



Industry News

■ **Maine facility plans to be 1st in New England to mass produce biochar** (January 9th)

Standard Biocarbon Corp. is building a plant in Enfield to produce high-quality biochar from wood chips by springtime. Biochar is a grainy, charcoal-like substance that can be used to rejuvenate soil, helping it to hold on to water, reduce the need for fertilizer and capture carbon dioxide from the atmosphere. The company is setting up its plant on a purchased, two-acre parcel located on the same site as Pleasant River Lumber, which will provide the wood chips to be turned into biochar.

— *Bangor Daily News*

■ **\$100 million Portland Museum of Art expansion to be built from mass timber** (January 15th)

LEVER Architecture, the firm that recently won a \$100 million bid to design a campus expansion for the Portland Museum of Art, is hoping to do just that with a proposal to construct a soaring new wing primarily from what is known as mass timber, short for "massive timber." Mass timber offers an attractive alternative for developers of large buildings thanks to its eco-friendliness.

— *The Maine Monitor*

■ **Forest industry seeks solutions as climate warms** (January 20th)

Maine's forest industry typically harvests trees when the ground is frozen, but the warming climate is shortening the seasonal freeze.

— *MaineBiz*

■ **New act for forest products: Manufacturers find new uses for Maine's vast forest resource** (March 6th)

Several Maine-based entrepreneurs are finding new ways to utilize the vast forest resources to produce newer, more sustainable products out of wood fiber. One includes the production of "biochar" – a granular coal-like material that has many uses while also sequestering carbon.

— *MaineBiz*

Industry Overview

Forestland Operations

Each winter brings a different set of challenges we in the forestry business have to navigate. The hoops we have to jump through are never the same, but jump we must -- winter is "go time" for harvest operations in the Northeast. Because the frozen ground and road surfaces usually permit unrestricted wood flow, nearly 50% of the annual regional harvest is done during the first three months of the year, and there is rarely an opportunity to make it up later.



A pile of logs awaits delivery to the mill in Maine's West Branch region.

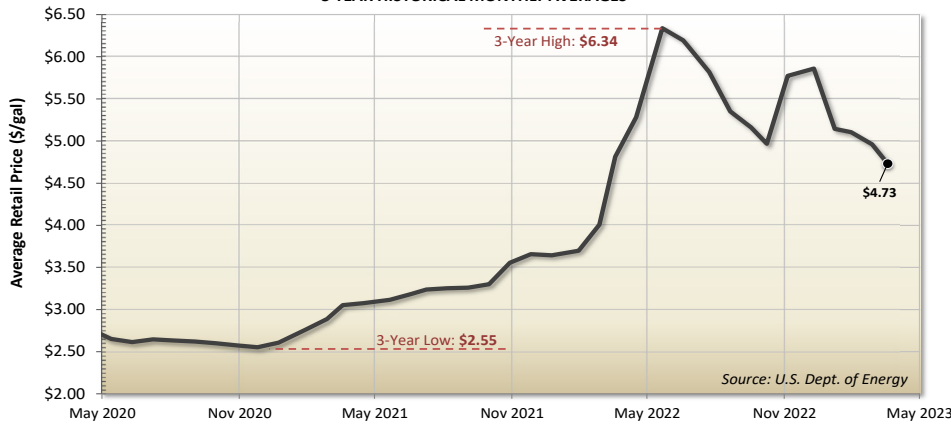
The biggest hoop this year was the extremely mild winter across the region. There was virtually no sustained period of cold weather that we could count on. In regions that receive heavy snowfall, the snow came early which only insulated the ground and kept it softer for longer periods. It was a tough winter to keep momentum, and for several stretches we had to limit production in order to prevent ground or road damage.

The second hoop to navigate this winter was the extreme market demand for forest products, and the pressure to keep mills supplied. This is an uncertain time in the forest products business, with high regional fiber prices but volatile finished goods prices. Locally, there is a significant amount of competition for raw materials and so market demand for the past several months is a result of undersupply, not overconsumption. Mills are playing a delicate balancing act between falling finished goods demand and tight raw material supply, and in several cases, this has squeezed margins significantly.

Somehow, regardless of the challenges, we met most of our commitments to our contractors and mills during winter. Planning ahead, being flexible, having a broad landbase for harvest

NUMBER 2 DIESEL FUEL PRICES - NEW ENGLAND

3 YEAR HISTORICAL MONTHLY AVERAGES



options and good market options all worked in our favor. We are now in a clean up phase, winding our operations down until things begin to dry out, and taking a pause for mud season to run its course. It won't be long before we are able to move into drier areas to begin our next season of harvesting.

Thankfully some of the supply chain issues that have been plaguing logging contractors seemed to have eased. While equipment parts remain out of stock and can still have long lead times, many of the fluids and consumables that are becoming easier to get and prices are stabilizing. Notably, diesel fuel and gasoline prices are trending downward which has offered some relief to anyone operating heavy equipment these days.

Forest Products Markets

The mild winter has led to almost every regional mill being undersupplied through the first quarter. Our regional mills depend on cold weather just as loggers & landowners do, relying on winter deliveries in order to build up raw material inventory

volume in preparation for a lull during the spring mud season. When the deliveries don't come as expected, the pressure to acquire material increases and the price they are willing to pay rises.

There is a limit, however, to what mills can pay for raw material while also staying in the black. In several instances, mills have recently found themselves at or close to that limit. While during the first part of this quarter demand at regional mills seemed insatiable, in recent weeks, out of necessity rather than desire, some mills have cut suppliers off in order to manage the cash tied up in their inventory. The result has been overall downward pressure on timber prices.

Pulpwood Products

Pulpwood consumers in the region are under tremendous pressure amid falling global pulp prices and raw material prices fueled by local demand. Pulp mills are watching their wood piles dwindle as they attempt to strike the right balance between consumption and production. As mentioned, truck deliveries fell far short of expectations this winter, however, at a pulp mill this can turn into a desperate situation. In one extreme case, one mill elected to import a bulk container ship full of wood chips simply to keep a supply of fiber going –this, in the most forested state in the country. It is an unsettling time, to say the least.

Regional hardwood pulpwood prices are still at a peak, but we expect these prices to ease as the consumption is adjusted. Some mills have already signaled a reduced



LANDOWNER update

1st Quarter 2023

■ With 'smart' approach, forests could absorb more carbon without sacrificing timber harvest, Maine study finds (March 7th)

Maine forests already absorb about 70% of the state's annual fossil fuel emissions. Now, a new study shows that Maine's commercial forest landowners could increase annual carbon storage by at least 20% over the next 60 years while maintaining timber harvest levels. The findings are timely as the demand for carbon offset projects accelerates.

— WBUR

■ Paper mill in Jay is no longer making any paper (March 9th)

An era came to an end Wednesday when the last paper mill in Jay ceased making paper. From the time construction began on its first paper mill in 1892, turning a tiny village into an economic force, Jay has leaned on the industry for the livelihood of many of its residents. Now, for the first time in more than 130 years, Jay faces a future that may never again include the paper mills that defined it for generations.

— Sun Journal

■ Logging survey shows market conditions weighing on industry (March 9th)

The cost of doing business has risen in the forest industry over the past few years, and numerous other economic factors aren't making it easier for logging and trucking firms to maximize production. When asked what production factors weighed most heavily on their ability to maximize production, inflation and business costs were most frequently mentioned.

— Maine Biz

■ After \$125M retrofit, TimberHP's Madison mill will produce high-performance insulation (March 9th)

While wood fiber insulation is popular in Europe, the Madison mill will be the first location to produce it in the United States. The company expects to roll out the first of three planned product lines in April of this year.

— Maine Biz

■ Maine's dwindling cedar supply leaves uncertain future for log home company (March 11th)

On the heels of a banner sales year in 2022, Katahdin Forest Products has closed one mill and laid off 20 employees because its cedar stock is nearly depleted. The combination of warmer weather and a 30 percent reduction in the number of Maine firms harvesting timber means the company cannot keep pace with the demands of cedar log home and fencing sales.

— Bangor Daily News

P&C DEMAND INDICATORS

Representing our opinion of market demand for timber products in the Northeastern U.S.

	CURRENT	OUTLOOK
Sawlogs		
Spruce & Fir	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	STEADY
Pine Logs	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	STEADY
Hardwood Logs	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	DOWN
Pulpwood		
Hardwood	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	STEADY
Spruce & Fir	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	STEADY
Pine & Hemlock	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	DOWN

demand, and have recently become more tentative when committing to purchase volumes. Normally mud season presents an opportunity for landowners to get premium pricing on pulpwood, but given the prevailing pulpwood pricing, mills have been working hard to temper expectations and limit the price they are willing to pay.

Very recently, Nine Dragons announced a temporary but full shutdown at their new Old Town pulp mill. The mill, while it struggled with startup, quickly became an important consumer for pine and hemlock pulpwood. In announcing the shutdown, the mill cited high energy costs and high fiber costs as the two primary reasons for the production halt. For now, we believe the shutdown will indeed be temporary, but this is an important reality check on what landowners can expect to receive for their pulpwood after several years of very high prices.

Sawn Products

Softwood Sawstock

The spruce & fir lumber market, while still dealing with small ripples left over from the COVID crisis, appears to be stabilizing. Lumber markets are of course connected to the domestic environment for home construction, and interest rate policies set by the Federal Reserve have done their job in cooling off the economy in that sector. Even though the price of this lumber is stabilizing at prices far below the peak, the predictability of lumber prices gives mill procurement

managers at least some confidence in what they can pay for wood.

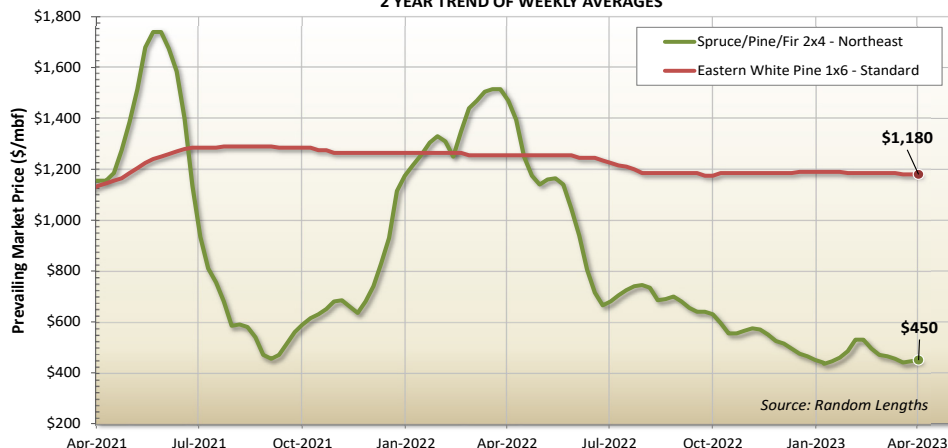
While not directly correlated, the price of lumber is an important indicator with what might happen in the more local market for spruce & fir sawlogs. Given the size of this market and its importance to the region, we'd rather have predictability than the extreme high prices we saw last year. We expect a small seasonal bump in lumber prices, but don't expect that to translate into higher log prices. Much like pulpwood, we think spruce & fir log prices have hit their peak for this economic cycle.

Pine lumber has remained elevated and the log markets are wide open, being aggressive on grade and taking whatever deliveries they can. Log prices have stayed at record levels, and consequently, we have harvested a lot of pine recently in order to take advantage of this strong market.

The market for cedar has been white hot, but there have been some signs of trouble at these mills. Considering cedar grows in wet areas, the species happens to be the most seasonally-dependent product we produce, and mild winters spell trouble for cedar mills that don't have an inventory buffer. This year, the mild winter led to limited supplies of cedar and there was tremendous competition for the raw material. The end result was that cedar log prices were extremely high this winter, and some mills found themselves falling far short of volume expectations.

PRICE TRENDS IN SOFTWOOD LUMBER

2 YEAR TREND OF WEEKLY AVERAGES



LANDOWNER update

1st Quarter 2023

■ Maine Spruce Budworm Task Force releases updated executive summary (March 16th)

The Maine Spruce Budworm Task Force, formed in summer 2013 by the University of Maine Cooperative Forestry Research Unit, Maine Forest Service, and Maine Forest Products Council to begin preparing for the next outbreak of the eastern spruce budworm, has released an update to its 2016 Task Force report.

— Bangor Daily News

■ Ashland mill plans \$7M wood pellet expansion (March 22nd)

A mill owner wants to turn out more than the compressed logs his company now produces at the former Levesque lumber mill in Ashland. The expanded operation would manufacture a different type of industrial heating pellet.

— Bangor Daily News

■ Why Wood Is the Breakout Architecture Star of the Early 21st Century (March 23rd)

In the 1990s, architects and builders in central Europe started experimenting with a novel material called cross-laminated timber, or CLT. Eventually, CLT and glued laminated beams and columns - a family of materials known as "mass timber" - made their way across the Atlantic. By 2013, 69 projects were constructed across the US, and by 2022, that number had grown to 755. Projects are expected to triple in size by 2030.

— Bloomberg

■ Lincoln signs agreement with biofuels refinery to develop former mill site (March 24th)

Lincoln has agreed to a 20-plus-year lease with a biofuels refinery that wants to produce wood-based heating fuel at the former Lincoln Pulp and Tissue mill site. Biofine Developments Northeast plans to invest more than \$100 million in the first phase of a multi-stage project that will develop the former mill site.

— Bangor Daily News

■ Old Town mill shutting down for extended period (March 28th)

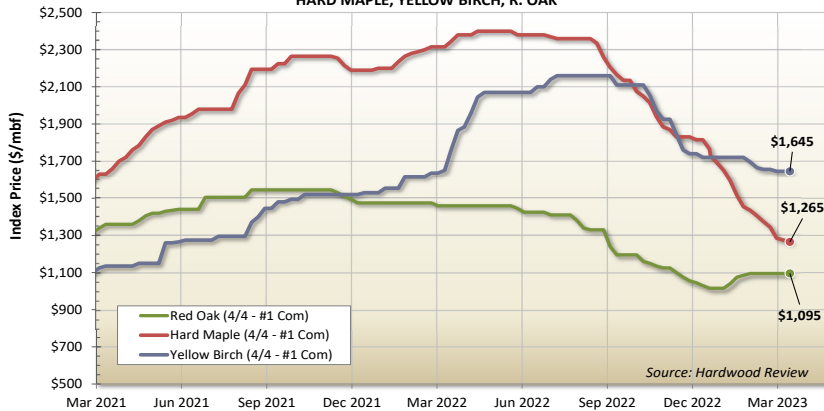
ND Paper, which is owned by Nine Dragons Paper Limited, is "taking extended downtime" at the mill due to the rising cost of fiber, along with energy costs and market conditions. The company invested more than \$200 million and reopened the Old Town mill in 2019. Now, just under 200 Mainers with jobs there will be out of work. The company will continually evaluate market conditions for a potential restart.

— Bangor Daily News



RECENT PRICES IN HARDWOOD LUMBER - NORTHEAST

HARD MAPLE, YELLOW BIRCH, R. OAK



In an extreme case, one cedar product manufacturer had to shut down their facilities because of the inability to procure reliable supply.

Hardwood Logs

The hardwood lumber market continues its long slide from the peaks we experienced 12 months ago. With hardwood lumber used in furniture, flooring and cabinetry, this is another sign of cooling demand in the housing construction market. The hard maple lumber market has been causing particular anxiety for mills while the oak market may have reached bottom. It's a delicate balance as mills attempt to match production to how much their finished goods inventory is backed up. This means reduced shifts for workers and more attention to quality. We expect hardwood grade log prices to generally hold, but demand for volume to slow slightly as mills tailor their production.

When hardwood pulp prices rise as they have for the past 18 months, that can change how contractors process the hardwood logs they cut, which can have a substantial effect on where the wood supply flows. The game is to maximize the value of

each tree, and when the price is high enough for pulpwood, it can become more attractive for a landowner to sell wood to a pulp mill rather than into the lower-grade sawlog market. For the past few quarters, low grade industrial hardwood mills -- think pallets and ties -- have been left undersupplied and inventories are correspondingly low at these facilities despite significant end-user demand for the finished products. This has been a frustrating time for these mills, who have product orders stretching out months ahead. One mill explained they had to turn down some orders because they were unable to ensure an adequate supply of logs.

The Maine Forest Service recently announced an expansion of the quarantine area for Emerald Ash Borer, which will restrict the movement of ash trees in the region. This is an important step to contain the destructive pest, but will have ramifications on where ash trees -- for both sawn material and pulpwood -- can be sold. We don't expect this change to adversely affect landowner returns, but it does complicate an already complicated market picture.

Summary

Regionally, demand for timber remained high during the quarter but most major products now show signs of slowing in the coming months. Prices of finished forest products have fallen from their peak, influenced by waning demand and a slowing domestic economy. Timber prices proved to be more insulated, which helped boost landowner returns, but has put many mills in an uncomfortable margin squeeze. We expect adjustments in consumption will have a downward effect on the prices mills are willing to pay for material.

Meanwhile, our eyes are to the horizon. We participate in a long-view industry that has proven its resilience during various economic cycles time and time again. Although there is a bit of uncertainty for the moment, landowners in the Northeast can take comfort that there remain plenty of consumers in the region who are world-class producers of forest products. 🌲

Benjamin D. Carlisle
PRESIDENT

©2023 by **Prentiss & Carlisle**. Reproduction of this report by any means in whole or in part without express permission of the authors is a violation of federal law.

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.



40+ YEARS A FORESTER

A thank you to the clients of Prentiss & Carlisle



A wise man once said, while referencing a large tract of land we managed, that “a lot of college educations were paid for from that land”. That wise man was a log truck driver named Lucien Dube, who spent most of his life working in the Maine woods on property managed by P&C. I don’t know what level of education Lucien had, but I do know that it

did not include college, and I doubt it was anything much beyond 8th grade. What he meant was that many families were supported by the employment opportunities provided on privately-owned land. Lucien recognized the value of well-managed timberland, and the many benefits it brought to a variety of people, well beyond the landowners.

The list of beneficiaries is a long one, much longer than you might think. It includes those affected directly such as: the landowners, the loggers that harvest the wood, road contractors that build and maintain roads, the truckers that haul the wood to the market, the mills and their employees that process the raw timber into various products, and the exceptional foresters, accountants, bookkeepers and staff that work for P&C. Indirect beneficiaries would be those such as logging equipment dealers and employees, fuel dealers, parts dealers, mechanics, machine shops, forest rangers, foresters, wildlife biologists and ecologists, even the clerks at the local convenience store and wait staff at the local diner frequented by the loggers. With a bit of imagination there are probably many other jobs that depend on local forests.

Private forests also provide society with a multitude of sustainable timber products necessary for modern life. Lumber and building materials, paper, packaging, chemicals and even medicines are produced from the trees grown on private owned forests. At the same

time, managed healthy forests contribute to clean air, clean water, biodiversity, and provide habitat for a wide variety of wildlife.

No list of benefits would be complete without mentioning the recreational opportunities that are provided on private timberland. Hunting, fishing, camping, snowmobiling, cross country skiing, hiking, and other outdoor pursuits. Each of these activities employs support personnel such as guides, equipment dealers, sales staff and other professions related to recreation. Entire towns in Maine would not exist if it weren’t for the good stewardship of our landowners.

Now, I’m reasonably sure that none of the items I have mentioned come as a surprise to any P&C clients. You are probably all aware of the benefits your ownership has provided, and you should be proud of the fact that your lands are a major factor in the economic and environmental health of the region.

As I reflect on my career and approach my retirement, my real purpose for writing this short essay is to personally thank the P&C clients for the opportunity to work on their land for the past 43 years. For a kid that grew up in suburban New Jersey and dreamed of working in the Maine woods, you have provided me with a place to work, raise my family, and have the career I always wanted. It’s been a privilege, and I thank you. I even paid for a few college educations along the way, not the least of which was my own!

David Dow

David Dow

Dave Dow joined Prentiss & Carlisle in 1979 and served as P&C Chief Forester until 2022. He retires soon after 43 years at P&C, and we wish him well.