FEA estimates that mill residue supplies available for bioenergy will grow by 5.4 million oven-dry tons from 2009 to 2012.

Wood pellet production will continue to increase at a rapid pace, driven by domestic and export demand, and biomass electricity generation will also grow.

Biofuel production will be a key consumer of wood biomass over the long-term, though not until conversion technologies are proven and tested on a commercial scale.

To contact FEA, see <http://www.getfea.com/>.

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BCAP Update

On February 4th the USDA's Commodity Credit Corporation (CCC) and Farm Service Agency (FSA) released the Proposed Rule to govern the Biomass Crop Assistance Program (BCAP), terminating the provisional Notice of Funds Availability (NOFA) under which the program had been operating since September 2009. Industry stakeholders analyzed the rules during the 60-day comment period which ended April 9th.

Confusion remains as to the interpretation of the rule's exclusions regarding wood used to produce pulp. The three options for payment presented for comment in the proposed rule all favor funds for "advanced biofuels" over current biofuel use. The rule attempts to address the complaints of manufacturers already using materials such as sawdust and sawmill residuals for products such as particleboard. Revised details of moisture testing and use of scale tickets appear to reduce some of the burdens of the original program.

The USDA proposes to fund the whole BCAP program for \$2.6 billion. The component focused on collection, harvest, storage, and transportation of materials (CHST) will be funded for a subtotal of \$2.1 billion from 2010 through 2013.

Rules for the Supply Component

The supply component would be funded for a subtotal of \$536 million in years 2010 through 2012 for establishment cost share and technical assistance, with annual payments spanning 2010 through 2026. Crops are to be grown in the area of a converting facility, with specified use of the biomass. The benefit covers up to 75

percent of establishment costs and annual payments are restricted or reduced by payments for delivery under the CHST program. The rule explicitly excludes publicly-traded entities and wood products manufacturers from participation.

Renewable Fuel Standard

A rule was finalized in February by the Environmental Protection Agency (EPA) to implement the long-term Federal Renewable Fuel Standard. The goal is to reduce US oil dependence as well as reduce green house gas emissions. The regulations ensure that transportation fuel sold in the US will contain a minimum volume of renewable fuel, increasing from present levels to 36 billion gallons by 2022.

Following the release, the National Alliance of Forest Owners (NAFO) praised the EPA's efforts to include forest biomass as a renewable fuel source in its final rule but urged Congress to adopt a more inclusive definition of renewable forest biomass in the Standard. According to NAFO, as much as 90



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percent of our nation's private forests would be disqualified under the current Standard.

<http://www.epa.gov/otaq/renewablefuels/index.htm>

Black Liquor (Alternative Fuel) Update

The alternative fuel tax credit available to pulp and paper manufacturers producing black liquor expired in December. Manufacturers operated without the credit for the 1st Quarter. However, an existing "cellulosic fuel credit" that provides nonrefundable income tax credits for certain renewable biofuels has been discussed as a way to replace the previous US\$0.50 per gallon alternative fuel credit with a US\$1.01 per gallon cellulosic fuel credit. Pulp manufacturers may yet be able to take tax credits in 2010 for black liquor production. The issue is "an open question."

DOE & USDA Biofuel Project Awards

On March 12th, USDA Secretary Vilsack announced that FY 2009 funds were available for three programs to promote increased production of biofuel and bioenergy: the Biorefinery Assistance Program which provides projects with loan guarantees; the Repowering Assistance Program which funds conversion from fossil fuels to biofuels; and Bioenergy Program for Advanced Biofuels which funds research and development. Applications are due May 30th 2010.

During the first round of funding, the Department awarded funding of \$500 or more to 123 recipients in 34 states. In the South, 25 projects received grants, with the largest going to FutureFuels Chemical Company in Arkansas for \$544,800.

Research & Publication

Agri-Tech Producers (ATP), based in Columbia SC, announced a strategic partnership with private equity firm Cate Street Capital of Portsmouth NH, and Kusters Zima Corp. of Spartanburg SC to manufacture custom machinery designed to produce commercial quantities of torrefied fuel. The first machine, called the Torre-Tech® 5.0, will be completed by mid-summer 2010 and will

produce five tons of torrefied wood per hour. Torrefaction heats cellulosic biomass, such as wood chips or agricultural material, in the absence of oxygen and converts it into a coal substitute. ATP secured an exclusive license to new torrefaction technology, developed by NC State University in January 2009.

ArborGen LLC, with headquarters in Summerville SC, and **Range Fuels**, the company currently building a commercial cellulosic biofuel plant near Soperton GA, announced their joint research to evaluate woody biomass feed stocks. The project will review a variety of materials for efficient and economic conversion to cellulosic biofuels. The research will determine which types of woody biomass are best suited for particular energy uses. ArborGen planted demonstration plots of both pine and hardwood species in 2008 near Range Fuels' Soperton plant site. The plots will be used to identify trees that can be grown successfully in the Soperton area and how effectively these trees can be used for cellulosic biofuel production.

North America's Wood Pellet Sector Spelter, Henry et al, USDA Forest Service, August 2009 (corrected September 2009).

A profile of the North American wood pellet sector recounts how the industry emerged in the 1930s but surged in the 1970s in response to the energy crisis. The most recent growth spurt has increased output from 1.1 million metric tons in 2003 to about 6.2 million tonnes in 2009. Most plants are small and reliant on local sawmill residues for furnish. The wood pellet industry has increased use of wood chips and roundwood in the current sawmill sector recession. The profile has maps that locate existing North American pellet mills.

http://www.fpl.fs.fed.us/documnts/fplrp/fpl_rp656.pdf

Restructuring

The recession continues to drive companies to restructure. Two major packaging manufacturers, AbitibiBowater and Smurfit-Stone Container, remain in creditor protection. There was one additional filing this quarter: White Birch Paper which operates the Bear Island mill in Virginia. The most exciting deal for the South this quarter was Grant Forest Products selling four of its OSB plants to Georgia-Pacific, two of which are in South Carolina.

Georgia-Pacific & Grant Forest Products

Georgia-Pacific announced in January that it had signed an agreement to purchase four of Grant Forest Products' oriented strand board (OSB) facilities: two in Ontario and two in South Carolina. By the end of the quarter, G-P had announced progress, with receipt of various approvals from entities overseeing Grant's bankruptcy proceedings, both in the US and Canada. G-P announced it would pay \$400 million for facilities. The companies expect the transaction to close in the 2nd Quarter of 2010.

G-P OSB Plants with 2 from Grant FP		
City	County	TMS Area
Fordyce	Dallas	AR1
Hosford	Liberty	FL2
Grenada	Grenada	MS1
Dudley	Wayne	NC2
Fairfax (GFP)	Allendale	SC2
Clarendon (GFP)	Clarendon	SC2
Skippers	Greenville	VA2
Brookneal (Gladys)	Campbell	VA2

G-P currently operates six OSB plants in the US as well as several plywood facilities. The purchase includes an OSB plant at Allendale SC and one still under construction in Clarendon SC as well as an OSB plant at Englehart ON and an associated facility at Earlton ON. G-P plans to make investments in the plants, including completion of the Clarendon facility when market conditions

improve. The two South Carolina plants have annual capacity of 800 mmsf.

Grant offered its idled OSB plant at Timmons ON for sale in March as G-P expressed no interest in the facility. Union workers have been locked out of the plant since September of 2006.

Other Changes

AbitibiBowater took steps towards emergence from bankruptcy protection this quarter but still faces challenges. In January, the company sold its Texas recycling facilities to **Waste Management Recycle America** for US\$12 million, although AbitibiBowater will continue operating its Texas recycling businesses. In March, the company reached a tentative agreement to renew contracts with its Canadian union, an important condition towards emergence from restructuring.

Clouding its efforts, however, AbitibiBowater faces five ministerial environmental orders from Newfoundland and Labrador Provinces to clean up several sites, including some it no longer owns. Regarding assets and property rights withdrawn by Newfoundland and Labrador in 2008 after the company shut down its Grand Falls pulp and paper mill, AbitibiBowater filed a notice of arbitration under the North American Free Trade Agreement (NAFTA). Since the company is incorporated in the US state of Delaware and carries out business activities in the US, the company claims the Provinces' actions are expropriation of rights and assets, representing a breach of Canada's obligations to a US investor under Chapter Eleven of NAFTA.

Domtar Corp. sold assets this quarter and announced the shutdown of one southeastern pulp and paper mill. The company announced on March 16th plans to exit the coated groundwood paper business, including the sale of its coated groundwood product lines and trademarks to **NewPage Corp.** The decision included shutdown of its paper mill in Columbus MS. Domtar will continue to operate four pulp mills in the South with combined pulp capacity of about 2.2 million

tons per year. See Openings & Closings on page 22 for more.

Domtar also announced on March 29th an agreement to sell its forest products business to **EACOM Timber Corporation**, with headquarters in Montreal, for C\$80 million plus additional working capital. The companies expect the transaction to close in the 2nd Quarter. The transaction includes five operating sawmills: three in Ontario and two in Quebec, as well as two idle sawmills: one each in Ontario and Quebec.

Smurfit-Stone Container Corp. may exit bankruptcy protection soon. Creditors are set to vote on its reorganization plan in April. This quarter the company announced the consolidation of two packaging plants in Virginia and the sale of an idle facility in Bathurst, New Brunswick.

White Birch Paper Company and its subsidiaries sought creditor protection in Canada and the US in February. The action includes White Birch subsidiary Bear Island Paper Company which operates a newprint mill in Ashland VA (TMS VA R2). The mill has annual capacity of 387,000 tons of mostly thermomechanical pulp.

International Restructuring

Acadian Timber completed its transition from a “Fund” to a “Corporation” in January and began trading on the Toronto Stock Exchange under the symbol “ADN”. Acadian owns and manages approximately 1.1 million acres of freehold timberlands in North America, of which about 310,000 are in Maine. The company also provides management services relating to approximately 1.3 million acres of Crown licensed timberlands.

Ainsworth Lumber of Vancouver sold about 53 percent of its equity to **Brookfield Special Situations Partners**, a subsidiary of **Brookfield Asset Management Inc.** The Ainsworth purchase, on top of G-P’s purchase of Grant Forest Products facilities, represents a further consolidation in OSB ownership since Brookfield also owns about 53 percent of Norbord Inc., another major OSB manufacturer. Ainsworth had already divested its plywood manufacturing businesses in December. Brookfield had reduced its stake in Norbord from 73 percent to 53 percent through sale of shares.



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Other News

Earthquakes in Haiti & Chile

Two major earthquakes rocked the Western Hemisphere in the 1st Quarter: one in Haiti and the other in Chile. The first hit Port-au-Prince on Tuesday, January 12th with a magnitude-7 earthquake and more than a dozen aftershocks between 5.0 and 5.9 on the Richter scale. The epicenter was only 16 miles from a major city with a large urban population. Casualties were high with a death toll estimated over 200,000 and a million injured. Relief efforts and a world-wide response generated extra demand for wood products this quarter, perhaps with more to come.

On Sunday February 28th Chile's major forestry region was at the center of a violent earthquake, measuring 8.8 on the Richter scale. The country quickly took steps to survey the damage. There were aftershocks, and by the first week in March the news was full of forest products companies announcing extensive industrial shut downs. Initial reports estimated that 3.7 million metric tons of market pulp capacity was shut down due to structural damage, lack of water or power, and related aftereffects of the earthquake.

Pulp and paper price increases, previously announced for early March in response to increasing world-wide demand, went into effect and then were bumped up again. When combined with the stevedore strike in Finland (see below), about 12 percent of world pulp production capacity was idle in late March. By the end of the quarter, the strike was over and producers in Chile announced restarts; however, analysts estimate production will not return to normal in Chile for six months.

Migrant Farm Worker Case Settled

Superior Forestry Service Inc. of Tilly AR agreed to a \$2.75 million settlement in the US District Court, Nashville TN, in February over allegedly unpaid wages for foreign guest workers. The class

action lawsuit represented more than 2,200 workers from Mexico and Central America whom Superior brought to the US under H-2B guest worker visas. Superior hired them to plant pine seedlings in the South. The case, Rosiles-Perez et al v. Superior Forestry Service Inc. et al, claimed insufficient payment for trees planted and pay deductions for travel and visa costs. Superior continues to deny wrongdoing, deciding to settle to save litigation costs. The Legal Aid Justice Center based in Charlottesville VA and the Southern Poverty Law Center of Montgomery AL participated in the lawsuit on behalf of the plaintiffs.

In 2005, SPLC filed three class actions on behalf of migrant tree planters. Express Forestry of Leslie AR was the defendant in one and announced settlement in December 2006 at \$220,000. Alpha Services of Idaho was another and settled for an undisclosed sum in 2006. A third case was filed against Eller & Sons of Franklin GA in June of 2005 and had a partial settlement for \$54,000 in October 2008. The SPLC considers that case still ongoing. The Superior lawsuit was filed in January 2006. According to press reports, the settlement would also have Superior cover attorney fees of \$572,000 plus administrative fees of \$150,000, both payable to the Southern Poverty Law Center.

Georgia Timber Theft Update

This quarter two truck drivers and an agent pleaded guilty in a case of timber fraud filed last November. A former scale operator and eight log truck drivers were arraigned last quarter for timber theft/fraudulent payments between 2004 and 2006 at Temple-Inland's Rome GA facility. In February, two of the truckers involved in the alleged conspiracy, both from Jefferson GA, pleaded guilty to conspiracy to commit wire fraud. A third trucker from Hartwell GA had already submitted a guilty plea earlier in the year.

The first non-trucker to plea guilty admitted to receiving about \$780,000 in 2005 from a timber broker for fraudulent timber deliveries and forwarding about \$500,000 to another co-defendant. He pleaded guilty to conspiracy to

commit wire fraud with the understanding that the government would drop charges of aiding and abetting the others. Conspiracy to commit wire fraud is a felony punishable by up to 20 years imprisonment and a \$250,000 fine. Accusations estimated the company paid more than \$4.8 million for allegedly faked timber loads. See 4th Quarter TMS Market News for more detail.

Trucking Reform, Etc.

Consideration of major trucking reform in a new Highway Reauthorization Bill in Congress was moved to 2011 in spite support for transportation infrastructure programs. Hopes for reform of gross vehicle weights on US highways were buoyed by a small victory this quarter, however. The apparent success of Maine Senator Susan Collins' pilot project to allow 100,000 pound, six-axle trucks to access Maine's Interstate highway system was hailed in the local news. Part of the HUD-Transportation Bill signed into law in December, the measure allowed heavier trucks in both Maine and Vermont, and also moved them off rural and secondary roads onto the Interstate. See article: "Heavy Trucks Allowed":

www.transportationproductivity.org/Media/NashuaTelegraph.pdf

On a different note, *Random Lengths* reported in early April that the lack of availability of trucks to haul lumber and panels was a growing concern in the Southeast US and elsewhere. Trucking firms have gone out of business or downsized in the recession. Haul rates have climbed and some shippers are considering long-term contracts to ensure access to highway transportation.

Solid Wood Industry Employment & Recovery

"At the height of the building boom, residential construction employed over a million workers. During the same period (early 2006), sawmills/wood preservation employed 103,000. Today, there are 551,700 and 69,400 workers respectively in residential construction and sawmill/wood preservation." According to Wade

Camp, Director of Economic Services at the Southeastern Lumber Manufacturers Association, reports from the US Department of Labor show how jobs in the solid wood industry have been cut by one third in the current recession. Solid wood industry employment began to increase in January 2010 but employment in building construction did not. "When employment grows in residential construction for several consecutive months on a seasonally adjusted basis, the recovery will be in process. It just hasn't happened yet."

Studies & Reports

2009 Louisiana Timber and Pulpwood Production. Louisiana Department of Agriculture and Forestry. March 2010.

The state reported production of 710.5 million board feet of sawtimber and 6.1 million cords of cordwood products (including pine chip-n-saw). This was the lowest level for both products in more than five years. In the most recent peak, in 2006, Louisiana produced 1.38 billion board feet of sawtimber and 9 million cords of cordwood products.

Global Forest Resources Assessment 2010. United Nations Food & Agricultural Organization.

Brazil and Indonesia, which had the highest loss of forests in the 1990s, significantly reduced their deforestation rates from 2000 to 2010. Ambitious tree planting programs in countries such as China, India, US, and Viet Nam have combined with natural afforestation in some regions to add more than 7.0 million hectares (17 million acres) of new forests annually. Around 13 million ha (32 million acres) of forests were converted to other uses or lost through natural causes each year, less than in the previous study period in the 1990s. As a result, the net loss of forest area was reduced to 5.2 million ha (13 million acres) per year between 2000 and 2010, compared to 8.3 million ha (20 million acres) lost annually in the previous period. Key findings were posted in March with the full report scheduled for release in October.

<http://www.fao.org/forestry/fra/fra2010/en/>

Useful Links

2010 Southeastern Society of American Foresters Annual Meeting. Held February 8-9 in Auburn AL, the meeting theme was “Green Forestry – Hope or Hype?” Fifteen presentations are available on topics that include biomass, cap & trade, global warming and climate change (three by research scientists from NASA Huntsville):

<https://fp.auburn.edu/sfws/south/SESAF.html>

The Southern Group of State Foresters new website

www.southernforests.org

Oklahoma Forest Resource Assessment. Oklahoma Forestry Services. Draft.

One fifth of the state, about 10 million acres, is forested. Approximately 90 percent of forested acres are privately owned. This report is in response to the 2008 Farm Bill requirement for each state to complete a forest assessment by June 2010.

www.forestry.ok.gov/ofra-draft1

The role of plantations in managing the world's forests in the Anthropocene. Alain Paquette, Christian Messier. 2010. *Frontiers in Ecology and the Environment*: Vol. 8, No. 1, pp. 27-34.

Plantations have a legitimate place in the sustainable management of forests. Multi-purpose plantations, designed to meet a wide variety of social, economic, and environmental objectives, can provide key ecosystem services, help preserve the world's remaining primary forests, and sequester an important proportion of the atmospheric carbon released by humans over the past 300 years.

<http://www.esajournals.org/toc/fron/8/1>

Enhancing forest technology: Research priorities of the southern forest sector. Vance, E.D. et al. *Southern Journal of Applied Forestry* 34: 38-45.

Respondents rely mostly on university cooperatives and industrial research organizations for both basic and applied/technology transfer research. The highest priority individual research needs were to quantify the potential of managed forests:

- ❖ to sequester carbon and sustain water quality and biodiversity.
- ❖ to update growth and yield models to account for changing stand, genetic, management and environmental factors.

<http://api.ingentaconnect.com/content/saf/sjaf/latest?format=rss>

USDA Forest Service News:

New Publications:

The US Forest Service has posted online 2008 Forest Resource publications for the following states: Iowa, Kansas, Minnesota, Missouri, and Wisconsin.

Southern pulpwood production, 2008. Johnson, Tony G.; Steppleton, Carolyn D.; Bentley, James W. USDA Forest Service, Madison WI. RB-SRS-165. 2010.

The South's production of pulpwood increased from 65.7 million cords in 2007 to 67.0 million cords in 2008. Roundwood production increased by 1.2 million cords to 48.8 million cords and accounted for 73 percent of the South's total pulpwood production. The use of wood residue remained stable at 18.2 million cords. Georgia led the South in total production, with 11.6 million cords. Pulping capacity of southern mills declined in 2008, but still accounted for more than 70 percent of US capacity.

http://www.srs.fs.usda.gov/pubs/rb/rb_srs165.pdf

Bulletin of hardwood market statistics: 2008. Cochran, Melody. USDA Forest Service, Northern Research Station. RN-NRS-37. 2009.

The report includes hardwood stumpage price histories from 2003 to 2008 for five US regions: Pennsylvania, Ohio, Missouri, Mississippi and

Maine. Tables include log and lumber prices as well as import and export summaries.

http://www.nrs.fs.fed.us/pubs/rn/rn_nrs37.pdf

International Forest Products

2009 China Forest Products. China's total log production volume from 2009 was estimated at 69 million cubic meters (m³), down 14 percent from 2008 and nearly the same as in 2007. About 28 million m³ of logs were imported by China in 2009, down 5 percent from 2008. More than half the volume of imported logs came from Russia; however, Russia had increased export tariffs in 2009 so Chinese imports were down 20 percent from 2008. China imported 9.9 million m³ of lumber of all species, up 40 percent from 2008 with increases due to a rapidly rebounding market demand on top of decreased log imports from Russia. In 2009, China became the leading foreign destination for US hardwood lumber exports. For the first time the US exported more hardwood lumber to China than to Canada.

2009 Finland Timber Sales. Finnish Forest Industries Federation. January 2010. Timber sales were the lowest since 1991. Total procurement was about 21 million cubic meters (m³), about 16.4 cubic meters from private forests. Stumpage prices were between 16 and 27 percent lower in 2009 than the previous year, depending upon the product. In December, pine and spruce logs averaged EU€48 (US\$64) per m³. The price of birch logs was around EU€35 (US\$47) per m³. The average stumpage price of pine and birch pulpwood was EU€14 (US\$19) per m³, and spruce pulpwood cost EU€18 (US\$24) per m³.

Finland's Stevedores Strike. Stevedores stopped handling cargo on March 4th at most Finnish ports and much of Finland's foreign trade ceased. Nearly 70 percent of paper production shut down as a result. The strike coincided with the initial impact on foreign trade of Chile's earthquake, further reducing world-wide supplies of market pulp. On March 19th unions and employers accepted a new labor contract ending a two-week strike. The Finnish government said the strike cost more than

EU€100 million (\$137 million) per day in lost earnings

2009 Japan Sawlog Trade. ITTO Timber Market Report. Log consumption for lumber production in 2009 was estimated at 15.4 million m³, down 13 percent from 2008. About 4.7 million m³ was imported, of which 3.7 million m³ was from North America.

2009 New Zealand Deforestation Intentions Survey. This annual report shows the reversal of a trend. In 2009 net forest area increased 500 hectares (1,235 acres) through a combination of reduced deforestation and new planting. New Zealand lost a net 30,500 ha (75,370 acres) of forest from 2005 to 2008. The survey predicts forest area will increase further 2010 through 2012.

<http://www.maf.govt.nz/climatechange/reports/deforestation>

Sweden Pulpwood Prices Increase: In January, Södra announced it would increase the price of its hard pulpwood by SEK 25 (US\$3) per cubic meter (m³) fub (solid volume excluding bark), meaning Södra would pay SEK 300 (US\$42) per m³ fub for cleanly-sorted birch pulpwood, SEK 265 (US\$37) per m³ fub for birch included in hard pulpwood and SEK 225 (US\$31) per m³ fub for other hard pulpwood. In March, Södra raised the list price of soft pulpwood by SEK 30 (US\$4) per m³ fub, meaning the new price will be SEK 315 (US\$44) per m³ fub.

Weather, Etc.

General Weather: Unusual winter weather persisted through mid-quarter in the South. February 11th was the "snowiest calendar day" on record in Dallas/Ft Worth TX and snowfall spread across the South to the Florida panhandle and into South Carolina. Several snow storms in February pushed through further north. Volume of precipitation, however, dropped as the quarter progressed. Seven of the eleven southeastern states had higher than normal rainfall in January but by February only Florida, North Carolina and Virginia

were wetter than normal. Conditions changed so quickly in Arkansas, which had one of its wettest winters on record, that by early March burn bans were put in place.

<http://www.hprcc.unl.edu/maps/current/>

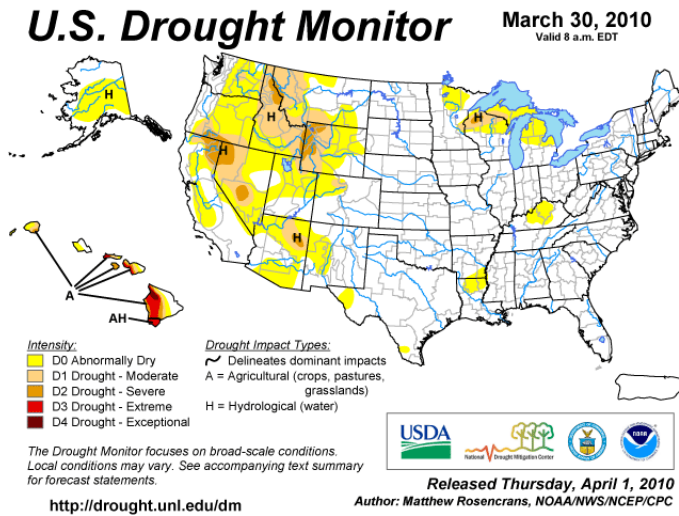
Drought: Dryness across the southern Mississippi Valley developed drought conditions in northern Louisiana this quarter. Groundwater levels were normal in most of the South.

Fire: The number of fires in the 2010 fire season year to date was about 75 percent of average and only 30 percent of average acres burned. Fire potential is below normal through July in the inland South from Texas to the Atlantic coast with normal conditions along the Gulf Coast.

http://www.nifc.gov/nicc/predictive/outlooks/monthly_seasonal_outlook.pdf

Forecasts: In April, rainfall in Texas, Louisiana, and Arkansas is expected to alleviate dry conditions. From April through June, precipitation will be normal for most of the South, with above normal rainfall predicted for Georgia, Alabama and Florida.

<http://www.cpc.ncep.noaa.gov/>



<http://drought.unl.edu/dm/monitor.html>

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