

## Michigan Public Timber Markets, 4th Quarter (July – September), FY 2015

**State forest data** – Total sale volumes dropped sharply in the 4<sup>th</sup> quarter of FY 2015 after having two quarters of relatively high volumes. All sold bid and non-bid species (total) volume fell to 126,584 cords for the quarter, making the total for the year just shy of 848,600 cords. Bid species only volume was 110,817 cords for the quarter and 749,400 cords for the year. NLP bid species sale volume was down very sharply in the 4<sup>th</sup> quarter – to a twelve-year record low less than 40,000 cords – while the UP dropped modestly to almost 72,400 cords. The severity of the drop in the NLP can partially be explained by relatively high sale volumes in the 2<sup>nd</sup> and 3<sup>rd</sup> quarters. Based upon the quarterly sale pattern of the past few years, the current (1<sup>st</sup> quarter of FY 2016) will also have below average quarterly sale volumes, followed by higher volumes in the subsequent 2<sup>nd</sup> and 3<sup>rd</sup> quarters.

After climbing to record levels of \$64.32 per cord and then \$69.99 per cord in the FY 2015 2<sup>nd</sup> and 3<sup>rd</sup> quarters, the State Forest overall average timber price index fell back to \$59.00 per cord in the 4<sup>th</sup> quarter. It is expected to increase moderately in the current (FY 2016 1<sup>st</sup>) quarter.

NLP aspen pulpwood bid species sale volumes were at a record 41,330 cords in the 3<sup>rd</sup> quarter, but plummeted to 7,550 cords in the 4<sup>th</sup> quarter. At the same time, aspen pulpwood sale volume dropped in the UP from 17,240 cords down to 11,370 cords while prices went from \$54.72 to \$45.93 per cord. The NLP price rose from \$30.24 to \$35.61 per cord. Red pine pulpwood bid species sale volumes have dropped sharply in both peninsulas. UP sale volume dropped from 18,223 to 6,196 cords in the 3<sup>rd</sup> quarter and then to only 1,630 cords in the 4<sup>th</sup> quarter. NLP volume went from 17,750 to 18,304 cords and then dropped to 4,602 cords during the same quarters. Prices also fell steeply in the 4<sup>th</sup> quarter, with the NLP red pine pulpwood price falling from \$124 per cord to \$72 per cord (it was \$80 in the 2<sup>nd</sup> quarter), while the UP price went from \$119.76 to \$101.22 per cord (it was \$112 in the 2<sup>nd</sup> quarter). NLP jack pine pulpwood bid species volume went from 29,292 cords to 8,818 and then to 4,586 cords in the 4<sup>th</sup> quarter. UP jack pine pulpwood dropped back to 7,522 cords in the 4<sup>th</sup> quarter after being at 12,837 and 12,424 cords the prior two quarters. UP 4<sup>th</sup> quarter jack pine pulpwood prices dropped further, from \$61.50 to \$57.70 per cord as they jumped from \$25.35 to \$36.50 per cord in the NLP. UP softwood pulpwood sale volume jumped from 16,600 to 24,800 cords while the price fell from \$44.38 to \$38.66 per cord. NLP Oak pulpwood sale volume dropped further - from 16,034 to 4,602 cords - while the price rose from \$32.48 to \$37.77 per cord. Other hardwood pulpwood volume dropped back to almost 25,000 cords from previous quarter volumes of 47,030 and 50,964 cords. Its price rose to a record \$56.55 per cord. Statewide red pine sawtimber prices declined again, from \$245 to \$233 per mbf while volumes sharply declined from over 13mmbf down to 1.8mmbf. UP sugar maple sawtimber prices rebounded to \$1058 per mbf after having plummeted from \$1054 to \$771 per mbf in the 3<sup>rd</sup> quarter. Volume fell sharply from 946 to 438mbf. The NLP sugar maple sawtimber price fell sharply from \$688 to \$253 per mbf as the volume dropped from 484mbf down to only 5mbf. NLP oak sawtimber fell all the way back to 1.28mmbf while its price also declined from \$289 to \$266 per mbf.

**Federal forest data** – The Ottawa pulpwood volume increased slightly (from 9.6 to 10.4mmbf) and had a six-year record sawtimber sale volume (7.3mmbf). The Huron-Manistee sawtimber sale volume rose from 3.4 to 6.8mmbf while pulpwood volume rose to 10.6 from 8.4mmbf. Hiawatha sawtimber volumes also increased from 2.5 to over 6mmbf while its pulpwood volume was virtually unchanged at 7.4mmbf.

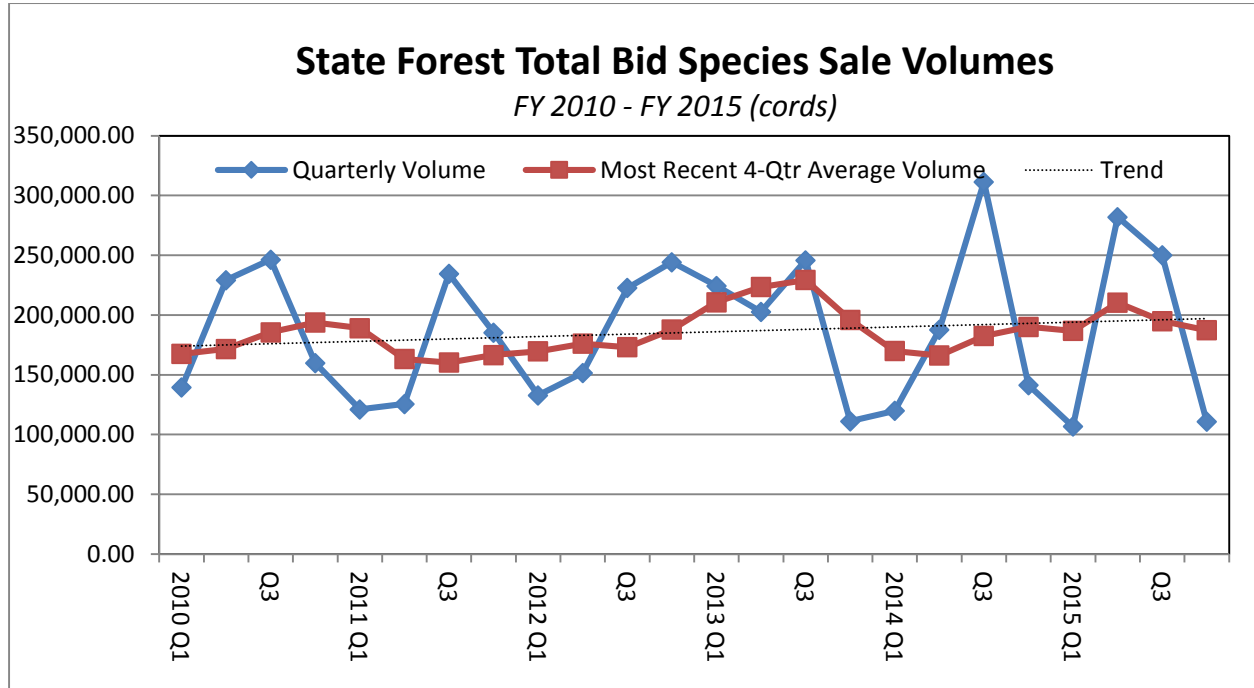
Ottawa's overall average sawtimber price rose from \$232 to \$330 per mbf while its overall pulpwood price dropped back from over \$85 to \$35.56 per mbf. Ottawa sugar maple sawtimber sale volume hit a 6-year record of 3.1mmbf while its price went from \$465 to \$529 per mbf. Its aspen pulpwood sale volume dropped further from 2.3 to 1.3mmbf while the price dropped sharply to \$45 per mbf. The "hardwood-other" pulpwood volume rose from 5.1mmbf to 8.6mmbf while its price fell sharply from \$61 to \$35. The Hiawatha's overall sawtimber price rose from \$174 to \$209 per mbf as its red pine price fell to \$191 and its "hardwood-other" sawtimber price fell to \$135. Hiawatha aspen pulpwood sale volumes rose appreciably to over 2mmbf while the price rose to \$74 per mbf. Jack pine sale volume was 413mbf with an average price of \$90 per mbf. Red pine pulpwood volume was 700mbf with an average price of \$146 per mbf. The H-M's sawtimber volume increased from 3.4 to 6.8mmbf while pulpwood increased from 8.4 to 10.6mmbf. Sawtimber prices fell from \$130 to \$87 per mbf while pulpwood dropped from \$90 to \$62 per mbf. H-M aspen sawtimber volume hit a record 3.74mmbf level at an average \$89 price. Aspen pulpwood also hit a record level at 4.8mmbf at an average \$55 price. Red pine sawtimber volume declined to 1.2mmbf as its average price also declined to \$103 per mbf. Jack pine pulpwood volume fell to only 268 mbf while red pine pulpwood volume also declined to 2.25mmbf as its price dipped to \$102 per mbf, virtually the same price as the reported red pine sawtimber price.

## State Forest Quarterly Timber Sales for Major Species & Products

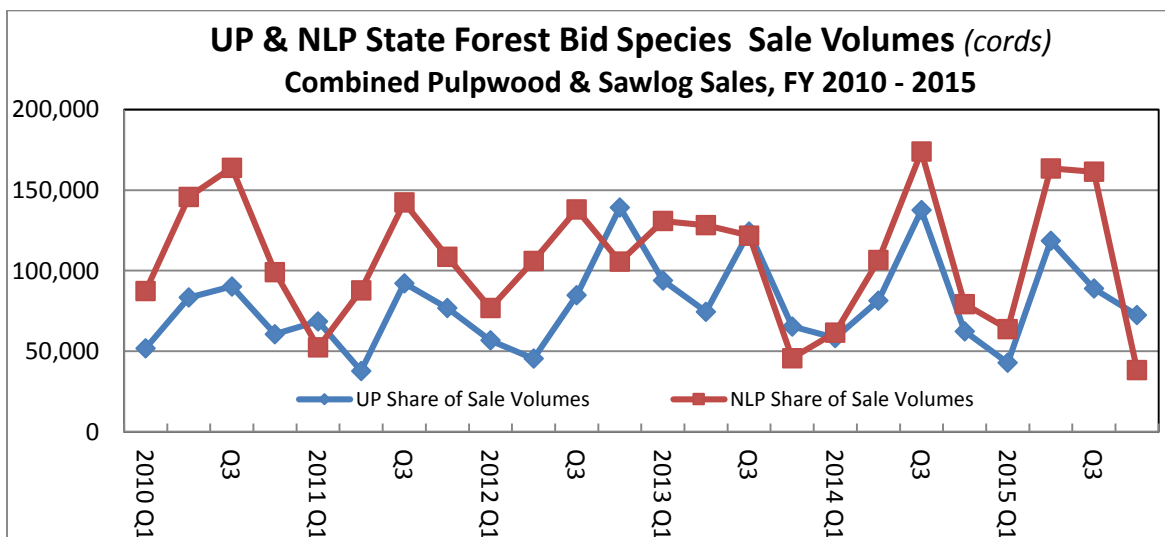
FY 2010 – FY 2015

Source: Michigan DNR, Forest Resources Division

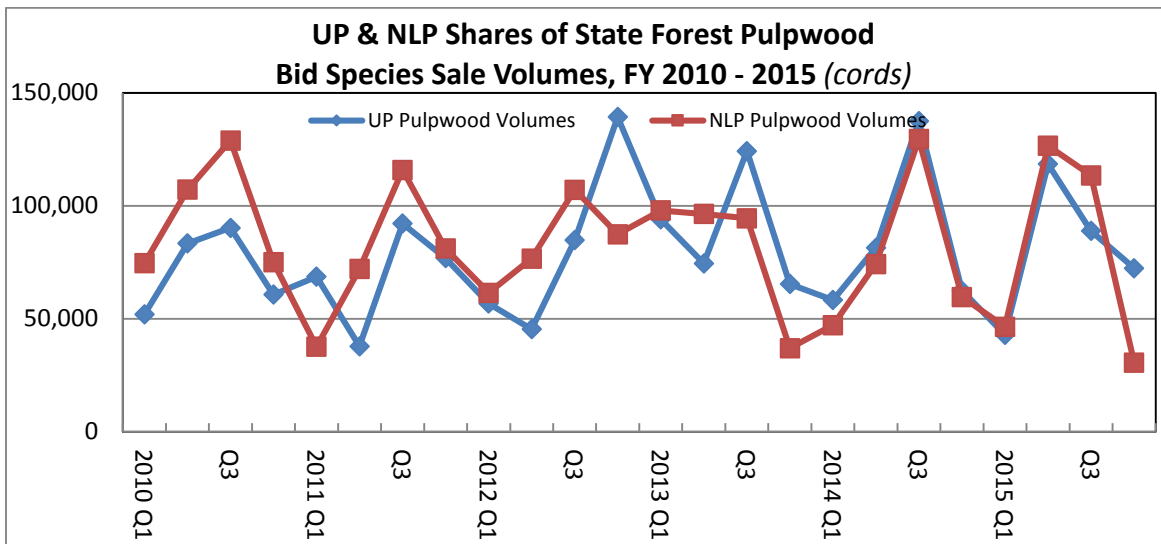
The State follows the federal fiscal year (October 1 through September 30). Graphs below use bid species sale volume and value data; total sale volumes and values are slightly different. The graphs often include a dotted trend line based upon data for the average of the most recent four quarters (labeled as "Avg4QtrVolWtdPrice"). This average eliminates variability in quarterly data due to seasonal issues and variation in quarterly sales. It takes volumes into account when averaging prices. It also may represent the values and volumes of stumpage that are available on the market better than the most recent quarter. Gaps in the blue line indicate no sales in the quarter.



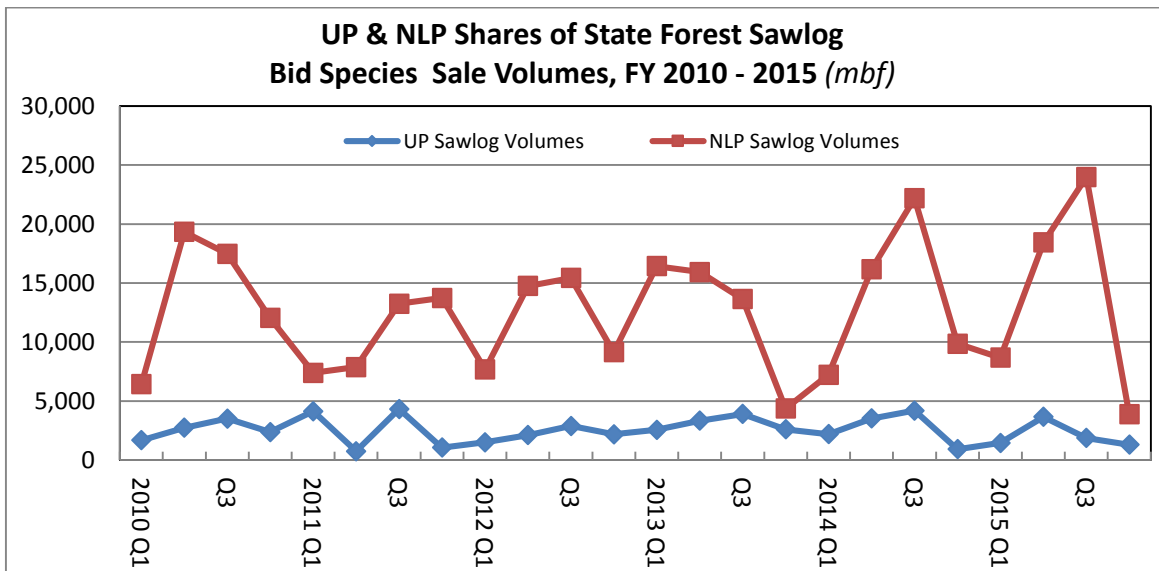
Sale Volume for bid species dropped sharply in the 4<sup>th</sup> quarter to 111,000 cords after being at 250,000 cords in the 3<sup>rd</sup> quarter and 282,000 cords in the 2<sup>nd</sup> quarter. The drop was expected as the 4<sup>th</sup> and 1<sup>st</sup> quarters of every fiscal year have tended to have lower sales than the 2<sup>nd</sup> and 3<sup>rd</sup> quarters and this pattern has been more pronounced in recent years. Total bid species volume for FY 2015 was just shy of 750,000 cords while total sale volume was almost 850,000 cords. The record sale volume of 311,000 in the 3<sup>rd</sup> quarter of FY 2014 was partly due to a large number of rebid sales. If the recent quarterly sale volume pattern holds, the current 1<sup>st</sup> quarter (Oct.- Dec.) will be low like the most recent 4<sup>th</sup> quarter.



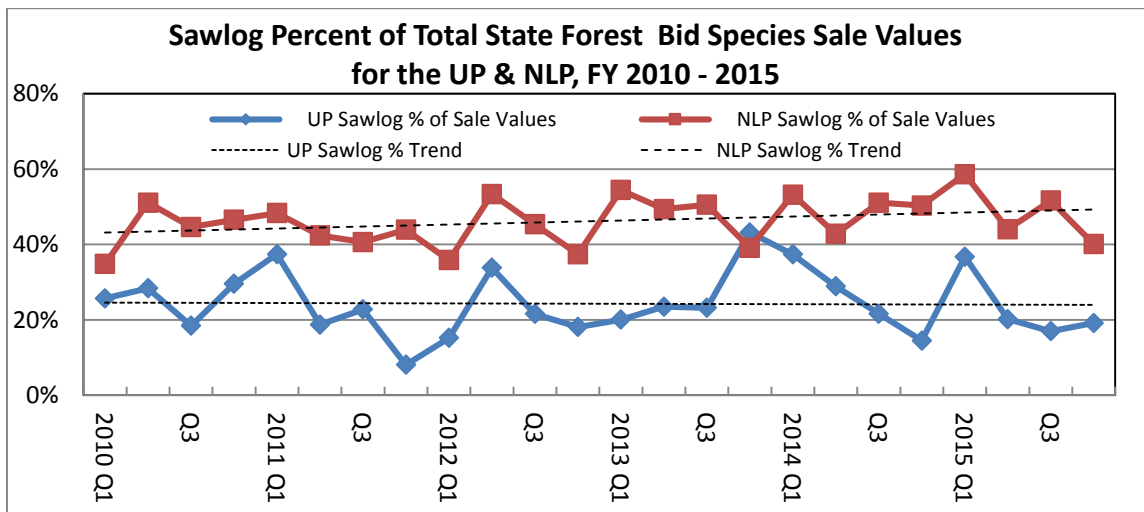
FY 2015 4<sup>th</sup> quarter sale volumes dipped in the UP and plummeted in the NLP to well below the UP level. The NLP drop was the largest in the past six years; however, it followed back-to-back high sale volumes in the 2<sup>nd</sup> and 3<sup>rd</sup> quarters.



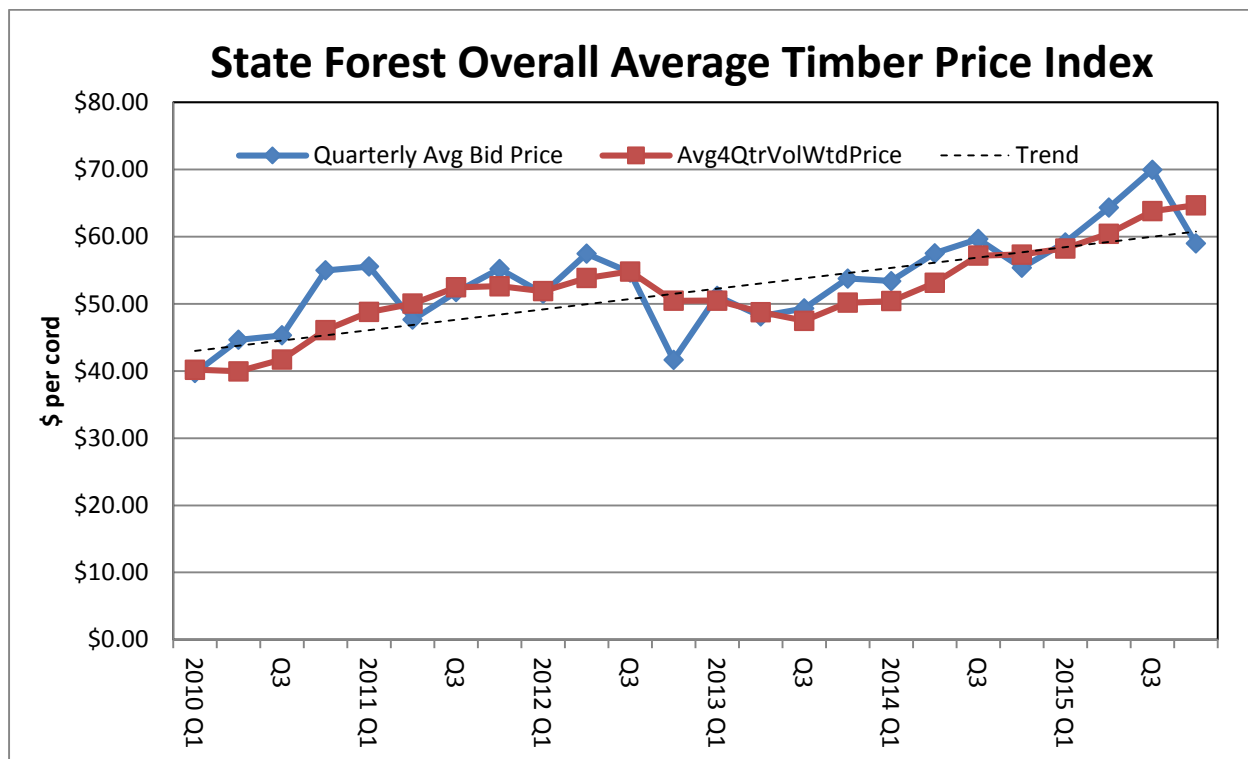
Pulpwood sale volume generally accounts for over 80% of total State Forest sale volume. The above graph indicates sale volumes dropped in the 4<sup>th</sup> quarter, particularly in the NLP, where it was at its lowest quarterly level in six years.



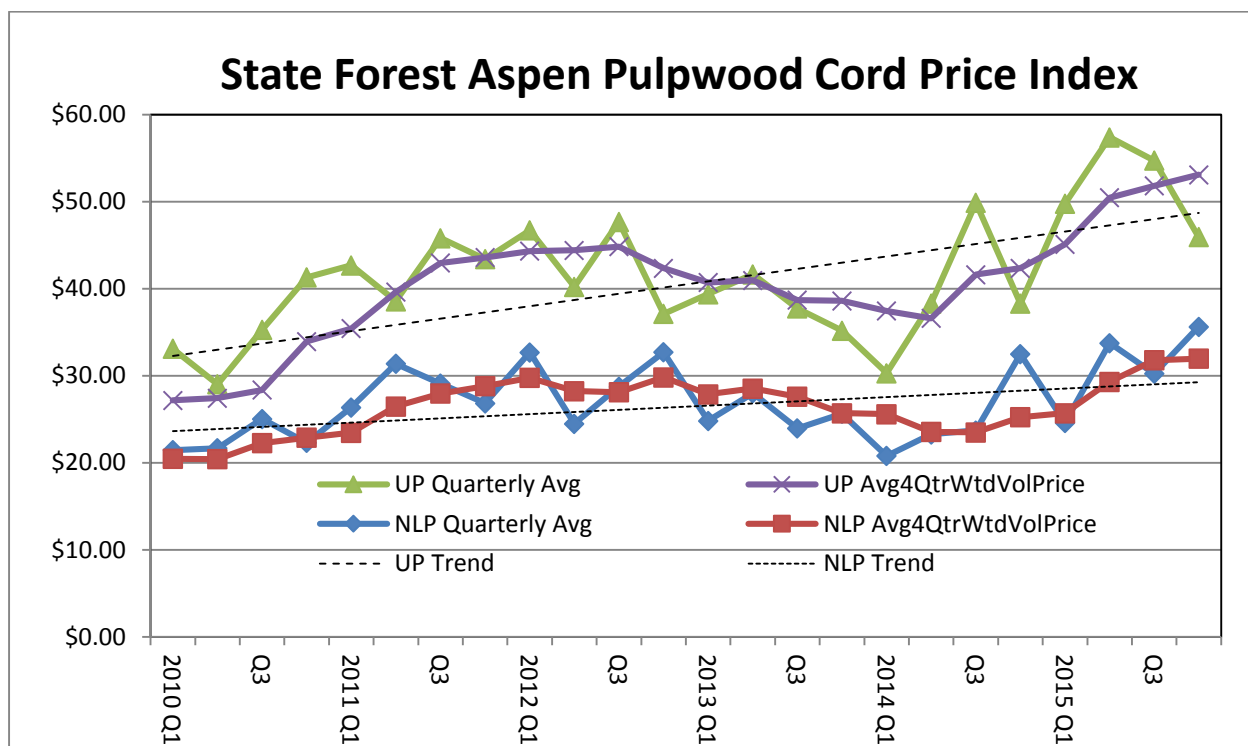
NLP sawlog volume hit a six-year low in the 4<sup>th</sup> quarter after achieving a record in the 3<sup>rd</sup> quarter. UP sawlog volume declined slightly. The NLP generally accounts for about 80% of State Forest sawlog volume and 70% of its sale value.



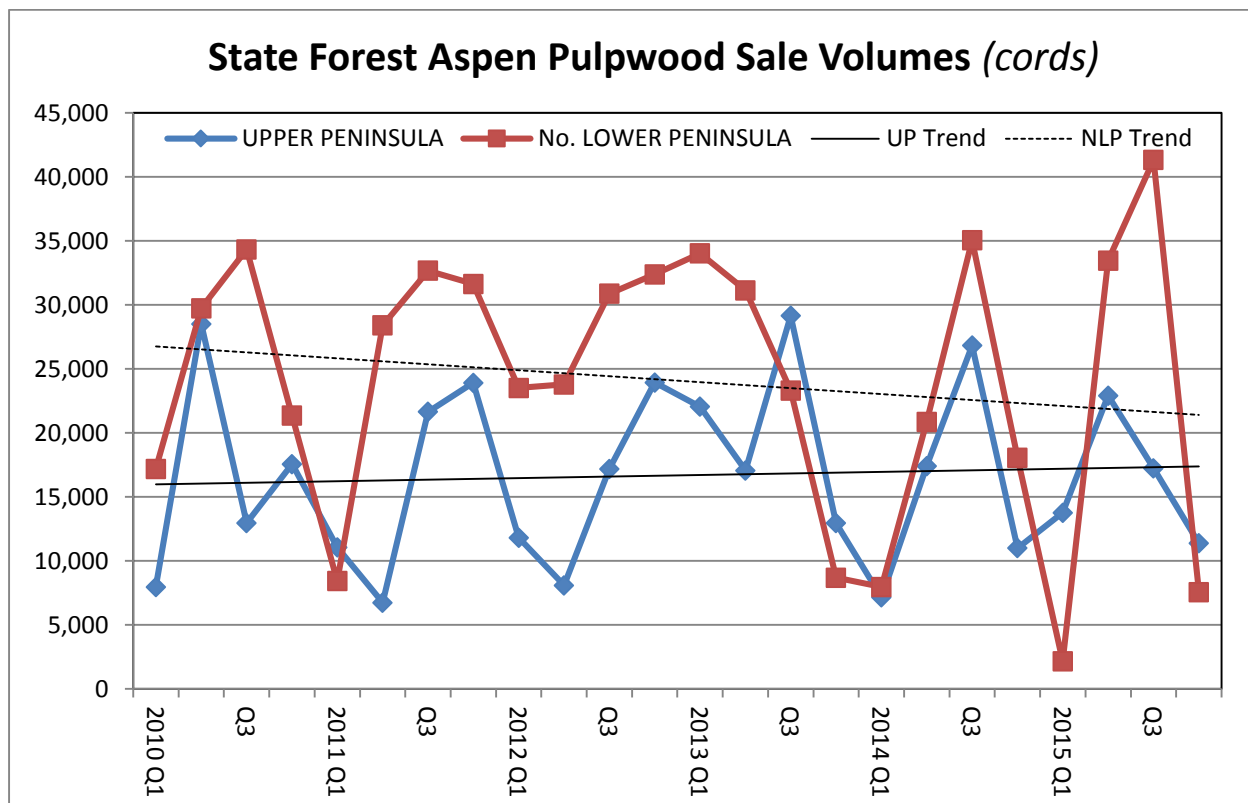
The NLP sawlog percent of bid species sale values fell while the UP percent slightly increased; the UP six-year trend line is flat while the NLP's trend line is slightly increasing despite (and contrary to) the recent 4<sup>th</sup> quarter decline.



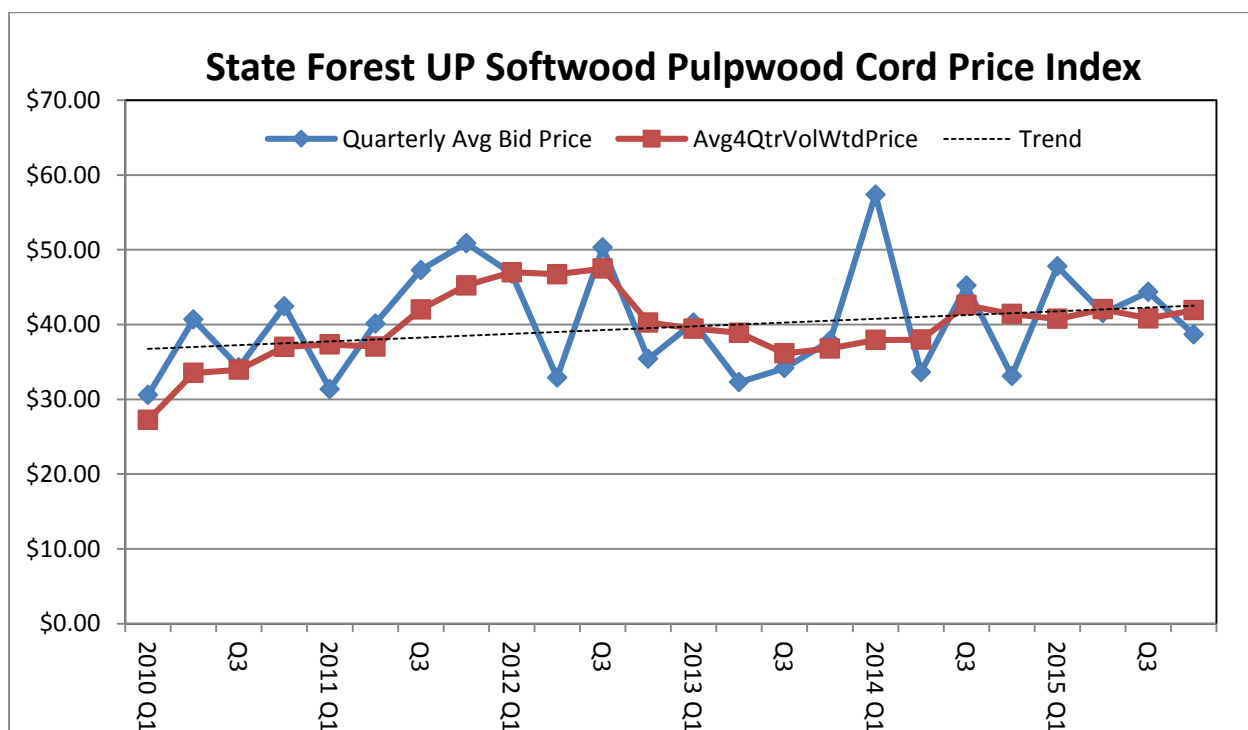
The 4<sup>th</sup> quarter overall average timber price index fell back to \$59.00 per cord. This is close to where it was in the 1<sup>st</sup> quarter before jumping to record levels of \$64.32 in the 2<sup>nd</sup> quarter and \$69.99 in the 3<sup>rd</sup> quarter. With a few exceptions (notably the 4<sup>th</sup> quarters of FY 2012 and FY 2014), prices have been increasing fairly steadily for the past five years. The “Avg4QtrVolWtdPrice” line shows how a moving four-quarter average price - weighted by volume - has increased from under \$50 per cord to almost \$65 per cord in the past two years.



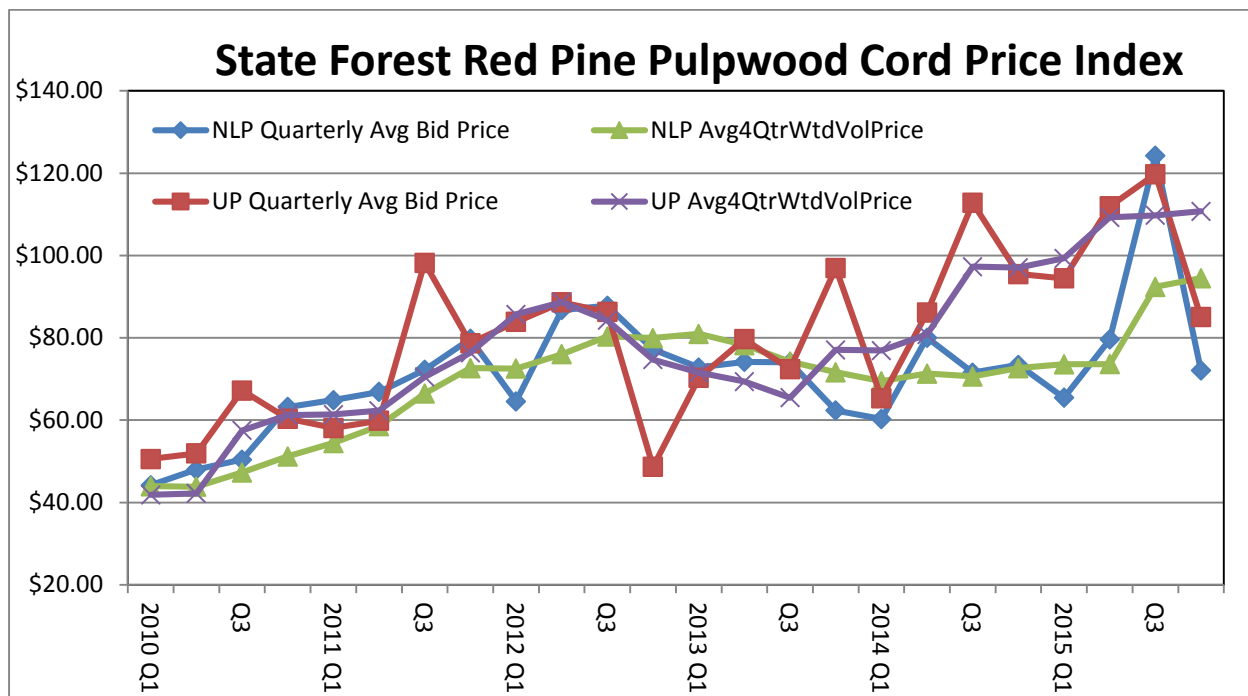
UP average Aspen pulpwood prices fell further from \$54.72 in the 3<sup>rd</sup> quarter to \$45.93 in the 4<sup>th</sup>. They had increased from \$49.75 per cord in the 1<sup>st</sup> quarter to a record level of \$57.39 per cord in the second quarter. In contrast to the UP, the NLP aspen cord price increased in the 4<sup>th</sup> quarter, from \$30.24 to \$35.61. This closed a former \$25 per cord price gap between the peninsulas to \$10. The UP price trend has a steeper slope to it than the NLP despite the 4<sup>th</sup> quarter price changes.



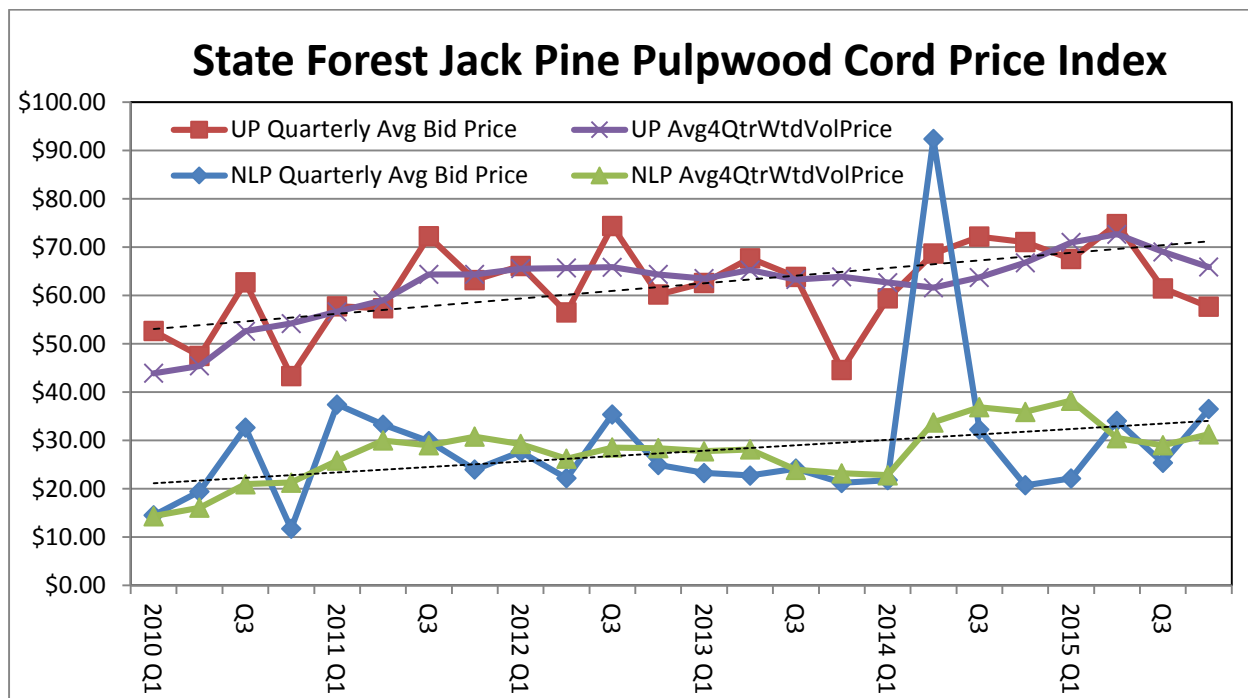
NLP aspen pulpwood sale volume plummeted from the 3<sup>rd</sup> quarter record high of 41,328 cords down to only 7,553 cords in the 4<sup>th</sup> quarter. As the graph above indicates, there have been extreme swings in quarterly sale volumes for NLP aspen. The FY 2015 1st quarter volume of 2,168 cords was lower than it had been at any time in the past five years. UP aspen sale volume swings have not been as dramatic as the NLP. UP Sale volume decreased again in the 4<sup>th</sup> quarter from 17,242 to 11,371 cords, after being at 22,909 cords in the 2<sup>nd</sup> quarter. The UP has a slightly increasing sale volume trend line while the NLP has had a slightly declining trend.



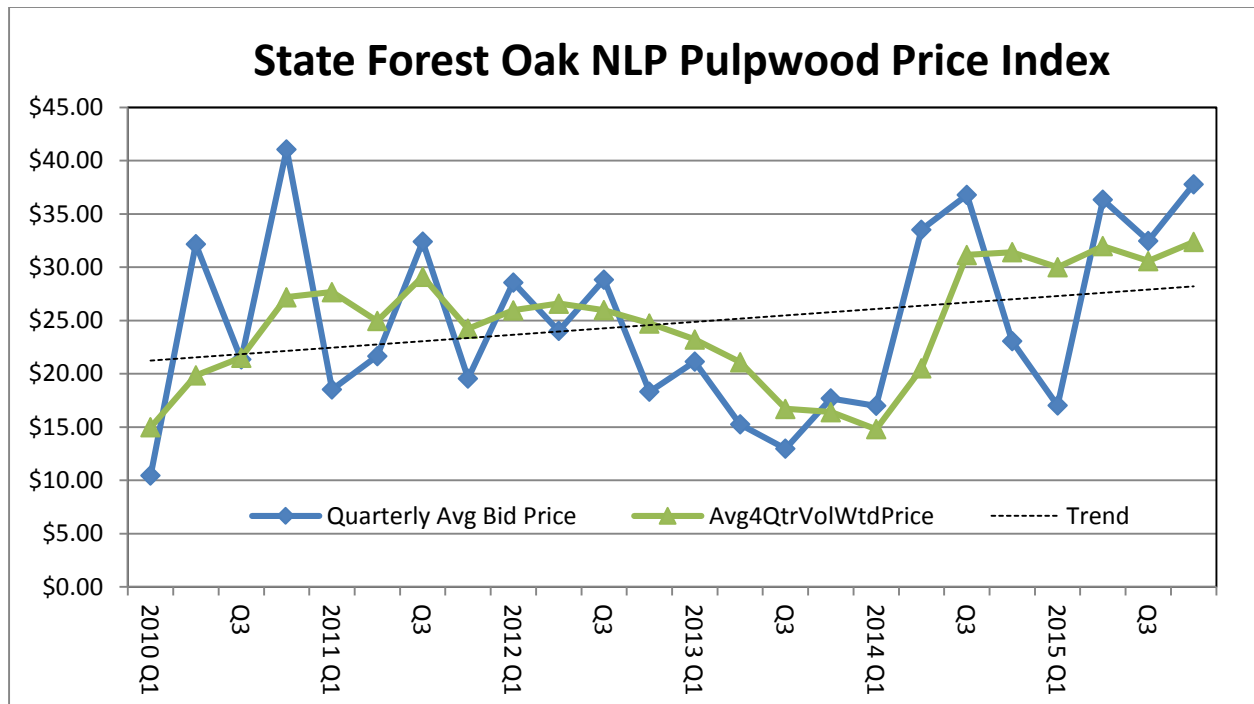
The UP accounts for the vast majority of what is sold as “softwood pulpwood.” The 4<sup>th</sup> quarter softwood pulpwood cord price dipped to \$38.66 from \$44.38 on 24,800 cords of sale volume. Previously, it had fallen from \$47.79 per cord in the 1<sup>st</sup> quarter down to \$41.54 while sale volumes jumped from 7,862 cords up to 18,226 for the same quarters. A record level of 35,100 cords was sold in the 3<sup>rd</sup> quarter of FY 2014. There is a modest upward price trend for the product.



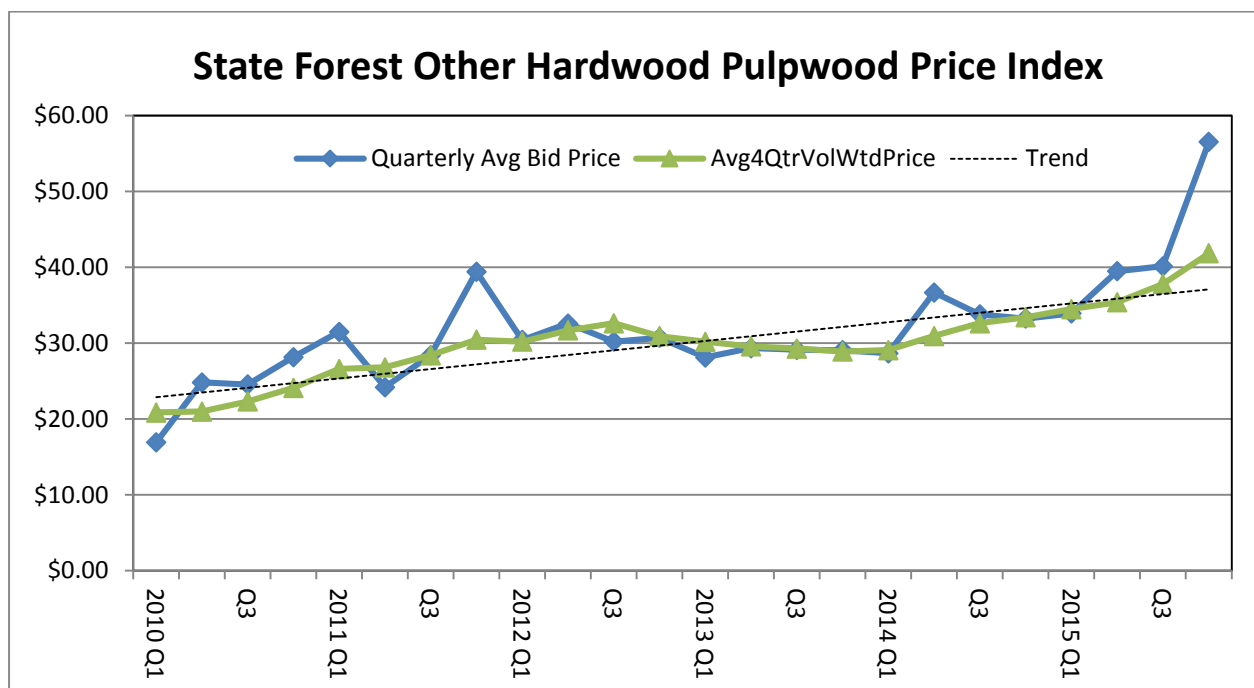
The 3<sup>rd</sup> quarter NLP red pine pulpwood price shot up to over \$124 per cord from \$79.60 per cord in the 2<sup>nd</sup> quarter and then dropped back even more sharply in the 4<sup>th</sup> quarter to \$72 per cord. At the same time, the UP price rose from \$111.96 to \$119.76 per cord and then dropped back to \$101.22 in the 4<sup>th</sup> quarter. The UP has generally had higher RP pulpwood prices than the NLP; the 3<sup>rd</sup> quarter was an exception. UP red pine pulpwood prices rose sharply to almost \$113 per cord last fiscal year while the NLP prices remained more stable in a \$70 to \$80 per cord range. UP sale volume dropped back sharply from 18,223 cords to 6,196 cords in the 3<sup>rd</sup> quarter and fell even more to only 1,630 cords in the 4<sup>th</sup> quarter. NLP volume went from 17,750 cords to 18,304 cords and then dropped to 4,602 cords during the same quarters.



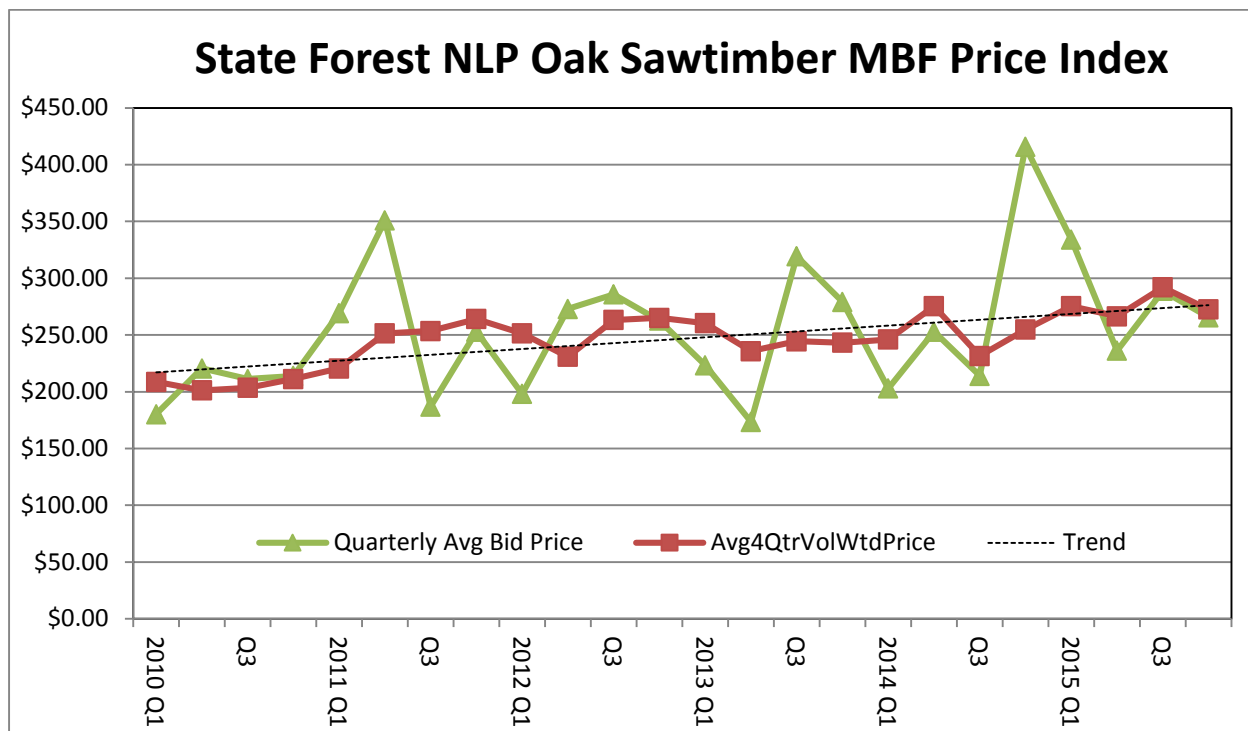
In the 4<sup>th</sup> quarter, the NLP went from \$25.35 to \$36.50 per cord for jack pine as the UP went from \$61.50 to \$57.70 per cord. The UP price has generally been twice to over three times the NLP price, but the 4<sup>th</sup> quarter price narrows this gap. Jack pine sale volumes are highly volatile from quarter to quarter. UP sale volumes rose from a very low 972 cords in the 1<sup>st</sup> quarter to 12,837 and 12,424 cords in the 2<sup>nd</sup> and 3<sup>rd</sup> quarters before dropping back to 7,522 cords in the 4<sup>th</sup> quarter. NLP sale volume rose from 5,710 cords all the way up to 29,292 cords, but then fell back to 8,818 cords in the 3<sup>rd</sup> quarter and dropped further to 4,586 cords in the 4<sup>th</sup> quarter. The 2<sup>nd</sup> quarter NLP \$90 price is an anomaly and should be ignored.



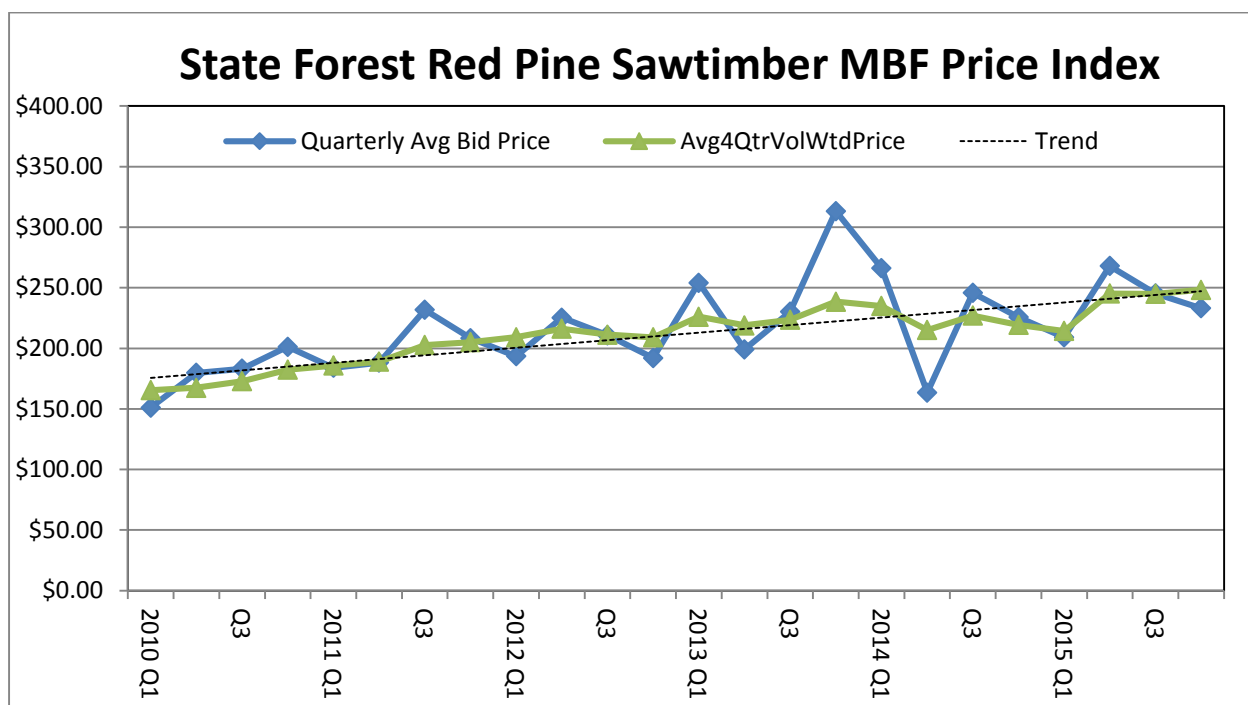
The 4<sup>th</sup> quarter NLP oak pulpwood price rebounded from \$32.48 to \$37.77 per cord. The price more than doubled from \$17 to \$36.33 per cord in the 2<sup>nd</sup> quarter. Prices had risen dramatically in FY 2014, following six quarters of hovering around the \$20 level. Sale volume had risen from 5,800 cords to 9,230 cords between the 4<sup>th</sup> quarter of FY 2014 and the 1<sup>st</sup> quarter of 2015, but it leaped up further to a very high 24,182 cords in the 2<sup>nd</sup> quarter and then dropped back to 16,034 cords in the 3<sup>rd</sup> quarter before sharply dropping to 4,602 cords in the 4<sup>th</sup> quarter.



The 4<sup>th</sup> quarter "other hardwood pulpwood" cord price rose to \$56.55, easily a record high price. Previous high prices were in the neighborhood of \$40 per cord. Sale volumes hit a record 66,150 cords in the 3<sup>rd</sup> quarter of FY 2014. They were down to less than a third of that - to 21,258 cords - in the 1<sup>st</sup> quarter of FY 2015, but the volume rebounded in the 2<sup>nd</sup> quarter to 47,029 cords. It increased in the 3<sup>rd</sup> quarter to 50,964 cords then dropped to 24,989 cords in the 4<sup>th</sup> quarter.

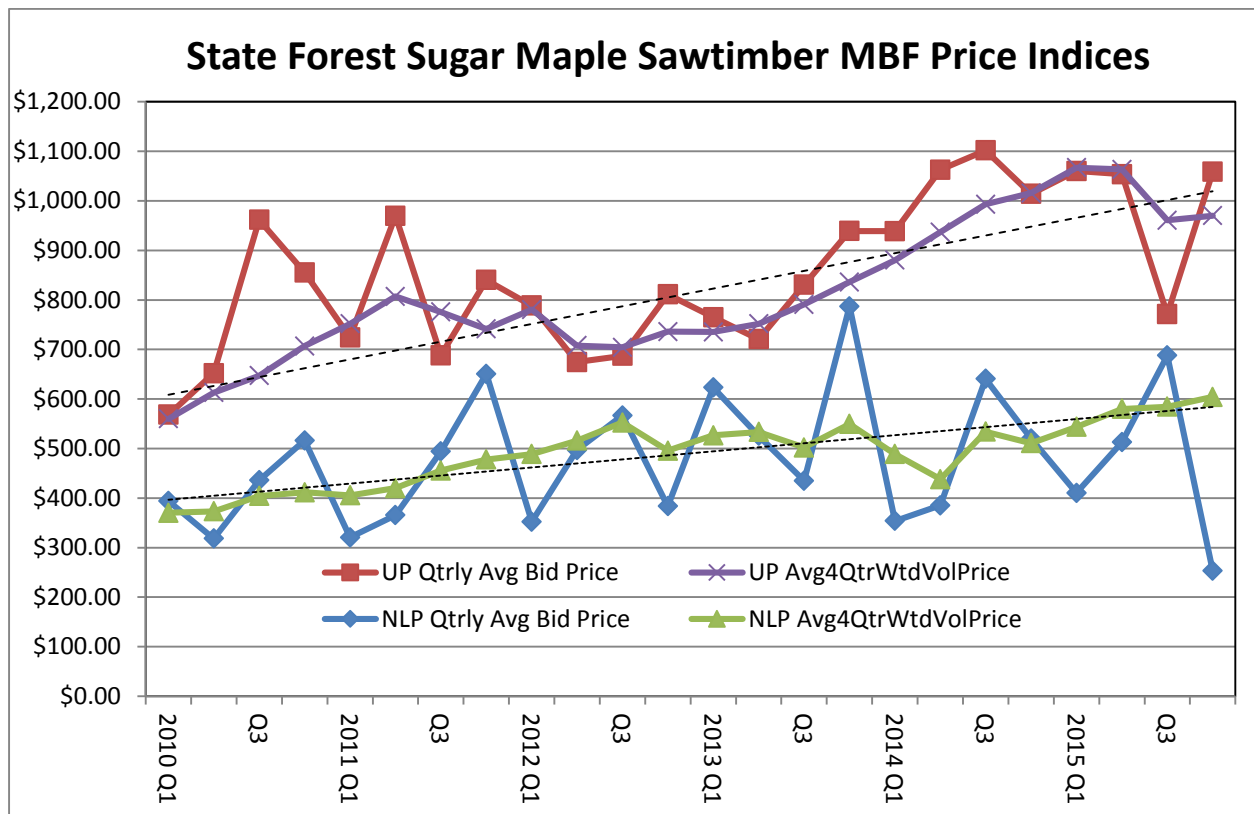


NLP oak sawtimber prices declined from \$289 to \$266 per mbf in the 4<sup>th</sup> quarter. They had almost doubled in the 4<sup>th</sup> quarter of FY 2014 to \$415 per mbf - a 5-year record - but they fell back to \$334 per mbf in the 1<sup>st</sup> quarter of FY 2015 and then fell further to \$236 in the 2<sup>nd</sup> quarter. Prices hit a low of \$173 in the 2<sup>nd</sup> quarter of FY 2013. Overall, they have been on an increasing price trend for the past six years. Sale volume was 2.5mmbf in the 1<sup>st</sup> quarter of FY 2015 - close to the average for the five-year period - but then it set a sale volume record of 5.3mmbf in the 2<sup>nd</sup> quarter. Volume fell to 3.1mmbf in the 3<sup>rd</sup> quarter and all the way down to 1.280mmbf in the 4<sup>th</sup> quarter.



Red pine sawtimber prices declined modestly again in the 4<sup>th</sup> quarter from \$245 to \$233 per mbf. Prices have been moderately increasing for the most recent six-year period and have averaged \$215 per mbf. Sale volume rose from 3.2mmbf in the 1<sup>st</sup> quarter of FY 2015 to 9.6mmbf in the 2<sup>nd</sup> quarter and increased further in the 3<sup>rd</sup> quarter to 13.137mmbf before falling all the way back to 1.79mmbf in the most recent 4<sup>th</sup> quarter.



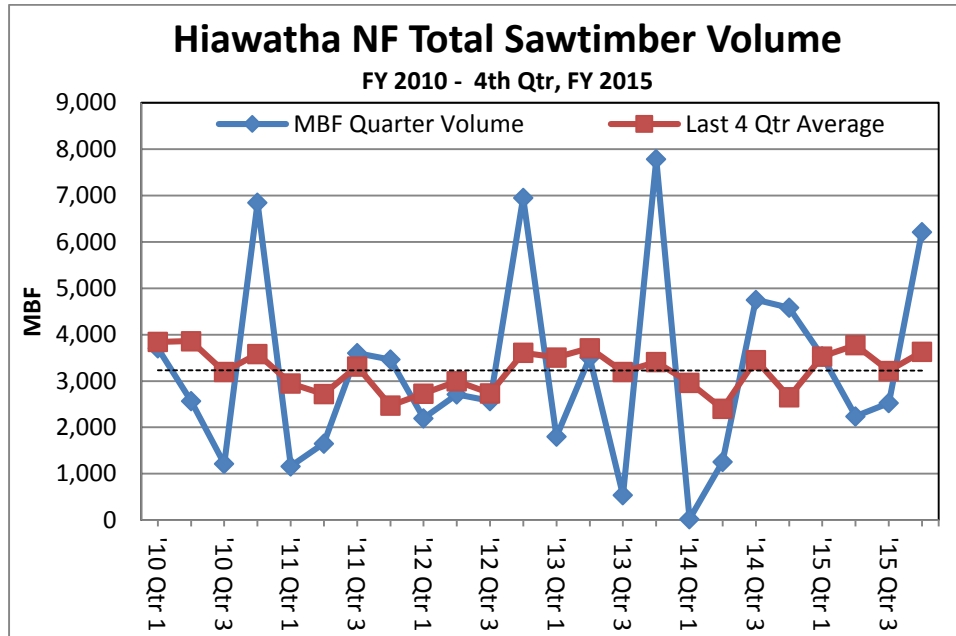


The sugar maple sawtimber peninsula prices went in opposite directions again in the 4<sup>th</sup> quarter. The UP price rebounded to \$1058 per mbf after having dropped sharply from \$1,053 to \$771 per mbf between the 2<sup>nd</sup> and 3<sup>rd</sup> quarters. At the same time, the NLP price rose from \$513 to \$688 per mbf and then dropped back sharply to \$253 per mbf (on very low volume). The gap between the UP and NLP sugar maple sawlog prices closed significantly in the 3<sup>rd</sup> quarter and then widened at least as significantly in the 4<sup>th</sup> quarter. The UP price has a fairly steep six-year price trend. The NLP also has an increasing price trend, but not as steep as the UP's. UP 4<sup>th</sup> quarter sale volume dropped from 946 to 438mbf; it had increased from 820 to 904 mbf between the 1<sup>st</sup> and 2<sup>nd</sup> quarters. The NLP sugar maple sawlog volume more than doubled to 484 mbf in the 3<sup>rd</sup> quarter but then it plummeted to a negligible 5mbf in the 4<sup>th</sup> quarter.

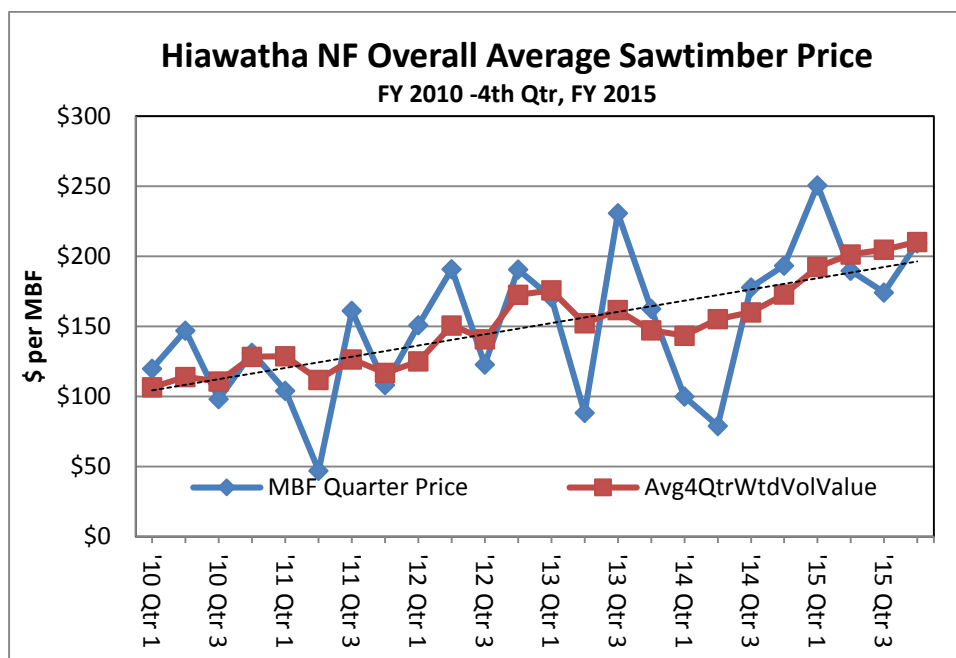
## Hiawatha National Forest Major Species Product Timber Sales, FY 2010 – 4<sup>th</sup> Qtr, 2015

All graphs include a dotted trend line based upon the data set for the average of the most recent four quarters. Gaps in the blue quarter line indicate no sales in the quarter where the gap occurs. The National Forests follow the federal fiscal year (FY) from October 1 through September 30 (as does the MI DNR). The most recent data included here is for the third quarter of FY 2015, covering July through September, 2015 sales. Only certain major categories of timber sales are shown; more information is available through the Region 9 pdf reports posted on the Forest Service website:

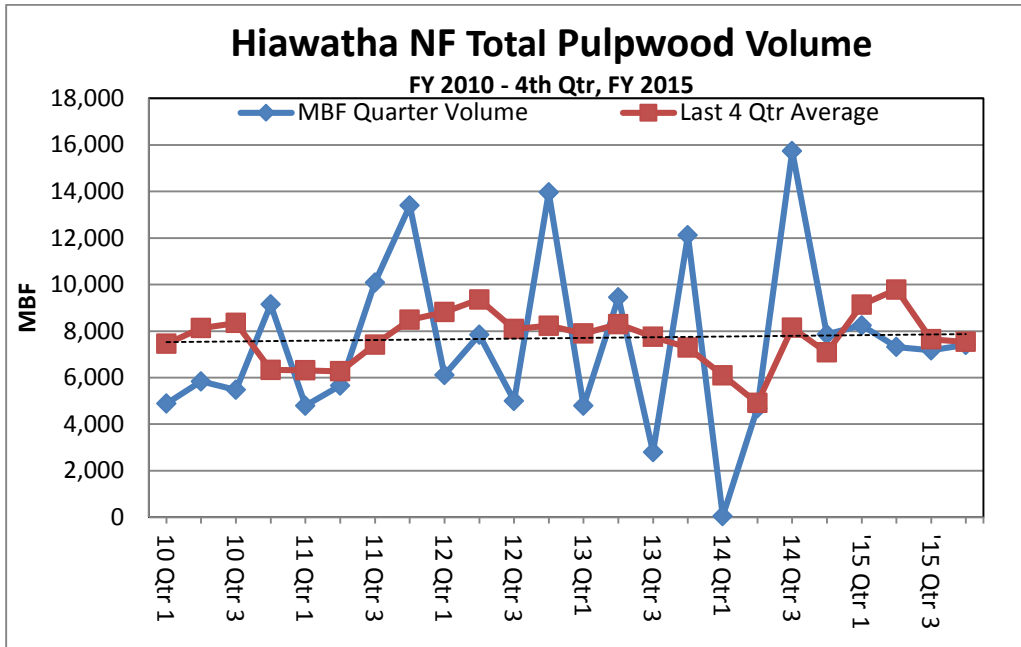
<http://www.fs.fed.us/forestmanagement/products/sold-harvest/cut-sold.shtml>



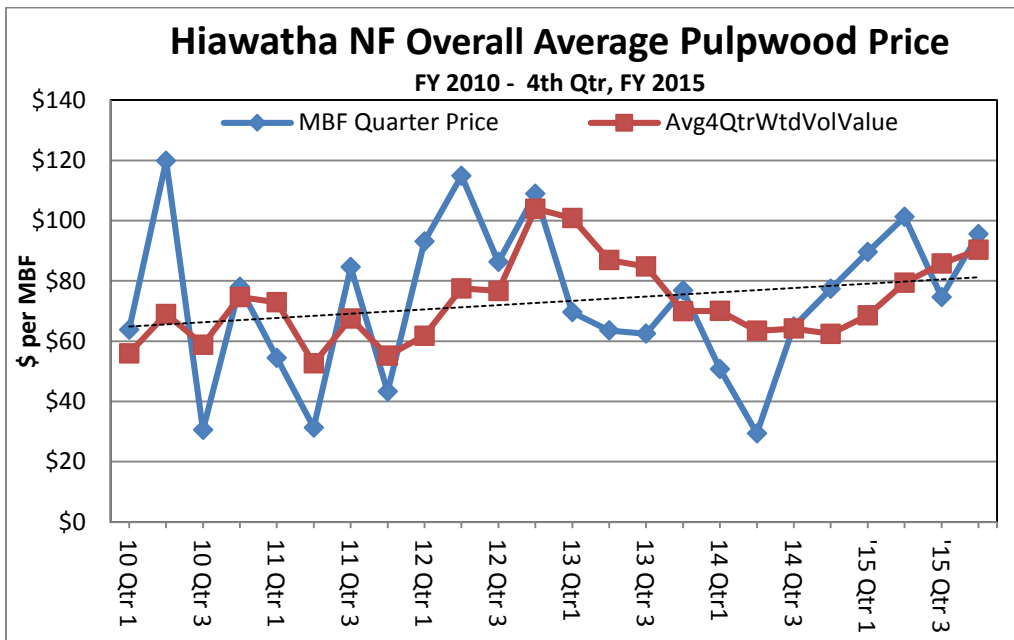
Hiawatha sawtimber sale volume increased sharply to over 6mmbf in the 4<sup>th</sup> quarter. It had been under 2.5mmbf in the previous two quarters. The Hiawatha has a tendency for higher sawtimber sales in the fourth quarter most years, followed by much lower sales in the 1<sup>st</sup> quarter. If the past sale pattern holds, the current 1<sup>st</sup> quarter of fiscal year 2016 will see a sharp decline in sale volume. Overall, the six-year trend of sawtimber sale volume has been flat.



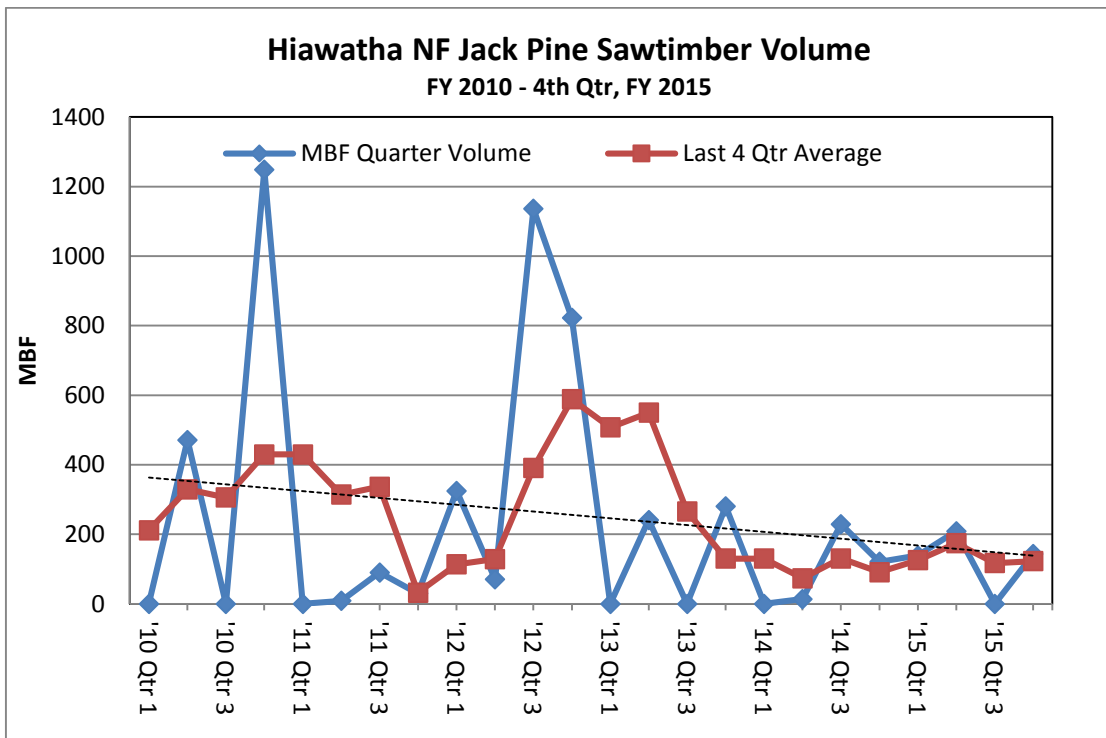
The average sawtimber price reversed course and rose to over \$209 per mbf in the 3<sup>rd</sup> quarter of FY 2015. It had dropped from \$251 to \$190 and then to \$174 per mbf in the 2<sup>nd</sup> and 3<sup>rd</sup> quarters. It was only \$80 per mbf in the 2<sup>nd</sup> quarter of FY 2014 before rising to \$250 in the 1<sup>st</sup> quarter of FY 2015. The average sawtimber price is influenced by the mix of species and products offered. The six-year price trend has been increasing, with almost a doubling of the nominal price.



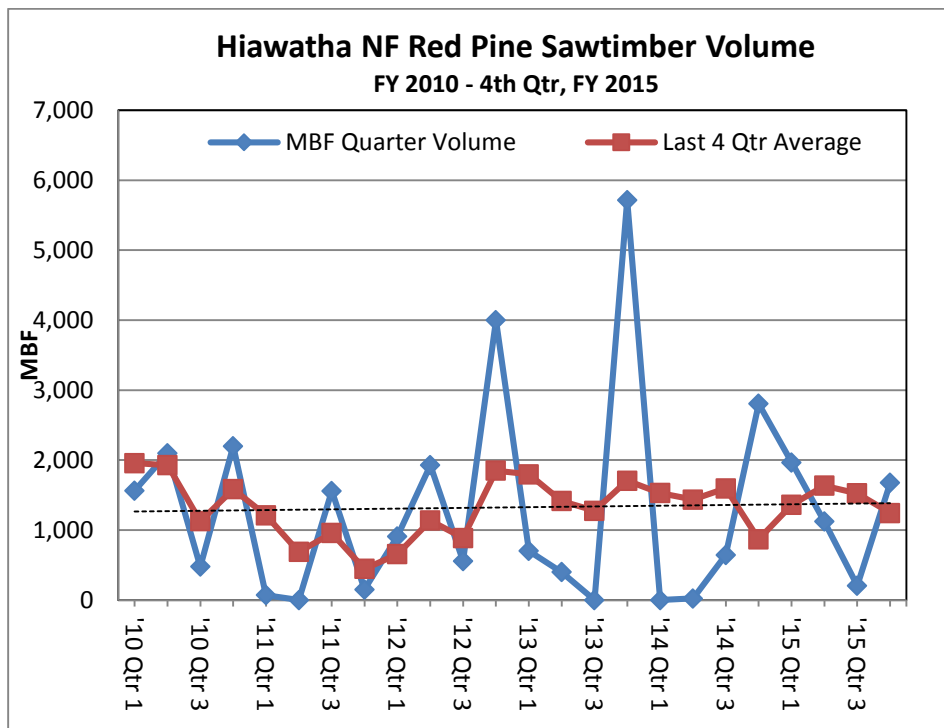
As the above graph indicates, pulpwood sale volumes have been very stable relative to what the erratic quarter-to-quarter pattern had been for the previous four years. Sale volume dipped slightly from the 1<sup>st</sup> quarter FY 2015 volume of 8.2mmbf to 7.3 then 7.2, and finally 7.4mmbf in the most recent fourth quarter. These levels are close to the average level for the past six years. In contrast, there was virtually no sale volume in the 1<sup>st</sup> quarter of FY 2014, but then it reached 15.73mmbf in the 3<sup>rd</sup> quarter of FY 2014. Beyond the differences quarter-to-quarter, the six-year trend is virtually flat overall. It is difficult to predict future quarters' sale volumes, given the contrast of the stable sales in the past five quarters versus the wide swings in sales for previous quarters.



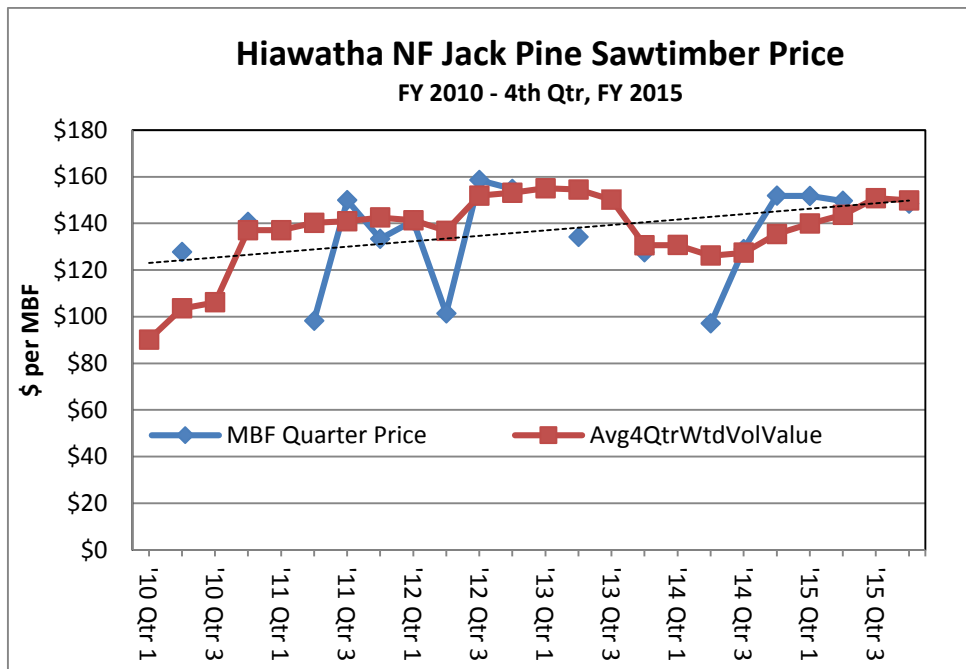
The 4<sup>th</sup> quarter average pulpwood price bounced back from under \$75 to over \$95 per mbf. It had peaked at \$101 per mbf in the 2<sup>nd</sup> quarter after rising four quarters from a low of under \$30 in the second quarter of FY 2014. The trend line shows a moderately increasing price trend since the beginning of FY 2010. If sale volumes continue to be relatively stable, they may also influence prices to be less volatile.



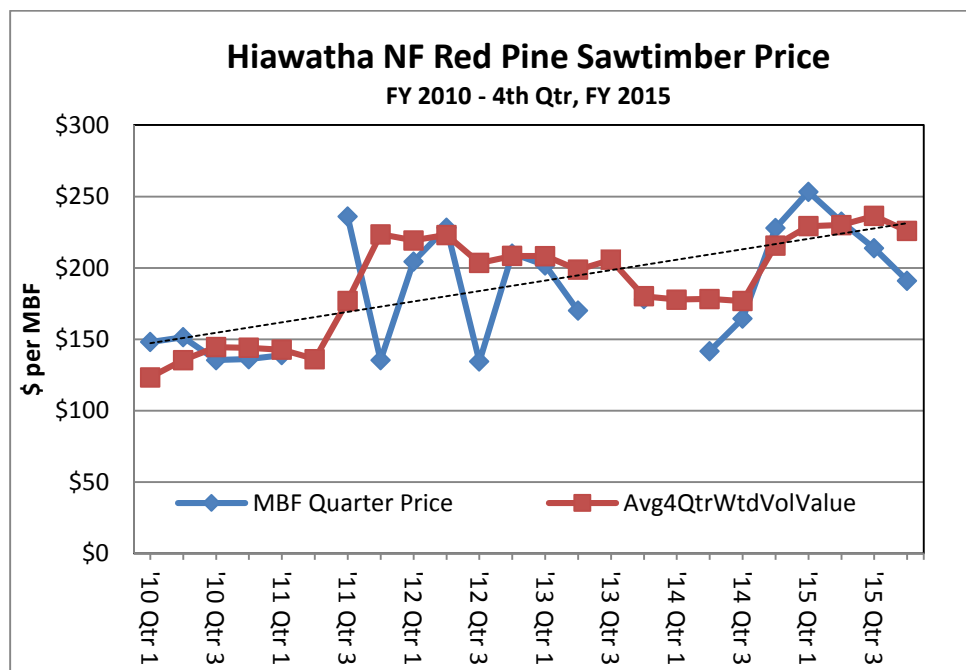
Sale volume of jack pine sawtimber was 143mbf. There were no sales of jack pine sawtimber in the 3<sup>rd</sup> quarter. Hiawatha sale volumes of jack pine sawtimber have had a six-year downward trend; the average sale volume since FY 2010 is under 250mbf. The highest volume sold, 1.25mmbf, was back in the 4<sup>th</sup> quarter of FY 2010; sales also exceeded 800mbf twice in 2012. There now have been twelve quarters in a row of sales below 300mbf and the average for these quarters is 100mbf. As with jack pine pulpwood, there are almost as many quarters without sales as there are quarters with sales.



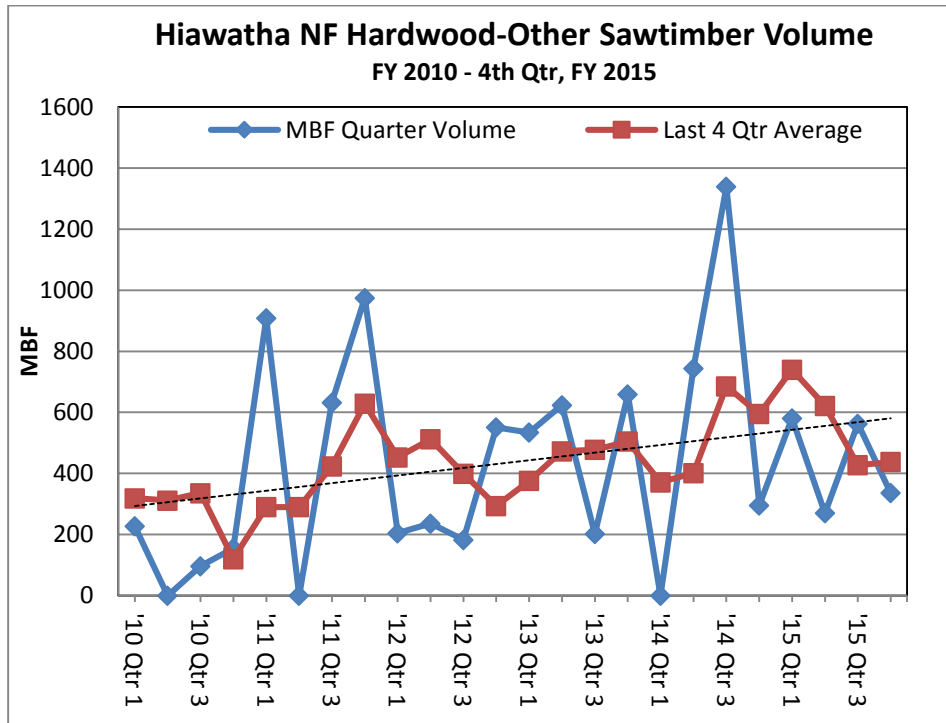
As expected, red pine sawtimber sale volume rose to 1.68mmbf in the 4<sup>th</sup> quarter from just .2mmbf in the 3<sup>rd</sup> quarter. More than three times as much red pine sawtimber as jack pine sawtimber has been sold on the Hiawatha during the past six years. Sale volume was 2.8mmbf in the 4<sup>th</sup> quarter of FY 2014, but then it fell for three quarters. The previous two 4<sup>th</sup> quarters were higher; 5.7mmbf was sold in the 4<sup>th</sup> quarter of FY 2013 and 4mmbf was sold in the 4<sup>th</sup> quarter of 2012. Overall, the six-year sale volume trend is flat.



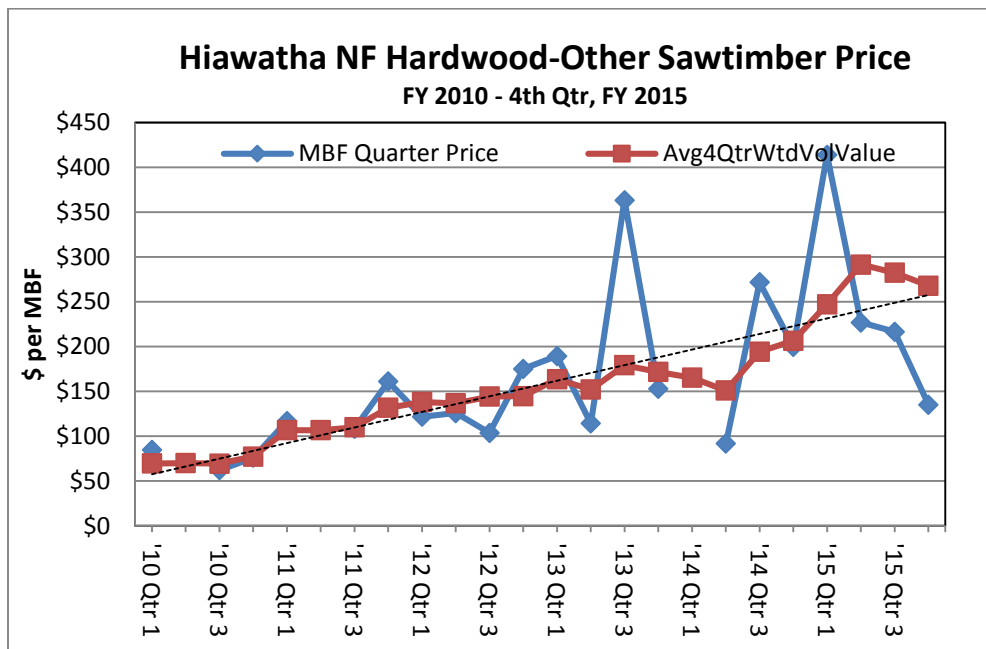
The 4<sup>th</sup> quarter jack pine sawtimber price was \$148 per mbf. This product's price has been relatively stable - close to \$150 per mbf – for over a year. It had risen from just under \$100 in the 2<sup>nd</sup> quarter of FY 2014 to almost \$130 in the 3<sup>rd</sup> quarter and then it reached \$152 in the 4<sup>th</sup> quarter. Overall, based upon the 4-quarter volume-weighted average price, there is a moderate increasing price trend over the past six years, but this is based upon many quarters with negligible or no sales.



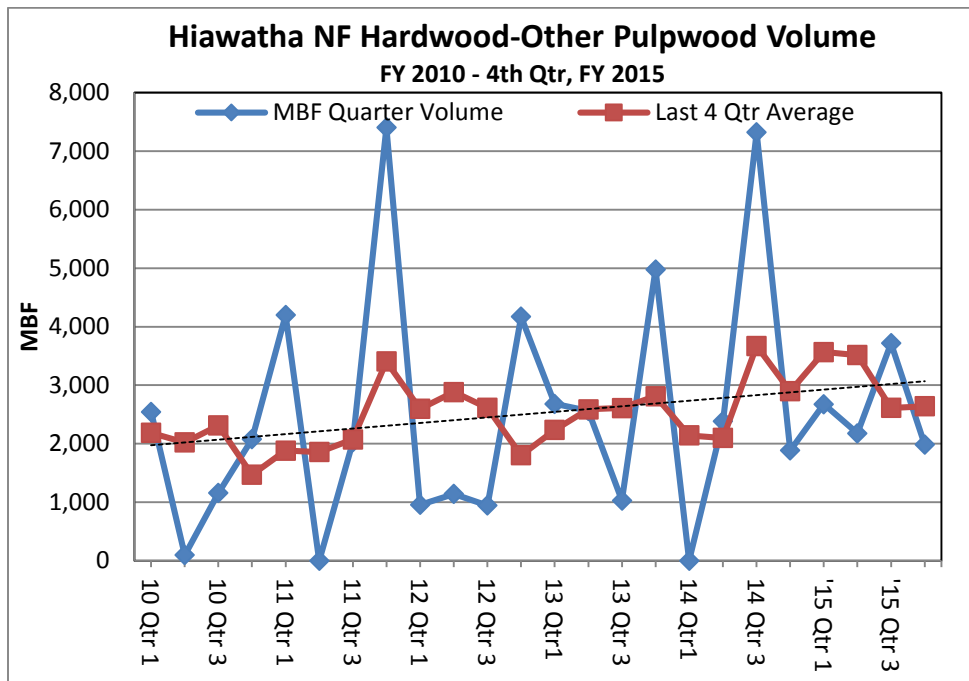
The red pine sawtimber price continued to drop further, from \$214 per mbf in the 3<sup>rd</sup> quarter to \$191 per mbf in the 4<sup>th</sup> quarter. The price had reached \$253 per mbf in the 1<sup>st</sup> quarter of FY 2015, its highest level in recent years. It was \$142 in the 2<sup>nd</sup> quarter of FY 2014 and \$165 in the 3<sup>rd</sup> quarter, then it jumped to \$228 in the 4<sup>th</sup> quarter. The overall six-year price trend has been increasing. Given the recent three quarters of price declines, It would not be surprising if the price increases in the current 1<sup>st</sup> quarter of FY 2015.



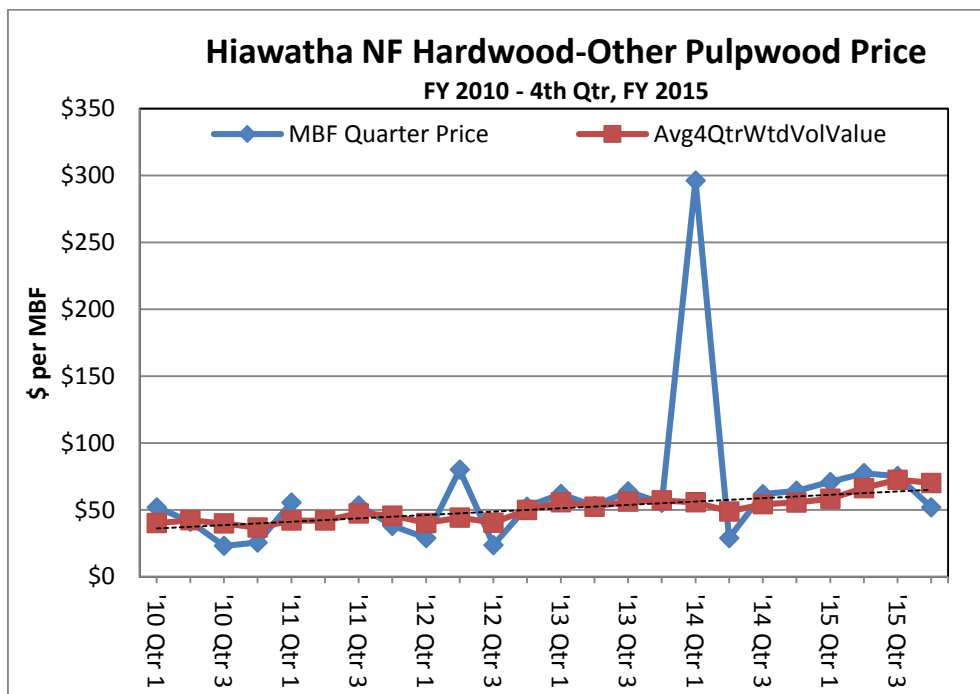
The “hardwood-other” sawtimber sale volume decreased from 563mbf to 337mbf in the 4<sup>th</sup> quarter. The most recent five quarters of sales are the most stable level of volumes in the past six years. In contrast, there were no sales in the 1<sup>st</sup> quarter of FY 2014, but then quarterly sale volume reached a six-year record level of 1.3mmbf in the 3<sup>rd</sup> quarter of FY 2014 before falling in the 4<sup>th</sup> quarter to 300mbf. Sale volumes of “hardwood other” have trended upward over the past five years; this trend is strongly influenced by the high 2<sup>nd</sup> and 3<sup>rd</sup> quarter sale volumes of FY 2014.



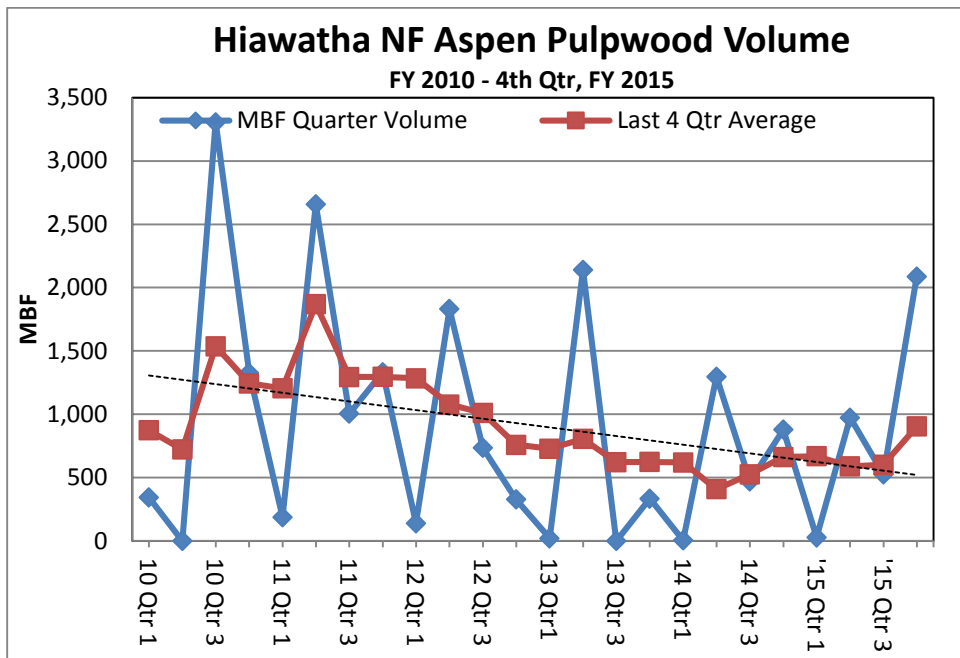
The “hardwood-other” sawtimber 4<sup>th</sup> quarter price dropped sharply to \$135 per mbf. It has fallen for three quarters now, from the record \$414 per mbf price it reached in the 1<sup>st</sup> quarter. In the 2<sup>nd</sup> quarter FY 2014, the price was below \$92 per mbf. Despite the recent price decreases, the quarterly price trend has risen quite steeply over the past six years – more than jack or red pine sawtimber - from well under \$100 to over \$250 per mbf. While prices may rebound somewhat in coming quarters, overall they are expected to level off and this will help to moderate the price trend.



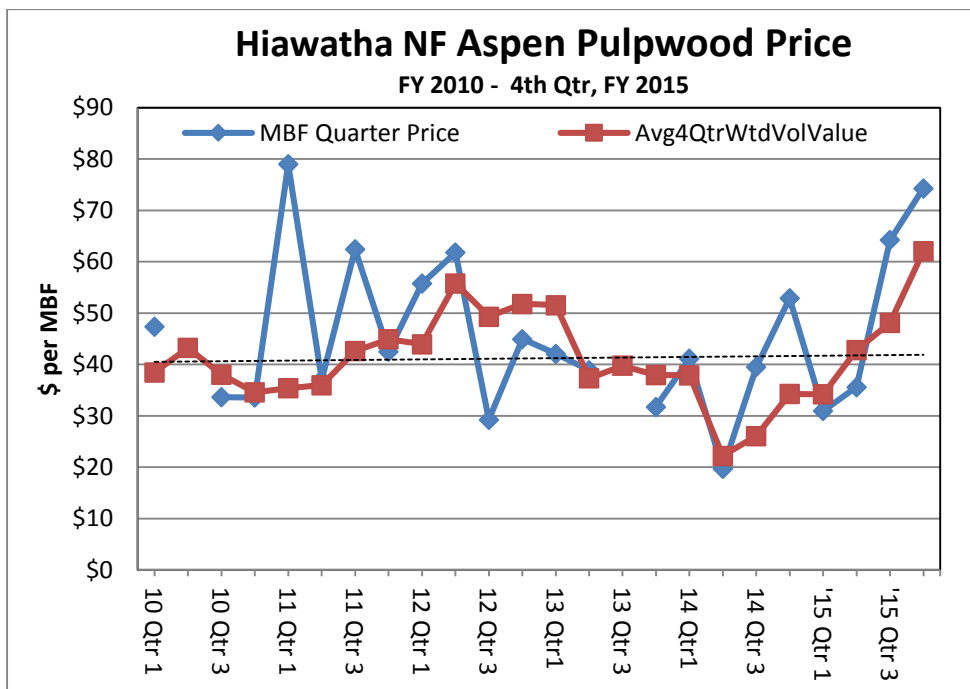
Sales of “hardwood-other” pulpwood volume dropped back in the 4<sup>th</sup> quarter from 3.7 to 2 mmbf. After shooting up in the 3<sup>rd</sup> quarter of FY 2014 to over 7.3 mmbf, the pulpwood sales came sharply down in the 4<sup>th</sup> quarter to 1.9mmbf. Generally, sales are highest in the 4<sup>th</sup> quarter, but FY 2014 and FY 2015 were exceptions with peak sales in the 3<sup>rd</sup> quarter. As with several other Hiawatha timber product sale volumes, it appears the erratic nature of sale volumes from quarter-to-quarter may be moderating. There is an increasing sale volume trend over the past six years.



There was a significant drop in price - from \$75 per mbf in the 3<sup>rd</sup> quarter down to \$52 per mbf in the 4<sup>th</sup> quarter - for “hardwood-other” pulpwood. The price had risen gradually for four quarters to \$77 per mbf in the 2<sup>nd</sup> quarter of FY 2015. A year earlier, it was at a low value of \$29 in the 2<sup>nd</sup> quarter of FY 2014. The 1<sup>st</sup> quarter FY 2014 price is an anomaly or error. For the past six years, the price has tended to range between \$28 and \$70; overall there has been an increasing price trend during the past six years.

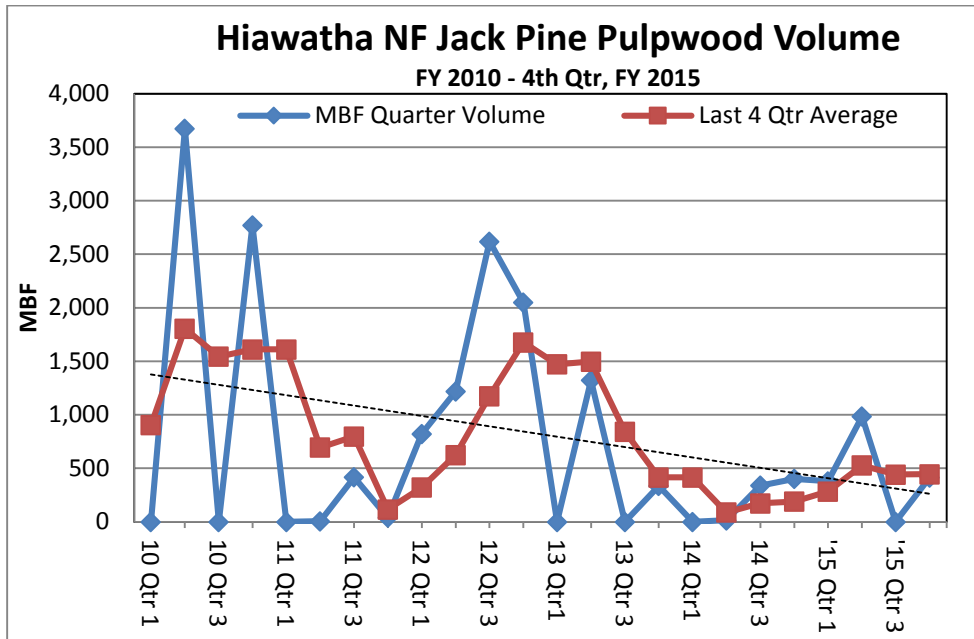


Aspen pulpwood sale volume hit a ten-quarter peak in the 4<sup>th</sup> quarter, jumping from 528mbf in the 3<sup>rd</sup> quarter to over 2.1mmbf in the 4<sup>th</sup> quarter. Aspen pulpwood sale volumes have been quite erratic, often going from no or negligible volume in one quarter to 1mmbf or more the next quarter. Also, as the above graph shows, there has been a distinctively downward trend over the past six years with each year's peak quarterly volume diminishing over time; the most recent (FY 2015 4<sup>th</sup> quarter) is an exception to this pattern. Unlike for many other products, there has not been a pattern of higher 4<sup>th</sup> quarter sales for aspen (again, the most recent 4<sup>th</sup> quarter being an exception). If the overall six-year pattern holds, sale volume in coming quarters will drop off from what was achieved in the 4<sup>th</sup> quarter.

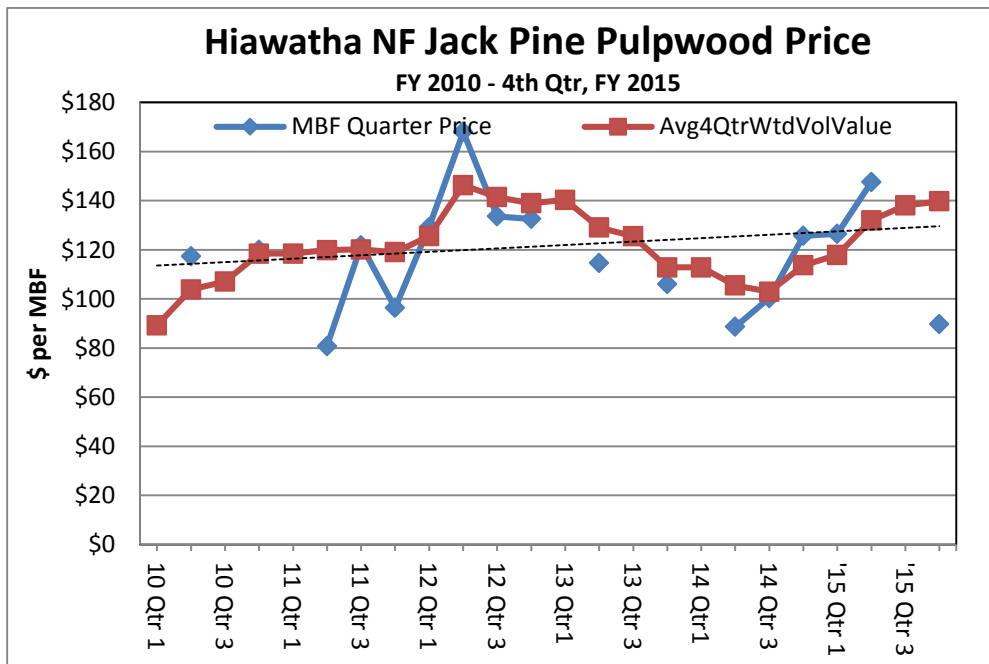


The 3<sup>rd</sup> quarter aspen pulpwood price shot up from \$36 to over \$64 per mbf and prices rose again in the 4<sup>th</sup> quarter to over \$74 per mbf. It had risen from a five-year record low under \$20 to almost \$53 per mbf between the 2<sup>nd</sup> and 4<sup>th</sup> quarters of FY 2014. The steep rise in the "Avg4QtrWtdVolValue" (red) line over the past six quarters reflects the recent price trend. With the most recent quarterly price increase, the six-year price trend has flipped from slightly declining to slightly increasing. If sale volumes continue their downward trend, this will reinforce the rising price trend.

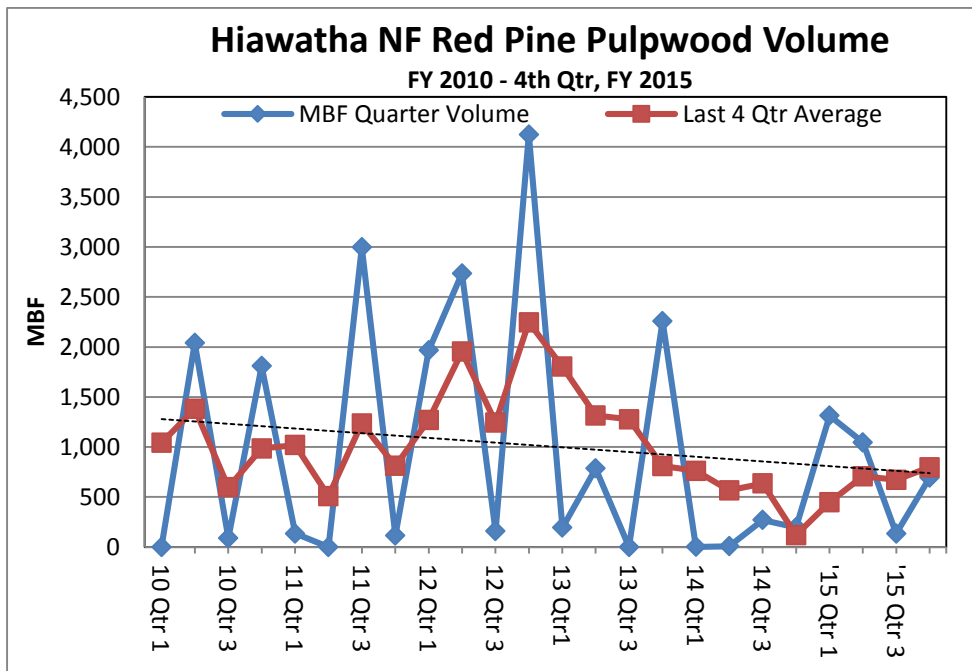




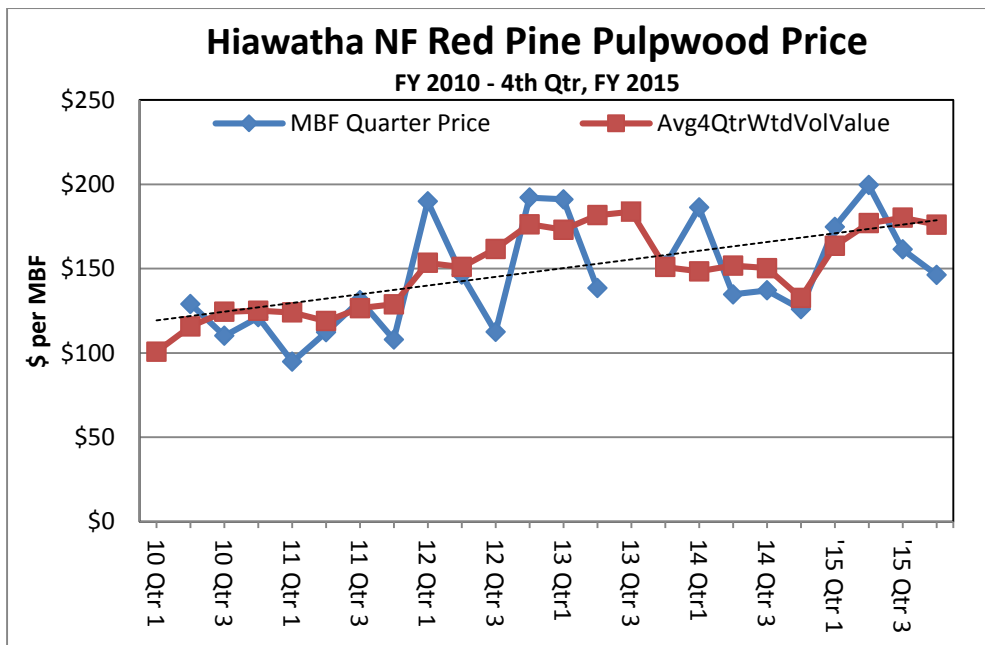
Only 413mbf of jack pine pulpwood was sold in the 4<sup>th</sup> quarter; there were no jack pine pulpwood sales in the 3<sup>rd</sup> quarter. Sales had been quite stable and low for three quarters at 340, 402, and 379 mbf before going to 985mbf in the 2<sup>nd</sup> quarter of FY 2015. There were no jack pine pulpwood sales in the first two quarters of FY 2014. Sales have been on a steep downward trend over the past six years. It has been noted that if the pattern of the last six years continues, sales in some upcoming quarter might exceed 1,000mbf. However, there also will be many quarters without any sale volumes or very negligible volumes.



The 4<sup>th</sup> quarter jack pine pulpwood price dropped to \$90 per mbf. The 2<sup>nd</sup> quarter jack pine pulpwood price was at \$146 per mbf. The price had remained virtually the same at \$126 per mbf for the previous two quarters and was \$105 per mbf in the 4<sup>th</sup> quarter of FY 2013. Beyond increases in these four quarters, no long-term price trend for jack pine pulpwood prices can be discerned, given that there have been about as many quarters without sales of jack pine as there have been quarters with sales over the past six years.



Red pine pulpwood sale volume rose from a negligible 134mbf in the 3<sup>rd</sup> quarter to almost 700mbf in the 4<sup>th</sup> quarter. It had declined from 1.3mmbf in the 1<sup>st</sup> quarter of FY 2015 to 1.05mmbf in the second quarter. There were no sales of Hiawatha red pine pulpwood in the first two quarters of FY 2014 and only 270mbf sold in the 3<sup>rd</sup> quarter and 197mbf in the 4<sup>th</sup> quarter, making FY 2014 by far the lowest annual sale for the past six years. FY 2015's sale volume was higher, but well below other prior years which often had quarters with more than 2mmbf in sale volume. There is a declining six-year volume trend, although not as steep as with jack pine pulpwood volume.

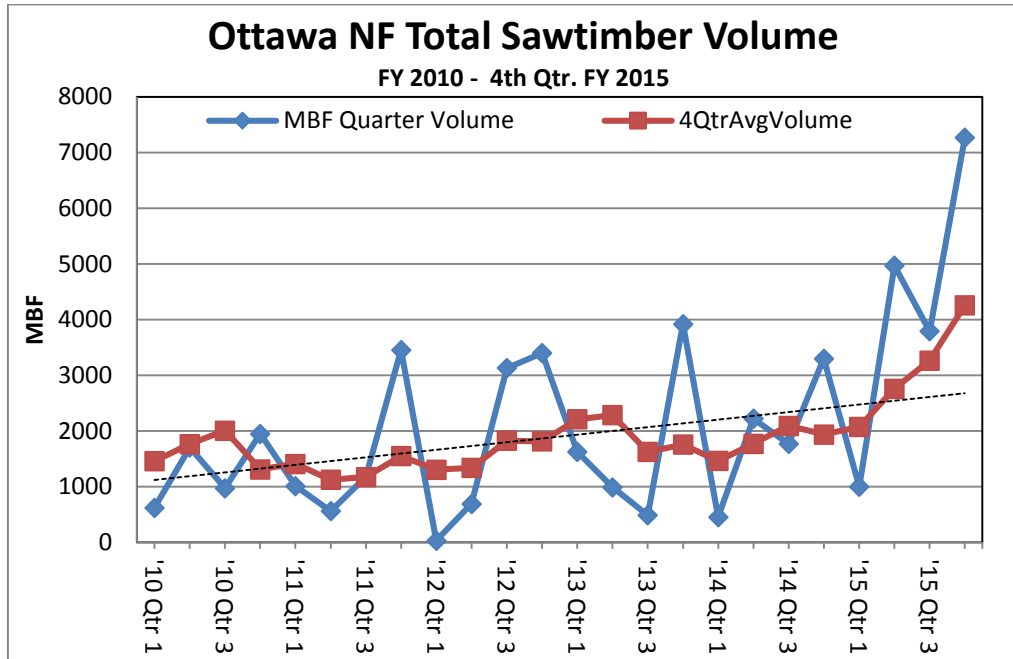


The 4<sup>th</sup> quarter red pine pulpwood price declined further, from \$161 per mbf to \$146 per mbf. It had gone from \$175 to \$200 per mbf between the 1<sup>st</sup> and 2<sup>nd</sup> quarters of FY 2015. Prices have been on an upward trend over the past six years; although the trend has been relatively flat overall for the past 4 years. It also should be noted that there has been very low or no sale volume in many quarters over the past six years.

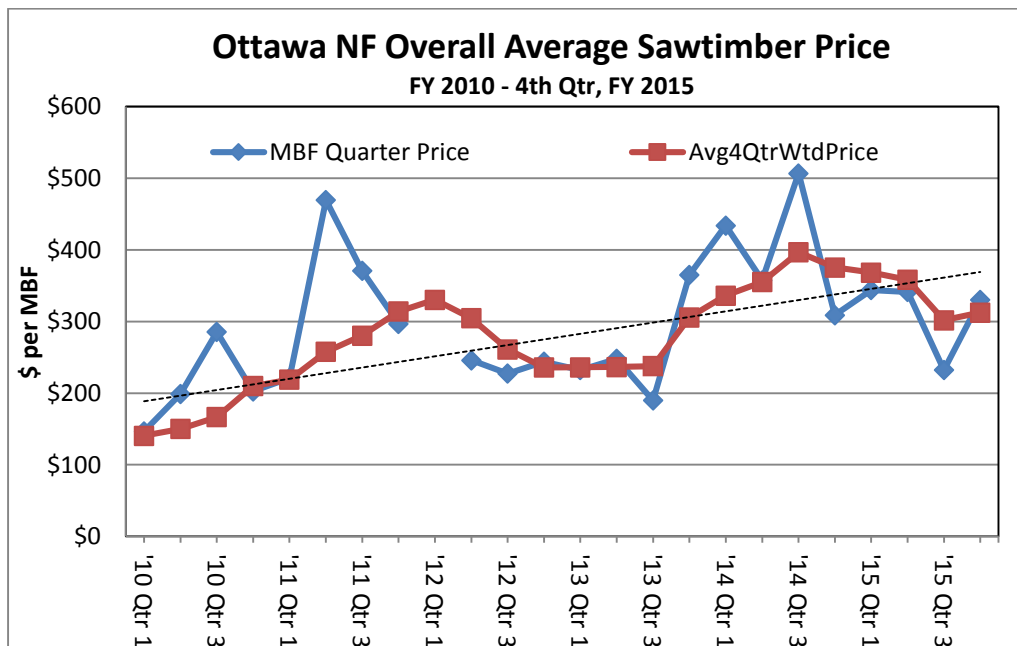
## Ottawa National Forest Major Species/Product Timber Sales, FY 2010 – 4<sup>th</sup> Qtr, FY 2015

All graphs include a dotted trend line based upon the data set for the average of the last four quarters. Gaps in the blue quarter line indicate no sales in the quarter where the gap occurs. The National Forests follow the federal fiscal year from October 1 through September 30. The sale data included here goes through the third quarter of FY 2015 (July through September, 2015). Only certain major categories of timber sales are shown; more information is available through the Region 9 pdf reports posted on the Forest Service website:

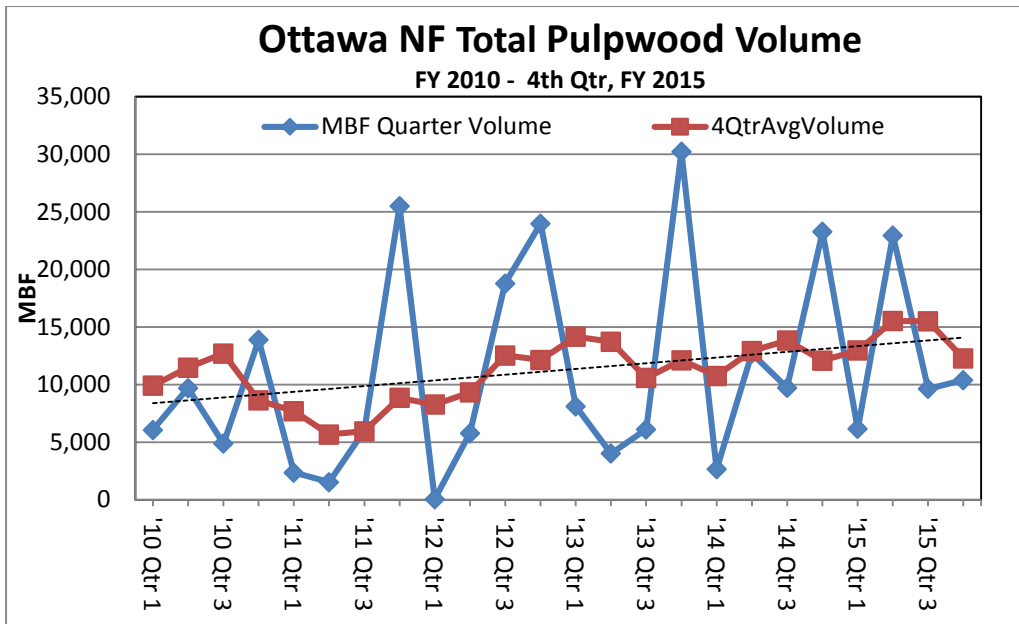
<http://www.fs.fed.us/forestmanagement/products/sold-harvest/cut-sold.shtml>



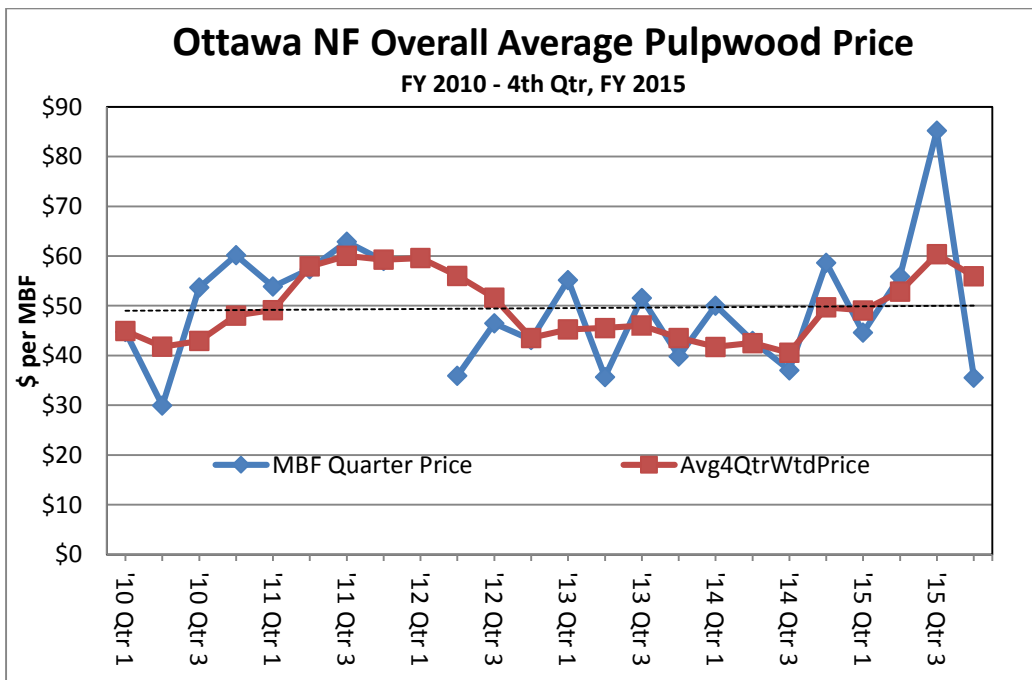
Total sawtimber sale volume jumped to a six-year record of almost 7.3mmbf in the 4<sup>th</sup> quarter from 3.8mmbf in the 3<sup>rd</sup> quarter. The previous high of almost 5mmbf was reached in the 2<sup>nd</sup> quarter. The sale volume for all of FY 2015 wound up being more than twice the volume of any of the previous six years. Sawtimber sale volume has been increasing overall during the past five years, with sale volumes from quarter to quarter somewhat erratic. Volume is expected to drop sharply during the current (1<sup>st</sup>) quarter of FY 2016; 1<sup>st</sup> quarter sale volume is often the lowest quarterly volume.



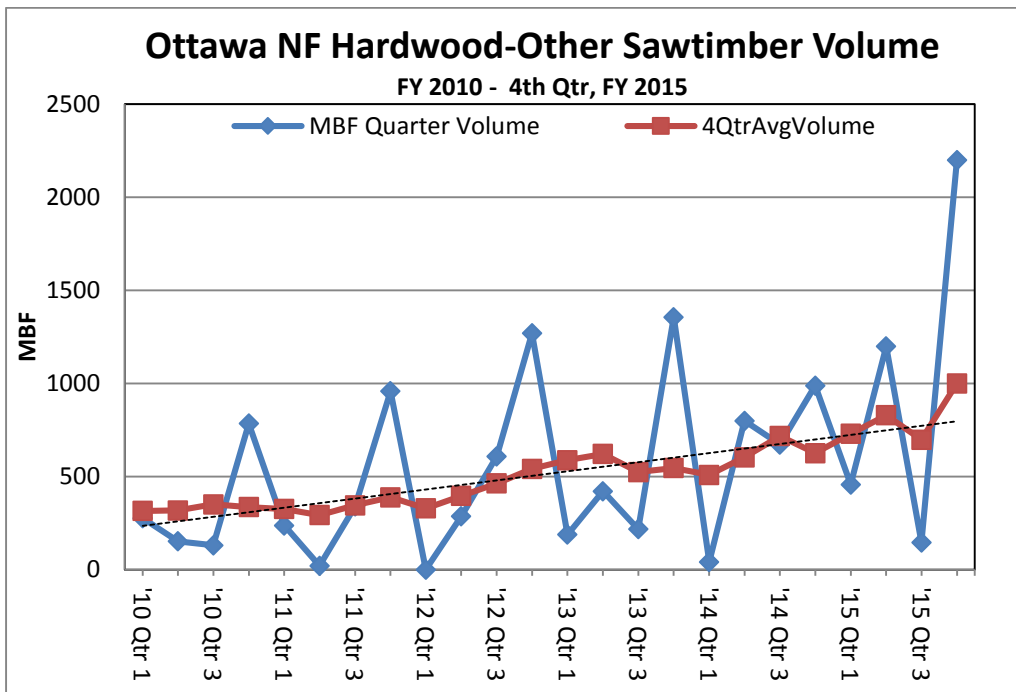
The 4<sup>th</sup> quarter overall average sawtimber price rebounded, from \$232 to \$330 per mbf. It peaked at \$507 per mbf in the 3<sup>rd</sup> quarter of FY 2014. There is an increasing five-year price trend. Average prices are impacted by the mix of sold species and products. The Ottawa sawtimber price trend is greatly influenced by sugar maple volumes and prices.



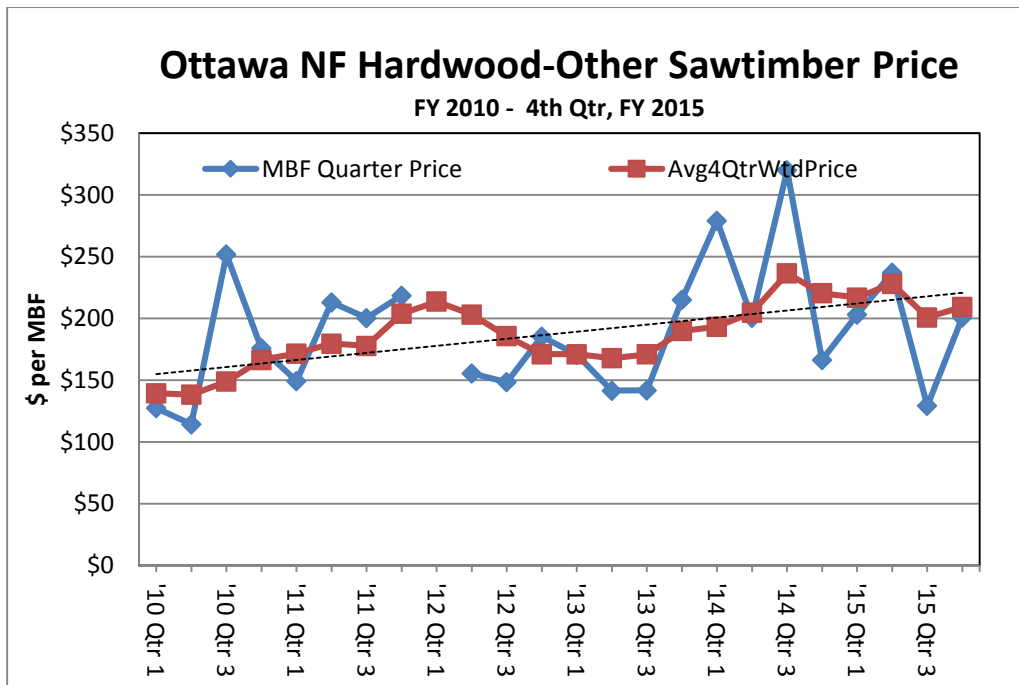
The 4<sup>th</sup> quarter total pulpwood sale volume increased slightly from 9.6 to 10.4mmbf. It had been seesawing back and forth between 10mmbf and 23mmbf for several quarters. The record high level for the past six years was over 30mmbf reached in the 4<sup>th</sup> quarter of FY 2013. Overall, there has been an increasing sale volume trend during the past six years. As with sawtimber volumes, pulpwood volumes have been consistently highest in the 4<sup>th</sup> quarter after which they often fall sharply. FY 2015 is an exception to this pattern with the 4<sup>th</sup> quarter only being slightly higher than the 1<sup>st</sup> and 3<sup>rd</sup> quarters and well below the 2<sup>nd</sup> quarter. It is expected that the sale volume pattern will also be broken during the current (1<sup>st</sup>) quarter and not see a sharp fall in the sale volume.



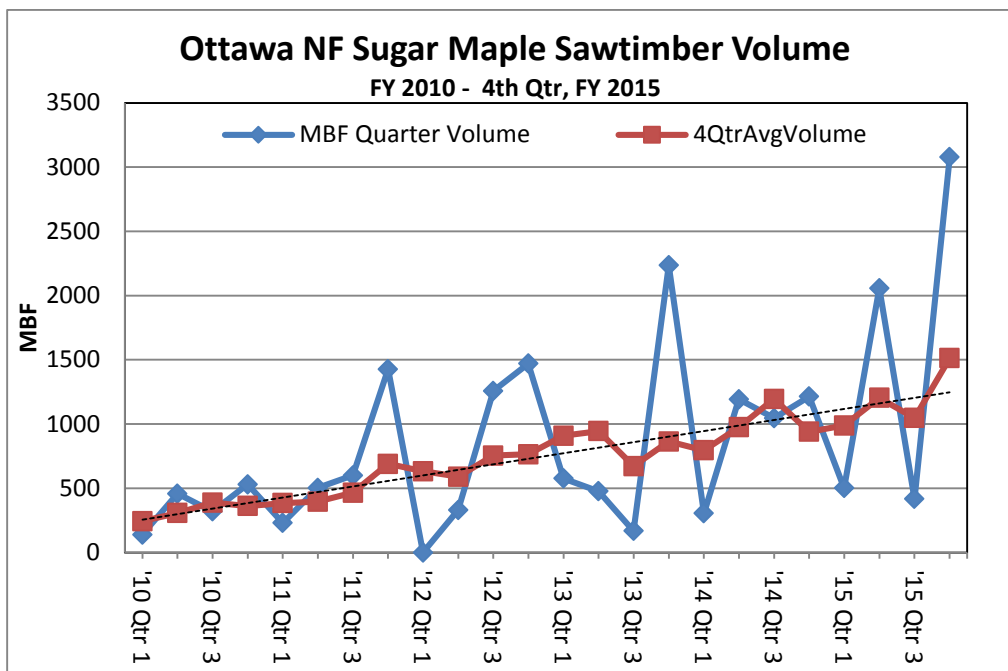
The 3<sup>rd</sup> quarter overall average pulpwood price shot up to a record \$85.22 per mbf level, but it fell back sharply to \$35.56 per mbf in the 4<sup>th</sup> quarter. This price is well below the average mbf price of the past six years. Prices had been bouncing back and forth mostly in a \$35 to \$55 range for three years before the past two quarters. The increase in the 3<sup>rd</sup> quarter price reversed what had been a slightly declining price trend over the past five years.



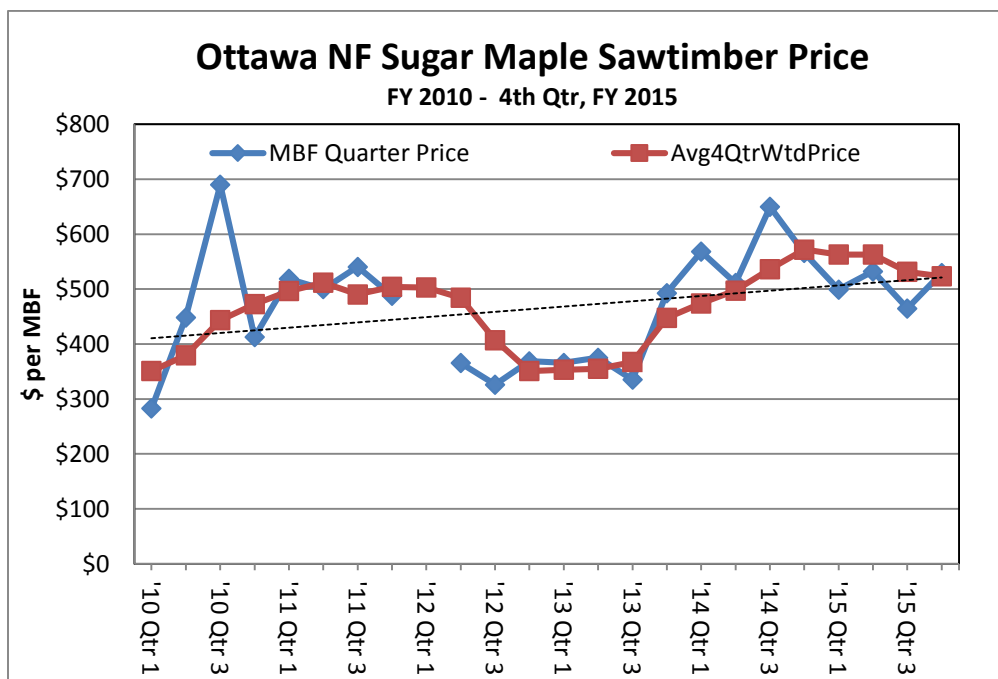
*It was expected that the 4<sup>th</sup> quarter sale volume would rebound from the sharp drop it took in the 3<sup>rd</sup> quarter, but not as much as it did. The 4<sup>th</sup> quarter sale volume hit a six-year record level of 2.2mmbf after being at only 146mbf in the 3<sup>rd</sup> quarter. The sale volume trend has been sharply increasing over the past six years, but sales are somewhat erratic. There has been a fairly consistent seasonal pattern with distinctive, higher-volume peaks in the 4<sup>th</sup> quarter (July-Sep.) of each year and lower volumes otherwise; the sale volume level in the 4<sup>th</sup> quarter of FY 2014 was an exception to this pattern, but the 4<sup>th</sup> quarter of FY 2015 more than made up for it. It is expected that the current (1<sup>st</sup>) quarter volume will drop off significantly, to at least below 1mmbf and possibly even below the .5mmbf level.*



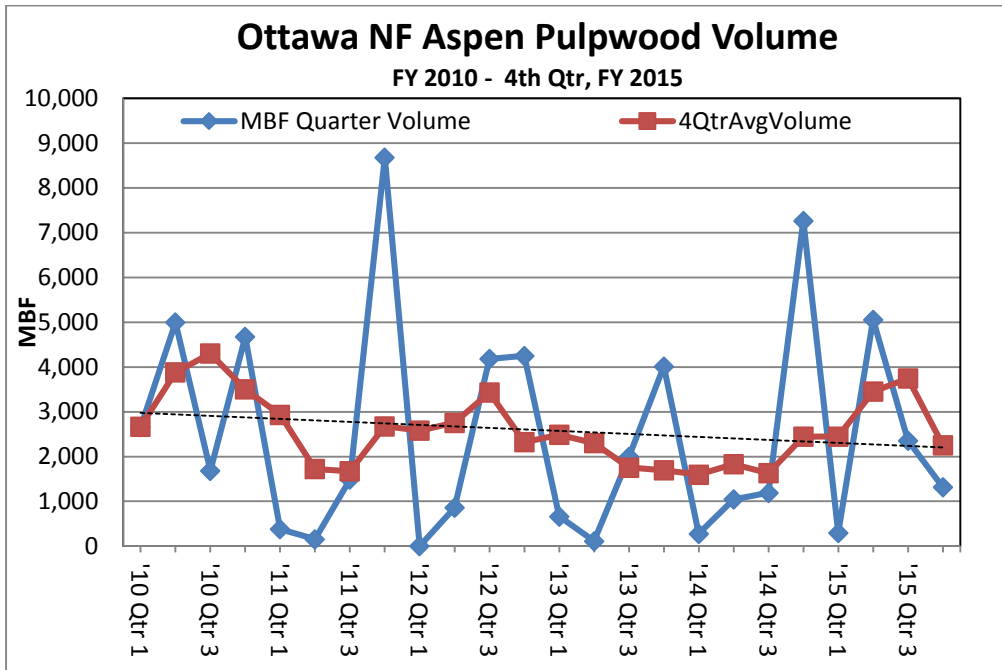
*Hardwood-other sawtimber prices rose back to \$201 per mbf, close to their average for the past six years. They had been at \$129 per mbf in the previous quarter, their lowest level since FY 2010. They were at a record high of almost \$320 mbf in the 3<sup>rd</sup> quarter of FY 2014 before dropping sharply to \$166 in the 4<sup>th</sup> quarter. Overall, there is an increasing price trend line for the past six years.*



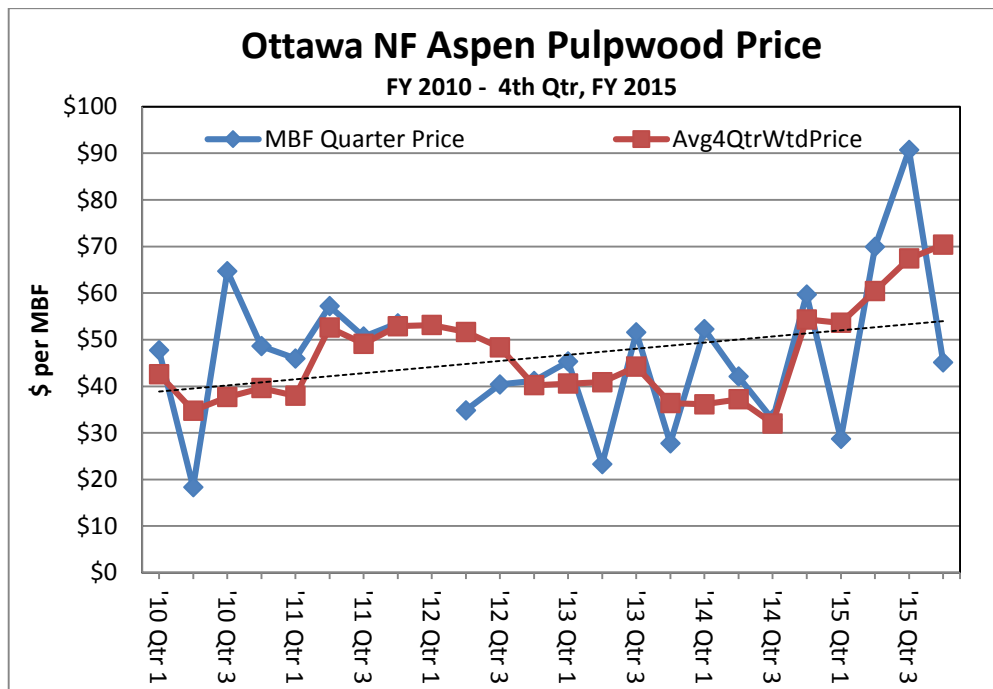
*It was predicted that the 4<sup>th</sup> quarter sale volume would bounce back from the low 3<sup>rd</sup> quarter sale volume and it did, more than what was expected. Like the “hardwood other” sawtimber volume in the 4<sup>th</sup> quarter, sugar maple sawtimber sale volumes hit a six-year record of 3.1mmbf. The previous record was under 2.3mmbf, reached in the 4<sup>th</sup> quarter of FY 2013. As with most Ottawa timber products, it is not unusual for the 1<sup>st</sup> quarter to have the lowest sale volume and the 4<sup>th</sup> quarter to have the highest volume. There is a sharply increasing sales volume trend for the past six years. Next (1<sup>st</sup>) quarter’s sale volumes are expected to fall almost as sharply as they rose in the 4<sup>th</sup> quarter.*



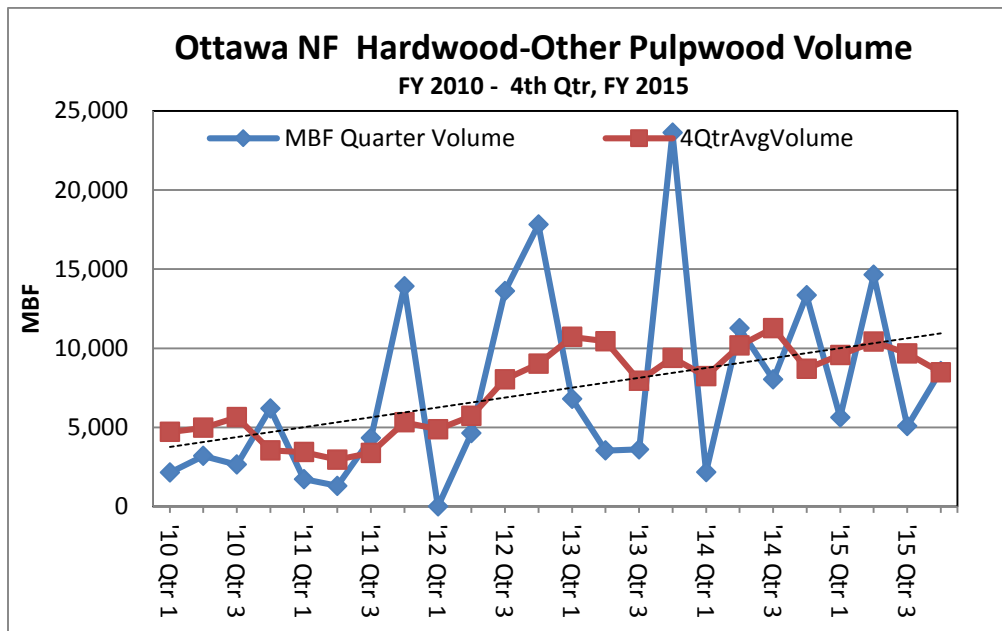
*Sugar maple sawtimber prices rose from \$465 per mbf in the 3<sup>rd</sup> quarter to \$529 in the 4<sup>th</sup> quarter. They had peaked at \$650 per mbf in the 3<sup>rd</sup> quarter of FY 2014. Prices had been quite stable and averaged \$355 per mbf for six quarters between the 2<sup>nd</sup> quarter of FY 2012 and the 3<sup>rd</sup> quarter of FY 2013. Then they jumped up and for the past nine quarters they have fluctuated in a range between \$465 and \$650 per mbf. There is an increasing price trend over the past six years despite the highest price for the five-year period coming in the 3<sup>rd</sup> quarter of FY 2010.*



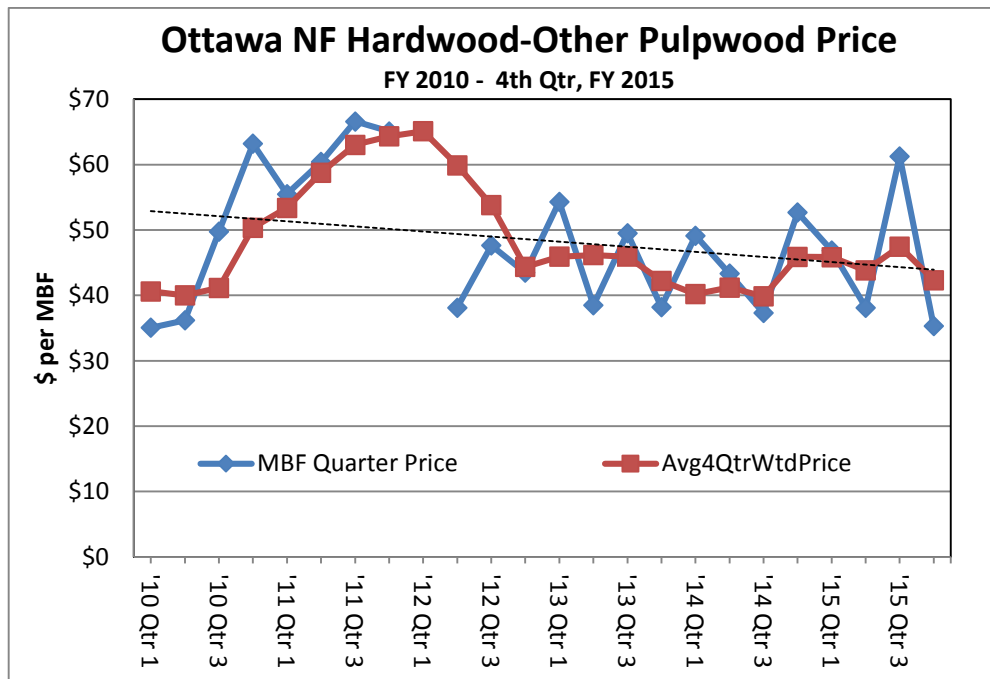
Aspen pulpwood sale volume dropped further in the 4<sup>th</sup> quarter, from 2.3mmbf to about 1.3mmbf. This was in contrast to the expectation that the volume would rebound as the 4<sup>th</sup> quarter often has the highest quarterly sale volumes. It reached 5.1mmbf in the 2<sup>nd</sup> quarter after being at .3mmbf in the 1<sup>st</sup> quarter. The previous (4<sup>th</sup> quarter, FY 2014) sale volume was almost 7.3mmbf. Sale volume has been quite erratic from quarter to quarter over the past four years with sale volumes at the extremes (under 1,000 mbf or over 4,000 mbf) more frequent than sales in the middle range. There is a downward sale volume trend. There are several years where the 1<sup>st</sup> and 2<sup>nd</sup> quarters have back-to-back low sale volumes, so it would not be surprising if next (1<sup>st</sup> quarter, FY 2016) quarter's sale volume remained low or declined further.



The 4<sup>th</sup> quarter aspen pulpwood price fell to \$45 per mbf. This was half the record high \$91 per mbf 3<sup>rd</sup> quarter price which had risen following a very sharp rise from \$29 per mbf to \$70 per mbf in the 2<sup>nd</sup> quarter. Before then, there had been a seesaw pattern of price swings from quarter to quarter for two and a half years. With erratic sale volumes and including many quarters with low or no volume, the overall price trend for the five-year period has been moderately increasing.



Hardwood-Other pulpwood sale volume increased to 8.6mmbf, up from 5.1mmbf in the 3<sup>rd</sup> quarter. It was expected to rebound closer to 10mmbf, based upon past quarterly trends and the overall trend. It was 14.6mmbf in the 2<sup>nd</sup> quarter of FY 2015. Sale volume hit a record high 23.6mmbf in the 4<sup>th</sup> quarter of FY 2013. Sale volume swings have moderated over the past two years. However, the decline in the 3<sup>rd</sup> quarter volume was steeper than expected, given the recent moderation in sale changes quarter-to-quarter. Volumes have trended upward and have more than doubled in the past five years. If the six-year pattern holds, the coming 1<sup>st</sup> quarter volume will be off a bit from the 4<sup>th</sup> quarter.

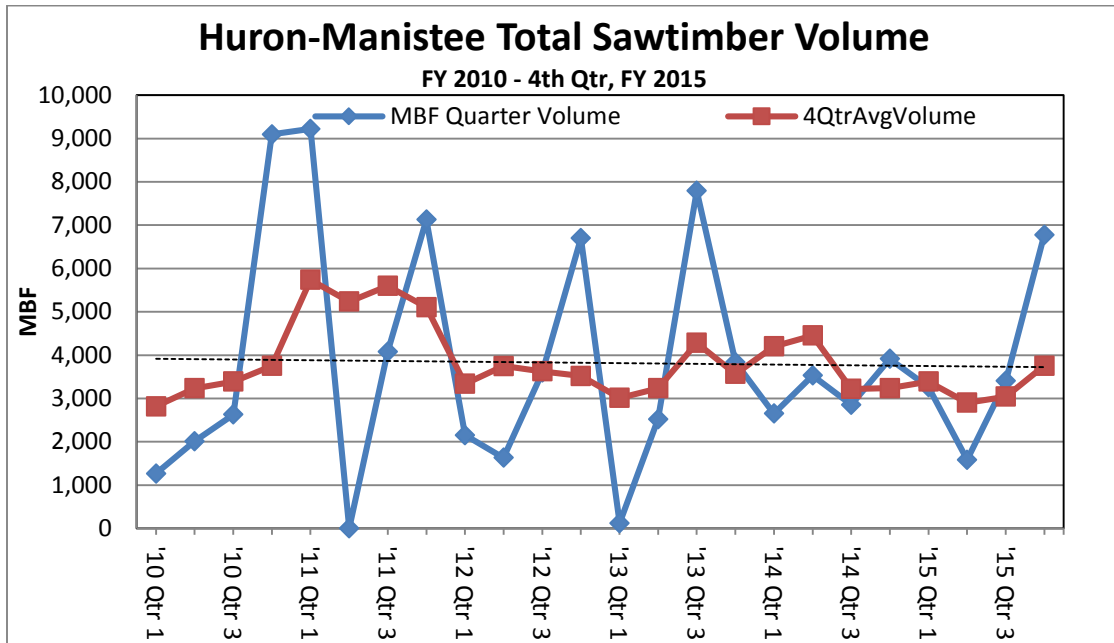


The 4<sup>th</sup> quarter hardwood-other pulpwood price fell sharply to \$35 per mbf after rising sharply in the 3<sup>rd</sup> quarter to over \$61 per mbf. These two most recent quarterly prices are outside of the fairly narrow \$38 to \$55 range the product had been selling for the last three years. Prices peaked in FY 2011 at over \$65 per mbf. The six-year price trend is slightly declining, particularly due to the higher prices in FY 2010 and FY 2011.

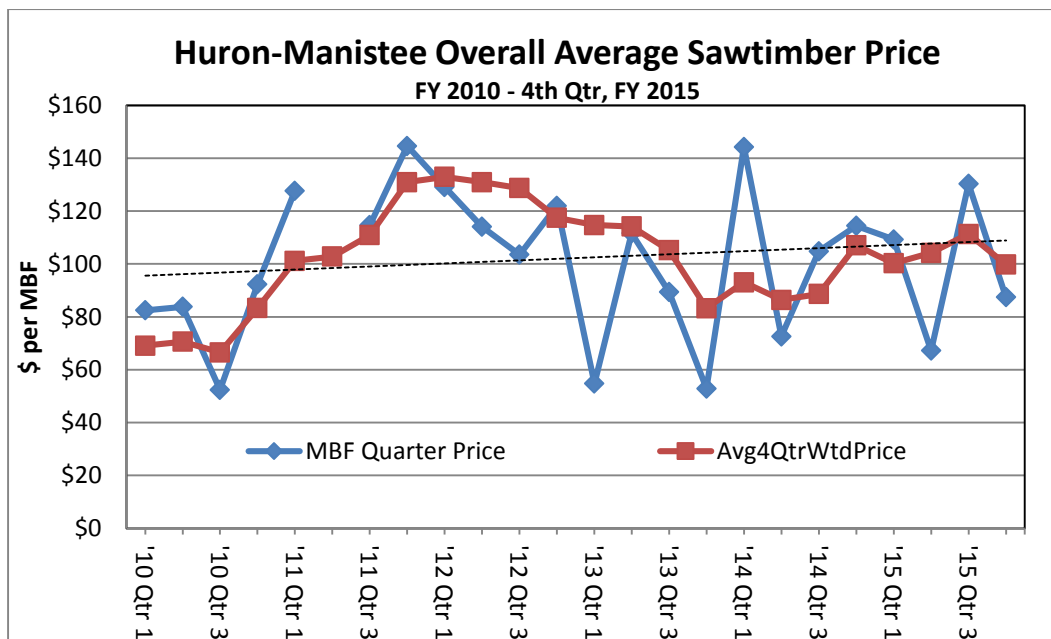


## Huron-Manistee National Forest Major Species Product Timber Sales, FY 2010 – 4<sup>th</sup> Qtr, 2015

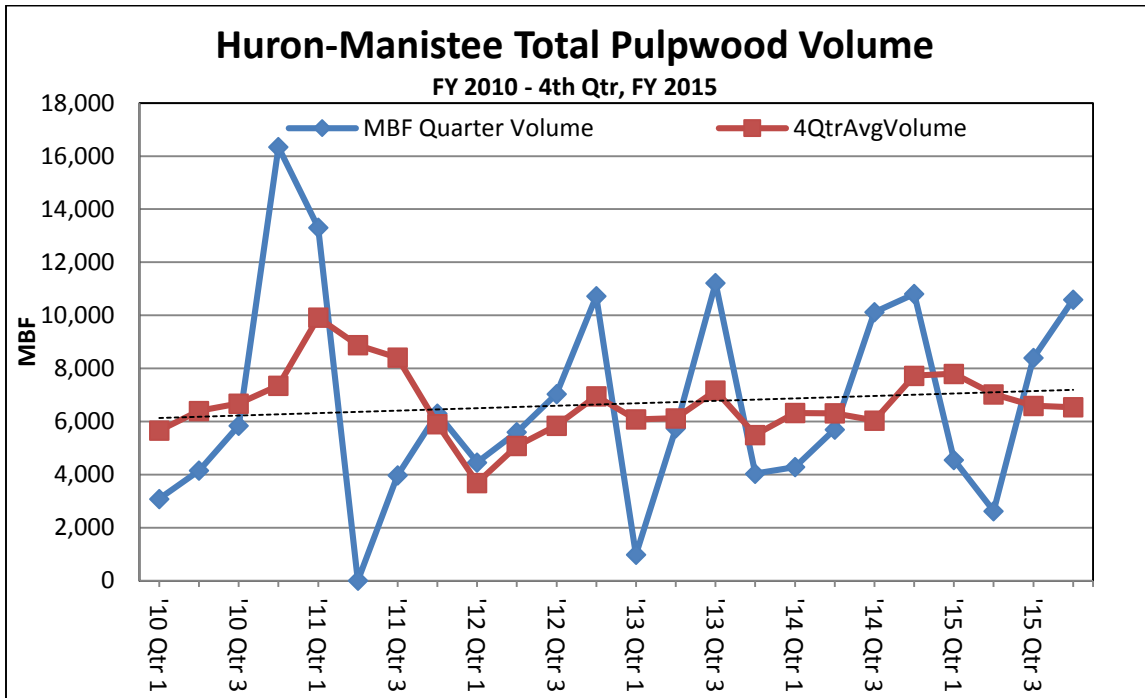
All graphs include a dotted trend line based upon the data set for the average of the last four quarters. Gaps in the blue quarter line indicate no sales in the quarter. The National Forests follow the federal fiscal year from October 1 through September 30. The most recent data included here is for the 4th quarter covering July through September, 2015. Only certain major categories of timber sales are shown; more information is available through the Region 9 pdf reports posted on the Forest Service website: <http://www.fs.fed.us/forestmanagement/products/sold-harvest/cut-sold.shtml>



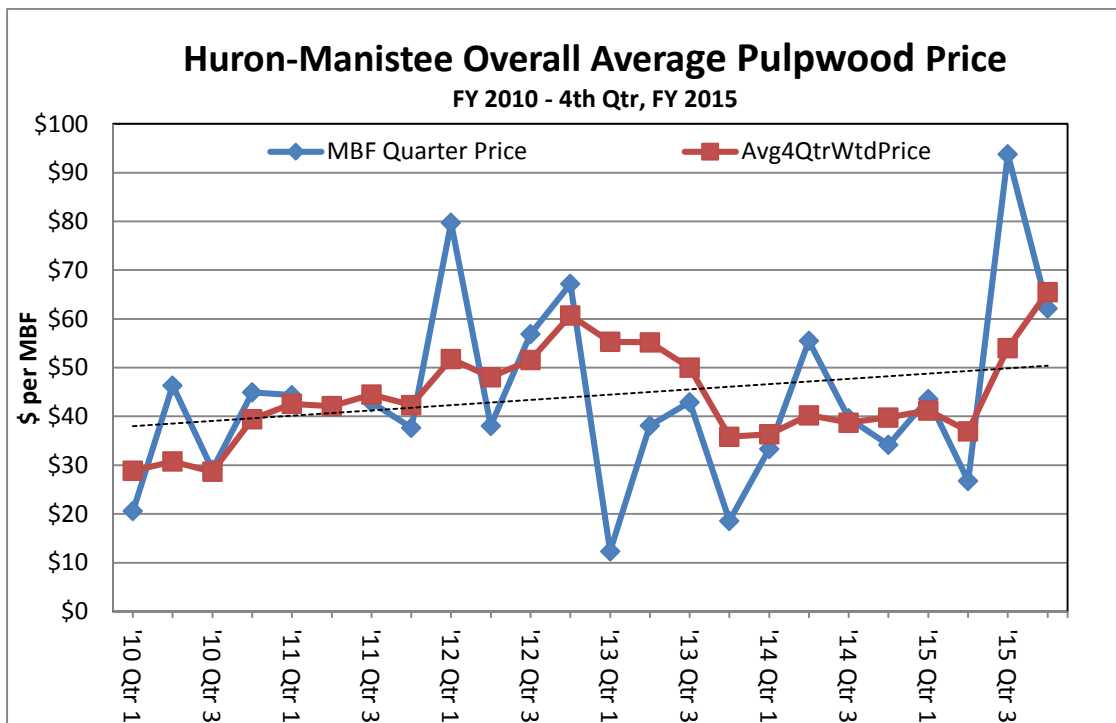
Following three below-average sale volume quarters, the Huron-Manistee (H-M) sawtimber sale volume rose from 3.4mmbf in the 3<sup>rd</sup> quarter to almost 6.8mmbf in the 4<sup>th</sup> quarter. H-M sawtimber sale volume tends to peak in the fourth quarter. Sale volume had been quite erratic from the end of FY 2010 through the end of FY 2013, but it had become more stable quarter-to-quarter for most of FY 2014 and FY 2015. The current (1<sup>st</sup>) quarter is likely to see a fairly sharp sale volume decline from the most recent 4<sup>th</sup> quarter high, towards 3mmbf.



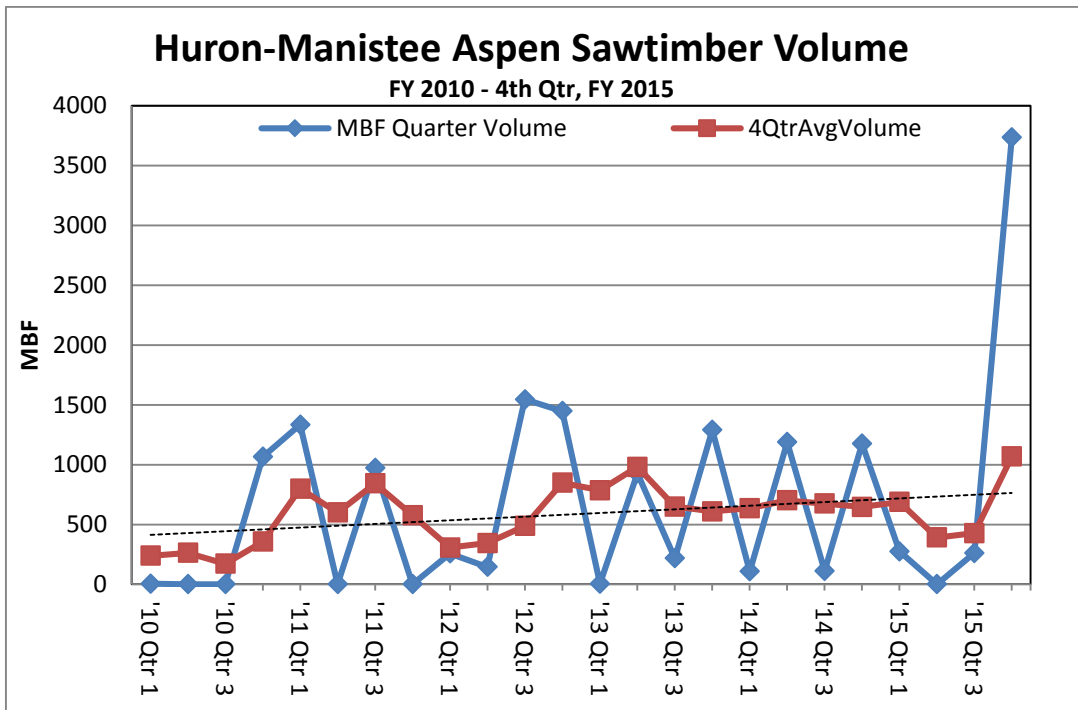
The overall average sawtimber price decreased sharply from \$130 to \$87 per mbf in the 4<sup>th</sup> quarter. Prices had been relatively steady for three quarters before dropping from over \$100 to \$67 per mbf in the 2<sup>nd</sup> quarter. Sawtimber prices are greatly influenced by the mix of species and quality of products put up for sale. Generally, red pine accounts for close to half of the H-M sawtimber sale volume and has the greatest influence on the overall average sawtimber price.



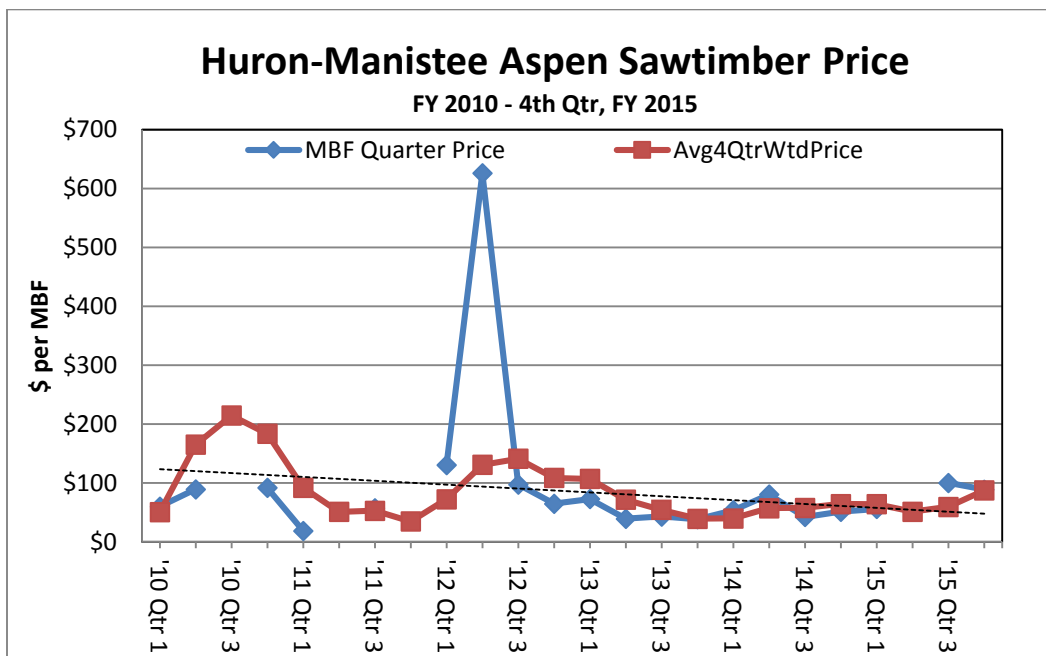
Total pulpwood volume increased sharply to 8.4mmbf in the 3<sup>rd</sup> quarter and rose further in the 4<sup>th</sup> quarter to 10.6mmbf. Pulpwood sales exceeded 16mmbf in the 4<sup>th</sup> quarter of FY 2010 followed by 13.3mmbf in the next quarter; they have not reached such levels since then. However, the six-year sale volume trend is slightly increasing. It was expected that FY 2015 sale volume would increase in the 3<sup>rd</sup> quarter based upon two back-to-back quarters of below average sales in the 1<sup>st</sup> and 2<sup>nd</sup> quarters, but it was uncertain what the sale volume would be in the 4<sup>th</sup> quarter. Now with two back-to-back sale volume increases, it is expected that next (1<sup>st</sup> quarter, FY 2016) quarter's sale volume is likely to sharply drop.



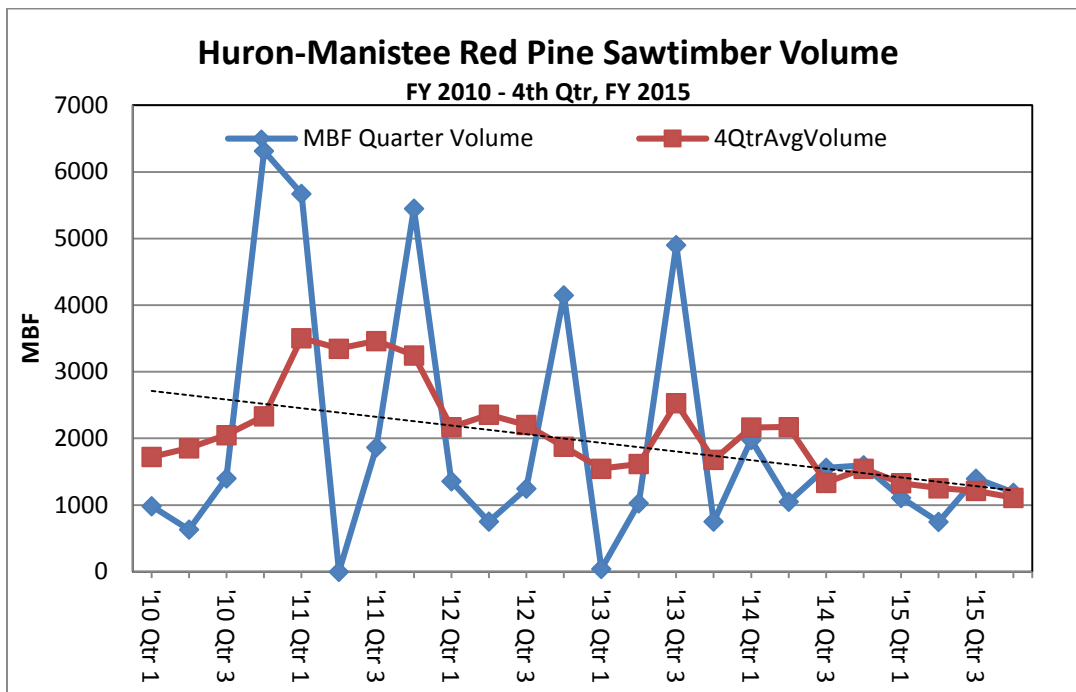
The 4<sup>th</sup> quarter overall average pulpwood price dropped back to \$62.16. The reported 3<sup>rd</sup> quarter overall average pulpwood price shot up to its highest level ever, but largely as a result of skewed bids on one large oak sale. The average oak pulpwood price for the 1<sup>st</sup> and 2<sup>nd</sup> quarter of FY 2015 was \$4.05 per mbf. The reported cumulative average price when the 3<sup>rd</sup> quarter was added in rose to \$284.90! The average pulpwood price would have risen due to red pine increases (see below) even without the oak prices, but the reported 3<sup>rd</sup> quarter prices are unreliable.



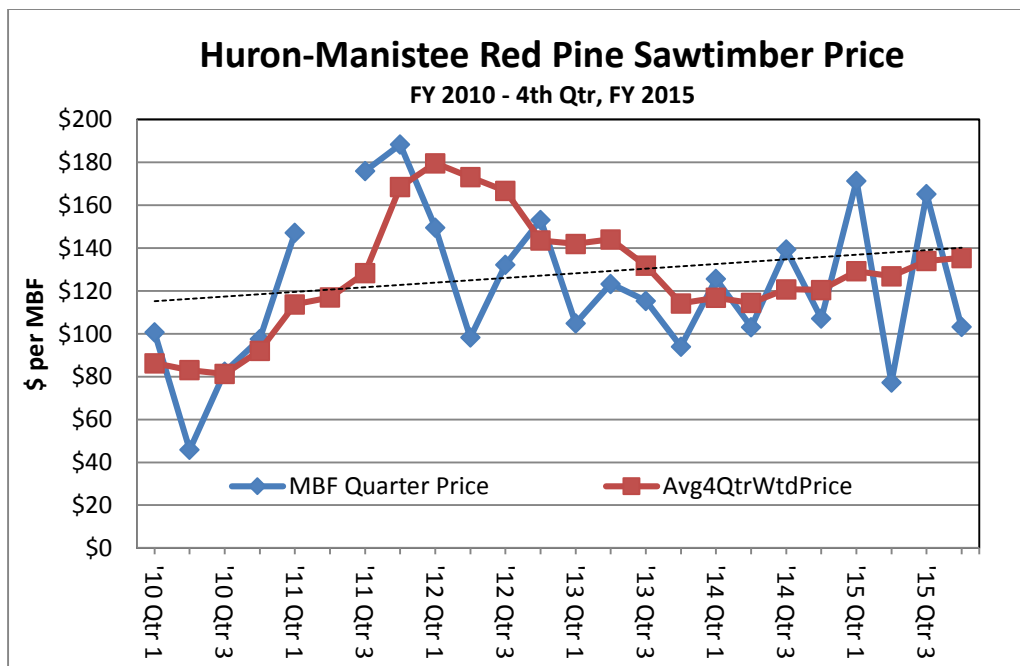
Following three quarters of below average sales, the H-M 4<sup>th</sup> quarter aspen sawtimber sale volume was at a record 3.74mmbf, more than twice the level of the next highest quarter's sales. As the above graph indicates, volume for this product has often seesawed from quarter to quarter and the average quarterly volume is in the neighborhood of 500mbf. There is an increasing sale trend over the past six years, greatly reinforced by the most recent (4<sup>th</sup> quarter) sales volume.



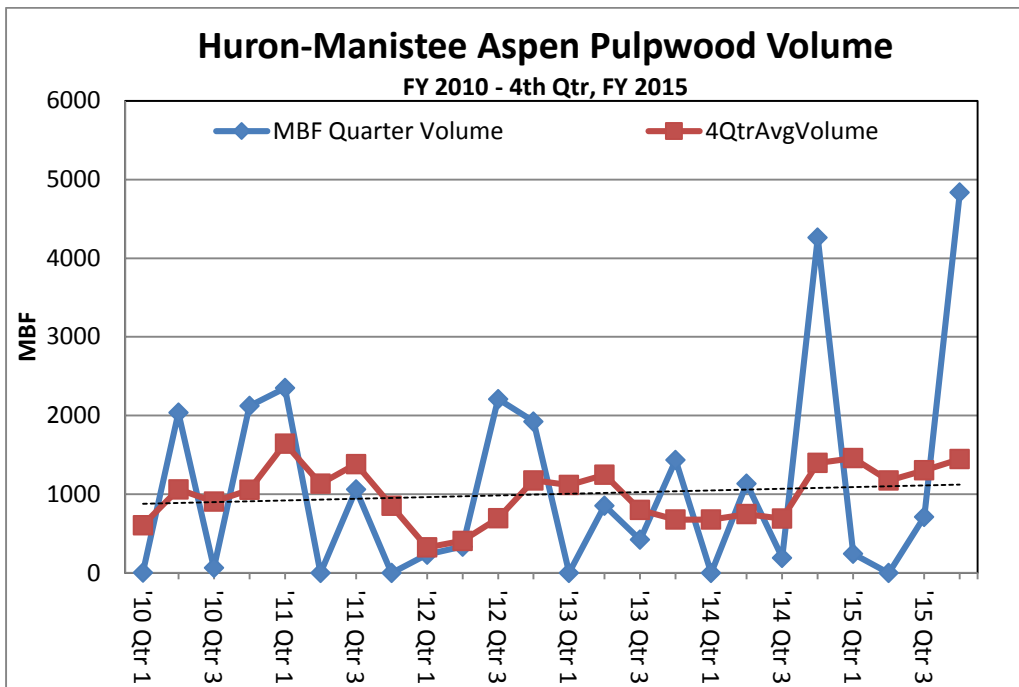
Aspen sawtimber prices dropped from \$100 per mbf (on modest sale volume) in the 3<sup>rd</sup> quarter to \$89 per mbf in the 4<sup>th</sup> quarter. Relative to other types of sawtimber prices and H-M aspen sale volumes, aspen sawtimber prices had been quite steady for over three years in a \$38 to \$100 range.



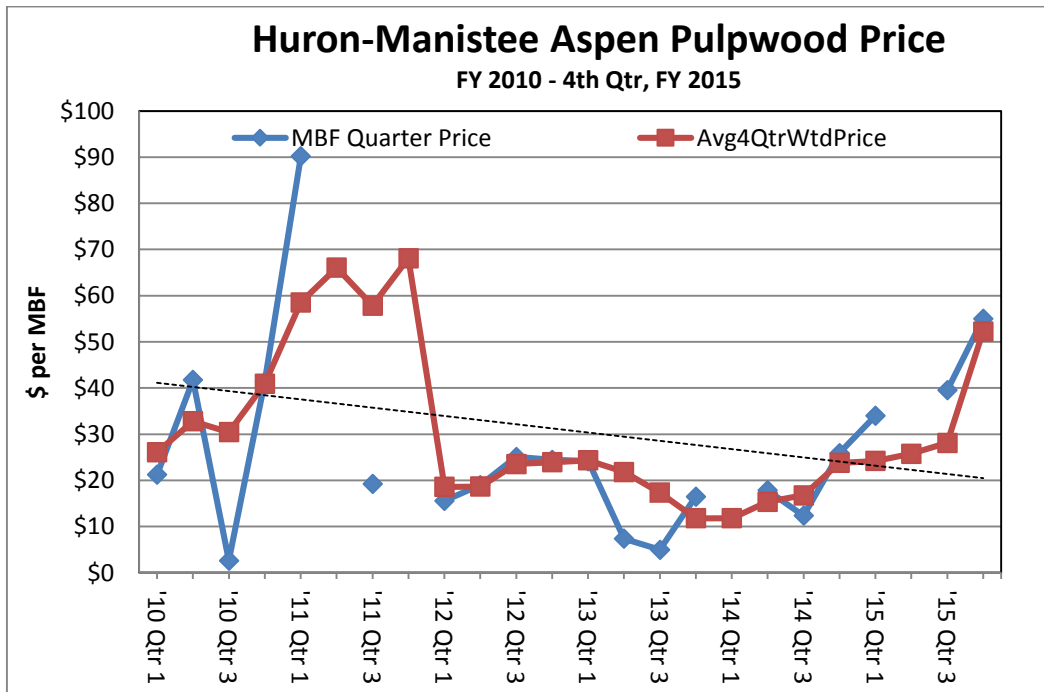
Red pine often accounts for the majority of the sawtimber volume sold on the Huron-Manistee. Red pine sawtimber volume dropped from 1.4mmbf to 1.2mmbf in the 4<sup>th</sup> quarter after having dropped somewhat from 1.1mmbf in the 1<sup>st</sup> quarter down to .75mmbf in the 2<sup>nd</sup> quarter. Volume was close to 1.6mmbf in the 3<sup>rd</sup> and 4<sup>th</sup> quarters of FY 2014. The most recent 9 quarters have much lower, but more stable volume than in previous quarters when sales would exceed 4mmbf in one quarter and then drop back to below 1mmbf or be nonexistent in the next quarter. There is a declining sale trend. Although there likely will be future quarters without sales or very low sales, a rebound in sales is also likely to occur in a coming quarter.



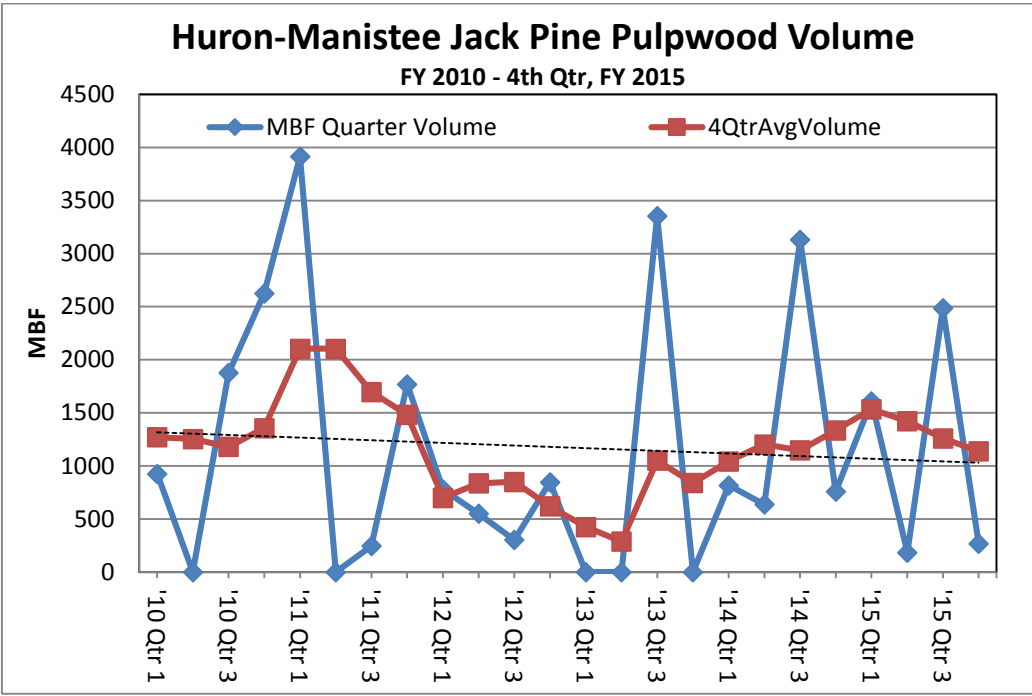
Red pine prices dropped back to \$103 per mbf from \$165 per mbf in the 3<sup>rd</sup> quarter. They had dropped from \$171 in the 1<sup>st</sup> quarter to \$77 in the 2<sup>nd</sup> quarter. Prices had been relatively stable between \$95 and \$125 in FY 2013 and FY 2014. There is a slight increasing price trend over the past six years, but it has been flat for the past five years.



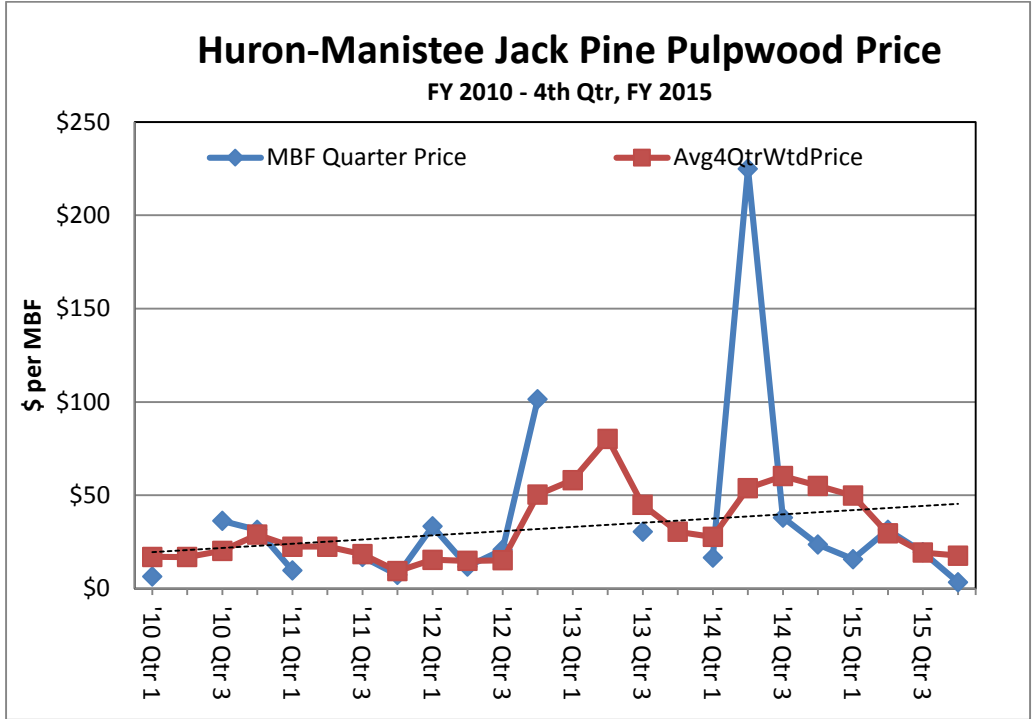
Matching the aspen sawtimber sale volume, aspen pulpwood sale volume rose steeply from 713mbf in the 3<sup>rd</sup> quarter to a record level over 4.8mmbf in the 4<sup>th</sup> quarter. There was no aspen pulpwood volume sold in the 2<sup>nd</sup> quarter of FY 2015 and only 244mbf sold in the 1<sup>st</sup> quarter. Sale volume hit a record 4.26mmbf in the 4<sup>th</sup> quarter of FY 2014—double the level of any other quarter in the past five years – but this volume was eclipsed by the most recent 4<sup>th</sup> quarter. There are many quarters without sale volumes but other quarters with sale volumes close to or in excess of 2mmbf. There does not appear to be a well-established quarterly pattern to the data and the most recent two sets of 4<sup>th</sup> quarter sales add greater uncertainty to quarterly projections. (It is a virtual certainty that next quarter’s sales will sharply fall from the most recent 4<sup>th</sup> quarter level, but very uncertain what volumes subsequent quarters will have.) The sale trend is slightly increasing.



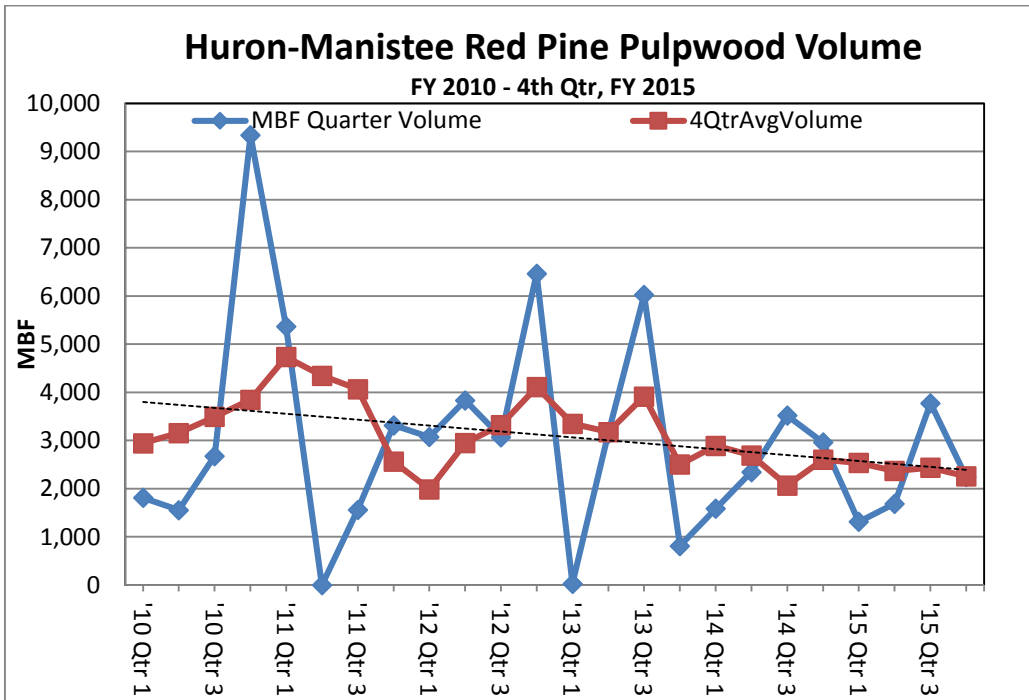
Aspen pulpwood prices rose to \$55 in the 4<sup>th</sup> quarter, up from \$39.52 per mbf in the 3<sup>rd</sup> quarter. They have been increasing since the 3<sup>rd</sup> quarter of FY 2014 when they were only \$12 per mbf. Despite the recent price increases, there has been a decreasing six-year price trend, but prices for many quarters are based on low or no sale volumes.



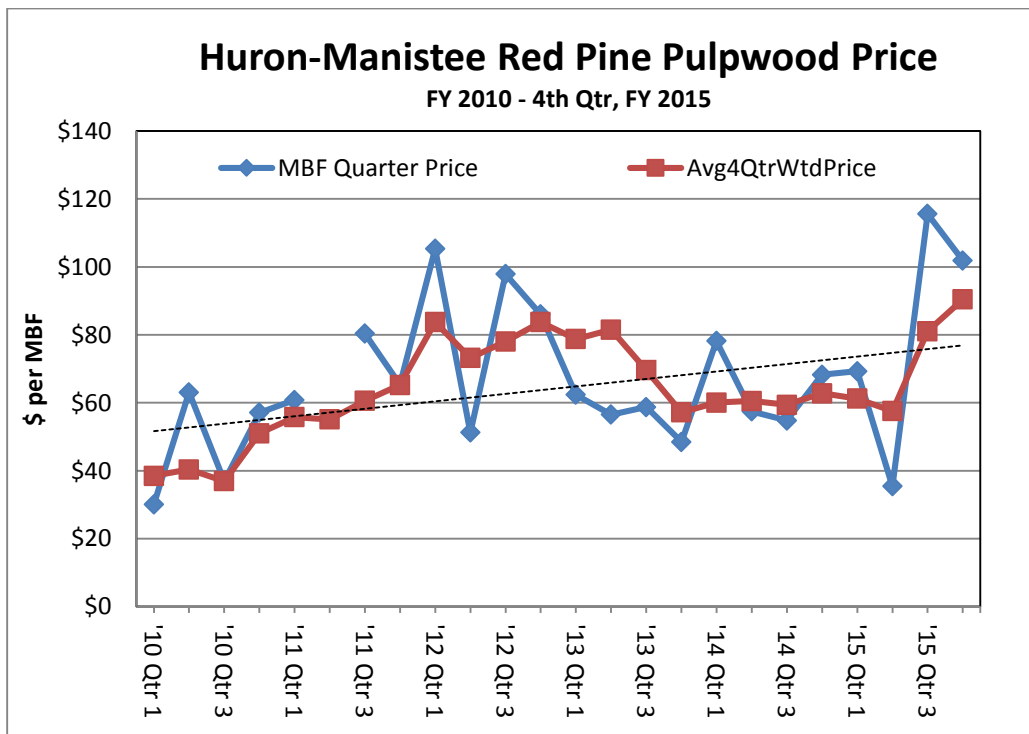
Jack pine pulpwood sale volume dropped back to 268mbf in the 4<sup>th</sup> quarter from 2.5mmbf in the 3<sup>rd</sup> quarter. Overall, jack pine pulpwood sale volume has been on a downward trend over the past six years and many quarters there are no sales or the sale volume is well below 1mmbf. There have been a few distinct exceptions like the most recent quarter when volume shoots up to 2.5mmbf, but even these infrequent peaks have less volume associated with them (see above graph). Part of the jack pine sale volume decline in recent years may be due to more jack pine being included in a combined sale category with red and white pine. There is no seasonal or quarterly pattern.



The reported 4<sup>th</sup> quarter jack pine pulpwood price fell further from \$19.47 per mbf to \$3.50 per mbf (on low volume). The price was \$15.80 in the 1<sup>st</sup> quarter and \$31.50 in the 2<sup>nd</sup> quarter (on low volume). The price for the FY 2014 2<sup>nd</sup> quarter is a mistake or an anomaly and should not be considered a reliable price for the product. There are too many quarters without sales and a few quarters with price anomalies which inhibit establishing a credible price trend line.



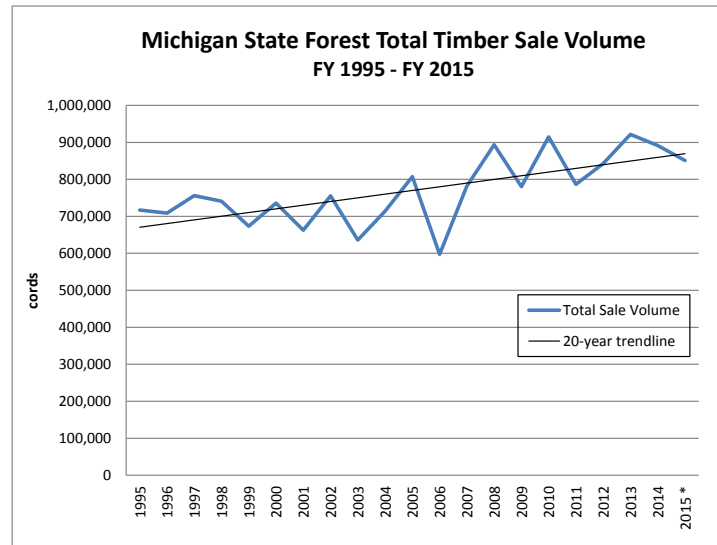
Red pine pulpwood sale volume dropped from 3.78mmbf in the 3<sup>rd</sup> quarter to 2.25mmbf in the 4<sup>th</sup> quarter. It averaged 1.5mmbf in the first two quarters of FY 2015. The six-year sale volume pattern has large swings in volumes, from quarters with over 6mmbf to subsequent quarters with no or negligible sale volume. However, these swings have moderated in the past two years with lower highs and higher lows. Overall, there has been a declining volume trend over the past six years.



The 4<sup>th</sup> quarter price dipped to \$101.88 per mbf from the record 3<sup>rd</sup> quarter price of \$115.56 per mbf. The 2<sup>nd</sup> quarter price had declined sharply, from \$69.28 per mbf to \$35.40, the lowest price since FY 2010. There had been fairly stable prices in the \$50 to \$70 per mbf range for three years up until the 2<sup>nd</sup> quarter of FY 2015. Overall, prices for the past six years have seen an increasing trend, helped along in particular by the most recent two quarters. It is expected that the next two quarters will have lower sale volumes than the past two quarters.

**State Forest Timber Sales \***  
 Fiscal Year (Oct.1-  
 Sep.30)      Total Sales, All  
                                  Volume (In cords)

1995	717,224
1996	708,530
1997	755,940
1998	740,855
1999	673,395
2000	735,637
2001	662,740
2002	755,635
2003	636,272
2004	713,730
2005	807,245
2006	597,359
2007	781,882
2008	893,726
2009	780,378
2010	915,035
2011	786,488
2012	842,874
2013	921,603
2014	891,488
2015 *	851,079



**Ten-Year Trend in State Forest Timber Volumes and Values Sold**  
 (volume in cords)

Fiscal Year	Volume Sold	Value Sold	Value/Vol. Sold
2006	597,263	\$29,467,234	\$49.34
2007	782,433	\$32,457,474	\$41.48
2008	893,002	\$32,660,056	\$36.57
2009	780,490	\$30,000,238	\$38.44
2010	915,035	\$38,481,320	\$42.05
2011	786,464	\$37,159,439	\$47.25
2012	843,685	\$39,807,703	\$47.18
2013	921,603	\$42,414,411	\$46.02
2014	891,488	\$46,572,406	\$52.24
2015 *	851,079	\$51,553,894	\$60.57

\* FY 2015 sales estimate is preliminary as of 10/21/15; final number may change slightly