

## Michigan Public Timber Markets, 4th Quarter (July – September), FY 2017

**State Forest data** – Sale volume rose again in the 4th quarter of FY 2017. Bid-species-only volume from 295,000 to 319,000 cords, while total sale (bid & non-bid species) volume also increased from 333,000 to 371,000 cords. Offered sales dipped from 390,000 to 380,000 cords. The sum of all four FY 2017 quarters resulted in record level annual amounts for bid-species volume (1.07 million cords), total sales (1.26 million cords), and offered sales (1.45 million cords). NLP bid species 1<sup>st</sup> quarter sale volume increased to a record 182,000 cords. UP bid species sale volume also increased, from 103,000 to 113,000 cords. The overall State Forest average timber price reached a record \$69.99 per cord in the 3<sup>rd</sup> quarter of FY 2015, but then bounced between \$50 and \$62 since then until the most recent (4<sup>th</sup>) quarter when it fell to \$47.53 per cord.

NLP aspen pulpwood bid species sale volumes shot up from 22,460 cords in the 1<sup>st</sup> quarter to 40,356 cords in the 2<sup>nd</sup> quarter, then fell back to 31,272 cords in the 3<sup>rd</sup> quarter and dipped again to 28,126 cords in the 4<sup>th</sup> quarter. The 4<sup>th</sup> quarter NLP aspen pulpwood price rose from \$22.80 to \$26.46 per cord. UP aspen pulpwood sale volume hit a UP record 30,583 cords in the 4<sup>th</sup> quarter while its price increased from \$38.08 to \$42.06 per cord. UP red pine pulpwood bid species sale volumes dropped from 18,473 to 10,008 cords while the NLP volume also fell from 22,082 to 19,662 cords. The NLP red pine pulpwood price fell further, from \$62.15 down to \$53.50 per cord while the UP price fell from \$91.71 to \$77.59 per cord. NLP jack pine pulpwood bid species volume plummeted back down from 22,702 to 4,991 cords; at the same time UP jack pine pulpwood sale volume dropped back from 8,603 to 5,833 cords. Jack pine pulpwood cord prices changed little as prices in the UP went from \$56.46 to \$54.98 per cord and from \$23.00 to \$23.41 per cord in the NLP. UP softwood pulpwood sale volume jumped from 14,506 to 22,921 cords while its price dropped from \$37.52 to \$28.53 per cord. NLP Oak pulpwood sale volume declined further, from 13,700 to 12,212 cords while its average price rose slightly from \$29.98 to \$30.62 per cord. Other hardwood pulpwood volume leaped from 28,537 to 61,933 cords in the 2<sup>nd</sup> quarter, rose to a record 69,233-cord level in the 3<sup>rd</sup> quarter, and then smashed that record with a reported 94,332 cords in the 4<sup>th</sup> quarter. Meanwhile its price declined for five quarters in a row, hitting \$25.37 per cord in the 4<sup>th</sup> quarter. Statewide red pine sawtimber prices dipped slightly to \$163.25 per mbf while volumes rose from 9.4 to 11.6mmbf. UP sugar maple sawtimber prices dropped further, from \$561.41 down to just under \$500 per mbf as sale volume remained close to 2mmbf. The NLP sugar maple sawtimber price also continued to drop, from almost \$394 to \$356 per mbf as volume plummeted from 4 down to under 2mmbf. At the same time, NLP oak sawtimber volume jumped again from 4.4 to 6.1mmbf while its price decreased from \$232 to \$207 per mbf.

**National Forest data** – Ottawa sawtimber sale volumes dropped further, from 5.6 to 3.95mmbf while its pulpwood volume rose sharply from 12.3 to 21.4mmbf. Hiawatha sawtimber sale volume rebounded from 1.44 to 4.84mmbf while its pulpwood volume shot up from 2.3 to 11.7mmbf. Huron-Manistee (H-M) sawtimber volume went up sharply from 5.1 to a record 12.64mmbf while its pulpwood volume dropped back from 15.3 to 10.8mmbf.

The Ottawa's overall average sawtimber mbf price rose again, from \$169 to \$192 per mbf while its overall pulpwood mbf price also increased from \$51.88 up to \$64.15 per mbf. Ottawa sugar maple sawtimber sale volume dropped back from 466 to 332 mbf as its price leaped up from \$357 to \$652 per mbf. Its aspen pulpwood sale volume hit a record 12mmbf while its price increased from \$52 to \$74 per mbf. The "hardwood-other" pulpwood volume declined from 8 to 6mmbf as its price increased moderately again, from \$44.42 to \$46.64 per mbf.

The Hiawatha's overall average sawtimber price rose back moderately from \$109 to \$139 per mbf in the 4<sup>th</sup> quarter. Its red pine sawtimber price increased from \$152 to \$160 per mbf as its volume went from .135 to 3.4mmbf. Jack pine sawtimber sales jumped to 400mbf, reversing over a dozen quarters of low and declining sales. "Hardwood-other" sawtimber sale volume dipped further, from 236 to 207mbf as its price also dipped from \$117 to \$113 per mbf. "Hardwood-other" pulpwood volume dropped further, from 1.88 to 1.4mmbf while the average price went from \$50.64 to \$33.64 per mbf. Aspen pulpwood sale volume hit a record, going from 790 to 3,970mbf as its price went from \$19 to over \$26 per mbf. 536mbf of jack pine pulpwood was sold at \$6 per mbf. Red pine pulpwood sale volume hit 1.3mmbf, selling at a seven-year low average of \$48 per mbf.

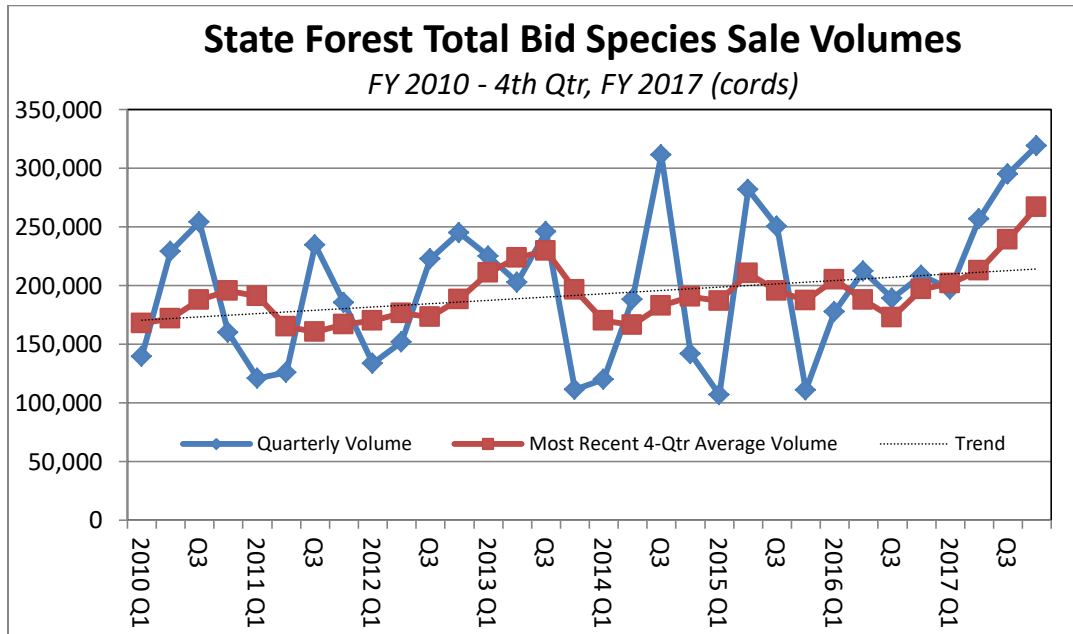
H-M average mbf sawtimber prices declined from \$109 to 80 per mbf while average pulpwood prices dropped from \$46.56 to \$33.39 per mbf. Sales of aspen sawtimber fell from 1.06 to .31mmbf in the 4<sup>th</sup> quarter while prices jumped from \$35.36 to \$86.92 per mbf. Red pine sawtimber sale volume hit a record high, increasing from 2.84 to 11.84mmbf as the price fell sharply, from \$157 down to \$80 per mbf. Jack pine pulpwood sale volume fell back from 1.4mmbf to .31mmbf as the price rose from \$31 to over \$57 per mbf. H-M red pine pulpwood sale volume had rebounded sharply from .7 to 7.2mmbf in the 3<sup>rd</sup> quarter and went up again in the 4<sup>th</sup> quarter to over 9mmbf. Its price dropped sharply in the 4<sup>th</sup> quarter, from \$53.21 to \$34.81 per mbf.

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

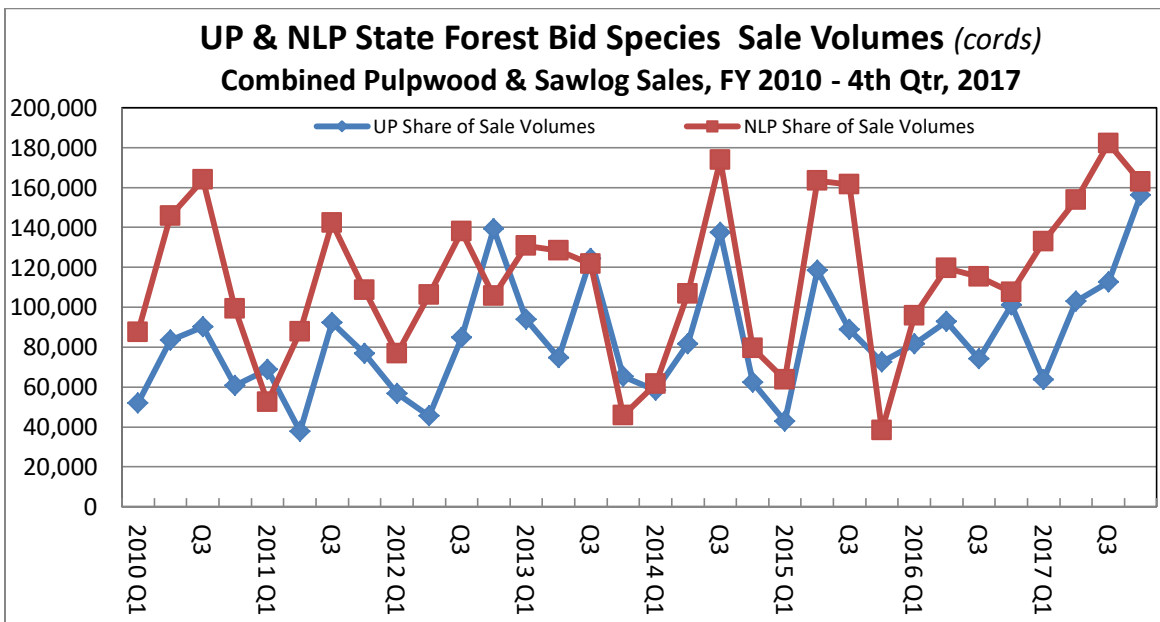
FY 2010 – 4<sup>th</sup> Quarter, FY 2017

Source: Michigan DNR, Forest Resources Division

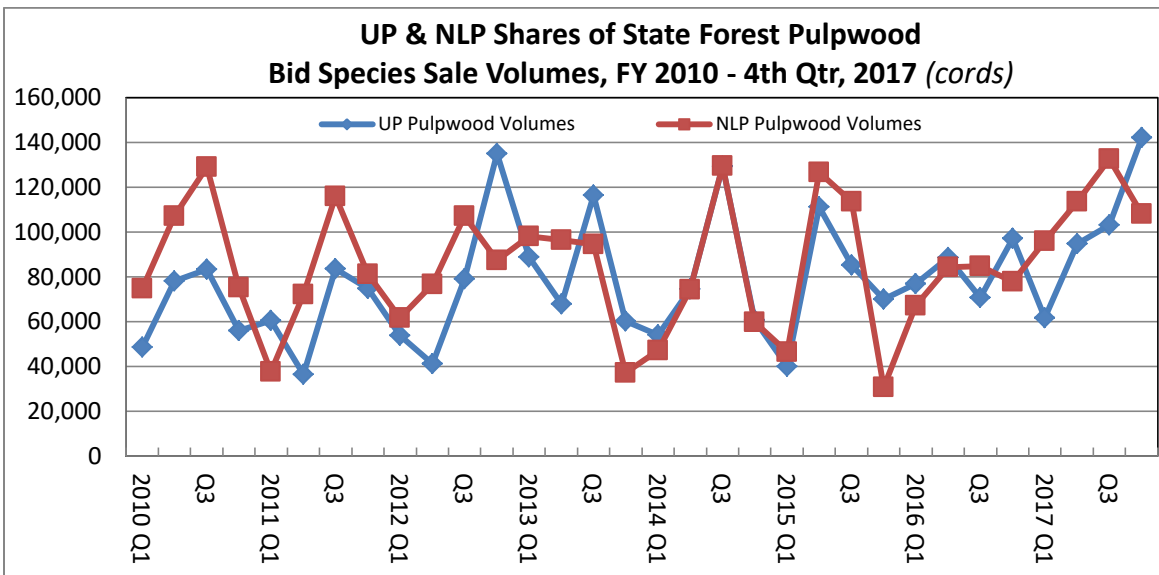
The State follows the federal fiscal year (October 1 through September 30). Graphs below show bid species sale volume and value data; total sale volumes and values are slightly more. The graphs often include a dotted trend line based upon data for the average of the most recent four quarters (labeled as "Avg4QtrVolWtdPrice"). This average eliminates variability in quarterly data due to seasonal issues and variation in quarterly sales through taking volume into account. It likely represents 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. All reported values are subject to slight revisions.



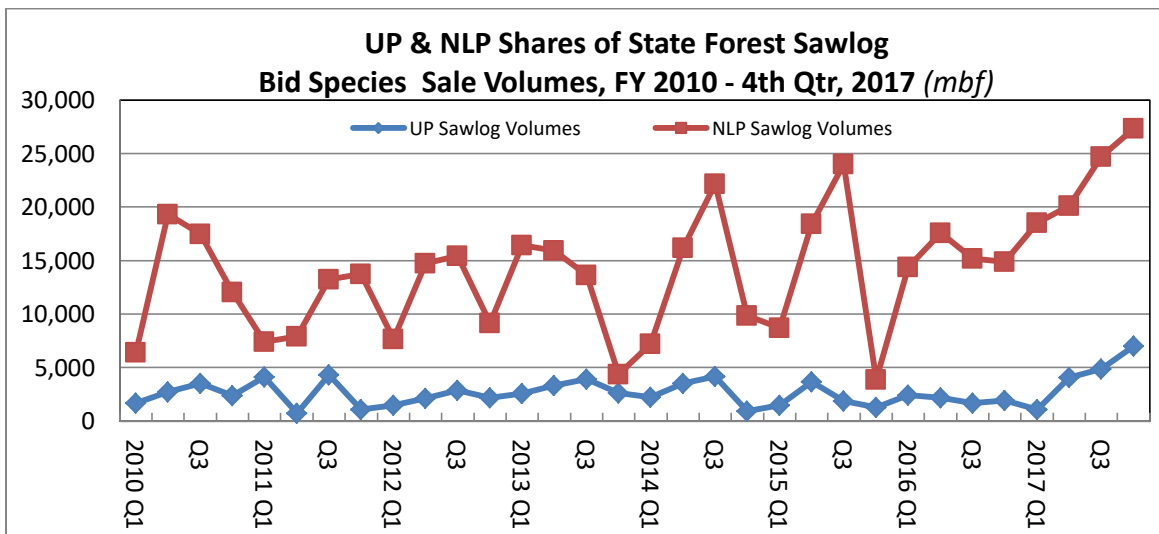
As the graph above indicates, significant quarterly volume increases were seen in fiscal year 2017. Total State Forest sale volume for bid species climbed to 319,000 cords in the 4<sup>th</sup> quarter, resulting in the year finishing at over 1.066 million cords. Total 4<sup>th</sup> quarter sale volume for all bid and nonbid species was 371,000 cords while total offered sales were at over 380,000 cords. For the fiscal year, total sales were 1.26 million cords and offered was a very high 1.45 million cords.



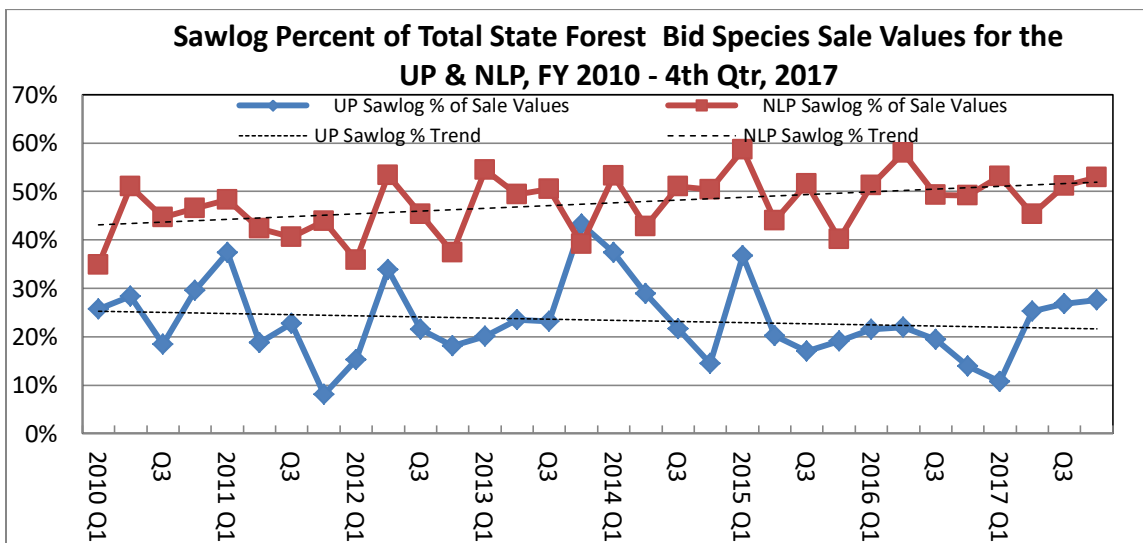
UP bid species sale volumes rose again, from 112,690 to 156,181 cords. The NLP dipped from 182,101 to 162,738 cords. The NLP generally has had higher but more variability in its sale volumes from quarter to quarter. Its FY 2017 3<sup>rd</sup> quarter level exceeds the combined amount which both peninsulas have sold in many past quarters. The high amount of offered sales in excess of total sale volume in the 3<sup>rd</sup> quarter (390,000 vs. 333,000 cords) accounts for some of the high sales in the 4<sup>th</sup> quarter.



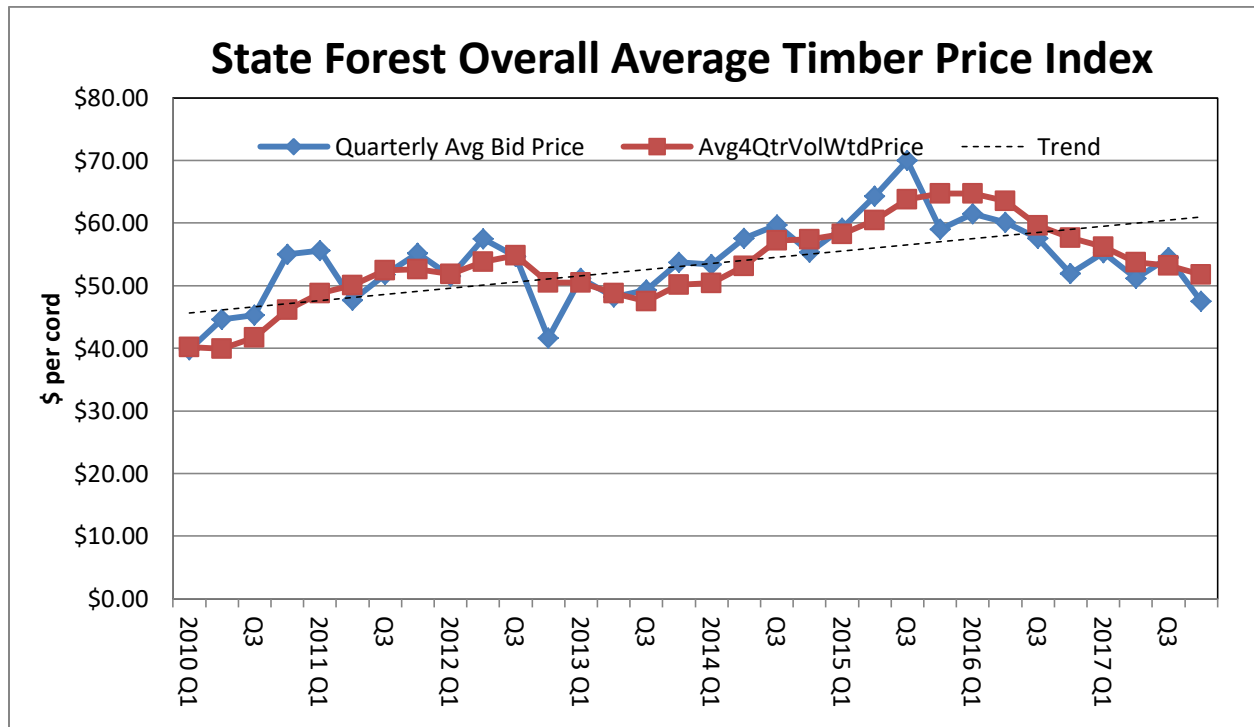
Pulpwood bid species sale volume accounts for about 80% of total State Forest sale volume. UP pulpwood sale volumes jumped in the 4<sup>th</sup> quarter from 103,000 cords to a record 142,200 cords while NLP volume fell back to 108,000 cords.



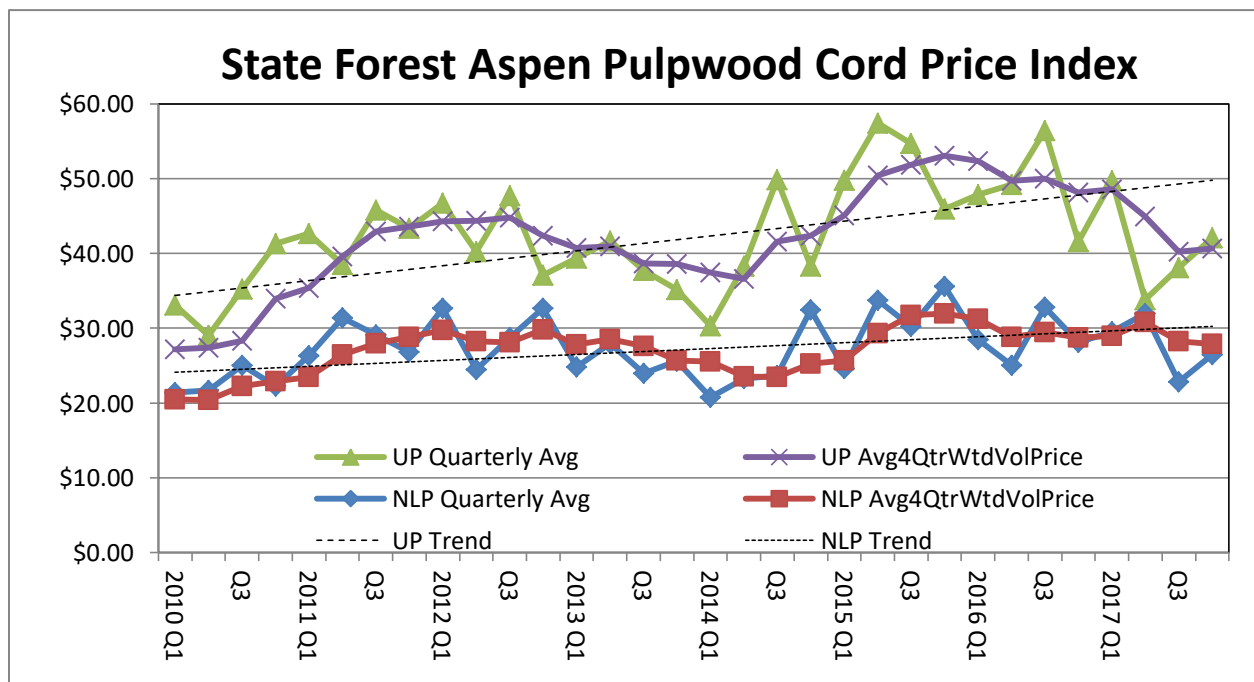
Both peninsulas achieved record sawlog outputs in FY 2017. NLP sawlog volumes are generally much higher than the UP's; its 4<sup>th</sup> quarter volume rose to a new record 27.4mmbf while the UP sawlog volume hit a record 6.9mmbf.



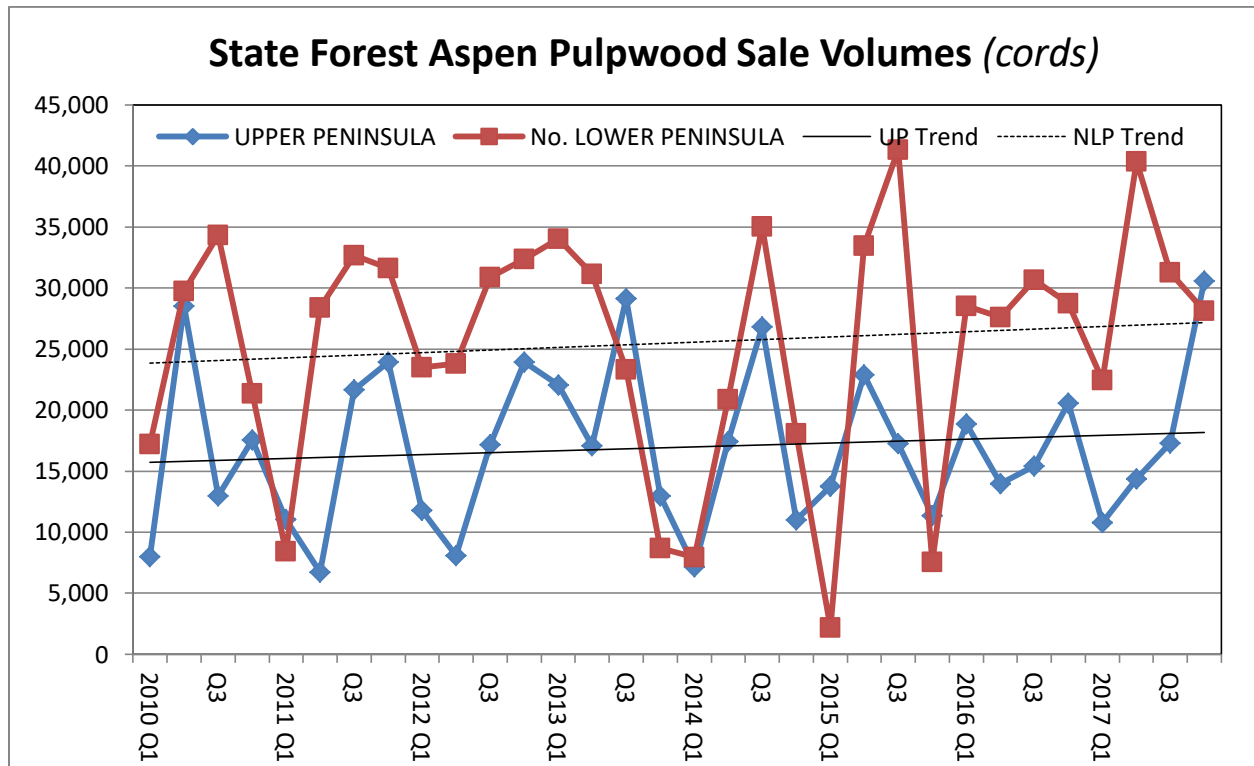
The sawlog percent of NLP bid species sale values remained above 50% again in the 4<sup>th</sup> quarter. The UP sawlog percent of sale values also rose slightly to 28%; it was only 11% in the 1<sup>st</sup> quarter.



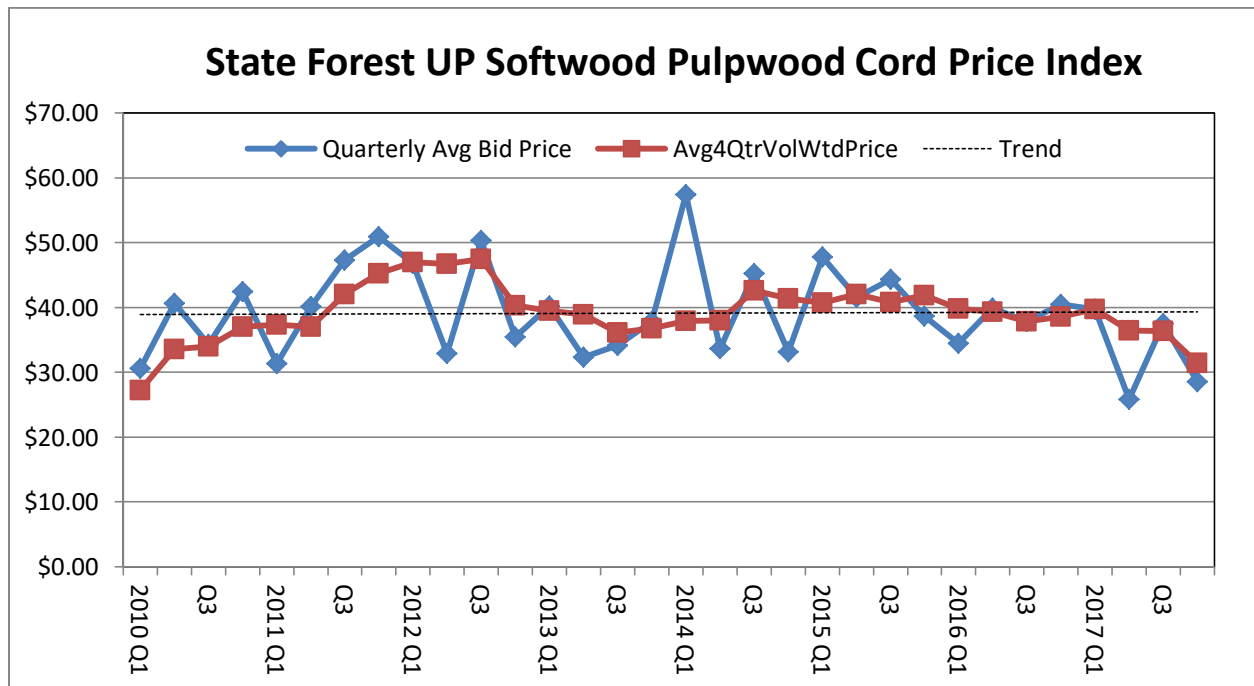
The 4<sup>th</sup> quarter overall average timber cord price index dropped from \$54.50 to \$47.53 per cord, a four-year low. The quarterly price was at a record level of \$69.99 per cord in the 3<sup>rd</sup> quarter of FY 2015 and has been mostly declining since then. This is in contrast to the seven-year quarterly price trend shown above which has been increasing. With this being the sixth quarter in a row that the price has fallen below the quarterly price trend, higher prices can be expected in upcoming quarters. However, higher level of sales and sales without bids as well as lower value product sales may temper increases in the average timber price.



Aspen pulpwood prices moved in tandem across the peninsulas in the 4<sup>th</sup> quarter. The UP average cord price rose again from \$38.08 to \$42.06. It had reached \$56.38 in the 3<sup>rd</sup> quarter of FY 2016 before dropping down to \$33.80 per cord in the 2<sup>nd</sup> quarter of FY 2017. The average NLP aspen pulpwood cord price fell from \$31.94 to \$22.80 per cord in the 3<sup>rd</sup> quarter and rose to \$26.46 in the 4<sup>th</sup> quarter. The FY 2017 2<sup>nd</sup> quarter saw very close prices across the two peninsulas, but the 3<sup>rd</sup> quarter saw the gap come back by the UP price going up while the NLP price went down. Both peninsulas have had increasing price trends over the past 6 years, but the UP price trend is steeper relative to the NLP price trend.

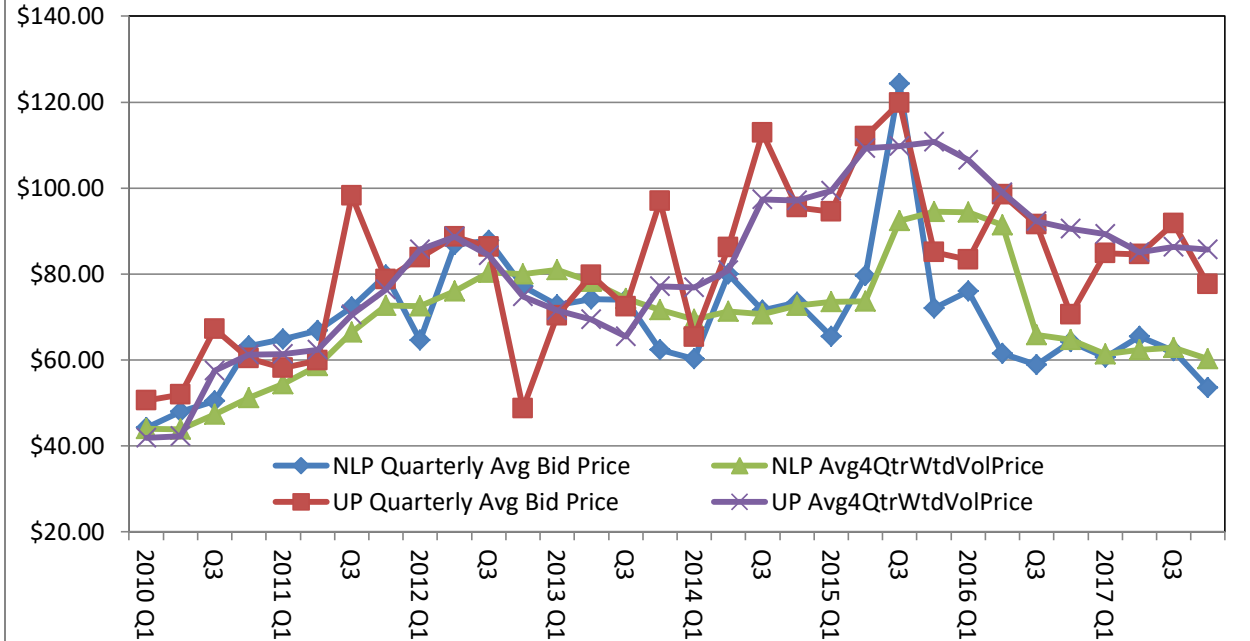


The NLP has tended to have wider swings in aspen pulpwood quarterly sale volumes over the past seven years, but this quarter saw the biggest swing in UP sales. 4<sup>th</sup> quarter UP volume shot up from 17,290 cords to a UP quarterly record 30,583 cords while the NLP volume dipped from 31,272 to 28,126 cords. This new NLP level is slightly above its seven-year trend line; while the UP level is dramatically above its trend line. It would not be surprising to see the volume drop relatively sharply in upcoming quarters in both peninsulas (although more so in the UP) - the UP is very unlikely to maintain record sales and the NLP has had several quarters fall below 10,000 cords in recent years.



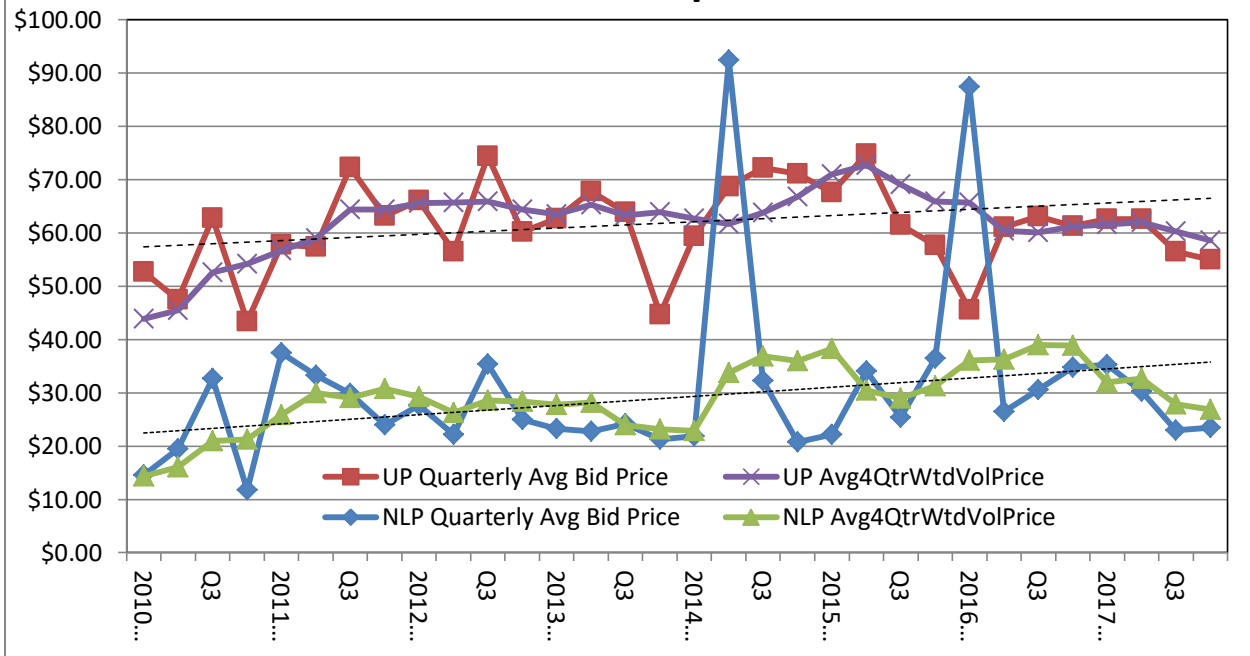
The UP accounts for close to 90% of what is sold as "softwood pulpwood." The softwood pulpwood cord price bounced around from a low 2<sup>nd</sup> quarter value of \$25.81 up to \$37.52 and then back to \$28.53 per cord in the 4<sup>th</sup> quarter as volume dipped from 15,346 to 14,506 cords and then shot up to 22,921 cords. Generally, prices do not fluctuate as much for UP softwood pulpwood as they do for most other timber products. The quarterly price has seldom gone outside of a \$30 to \$50 range over the past six years; the recent 2<sup>nd</sup> and 4<sup>th</sup> quarter prices are rare exceptions to this range. Quarterly sale volumes often do fluctuate though, from under 10,000 cords to over 30,000 cords. The seven-year price trend is quite flat.

## State Forest Red Pine Pulpwood Cord Price Index

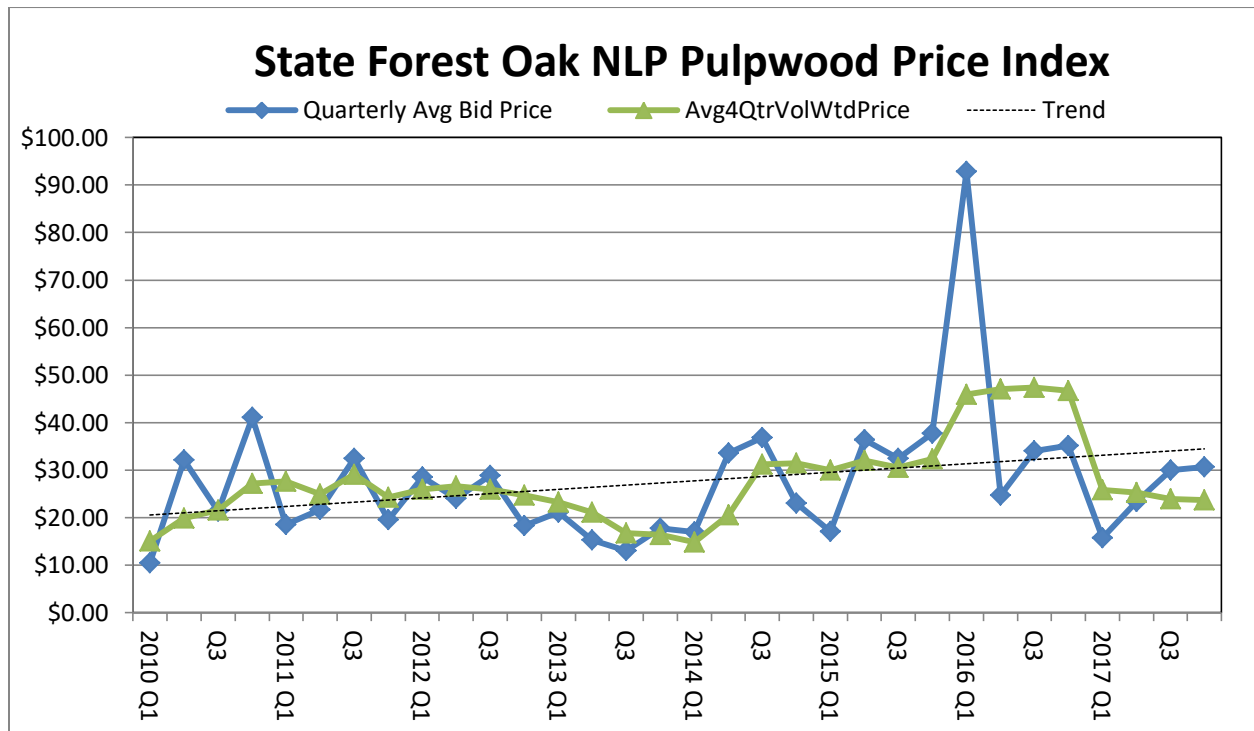


The FY 2017 4<sup>th</sup> quarter NLP red pine pulpwood price fell further, from \$62.15 to \$53.50 per cord as sale volume also dropped from 22,082 to 19,662 cords. The price has been as high as \$124 per cord in the 3<sup>rd</sup> quarter of FY 2015 before dropping back to a \$72 price the next quarter. It has been quite stable since then, remaining in a \$58 to \$78 range, until the most recent quarter. The UP generally has higher RP pulpwood prices than the NLP. The UP rose to \$91.71 in the 3<sup>rd</sup> quarter but fell back to \$77.59 in the 4<sup>th</sup> quarter as volumes went from 18,473 to 10,008 cords.

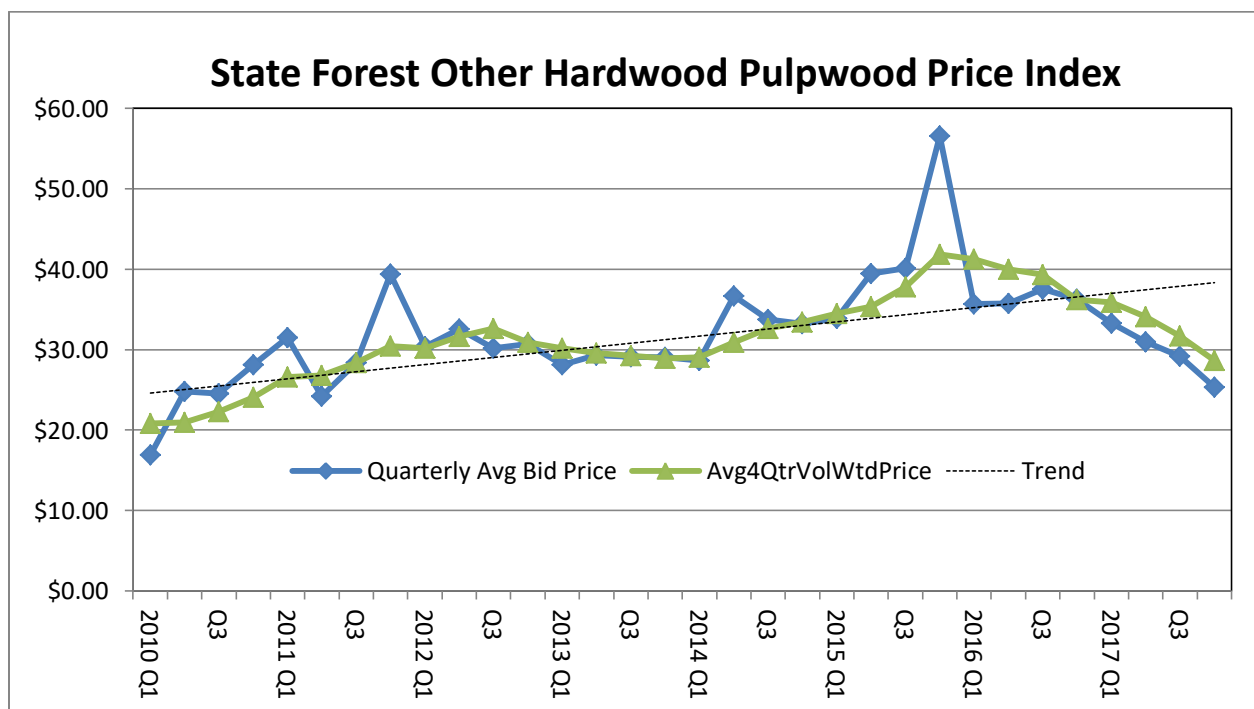
## State Forest Jack Pine Pulpwood Cord Price Index



Jack pine pulpwood 4<sup>th</sup> quarter cord prices dipped from \$56.46 to \$54.98 per cord in the UP while they increased slightly from \$23.00 to \$23.41 per cord in the NLP. The UP price has often been two to three times the NLP price. Jack pine sale volumes are often highly volatile from quarter to quarter in both peninsulas. In the most recent 4<sup>th</sup> quarter, they dropped back from 8,603 to 5,833 cords in the UP while plummeting from a very high 22,702 cords level in the NLP down to 4,991 cords. Both peninsulas have slightly increasing seven-year price trends

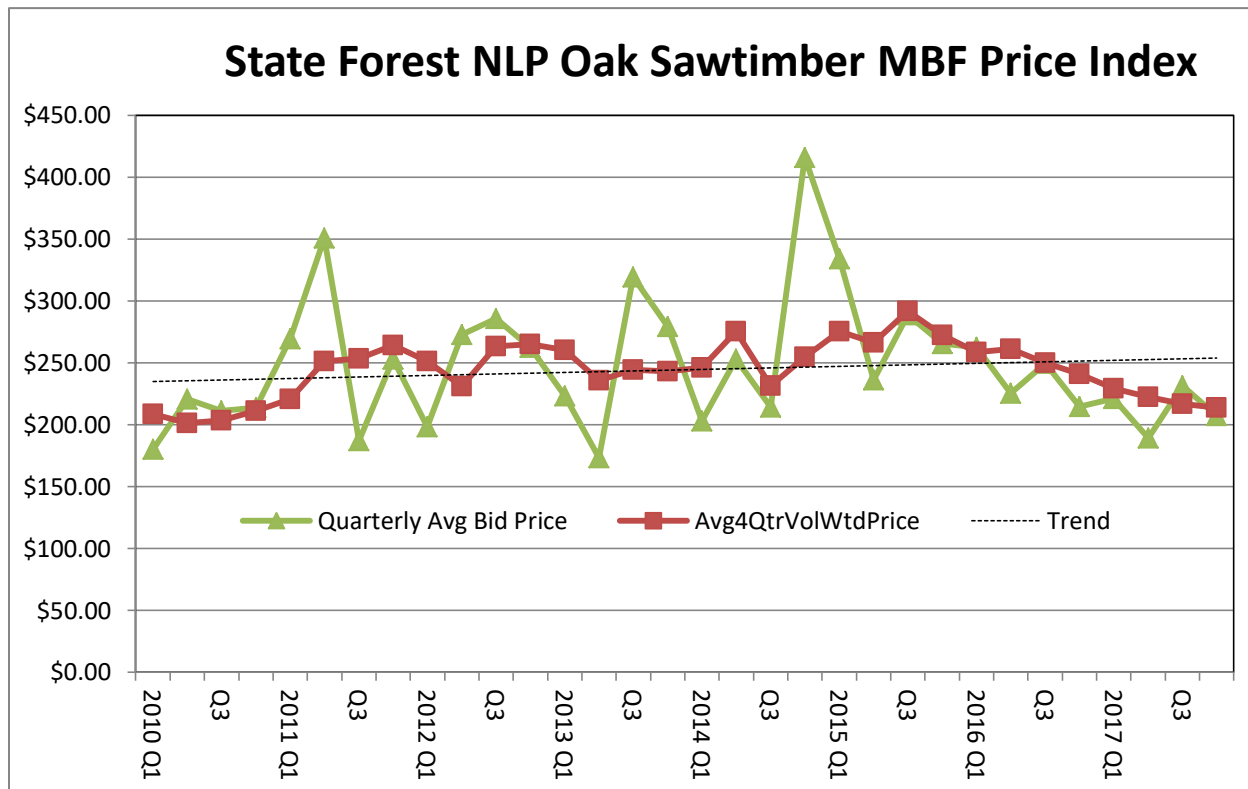


The NLP oak pulpwood price rose slightly in the 4<sup>th</sup> quarter of FY 2017, from \$29.98 to \$30.62 per cord on a volume of 12,212 cords. It was at a low \$15.69 per cord in the 1<sup>st</sup> quarter of the year. The price hit a peak in the FY 2016 1<sup>st</sup> quarter at \$92.84 per cord, more than double any price achieved in the past six years, but then it dropped to \$24.67 in the next quarter, rose to \$34.01 in the 3<sup>rd</sup> quarter, and was little changed at \$35.12 in the 4<sup>th</sup> quarter. The average price over the past six years has been under \$30.00 per cord. There is an increasing seven-year price trend, in large part due to the price peak in the 1<sup>st</sup> quarter of FY 2016.

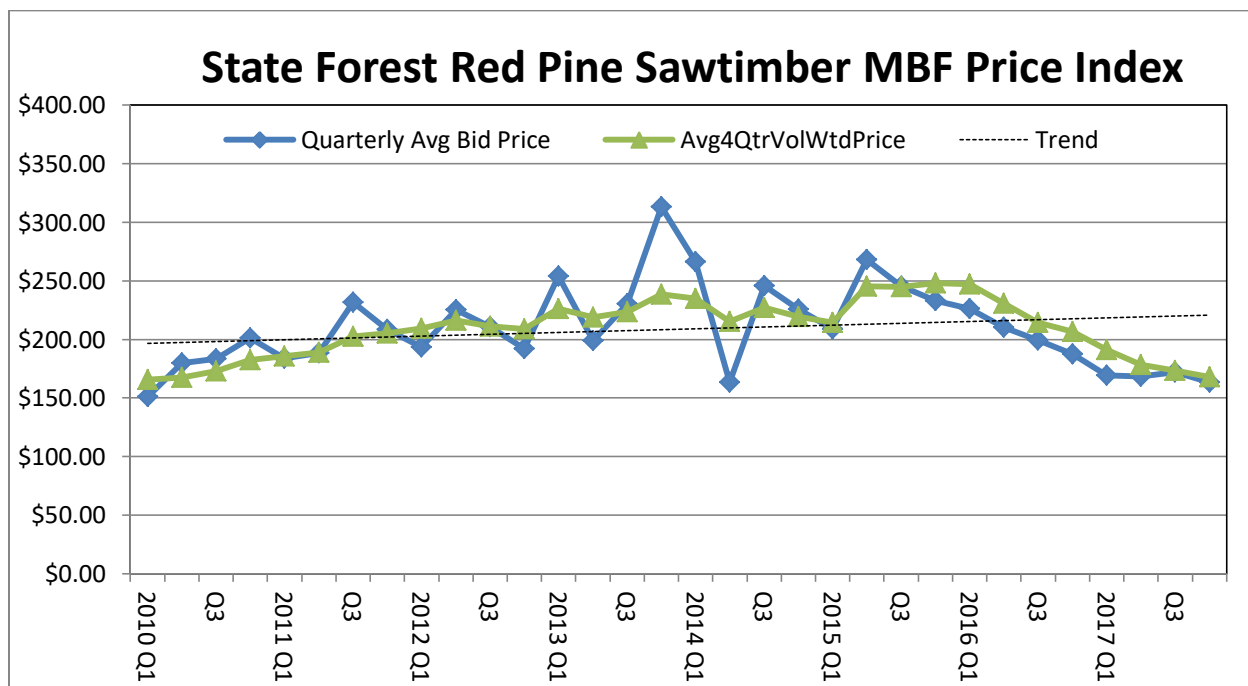


The "other hardwood pulpwood" cord price modestly declined for the fifth quarter in a row, from \$29.15 down to \$25.37 per cord. It hit a record high price of \$56.55 per cord in the 4<sup>th</sup> quarter of FY 2015. Bid species sale volume more than doubled from 28,537 to 61,933 cords in the 2<sup>nd</sup> quarter, then hit a 69,233 cord record volume in the 3<sup>rd</sup> quarter, only to be topped by an incredible 94,332 cords in the most recent 4<sup>th</sup> quarter. The average quarterly volume for the past six years is 40,000 cords. The product has an increasing price trend (along with a sharply increasing volume trend not shown).



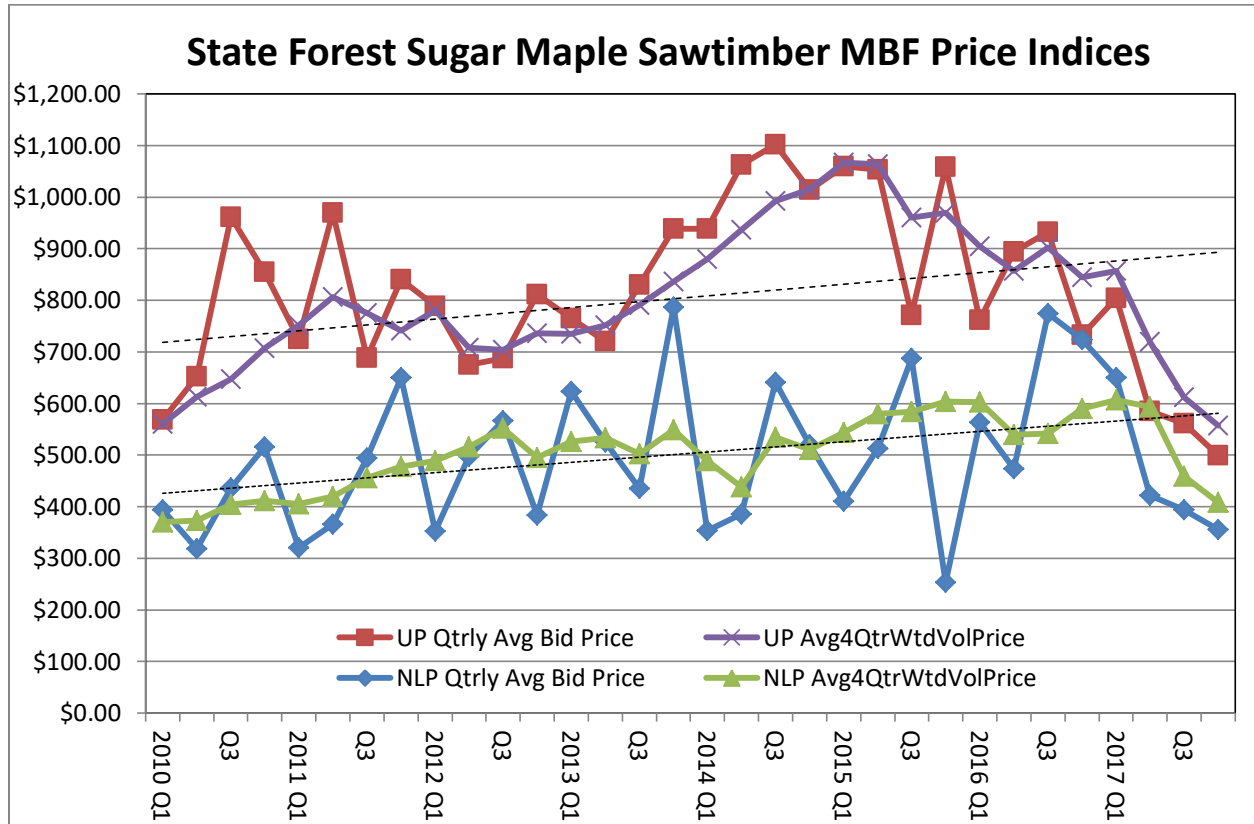


NLP oak sawtimber prices fell back in the 4th quarter, from \$231.65 to \$207.15 per mbf as sale volume rose from 4.4 to a record 6.1mmbf. Overall, there has been a very modest increasing price trend for the past seven years. However, prices have been mostly trending downward since they reached a high of \$415 per mbf in the 4<sup>th</sup> quarter of FY 2014. Sale volumes over the past seven years have averaged about 3mmbf per quarter.



State Forest red pine sawtimber prices have been largely unchanged - hovering around \$170 per mbf - for three quarters before dipping to \$163.25 per mbf in the most recent (4<sup>th</sup>) quarter. Red pine sawtimber prices had been on a very steady, mild downward slide from the 2<sup>nd</sup> quarter of FY 2015 through FY 2016. The seven year price trend is slightly increasing and the average price for the period is above \$200 per mbf. Sale volume rose from 9.4 to 11.6mmbf in the 4th quarter. The average for the past six years is under 8mmbf.

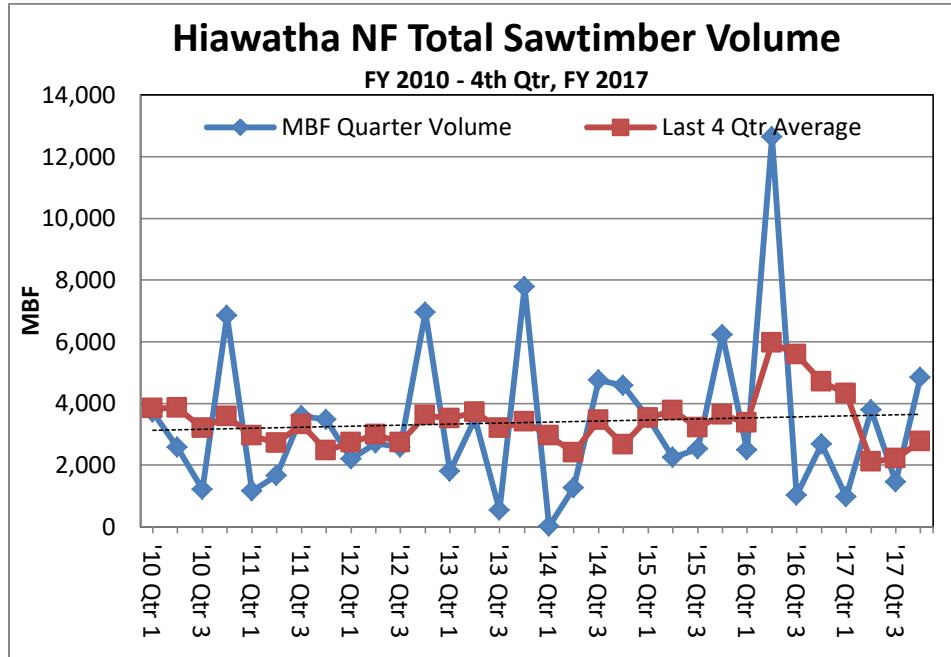




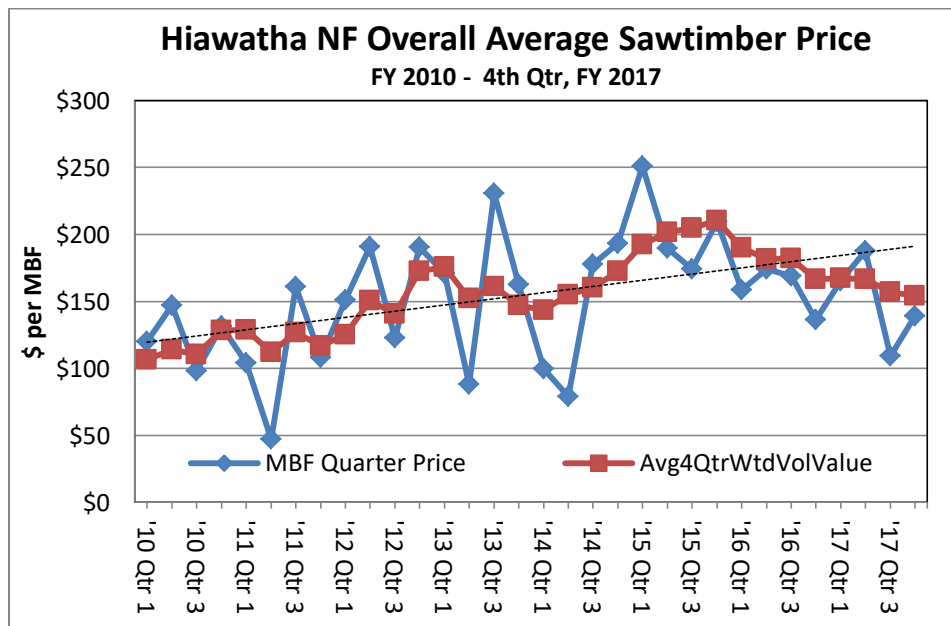
Both peninsulas experienced sharp declines in their sugar maple sawtimber prices in the 2<sup>nd</sup> quarter and both have had slight price declines in the 3<sup>rd</sup> and 4<sup>th</sup> quarters. NLP sugar maple sawtimber prices dropped for the fifth quarter in a row, from \$393.67 per mbf in the 3<sup>rd</sup> quarter to \$356.05 per mbf in the 4<sup>th</sup> quarter as volume dropped from almost 4 to less than 2mmbf. The price was \$774.24 per mbf in the 3<sup>rd</sup> quarter of FY 2016 before prices began their descent. The UP price decreased from \$561.41 to \$499.43 per mbf as sale volumes remained close to 2mmbf. Most quarters the UP sugar maple sawtimber price is significantly higher than the NLP's, but the quarterly differences have been smaller during the past six quarters. The UP average price reached \$1058 per mbf in the 4<sup>th</sup> quarter of FY 2015 and had been above \$1000 per mbf for a string of five quarters before that. The NLP price reached a six-year peak of \$787 in the 4<sup>th</sup> quarter of FY 2013 and a price of \$774 per mbf more recently in the 3<sup>rd</sup> quarter of FY 2016. With the recent narrowing of price differences, the slope of the UP and NLP seven-year increasing price trends look similar, with the UP price trend close to \$300 per mbf above the NLP. The UP's seven-year average sale volume is close to 750mmbf while the NLP's is closer to 600mmbf; the most recent quarterly volumes are significantly higher than these averages.

## Hiawatha National Forest Major Species Product Timber Sales, FY 2010 – 4<sup>th</sup> Qtr, 2017

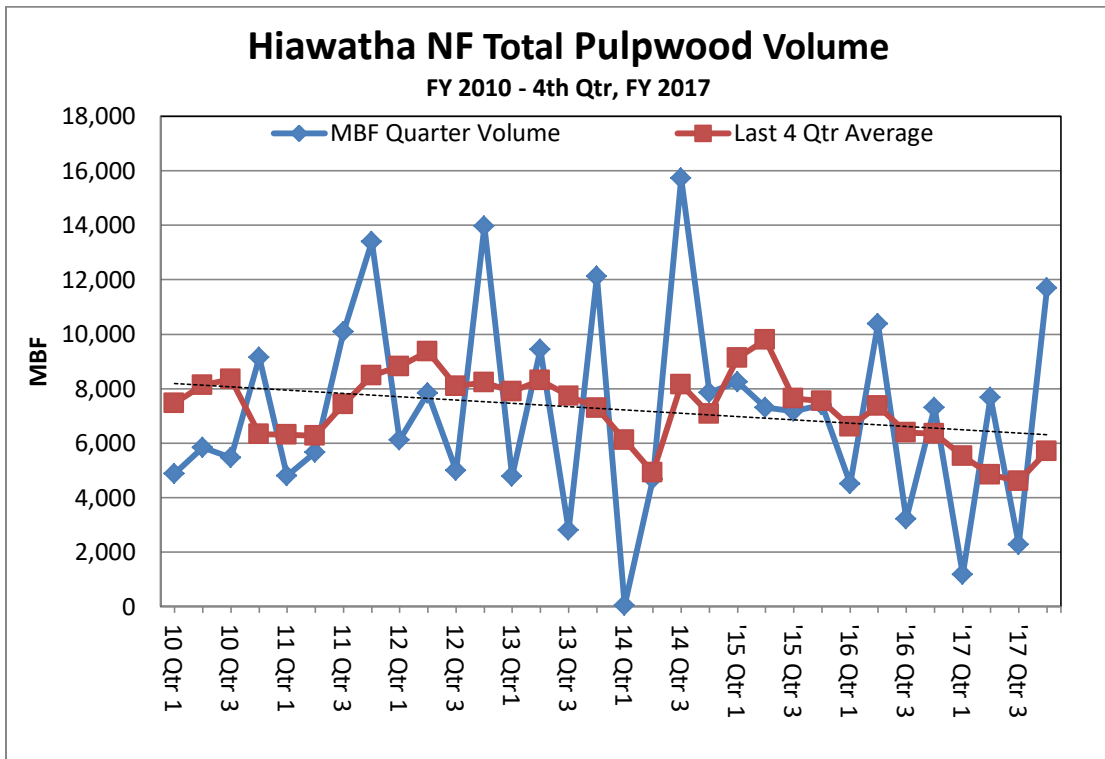
All graphs include a dotted trend line based upon the data set for the average of the most recent four quarters. Gaps in the blue quarter line indicate no sales in the quarter where the gap occurs. The National Forests follow the federal fiscal year (FY) from October 1 through September 30 (as does the MI DNR). The most recent data included here is for the 4<sup>th</sup> quarter of FY 2017, covering July through September of 2017 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/cut-sold/index.shtml>



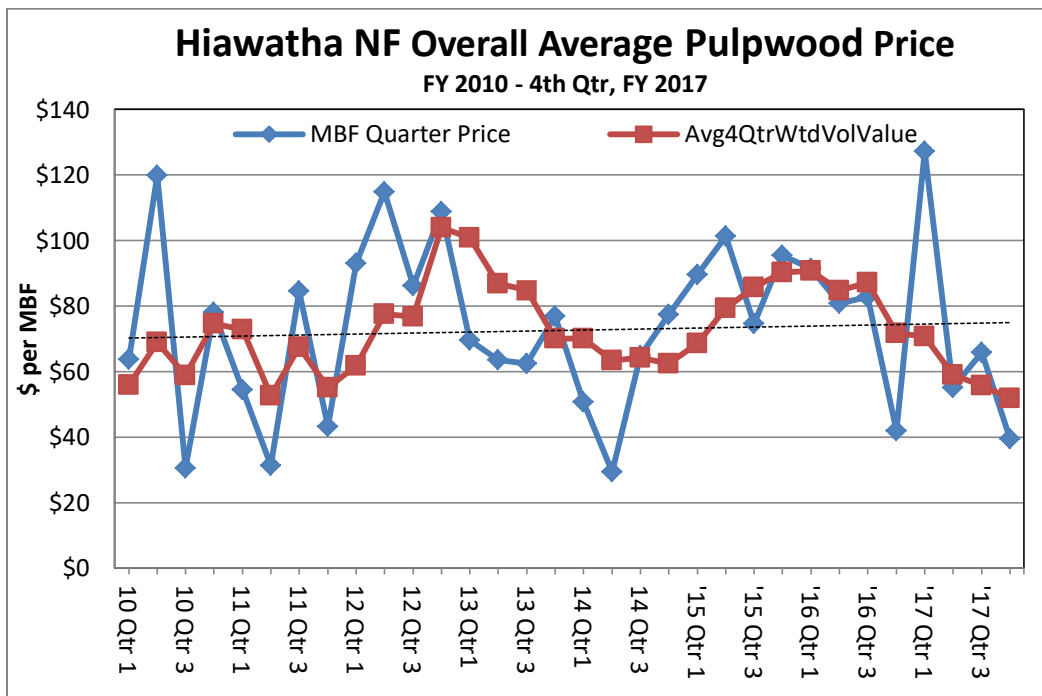
Hiawatha sawtimber sale volume rose from 1.44 to 4.84 mmbf in the 4<sup>th</sup> quarter. Sale volumes are often highest in the 4<sup>th</sup> quarter and while that held true this fiscal year, 4.84 mmbf is not exceptional. Sales were at a record 12.6 mmbf volume in the 2<sup>nd</sup> quarter of last fiscal year, followed by five quarters of sale volumes under 4 mmbf. While there will be several upcoming quarters with lower sales, there should also be a “breakout” quarter with higher sales as well. The 7-year trend of sawtimber sale volume is slightly increasing, in large part due to that record 2<sup>nd</sup> quarter record volume last year.



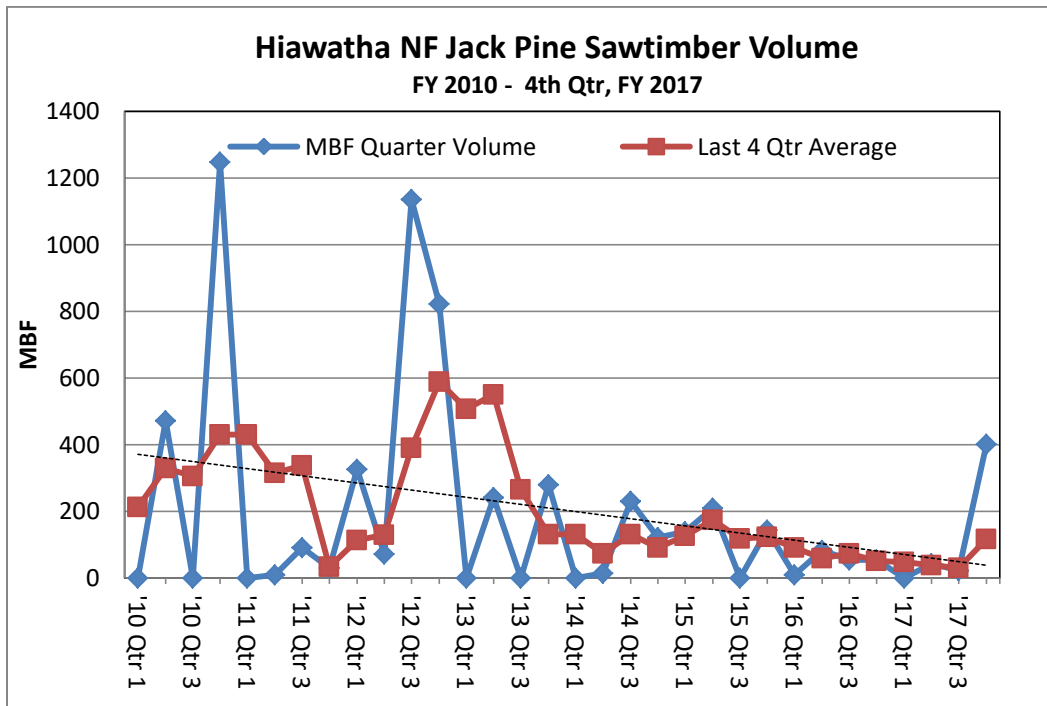
Average Hiawatha sawtimber prices fell sharply from \$187.48 to \$109.24 per mbf in the 3<sup>rd</sup> quarter and rose back moderately to \$139.23 in the 4<sup>th</sup> quarter. The average peaked at \$250 in the 1<sup>st</sup> quarter of FY 2015. The average sawtimber price is strongly influenced by the mix of species and products offered. With prices still well below the 7-year trend line, they may continue increasing in coming quarters unless there are negative economic turns for the worse.



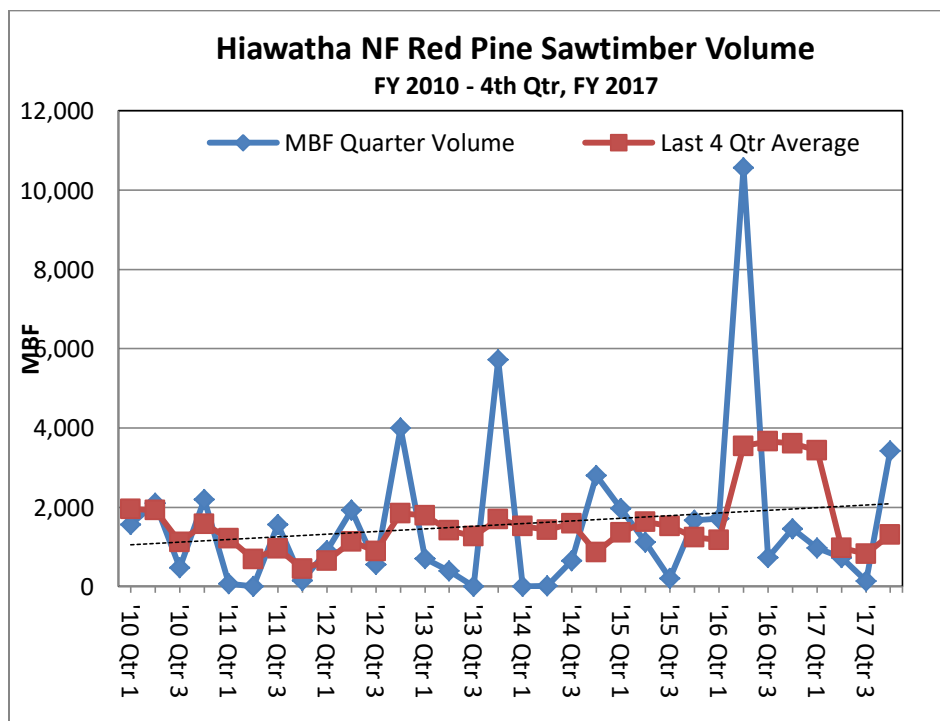
As expected, total Hiawatha pulpwood sale volume shot up from 2.3 to 11.7mmbf in the 4<sup>th</sup> quarter. The pulpwood sale volume has been zigging and zagging up and down for the past two years similar to what it did between fiscal years 2012 and 2014. For the past seven years, the highest sale volume was 15.73mmbf in the 3<sup>rd</sup> quarter of FY 2014. The seven-year quarterly sales trend is slightly falling. Given the erratic back-and-forth sales pattern from quarter to quarter AND a pattern of low 1<sup>st</sup> quarter sales, it would be surprising if sale volumes don't fall again sharply in the 1<sup>st</sup> quarter of FY2018.



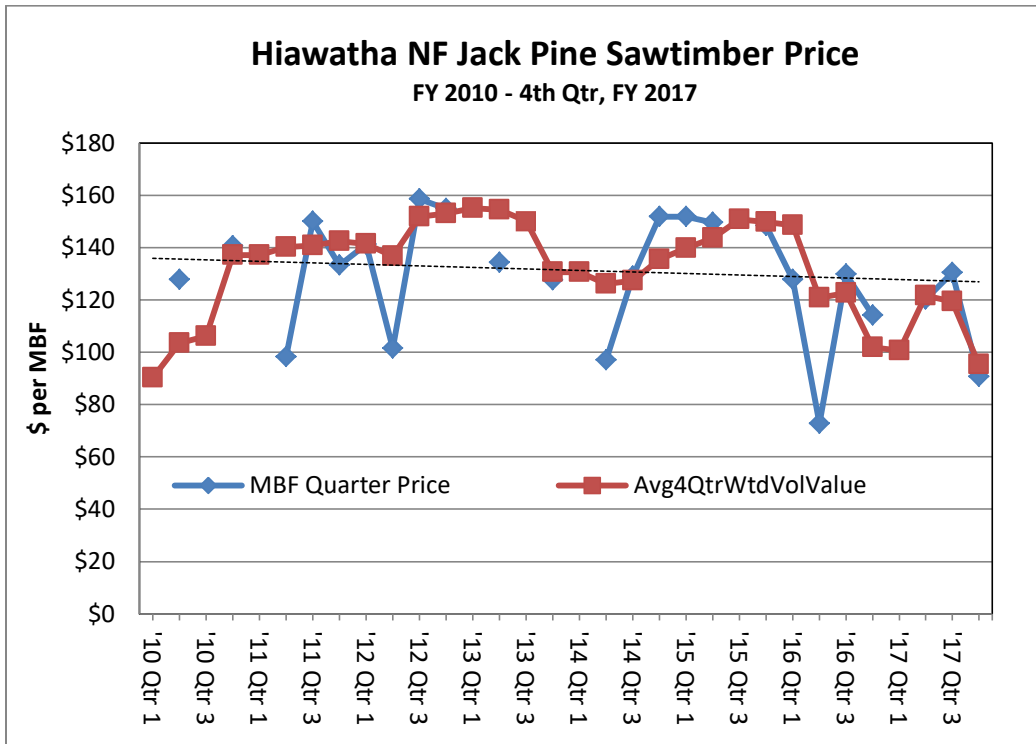
Against a backdrop of much higher volumes, the Hiawatha overall pulpwood price fell from \$65.85 to \$39.54 per mbf in the 4<sup>th</sup> quarter. A sharp rise in the 1<sup>st</sup> quarter FY 2017 to a record average pulpwood price of \$127 per mbf was followed by almost as sharp of a decline in the 2<sup>nd</sup> quarter to \$55.07 per mbf. With the lower values for the past three quarters, the seven-year trend line is now virtually flat. It would be surprising if prices don't increase at least slightly in the coming (1<sup>st</sup>) quarter.



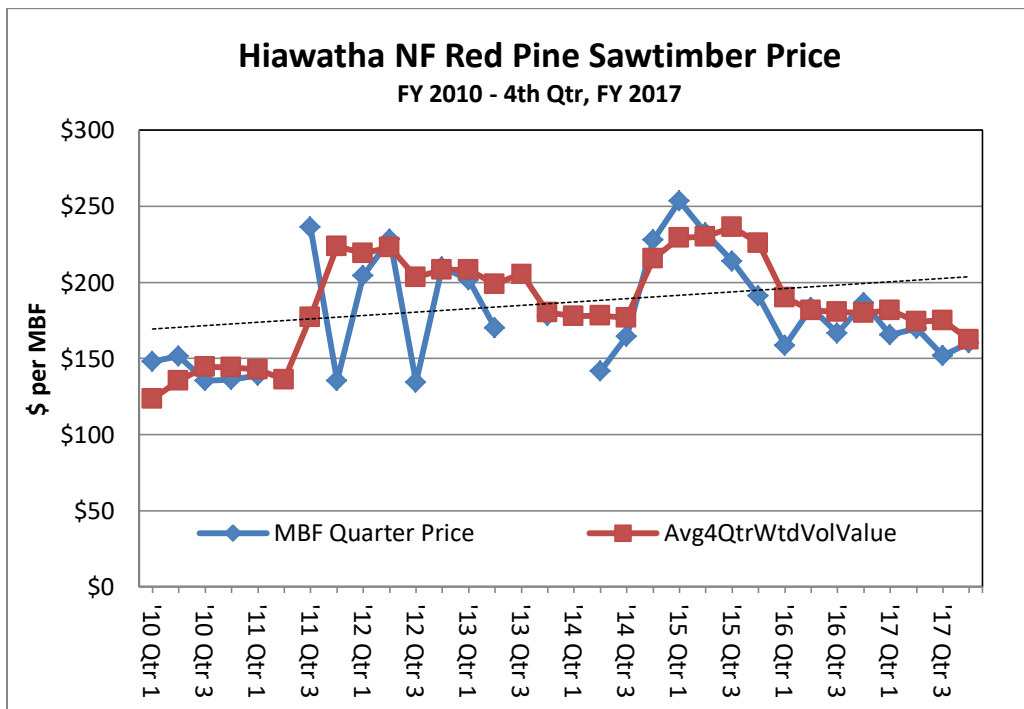
After more than two years of negligible sales, Hiawatha jack pine sawtimber sale volume was significant, reaching 401mbf in the 4<sup>th</sup> quarter. The highest volume sold in the past seven years (1.25mmbf) was in the 4<sup>th</sup> quarter of FY 2010; sales also exceeded 800mbf twice in 2012. Quarterly sales had not reached even 300mbf since 2012. As with jack pine pulpwood, there are almost as many quarters without sales (or only incidental sales less than 10mbf) as there are quarters with sales. Given sale volumes for the past four years, the FY 2017 4<sup>th</sup> quarter sale volume is likely an anomaly and much higher than can be expected in most upcoming quarters.



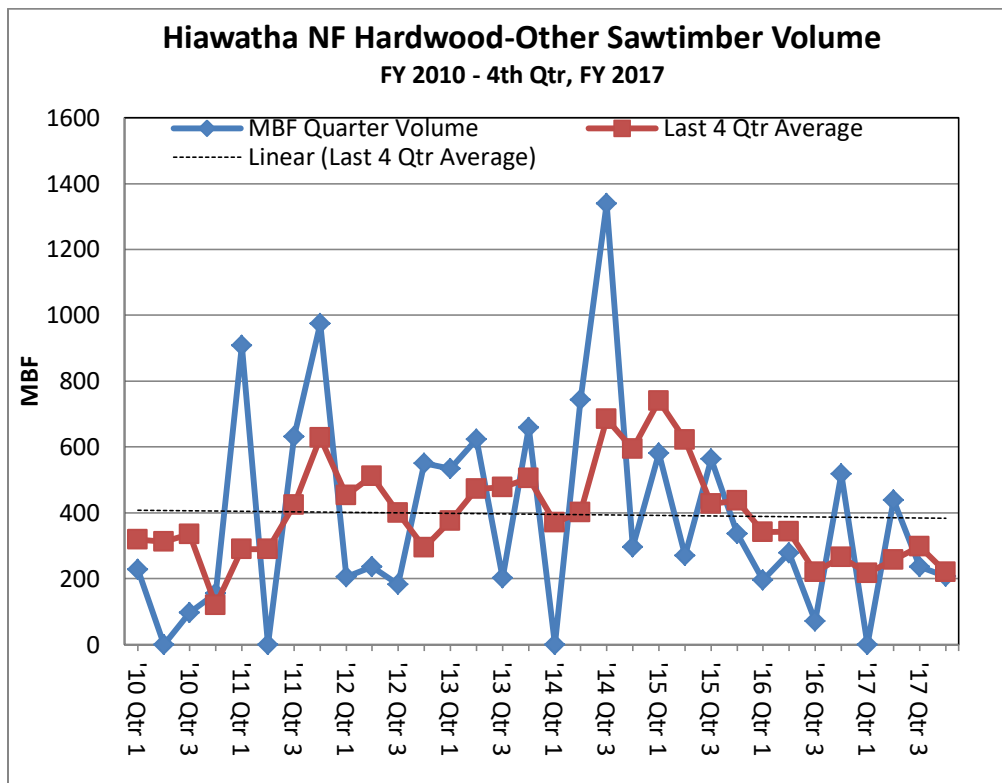
Eight times as much red pine sawtimber as jack pine sawtimber has been sold on the Hiawatha since FY 2010. Like jack pine sawtimber, Hiawatha red pine sawtimber sale volume also rose in the 4<sup>th</sup> quarter, from .135 to 3.4mmbf. It had hit a record level of 10.56mmbf in the 2<sup>nd</sup> quarter of FY 2016, but then had five quarters under 2mmbf since then. There is an increasing seven-year sale trend, but without the record volume of last year's 2<sup>nd</sup> quarter, the trend would be flat.



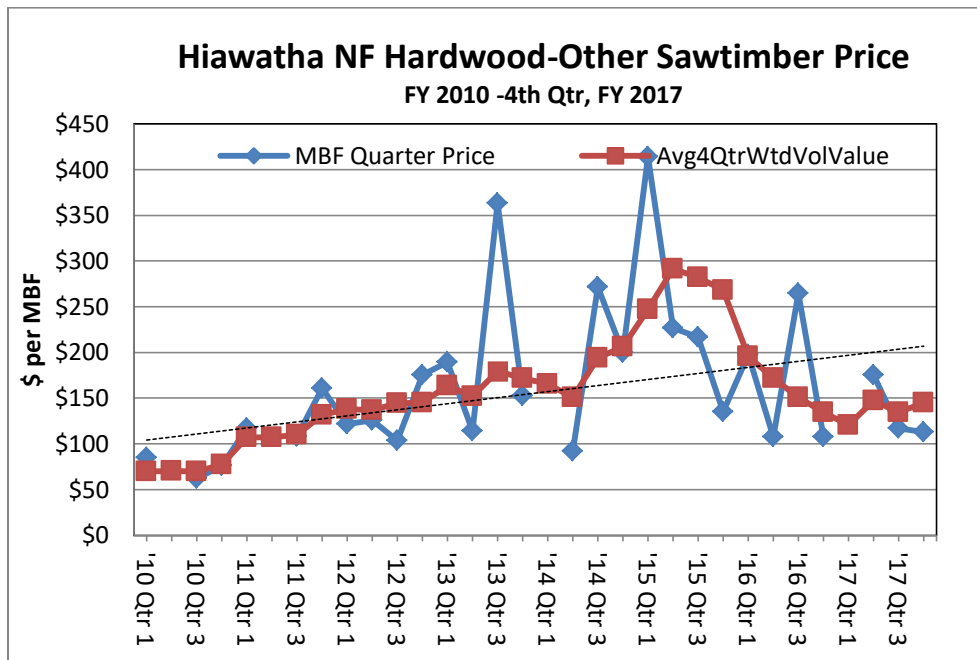
The 4<sup>th</sup> quarter price for jack pine sawtimber dropped fairly sharply from \$130.49 to \$90.69 per mbf on the higher volume. This lower quarterly price helped what had been a relatively flat, stable price trend to become a negative price trend. However, the price trend is based upon many quarters with negligible or no sales.



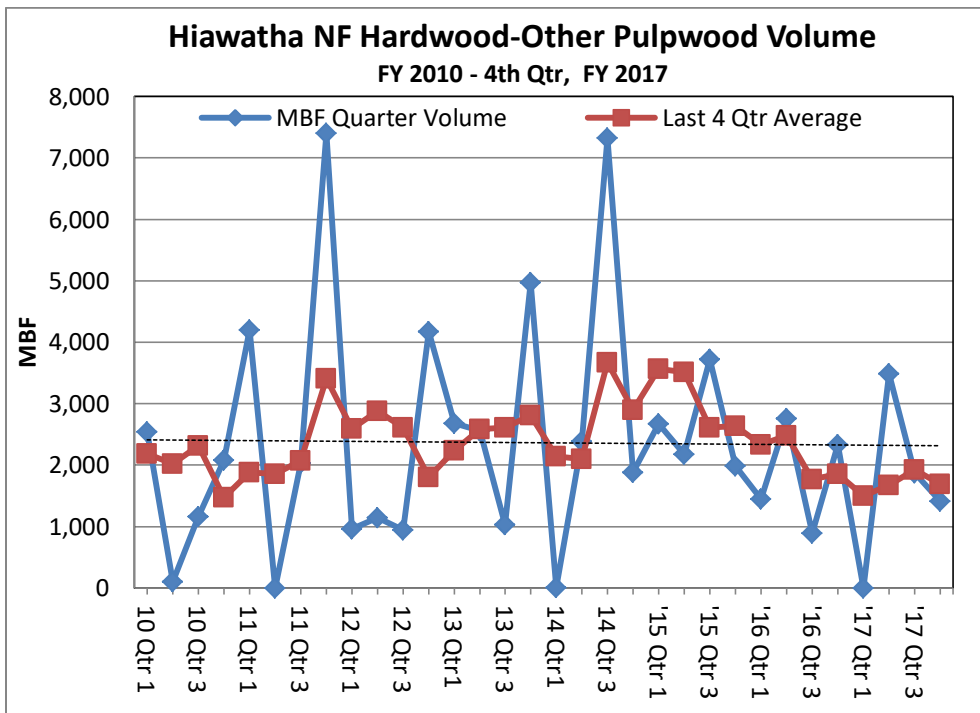
The red pine sawtimber price ticked upward from \$151.72 to \$160.14 per mbf in the 4<sup>th</sup> quarter. The price reached \$253 per mbf in the 1<sup>st</sup> quarter of FY 2015, its highest level in years. It then declined for four straight quarters before stabilizing. For the past eight quarters, the price has ranged between \$150 and \$190. The overall seven-year price trend has been moderately increasing and points toward the price increasing towards the \$200 per mbf level in an upcoming quarter.



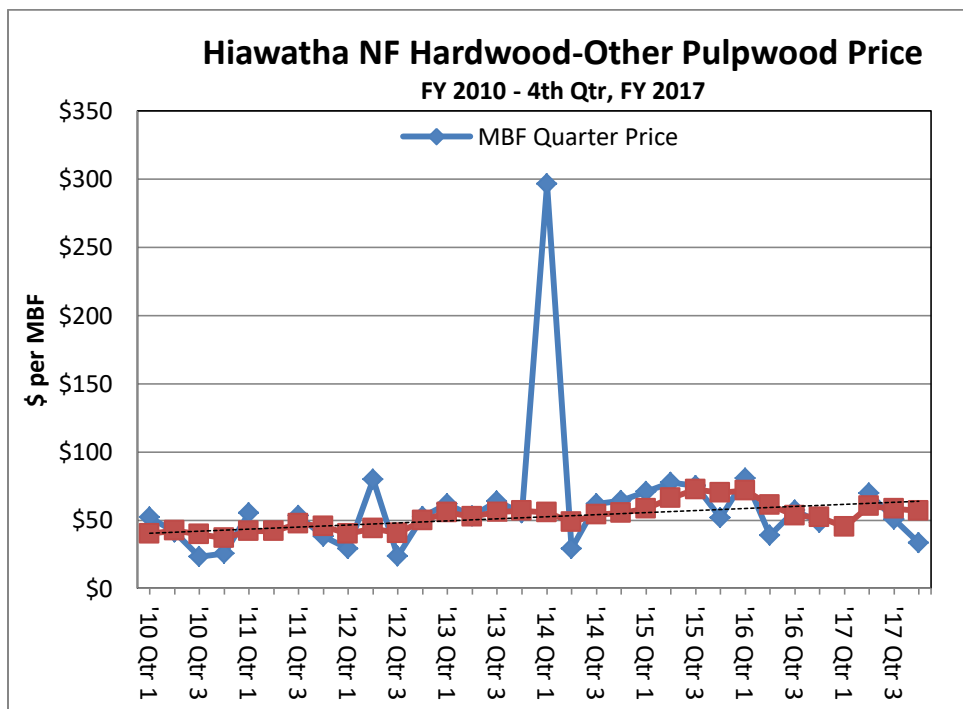
Hiawatha's "hardwood-other" sawtimber sale volume fell from 438 to 236mbf in the 3rd quarter and dipped further to 207mbf in the 4<sup>th</sup> quarter. There were no sales in the 1<sup>st</sup> quarter of this fiscal year (FY 2017). Quarterly sale volume reached a seven-year record level of 1.3mmbf in the 3<sup>rd</sup> quarter of FY 2014, but no quarter has reached even 600mbf since then. With the most recent low volume quarters, the seven-year sale volume trend has become negative.



The 3rd quarter "hardwood-other" sawtimber price also dipped further, from \$116.97 to \$112.67 per mbf. Despite some relatively low prices in recent quarters, the quarterly price trend has risen fairly steeply over the past seven years. However, another way to view this is to see a fairly sharp declining trend over the past three years. Future quarters with sale volumes are likely to be associated with stable or increasing prices.

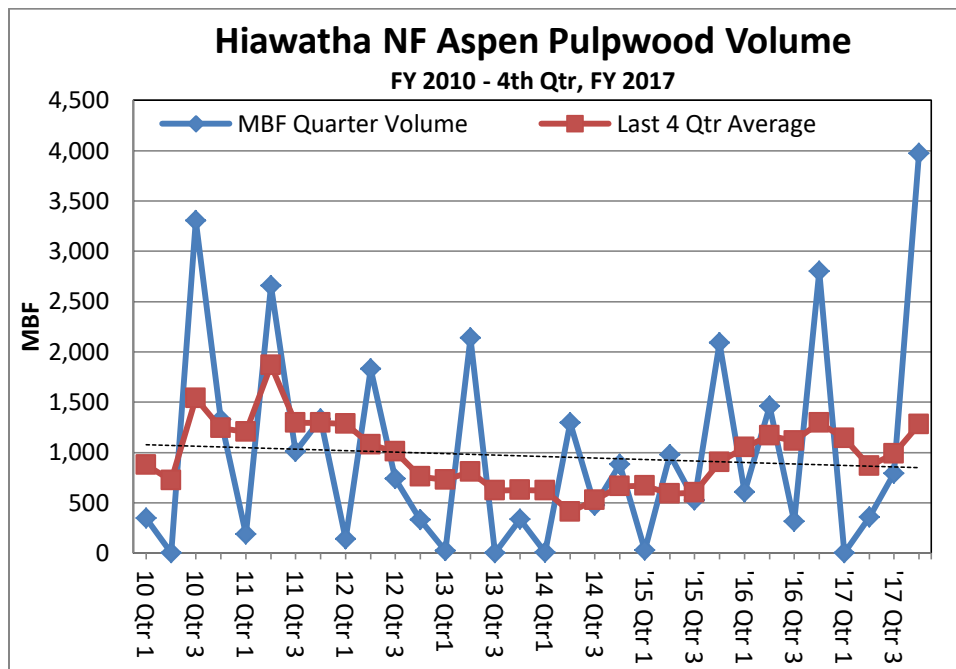


Hardwood-other pulpwood sale volume continued to drop, from 1.88 to 1.4mmbf in the 4<sup>th</sup> quarter. Sale volumes have been close to 7.5mmbf twice in the last six years. Like so many other Hiawatha timber products, the seven-year sale volume trend has turned slightly negative due to lower volumes in recent quarters. The erratic nature of earlier sale volumes from quarter-to-quarter appeared to be moderating, although the most recent drop off to no sales in the 1<sup>st</sup> quarter and rebound up to 3.48mmbf in the 2<sup>nd</sup> quarter were quite sharp.

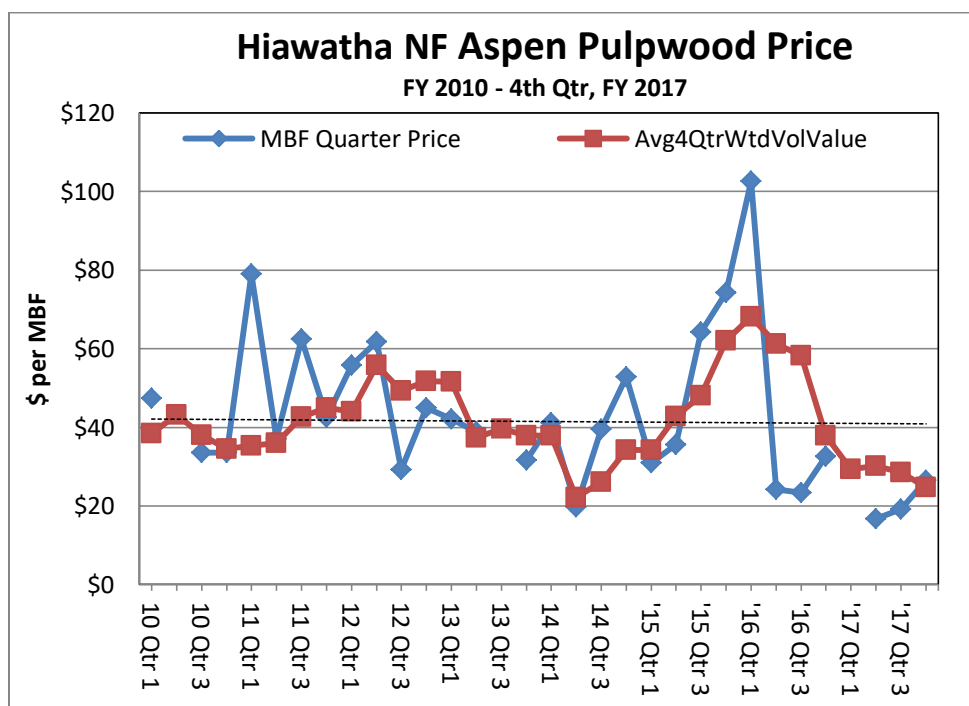


The price for “hardwood-other” pulpwood also dropped again, from \$50.64 to \$33.46 per mbf in the 4<sup>th</sup> quarter. The 1<sup>st</sup> quarter FY 2014 price is an anomaly or error. Other than this major exception and a few minor ones, the price has largely fluctuated in a fairly narrow range around \$50 over the past six years, dropping as low as \$30 and rising as high as \$80. There has been a very modest increasing price trend for the period. An increase can be expected in upcoming quarters.

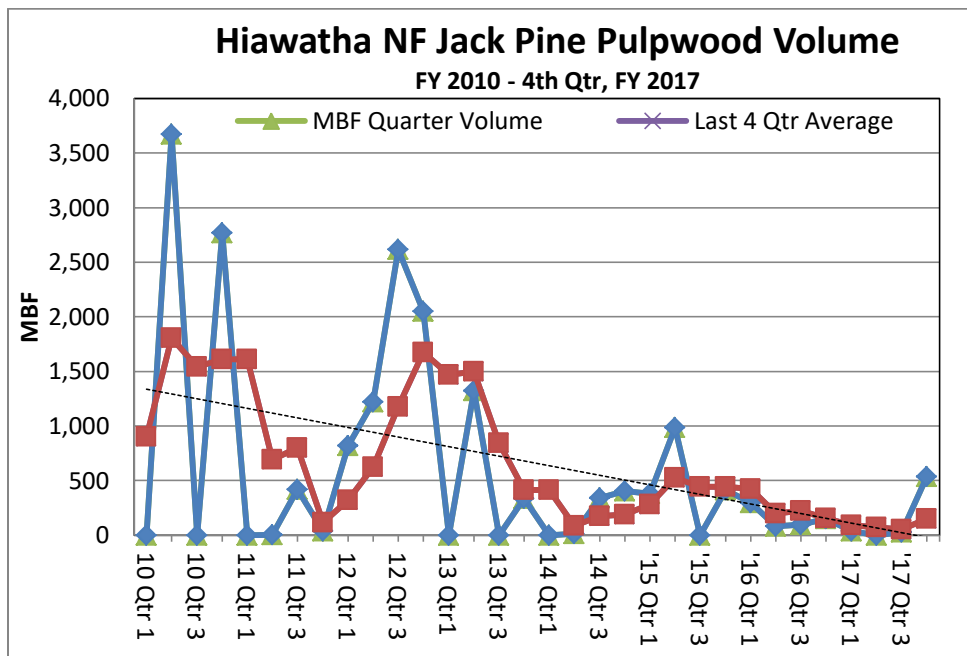




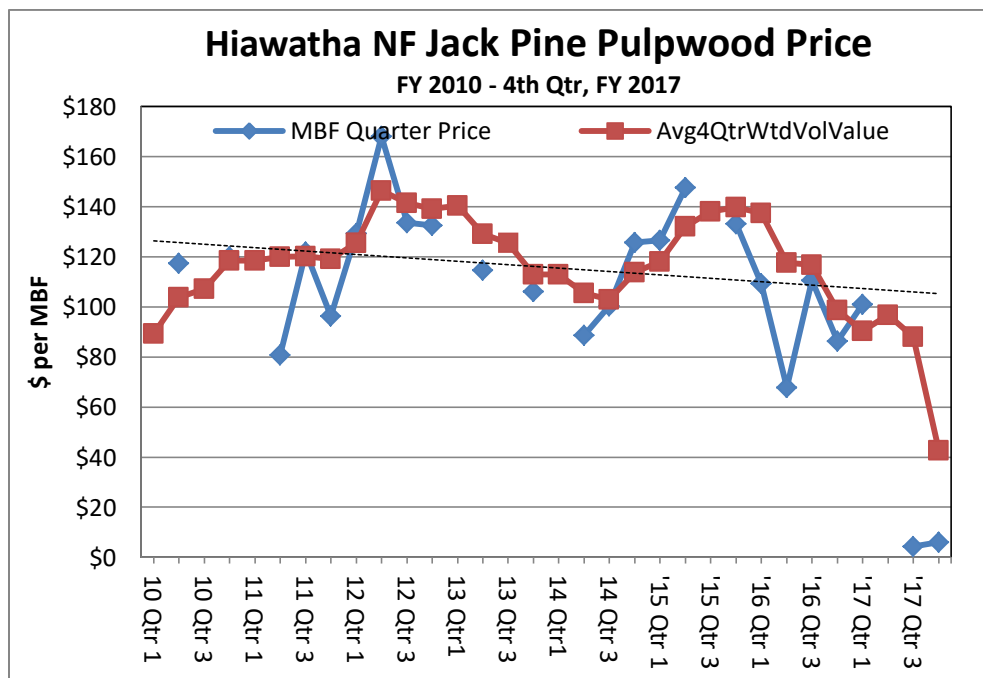
Sales of aspen pulpwood are reported to have risen to a seven-year quarterly record of 3,970mbf in the 4<sup>th</sup> quarter of FY 2017. There was no sale volume in the 1<sup>st</sup> quarter after which there were two modest increases. Aspen pulpwood sale volumes have been erratic, although sales have peaked in the 4<sup>th</sup> quarter for the past three years. Despite the most recent (4<sup>th</sup>) quarter, there has been a slight downward sale volume trend over the past seven years.



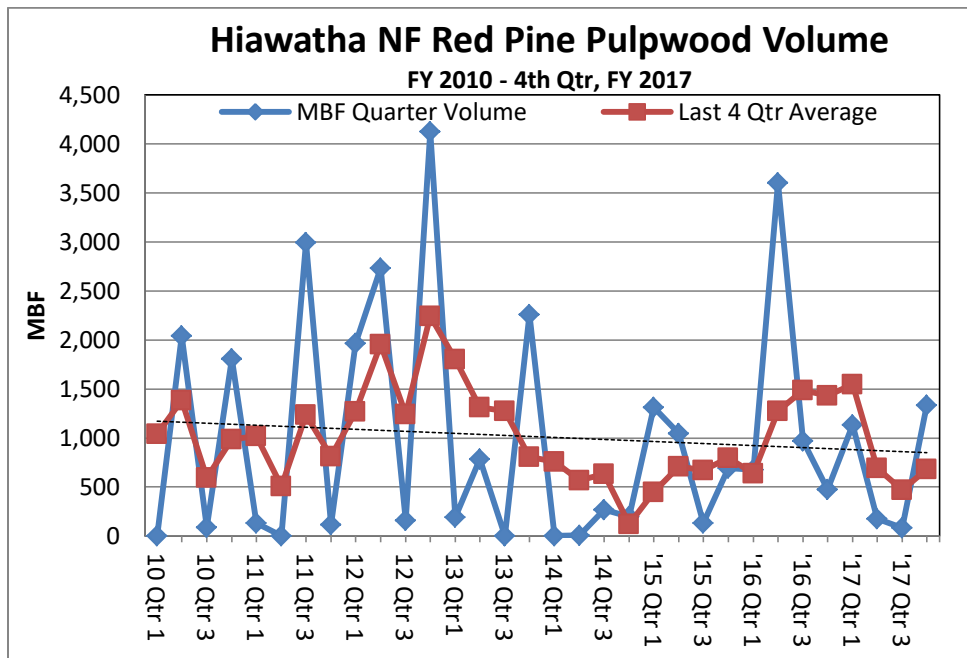
The 4<sup>th</sup> quarter price continued to rise; up from \$19.19 per mbf in the third quarter to \$26.54 per mbf. The 4<sup>th</sup> quarter, FY 2016 price blipped up to \$32.65 per mbf after being close to \$24 for two quarters. It had hit a record \$103 per mbf price in the 1<sup>st</sup> quarter of FY 2016. The subsequent drop in prices was not surprising, but was steeper than expected. Additional increases in coming quarters are expected, especially given how low the price has fallen. The seven-year price trend is quite flat and close to \$40 per mbf.



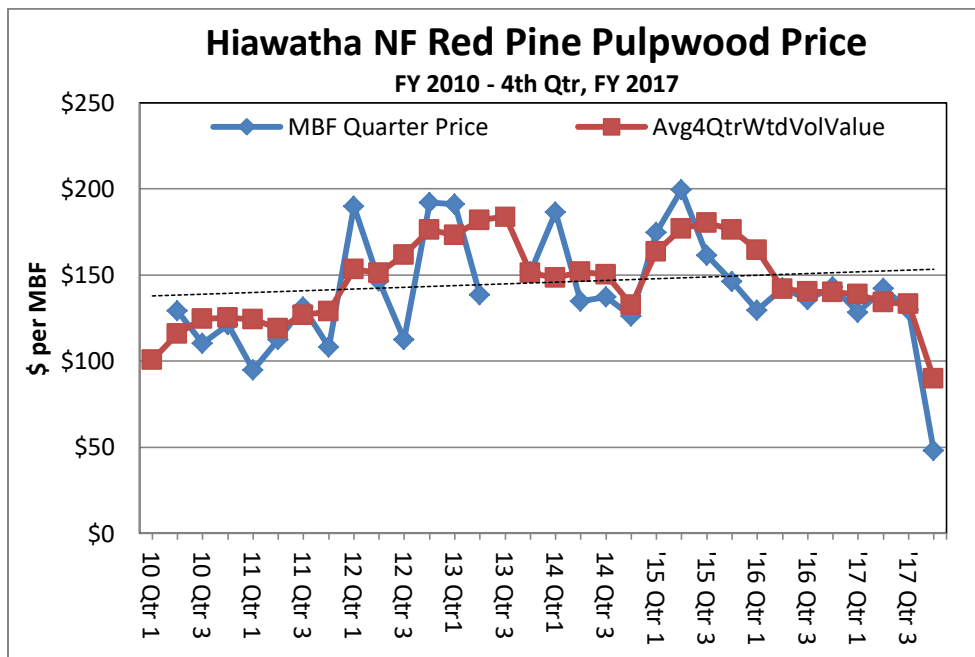
Once again, the jack pine pulpwood volume graph is very similar to the jack pine sawtimber graph. Jack pine has had a diminishing - almost disappearing - presence in both sawtimber and pulpwood Hiawatha timber sales. However, jack pine pulpwood sales did blip up in the 4<sup>th</sup> quarter to 536mbf. Quarterly sales had been below 500mbf for over three years except for the 2nd quarter of FY 2015 when they reached 985mbf. Sales in some upcoming quarter might reach or exceed that level; however, most quarters are likely to continue to have very negligible or no volumes.



The 4<sup>th</sup> quarter jack pine pulpwood price is reported to have slightly increased from \$4.43 to \$6.01 per mbf. The jack pine sale volume has been so low for so many quarters that any associated prices are quite suspect. The seven-year trend line is declining, but there really is not much of a basis for a trend line as there are as many quarters with no or negligible sales of jack pine as there have been quarters with credible levels of sales over the past six years.



Following two quarters of very low sale volumes, red pine pulpwood sale volume jumped up to 1.3mmbf. It was over 1mmbf in the 1<sup>st</sup> quarter of FY 2017. It reached 3.6mmbf in the 2<sup>nd</sup> quarter last year, but that quarter's volume is an outlier in comparison to other quarterly sales in the past three years. The high FY 2016 2<sup>nd</sup> quarter and most recent 4<sup>th</sup> quarter volumes did not reverse a slightly declining seven-year volume trend. Although this trend is not nearly as negative as jack pine pulpwood's, it does portend limited volumes (under 1mmbf) are likely in most future quarters

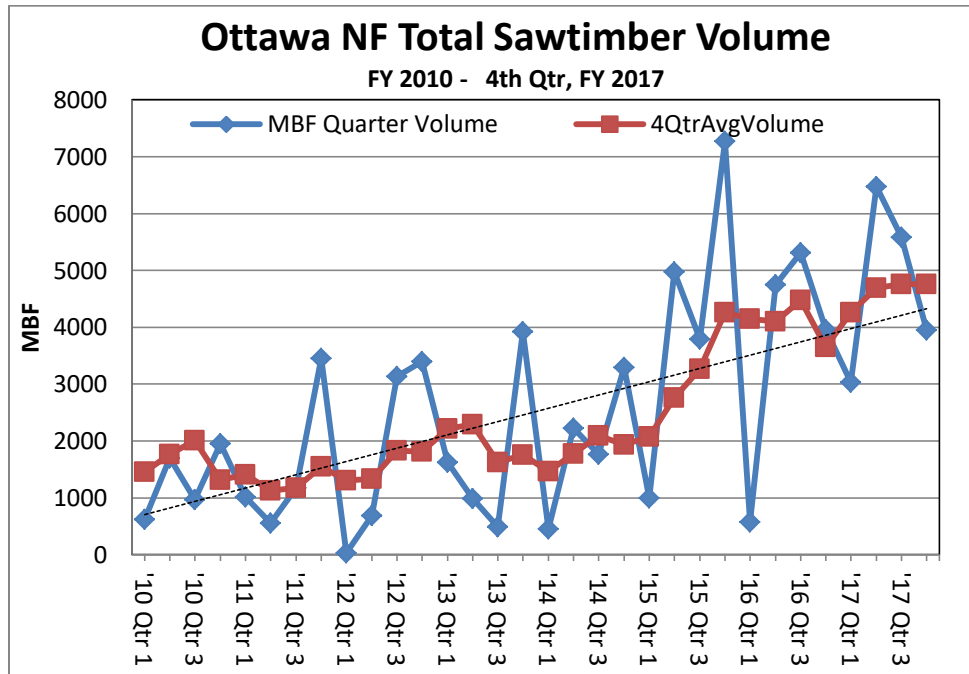


The 4<sup>th</sup> quarter red pine pulpwood mbf price fell sharply from \$130 to \$47.89 per mbf. The price has been relatively stable for two years. It had gone from \$175 to \$200 per mbf between the 1<sup>st</sup> and 2<sup>nd</sup> quarters of FY 2015 before beginning a descent. Despite the sharp price drop in the 4<sup>th</sup> quarter, there remains a slightly upward price trend over the past seven years. However, if FY 2010 and FY 2011 were dropped, the most recent five-year price trend would be slightly declining. It also should be noted that there has been very low or no sale volumes in many quarters over the past seven years, which undercuts the significance of the price trend.

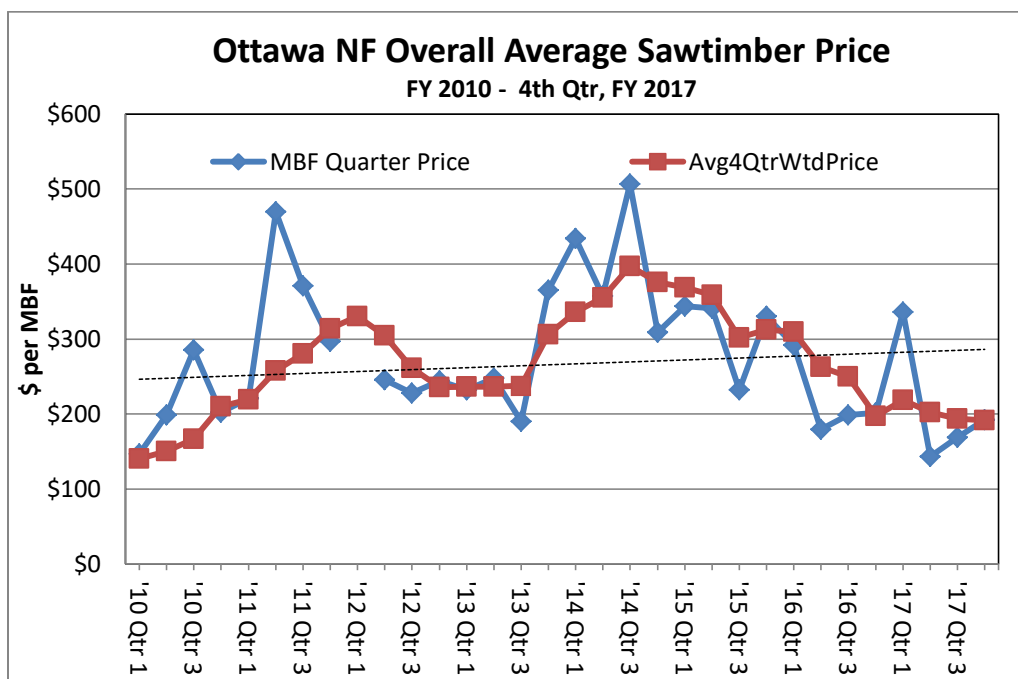
## Ottawa National Forest Major Species/Product Timber Sales, FY 2010 – 4<sup>th</sup> Qtr, 2017

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 fourth quarter of FY 2017 (July - September, 2017). 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:

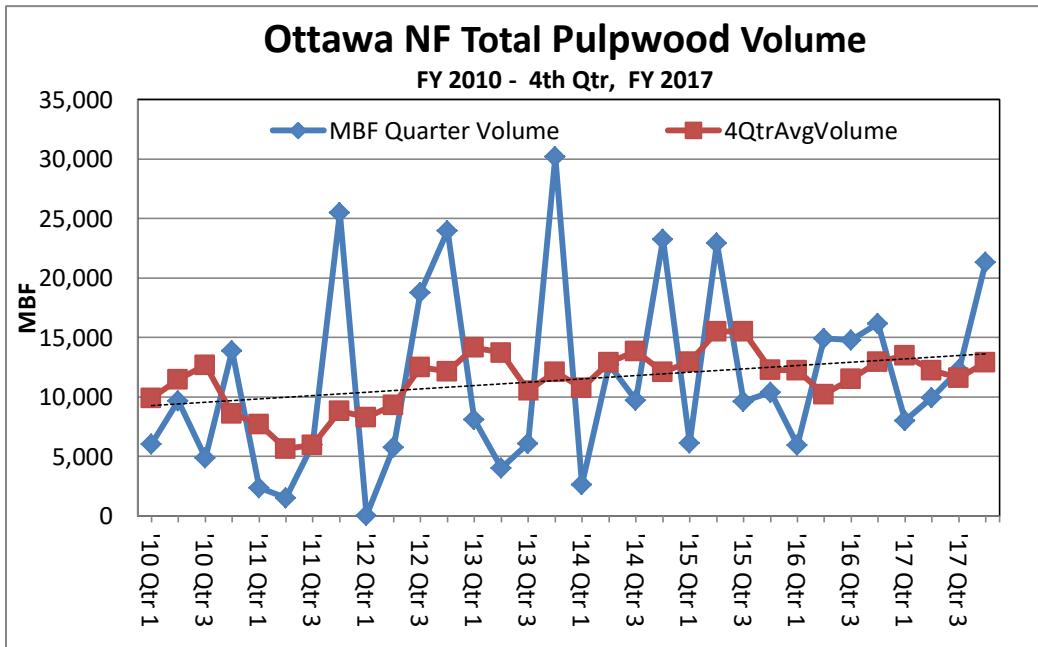
<http://www.fs.fed.us/forestmanagement/products/cut-sold/index.shtml>



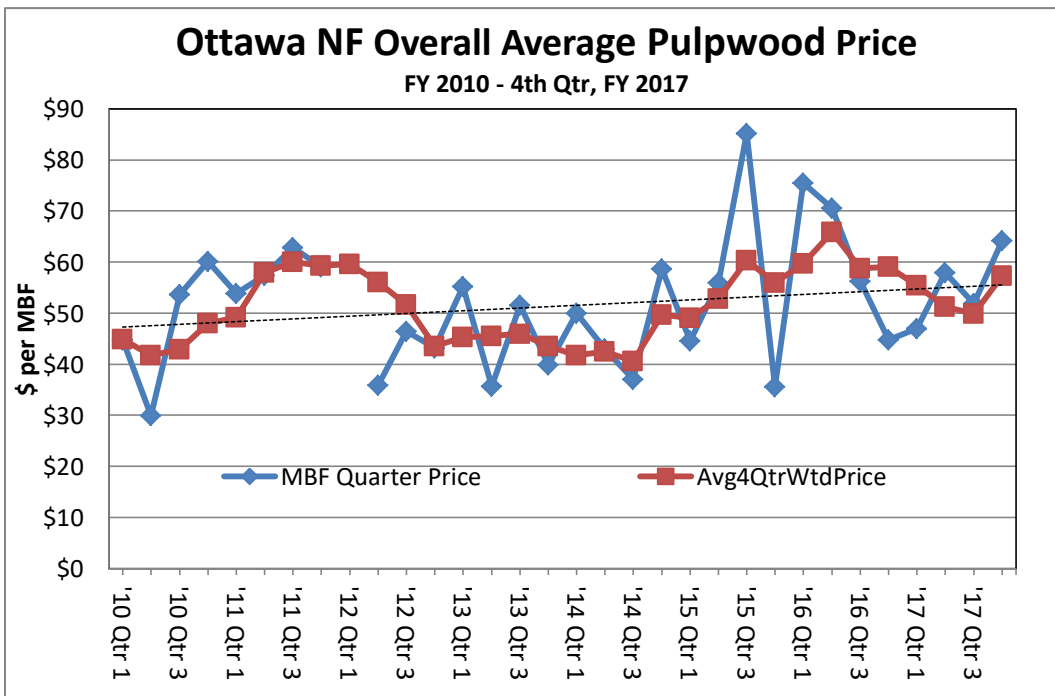
Total Ottawa sawtimber sale volume dropped further to 3.95mmbf in the 4<sup>th</sup> quarter. It was at 6.4mmbf in the 2<sup>nd</sup> quarter. Following a record 7.3mmbf in the 4<sup>th</sup> quarter of FY 2015, it dropped to only .6mmbf in the 1<sup>st</sup> quarter of FY 2016, but it has rebounded and been much higher since then. Ottawa's sawtimber seven-year sale volume trend is increasing much more than Hiawatha's or Huron-Manistee's, although Ottawa's volumes from quarter-to-quarter are somewhat erratic.



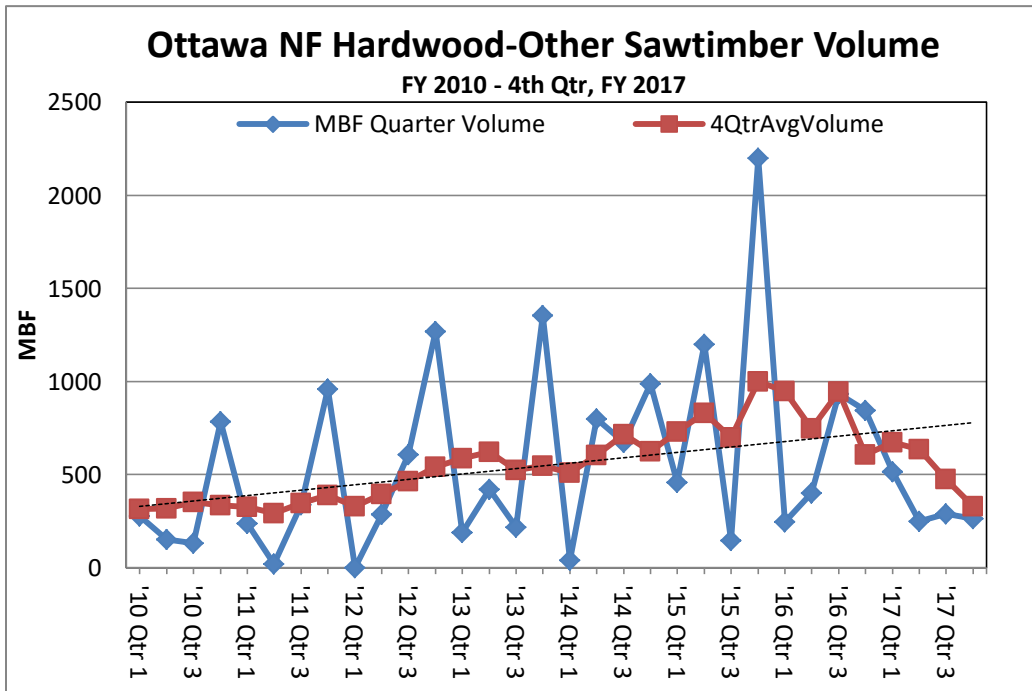
The overall average sawtimber price declined sharply from \$336 to \$143 per mbf in the 2<sup>nd</sup> quarter. It inched back up to \$169 per mbf in the 3<sup>rd</sup> quarter and reached \$192 per mbf in the 4<sup>th</sup> quarter. There is an increasing seven-year price trend. The Ottawa sawtimber price trend is greatly influenced by sugar maple volumes and prices.



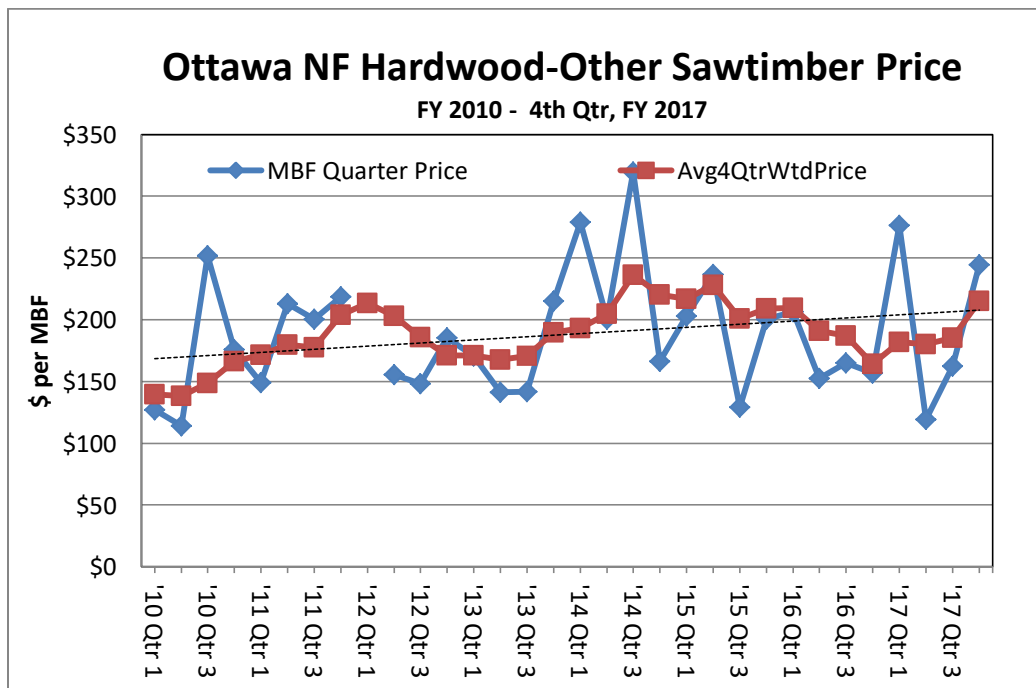
The 4<sup>th</sup> quarter total pulpwood sale volume rose sharply from 12.3 to 21.4mmbf. It has been rising for three quarters, starting from a base of 8mmbf in the 1<sup>st</sup> quarter of FY 2017. The record high level for the past seven years was over 30mmbf reached in the 4<sup>th</sup> quarter of FY 2013. The seven-year sale volume trend has been on a modest incline. Ottawa sawtimber and pulpwood volumes have been generally highest in the 4<sup>th</sup> quarter and have often dropped sharply in the 1<sup>st</sup> quarter. Pulpwood sale volumes for the 2<sup>nd</sup> and 3<sup>rd</sup> quarters often fall between the other two quarters' volumes.



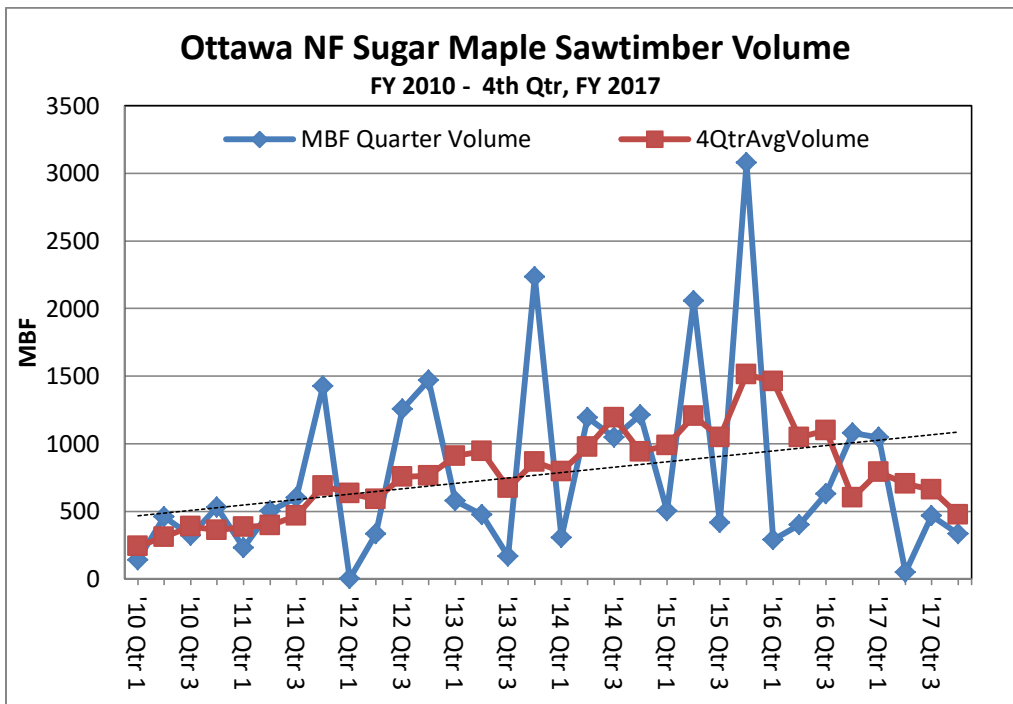
The 4<sup>th</sup> quarter overall average pulpwood price rose from \$51.88 to \$64.15 per mbf. Prices had plunged from a six-year peak of \$85.22 to \$35.56 per mbf between the 3<sup>rd</sup> and 4<sup>th</sup> quarters of FY 2015 before rebounding to \$75.52 in the 1<sup>st</sup> quarter of FY 2016. But these fairly large swings in pulpwood prices are the exception, not the rule, for the past seven years. (In contrast, there have been much wider swings in pulpwood volumes). There is a mildly increasing seven-year price trend. Prices are not likely to change much next quarter, but they are a bit more likely to decrease than increase, given the most recent 4<sup>th</sup> quarter increase jumping above the trend line.



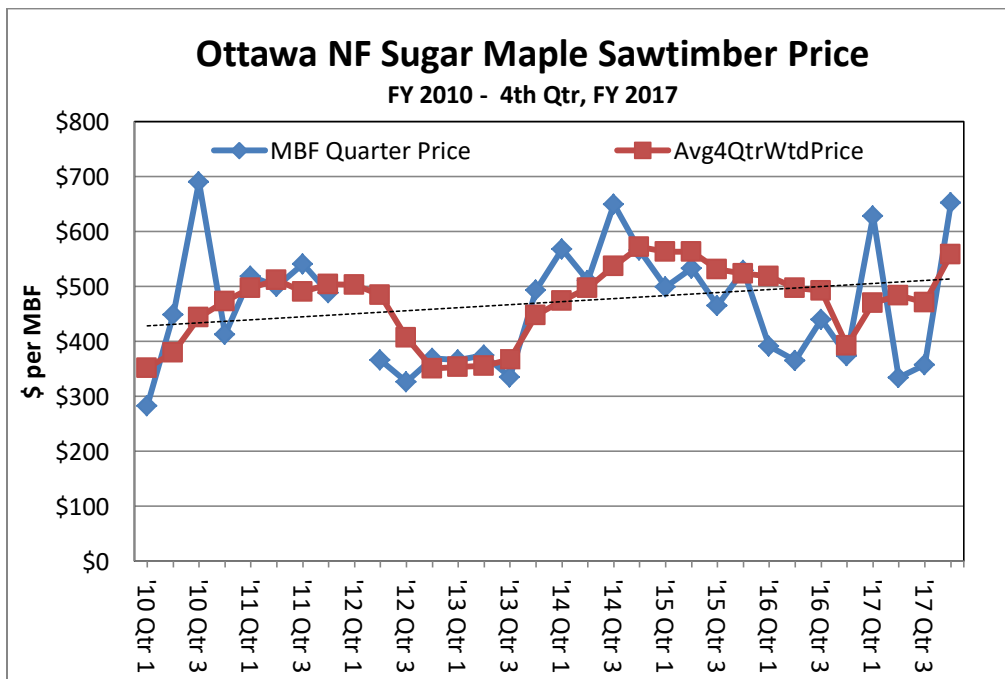
The hardwood-other sawtimber sale volume rose slightly to 290mbf in the 3<sup>rd</sup> quarter and then dipped back to 263mbf in the 4<sup>th</sup> quarter. This was somewhat unexpected as the sale volume had been below the seven-year trend line for the previous three quarters. Sale volume reached a record 2.2mmbf level in the 4<sup>th</sup> quarter of FY 2015. In contrast to recent declines and lower volume levels, the sale volume trend has been increasing over the past seven years. While sales have been below the trend line in recent quarters, they have also been less erratic than what they were a few years ago. Sale volumes are expected to tick upward in an upcoming quarter.



The hardwood-other mbf sawtimber prices rose sharply in the 4<sup>th</sup> quarter from \$163 to \$245 per mbf. They had fallen from \$276 per mbf in the 1<sup>st</sup> quarter to \$119 per mbf in the 2<sup>nd</sup> quarter. 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 the following quarter. Overall, there is a modestly increasing price trend line for the past seven years. Prices are more likely to fall next quarter following the past two quarters of increases.

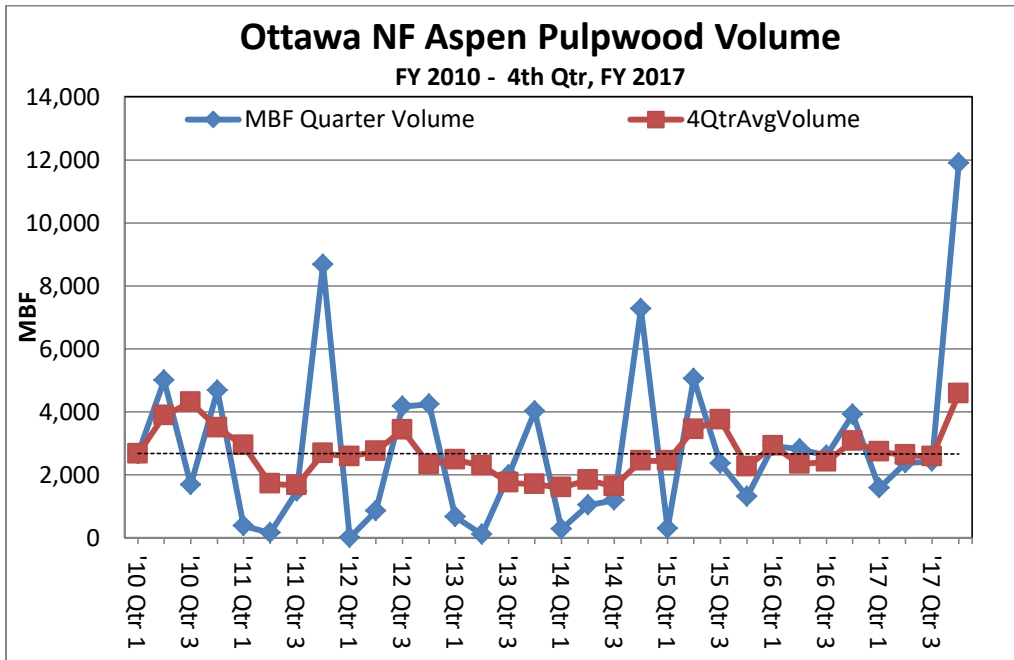


FY 2017 4<sup>th</sup> quarter Ottawa sugar maple sawtimber sale volume fell to 332mbf. This was unexpectedly low. As with most Ottawa timber products, it is typical for the 1<sup>st</sup> quarter to have the lowest sale volume and the 4<sup>th</sup> quarter to have the highest volume. Also, the 4<sup>th</sup> quarter volume was expected to be up relatively substantially as the most recent seven quarters had relatively modest volumes. Now, after being on a steeply increasing trend for five years, FY 2016 and 2017 sawtimber volumes have fallen off sharply. Sugar maple sawtimber sale volumes hit a seven-year record of 3.1mmbf in the 4<sup>th</sup> quarter of FY 2015. While upcoming quarters are not likely to achieve such heights, sales for some quarters should exceed at least 1mmbf.

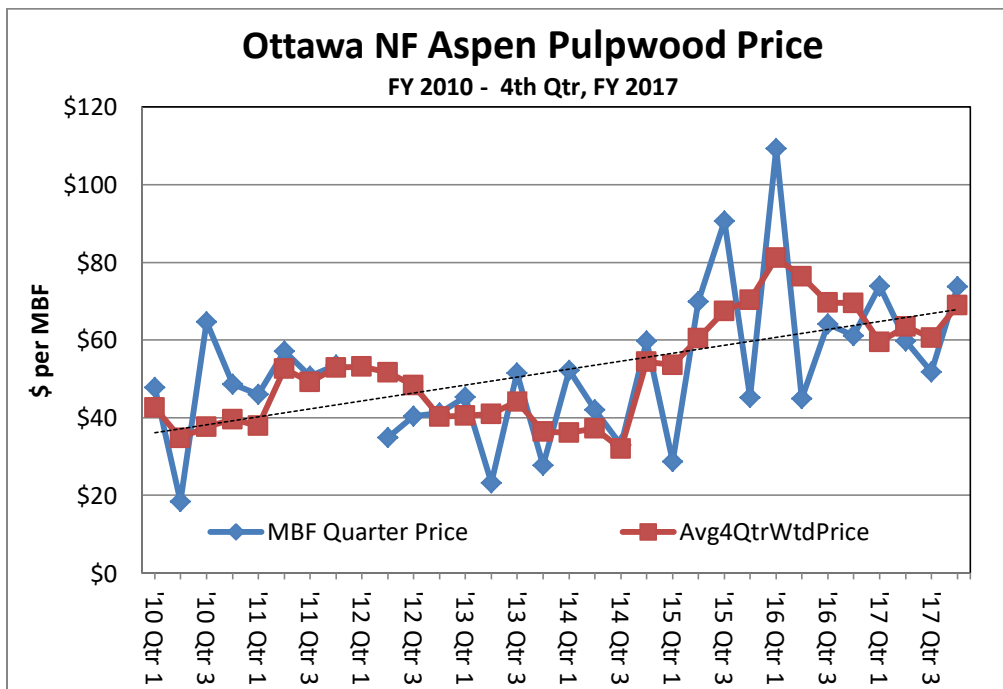


The 4<sup>th</sup> quarter sugar maple sawtimber price shot up to \$652 per mbf. The price had gone up from \$374 to \$628 in the 1<sup>st</sup> quarter of FY 2017 and then plummeted back down again in the 2<sup>nd</sup> quarter to \$334 and modestly rose to \$357 per mbf in the 3<sup>rd</sup> quarter. It was at \$690 back in the 3<sup>rd</sup> quarter of FY 2010 and at \$650 in the 3<sup>rd</sup> quarter of FY 2014. There is a moderately increasing price trend over the past seven years. After such a sharp increase in the most recent quarter, it is very likely prices will decline in upcoming quarters unless sale volumes do not increase.

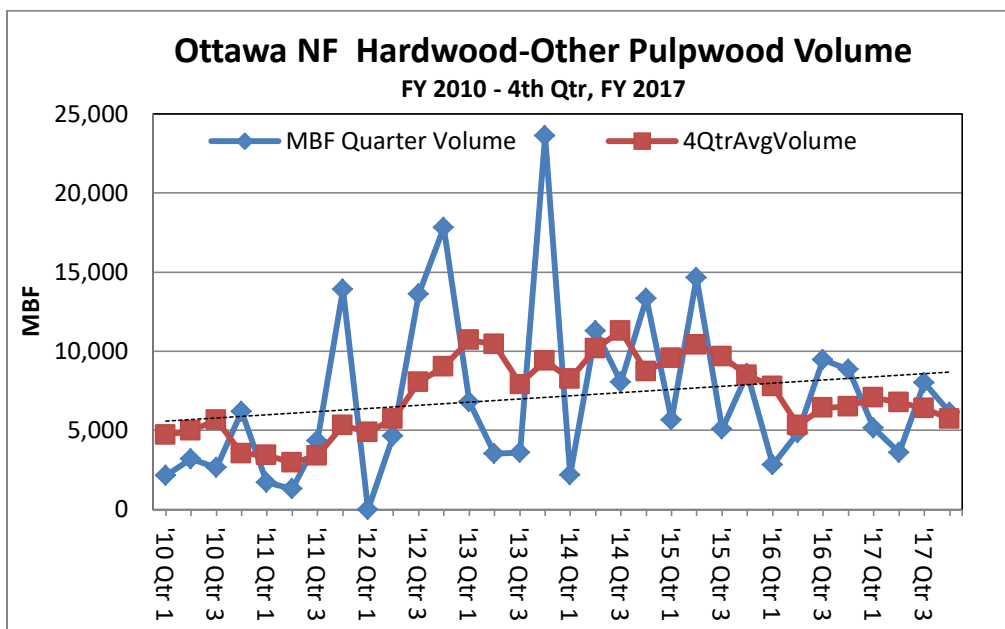




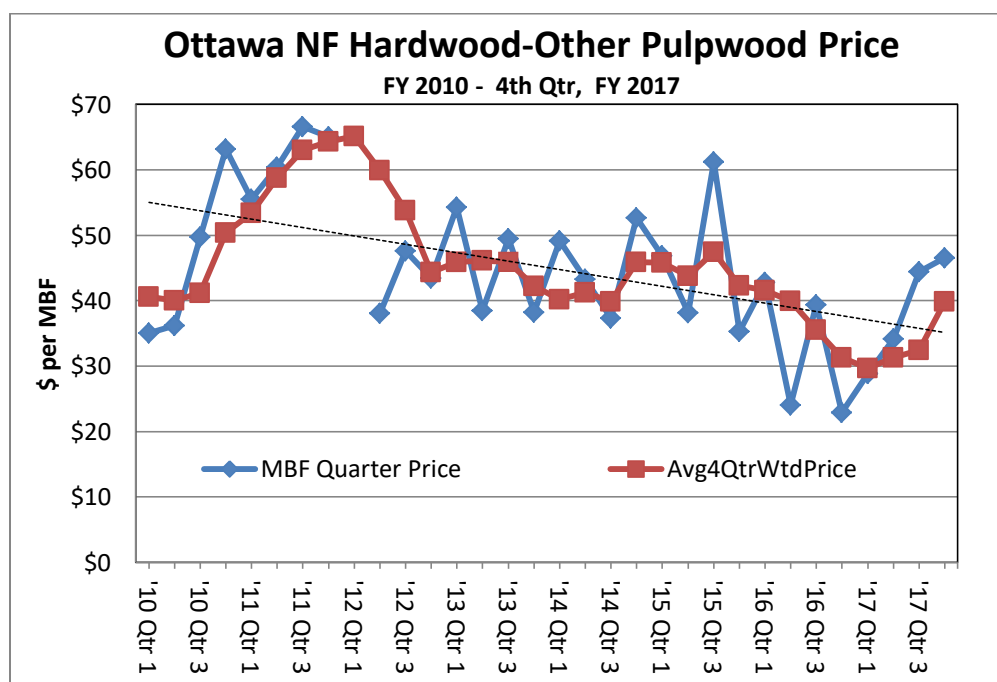
Aspen pulpwood sale volume hit a record 12mmbf record in the 4<sup>th</sup> quarter of FY 2017. Before it hit this record, it had been in a fairly narrow range between 1.3 and 4mmbf for nine quarters. Previously, sale volumes had been quite erratic from quarter-to-quarter, with volumes at the extremes (under 1,000 mbf or over 4,000 mbf) more frequent than sales in the middle range. Sales have been as high as 8.7mmbf in the 4<sup>th</sup> quarter of FY 2011 and 7.3mmbf in the 4<sup>th</sup> quarter of FY 2014. Incorporating the latest record sale level converts a slightly downward sale volume trend to a flat trend.



The 4<sup>th</sup> quarter aspen pulpwood price increased from \$52 to \$74 per mbf. The 1<sup>st</sup> quarter FY 2016 aspen pulpwood price shot up to a record \$109 per mbf, but the price came right back down to \$45 again in the 2<sup>nd</sup> quarter of FY 2016. Since then - for the past six quarters - the price has fluctuated within a \$50 to \$75 range. With erratic sale volumes and many quarters with low or no volume as a backdrop, the overall price trend for the past six years has been increasing.



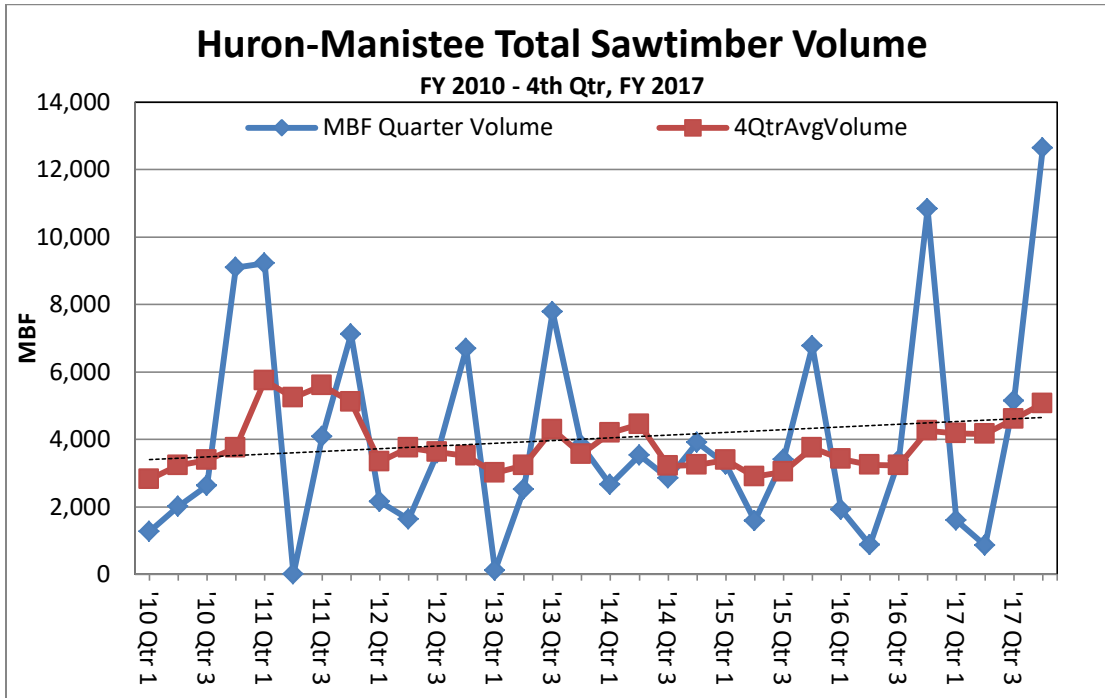
Hardwood-Other pulpwood 4<sup>th</sup> quarter sale volume declined from 8 to 6.1mmbf. Sale volume hit a record high 23.6mmbf in the 4<sup>th</sup> quarter of FY 2013. Volume changes from quarter-to-quarter have moderated in recent years compared to what they were in FY 2011 through 2013. Volumes have trended upward in the past seven years, but the trend for the past three years is slightly declining.



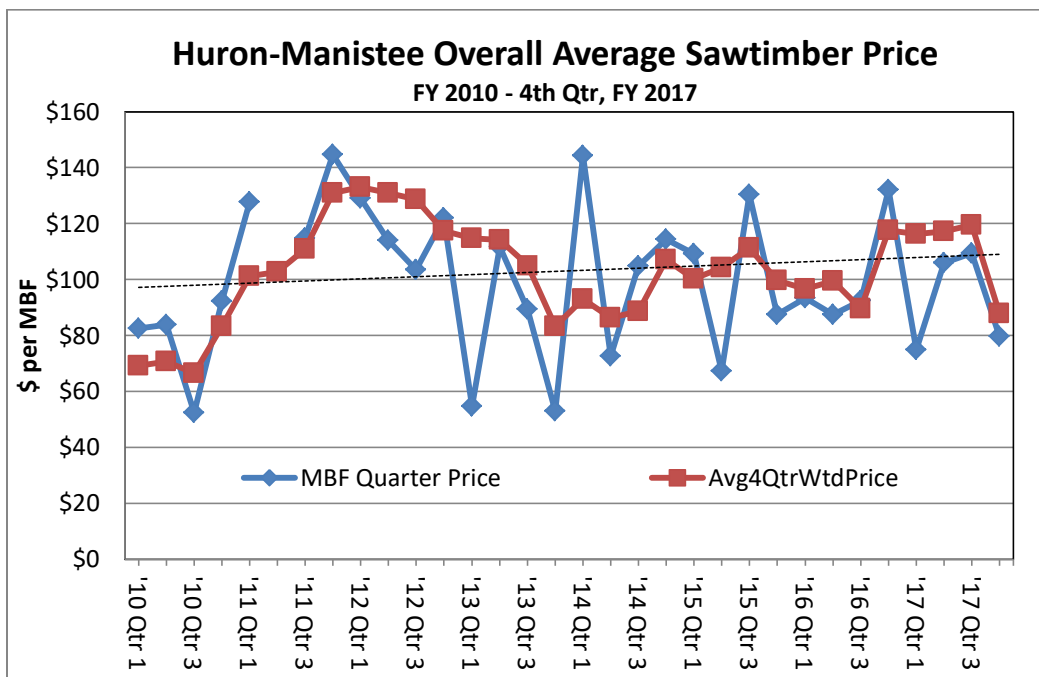
The 4<sup>th</sup> quarter FY 2017 hardwood-other pulpwood mbf price increased modestly, from \$44.42 to \$46.64 per mbf. The increase was unexpected in part because it was the fourth quarterly price increase in a row and the price is well above the seven-year price trend line. The price was over \$61 per mbf before falling in the 4<sup>th</sup> quarter of FY 2015 to \$35. The seven-year price trend is declining, particularly influenced by higher prices in FY 2010 and FY 2011 and the low prices in the 2<sup>nd</sup> and 4<sup>th</sup> quarters of FY 2016. For most upcoming quarters, it is expected that there will be a reversal in what have recently been increasing prices.

## Huron-Manistee National Forest Major Species Product Timber Sales, FY 2010 –4<sup>th</sup> Qtr, 2017

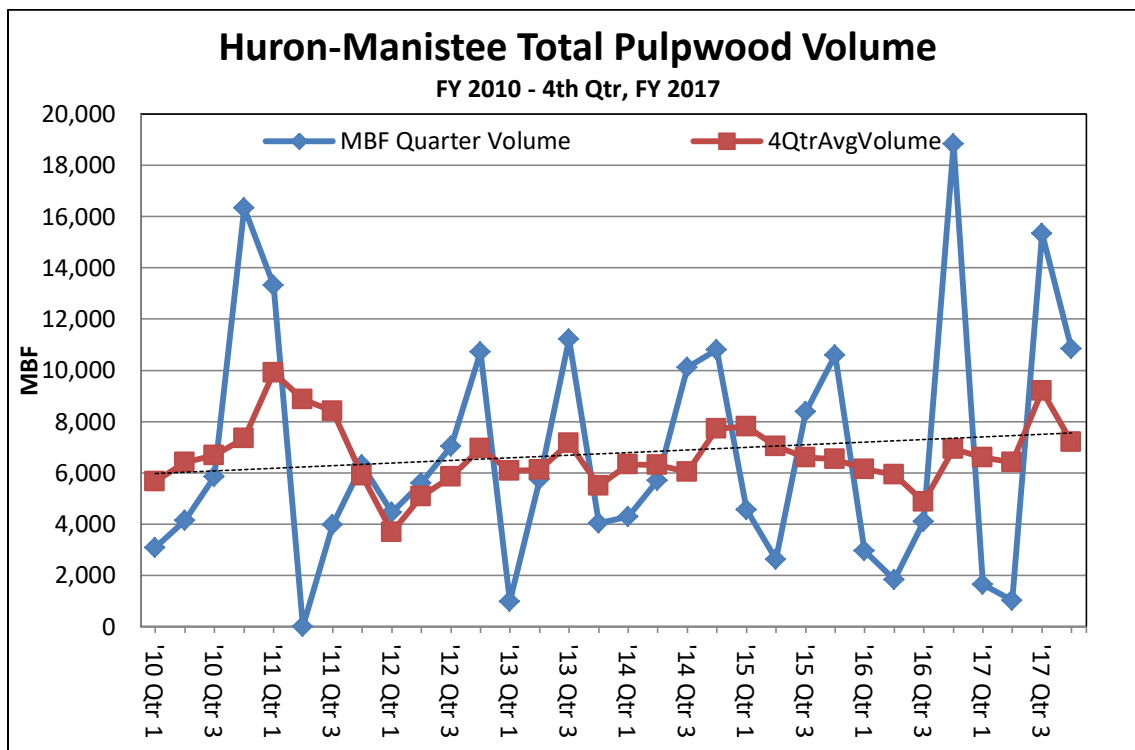
Graphs include a dotted trend line based upon the data set for the average of gthe last four quarters. Gaps in the blue quarter line indicate no sales in the quarter. The National Forests follow the federal fiscal year from October 1 through September 30. The most recent data included here is for the 4<sup>th</sup> quarter of FY 2017 (July through September, 2017). 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/cut-sold/index.shtml>



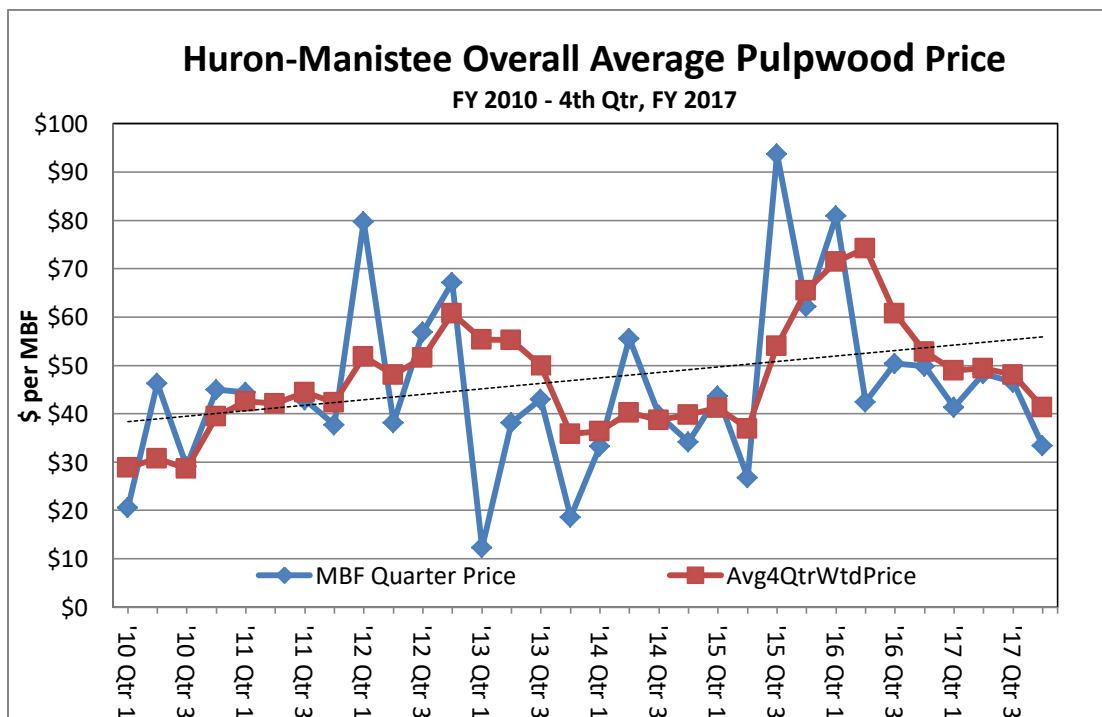
The Huron-Manistee (H-M) sawtimber sale volume hit a seven-year record of 12.64mmbf in the 4<sup>th</sup> quarter. The previous record was 10.8mmbf in the 4<sup>th</sup> quarter of FY 2016. The latest volume changed the seven-year trend from being flat to increasing. H-M sawtimber sale volume often peaks in the fourth quarter and then is lower in the 1<sup>st</sup> and 2<sup>nd</sup> quarters. If this pattern holds, the upcoming (1<sup>st</sup>) quarter volume should see a sharp decline.



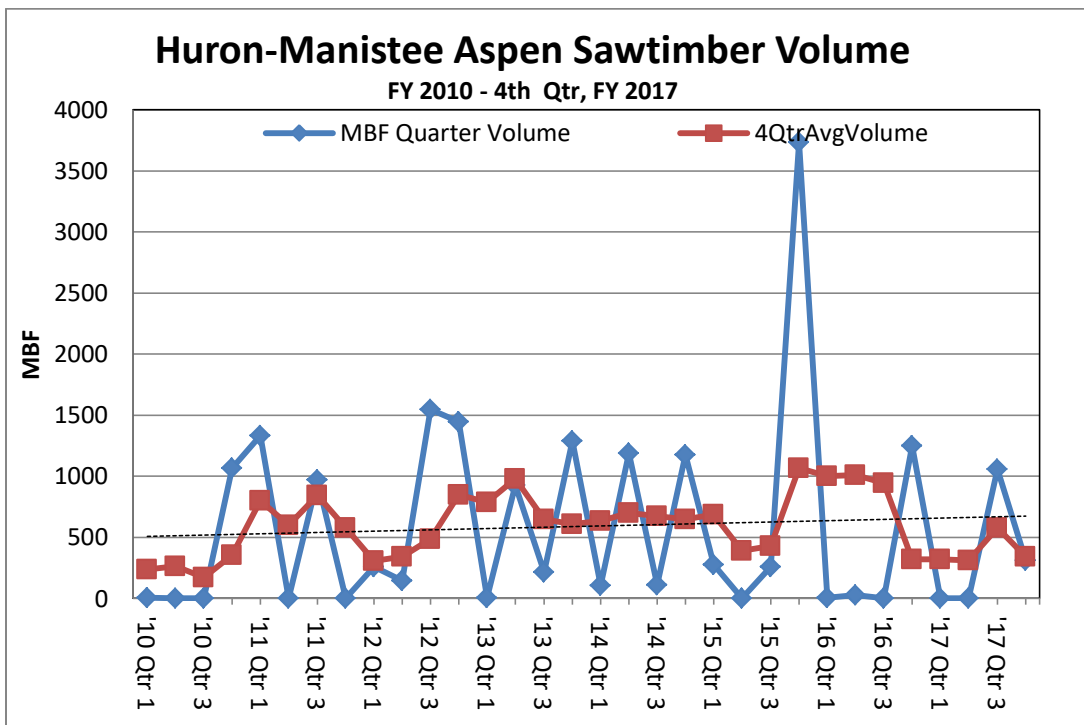
The 4<sup>th</sup> quarter overall average sawtimber price fell from \$109 to \$80 per mbf. Generally, red pine accounts for over half of the H-M sawtimber sale volume and it is the major influence on the overall average sawtimber price.



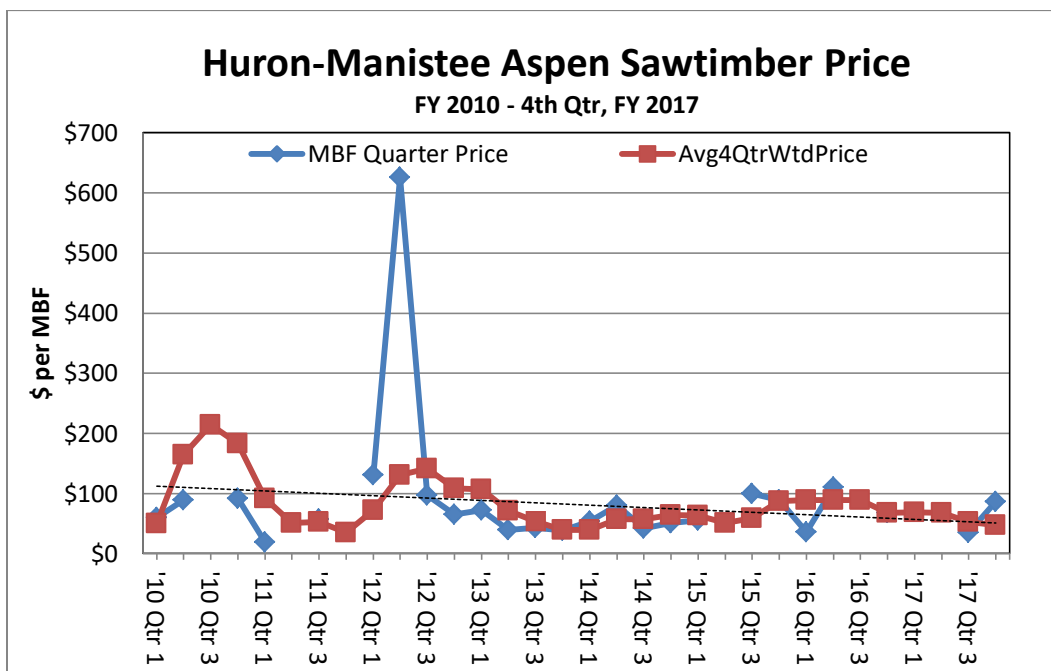
H-M quarterly pulpwood sale volume dropped from 15.3 to 10.8mmbf in the 4<sup>th</sup> quarter. The sale volume seesawed dramatically from almost 19mmbf in the 4<sup>th</sup> quarter of last year to under 2mmbf in the first two quarters of this year and then to over 15mmbf in the 3<sup>rd</sup> quarter. A sharp increase in the FY 2016 4<sup>th</sup> quarter was expected due to the relatively low sales in the prior three quarters and a pattern of higher 4<sup>th</sup> quarter sales. The dramatic drop in sales for the 1<sup>st</sup> quarter of FY 2017 exceeded expectations. A further drop in sales for the upcoming 1<sup>st</sup> quarter of FY 2018 is expected.



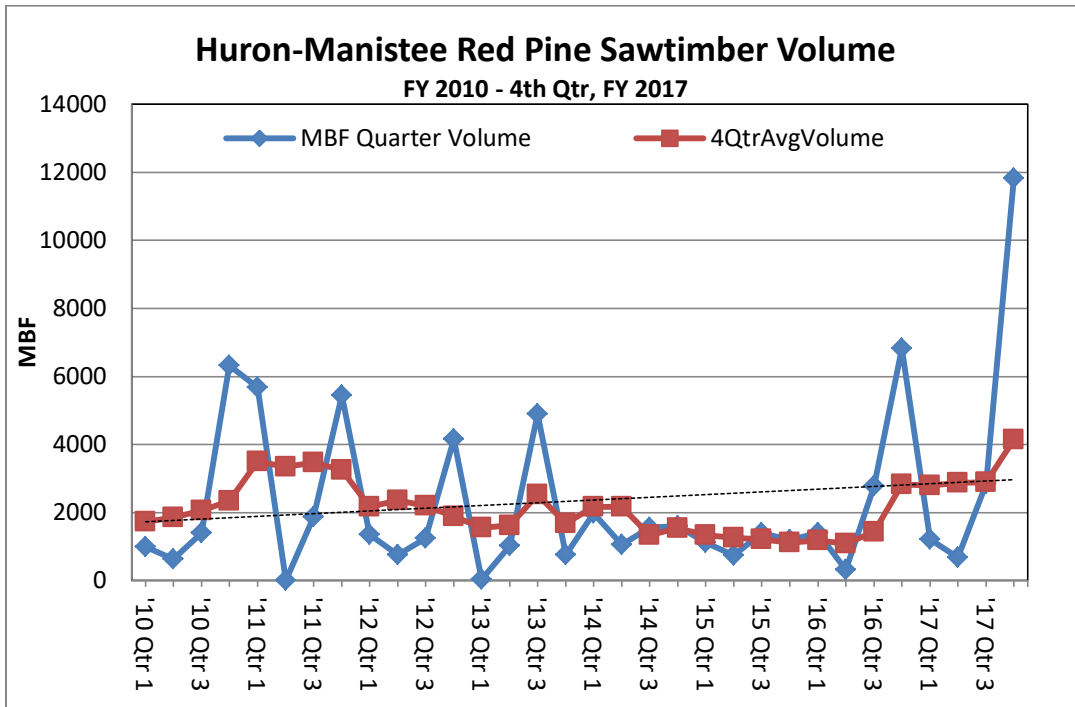
Average H-M pulpwood prices dropped from \$46.56 to \$33.39 per mbf in the 4<sup>th</sup> quarter. Prices had remained relatively stable and below the seven-year trend for six quarters, bouncing back and forth between \$40 and \$50 per mbf. Pulpwood prices do not have as distinctive of quarterly patterns and are not as seasonally predictable as H-M pulpwood sale volumes or forest products of other National Forests. However, most upcoming quarters are expected to have higher prices, given how far prices have fallen.



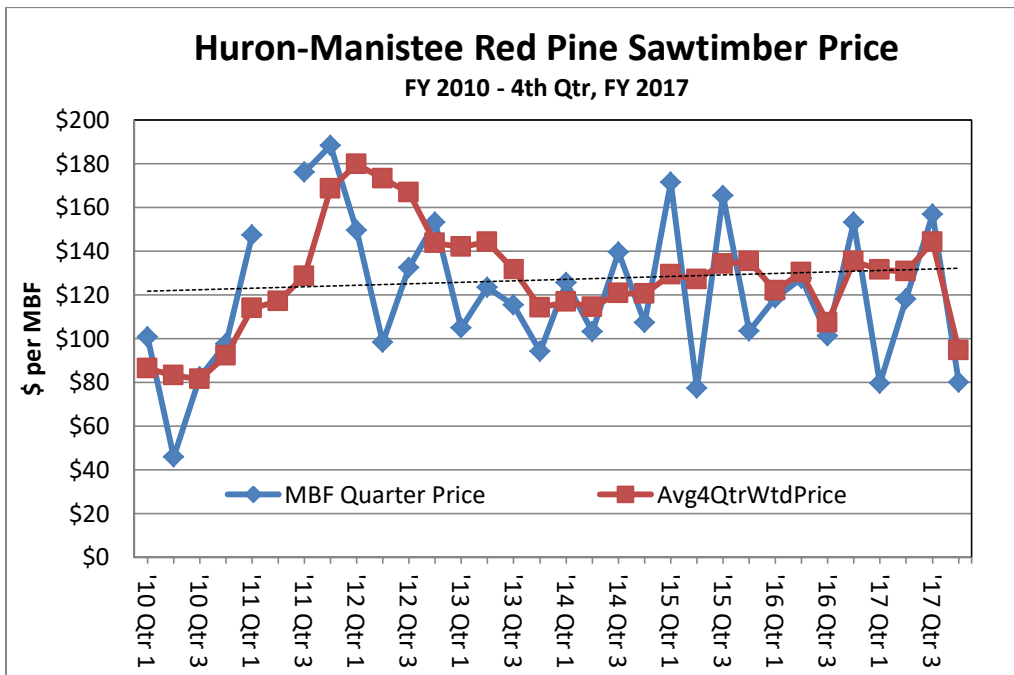
H-M 4<sup>th</sup> quarter aspen sawtimber sale volume fell from 1,058mbf to 310mbf. This followed no aspen sawtimber sales in the 1<sup>st</sup> or 2<sup>nd</sup> quarters of FY 2017. Low or no aspen sawtimber volume in the first two quarters of the fiscal year has been typical for the H-M. FY 2016 aspen sawtimber sales were low through three quarters and then reached 1.25mmbf in the 4<sup>th</sup> quarter. FY 2015 also saw three quarters of below average sales and then a record 3.74mmbf sale volume in the 4<sup>th</sup> quarter. There is a slightly increasing sale trend over the past seven years. Typically, the sale volume would be lower in the upcoming 1<sup>st</sup> quarter.



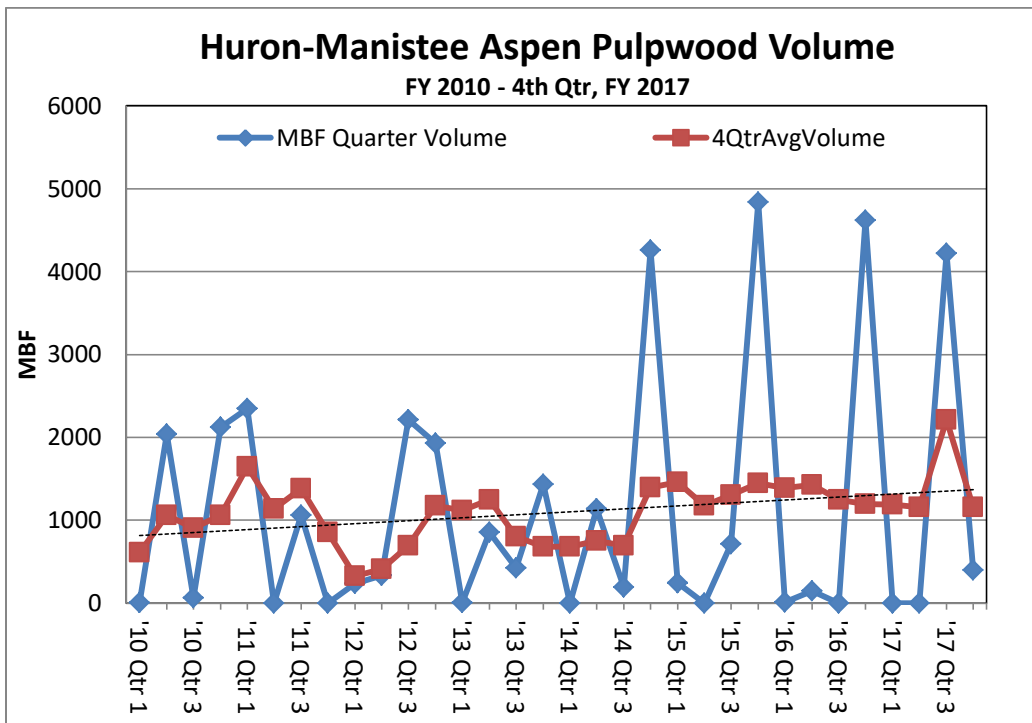
The 4<sup>th</sup> quarter aspen sawtimber price jumped from \$35.36 to \$86.92 per mbf. There was no aspen sawtimber price in the 1<sup>st</sup> or 2<sup>nd</sup> quarters of FY 2017 as there were no sales. The FY 2016 4<sup>th</sup> quarter aspen sawtimber price was \$67.59 per mbf (it is hidden by the red "Avg4QtrWtdPrice" in the above graph). The last time there was appreciable sale volume was in the 4<sup>th</sup> quarter of FY 2015 when the volume was over 3.7mmbf and the price averaged close to \$89 per mbf.



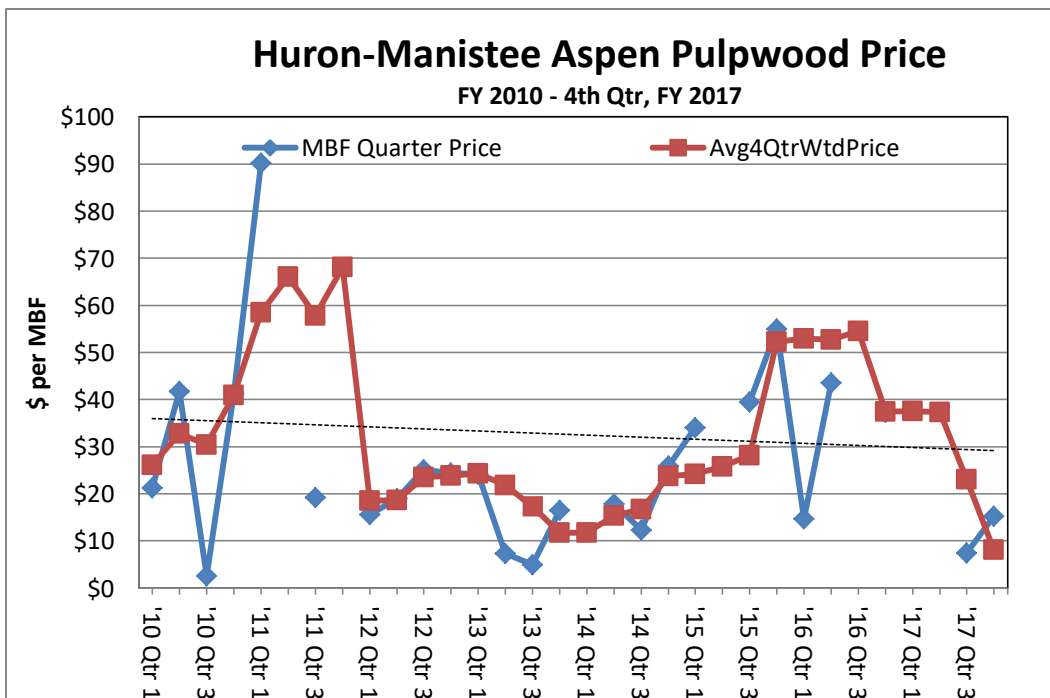
Red pine sawtimber volume hit a record 11.8mmbf in the 4<sup>th</sup> quarter, up from 2.84mmbf in the 3<sup>rd</sup> quarter. Sale volumes had been fairly stable for almost three years before increasing to 2.8mmbf in the 3<sup>rd</sup> quarter of FY 2016 and then jumping even more to what was then a record 6.8mmbf the next quarter. It fell to only 1.2mmbf in the 1<sup>st</sup> quarter and then to .7mmbf in the 2<sup>nd</sup> quarter of FY 2017 before rebounding in the 3<sup>rd</sup> quarter. Before the record 4<sup>th</sup> quarter sales, there had been a slight downward sale volume trend, but now that has flipped to an increasing trend on the basis of just the most recent quarter. There is no doubt that next (1<sup>st</sup>) quarter's volume will plummet sharply from the 4<sup>th</sup> quarter level.



Red pine sawtimber prices fell back from \$157 to \$80 per mbf in the 4<sup>th</sup> quarter. They have been seesawing back and forth most quarters between roughly \$80 and \$160 for several years now. Following this pattern, next (1<sup>st</sup>) quarter's price is slated to rebound upward. There is a slight increasing price trend over the past six years.

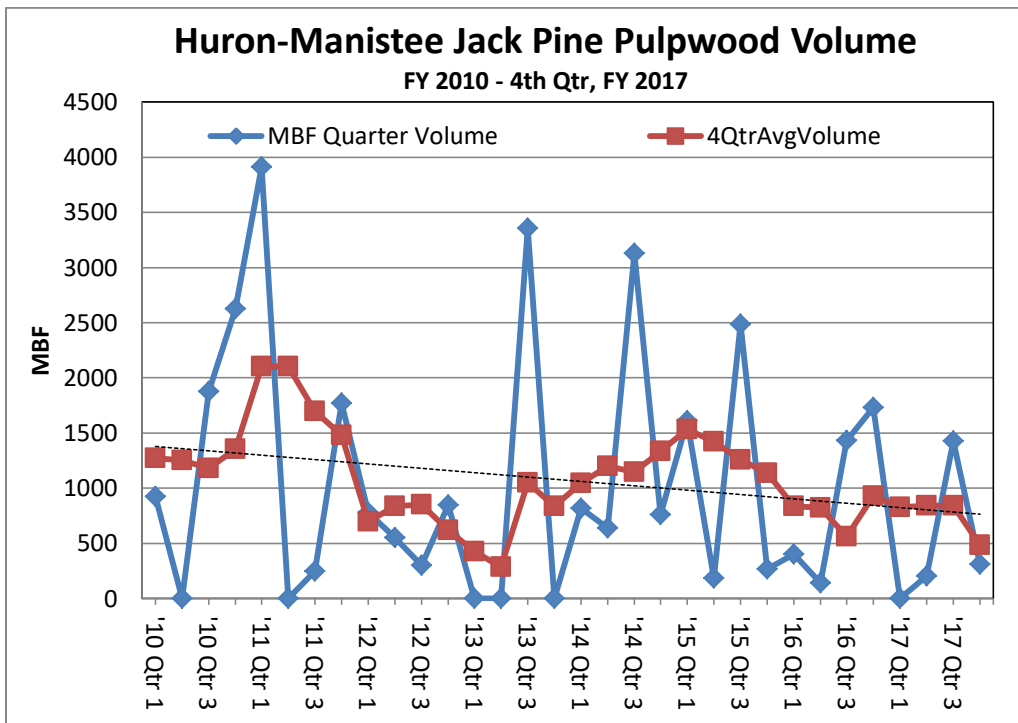


The pattern for quarterly aspen pulpwood volumes is similar to that for aspen sawtimber volumes, except there are bigger swings in the pulpwood volumes. Following a well-established pattern, the most recent 4<sup>th</sup> quarter sale volume plummeted from a 3<sup>rd</sup> quarter level of 4.2mmbf down to .4mmbf. The prior three fiscal years saw high sales in the 4<sup>th</sup> quarter and negligible or no sales the other three quarters, but high sales took place in the 3<sup>rd</sup> quarter of FY 2017. It will be somewhat surprising if upcoming 1<sup>st</sup> or 2<sup>nd</sup> quarter sales exceed 1mmbf.

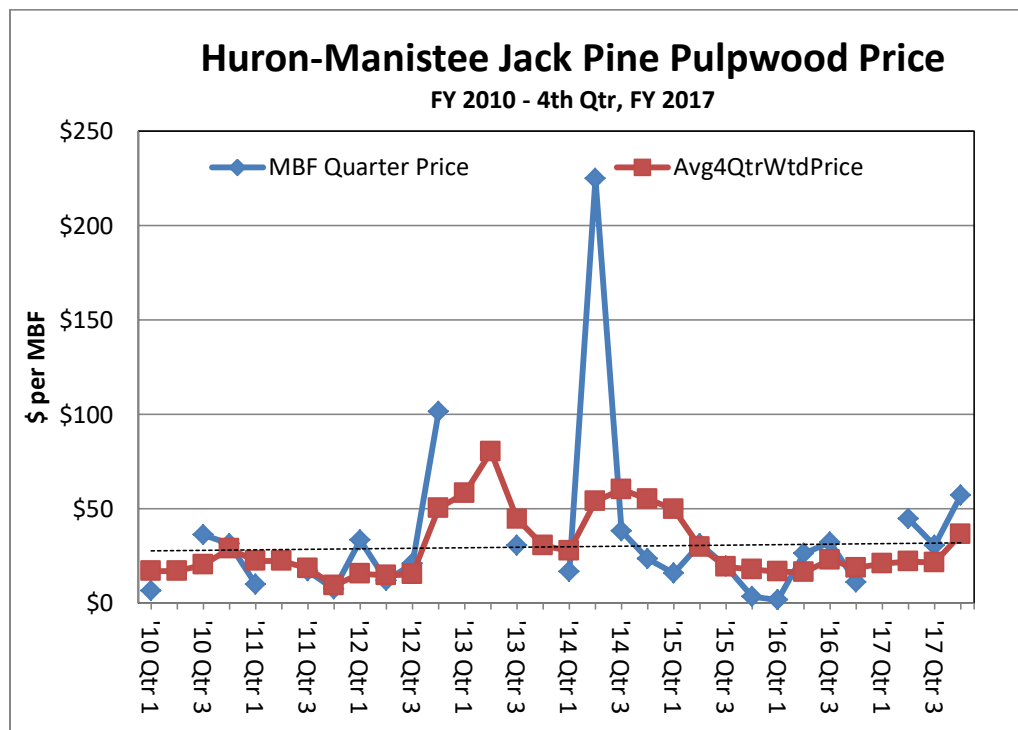


The 4<sup>th</sup> quarter aspen pulpwood price remained relatively low, rising from a very low \$7.49 in the 3<sup>rd</sup> quarter to \$15.26 per mbf. There are no 1<sup>st</sup> or 2<sup>nd</sup> quarter aspen pulpwood prices as there were no sale volumes. The 4<sup>th</sup> quarter, FY 2016 aspen pulpwood price was \$37.35 per mbf (it is hidden by the red "Avg4QtrWtdPrice" value in the above graph). It was at \$55 in the 4<sup>th</sup> quarter of FY 2015 on high volume, up from about \$40 per mbf in the 3<sup>rd</sup> quarter. The seven-year price trend is slightly declining; however, prices for many quarters are based on low or no sale volumes.

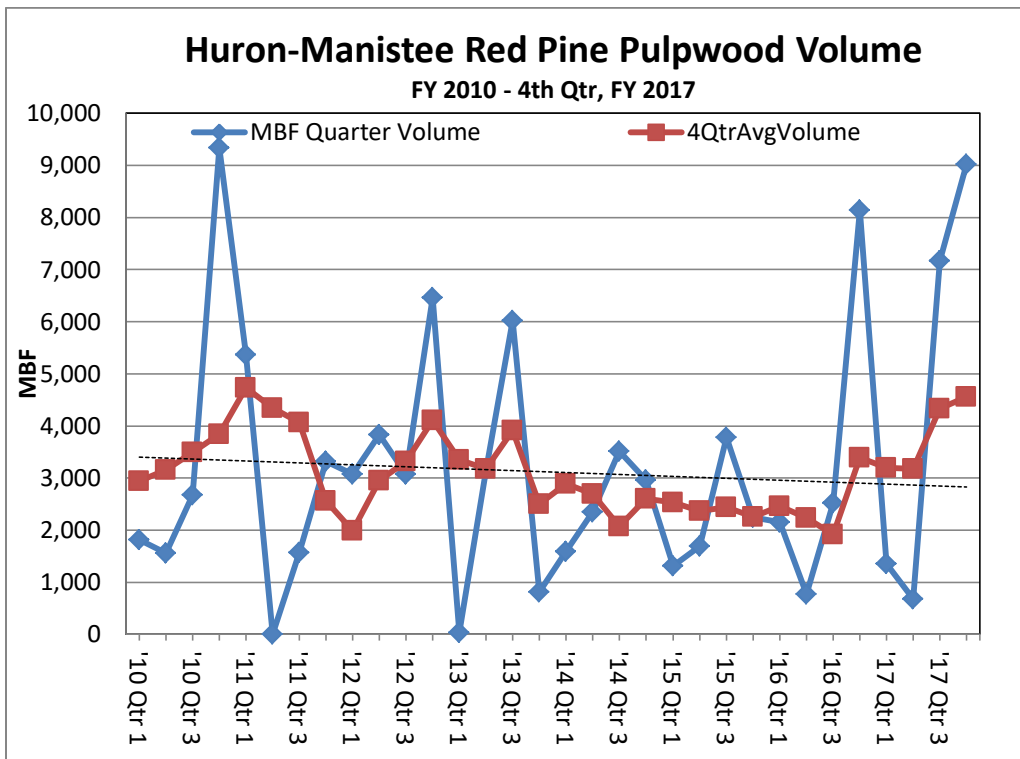




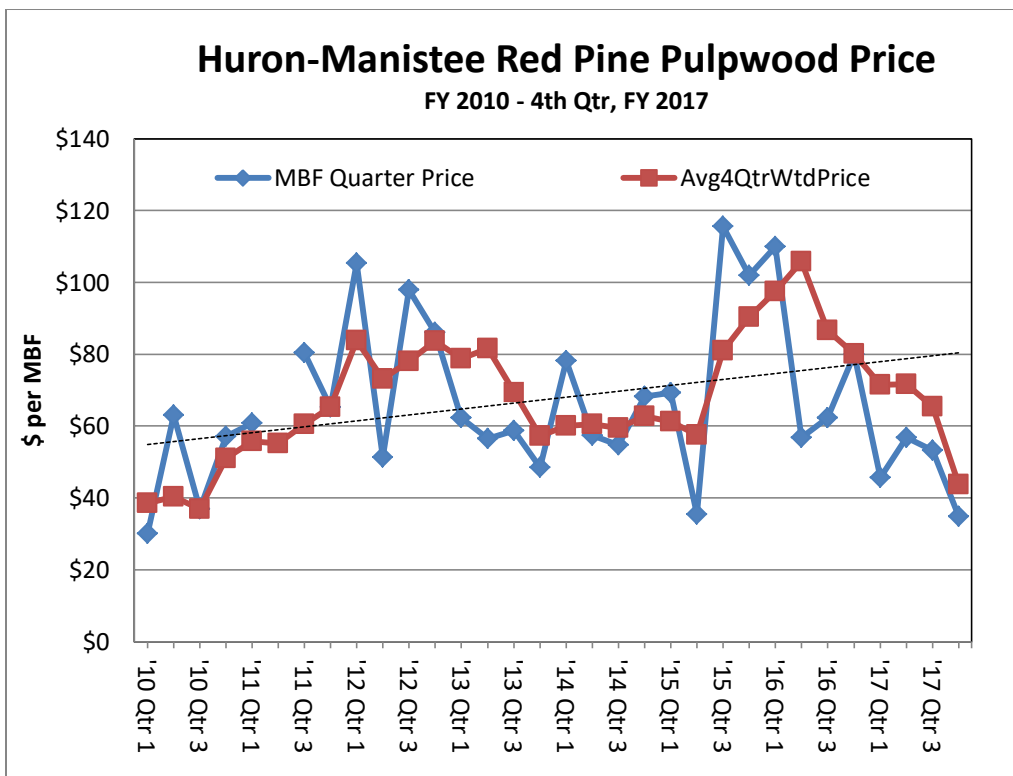
Jack pine pulpwood sale volume dropped from 1425mbf to 311mbf in the 4<sup>th</sup> quarter. There was no jack pine pulpwood sale volume in the 1<sup>st</sup> quarter of FY 2017 and only 203mbf in the 2<sup>nd</sup> quarter. Overall, jack pine pulpwood sale volume has been on a downward trend and a majority of quarters have sale volume below 1mmbf. Also, as can be seen in the graph above, each successive year's peak tends to be lower than prior year peaks. Unlike many other products' sale volumes which peak in the 4<sup>th</sup> quarter, most of the quarterly peaks for jack pine sale volume have occurred in the 3<sup>rd</sup> quarter. Part of the jack pine sale volume decline in recent years may be due to more jack pine being reported in a combined sale category with red and white pine.



The 4<sup>th</sup> quarter jack pine pulpwood price rebounded from \$31 to over \$57 per mbf. There was no sale volume or price in the 1<sup>st</sup> quarter. 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. The seven-year price line is relatively flat, but there are many quarters with low or no sales and a few quarters with price anomalies which inhibit establishing a reliable price trend line.



Quarterly red pine pulpwood sale volumes experience similar large swings to those seen with red pine sawtimber. The volumes went from 8.14mmbf in the 4<sup>th</sup> quarter of FY 2016 down to 1.4mmbf in the 1<sup>st</sup> quarter of FY 2017, followed by a further decline to .7mmbf in the 2<sup>nd</sup> quarter and then a rise to 7.2mmbf in the 3<sup>rd</sup> quarter. The 4<sup>th</sup> quarter sale volume went up even higher, to over 9mmbf. There has been a slight declining sale volume trend over the past six years. As with red pine sawtimber volumes, there is little doubt that next (1<sup>st</sup>) quarter's volume will plummet sharply from the 4<sup>th</sup> quarter level.



The 4<sup>th</sup> quarter FY 2017 red pine pulpwood price dropped again, from \$53.21 down to \$34.81 per mbf. The price reached record levels over \$100 per mbf in 2015. Overall, prices for the past seven years have seen a fairly steep increasing trend. Upcoming quarters should see some modest price increases.