



Forest Partnership Report

Mid year report 2019

Greetings!

Christmas cheers to you all.

It's been a busy second half to the year for the forestry sector and our forests. Since July of this year our harvesting forests have been through a significant price adjustment (both down and back up).

Yields of our pruned forests are proving to be very good and we receive regular praise for the quality of our logs supplied, and demand for our logs is strong.

This year we've purchased another six properties totalling 2,640 plantable hectares. As well, we launched 'Seaview Forest LP' our first partnership investment under the new Managed Investment Scheme legislation. Interest continues to be very strong in new forestry investment.

Forestry in the News

The Billion Tree Programme. The government's ten year, Billion trees programme is somewhat smoke and mirrors. 600 million trees, about 600,000 ha of planting, is simply existing foresters replanting around 60,000 ha each year of already existing forests, as they are harvested. This is normal course of business for more than 95% of foresters. To the best of our knowledge none of this planting receives any subsidy of any kind from government. The other 40,000 ha of planting each year is new planting. Some of this is for smaller non-commercial forest areas on farms, as well as council planting and other types of planting in a variety of places. This is eligible to apply for some planting subsidy but the vast majority of the hoped for 40,000 ha per year will be planted by commercial organisations like ourselves and as such will receive zero subsidy from the government



or any other source. Investors are incentivised to plant new forests because of the strong log prices as well as the good carbon (NZU) prices arising from the carbon sequestered in newly planted forests.

Farming lobby groups complaints about new forest planting. You have probably read about the minority farming pressure groups making noises about (what they claim are) vast areas of farmland being converted to unproductive forestry. As the previous paragraph shows this is simply not true.

To give that some perspective. There are currently 1.7 million hectares of plantation forestry in New Zealand (10% of this is plantation forestry on dry-stock farms). In total there are 12.6 million hectares of farmland in New Zealand, and of this, 8.5 million hectares is sheep and beef (hill country land that lends itself to conversion to forestry). So for the government to meet the billion tree target sheep and beef land might need to reduce from 8.5 to 8.1 million ha over a ten year period – every farm has paddocks/areas that would be far more suited to forestry (exotic or native) and farmers (not us as commercial foresters) are being offered government grants to do so.

There has been urban drift from rural areas for at least 40 years. In 1982 sheep numbers peaked at 70 million, today there are 27 million. 10 million sheep occupy about 1 million ha of good hill country land so 4 million ha has been changed from sheep farming to other land uses. Most of this change is a result of farmers understandably reacting to varying economic signals for different land uses. As well, farmers have become much more efficient and reduced labour numbers in the past 40 years, this has led to significant rural depopulation.

As to claims around employment and expenditure in farming versus forestry a high producing hill country farm will spend around \$600 to \$700 per ha per annum – total expenditure of \$19,000 over 29 years of farming. A production forest will spend around \$300 per ha per annum over the first 25 years and a further \$60-\$70,000 per ha over the following four years. A total of \$80,000 per ha or an average of \$2,500 per ha per year versus farming at around \$650 per ha per year.

Independent employment figures in the Wairoa District showed 2.6 employees per 1000 ha for farming and 9.4 for forestry.

Additionally, while our existing forests might not be eligible for carbon sequestration, they are still absorbing carbon from the atmosphere at a rate at least 4 times quicker than native forest, and every time we harvest our trees and build houses, tables or wooden products this is additional carbon removed from the atmosphere, making our forests environmentally friendly and socially responsible, as well as providing a cash return. As forest owners we can be confident that our trees are making positive impact in the environment and for those contractors and sub-contractors who work in them.

I feel that hill country farmers probably have more pressing issues than the planting of a few forests. With the majority of the populations' focus on environmental matters, hill country farmers probably need to figure out how they can reduce sedimentation in water ways and improve water clarity. Other concerns include reducing nutrient flow (from aerial applied fertilisers) into streams and rivers, reducing E.coli invasion of waterways as a result of hill country streams being unfenced and used for stock water supply. Other issues of severe erosion of steep pastureland, flooding of lower river flats and reducing animal's contribution to greenhouse gases are also important.

Efficiency of production is another factor being looked at by environmentalists. A forest will sequester carbon and produce around 13 tonne of sawn wood per ha per year with no artificial inputs. A hill country farm will produce around 300 kg of edible meat per ha per year.

Log price fluctuations and log markets

Our investors in forests that were either preparing to harvest or already harvesting, received numerous communications from us after log prices suffered a significant fall in July 2019.

At Wharf Gate (AWG) prices set at the beginning of July fell between \$30 to \$38 per tonne (approximately 25%) from \$135 in the previous months. The July prices for A-grade logs (the price of A-grade logs is the benchmark for all other log grade prices) fell to between \$97 to \$105.

This fall was largely driven by Chinese importers of logs and lumber as a result of various factors. China takes most of New Zealand's logs. A summary of drivers below:

- **Economic slowdown** – It is evident that both China and the US are experiencing slower economic expansion, partly driven by the trade war. Exports of sawn timber to the US has slowed in line with US housing starts and renovation data, as well, US markets for Chinese manufactured goods now have 25% tax applied.
- **Currency** – The trade war has also devalued the Chinese Yuan, albeit modestly. The weaker Yuan drives weaker purchasing power for their importers who are bringing in logs.
- **Spruce Bark Beetle** – Climate change (stress from drought and wind storms) has brought about increased presence of the Spruce Bark Beetle, in some places now breeding twice a year, and is overwhelming the Spruce which is grown in Russia and other European countries. The response has been a large increase in harvest volumes and these low-priced salvaged logs are being exported to China
- **One Belt, One Road** – Creating and incentivising the opportunity for the backhaul of logs and lumber on trains. Rail that enters China through Russia is transporting that Spruce up to 8,000kms, usually to inland mills, but in some cases those logs are making it to the coast which is usually dominated by logs from ports, namely radiata pine from New Zealand.
- **Wall-of-wood** – NZ can take some blame, the increase in our production has seen significant supply chain infrastructure issues in New Zealand, however more logs are being exported each year and this is also impacting the supply/demand dynamic in China.
- **Importers** – Log importers, in seeing the market weaken, were quick to dump any excess supply.



This seemed to exacerbate the fragility of the market and subsequent price movements.

- **Seasonal Impacts** – Traditionally a low season for log demand due to the extremely hot and rainy season in China.
- **Chinese Government** – Some sellers of logs to China have noticed that under the present Premier Xi, there is more state involvement in log purchasing entities.

In response to these lower log prices our harvest crews were instructed to reduce weekly tonnes harvested to 75%. This was in line with what several other similar forestry operators were doing. For Harvest crews it meant reduced working weeks, with some working 4 days each week, others brought forward staff holidays. This shortening of supply has helped the log market recover since July. In October, crews were put back on 100% capacity. Log prices for December have settled around \$129 (average) for Napier and \$131 for Gisborne.

Our log exporters remain cautiously optimistic that the current prices are sustainable.

It takes 30 to 48 months to harvest one of our average forests. Log prices vary during that period and low log prices for just a few months have a small effect on the average outcome for the entire forest. Our harvesting forests have been fortunate to enjoy the historically high log prices being realised for some months before July.

Forestry in the ETS, eligibility for existing forests planted before 2019

There is much discussion going on about this subject, it may be that eligible forests (i.e. first rotation planted on pasture) under the age of 17 years can sell some carbon. We will keep you informed once decisions are known.



Logs on Landing 4 at Belmont Forest Partnership

Wairoa to Napier Railway line

This line was reopened in June with some fanfare from politicians and officials. The rail operators are very reliant on our logs to make this service work, however, someone in Kiwi Rail neglected to calculate the price at which it would work for us and we declined to participate. Reality has now set in and an appropriate price has been calculated and our first logs will soon be moved from Wairoa to Napier Port.

Insurance

Again, the insurance market continues to tighten. To maintain our current wind cover there is a significant increase in gross premium (45%) despite only a 25% increase in forest values.

When looking at a selection of our existing forests, our insurance premium now makes up approximately 38% of our total annual expenditures. This is a frightening number. The insurance subcommittee has looked at options to reduce the cost. Our current policy allows for \$40 million in claims in any one year, this accounts for less than 5% of total crop value, so we are reluctant to reduce the cover.

Interestingly there were no other re-insurers who wanted to provide quotes, and we are aware of some forests in other areas (not ours) that have been unable to get any cover. We are doing more research here and overseas and will discuss this at next years AGM's.

As well, due to major losses in the timber market around the world including USA, Australia and New Zealand (Nelson Fires). The re-insurers have taken measures to reduce the impact of these losses by changing the excess limits. The excess has changed from \$100,000 per event, to 1% of sum insured of every partnership that is making a claim. All forestry owners have had this new excess structure applied to their renewal.

Forest AGM & Visits Dates

The forest AGM and visit dates for next year are now on our website. For many of you there are some significant changes in meeting format from past events. This is because more of our forests are harvesting or preparing for harvest. The annual turnover is significantly increased for these forests and we are therefore allocating more specific time to each forest. This is going to result in more input from our office and FMNZ office staff.

Secondary Market

We have active buyers in our secondary market. The trend seems to be very few secondary sales in our established forests as they get nearer to harvest. In other age classes sales slowed since July when there was a shift in log prices – this has subsequently recovered. We currently have some remaining shares available in Waikare and Maxwell forests. These second rotation forests have the advantage of established roading and skid infrastructure, along with proven returns. For further information on these, or to be registered for any other forestry options when they become available, please speak to Grant in the office.

New Sales and New Opportunity

In November this year we promoted another greenfields forest under the new Managed Investment Scheme (MIS) with a registered Product Disclosure Statement (PDS). Seaview Forest LP was our 99th forest and is located in Waimarama, Hawkes Bay. The offer had overwhelming support and opened and closed fully subscribed with a significant waiting list of interested investors. We've been actively searching the market for further partnership properties which we hope to be able to offer in the new year.

New Forests that we are establishing are grown on a framing regime to begin harvest in 26 years' time. They are eligible to sequester and sell Carbon Credits in the New Zealand Emissions Trading Scheme (ETS). This provides income from year seven.

Sustainable production forests planted today are a proven way to help meet our climate obligations as well as being socially responsible, environmentally friendly, and a profitable way to provide income in perpetuity for you and your family.

Enjoy the festive season

Regards



Roger Dickie



Will Dickie



Seedlings 1 year old and growing well at Maxwell Forest

QUAIL RIDGE

Forest Partnership



Forest Managers Report September 2019

The past six months have been fairly consistent weatherwise. All of our forests have experienced warmer and drier than usual winter conditions and fortunately there have been no weather bombs to affect the trees or damage forest infrastructure. Long may these conditions prevail!

Forest Health

Forest health is generally very good. There are some ongoing symptoms of Red Needle Cast (RNC) evident in places but certainly less than we have seen previously. There is little incidence of new windthrow outside of the road corridors where the trees have been felled and opened up the stands to potential wind damage.

Harvest Progress

As at the end of August the Quail Ridge harvest summary was:

- Total gross revenue to date is \$1,422,808.85
- Total costs to date are \$1,226,866.27
- Net income to date is \$195,942.59
- Tonnes harvested to date is 9,805.37 tonnes
- Total area cleared to date is 12.1 hectares

Recovered volume per hectare to date is 810.4 tonnes per hectare.

The clearfell harvest is scheduled to commence early next year.

Tracking

Some of the forest tracks are becoming redundant now and being replaced by forest roads, capable of accommodating harvest traffic. Road construction will be ongoing, as is the maintenance of these roads.

Replanting Cutover

We had budgeted for the replanting of 3 hectares of cutover however, this work did not proceed due to concerns about the proliferation of regen. The area will be desiccated and replanted next winter.

Putere Accommodation Complex

The accommodation complex is in tidy condition and currently occupied by staff from two separate harvest crews. There is a husband and wife team from one crew and three workers from the other crew. They are keeping the kitchen/living areas clean and tidy and it is good to have forestry workers in residence once again. We charge them \$13 per night each and this covers the power and maintenance costs so the operating expenses for the year for this facility should be negligible.

They did request that we construct a woodshed to give them a dry place to store firewood and we have done this.

Bat Surveys

Over the past few months, some of our forests have been charged for bat monitoring and data analysis and it is timely to explain the reasons for carrying out these surveys. New Zealand has two surviving bat species (the short and long tailed bat). Bats are

New Zealand's only native land mammal and both species are as threatened as kiwi (having the highest conservation threat ranking of 'nationally critical'). Native bats are 'absolutely protected' under the Wildlife Act (1953), which is administered by the Department of Conservation (DOC). Their habitats are also protected by the Resource Management Act (1991), which is administered by local government authorities.

Many land use resource consents have conditions that require bat surveys and management plans to prevent adverse impacts on bat populations, particularly in a harvest situation. It is generally recommended that bat surveys are undertaken well before the activity is consented to identify commuting corridors, feeding areas and potential roost habitats so that they can be avoided and adequately protected.

FMNZ undertakes acoustic bat surveys as part of the harvest planning phase with the primary aim of confirming the presence of bats and kiwi. Once presence has been confirmed, the survey data is analysed to try and identify key areas of habitat to be protected in both the short and long term. The survey methodology entails deploying automatic bat monitors (ABMs) (**Figure 1**) that record and store bat echolocation calls (**Figure 2**), along with the date and time of occurrence, for later analysis. FMNZ currently utilises 6 ABMs to serve all of its' estate, meaning that by necessity surveys are often conducted alongside active operations (e.g. to establish whether an area requires protection or not).



Figure 1. An ABM deployed in a wetland to record the presence of bat echolocation and kiwi

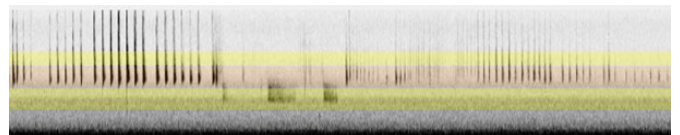


Figure 2. A long tailed bat 'feeding buzz' at the site shown in Figure 1 produced as the bat captures it's insect prey.

Weed and Pest Control

There is plenty of blackberry around the forest however, this is largely controlled by the goats. Inkweed and pampas grass, also prolific, cause the most problems, especially along the road edges.

The allowance of \$300 made for goat control for the first half of the year remains unspent however, over the coming weeks our staff will be making regular visits to the property specifically

to start getting on top of the goat population. Now harvest is underway, we need to decrease the population now or the goats are going to create problems when we replant the cutover areas.

We had allowed \$1,500 in our budget for July to carry out some possum poisoning following advice the Animal Health contractors were no longer contracted to operate in the forest. We are not sure if we were advised in error or whether there has been a positive TB reading in the area however, it seems the forest is back within the AHB area. This means we will not be spending the \$1,500.

Possum Monitoring of Production Forestry Land

The Hawkes Bay Regional Council (HBRC) have advised they are amending the residual trap catch (RTC) rate from 4% to 5% in production forests. The RTC is the measure used to establish the possum population on each property. The 5% RTC rate means that for every hundred traps set, if more than five animals are caught, then the property owner will need to carry out possum control to reduce the population to below the average RTC.

Given there is regular possum control carried out in the forest, any RTC surveys show we are within the tolerance.



Carbon Sales

No NZUs have been sold over the past six months.

The NZU holding as at the end of August was 18,047 units. This is comprised of 1,620 pre 1990 units and 16,427 liability free units.

NZU Price

Over the past six months we have seen a peak price of \$25.30 recorded in March. This moved down to \$22.95 by mid July and since then has climbed back to \$24.20 by the end of August.

Market commentators pick the NZU price will remain in the \$24.25 to \$25 over the next few months with both the demand and supply sides of the market remaining relatively quiet. We await more details on the proposed cost containment reserve and auctioning and expect more information around the introduction of auctioning should be provided by government later in the year.

NZETS

Following on from the ETS consultations carried out during 2018, one of the changes announced by the government in March is the intention to change the carbon accounting method currently used to carbon averaging.

Under the current accounting method, a participant must account for any loss of carbon in their forests, even if it is a temporary loss. This includes harvest, storm damage etc, which

triggers the need to surrender NZUs to the Crown, even if the forest is being replanted.

Emissions returns submitted during harvest can be complicated as the harvested area may not be for an entire CAA (carbon accounting area) and the calculations can be complex and confusing. For this reason, we generally deregister a forest from the ETS prior to commencement of harvest.

Carbon averaging removes the requirement to surrender NZUs when there is carbon loss. Instead, participants receive NZUs as their forest grows up to an average level of long term carbon storage. Depending on the rotation length, this is around 17 or 18 years worth of carbon (approx. 440 units per hectare). Provided the land is replanted, the participant has no carbon liability.

This simplifies the cost and complexity of the ETS for forest owners and allows them to sell NZUs up to the average level without the need to surrender units which gives forest owners an early income stream for their forest.

Carbon averaging will apply from January 2021 however, forests planted in 2019 and 2020 can also participate. Although the government is yet to release more detailed information on carbon averaging, we understand forests that have been registered in the ETS prior to 2019 will not be eligible to participate. This means the ETS will essentially be running two different carbon accounting methods at the same time!

Wairoa Rail Hub

The Napier/Wairoa rail line was re-opened on June 14th following an opening ceremony at Ahuriri rail yard attended by various local dignitaries and Shane Jones, the Regional Economic Development Minister. The guests boarded the train and travelled to Eskdale and then on to Wairoa. This is the first full trip between Napier/Wairoa since 2012.

Although the route is now re-commissioned, we are yet to see a log train make the journey from Wairoa to Napier. Kiwirail is still working through the operation of the rail hub in Wairoa and although they hoped to have log trains running in August, the costs and operating details of their marshalling yard are yet to be finalised.

Kiwirail are still planning on starting the service with two logs trains running per week and as more logs come onstream, this will increase to six trains per week.

Napier Port Share Issue

In our last report we referred to the development to be undertaken by Napier Port and the funding of these developments through a public share issue.

The port company have now completed the share issue with 90 million shares offered to the market initially at \$2.60. This represents 45% of a total 200 million shares. The shares were listed on the NZX in August and are currently selling for around \$3. Hawke's Bay Regional Council have retained a 55% majority shareholding in the port company.

At the time of listing on the NZX, an estimated 90% of the shares were held in New Zealand ownership.

With the proceeds raised from this offer, Hawke's Bay Regional Council have provided \$110 million to Napier Port to enable the Port to invest in its future growth, including the construction of a new wharf. This is scheduled for completion in 2022.



Harvest Roads holding up well

Eastland Port Development

Eastland Port also have plans to expand their port facilities to enable them to handle an anticipated 4.5m to 5m Jas by 2024.

The work involves seven major projects including the rebuilds of wharves 6 and 7, reconfiguration of the historic slipway, the extension of wharf 8, further reclamation, fixing the breakwater and capital dredging. The cost of this work is estimated at \$100m and to be completed by the end of 2022.

The consent for the first berth development has been granted but is being appealed. Eastland is hoping to work through the issues by the end of this year.

In the interim, the port is continuing its work on the land operations in parallel to the proposed development. Storage capacity is currently 130,000 Jas on port, over the next 10 months this will increase by 20% to 155,000 Jas. This comes with an investment of \$18 million. Eastland is currently shipping 3m Jas per annum and this can only increase to 3.2m to 3.3m Jas before limits are placed on export volumes.

Pix4d - Technology of the future

Digitisation technology has been changing the way we work at FMNZ as over the years, it has greatly improved in accuracy and precision. We are progressively embracing more technology in our day to day operations, particularly software which brings productivity benefits to our business.

Pix4d is photogrammetry software that is used for creating large orthophotos and making accurate measurements using photographs. This software can do a range of 2d and 3d measurements including precise volume calculations. These are very useful in forestry for measuring stockpiles and monitoring changes over time. The software can also be applied to vertical measurements which potentially could be useful for monitoring growth and tree height.

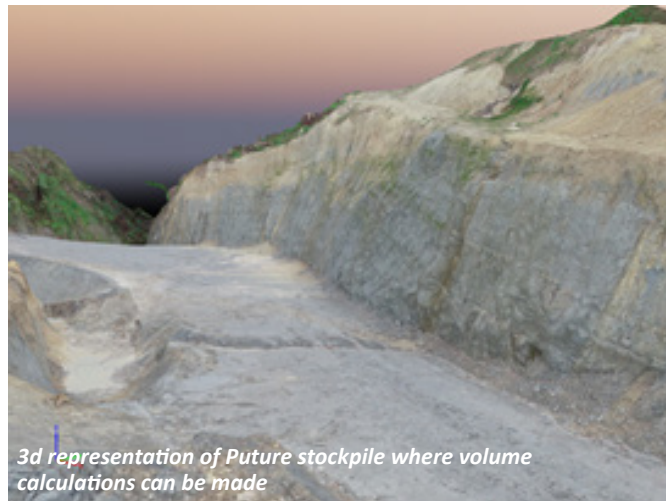
Pix4d can stitch thousands of photographs together. Orthophotos are aerial photographs that are geometrically accurate. These can be used in GIS for a wide range of uses. Environmental monitoring can easily be done with these high resolution orthophotos. They can be used to inspect culverts, fluming, slash controls, streams and wetlands. Large orthophotos can also be used for marking cutover and validating the accuracy of GIS data.

Drones are most commonly used to collect photos as they can cover large distances and take off and land in small areas. Automated flight paths can be set up to cover specific areas. Drone technology has come a long way with sensors and return to home features which make drones a safe and reliable option.

We already use a drone and programs such as Pix4d help make this a more productive tool.

We can see the benefits for our forest owners of the implementation of photogrammetry technology to FMNZ as it provides a quick and cost effective means of calculating, displaying and measuring various types of data.

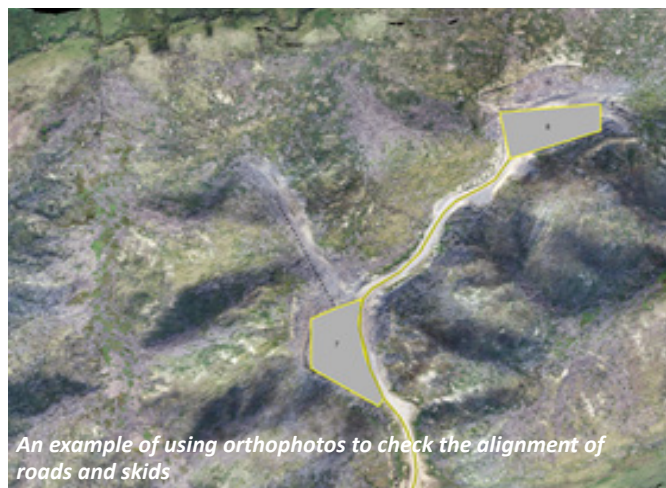
Steve Bell
Forest Manager



3d representation of Puture stockpile where volume calculations can be made



3d representation of Millbrook used to monitor enviromental changes



An example of using orthophotos to check the alignment of roads and skids