



Industry News

■ ***U.S., Canada approaching trade dispute over softwood lumber*** (Sep 10th)

The U.S. and Canadian governments are approaching the end of a one-year standstill that could erupt into a trade dispute over timber imports that industry officials and federal lawmakers say are hurting mills. Trade representatives from both countries have until midnight, Oct. 12 to reach a new deal before industry leaders can file complaints in court against Canada.

— Flathead Beacon

■ ***The New York Times is wrong and misleading on biomass*** (Sep 14th)

The recent Economic Scene column in the New York Times (Next 'Renewable Energy': Burning Forests if Senators Get Their Way) illustrates well how opinion posing as journalism around biomass energy misinforms readers. The hastily crafted and non-peer reviewed economic report was later corrected by the U.S. Energy Information Administration and there is much more in the article that is just plain wrong and misleading.

— National Alliance of Forest Owners

Industry Overview

Forestland Operations

During the 4th quarter, mother nature continued to provide excellent conditions for forest operations in the Northeast. Our typical seasonal rains were lighter than usual everywhere, with October and November being the driest we've had in a long while. This kept our roads passable, and meant that harvest operations could continue without significant concern about excessive damage to the underlying forest. Because autumn is when the trees stop absorbing water from the soil, this is a usual worry.



New snow has fallen on a hardwood stand in northern Maine.

Moreover, the freezing & thawing cycle – a damaging process where the soils freeze at night but thaw again in the morning – was much shorter than usual. This process is normally a 4 - 6 week precursor to the frozen winter, slowing harvesting, yarding and trucking. However the dry conditions and lack of snow let the woods freeze down quickly this year. Within two weeks, most parts of the northeast were ready to support the start of full winter operations.

As a result of these things, in-woods timber production remained relatively high through the quarter, with contractors experiencing little or no lost time due to weather. The challenge remains to be the ability for the marketplace – our regional pulp mills & saw mills - to absorb the raw material being produced. The fall has historically been a time where mills find their inventories drawn down, however the robust production left inventories at the end of the fourth quarter flat, and in some cases, higher than their summer levels.

After a long steady decline, the price of diesel fuel appears to be on a reversal trend (see *chart next page*), prompted back to life again by pledged crude oil production cuts by OPEC. Diesel is not only a major cost for loggers and landowners, but significantly higher prices could serve to constrict the travel of timber to more distant markets due to the transportation economics.

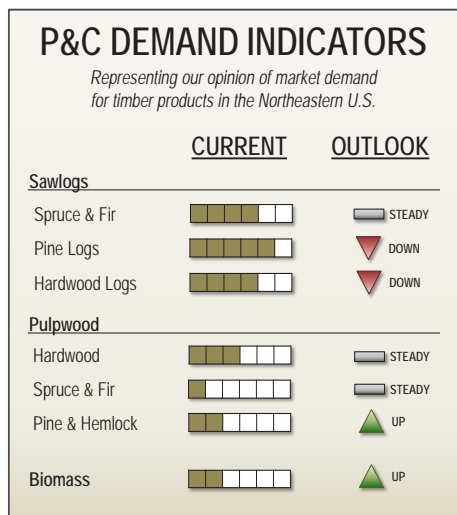
The price still remains near its three year low, but most analysts appear to be predicting slow & steady upward movement in price during the next few quarters.

NUMBER 2 DIESEL FUEL PRICES - NEW ENGLAND

3 YEAR HISTORICAL MONTHLY AVERAGES



Forest Product Markets



As regular readers know, the northeastern region has experienced tremendous reduction in the total consumption of pulpwood products over the last ten years. Some capital investments at our remaining mills have helped offset the loss, and more are planned, but the loss in available markets have left landowners and loggers struggling to find homes for low quality wood. As such, many loggers have become reliant on the more stable sawn products markets in order to keep things moving. The core problem, however, remains; although we have lost some of our regional contractor capacity, in-woods timber production still outsizes market

demand and the resulting oversupply is pushing down prices.

Pulpwood Products

For some 20 - 25 years, pulp mills have rarely placed blanket restrictions on how much wood landowners could deliver to their door. When they did, it was usually temporary. We are now seeing consistent use of ongoing delivery restrictions – in the form of volume quotas – at our regional pulp mills as a way to control both the quantity and quality of fiber they hold in inventory. To be fair, it is a natural response to the oversupply condition we now find ourselves in; however, it has led to a significant amount of volatility and created an environment where it is difficult for landowners to plan their operations. Moreover, it has forced timber producers to spread out the delivery of their products to multiple markets, even when it doesn't make economic sense for them to do so. Because low value products like pulpwood are so sensitive to transportation costs, recently the economics are more dependent on where the harvests occur, not necessarily what product is being produced.



- Maine's wood innovators gathering to explore next-gen products (Sep 20th)**
A group of industry leaders, researchers, entrepreneurs and academics will meet at Hiram Works for the Wood Innovators Conference. The all-day conference will feature a variety of discussions about current trends in the development of new forest products, with an emphasis on construction materials, biofuels, cellulose nanofibers and policy initiatives to boost the nascent next-gen wood products industry.
— *PressHerald.com*

- China overtook Canada and USA in a wood production (Sep 24th)**
According to an FAO report, China has grown in importance as both a producer and a consumer of forest products, and has recently overtaken a number of other big players in different product groups. China is by far the largest producer and consumer of wood-based panels and paper. It is also highly significant in international trade of forest products, and the largest exporter of wood-based panels.
— *Forest Monitor*

- Tall Timber Trust buys nearly 300,000 acres in North Maine Woods (Nov 2nd)**
More than 290,000 acres of northern Maine forestlands in Aroostook, Penobscot and Piscataquis counties have been sold to Tall Timber Trust. In the private transaction, the price of which has not been disclosed, Canopy Timberlands, LLC, sold two major blocks of forestland to Tall Timber Trust. The deal closed September 30th.
— *Bangor Daily News*

For the pulp mills that remain, consumption over the quarter has remained steady, particularly now that we are through the period of scheduled maintenance downtimes. There do appear to be some mills that are struggling with their mix between hardwood & softwood, as we have seen sharp short-term demand swings between the two groups of species. We assume that mills are working on optimizing their internal manufacturing processes, as well as responding to ever-changing demand from their customers. But these consumption swings have been particularly painful for the logging force, causing increased uncertainty in an already uncertain market.

Capacity reductions between the two basic species groups of pulpwood – hardwood & softwood – have significantly differing effects on the operations in the woods. Hardwood harvests for a landowner in the Northeast tend to be approximately 85% pulpwood and 15% logs, while the inverse is true for softwood; 85% of the softwood material is used for a sawn product and 15% winds up being pulped. While we have lost market for both species groups, the remaining mills consume more hardwood than softwood. In fact, today there is virtually no dependable market for softwood pulpwood coming out of the forest in “round” form anywhere in the Northeast or southern Quebec. Instead, those pulp mills that do consume softwood acquire their material from the regional dimensional sawmills in chip form, which are produced as a byproduct of lumber manufacturing. We’ve written about this interdependence before, and it is incredibly important to the health of the industry as a whole. Without the pulp mills the dimension sawmills wouldn’t have a place to offload chips, and without sawmills the pulp mills would have to make significant investments to chip the material themselves. While the capacity reductions have been painful, the entire industry has been fortunate to have this symbiotic relationship preserved.

Our regional panel and engineered lumber manufacturers – which also consume a mix of hardwood pulpwood – got through the 4th quarter with similarly high inventories. We’ve seen similar delivery restrictions at these facilities as well to control winter inventories and maintain available space in their yards. Looking ahead, we are expecting expanded consumption at these facilities following growing demand in the housing market. Certainly, depressed hardwood pulpwood prices in the region create additional opportunity for them.

Sawn Products

Softwood

After a steady slide for the last 8 - 12 months, the prices on spruce & fir logs appear to have stabilized for the time being, and the market for spruce & fir dimensional sawstock remained steady. That said, mills are much more selective about the quality of products being delivered, and there is much more pressure on the logger to ensure the wood meets specifications before it is delivered. In general, logs must be sound and straight, and must be sorted and fitted to the facility’s needs. For years, loggers could deliver these logs in tree-length form, and could occasionally stray outside the quality specifications without much angst. But because of the difficulty sawmills have moving their chip byproducts, they have become much less tolerant about accepting lower quality wood in order to minimize their waste.

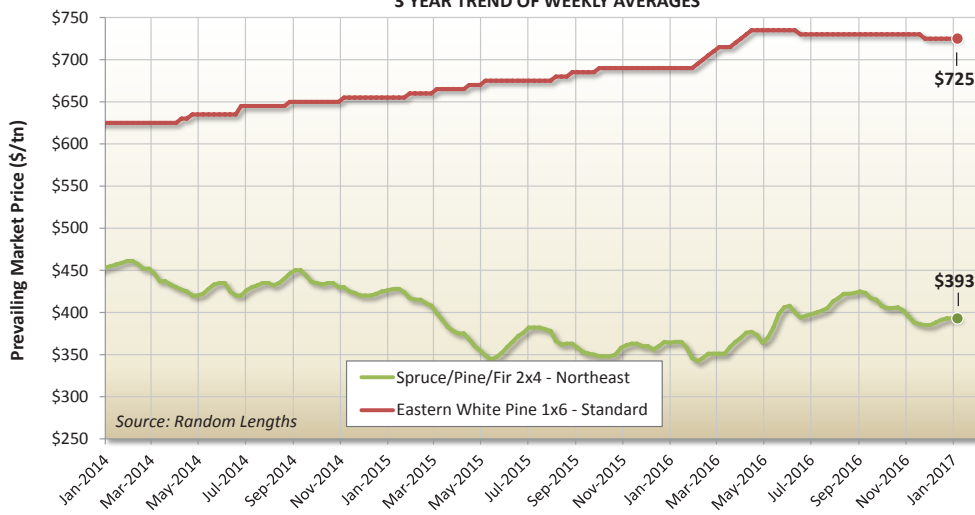
Although there have been ups & downs in the dimensional lumber indexes (*see chart next page*), prices generally found themselves more up than down in the past year. Mills in our region likely finished the year with higher margins than when they started, as evidenced by the capital they are committing into process improvement. Many regional sawmills tell us they have placed (or plan to place) additional investments in production increases and optimizations. Again, sustained growth in the housing & construction markets appear to be the driving force behind their decision making.



- **State forests to see more cutting** (Nov 5th)
Wisconsin officials are earmarking nearly 40,000 more acres of state forestland for intensive logging - a move pushed by the Legislature to provide a fresh source of timber to the forest products industry. Some forestland will be cut starting next year; trees on other parcels will be scheduled for harvest in future years.
— *Jsonline.com*
- **Harvard said to seek sale of slumping natural resources assets** (Nov 10th)
Harvard University, the world's richest school with a \$35.7 billion endowment, is seeking to sell natural resources assets after the portfolio lost money last year. The university is looking to restructure the \$4 billion of holdings to free up cash for other investments. The portfolio is vast with assets including timberland plantations in Central and South America, a dairy farm in New Zealand, and vineyards in California.
— *Bloomberg.com*
- **U.S. Lumber Coalition files petition, restarting Canada-U.S. softwood lumber hostilities** (Nov 25th)
The U.S. Lumber Coalition has filed a petition asking the U.S. Department of Commerce to investigate Canadian softwood lumber shipments with an eye to potentially levying new duties, kicking off a fresh round of litigation between two countries with a long history of trade disputes over wood. The petition is said to be hundreds of pages long and its exact contents are not yet known.
— *CBC News*

PRICE TRENDS IN SOFTWOOD LUMBER

3 YEAR TREND OF WEEKLY AVERAGES



The Softwood Lumber Agreement – governing trade of lumber between the United States and Canada – appears to be turning into a staring contest, without much immediate hope for a resolution to the dispute. The U.S. mills claim that Canadian wood is unfairly subsidized, and have reignited trade actions by filing their grievance through the U.S. Lumber Coalition. We'll have to wait and see what the true effects are to U.S. landowners, but here in the Northeast, we're concerned about being able to maintain the flow of wood in both directions, which has served to stabilize log prices and made it possible for landowners & loggers to harvest the material in the northern forest.

Cedar markets have remained robust over the past year, with demand at cedar mills being unusually high because of the short winter last year. Because it grows in wetter soils, cedar is a species that can usually only be accessed during wintertime. For this reason, many mills purchase up to 90% of their annual usage during the cold season. The short winter in 2016 left mills with undersized inventories and, as we enter 2017, cedar is a product that is in high demand. Cedar also has one of the longest shelf lives of any sawn material; it can be stored for 3 - 4 years without much loss in quality. Because not every winter provides consistent cold weather, mills often take advantage of cold snaps by purchasing and stockpiling more than their annual supply to prepare for years when they can only buy limited volume. Fortunately, recent cold weather would indicate that contractors producing cedar should be able to access it freely this winter, and mills are likely to respond by purchasing all they can.

White pine was one of our go-to products for the first few months of the quarter, as the market for the lumber was steady and strong, inventories were low, and buyers were looking for pine. Late in the fourth quarter, however, due to holiday downtimes, breakdowns, and softening of the lumber markets, sawmill production started to drop and raw material inventories blossomed. Locally, inventories are now high and mills are taking less wood, but there are opportunities to sell pine to more distant markets. Unlike cedar, pine is one of the most perishable products and mills are highly sensitive to inventories coming into spring; so we don't expect much enthusiasm in winter buying activity at regional pine mills.

Hardwood

Demand for most species of hardwood grade logs – yellow birch, soft maple, oak, ash – has stayed stable over the past several quarters, and pricing on logs has been flat. The single exception has been hard maple logs, which has been experiencing downward price pressure reflecting some tightening of the hardwood lumber market and excess raw



- **Some Wisconsin loggers holding off on timber harvests (Dec 20th)**
The prices for timber products have fallen over the past eight months and some loggers are holding off on harvesting wood they bought under contract. An oversupply of raw material on the market is leading some to consider their options. Loggers are still able to produce the wood, but they are trying to adjust their production levels to what the mill requirements are right now.

— *Businessnorth.com*



material inventory. Hard maple does make up a considerable amount of the hardwood produced in the Northeast, so on a combined basis we're expecting slightly lower log prices coming into the new year.

Demand for timber mat logs – lower quality hardwood logs that are used for timber mats and other industrial products – has been off this quarter due to the high finished goods inventories as well as overall lack of demand for mats. For 2017, we're anticipating some uptick in demand, however pricing is likely to keep our production lower than in recent years.

Biomass

Although some industrial sites consume biomass for energy during cold snaps, the energy picture in the region strongly favors natural gas. Natural gas is competitive on price and on its heating capacity, and while the price of oil stays low biomass won't be significant avenue for landowners to sell their low quality byproducts, unless the material is in very close proximity to the plant. That said, the region did have a biomass plant restart this quarter, with another restart planned, aided by the State of Maine's willingness to provide some support. This will offer some relief, if transportation costs allow biomass to be delivered economically.

Benjamin D. Carlisle
PRESIDENT

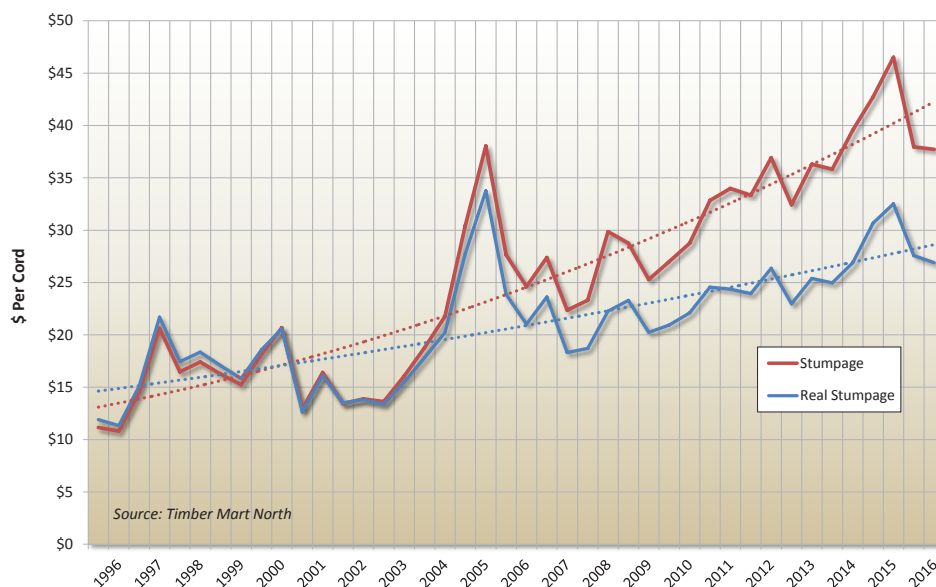
Update on Lake States Timber Prices

by Sam Radcliffe, Vice President

Every year in the fourth quarter we report on what happened to Lake States timber prices during the year¹. The Lake States are dominated by hardwoods, and as usual we will focus on Wisconsin hardwood prices for pulpwood and sawtimber, with an emphasis on hard maple. Hard maple is the most valuable sawtimber species in the region and accounts for about one-third of the sawtimber harvest among the higher quality species.

In 2016 hardwood pulpwood prices experienced the correction that had been long expected, after a mild winter that allowed mills to build inventories and avoid panic pricing during the wet summer. The correction however was not strong enough to reverse the 20-year trend of increasing real prices (Figure 1). Even with the drop in 2016, since 1996 hardwood pulpwood prices have increased at a real annual rate of 4.2%. As Figure 2 shows, hardwood pulpwood during that period would have about exactly equaled the performance of the S&P 500.

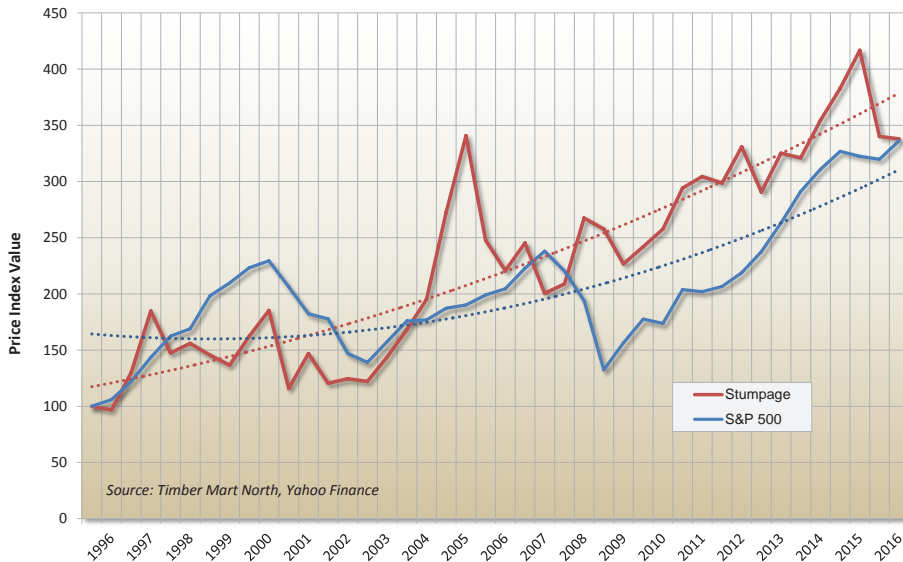
Figure 1: Wisconsin Hardwood Pulpwood



The region continues to have some of the priciest hardwood pulpwood stumpage in the U.S. The average hardwood pulpwood stumpage price across the South in the third quarter dipped to about \$26 per cord² in the third quarter while in that same period the price in Wisconsin dropped to about \$38. This is a two-edged sword for timber sellers, who may enjoy high prices



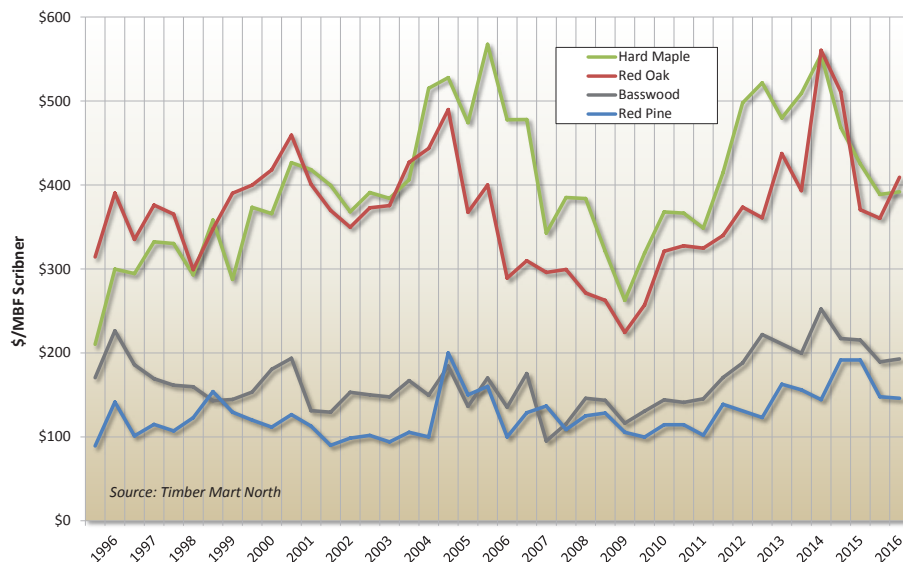
Figure 2: Wisconsin Hardwood Pulpwood vs S&P 500



in the short term but find pulpwood markets disappear in the longer term as production shifts to lower cost regions, which in the case of pulpwood, could likely mean off-shore regions.

For the premium species, hardwood sawtimber stumpage prices leveled off or improved after a significant downward correction in 2015, as did the lesser species such as basswood (Figure 3). Woodsrun (mixed grades) stumpage prices need to be interpreted carefully, as a small sample may be subject to significant swings due to atypical timber quality, operating conditions or bidder behavior.

Figure 3: Wisconsin Sawtimber Stumpage



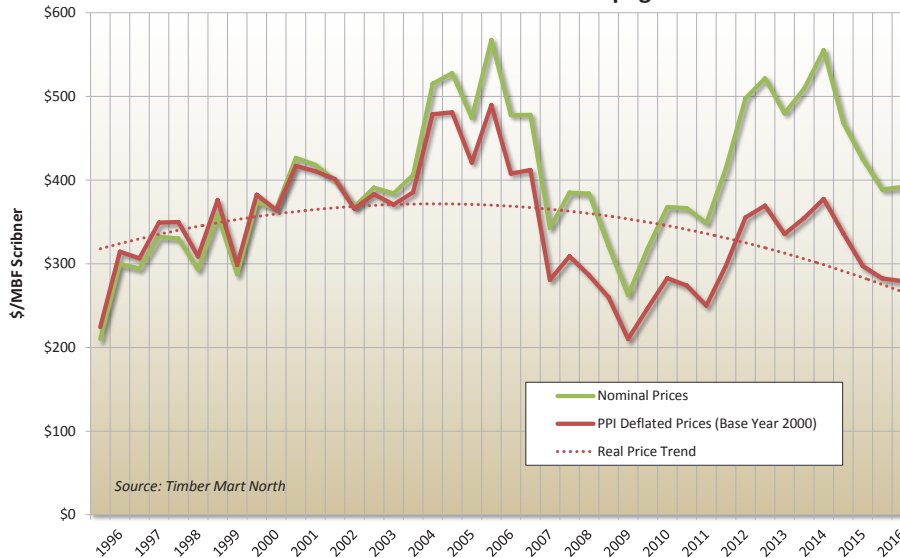
In nominal terms, hard maple and red oak prices are about at the same level as they were just after the housing peak in 2004 and before the bottom dropped out in 2008-09. In inflation-adjusted terms, maple prices dropped back to a 1996 level (Figure 4). Should housing ever recover to the levels economists expect (comparable to 2004-2006), real prices have significant room for growth.

In Figure 5 it appears that stumpage prices slightly lag lumber prices. It will be interesting to see if hard maple stumpage this winter follows last quarter's lumber price drop.

Looking forward, this winter's forecast cold weather may keep pulpwood prices down. With a cold December to freeze up roads, operating conditions should be good for the remainder of the winter, barring a sudden warming in February. Winter is the crucial period for pulpwood inventory building in the region, to provide for both the Spring breakup period when road weight restrictions prohibit delivery and the summer months when stands are less operable due to soft ground conditions.

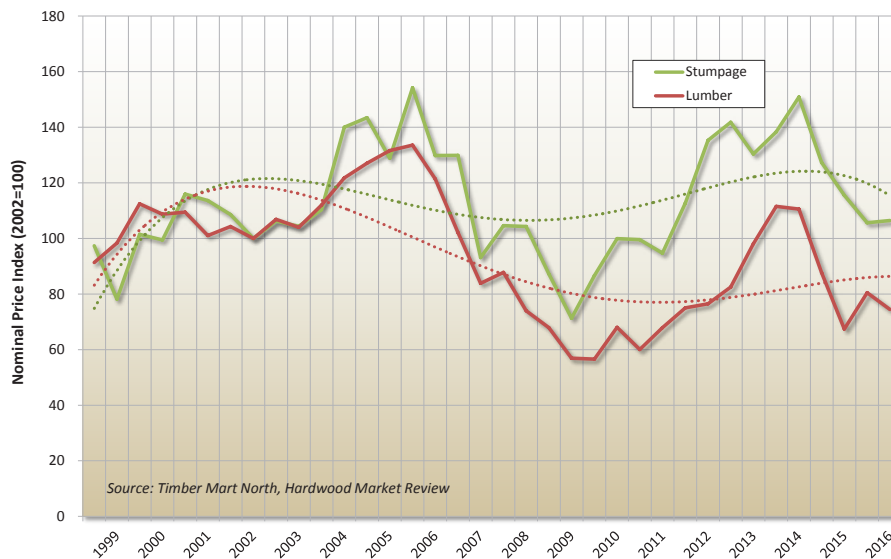


**Figure 4: Wisconsin Hard Maple
Sawtimber Woodsrun Stumpage**



On the sawtimber side, while unemployment has improved across the country, there is still no consistent momentum in single-family housing starts, the biggest source of lumber demand. With the strong dollar, export markets too are a diminished outlet for the high-quality logs, lumber and veneer produced in the Lake States. Partially offsetting these demand challenges is a shortage of mature sawtimber stands in Wisconsin, which continues to prop up stumpage prices.

Figure 5: Wisconsin Hard Maple



The source of these price trends is our timber price survey, Timber Mart North. Please see our website for a sample issue and subscription form: <http://www.timbermartnorth.com/>

1. Prices and trends reported here are through the end of the third quarter 2016.
2. Timber Mart South, <http://www.tmart-south.com/>



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