

Log Market Analysis

As at 20 September 2019



Photo 1: Waingawa rail yard near Masterton. Loaded for transfer to Port of Wellington.

The content of this Log Market Analysis is produced monthly as part of a suite of documents that comprise the regular reporting to forest owners during harvest. This standalone document is made available to other forest owners approaching harvest to keep them informed on market conditions.

We have included log price series separately for Wairarapa and Gisborne forests, as the price series differ for reasons including different customers, log specifications and locations.

Forest Enterprises (FE) is currently harvesting approximately 650,000 tonnes of logs per annum for Wairarapa and Gisborne forest owners. Most of these owners are Investors in forestry investments our company markets and manages, however some harvesting is undertaken for other forest owners.

Overall, harvest volume is increasing materially year on year.

IMPORTANT

Every effort has been made to provide current accurate information in this document, which is for information purposes only. Any opinions and views expressed are those currently held by Forest Enterprises, however the reader accepts that where they are opinions and views in respect of future prices, they may subsequently be proven incorrect. The nature of the international log market is that of price fluctuations, and these fluctuations can be material, and material changes can arise due to factors not previously able to be foreseen.

Overview

We are now well into September, and things are either getting better or have at least stopped getting worse. Worrying about things is like a rocking chair - it passes the time but gets you nowhere.

We continue to build houses, as do the Americans, Chinese and Australians. The German spruce en route to China to compete with Radiata is something of a black swan event. The reason it is being cut is because it is dying from beetle infestation. That clearly is unplanned and unsustainable as well as tragic in a forest loving country like Germany. This event has reached a sort of natural limit as there is no more capacity to transport it to China, and the product has displaced similar quantities of Uruguayan lumber from the market.

At current levels, A grade export logs are comparable to long run trends, even if they remain below the recent peaks.

In summary, we are doing better than the Germans and the Uruguayans - we are not cutting into our National parks to produce the timber like the Americans are proposing, and the Australians are salvaging burnt timber from fires. Be optimistic.



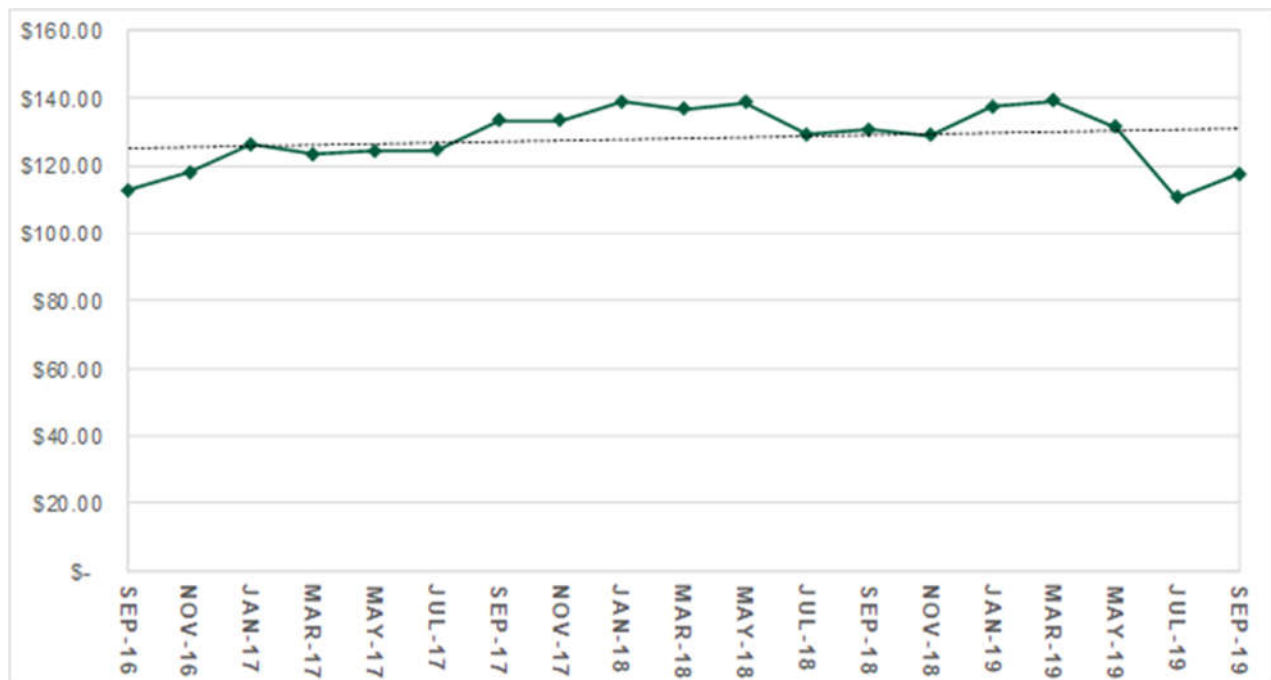
Photo 2: Pinus Radiata seedlings. Hokoroa Group 2019 replanting.



Wairarapa Log Prices Per Tonne

| Grade | Forest Enterprises Aug-19 | Forest Enterprises 36 Month Average | Current vs 36 Month Average | Percentage of the 36m Average |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------------------------|-----------------------------|-------------------------------|
| Export P40 | \$157.30 | \$182.50 | (\$25.20) | 86% |
| Export P30 | \$130.05 | \$144.95 | (\$14.90) | 90% |
| Export A | \$105.20 | \$135.50 | (\$30.30) | 78% |
| Export K | \$92.40 | \$119.90 | (\$27.50) | 77% |
| Export KI | \$85.25 | \$113.10 | (\$27.85) | 75% |
| Export Pulp | \$75.60 | \$97.50 | (\$21.90) | 78% |
| Domestic P35 | \$168.00 | \$176.15 | (\$8.15) | 95% |
| Domestic S30 | \$117.00 | \$120.30 | (\$3.30) | 97% |
| Domestic S20 | \$102.00 | \$105.30 | (\$3.30) | 97% |
| Domestic Pulp | \$31.00 | \$31.00 | \$0.00 | 100% |
| Export sales units are volumetric (JAS) while domestic sales units are paid per tonne. The Export JAS prices have been converted to tonnes. Refer to page 4 for more detail on the JAS to tonne conversions. | | | | |
| Index Log Price | \$110.80 | \$128.35 | (\$17.55) | 86% |
| Index Log Price is calculated using inventory measurements from our Wairarapa forest crops and establishing an average log grade recovery for our typical Wairarapa Forest. Applying these estimates to our long run prices per grade has derived an Index Log Price. This index price helps to estimate the average logs sales predicted for a typical forest. | | | | |

Index Log Price for our typical Wairarapa Forests



Gisborne Log Prices Per Tonne

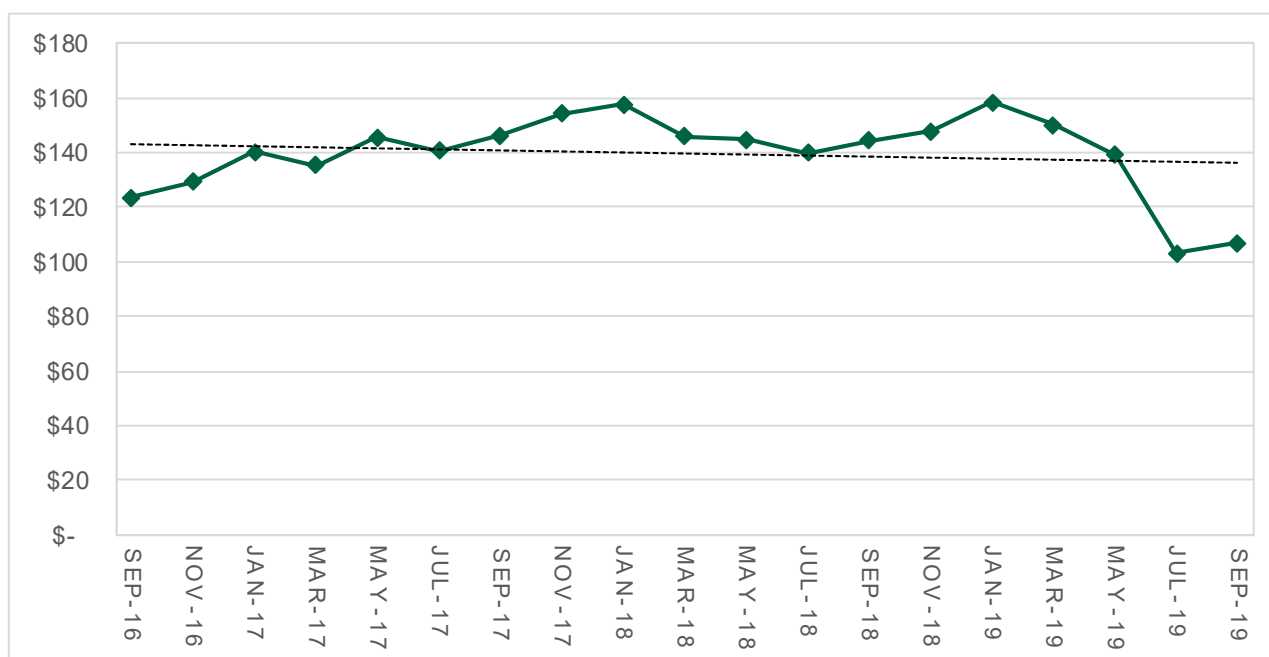
| Grade | Forest Enterprises Aug-19 | Forest Enterprises 36 Month Average | Current vs 36 Month Average | Percentage of the 36m Average |
|--------------|---------------------------|-------------------------------------|-----------------------------|-------------------------------|
| Export P40 | \$142.40 | \$180.05 | (\$37.65) | 79% |
| Export P30 | \$106.40 | \$148.00 | (\$41.60) | 72% |
| Export A | \$100.55 | \$139.75 | (\$39.20) | 72% |
| Export K | \$84.50 | \$124.85 | (\$40.35) | 68% |
| Export KI | \$76.80 | \$114.10 | (\$37.30) | 67% |
| Export Pulp | \$67.95 | \$101.70 | (\$33.75) | 67% |
| Domestic P35 | \$175.00 | \$179.90 | (\$4.90) | 97% |

Export sales units are volumetric (JAS) while domestic sales units are paid per tonne. The Export JAS prices have been converted to tonnes. Refer to page 4 for more detail on the JAS to tonne conversions.

| | | | | |
|-----------------|----------|----------|-----------|-----|
| Index Log Price | \$102.40 | \$141.20 | (\$38.80) | 73% |
|-----------------|----------|----------|-----------|-----|

Index Log Price is calculated using inventory measurements from our Wairarapa forest crops and establishing an average log grade recovery for our typical Wairarapa Forest. Applying these estimates to our long run prices per grade has derived an Index Log Price. This index price helps to estimate the average logs sales predicted for a typical forest.

Index Log Price for our typical Gisborne Forests



Investors will notice that the Gisborne price series only includes domestic price for Pruned 35 due to log customers. As of July 2019, we have been supplying three domestic sawmills with pruned logs from our Gisborne Forests.



Factors Influencing Current Log Price

Key:

↑ More Benefit to the Investor

↓ Less Benefit to the Investor

↔ Neutral

Price, Costs and Logistics

↑ Foreign Exchange (Forex)

Export logs are priced in USD. FE's September's rate was forecast at 0.647. We have recently shipped at a favourable rate of 0.637.

FE takes no forward position or hedge in currency trading. Hedging imposes transaction costs without giving certainty of improved outcomes.

↔ Shipping

Predicting shipping cost is not getting any easier. Fuel costs are rising as recorded in bunker price, and bunker rates between Shanghai and Singapore are losing relativity. Increased fuel costs are expected though, and some ships are having expensive scrubbers fitted to manage sulphur emission issues. Shipping has stopped getting worse but isn't getting better.

↑ JAS to Tonne Conversion

JAS-to-tonne conversion rates strengthened by 1.9% to an average of 99.3% for August across all export grades. This is a good result and improves returns to growers.

Export logs are sold in Japanese Agricultural Standard cubic metres (JAS). JAS is a measure of useable log volume rather than weight. Payments to most contractors are made based on weight, which is appropriate for handling heavy material. This means the return to the forest owner is affected strongly by the conversion of weight to volume in the logs.

Conversion has seasonal trends and varies between log grades, length and log quality. Accounting for conversion is necessary to report comparable values from different sales options. Our convention is to report all prices converted to the 'per tonne basis', which would appear different if compared with a per cubic metre (JAS) series. Hence why our harvest reports show monthly JAS/tonne conversion per forest.

↔ Log Price, Export CFR

CFR (Cost and Freight) is the price in USD paid by the end user/buyer.

China Price rising a little, largely as optimism grows that we have reached the bottom rather than fundamental change in conditions. Margins are low and recovery fragile, but news is better than previous months.

South Korea Processors losing money on current log stocks of imported lumber.

India Diwali is coming, and things are slow; price follows China.

Log Demand

↔ Export Log Inventory in Market

China Inventory of logs in China is a leading supply/price indicator. Inventory levels in China are slowly declining but remain high at about 4.5 million JAS. Daily sales have risen to about 91,000 JAS per day and lower 'days of stock'. Days of stock is inventory divided by usage and has reduced from 72 to 49 recently; higher than in July. The speed that logs turn to lumber and lumber turns to cash drives market sentiment.

South Korea Slow period, Chuseok long holiday. Japan has taken Korea off the favoured nations trading list.

India GDP growth continues to slow and with the Diwali festival coming activity will remain slow. Radiata is being used mainly for packaging rather than construction.

Japan Domestic demand and output remains strong but exports to China and Korea are declining. Demand for packaging lumber is down 10-15%; mill activity is slow.



↔ **NZ Domestic**

Domestic price and demand steady, with long term customers continuing to take our forecast production levels at good pricing levels. With the decline in woodlot activity mills are more reliant than ever on long term suppliers such as Forest Enterprises.

↔ **Housing and Business**

Housing drives panel, lumber and furniture sales and therefore log demand. Housing timber use has two primary markets: new house starts, or remodel and renovate. These two uses have different cycles based on relative consumer optimism. Construction of new houses is steady in the private sector and consideration of building multi-occupant units is growing with Government.

↔ **Pruned Log Grades**

Strong demand in both Gisborne region and the Southern North Island. Pruned beginning to look scarce as forest owner decisions to cease pruning over the last few years become more obvious in the market, as well as conversion of forest land to permanent dairy farming operations.

↔ **Domestic Construction**

Private house construction running at capacity and good house completion numbers.

Log Supply

NZ

We are seeing the lower production levels reducing log inventory numbers and throughput on trains and in storage lease areas. This makes managing the distribution of logs to customers easier and enables us to secure increased long-term share of port space and market share at sawmills.

Australia

Burnt wood from the 2019 Victorian fires is being made into industrial plywood in china.

Europe and Russia

Sawn lumber from Russia into China remains strong. In Europe, Germany is cutting forests to contain the spread of a bark beetle which is killing trees weakened by drought. This spruce often ends up in China as sawn lumber.

Pacific Northwest (PNW)

President Trump is trying to introduce logging into Alaskan National Parks which contain large quantities of old growth timber.

US South

More industrial forestry than in the Pacific North West with stronger domestic markets. Exporting activity declines as China price falls.

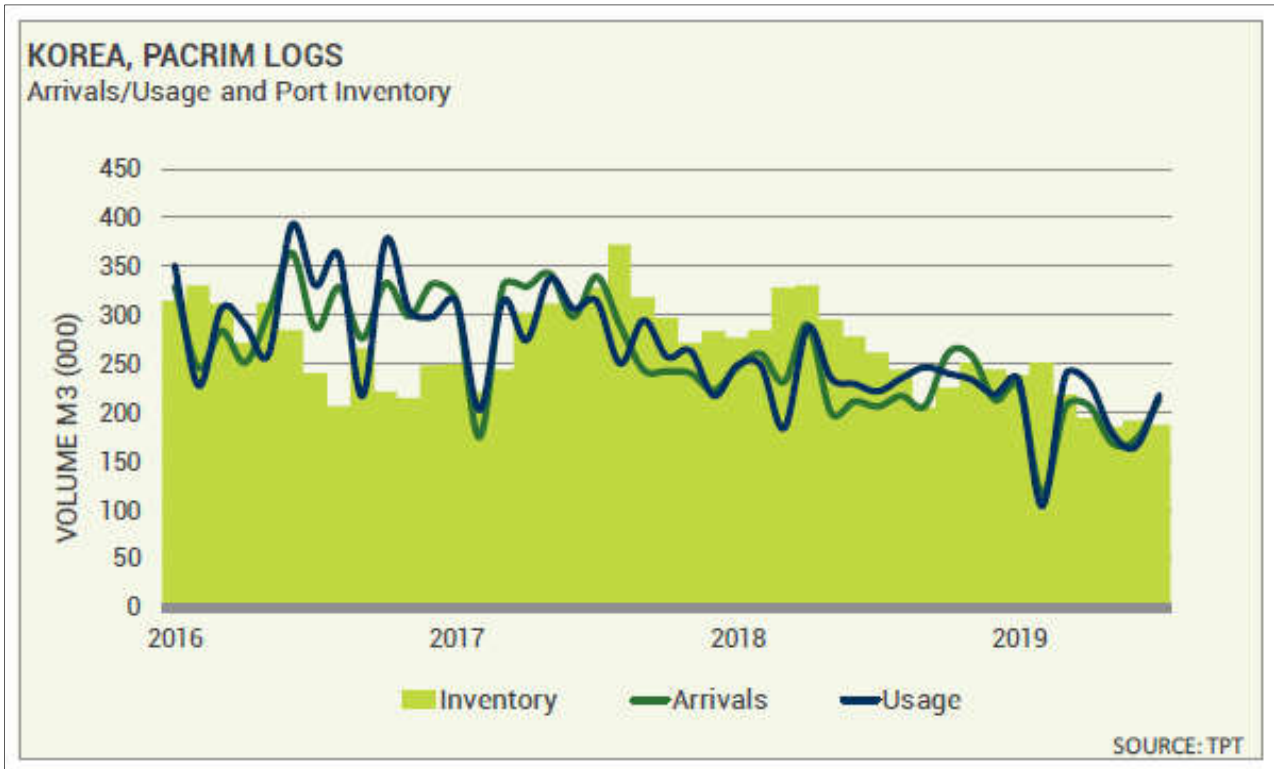
Other

Chilean lumber being seen in Japanese packaging trade. Uruguayans stopped production due to unfavourable trade conditions.



Point of Interest

Korea log usage and supply trend

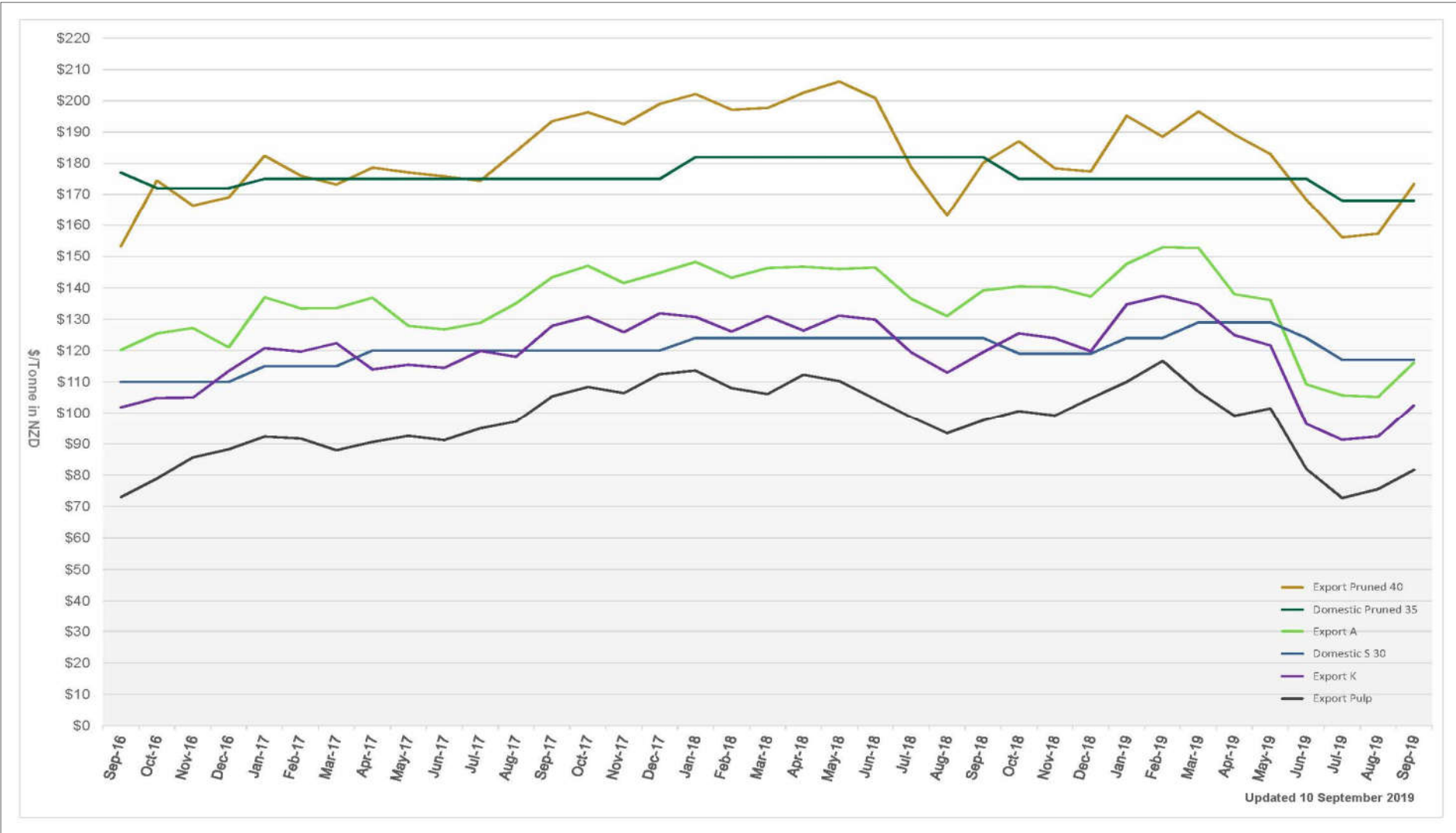


Thanks to TPT Forests for the images and graphics.

German Spruce stockpiles at roadside



Lower North Island Log Price Graph per Tonne



Log Price Graph: Tracks the key log prices for a 37-month period. The first 36 months are the months which comprise the average referred to under Log Prices per Tonne above. The 37th month shows the indicative prices scheduled for the current month. Export sales units are volumetric (JAS) while domestic sales units are paid per tonne. The Export JAS prices have been converted to tonnes.

