

## Michigan Public Timber Markets, 4th Quarter (July - September), FY 2018

**State Forest data** – FY 2018 saw strong stronger 2<sup>nd</sup> and 4<sup>th</sup> quarters and weaker 1<sup>st</sup> and 3<sup>rd</sup> quarters. The 4<sup>th</sup> quarter of FY 2018 saw the second consecutive market retreat, landing at 212,000 cords, down nearly 19% from Q3 and 45% from Q2. As of this writing, the DNR has not provided total sale (bid & non-bid species) volume for Q4.

The Northern Lower Peninsula (NLP) fared better than the Upper Peninsula (UP) regarding bid species, the former seeing a slight rise to 173,000 cords from 160,000 in Q3; the latter tanking to a cellar-dwelling 39,000 this quarter after last quarter's 101,000. Overall average timber price statewide fell slightly to \$47.90 per cord in Q4-2018, down some ticks from last quarter's \$53.00 mark.

In pulpwood sale volume, the LP-UP trend was the same. Pulpwood volume dropped significantly in the UP to 37,000 from 92,000 cords but rose slightly in the NLP to 116,000 cords from last quarter's 114,000.

The slight uptick in NLP aspen pulpwood sale volume and slightly larger downtick in the UP results mirror the broader market trend for Q4 of 2018. NLP pulpwood sale volume rose to 32,500 cords, while the UP volume fell to 7,500 in Q4 from 10,500 cords in Q3.

The aspen pulpwood price index saw its third consecutive quarterly price drop, settling to \$29.02. This price nearly converged with the most recent NLP price of \$27.38 in this category.

UP softwood pulpwood sale volume fell yet again to 6,000 cords in Q4 from 9,500 in Q3. The per-cord price tanked in a similar fashion, registering a more normal \$29.52 average price per cord in Q4 after an anomalous 3rd quarter price spike to \$66.03.

The NLP red pine pulpwood price was down a fraction in Q4-2018, to \$54.99 from \$55.38, despite higher demand, with buyers acquiring 30,661 cords in Q4 vs. only 17,912 in Q3. In the UP, the relatively higher prices (over NLP) for red pine pulpwood fell back to Earth, i.e. \$70.14 per cord vs. \$92.05 last quarter, based on a lower level of demand, i.e. 5,500 cords in Q4 vs. 28,000 in Q3.

4<sup>th</sup>-quarter jack pine pulpwood cord prices plunged in the UP – to \$49.39 from \$66.32 per cord – but ratcheted up in the NLP to \$27.51 from \$20.59 per cord. Quarter-to-quarter volume volatility continued in the UP in the 4th Quarter with sale volume nearly falling off the chart to 1,500 cords from 8,500 cords; NLP sale volume was nearly flat at 10,000 cords.

NLP sawlog volume showed renewed strength in the 4th Quarter, coming it at just under 28.5 mmbf, the second-highest result since 2010. Across the Straits in the UP, however, sawlog production continued its lackluster showing with just under 1.0 mbf, well below the Q3 mark of just over 4.5 mbf.

Though the price of NLP oak sawtimber declined, it parked at \$206.70 per mbf. Volume in this category rebounded, however, doubling to 3.2 mmbf in Q4 from 1.6 mmbf result in Q3.

In the statewide red pine sawtimber category, Q4 of 2018, prices and volumes diverged. The average price slid further to \$150.09 in Q4 from \$158.65 in Q3. Meanwhile, volume in this sector rebounded, rising at a nearly 70% clip this quarter to 16.8 mmbf from 10.0 the quarter before.

The 3rd Quarter price surge for NLP sugar maple sawtimber (to \$554.83) failed to hold, with the 4th Quarter price sagging to \$410.04. NLP volume withered similarly as only 0.3 mmbf were transacted in Q4, well below the Q3 volume of 1.6 mmbf. In the UP, we saw a near convergence with the NLP price and volume for sugar maple sawtimber, which contradicted several years of historical divergence. The UP price fell modestly in Q4 to \$348.08 from \$414.65 in Q3. UP volume also fell, but less drastically than in the NLP: 0.4 mmbf changed hands in Q4 compared with 1.0 mmbf in Q3.

**National Forest data** – In Q4-2018, small volume gains were seen in Hiawatha sawtimber (3.3 mmbf in Q4 vs. 2.1 mmbf in Q3). Meanwhile, the common “4<sup>th</sup> quarter surge” was observed in the remaining broad categories, i.e. Hiawatha pulpwood (8.7 mmbf in Q4 vs. 5.9 mmbf in Q3), Huron-Manistee sawtimber (13.0 mmbf in Q4 vs. 3.9 mmbf in Q3) and pulpwood (20.8 mmbf in Q4 vs. 4.0 mmbf in Q3); and Ottawa sawtimber (11.5 mmbf in Q4 vs. 8.5 mmbf in Q3) and pulpwood (30.9 mmbf in Q4 vs. 19.4 mmbf in Q3). In fact, all results from Huron-Manistee and Ottawa were nine-year-records.

Ottawa overall average sawtimber prices contradicted the upward volume surge, as the average mbf slid to \$135, a nine-year low. Ottawa overall average pulpwood prices continued their southward tumble to record-low territory, parking at \$30 per mbf at the close of the FY.

The Ottawa hardwood-other sawtimber sale volume continued its climb from the depths in Q4-2018, rising to 1.4 mmbf from a mere 72 mbf in the 1st quarter. The Ottawa hardwood-other sawtimber price went the other way to \$93 per mbf, a \$24 per mbf falloff from Q3.

Ottawa sugar maple sawtimber sale volume is clearly out of the cellar as this species continued its three-quarter rally. The Q4 sale volume was a healthy 1.9 mmbf, the highest level in the last twelve quarters. The precipitous drop in the Ottawa sugar maple sawtimber price continued to a nine-year record low of \$243 per mbf, down \$50 per mbf from \$292 in Q3.

Ottawa aspen pulpwood sale volume closed the year by turning northward to 6.9 mmbf, and this Q4 tally is the fourth highest for Ottawa aspen pulpwood sale volume over the past nine years. The price for this species held its value somewhat better than others as average mbf price was \$42 in Q4, down from \$51 in Q3 but not in the record-low territory seen in other species.

Ottawa hardwood-other pulpwood sale volume tracked the other categories nicely, swelling to 18.2 mmbf, close to record territory. The Ottawa hardwood-other pulpwood category price did not hold its value as well as aspen pulpwood did. The four-quarter downward trend continued unabated, dipping to a nine-year record low of \$16 per mbf.

As mentioned, the Huron-Manistee (H-M) sawtimber sale volume closed the FY by setting a nine-year record. The Q4 price for H-M overall average sawtimber held quite steady in the face of this major demand surge, falling to \$120.12 per mbf in Q4 from \$126.03 previously.

H-M pulpwood sale volume's four-quarter-long contraction was fully shrugged off in Q4 with the aforementioned record performance. Accompanying the hefty surge in volume was a tumbling average H-M pulpwood price, which fell to \$38.02 in Q4 from last quarter's near-nine-year record high of \$88.96.

Practically all FY 2018 activity in the H-M aspen sawtimber volume category was funneled into this 4th quarter, which posted an above-average 1.2 mmbf result after a lackluster Q1 and Q2 and Q3 both with no volume whatsoever. In this category, strong price spike paralleled the volume surge as the price rose to \$138.45 in Q4 from \$85.07 in Q1.

H-M red pine sawtimber volume followed its long-term proclivity to surge in the final quarter of the FY, jumping to 8.3 mmbf after three quarters of decent results. Surprisingly the average H-M Red pine sawtimber price in FY 2018 – at \$168.35 per mbf - remained remarkably stable, putting the volatility of previous years into the rearview mirror.

A full 87% of H-M aspen pulpwood sale volume – 3.5 mmbf - occurred in this current 4th quarter, which experienced the clockwork-like end-of-year spike. The sale price registered at \$26.91 per mbf,

After four periods of negligible volume, H-M jack pine pulpwood sale volume's vital signs were evident again as a 2.5 mmbf result was posted in Q4. This category's price rose to \$19.26, up around a dollar from \$18.15 in Q3.

Although H-M's red pine pulpwood volume didn't start as deep in the hole as aspen and jack pine, the nine-year record tally of 11.9 mmbf in Q4 did represent 58% of volume sold in FY 2018. Yet the price went in the opposite direction, tumbling to \$50.33 from \$102.52 last quarter.

In the 4th quarter, Hiawatha sawtimber sale volume was up slightly as noted above. The higher volume in Hiawatha sawtimber took its toll on the average price per mbf, which fell to \$154.40 in Q4 from \$195.70 last quarter.

In Q4, the tide was turned on two declining quarters for Hiawatha pulpwood volume. The gravitational force from higher Hiawatha pulpwood volume grounded the tugged down the average price to \$59.46 in Q4 from \$116.21 in Q3.

After experiencing negligible to zero sale volume in most major categories in Q3, results from Hiawatha wrapped up the FY on a higher note as follows: jack pine sawtimber (333 mbf in Q4 vs. 110 mbf in Q3), jack pine pulpwood (562 mbf in Q4 vs. 287 mbf in Q3); hardwood-other pulpwood (2.4 mmbf in Q4 vs. 57 mbf in Q3), hardwood-other sawtimber (637 mbf in Q4 vs. 2 mbf in Q3), aspen pulpwood (2.4 mmbf in Q4 vs. 0 mbf in Q3); red pine sawtimber (2.0 mmbf in Q4 vs. 0 mbf in Q3) and red pine pulpwood (1.7 mmbf in Q4 vs. 0 mbf in Q3).

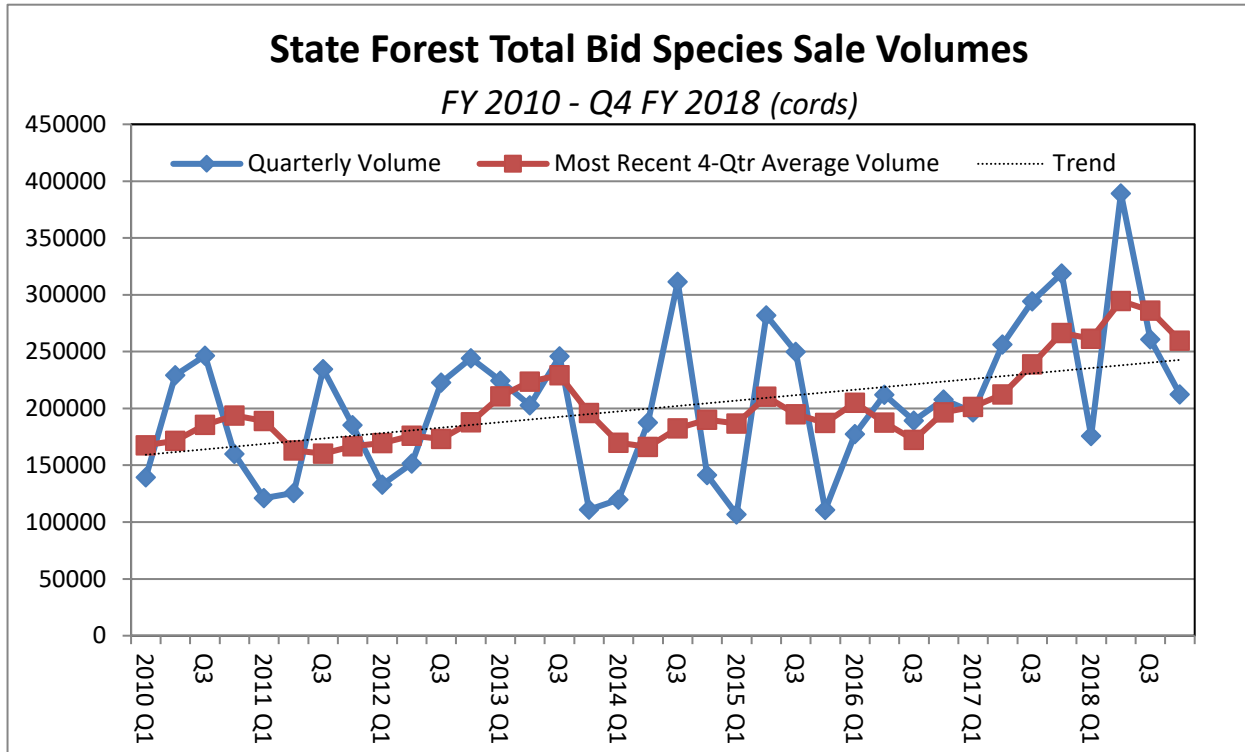
Most sawtimber and pulpwood sale volume has come from the category "Softwood – Other", which is currently not tracked in this report.

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

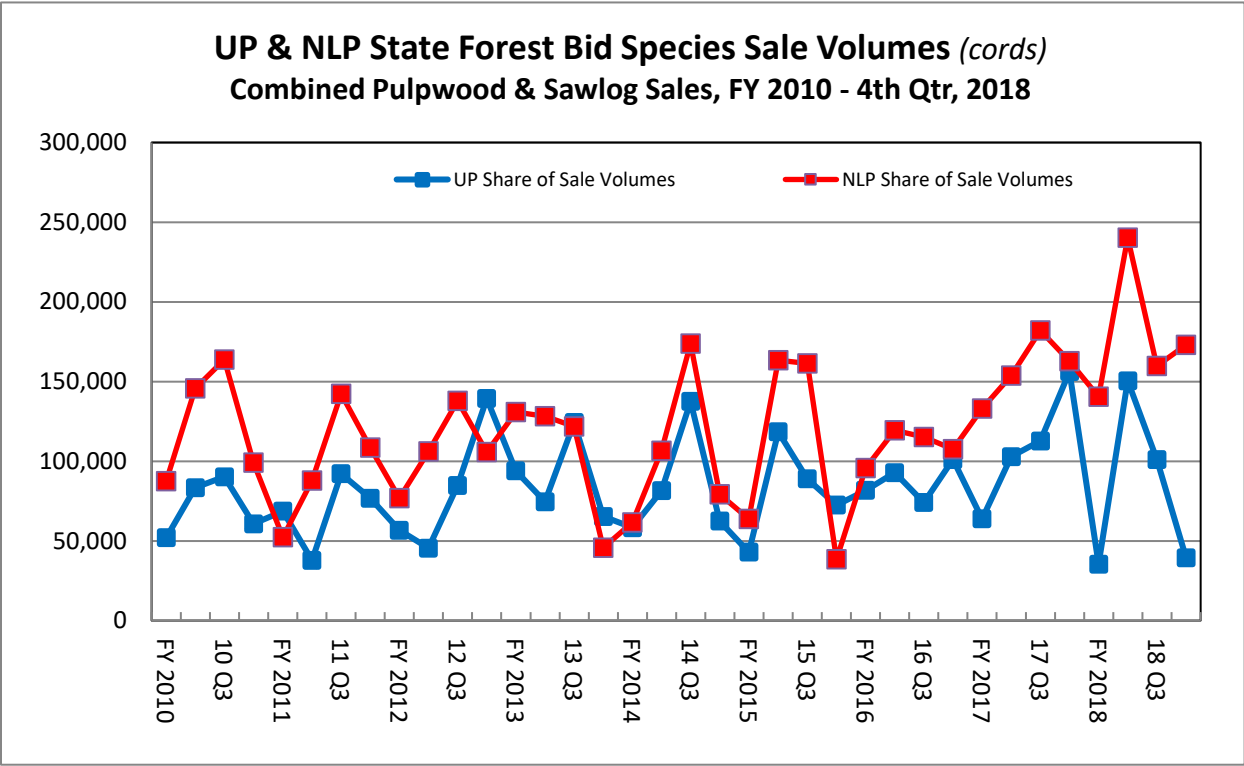
FY 2010 – 4<sup>th</sup> Quarter, FY 2018

Source: Michigan DNR, Forest Resources Division

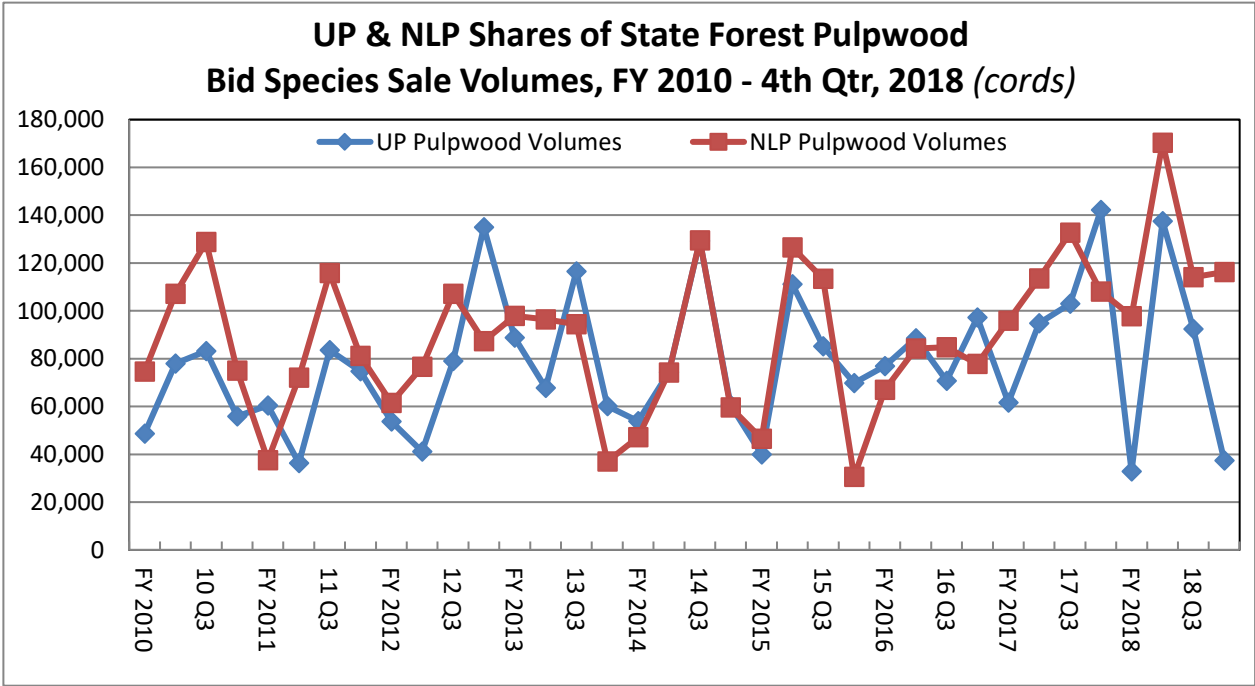
The State follows the federal fiscal year (October 1 through September 30). Most graphs below show **bid species** sale volume and value data; total sale volumes and values are slightly more. The graphs often include a dotted trend line based upon data for the average of the most recent four quarters (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.



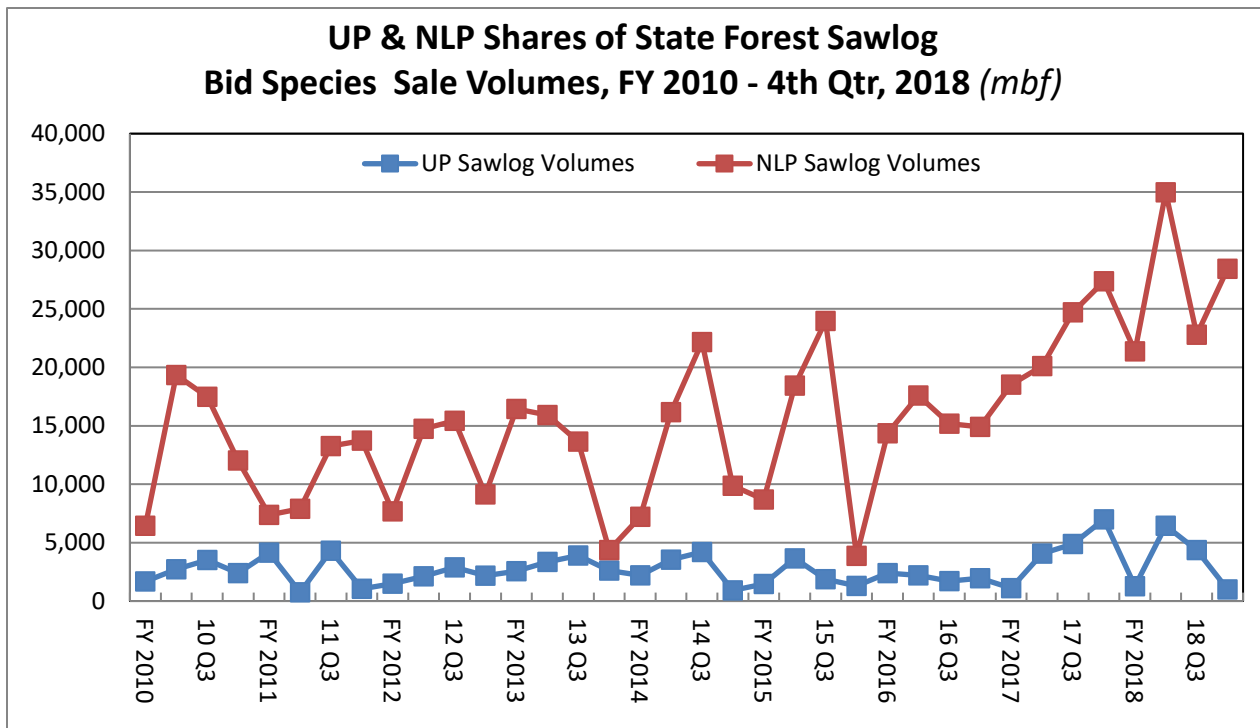
Although overall 4<sup>th</sup> quarter bid species volume dropped in the 4<sup>th</sup> Quarter of 2018 to just over 212,000 cords, the decline was less precipitous than in the majority of final quarters of fiscal years of the recent past. The 4<sup>th</sup> Quarter result put downward pressure on the recent 4-quarter average, resulting in just under a 260,000 average cord volume systemwide. [The DNR failed to provide volume figures for two metrics: 1.) all bid and non-bid species & 2.) total offered sales volume. They did not indicate when the figures would be available.]



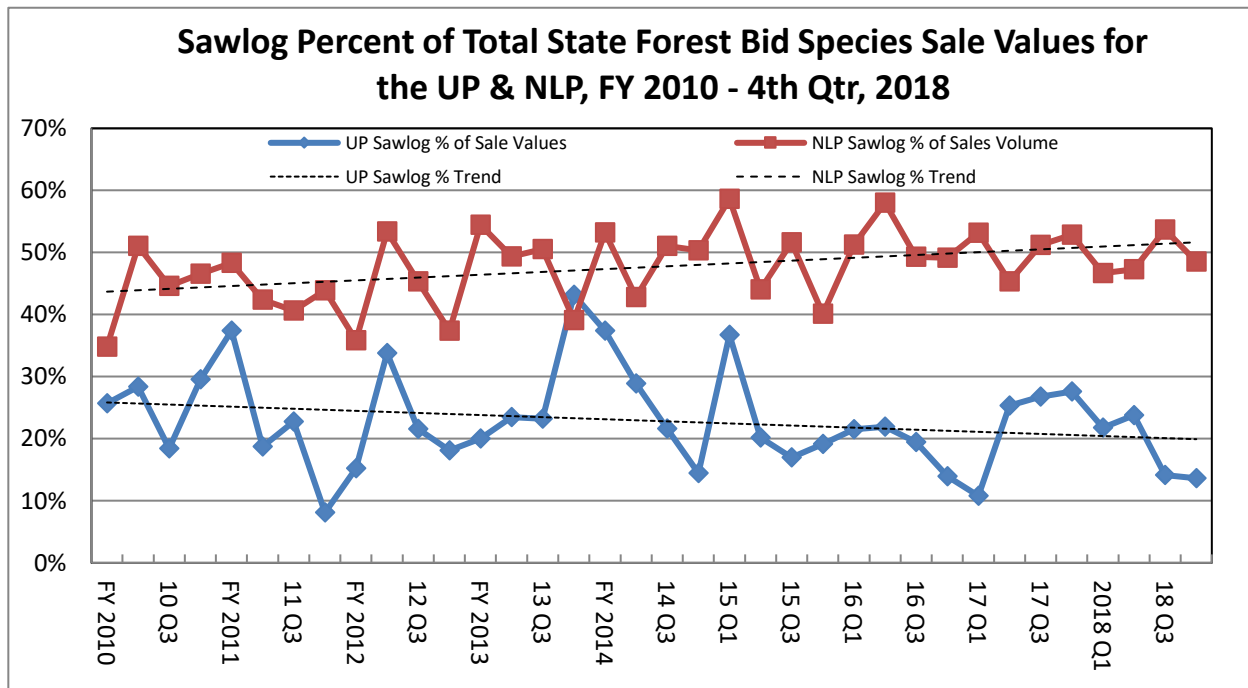
The totality of the statewide drop in overall sale volume in the final quarter of 2018 stemmed from activity in the UP, which tumbled 61% to just over 39,000 cords from 101,000 cords in the previous period. Conversely, NLP sale activity this 4<sup>th</sup> quarter notched up slightly to 173,000 cords, up from last quarter's 160,000.



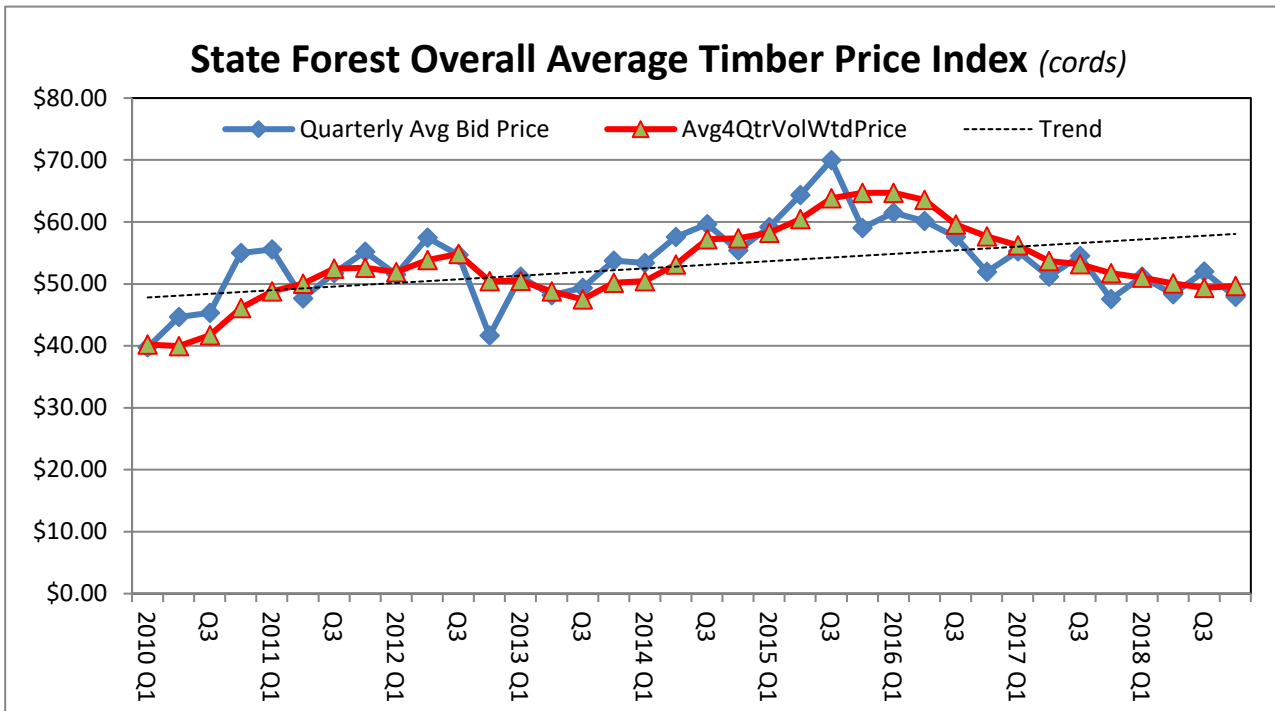
Pulpwood volume dropped significantly in the UP but rose slightly in the NLP in the 4<sup>th</sup> Quarter of 2018. UP pulpwood sale volumes dropped for the second consecutive quarter to 37,000 from 92,000 cords; the NLP volume moved northward slightly to 116,000 cords from last quarter's 114,000.



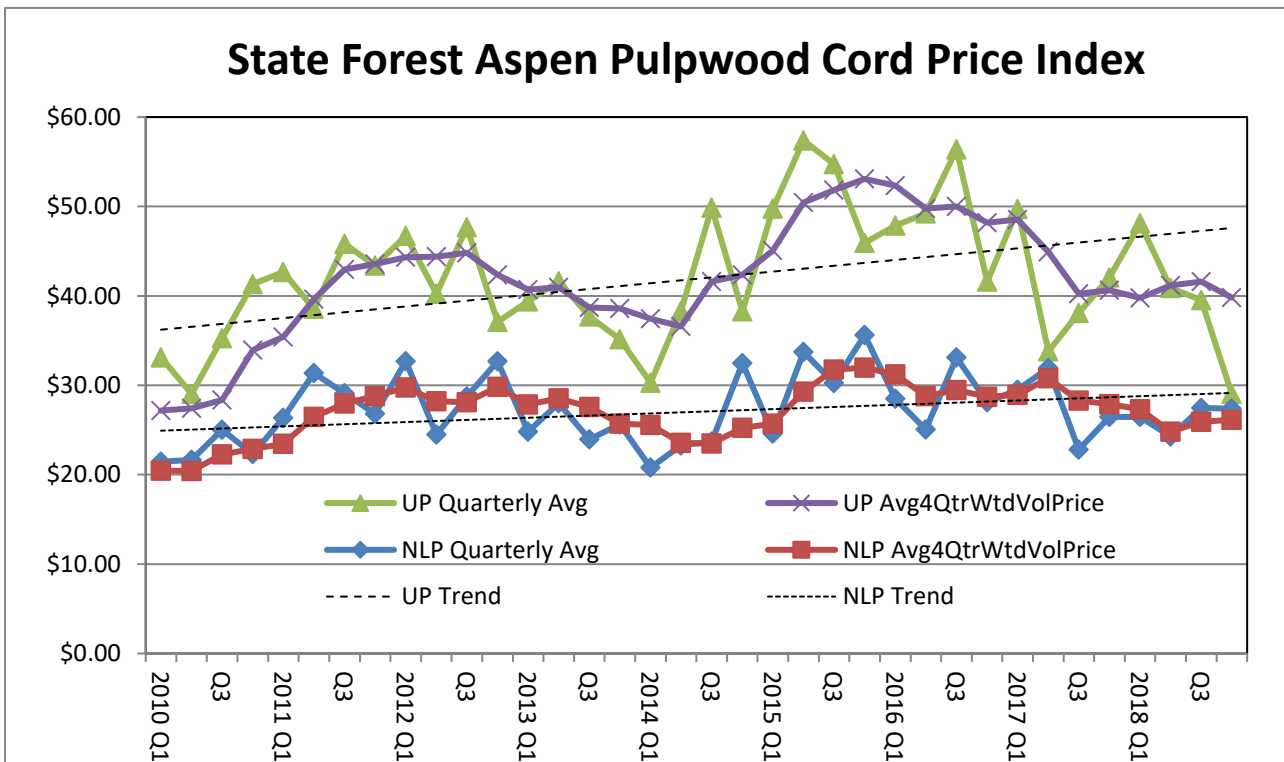
NLP sawlog volume showed renewed strength in the 4<sup>th</sup> Quarter, coming in at just under 28.5 mmbf, the second-highest result since 2010. Across the lakes in the UP, however, sawlog production continued its lackluster showing with just under 1.0 mbf, well below the Q3 mark of just over 4.5 mbf.



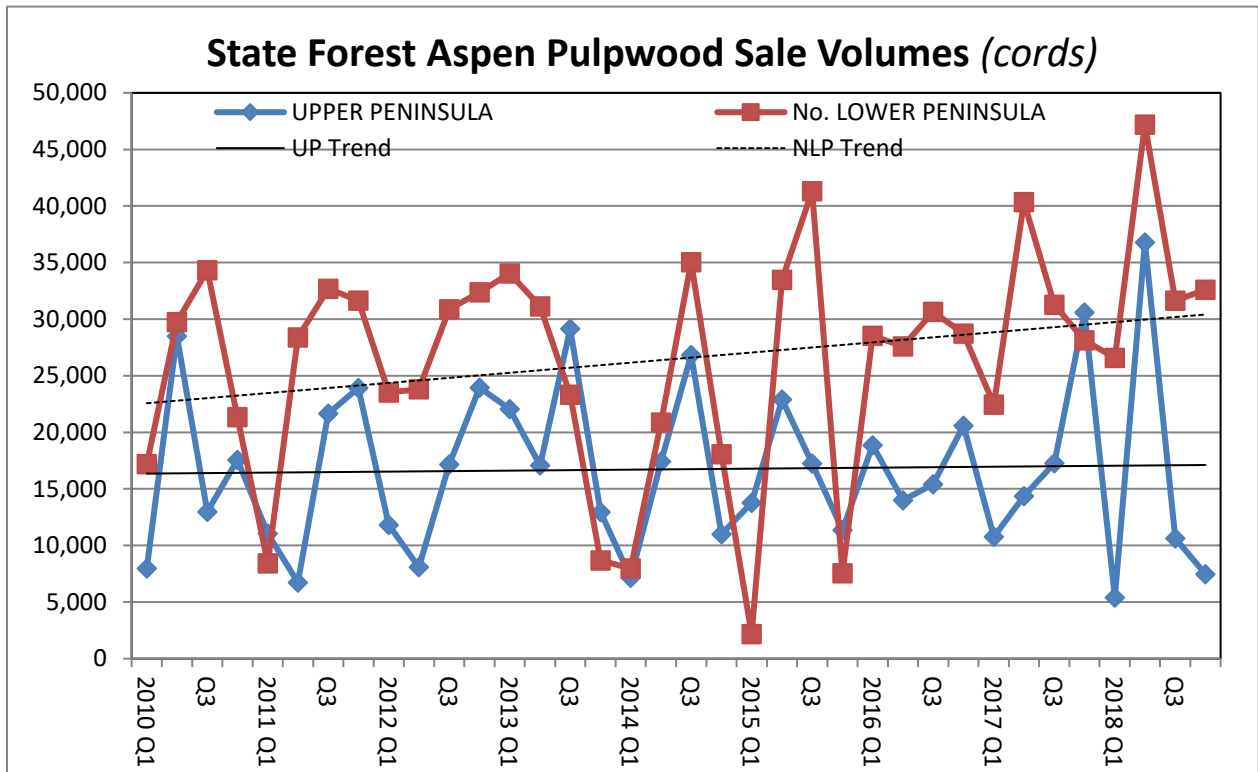
The sawlog percent of total bid species sale in the NLP has volleyed across both sides of 50%, and in this 4<sup>th</sup> Quarter it fell to 49% from 54% in the 3<sup>rd</sup> Quarter. In the same category for the UP, the proportion held steady at 14%.



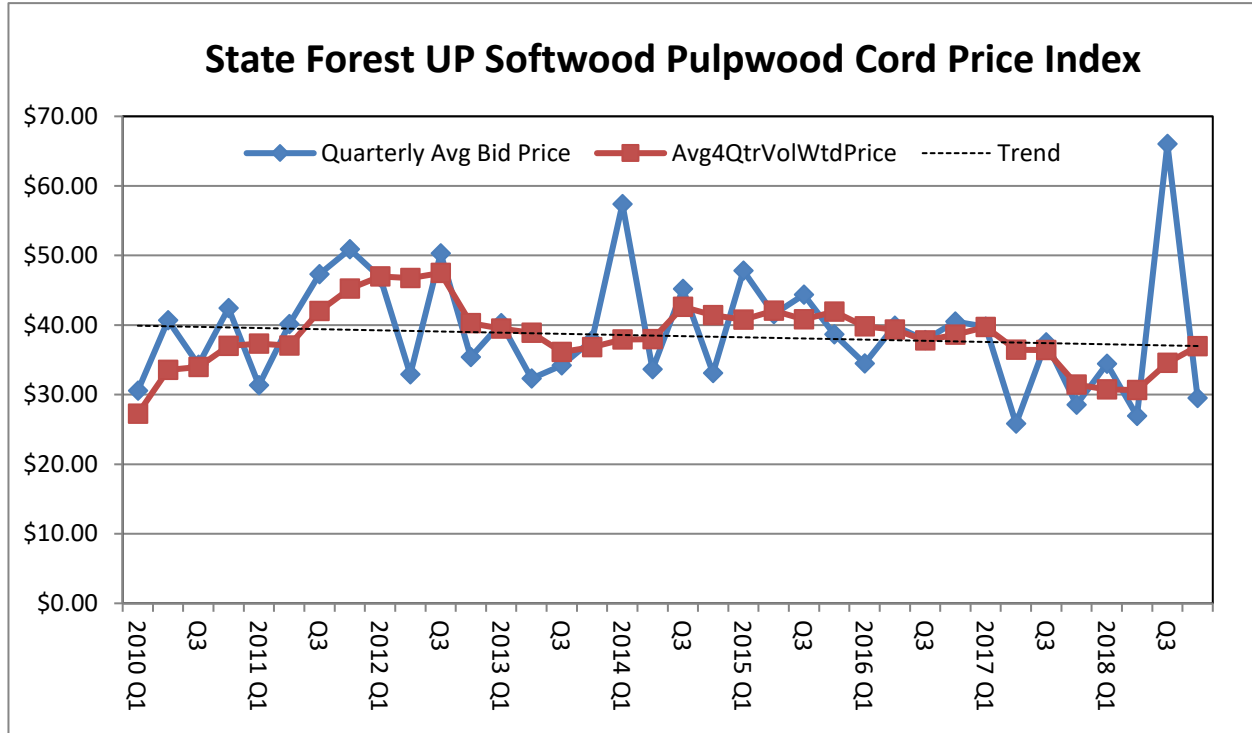
Overall average timber price has hovered around the \$50 per cord mark for the past few fiscal years. The Q4-2018 result fell slightly to \$47.90 per cord, down from last quarter's \$53.00 mark. This result actually lifted the 4-quarter average price by \$0.17 to \$49.64 per cord. These recent prices are significantly below the record level of \$69.99 per cord in the 3rd quarter of FY 2015.



In the UP, three quarters of gains in the aspen pulpwood price index have been more than reversed with three quarters of declines. The 4<sup>th</sup> Quarter price fell below \$30 per cord for the first time since FY 2010, settling at \$29.02. This price nearly met the most recent NLP price of \$27.38 in this category. The UP price drop lowered the 4-quarter average price to \$39.82 while the NLP average dropped slightly to \$26.15.

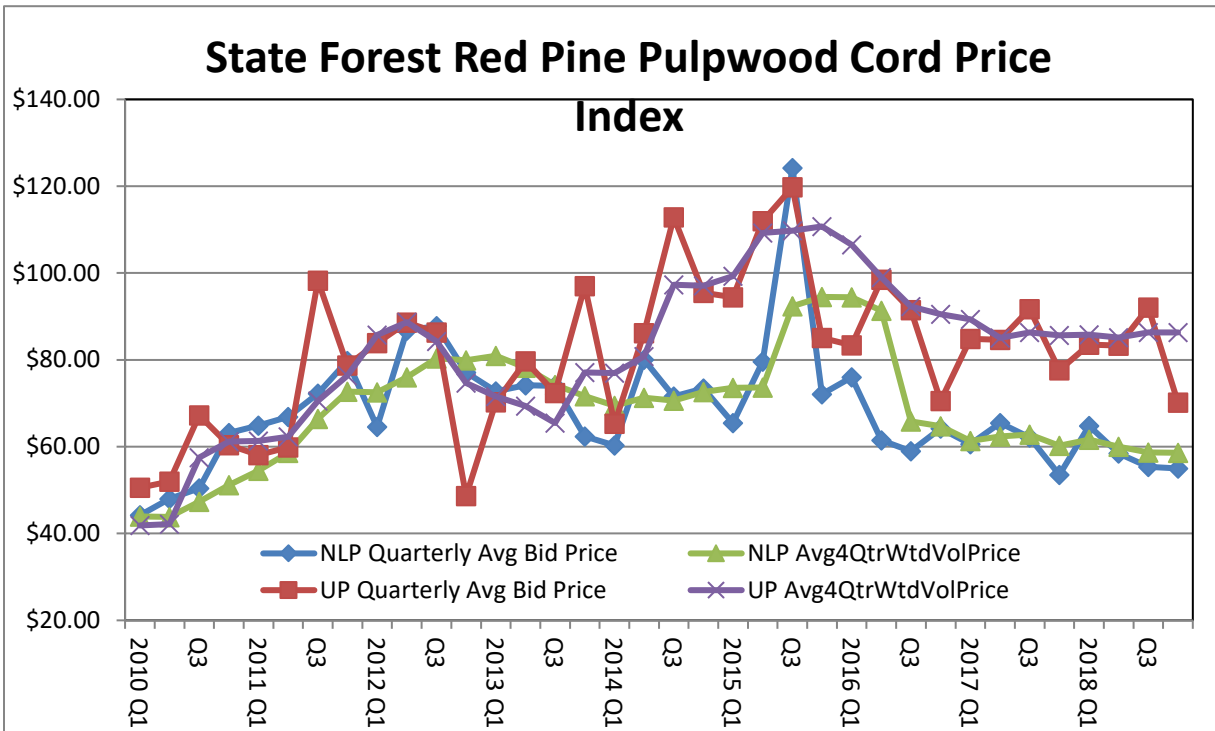


The slight uptick in NLP aspen pulpwood sale volume and slightly larger downtick in the UP results mirror the broader market trend for Q4 of 2018. NLP pulpwood sale volume rose to 32,500 cords, while the UP volume fell to 7,500 in Q4 from 10,500 cords in Q3.

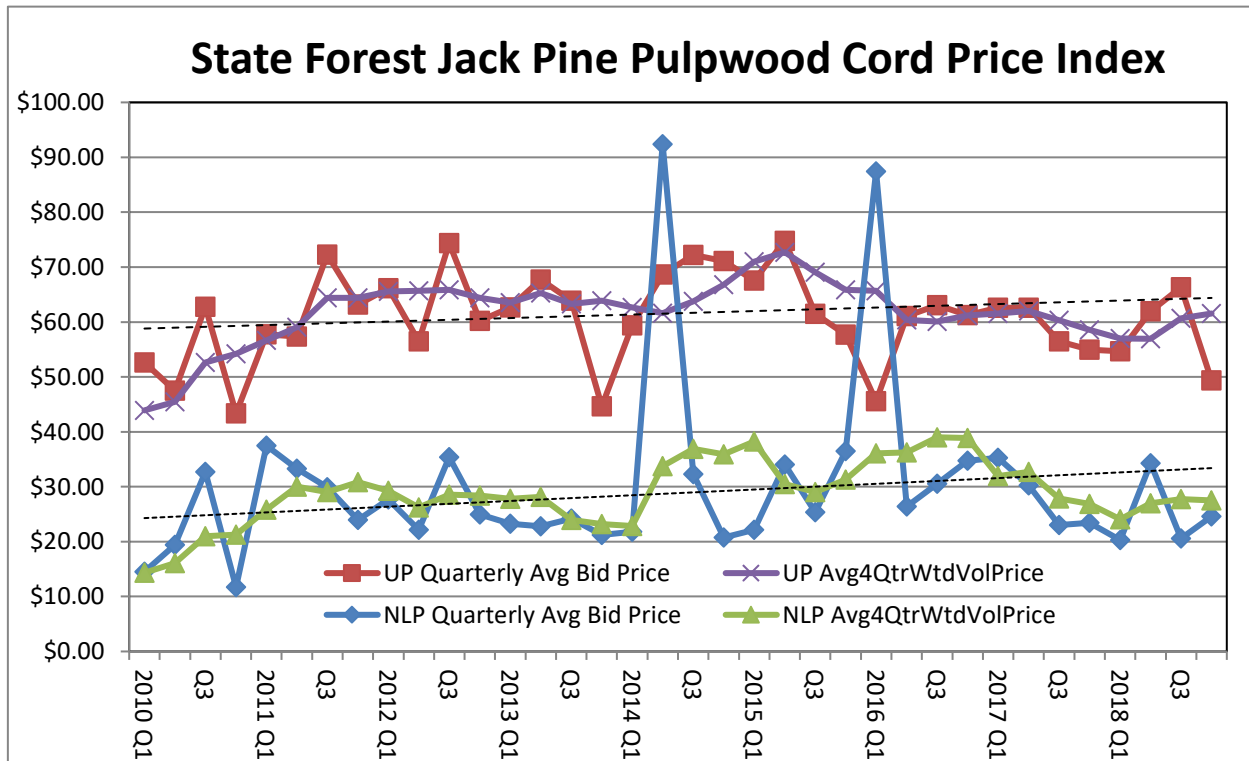


UP softwood pulpwood sale volumes continued their steady decline to 6,000 cords in the 4th quarter from 9,500 in the 3<sup>rd</sup> Quarter and 21,000 in the 2<sup>nd</sup> quarter. The per cord price tanked in a similar fashion, tallying a more normal \$29.52 average price per cord after an unusual 3<sup>rd</sup> Quarter price spike to \$66.03. Last quarter the DNR attributed the unusually high price hike to a single bid of over \$900 per cord.

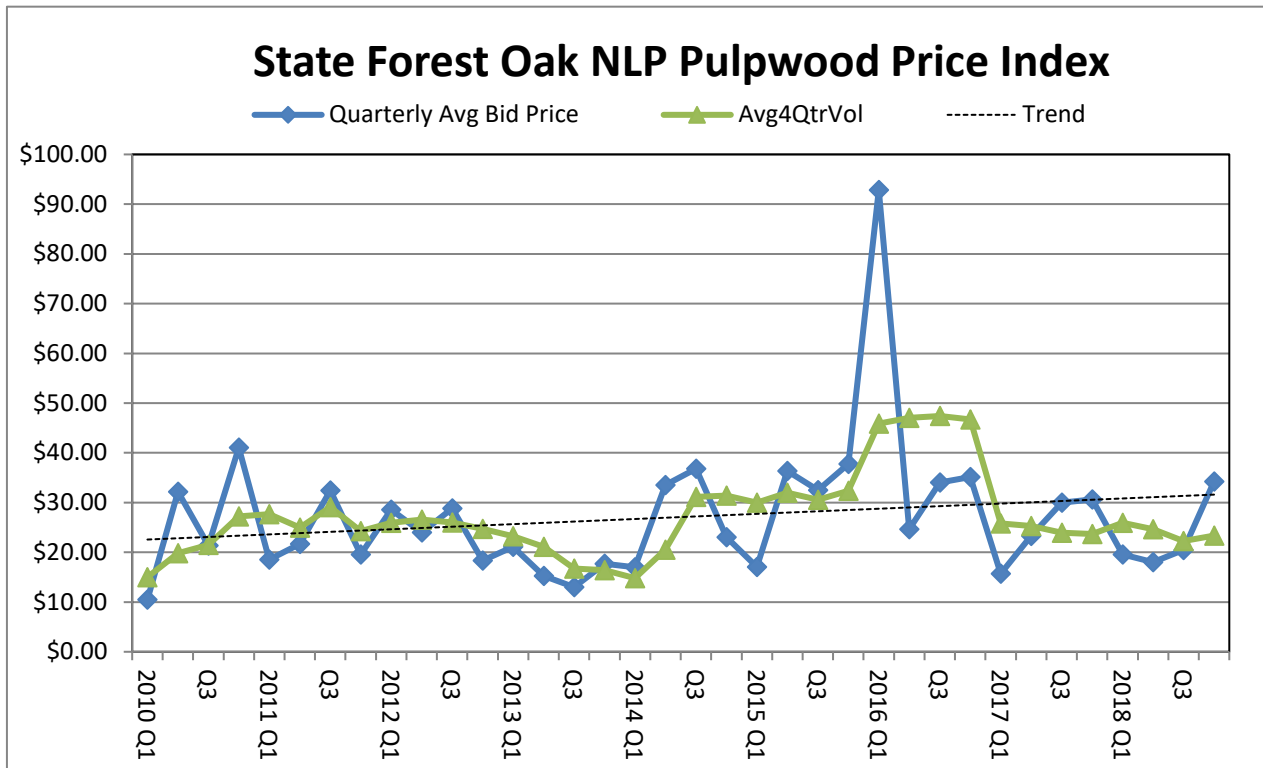




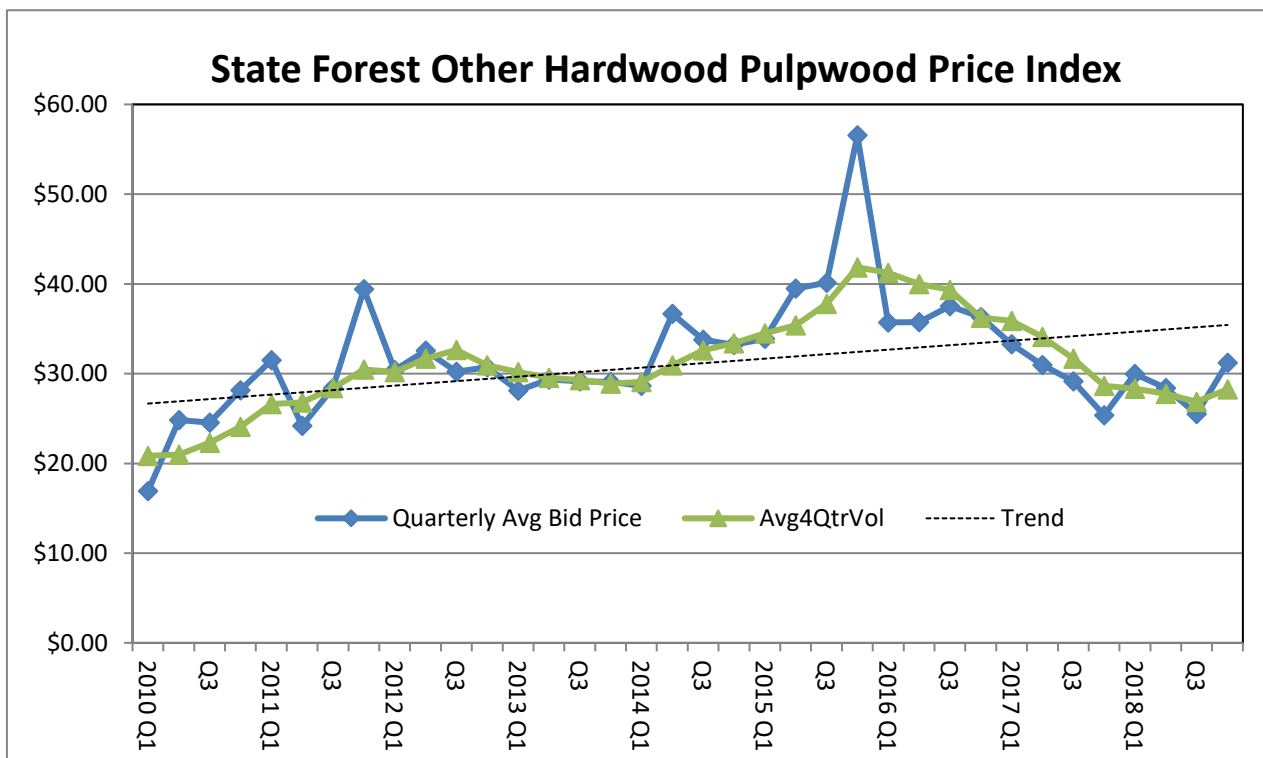
The NLP red pine pulpwood price was down a fraction in the 4<sup>th</sup> Quarter of 2018, to \$54.99 from \$55.38, despite higher demand, with buyers taking possession of 30,661 cords in Q4 vs. only 17,912 in Q3. In the UP, the relatively higher prices (over NLP) for red pine pulpwood fell back to Earth, i.e. \$70.14 per cord this vs. \$92.05 last quarter's price, based on a lower level of demand. UP red pine pulpwood volume dropped in a similarly significantly fashion to just under 5,500 cords in Q4 after tallying 28,000 cords in Q3.



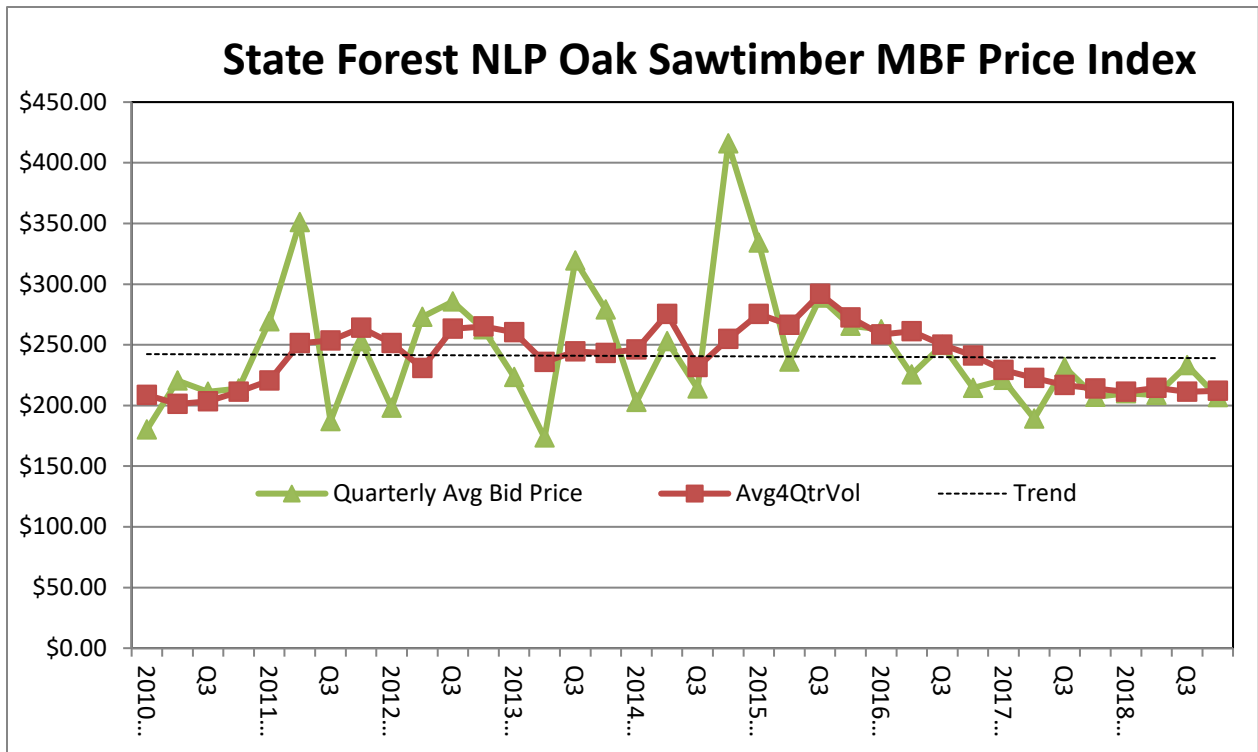
4<sup>th</sup> quarter jack pine pulpwood cord prices plunged in the UP – to \$49.39 from \$66.32 per cord – but ratcheted up in the NLP to \$27.51 from \$20.59 per cord. Quarter-to-quarter volume volatility continued in the UP in the 4<sup>th</sup> Quarter with sale volume nearly falling off the chart to 1,500 cords from 8,500 cords; NLP sale volume was nearly flat at 10,000 cords.



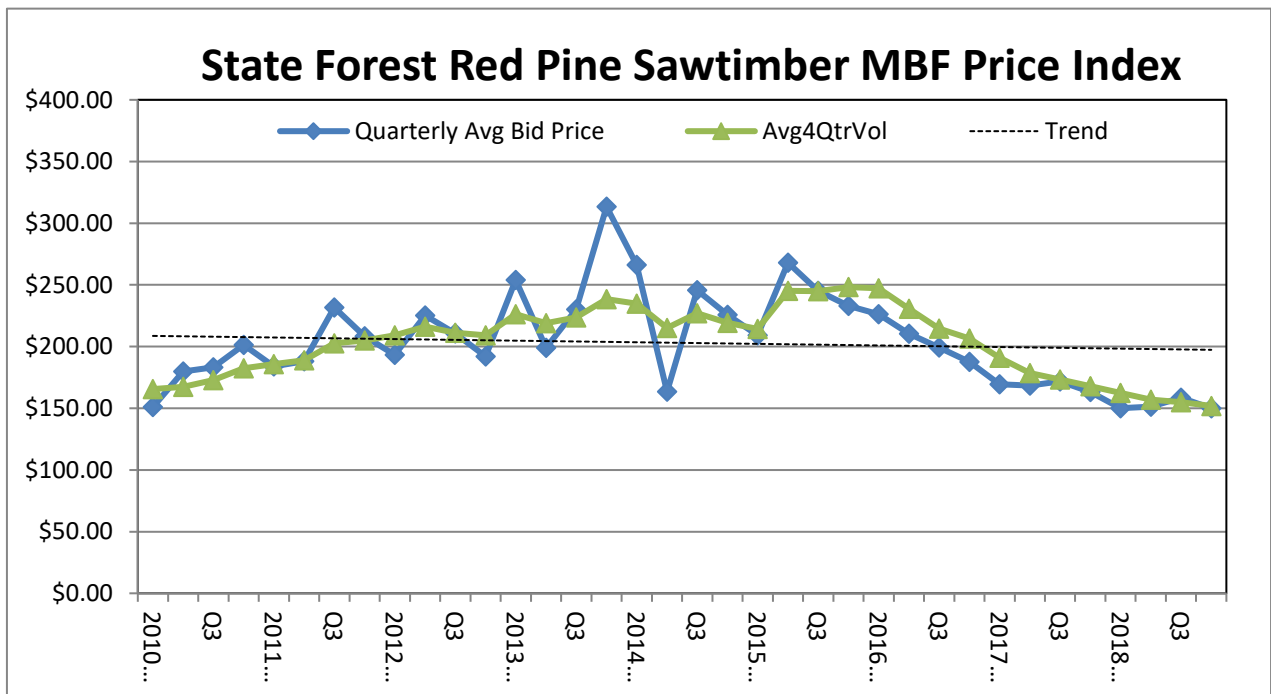
The NLP oak pulpwood price rose nearly 70% in the 4<sup>th</sup> Quarter to \$34.26 per cord from last quarter's \$20.47. This category's 4<sup>th</sup> Quarter volume surged to just under 13,000 cords from around 8,500 in the previous quarter.



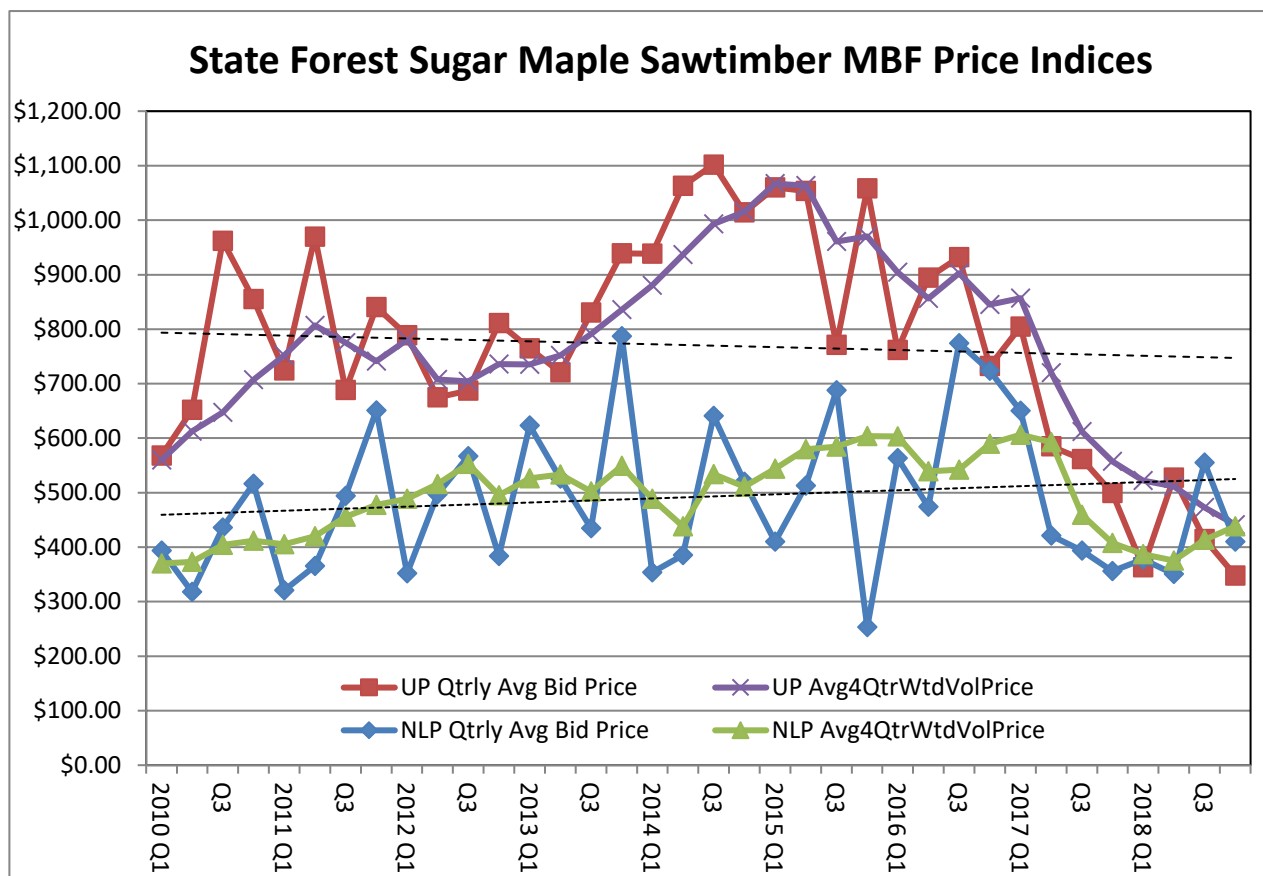
The Other Hardwood Pulpwood category reversed a two-quarter downturn to register a price bump reaching \$31.20 in the 4<sup>th</sup> Quarter from \$26.88 in the 3<sup>rd</sup> Quarter. Despite this quarter's uptick, the average price is remaining below the long-term trend. This 4<sup>th</sup> Quarter saw the exchange of 32,000 cords in this sector, compared with 60,000 cords in the 3<sup>rd</sup> Quarter.



Though the price of NLP oak sawtimber declined, it managed to settle above the \$200 mark in the 4<sup>th</sup> Quarter, halting at \$206.70 per mbf. Volume in this category rebounded, however, by a doubling to 3.2 mmbf in Q4 of the 1.6 mmbf result in Q3.



In Q4 of 2018, prices and volumes diverged in the statewide red pine sawtimber category. The average price slid further southward to \$150.09 in Q4 from \$158.65 in Q3. Meanwhile, volume in this sector rebounded, rising at a nearly 70% clip this quarter to 16.8 mmbf from 10.0 the quarter before. This is the 2<sup>nd</sup> highest quarterly volume tally since FY 2010.

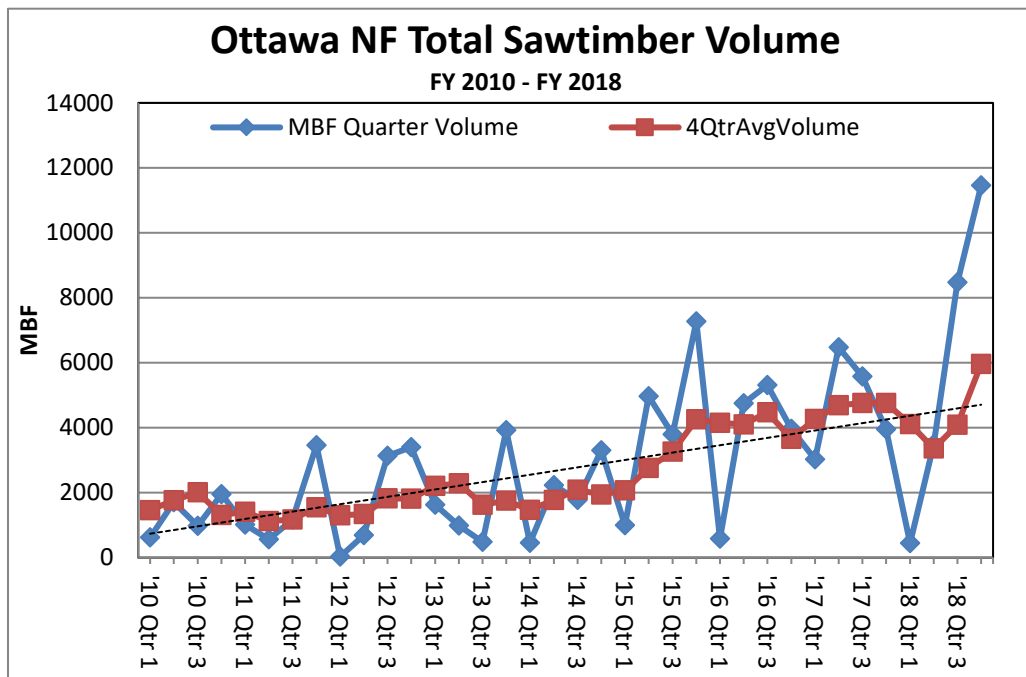


The 3<sup>rd</sup> Quarter price surge for NLP sugar maple sawtimber (to \$554.83) could not hold with the 4<sup>th</sup> Quarter price sagging to \$410.04. NLP volume withered similarly as only 0.3 mmbf were transacted in Q4, well below the Q3 volume of 1.6 mmbf.

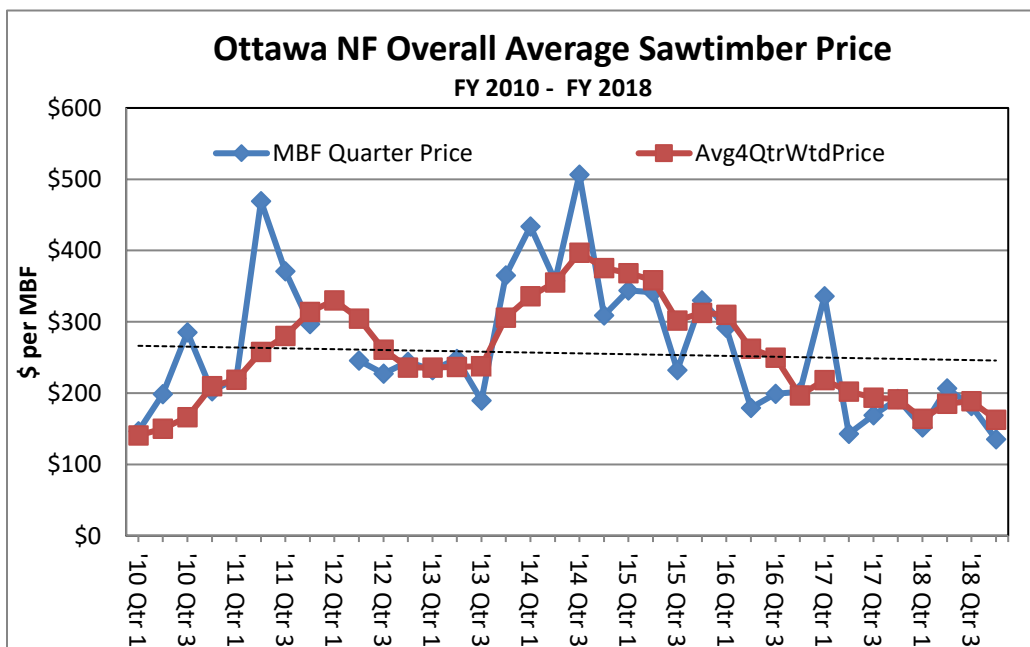
In the UP, we saw a near convergence with the NLP price and volume for sugar maple sawtimber, which contradicts several years of historical divergence. The UP price fell modestly in the 4<sup>th</sup> Quarter to \$348.08 from \$414.65 in the previous period. UP volume also fell, but less drastically than in the NLP: 0.4 mmbf changed hands in Q4 compared with 1.0 mmbf in Q3.

## Ottawa National Forest Major Species/Product Timber Sales, FY 2010 – FY 2018

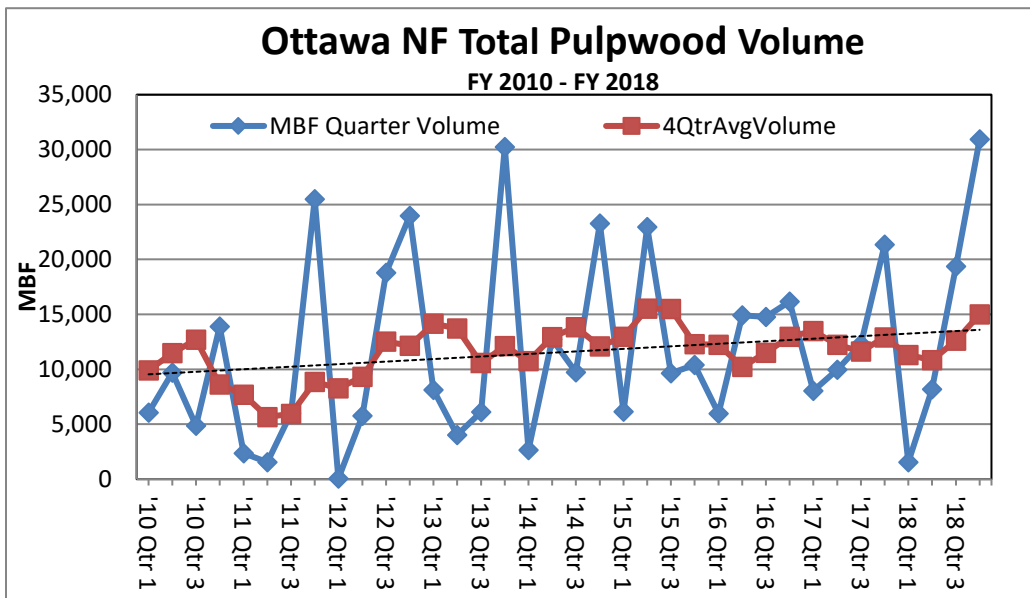
All graphs include a dotted trend line based upon the data set for the average of the last four quarters. Gaps in the blue quarter line indicate no sales in the quarter where the gap occurs. The National Forests follow the federal fiscal year from October 1 through September 30. The sale data included here goes through the 4<sup>th</sup> quarter of FY 2018 (July – September of 2018). 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>



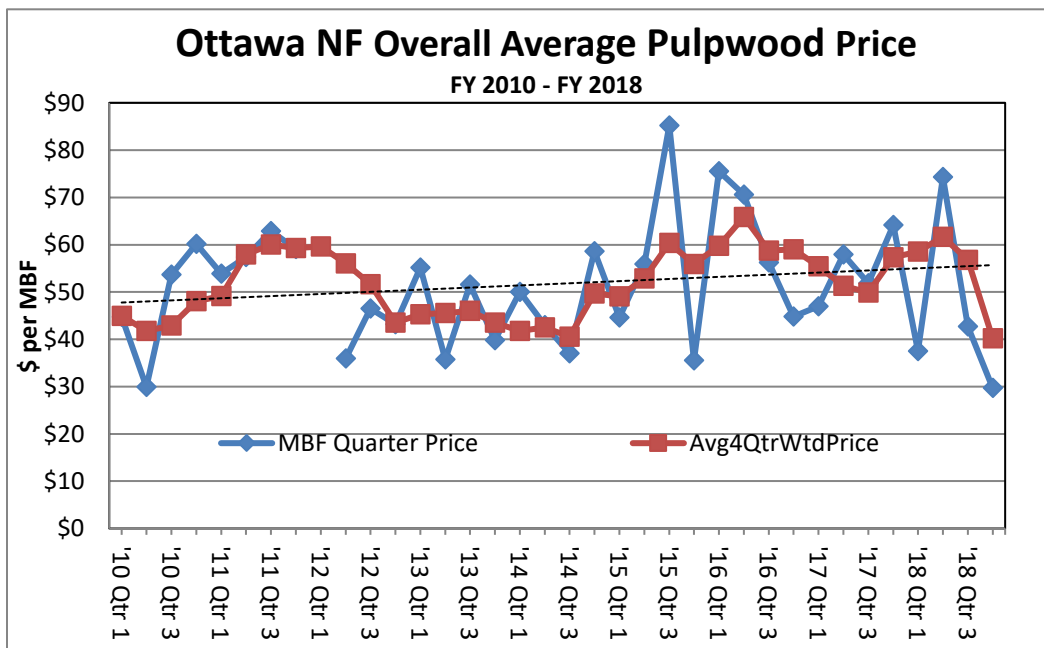
Ottawa sawtimber sale volume saw a continued a three-quarter rebound, continuing its surge from a near record low in Q1 of the FY to a second consecutive nine-year high of 11.5 mmbf in this Q4, up from Q3's 8.5 mmbf. The Q4 result pulled the upward trend markedly higher for sawtimber sale volume.



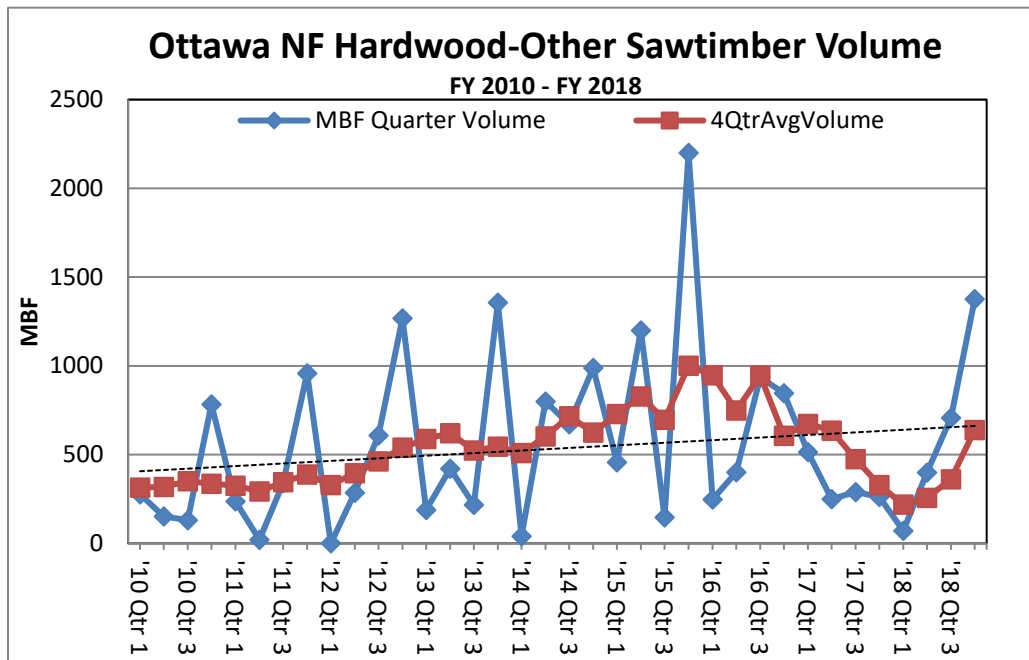
Ottawa overall average sawtimber prices contradicted the upward volume surge, as the average mbf slid to \$135, a nine-year low, which is well below the \$500 per mbf that was seen in 2014.



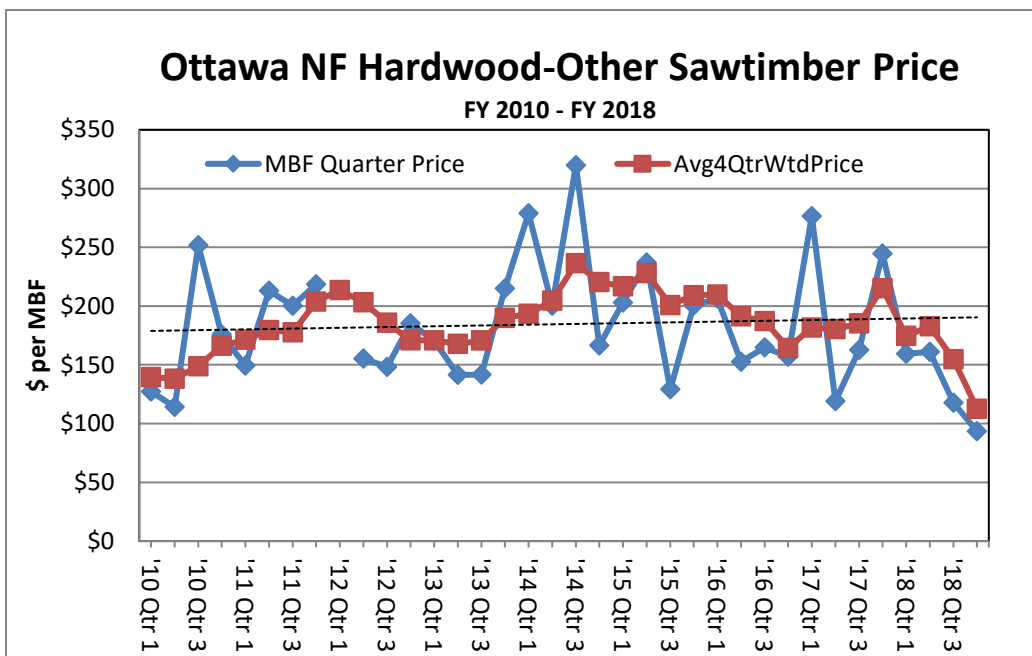
As with its sawtimber counterpart, the total Ottawa pulpwood sale volume tallied a nine-year record, rocketing to 30.9 mmbf in Q4-2018. Pulpwood volume had not crossed the 30 mmbf threshold since late 2013. Oddly Q1-2018 experienced a near record low of 1.5 mmbf, but gains occurred in each subsequent period, and the Q2 and Q3 gains did not cannibalize this productive Q4.



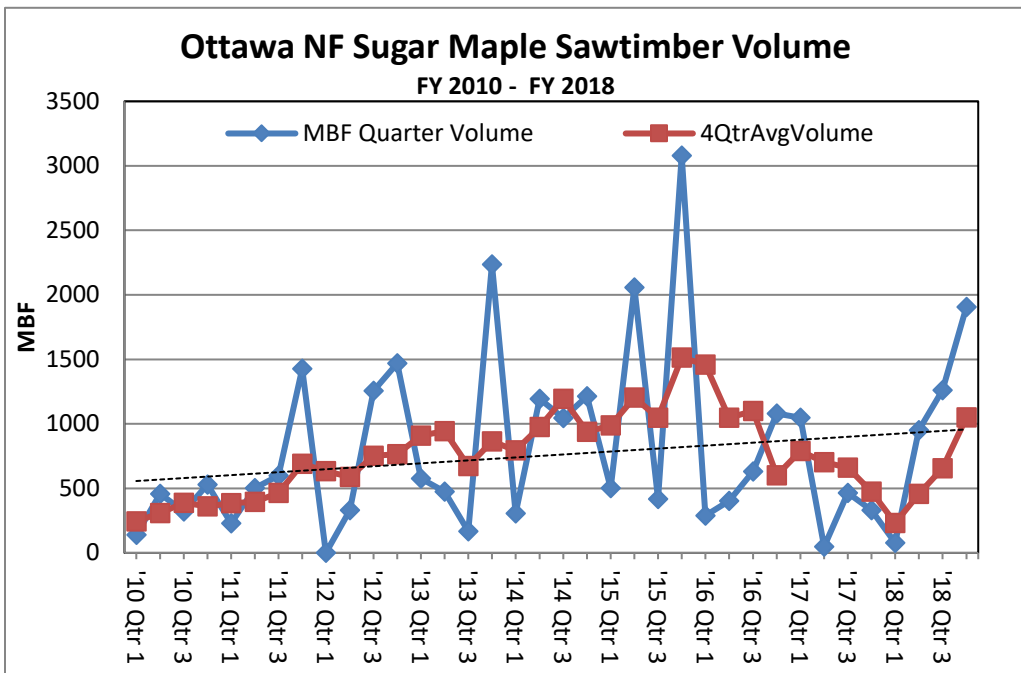
Ottawa overall average pulpwood prices continued their southward tumble to record-low territory, parking at \$30 per mbf at the close of the FY, down a full 30% from the Q3 result.



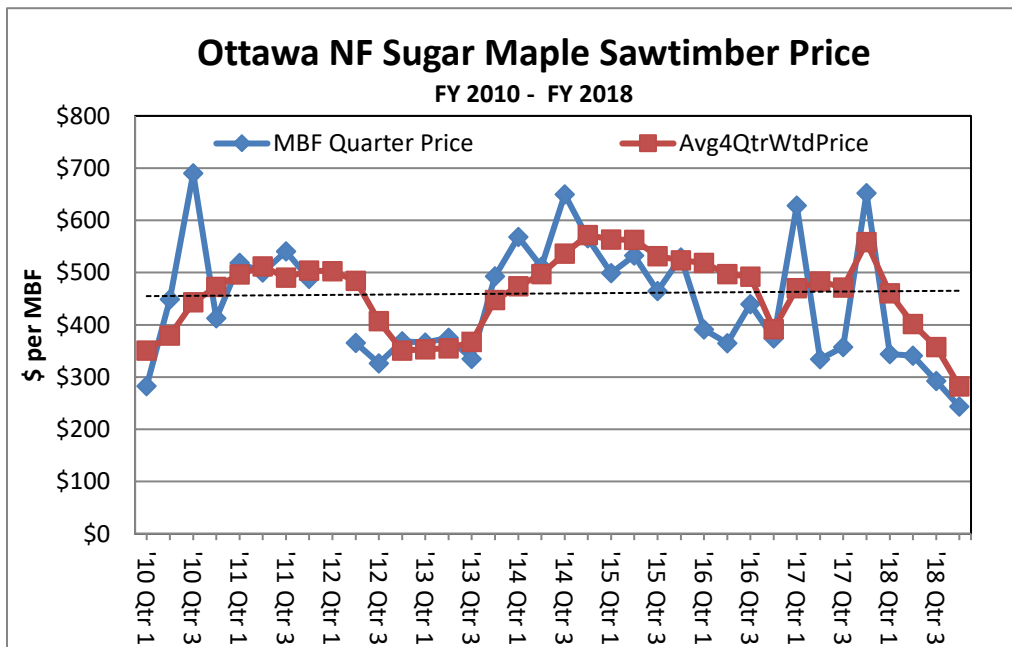
Though not in record territory, the Ottawa hardwood-other sawtimber sale volume continued its climb from the depths in the 4th quarter of FY 2018, lifting to 1.4 mmbf from a mere 72 mbf in the 1st quarter. A three-quarter upward trajectory quashed the downward trajectory that occurred before FY 2018.



The Ottawa hardwood-other sawtimber price went the opposite direction from the volume. The Q4 price of \$93.45 per mbf was \$24 less than last quarter's mark, a far cry from the \$250+ per mbf price recorded in 2014 and the \$245 per mbf price from exactly a year ago. Despite the long-term price volatility, prices in this category are now in their fourth consecutive quarterly decline.

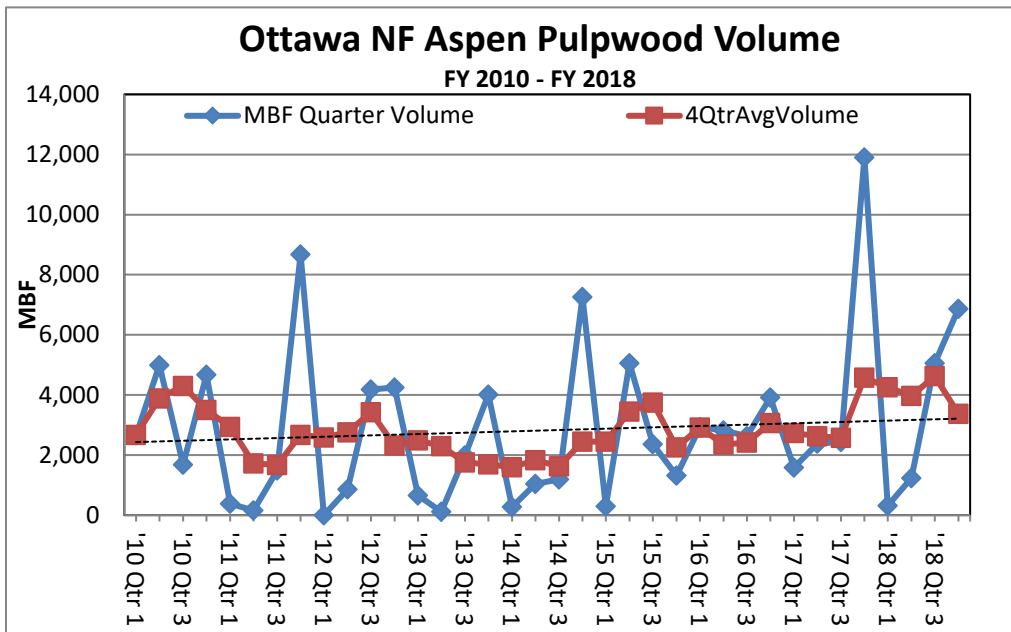


Ottawa sugar maple sawtimber sale volume is clearly out of the cellar as this species thanks to a continued three-quarter rally. The Q4 sale volume was a healthy 1.9 mmbf, well above last quarter's 1.3 mmbf and the highest level in the most recent twelve quarters.

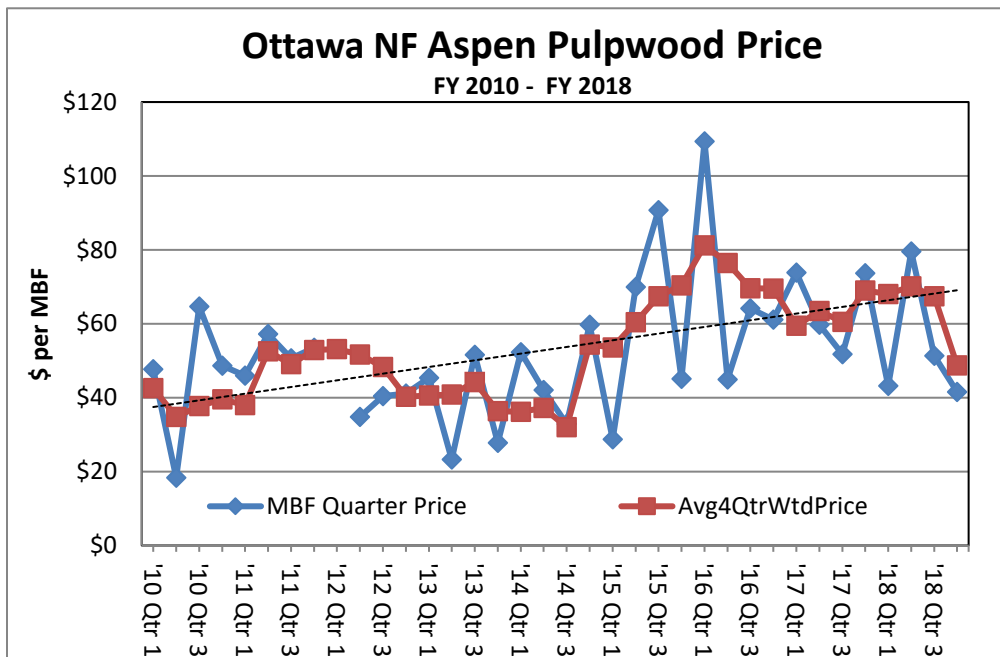


The precipitous price drop in the Ottawa sugar maple sawtimber price continued its decent in Q4 to a nine-year record low of \$243 per mbf, down \$50 per mbf from \$292 in Q3. Occasional one-quarter price spikes are becoming rarer as the price in most quarters has been well below the long-term average in the mid-\$400 range.

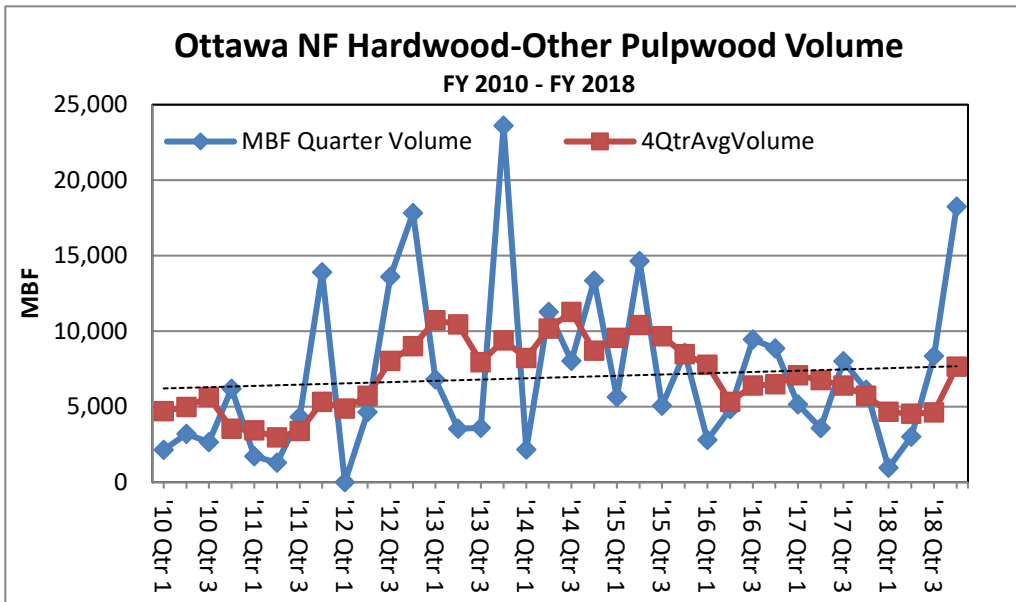




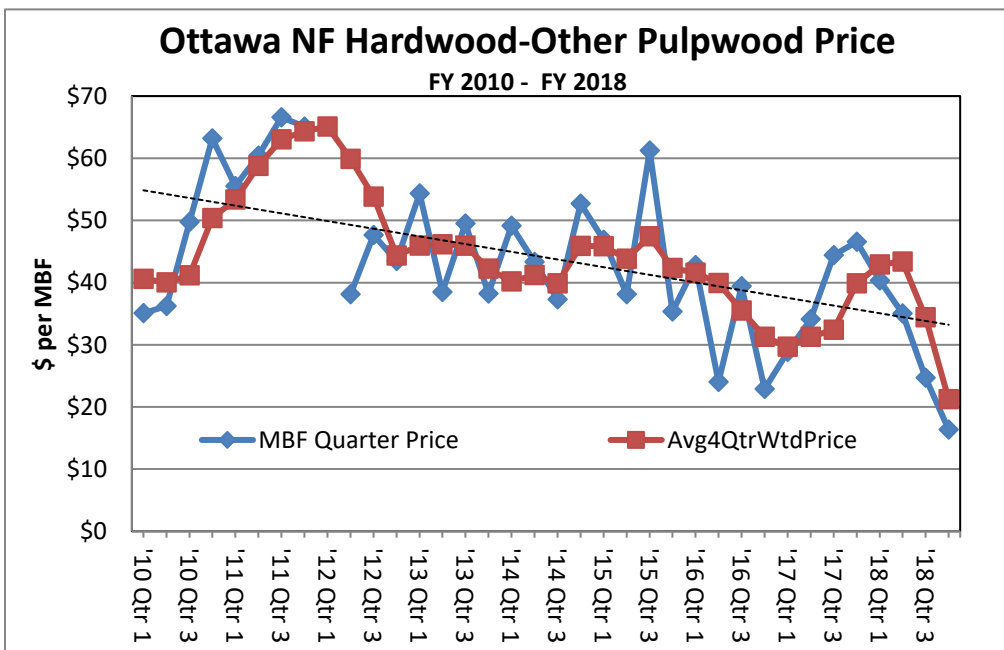
The strong 4<sup>th</sup> quarter for Ottawa aspen pulpwood sale volume resembles results from other categories. After a disastrous Q1, aspen closed the year by heading northward to 6.9 mmbf after a small gain in Q2 and even healthier one in Q3. The Q4 tally is the fourth highest for Ottawa aspen pulpwood sale volume over the past nine years.



Although the Ottawa aspen pulpwood price was not immune from the broader downward price trend, this species held its value somewhat better others. The average mbf price was \$42 in Q4, down from \$51 in Q3 but not in the record-low territory for other species.



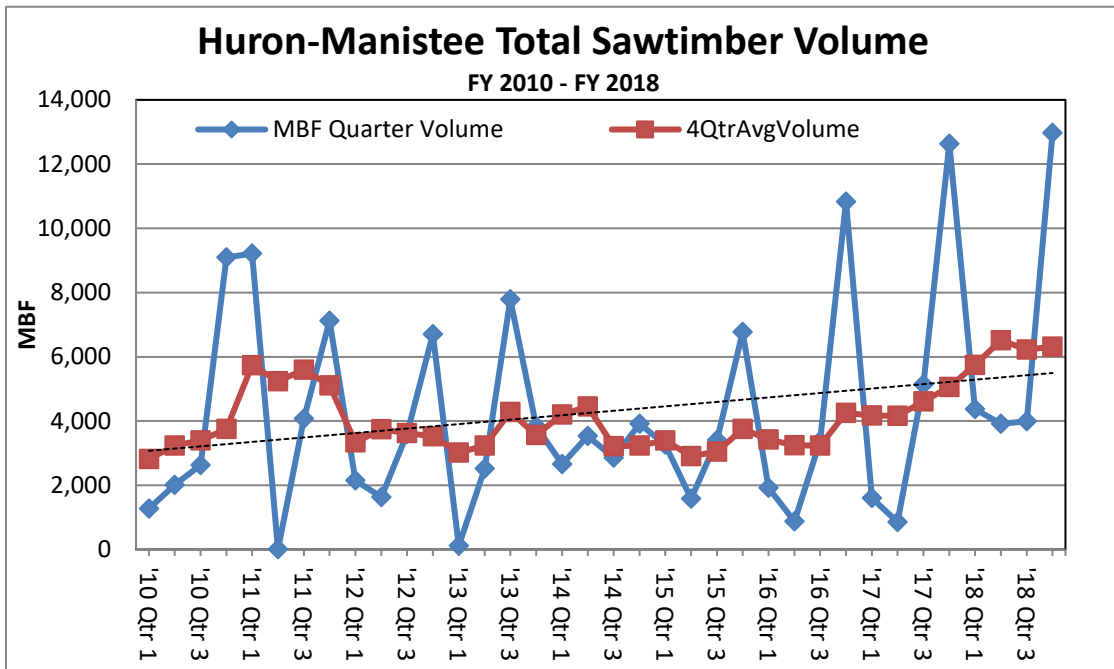
The story for Ottawa hardwood-other pulpwood sale volume in FY 2018 is no different from the other sawtimber and pulpwood categories – a slow Q1, followed by steadily climbing volume during the remainder of the year. In Q4, this category swelled to 18.2 mmbf, close to record territory. Because highs of this magnitude typically occur in Q4, a downward trajectory may be in the works for early FY 2019.



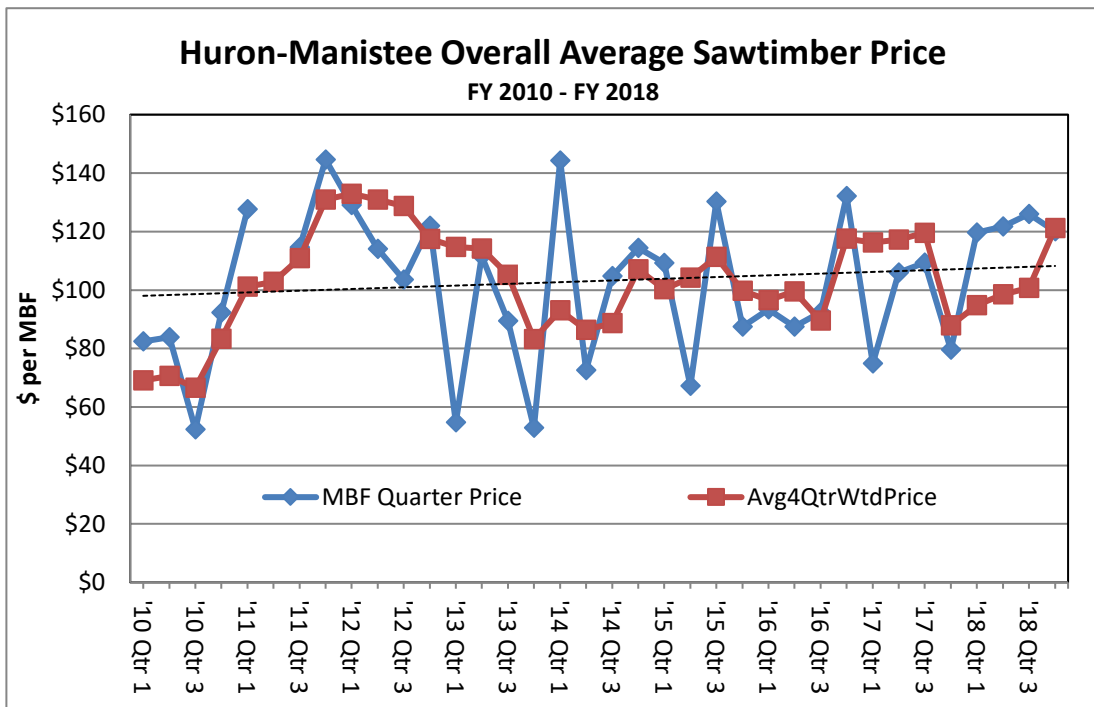
The Ottawa hardwood-other pulpwood category price did not hold its value as well as aspen pulpwood did. The four-quarter downward trend continued unabated, dipping to a nine-year record low of \$16 per mbf.

## Huron-Manistee National Forest Major Species Product Timber Sales, FY 2010 – FY 2018

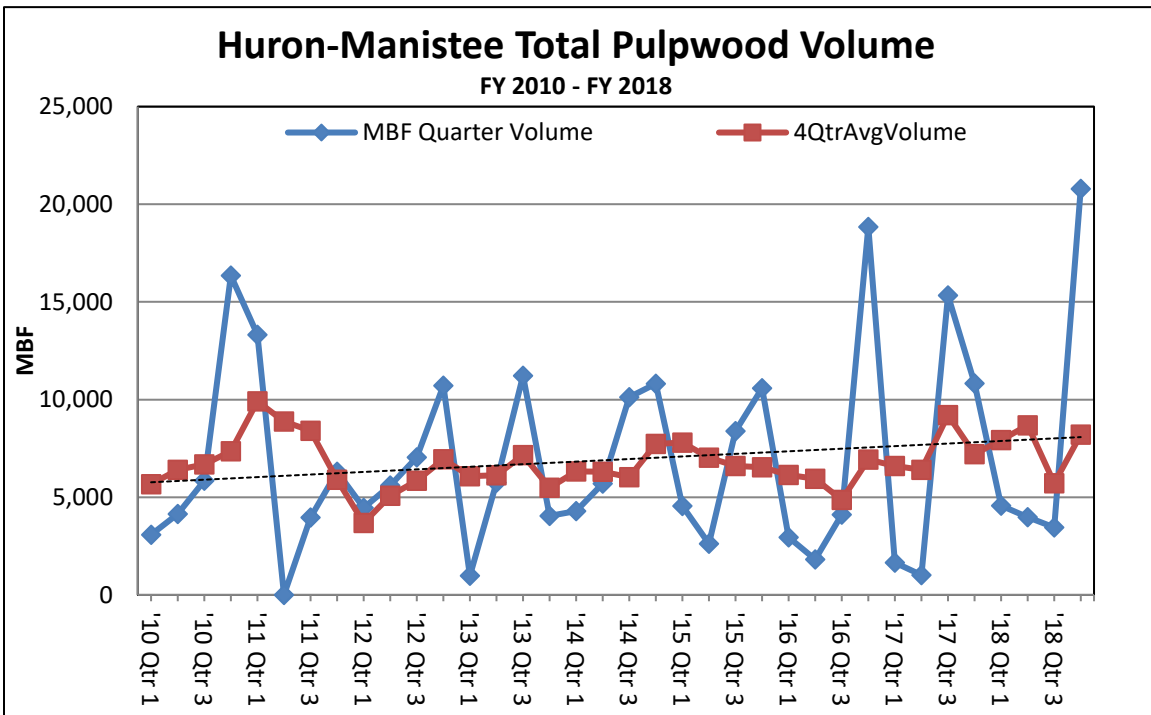
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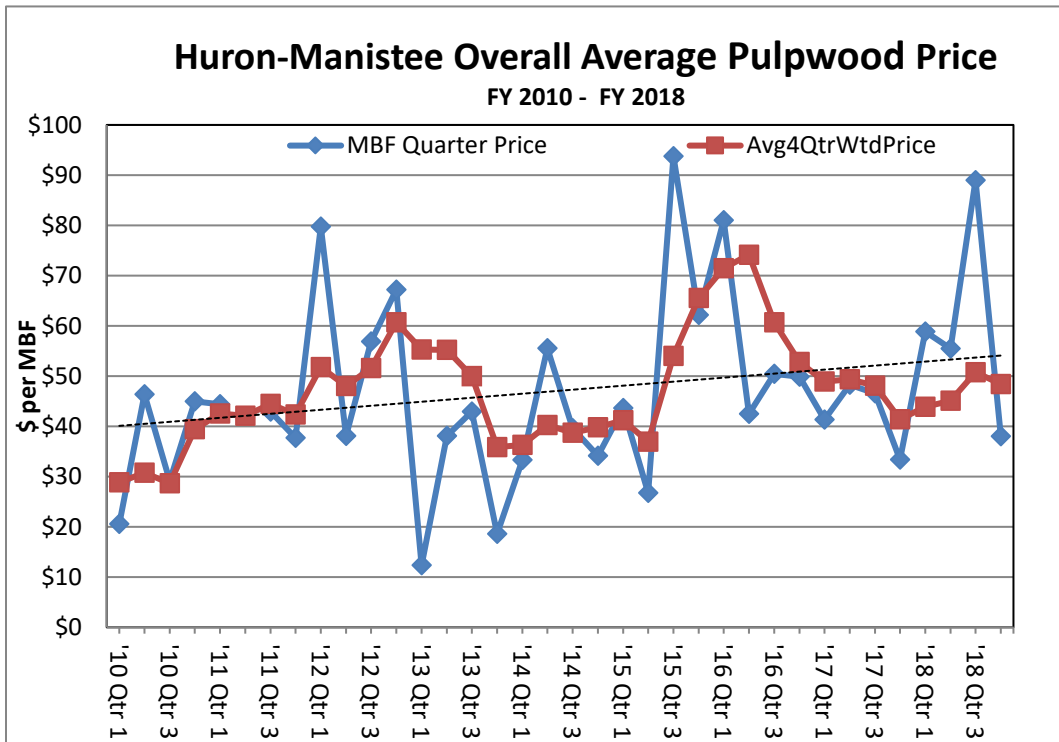
The Huron-Manistee (H-M) sawtimber sale volume set a nine-year record of 13.0 mmbf in Q4-2018, a 225% increase over Q3. Historically 4<sup>th</sup> quarter results are frequently the highest in each FY, which was also the case in FY 2018.



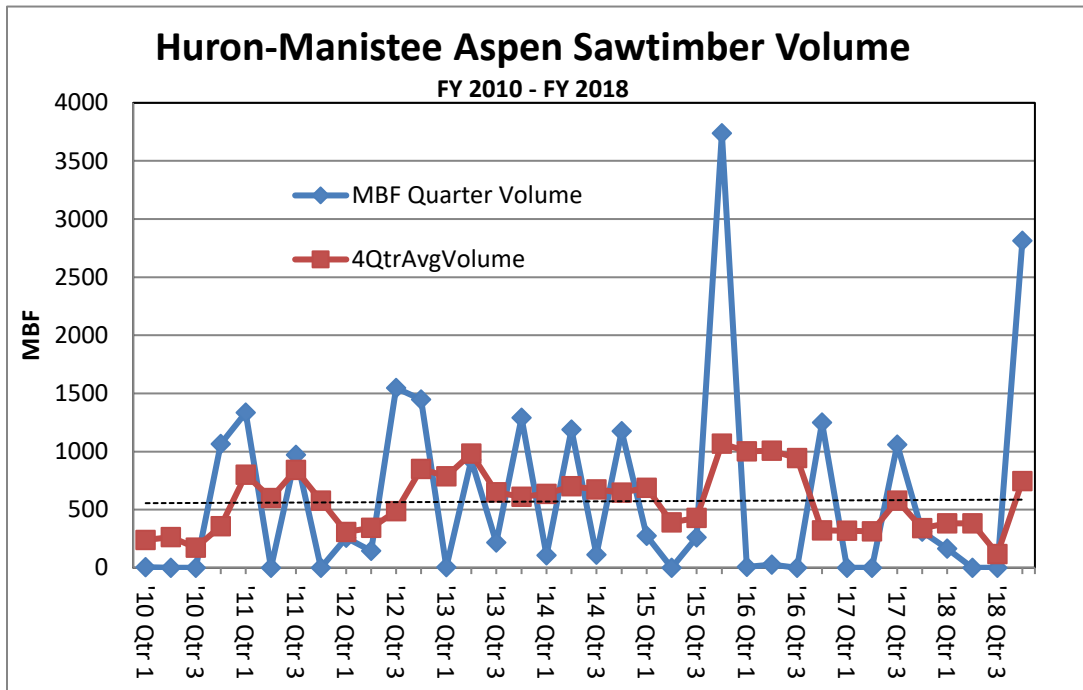
The Q4 price for H-M overall average sawtimber held quite steady in the face of a major demand surge, falling to \$120.12 per mbf in Q4 from \$126.03 previously. Because red pine accounts for well over half of the H-M sawtimber sale volume, is the major driver of the overall average sawtimber price and maintained its price quite well, the overall sawtimber sale price held up well, too.



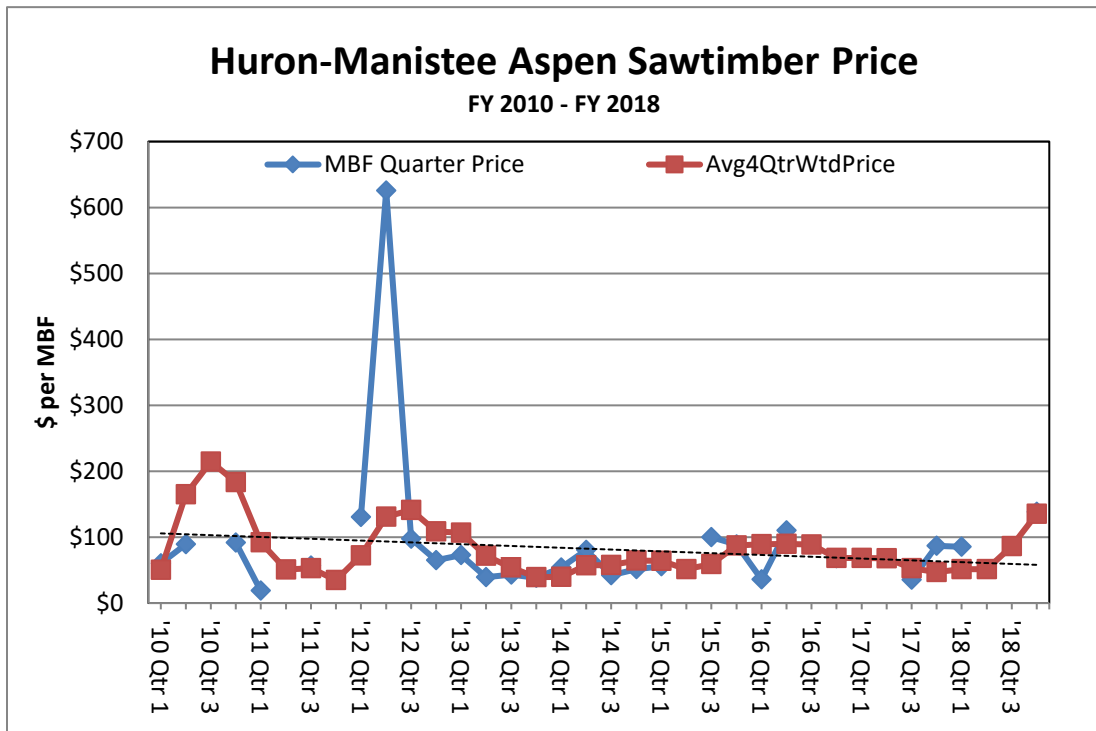
A four-quarter-long contraction in H-M pulpwood sale volume was fully shrugged off in Q4. The Q4 mark rose to a nine-year record of 20.8 mmbf, well above last quarter's below-average 4.0 mmbf. The regular sale volume cycle – with a surge in Q4 or sometimes Q3 – was reinforced with this end-of-year uptick. The volatility in H-M pulpwood sale volume also reinforces the relatively flat long-term trend in this category.



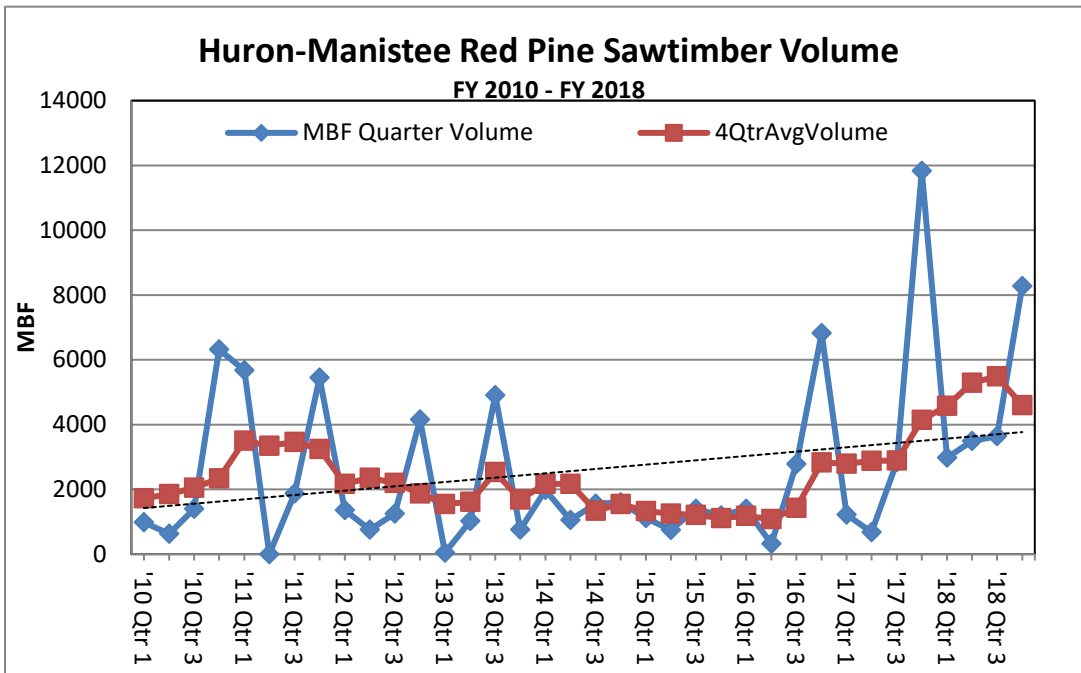
Accompanying the hefty surge in volume was a tumbling average H-M pulpwood price. This month's average price fell to \$38.02 in Q4 from last quarter's near-record high of \$88.96 over the past nine years. The culprit for this bottom falling out of the overall H-M pulpwood price is the H-M red pine pulpwood price, as we will explore later in this report.



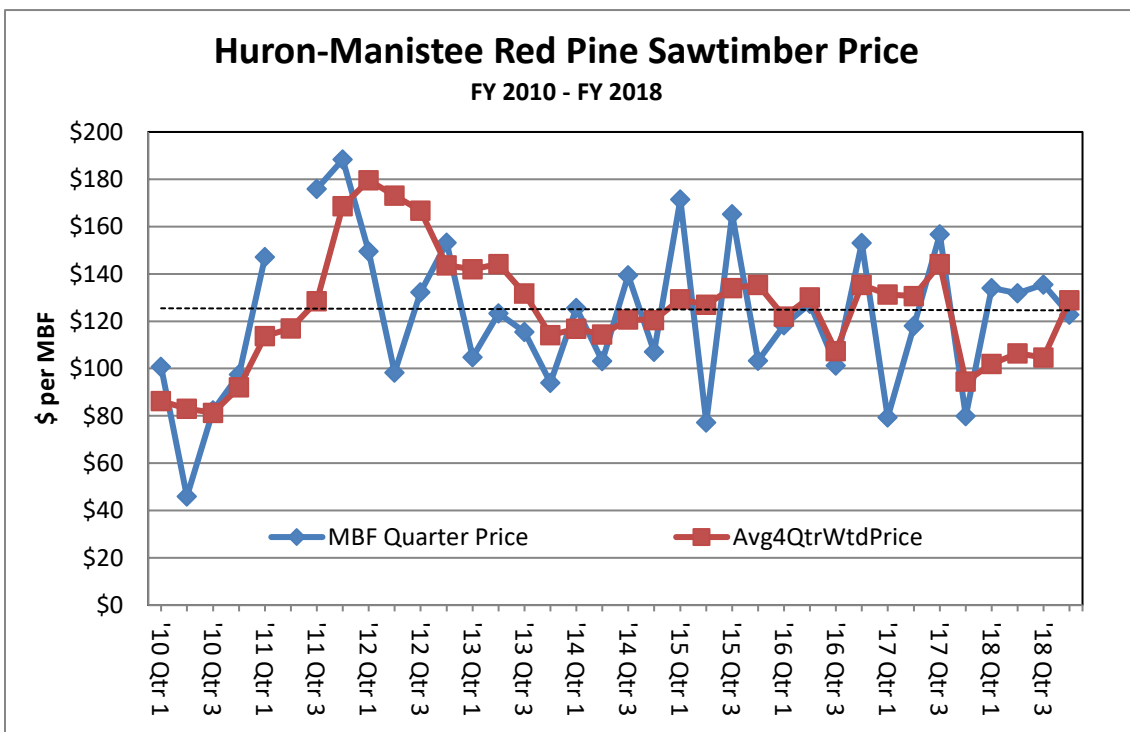
Practically all FY 2018 activity in the H-M aspen sawtimber volume category was funneled into this 4<sup>th</sup> quarter, which posted an above-average 1.2 mmbf result after a lackluster Q1 and Q2 and Q3 both with no volume whatsoever.



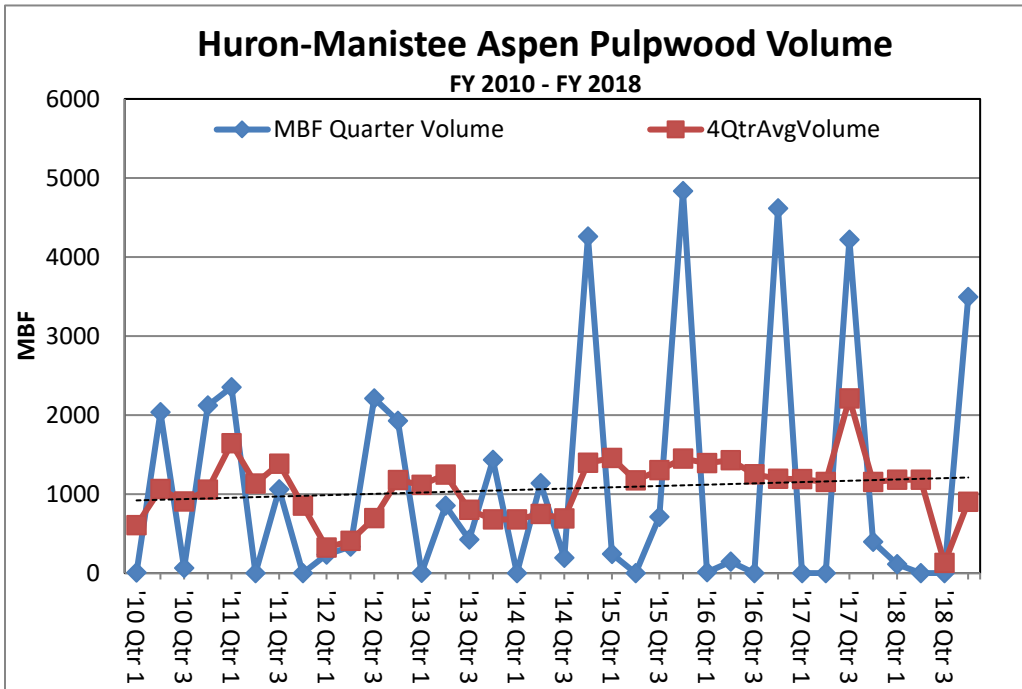
A strong price spike paralleled the volume surge in H-M aspen sawtimber category as the price rose to \$138.45 in Q4 from \$85.07 in Q1. (Q2 and Q3 had no activity.) This price level is unusual and well above the long-term trend line and the common mini-surges in the \$80-100 per mmbf range.



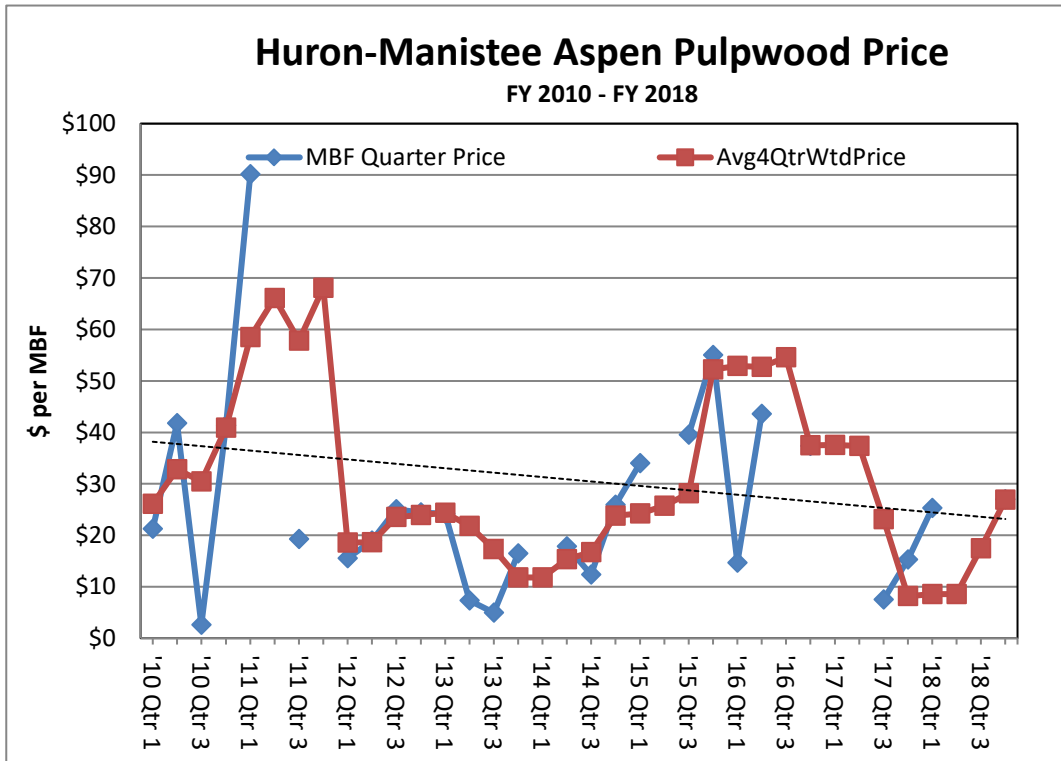
In Q4-2018, H-M red pine sawtimber volume followed its long-term proclivity to surge in the final quarter of the FY. Interestingly, however, the spike to 8.3 mmbf came upon the heels of a colossal Q4-2017 followed by three quarters of decent results over Q1-Q3 of FY 2018, which came in at 3.0, 3.5 and 3.6 mmbf, respectively.



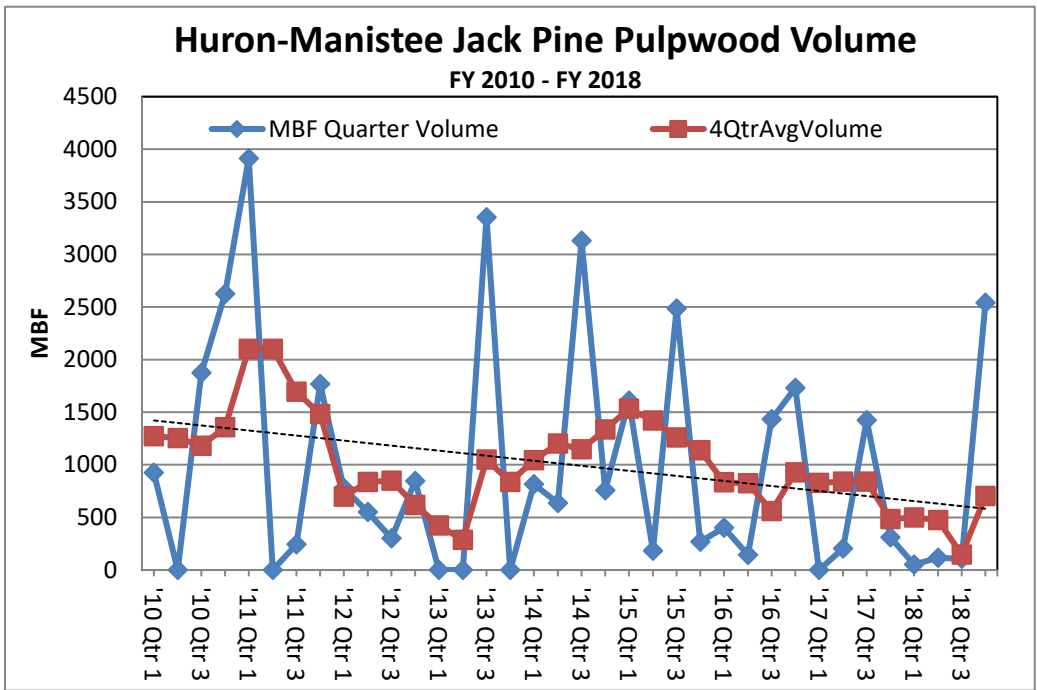
The average H-M Red pine sawtimber price in FY 2018 – at \$168.35 - remained remarkably stable, putting the volatility of previous years into the rearview mirror. This Q4 H-M Red pine sawtimber price did not drop significantly despite the major volume surge, which was the trend in other categories.



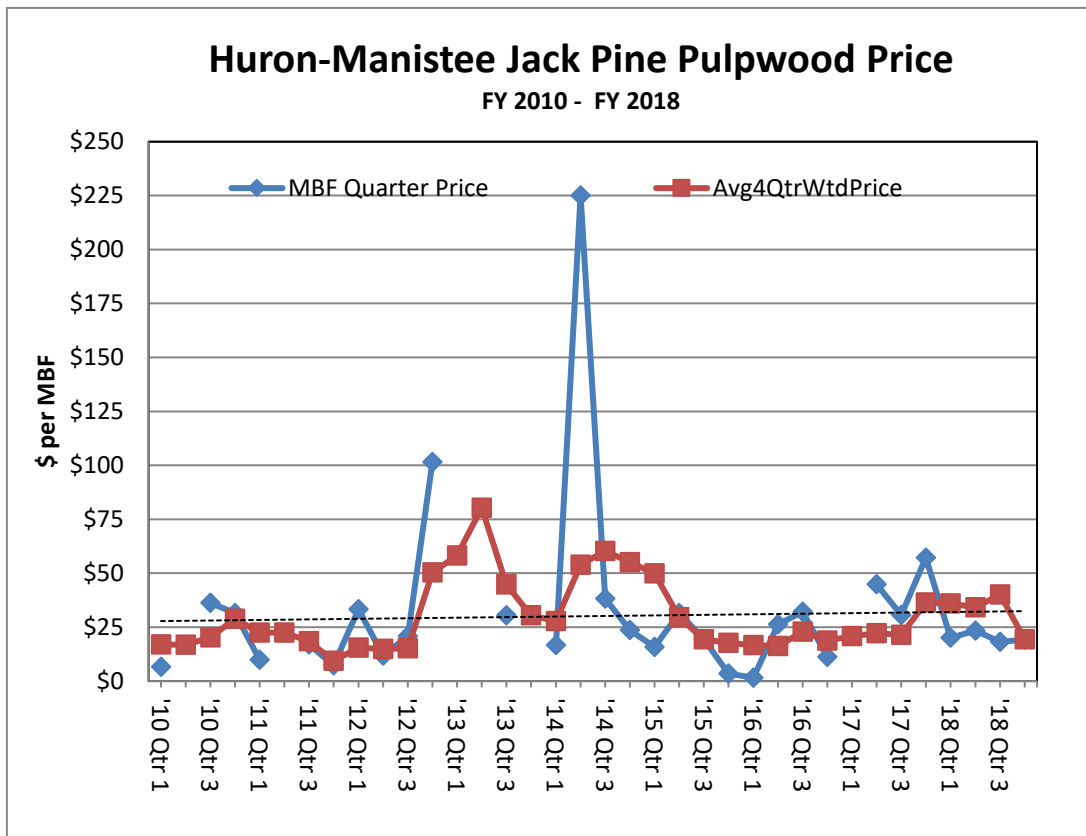
A full 87% of H-M aspen pulpwood sale volume – 3.5 mmbf - occurred in this current 4<sup>th</sup> quarter, which experienced the clockwork-like end-of-year spike. While this month’s demand was below the typical average around 4 mmbf, it was certainly within striking distance and above than the more common pre-2014 spikes averaging around 2 mmbf.



Rebounding from two quarters with no sales (and thus no average price), the H-M aspen pulpwood sale price registered at \$26.91 in Q4-2018, just above the long-term trendline for the period FY 2010-2018.

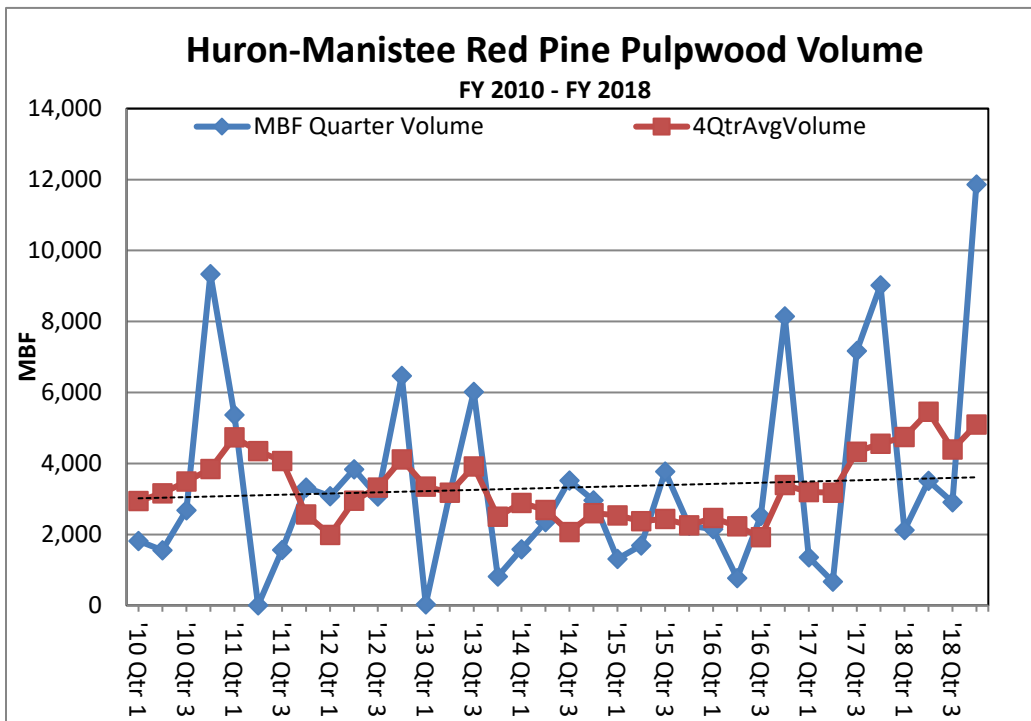


Like its H-M red pine counterpart, H-M jack pine pulpwood sale volume happened primarily late in the FY. After four periods of negligible volume, this category's vital signs were found again as a 2.5 mmbf result was posted in Q4. Part of the decline in recent years could be due to more jack pine being reported in the larger and more general "Softwood – Other" category.

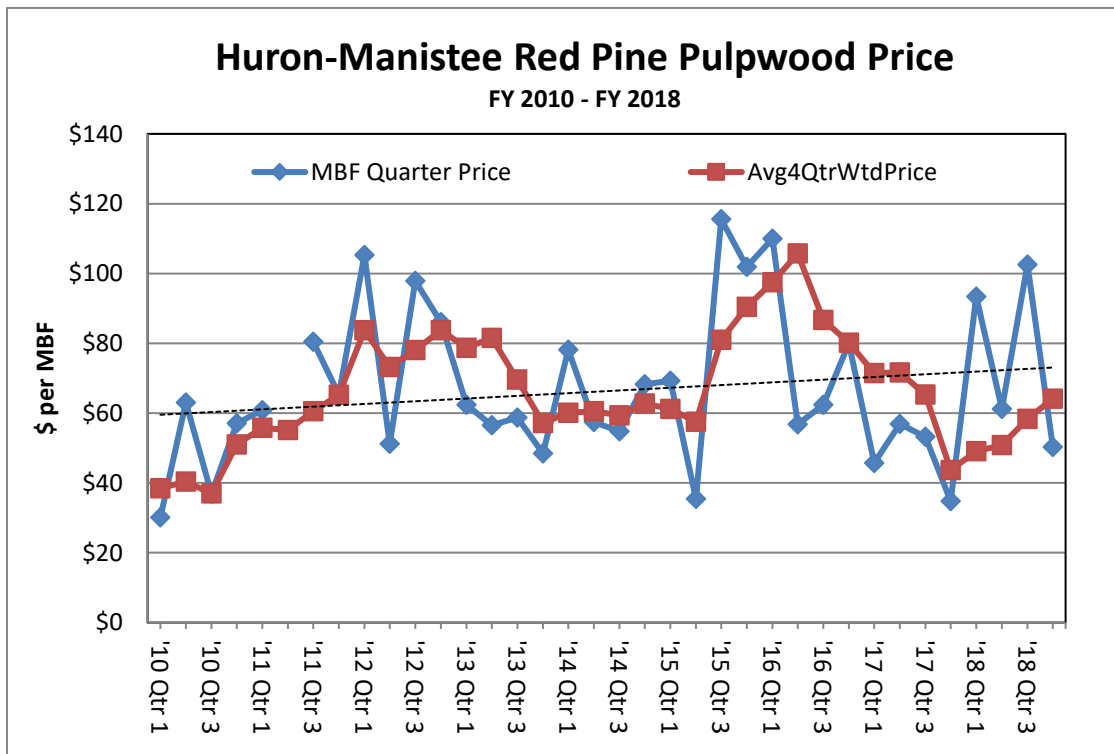


The H-M jack pine pulpwood price is trending stable, both in the earlier low-volume and in the current higher-volume scenario. The Q4 average price rose to \$19.26, up around a dollar from \$18.15 in Q3. Only a handful of quarters have deviated significantly from this stable price over the last nine years.





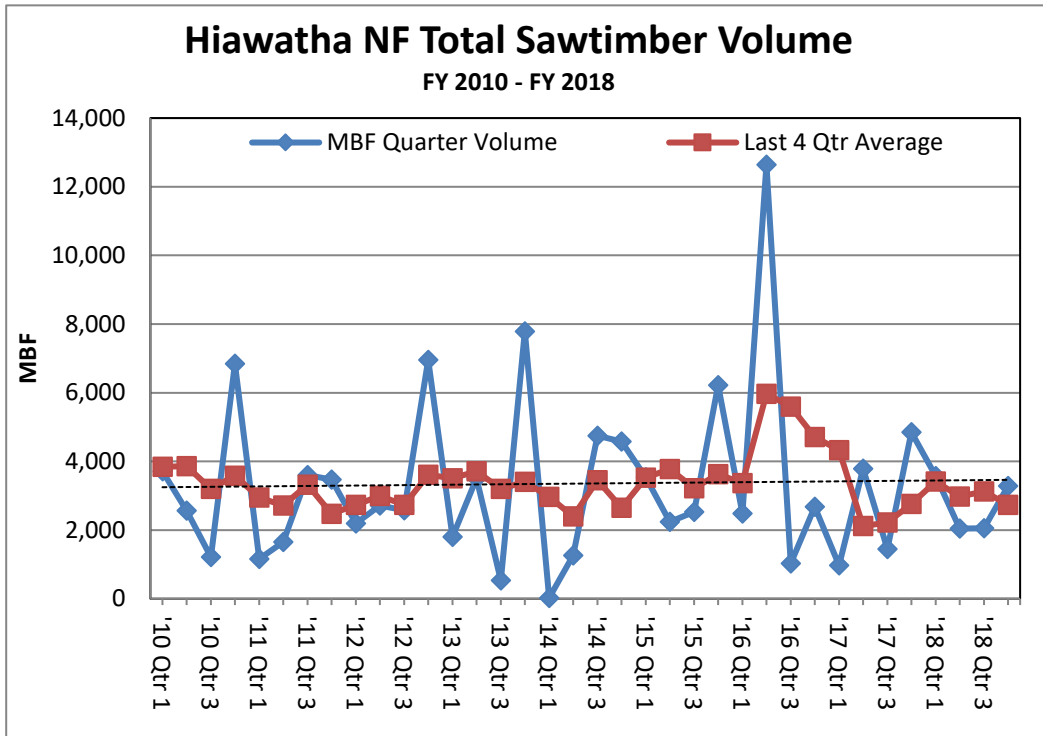
Although H-M's red pine pulpwood volume didn't start as deep in the hole as aspen and jack pine, the nine-year record tally of 11.9 mmbf in Q4 did represent 58% of volume sold in FY 2018. This was a 310% gain from the 2.9 mmbf showing in Q3.



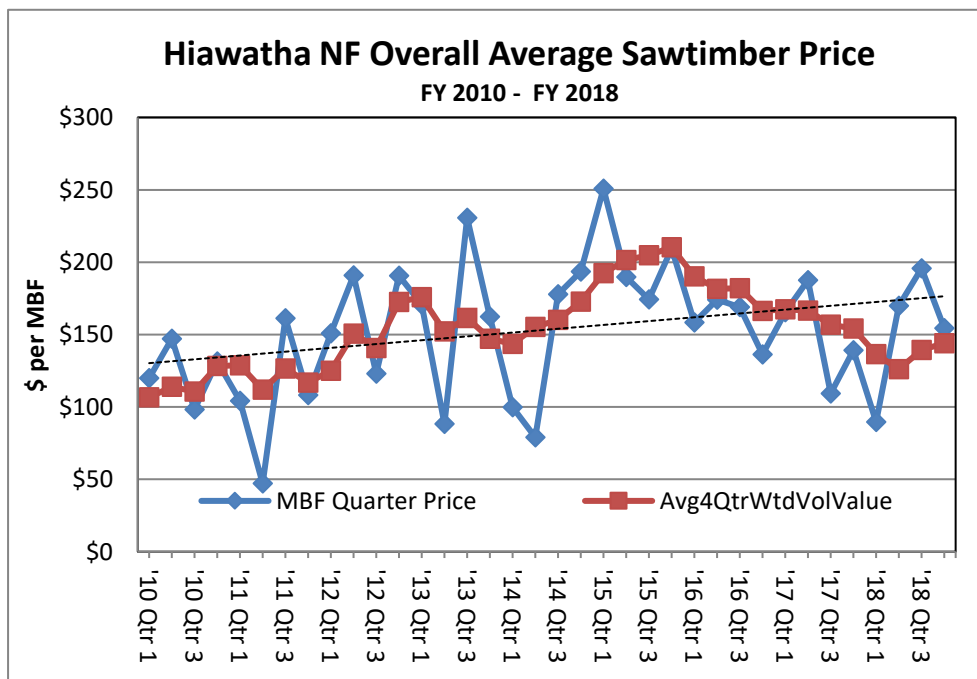
As noted above, the 4th quarter H-M red pine pulpwood volume surged northward, but the price went in the opposite direction, tumbling to \$50.33 from \$102.52 last quarter. Still, this price drop remained well above the lowest recent price drops that were in mid-\$30 range.

## Hiawatha National Forest Major Species Product Timber Sales, FY 2010 – FY 2018

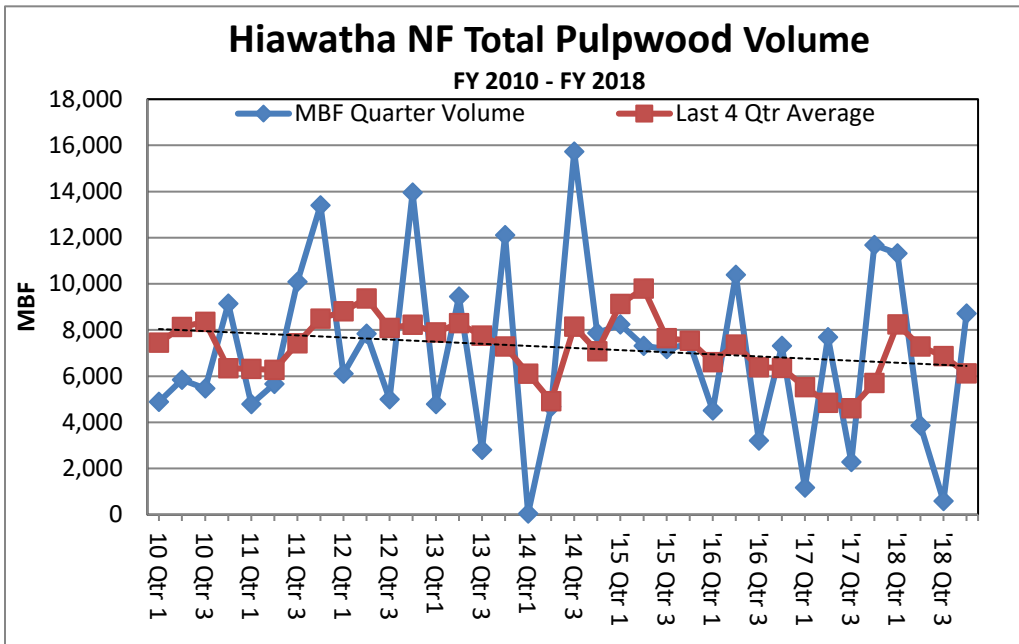
All graphs include a dotted trend line based upon the data set for the average of the most recent four quarters. Gaps in the blue quarter line indicate no sales in the quarter where the gap occurs. The National Forests follow the federal fiscal year (FY) from October 1 through September 30 (as does the MI DNR). The most recent data included here is for the 4<sup>th</sup> quarter of FY 2018, covering July through September of 2018 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>



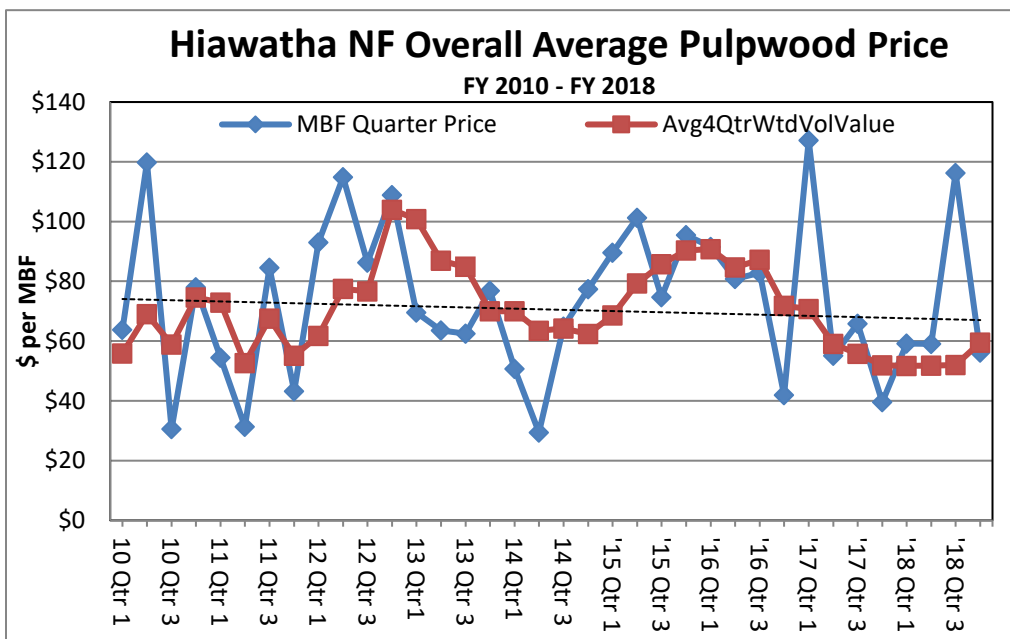
In the 4<sup>th</sup> quarter, Hiawatha sawtimber sale volume was up slightly to 3.3 mmbf from 2.1 mmbf, previously, more in line with the long-term average than the previous two below-average quarters.



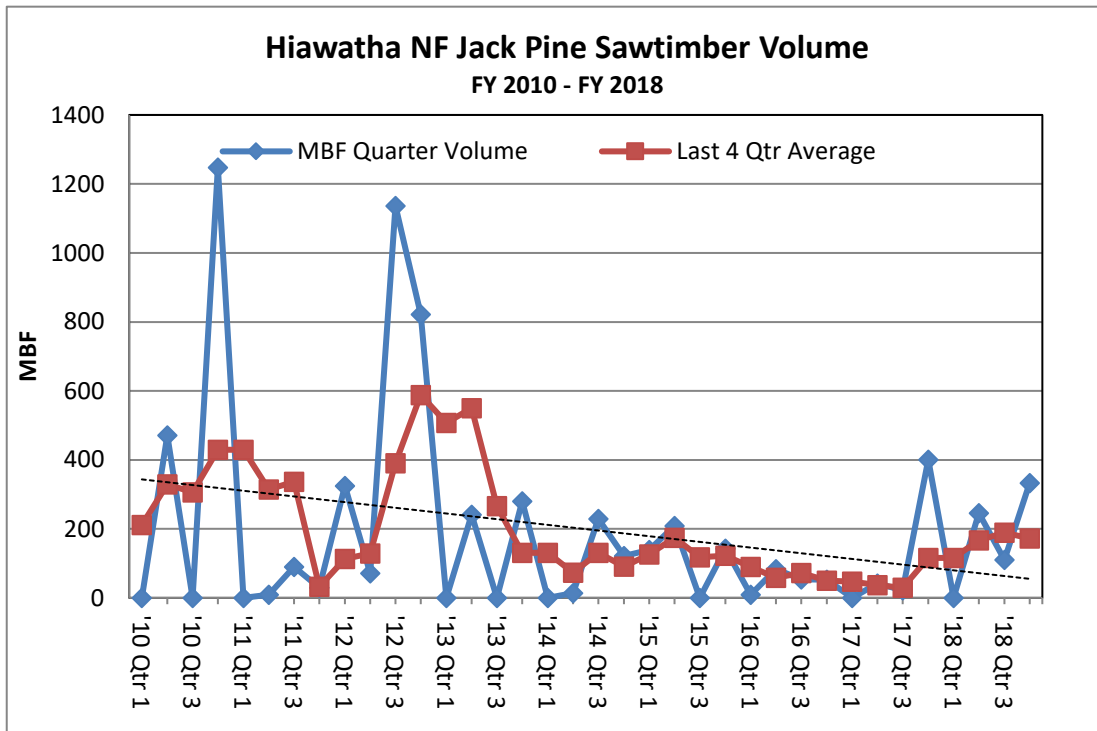
The higher volume in Hiawatha sawtimber took its toll on the average price per mbf, which fell to \$154.40 in Q4 from \$195.70 last quarter. The Q4 price lies below the long-term trend around the \$170 per cord range but is much higher than in Q1-2018, when the price was in the cellar at \$89.69.



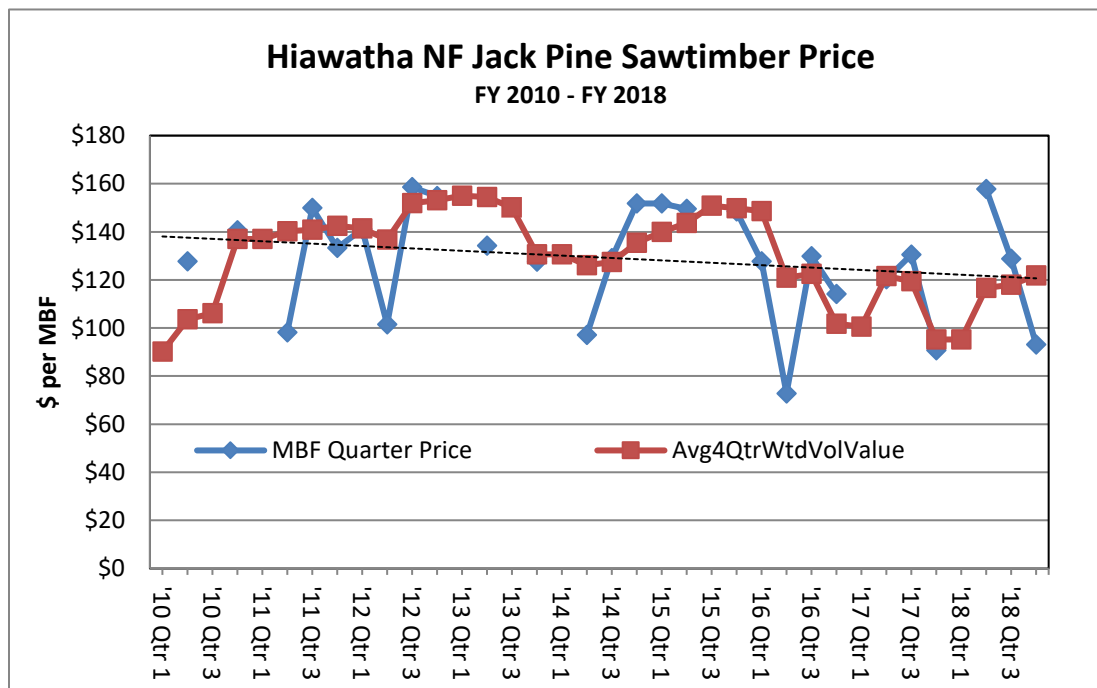
Hiawatha pulpwood volume was concentrated in Q1 and Q4 in FY 2018. In Q4, the tide was turned on two declining quarters with an 8.7 mmbf result vs. a miniscule 590 mbf in Q3. The continued swing-oriented result suggests that Hiawatha pulpwood volume will likely keep its cyclical nature and quarterly variability in the near future.



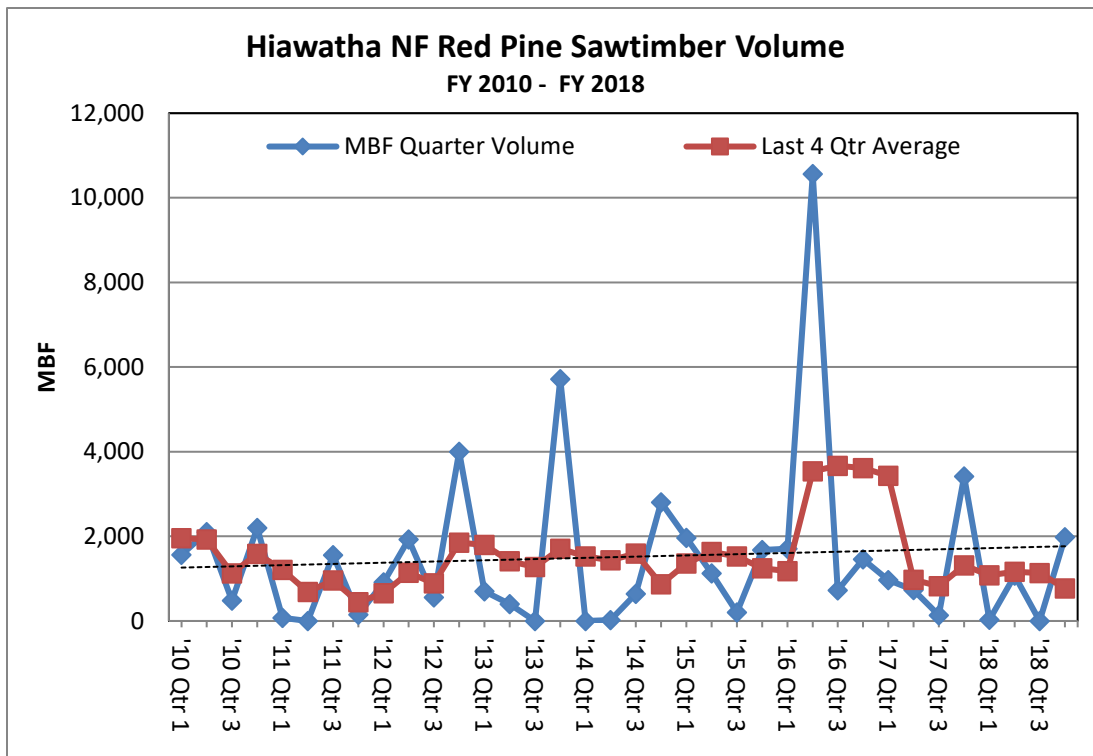
The gravitational force from higher Hiawatha pulpwood volume pulled down the average price from the sky to \$59.46 in Q4 from \$116.21 in Q3. This is close to the four-quarter running average price – now at \$59.16 – has been in the \$50-range for seven consecutive quarters.



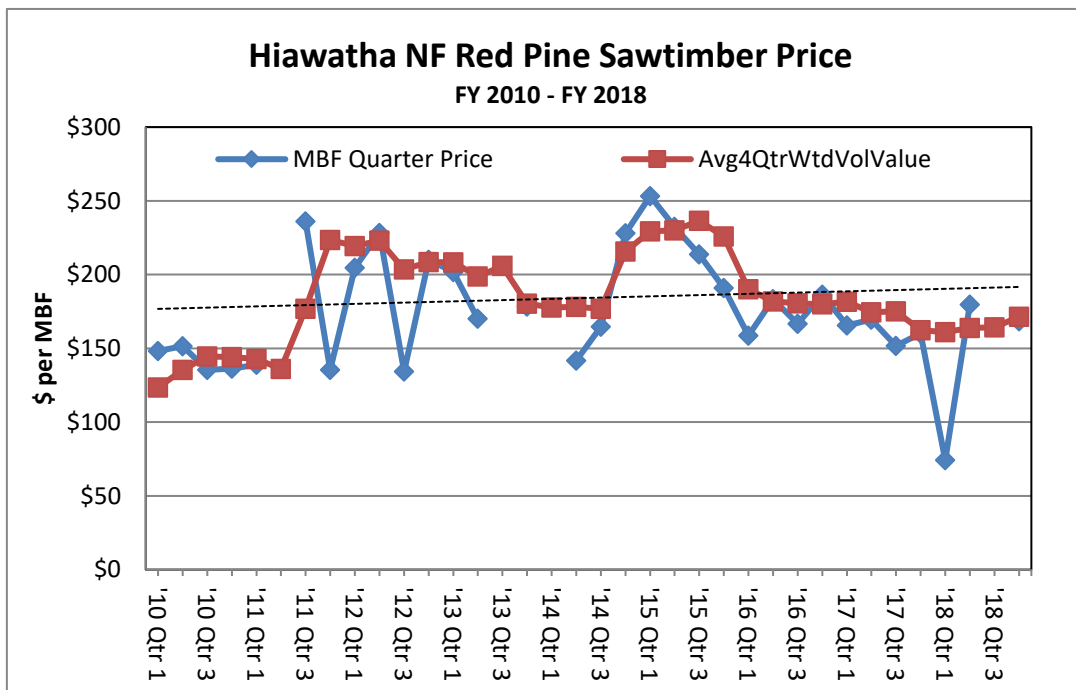
To characterize the slight increase in Jack pine sawtimber sale volume in the Hiawatha unit as a “spike” would be generous, given that volume rose to 333 mbf in Q4 from 110 mbf in Q3. Nevertheless, sale volume in this category in FY 2018 slightly outpaced both FY 2017 and FY 2016.



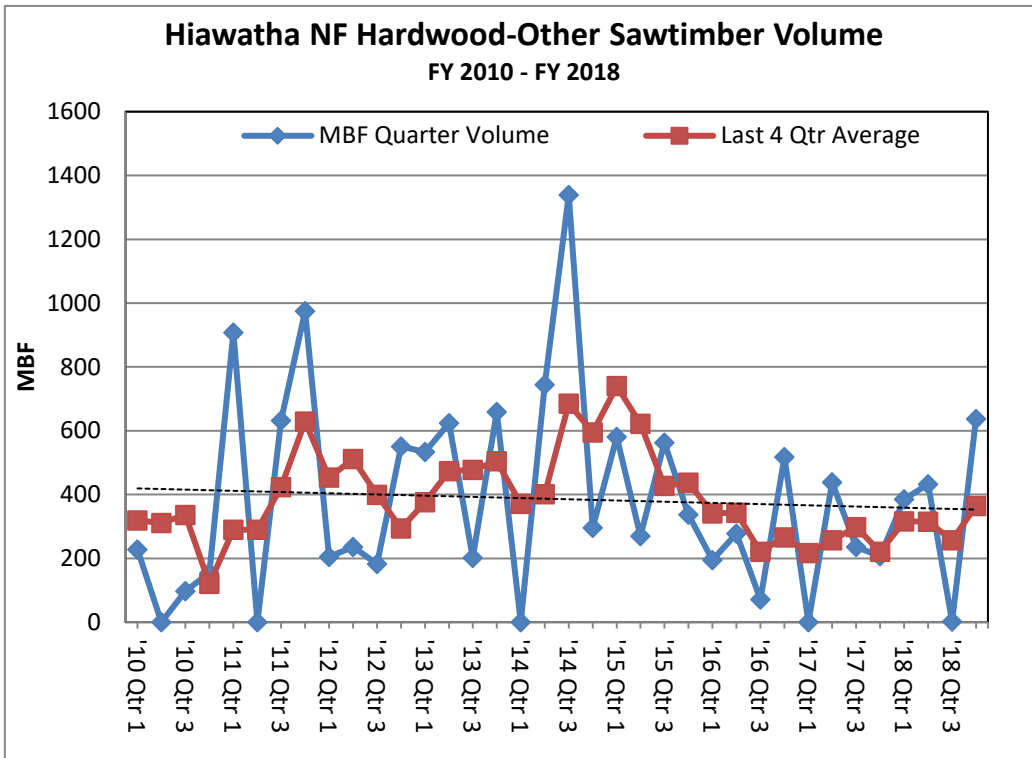
The 4th quarter Hiawatha average jack pine sawtimber price dropped substantially to \$93.07 per mbf from \$128.82. This is the second straight price decline in the category.



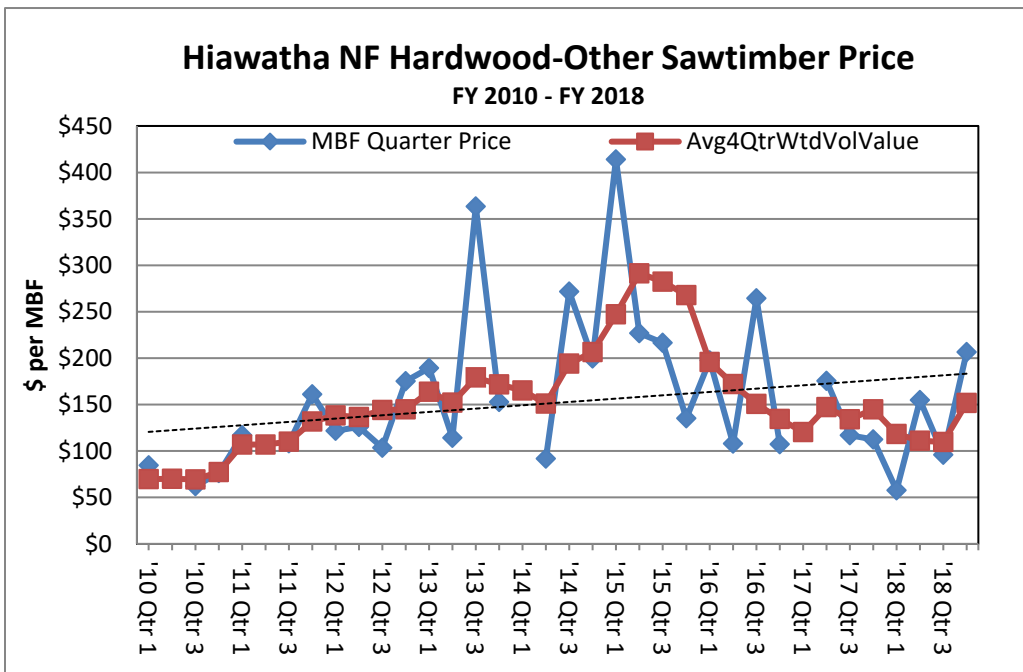
While an exceptionally strong quarter appeared overdue, Hiawatha red pine sawtimber volume recovered lukewarmly to 2.0 mmbf in Q4 from no volume last quarter. This was the highest quarter in a slow year with one quarter below average and two others at or near 0 mbf.



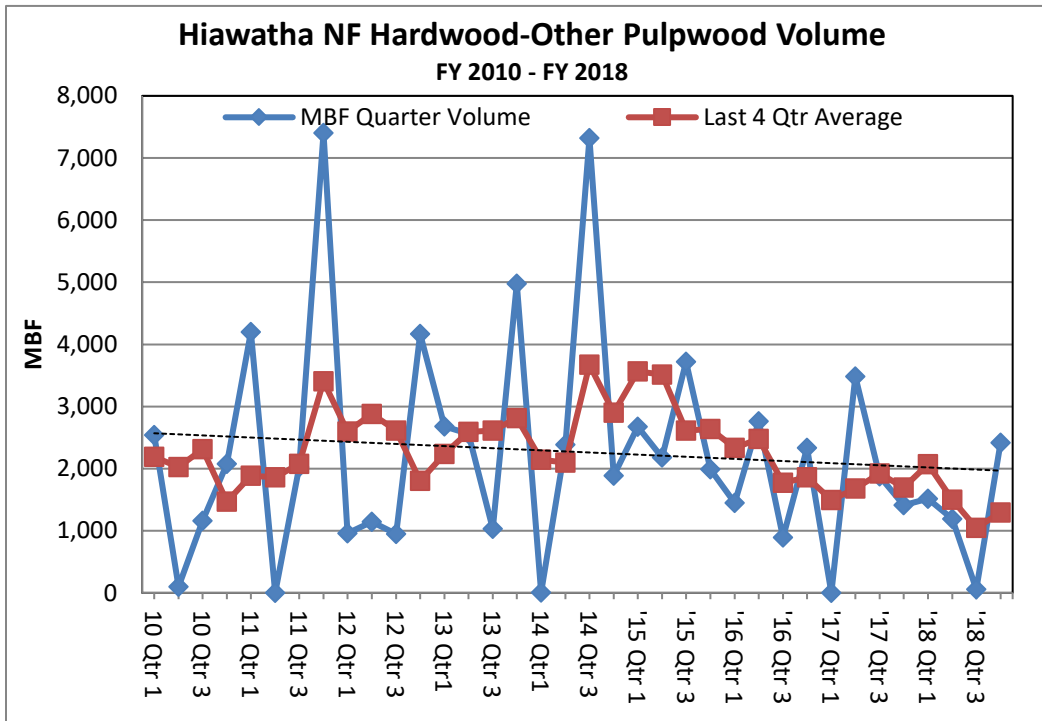
After no sales in the 3rd quarter, the 4<sup>th</sup> quarter average price for Hiawatha red pine held its footing at \$168.35 per mbf in the context of a slight volume hike. This price is comparable to those from the past three years.



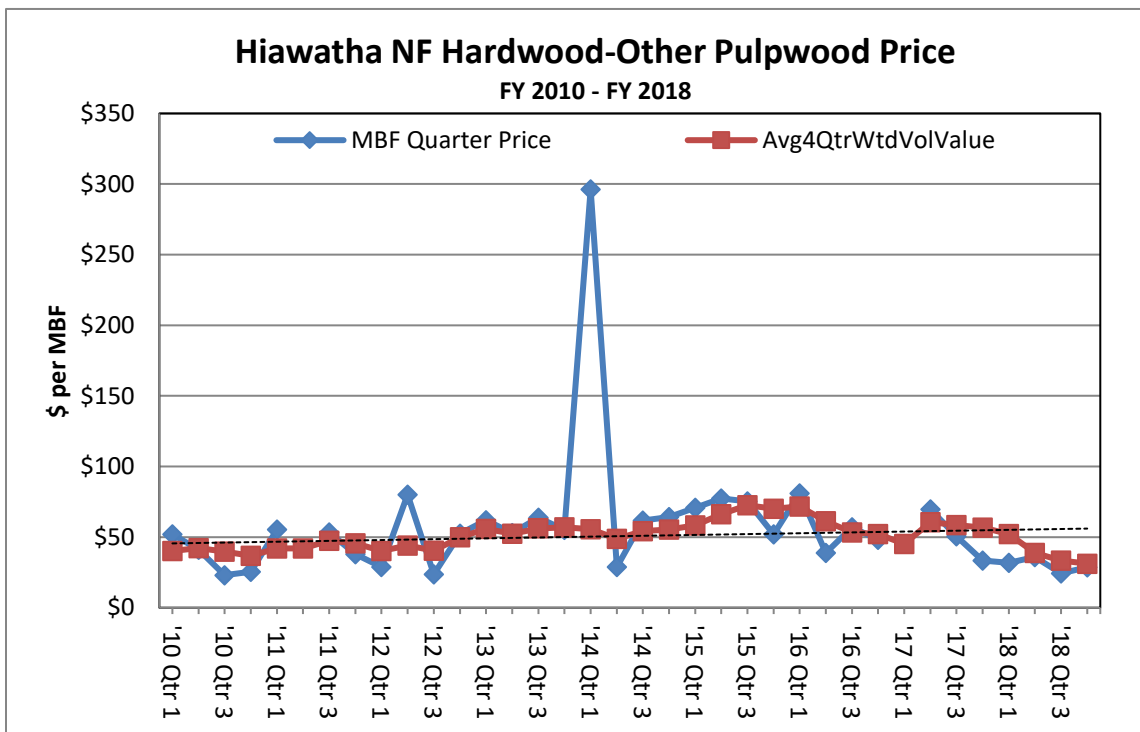
Like jack and red pine, the category Hiawatha hardwood-other sawtimber experienced a slight gain. After only 2 mbf were sold in Q3, the 4<sup>th</sup> quarter saw a lift to 637 mbf. Because this is a low-volume sector and less significant than red pine, this slight gain was actually above-average result and the highest since 2014.



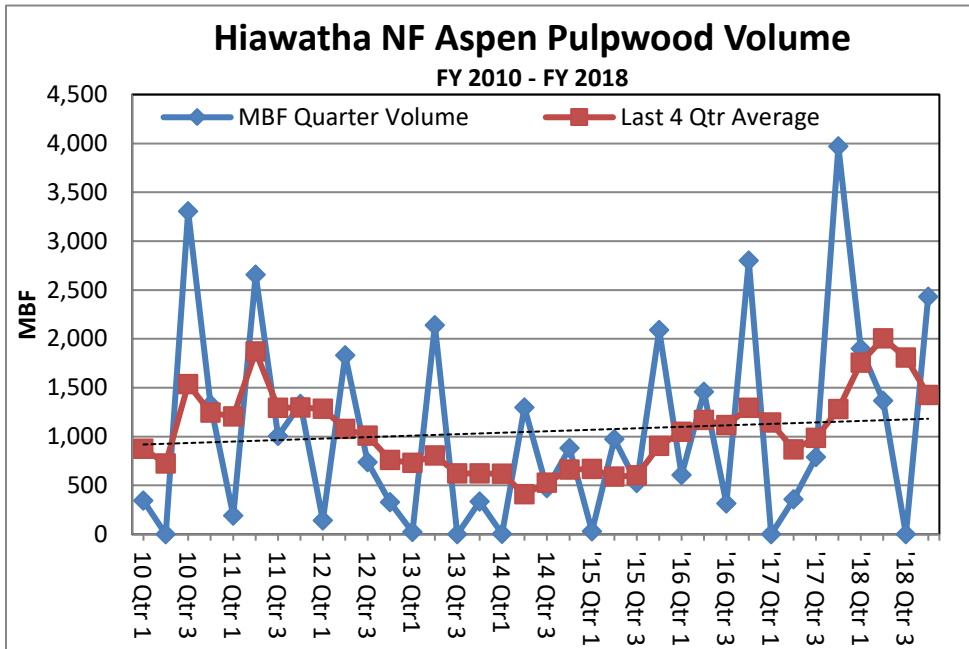
Hiawatha's hardwood-other sawtimber price diverged from the recent relatively low-price trend, climbing to \$206.40 per mbf in the 4<sup>th</sup> quarter from \$96.13. This is down from peaks of \$264 per mbf in Q3 of FY 2016 and \$414 per mbf in Q1 of FY 2015. As expected, prices showed resilience again as volume picked up from near zero.



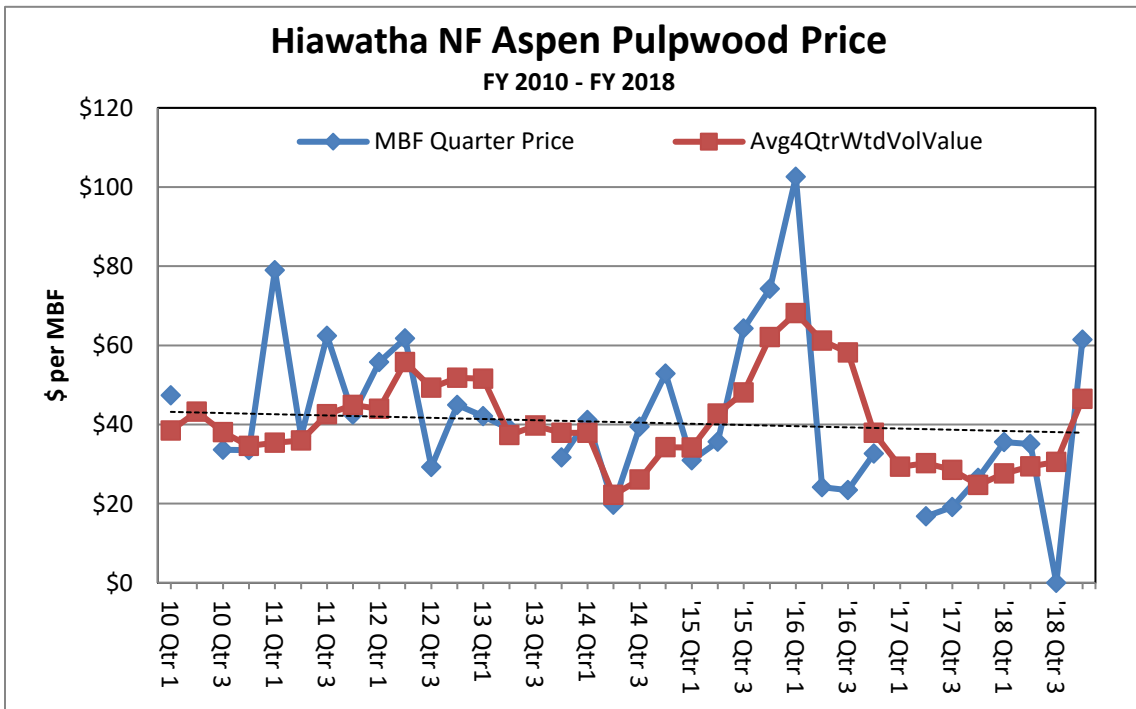
The Hiawatha hardwood-other pulpwood sale volume had its best quarter of FY 2018. With nowhere to go but up after a miniscule 57 mbf in Q3, this category surged to 2.4 mmbf in Q4. For several quarters, the market volatility had appeared to be flattening with fewer dramatic up- or downturns, but FY 2018 returned to the common year-end volume spikes.



The Hiawatha hardwood-other pulpwood average price ticked up slightly to \$28.71 this quarter from \$24.34 in the 3<sup>rd</sup> quarter. This is the 6<sup>th</sup> consecutive quarter below the nine-year price trend, which will continue to pull the average lower.

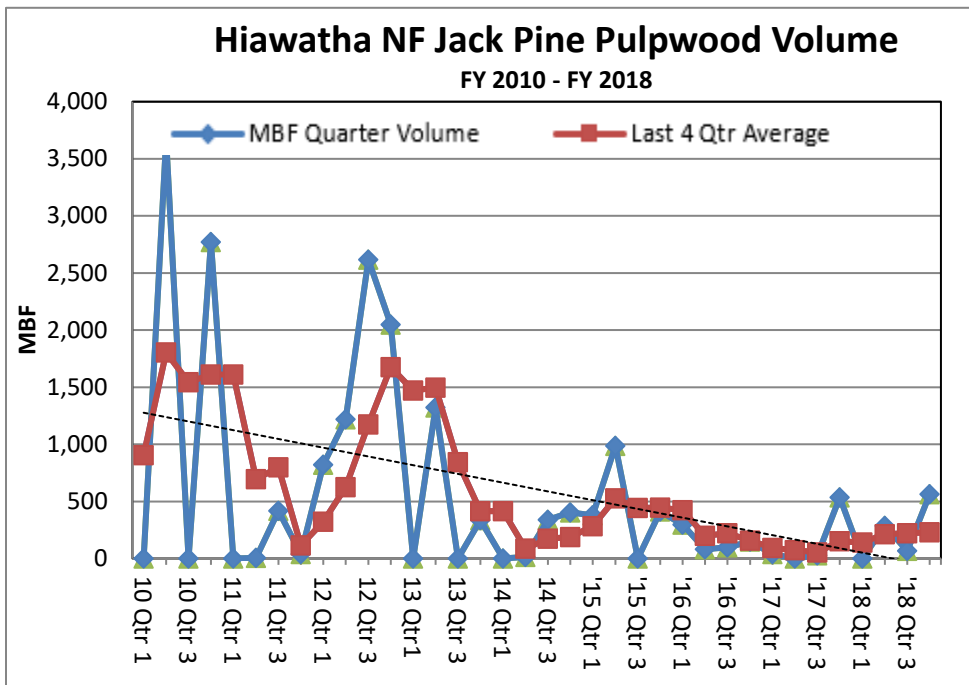


Kids would do anything to ride the ups and downs of the Hiawatha aspen pulpwood volume curve. Q4-2018 was back to the uphill climb – and a healthy 2.4 mmbf - after three quarters of a harrowing downhill drop. The record Q4-2017 was followed upon by three quarters of decline to absolute zero last quarter. As this trend is holding well over a nine-year period, one can reasonably probably expect Cedar-Point-like market conditions to continue.

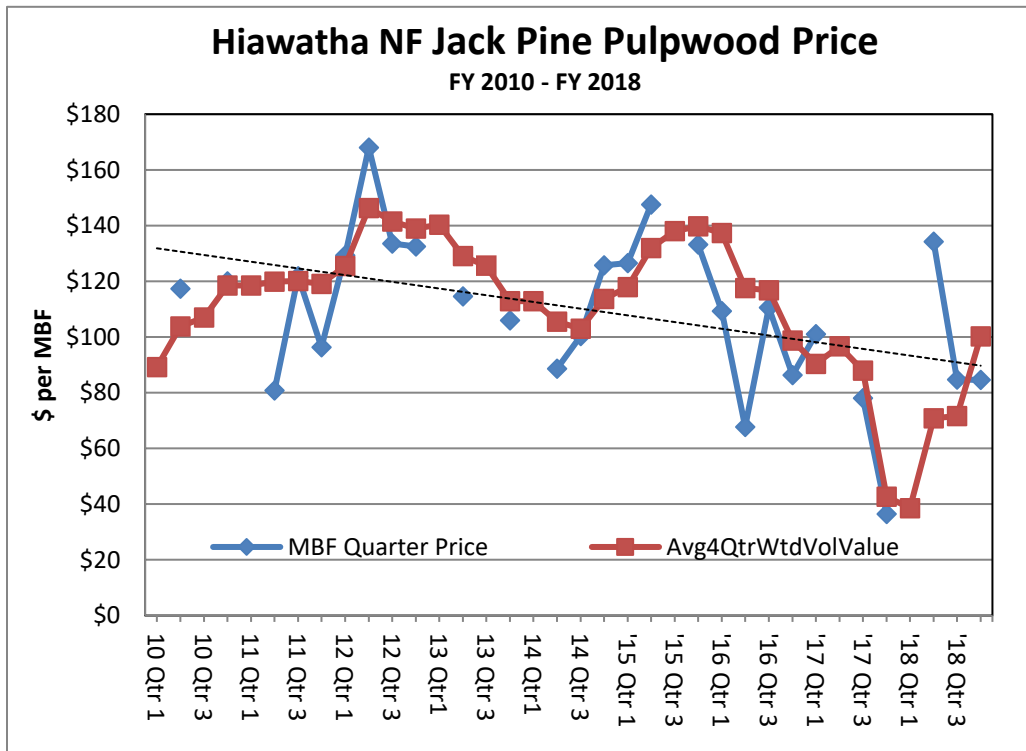


Surprisingly the Hiawatha aspen pulpwood price climbed to \$61.44 per mbf, up from \$0 on no sales in Q3. This rebound in the Q4 price lifted the recent average and maintained prices for this FY at a higher level than in FY 2017.



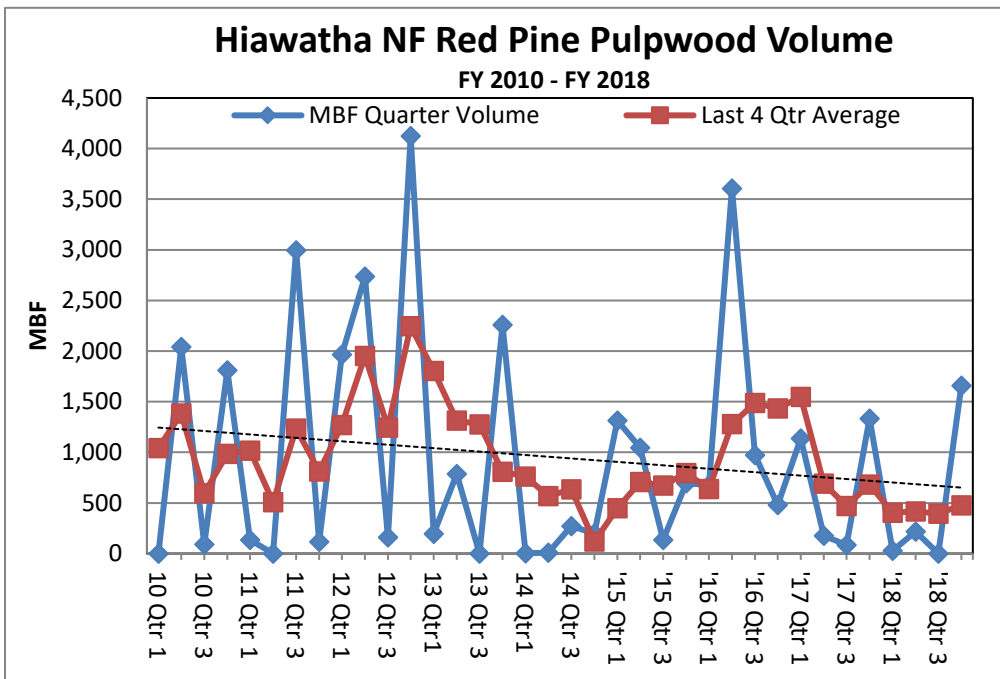


Hiawatha jack pine pulpwood sales hobbled upward from a negligible 287 mbf in the 3<sup>rd</sup> quarter to a slightly less negligible figure of 562 mbf in the 4<sup>th</sup> quarter. Jack pine's presence in Hiawatha has been diminishing, nearly disappearing in both sawtimber and pulpwood categories. A mini spike in 2015 was the last flirt with 1.0 mmbf, and volume has not crossed the 600 mbf per quarter threshold since then.

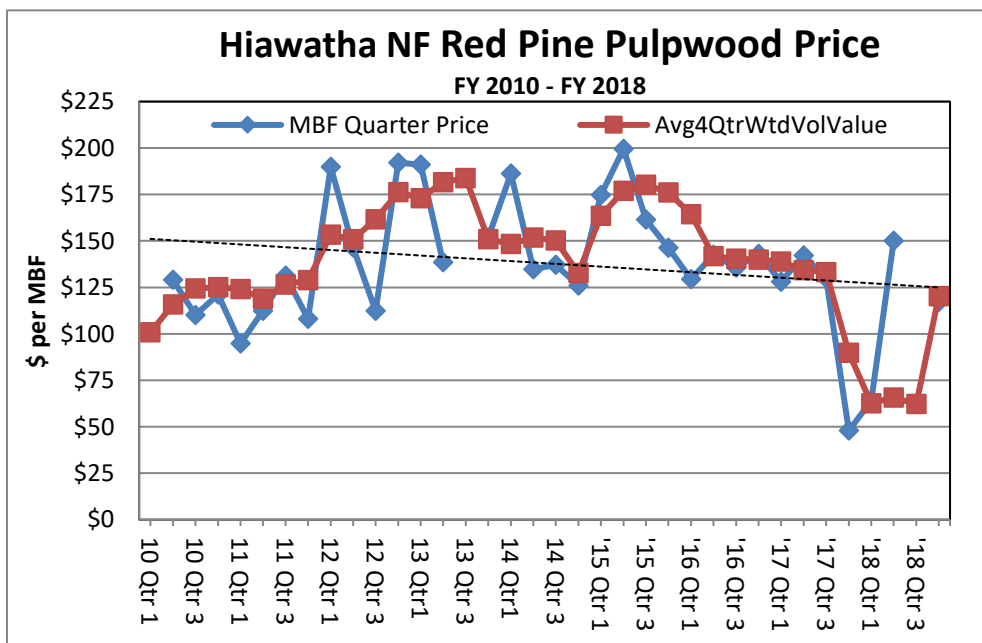


[Note: due to an error in an Excel formula, the Hiawatha jack pine pulpwood price was incorrect (greatly undervalued) on the reports between Q3-2017 and Q3-2018. This graph corrects those values.]

The Hiawatha jack pine pulpwood price maintained their value much better than was represented in recent reports. Q4 price in this category held quite steady at \$84.61, just 17 cents below last quarter's result. Although these prices are well below the Q2 price of \$134.26, the price trends have little meaning given the low volume transacted.



The Hiawatha unit's mainstay red pine had a pulse once again as it turned in a 1.7 mmbf result. This 'bull market' is deceptive, however, due to the dearth of activity during Q1-Q3: a total of 244 mbf. On the bright side, single-quarter booms are the norm in this category.



Hiding in the graph above under the red 4-quarter-average curve is the Q4 price for the Hiawatha red pine pulpwood: \$117.19. This solid year-end result follows on the \$0 price for the Q3 no-volume situation and the Q2 price of \$150.07.