

LANDOWNER UPON LANDOWNER L

Industry News

 New development rules could limit sprawl in Maine woods, or open the door to it (April 3rd)

The Land Use Planning Commission, who oversees development in Maine's Unorganized Territory, approved controversial new rules governing where it will allow development. Under the new rules, new subdivisions and commercial development must be located within 7 miles of three dozen communities the commission has designated "retail hubs".

- Mainepublic.org
- Biomass plants appeal to N.H.
 Supreme Court amid stalemate with Eversource, PUC
 (April 8th)

Trump issued an executive order that expands logging on public land on the grounds that it will curb deadly wildfires. While experts have urged federal officials to adopt a suite of policies to tackle the problem, including cuts in greenhouse gases linked to climate change, the president has focused on expanding timber sales. The order would translate into a 31 percent increase in forest service logging since 2017.

- New Hampshire Public Radio
- Belfast company plans to buy former Madison paper mill for insulation production, employing 110 (April 10th)

GO Lab Inc., a research and development company based in Belfast is in the process of buying the former Madison Paper Industries mill with plans to redevelop the site into a manufacturing hub for wood fiber insulation, a venture that could bring more than 100 jobs. The pending sale comes just over three years after Madison Paper announced it would close, putting 214 people out of work. two emerging technology companies

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Industry Overview

Forestland Operations

The overall theme for the northeastern forest over the past quarter can be conveyed in one word: wet. For the past three months, almost since the snow started to recede from the woods, the northeast has experienced significant stretches of rain. Springtime is always a seasonal challenge, with the ground already saturated from winter's snowmelt and the trees not yet absorbing the water in the soil. The sustained rain only served to amplify these effects and prolong this year's mud season. As regular readers know, even seemingly small variations from "normal" weather can have dramatic effects in the supply chain. More on that in a moment.



New growth cones on a tamarack tree signal the start of growing season in the northeast.

Af not carefully managed, working during wet periods in the forest can also swell operating costs unnecessarily. For one, rain and runoff can wreak havoc on road systems and important water management infrastructure such as ditches and culverts. If road infrastructure is actively being used during wet periods, repair costs can quickly go from something along the lines of routine seasonal maintenance to an expensive headache. It is for this reason that many road systems are temporarily closed off by the landowner, even for light traffic, during the mud season. Off the road systems, soils in the forest were near the point of saturation for most of this quarter, and foresters have had a hard time putting their rubber boots away for the season.

Adding to the pressure to restart forest operations is the fact that many contractors are anxious to put crews back to work. Spring is a quiet time, with little productivity to offset the ongoing expenses. The amount of high and dry ground, where we can keep contractors busy during wet periods, is limited -- accordingly, during spring we size our contracting force to those areas, and to those contractors with the right equipment mix to limit ground disturbance.

NUMBER 2 DIESEL FUEL PRICES - NEW ENGLAND

3 YEAR HISTORICAL MONTHLY AVERAGES



There's been some minor relief for contractors with the price of diesel fuel and petroleum products, which are major consumables for anyone in the logging business. Just a few months ago, we were approaching fuel prices that would have triggered an additional payment to contractors to compensate for fuel. However, according to the DOE, since the beginning of the year the prevailing price for #2 diesel fuel in the region has fallen by over 20 cents per gallon.

Forest Products Markets

Productivity in the woods, which usually ramps up late in the 2nd quarter, has been slow to gain momentum because of the weather, and as a result regional timber inventories at most markets has been slow to build. Wood buyers generally plan on at least some woodflow in May or June, but

P&C DEMAND INDICATORS Representing our opinion of market demand for timber products in the Northeastern U.S.		
	CURRENT	OUTLOOK
Sawlogs		
Spruce & Fir		▲ UP
Pine Logs		STEADY
Hardwood Logs		STEADY
Pulpwood		
Hardwood		STEADY
Spruce & Fir		STEADY
Pine & Hemlock		▲ UP

the rain has prevented steady deliveries and left most facilities short of their planned volume. Harvests were started here and there, but the lack of consistency has many wood buyers anxious and wondering when the wood will come. While they have committed to prices and volumes from suppliers, they cannot control when it comes in.

With the soils saturated, roads in disrepair, and momentum yet to build, it's likely that deliveries will build to the steady summer pace later than usual. Those with low inventories will likely be pressured to pay premiums to acquire the raw material they need.

Pulpwood Products

The headlines in pulpwood in the northeast have been dominated softwood species. The market has seen significant improvements in demand as mills continue to be interested in acquiring less expensive, abundant raw material. Technology improvements, increased product diversification, and new blends of pulp have allowed for an increase in softwood consumption at regional mills. For landowners, this has been a major relief, as we now have viable markets for softwood pulpwood almost everywhere in the region. Being able to move the material has allowed for improved forest



focusing on forest resources, will each receive \$750,000 to further develop their products. The Maine Technology Institute approved the awards for the Emerging Technology Challenge for Maine's Forest Resources, which aims to attract emerging technology companies to the forest resource sector and support those that are already developing new products.

- CentralMaine.com

Outbreaks of destructive browntail moth expected in Maine (April 11th)

Maine has a problem with the browntail moth, which is an invasive species that lives in the state. The moth harms some fruit trees and native trees, and its caterpillars have barbed hairs that can cause severe dermatitis in people. They can also cause respiratory problems for sensitive people. The Maine Forest Service conducted an aerial survey in fall 2018 that showed more than 126,000 impacted acres, which was double the amount two years earlier.

- Pressherald.com

DACF issues formal ash borer quarantine (April 17th)

The Maine Department of Agriculture, Conservation and Forestry announced a formal quarantine on emerald ash borer and material that may harbor the pest in York County and the northeastern corner of Aroostook County. Boundaries include a buffer on those towns where EAB had been detected, which included Madawaska and surrounding area as well as some southern Maine towns. The goal of the guarantine is to slow the spread of the insect to delay impacts to the ecosystem, native culture and the state's economy.

Fiddleheadfocus.com

Lumber prices have unseasonable slump (May 7th)

Lumber prices typically rise in the spring as builders stock up for construction season. But this year, they are being hit hard by bad weather and a decline in home building. The slump comes a

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management, less waste material left in the woods, and modest gains in revenue. Prices for softwood pulpwood have been reflective of the increased demand.

The traditional preferred softwood pulping species in the region are spruce and fir. Although hemlock and pine are less desirable, when spruce and fir pulpwood becomes more difficult to acquire because of the increased draw, these secondary species can prove to be suitable alternatives. Fortunately for landowners in the region, much of the recently added softwood capacity in the region has not been as species-specific as in the past.

The region awaits the restart of the Old Town pulp mill, which is now expected in mid-late summer. The new owner, ND Paper, has invested significant amount of capital getting the mill started up, and is purchasing softwood pulpwood for eventual consumption at their facility. This is already having a big effect on regional demand, which is likely to increase once the facility begins production.

Demand for hardwood pulpwood throughout the northeast has continued apace, but we have seen surges in demand in the past few quarters based on regional consumption changes, downtime, and weather. Inventories at hardwood mills are slimmer than usual, but once the summer kicks in and the forest dries out, they will

likely have no trouble filling again. In spite of the increased demand of other pulpwood products, hardwood pulpwood still remains the dominant portion of the products produced in the northeastern forest. There is no less demand for hardwood despite the attention the other pulpwood products are receiving. In fact, with contractor capacity being the limiting factor on timber production, other products are likely to take some share of the total and dilute the supply of available hardwood pulpwood on the market.

Sawn Products

Softwood Sawstock

Dimension lumber prices went through several ups and downs during the course of the quarter, but when all was said and done prices were roughly the same as at the start of the quarter. Although lumber demand appears to be building momentum, markets we sell into appear to be extremely skeptical about committing to any medium or long-term arrangements. In contrast to traditional market dynamics, while spruce and fir log inventories are fairly low at regional sawmills, wood buyers have been very reluctant to adjust log prices upward. This is yet another sign that the volatility in lumber prices has eroded confidence in the market's ability to sell finished lumber. Mills have seemed content to keep inventories at lower than usual levels, and let the lumber prices settle before resuming



year after lumber prices reached record levels and were climbing higher amid a resurgent U.S. housing market, a boom in spending on home renovations and difficulties transporting wood from mills to building sites.

- The Wall Street Journal
- Pulpwood Prices in North America up 5-10% During the First Quarter of 2019 (Mar. 9th)

Prices for pulplogs and wood chips moved up slightly in the US in the 1Q/19 while they were unchanged or slightly lower in Canada, as compared to the 4Q/18, according to the latest issue of the North American Wood Fiber Review. For several regions in North America, the year began with higher fiber prices due to harvesting slowdowns after some inclement weather. In the US South Central and Southeast regions, there was particular demand for hardwood fiber, which resulted in an uptick in prices.

- PaperAge
- The heat is on: Vermont schools show a way to bolster Maine's timber industry (May 16th)

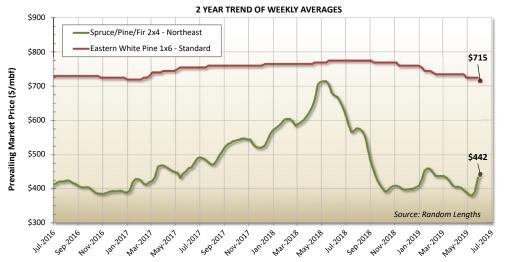
In 2017, more than 35 percent of public schools in Vermont (50 districts) used wood chips or pellets to heat their buildings. Maine has about five percent of its schools heated with wood. Supporters have over the past five years planted several efforts in the legislature.

- WGM
- Finland's 'bioeconomy' could provide roadmap for Maine (May 23rd)

In 2014, the Finnish government launched a program to expand its bioeconomy to \$112 billion and 100,000 jobs by 2025. Forest products are the backbone of that initiative and Finnish companies have come up with innovative products like cosmetics, biodegradable replacements for plastic straws and utensils, even wood fiber clothing. Finland's experience is inspiring for those hoping for a renaissance in Maine's forest industries.

- Press Herald

PRICE TRENDS IN SOFTWOOD LUMBER



robust production. With log prices tending to lag lumber, we don't expect much upward movement in the next quarter.

The good news is that there have been several years of strong capital improvements made by our regional sawmills - investing in efficiency, better yields, and removing bottlenecks. Currently the northeastern forest is at the front end of a large amount of small diameter fir reaching merchantable size. In response to this trend, much of the capital has been allocated into the handling and processing of smaller diameter logs, as well as additional drying capacity and technology to handle a larger percentage of fir (which dries in roughly double the time compared to spruce). These investments should put regional mills in a better competitive position long-term.

It wasn't very long ago in this publication that we spelled out the heartburn felt by our regional sawmills because of their inability to dispose of residual chips and sawdust. This problem was so severe that it eventually forced temporary production curtailments at some sawmills. With recovered softwood pulp markets, which are major consumers of these residuals, it is a far different story today. Pulp mills are now buying all available chips, which is at least some relief for spruce and fir dimensional saw mills.

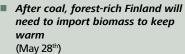
Demand for hemlock logs remains strong, supported by additional uses for hemlock and some smaller sawmills finding new niche markets for the material. Additionally, use of hemlock often follows increasing construction -- its low cost and attractive strength characteristics make it an ideal industrial-use product.

Pine may not have the same strength characteristics as hemlock, but it remains a unique high-value product with steady demand. Pine lumber has lower price volatility than almost any other product, and pine logs are selling well. That said, pine logs do go through normal demand fluctuations throughout the year, but it is mostly driven by the fact that pine is a perishable product and deteriorates quickly in summer months.

Cedar logs, on the other hand, can sit in a wood pile for months and not degrade. Mills can purchase cedar and afford to let it sit. Consequently, cedar tends to be a lower priority in spring months, particularly after a long winter. Markets for cedar shingles have been depressed since the spring of 2018, and show no signs of immediate recovery. In contrast, demand for cedar sawstock -- used for fencing, decking, and other speciality sawn products -- has been relatively stable.

Hardwood Logs

The market for hardwood lumber continues to live under the cloud of the current trade



2nd Quarter 2019

Finland is banning the use of coal in energy production by May 2029, which means utilities will have to find alternatives to keep Finns warm as coal currently accounts for around 20% of the energy used for household heating. Using more biomass is seen as the most economical way of meeting future energy needs, however, the country faces having to import biomass because, despite being Europe's most densely forested country, it will be unable to meet an expected 70% rise in demand for the fuel after it phases out coal.

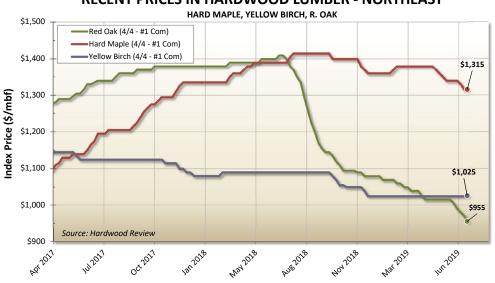
— Reuters

China's imports of US forest products down in early 2019 (June 28th)

China's imports of U.S. forest products fell by 430 million dollars in the first four months of 2019. The U.S. market share fell by 35 per cent, while Canadian and Russian exporters have increased their shares since 2018. From January to April, 2019, China imported logs, softwood lumber, and pulp from the U.S. collectively valued at 600 million dollars. This is down from \$1.03 billion dollars' worth of forest products imported during the same period in 2018.

— Canadian Forest Industries

RECENT PRICES IN HARDWOOD LUMBER - NORTHEAST

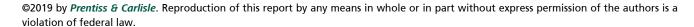


dispute between the United States and China. Pricing for hard maple lumber has retracted slightly over the quarter, the first sign that the species may not be as resilient to the tariff battle as previously thought. Mills dependent on red oak are certainly feeling the pain of trade tensions -- China has become a huge consumer, and the export market for these mills has all but disappeared. Accordingly, pricing for red oak lumber has been in steep decline since mid July of 2018. This past quarter, we've seen slight downward pressure on hard maple log prices, substantial downward pressure on red oak logs, while minor species like ash and yellow birch have been flat.

Inventories at the regional hardwood sawmills are low even for the spring season. Some mills have been at risk of running out of logs, and some have even undergone production curtailments due to lack of raw material inventory. Many mills began the quarter with low inventories to start, and the wet weather has been particularly prohibitive in sawmills working to rebuild their stocks.

This time of year, deliveries are restricted on ash logs due to the quarantine of the invasive emerald ash borer. While the quarantine is relatively new to Maine, areas of federal quarantine have been in effect for several years in nearly all New England states and surrounding provinces. New Brunswick remains one of the last holdouts, with the majority of the border townships not yet falling under regulatory restriction. within areas of quarantine can travel unrestricted, however quarantined ash cannot be sold to markets outside the quarantine. This can be a headache to manage, but if it helps slow the spread of the pest, we'll take an aspirin and deal with it.

> Benjamin D. Carlisle PRESIDENT



Please note: This report is intended to be an unbiased and accurate source of information on timber markets and timberland investments. However, timber market conditions and the forest products industry vary greatly within and across regions and depend on a substantial number of factors that this publication does not cover. Therefore, anyone using information published in this report for any specific purpose, sale or contract does so at his or her own risk. Information included in this report and provided by other sources is believed to be reliable and accurate. Prentiss & Carlisle assumes no responsibility for errors or omissions.



