

Autumn 2021

Bulletin

Climate Change Plan - Exotics and other renewables

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Ardern opens Scion building

On 31 March, the Prime Minister opened the striking Scion building extension – Te Whare Nui o Tuteata – the front door to Scion’s Rotorua campus, Te Papa Tipu Innovation Park.



“FORESTRY HAS A BIG PART TO PLAY IN HELPING NEW ZEALAND MEET ITS CLIMATE CHANGE COMMITMENTS.”

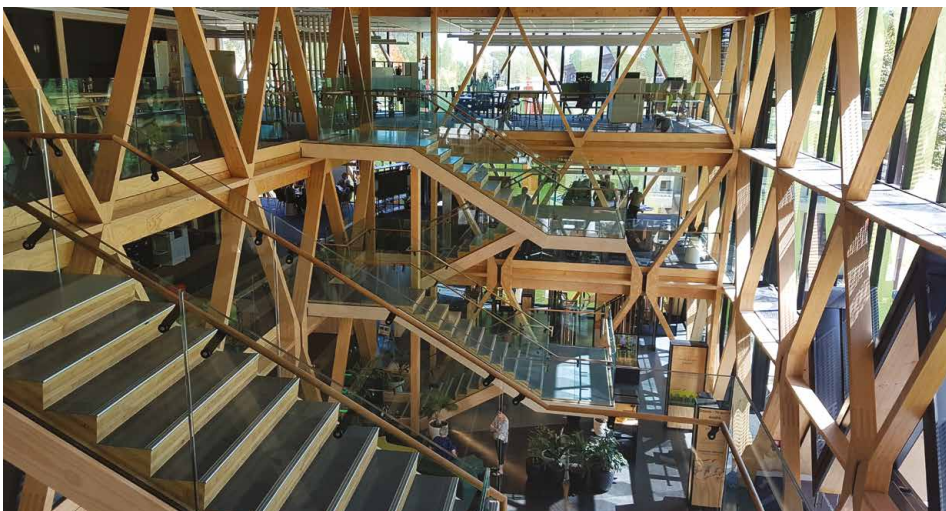
RT HON JACINDA ARDERN
PRIME MINISTER



“TRADITIONALLY IN NEW ZEALAND, WE’VE BUILT LARGE COMMERCIAL BUILDINGS OUT OF STEEL AND CONCRETE. THIS BUILDING SHOWCASES WHAT CAN BE DONE WITH TREES.”

“THE BUILDING’S CARBON STORAGE CAPACITY IS IMPRESSIVE, BUT WHAT’S JUST AS AMAZING IS THAT NEW ZEALAND’S RADIATA PINE FORESTS CAN REGROW THIS AMOUNT OF WOOD IN JUST 35 MINUTES – MAKING IT TRULY SUSTAINABLE.”

RT HON JACINDA ARDERN
PRIME MINISTER



“...THE POTENTIAL FOR FORESTRY TO FUEL A BIO-BASED AND SUSTAINABLE ECONOMY”

DR HELEN ANDERSON
SCION CHAIR



Awards pathway to bioeconomy

When Rayonier Matariki Forests was declared the Supreme Award winner of the MPI/Agmardt Primary Industries Good Employer Awards recently it was a welcome sign that our industry was coming of age and could no longer be ignored as a major player among the land-based industries.

But when two other forest industry companies, Port Blakely and Rewi Haulage, won their categories as well, the politicians and public should take notice (page 10).

The forest sector, which represents 1/8 of New Zealand's primary export earnings, won 3/4 of the industry prizes on offer.

Two things are reassuring about this. One, that these worthy winners are not isolated cases of commitment. And secondly, that we have lots of examples illustrating that it isn't just people that forest companies look out for. The supreme winner, for example, also works with the local community on the Coromandel, providing funding and other support to a kiwi conservation project. Again, whether it's kiwi, or bats, or falcons, this type of involvement is common.

One statistic that verifies the commitment to industry sustainability efforts, social or environmental, is that a growing 70 percent of all New Zealand plantation forests have internationally recognised green certification signed off by independent auditors.

In our Forest Roadmap two years ago, we set out an optimistic goal of being New Zealand's Number One primary industry by 2050.

That won't be by virtue of simply expanding the exotic forest estate to export more logs.

Increasing the forest area and doubling the productivity from the existing area are indeed important factors. The Climate Change Commission has scaled back

the projections of what is needed from forestry, but it is still asking us for another 380,000 hectares by 2035 to do some heavy lifting on carbon sequestration and buy both agriculture and industry the time to transform out of producing methane and a reliance on fossil fuels respectively.

But as importantly, it is about how we look after the natural environment, Te Taiao, and our people working within it.

It's also vital that we develop new ways to use what we harvest.

The most exciting developments are in what happens to the wood from our trees. Again, the focus will still be in efficiently producing consistent logs for manufacturing into a whole range of wooden products, both here and overseas.

Hopefully, fewer of the logs will go overseas and more will be processed here in New Zealand. That is indeed a huge challenge, for we compete against subsidised and protected giant manufacturing mills in our potential markets. But our food industries manage to compete successfully in such an environment and I am sure we can as well.

Higher rise timber construction with engineered wood is an environmentally beneficial way to use our product. That is now recognised. We must take advantage of that new awareness and technology.

This leads to potentially the most exciting vision for forestry. Utilising the parts of the tree which have traditionally been the lowest value, or not even worth taking out of the harvested forest.

There is a huge opportunity in the dairy industry for instance. Coal boilers are to be phased out. Wood is the leading candidate as a replacement fuel, once the technical issues with both wood and boilers are resolved.

Ironically, competing for wood supply may come from the very dairy farmers who produce the milk for the powder driers. Bark chip is becoming popular for cow stand-off pads as environment regulations push cows off pasture during winter and even mid-summer.

The increasingly viable option of debarking logs here in New Zealand as a phytosanitary measure, potentially fits nicely with the growing demand for non-log wood material.

The Fit for a Better World challenge from the government demands forestry rise to these challenges within the next decade. No primary industry is expected to deliver more of a forex increase than forestry.

Punching so far above our weight in winning prizes is one sign that we have the commitment to deliver on these opportunities and goals. We are showing that we are capable of meeting the challenges.



DAVID RHODES
CHIEF EXECUTIVE, FOA

Exotic forestry's pivotal role in Climate Change Commission's recommendations

The plantation forest industry remains not only vital for New Zealand to meet its greenhouse gas emission goals, but forestry is also the safety net if the rest of the Commission's ambitious carbon budget goes awry.

Some, such as the Environmental Defence Society, were quick to pounce when the Climate Change Commission released its recommendations on 1 February. The EDS made out that the Climate Change Commission has called out some sort of environmental bluff contrived by commercial foresters.

The lobby group put out a press release applauding the prospects of a decades' long indigenous planting programme, as the much preferable sequestration future. It hailed what it called the passing of Peak Pine.

In doing so, EDS misrepresented the fundamental message from the Commission and demonstrated its failure to understand the role of carbon in exotic forestry.

The Climate Change Commission did indeed depart from the up to an additional 2.8 million hectares of plantation forestry, which the Productivity Commission in 2017, found to be necessary to get New Zealand to carbon neutrality by 2050.

The Climate Change Commission instead has driven directly into the right ventricle of the heart of New Zealand's greenhouse gas emissions problem – CO₂ emitting transport and industry. The Commission has recommended strong government intervention. For instance, it sees restrictions on importing petrol driven cars.

This approach is something FOA has previously explicitly called for and encouraged the Commission to act on.

For New Zealand's metaphorical left heart ventricle – farm emissions of methane and nitrous oxide – which amount to almost half of national emissions – the Commission has relied on current trends to continue.

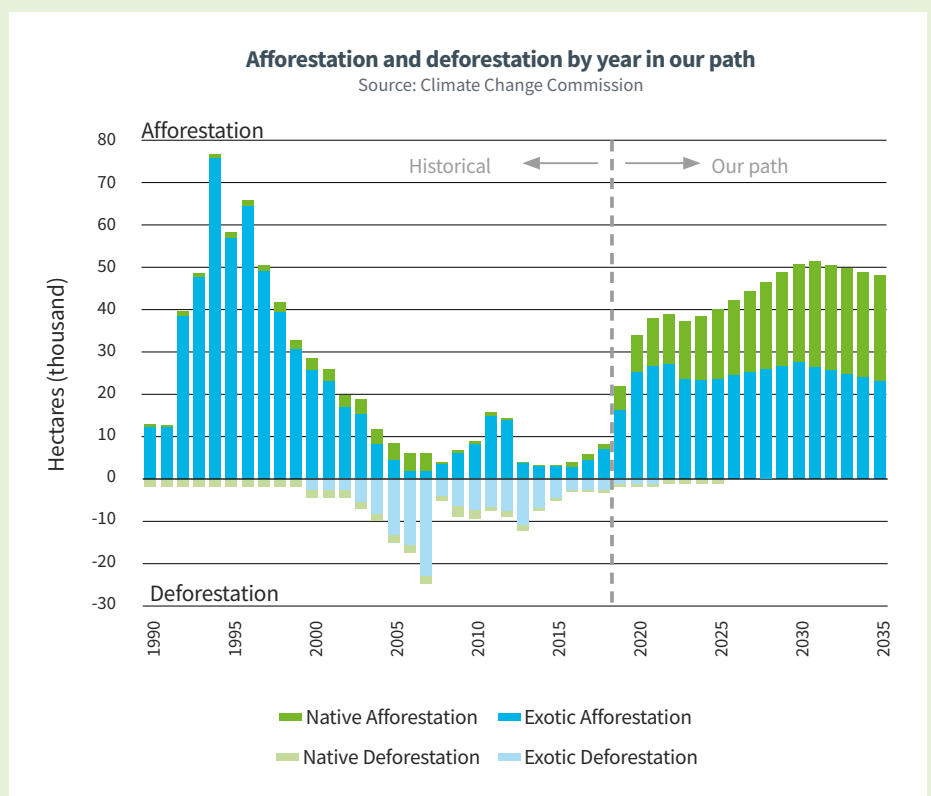
It doesn't believe agriculture should be brought into the Emissions Trading Scheme. The Commission instead has assumed stock numbers will naturally fall by 15 percent by 2035 and so their emissions will reduce commensurately. Emissions reducing technologies in the pipeline will continue the process.

But for all the projections going to the heart of both industry and agriculture, the Commission has prudently continued to rely on exotic forestry to fill a large carbon budget gap. It expects 380,000 hectares of new exotic forests to be planted out in more or less even amounts, in the next 15 years.

This could be optimistic. As the value of carbon credits goes up, so too does the cost of land to invest those credits into. The appetite of overseas investment for new plantings has all but disappeared, since Shane Jones' Log Mongers' Bill last year – coincidentally or otherwise.

On the other hand, there are mounting pressures on hill country farming. These are mainly; restricting stock access to waterways, synthetic food alternatives, vegetarian eating, animal welfare, wool prices, droughts, farm succession and costs.

Getting to 380,000 hectares requires a relatively modest planting rate too. It's slightly above 25,000 hectares per year for 15 years. Nothing like that rate has been seen since the height of the planting boom in the early 1990s, when it briefly was above 100,000 hectares a year.



In fact, the Climate Change Commission seems strangely perturbed there will be too many exotics planted and the government should find ways to prevent this occurring.

But let's assume a pessimistic scenario of only 250,000 new hectares planted in exotics by 2035. The 130,000 hectares shortfall has profound consequences.

In 2035 it could equate to a carbon sequestration shortfall of nearly 5 Mt per year. If that shortfall was then handed to the pastoral sector to sort, for instance, then the

projected 15 percent fall in stock numbers would have to rise to about 25 percent.

At 15 percent fewer stock, farm productivity could still be maintained – at least the Commission thinks so, if not Dairy NZ.

But if it went to 25 percent then present farm productivity could not conceivably do anything but decrease.

In other words, farmers and industrial emitters alike should welcome extra afforestation, as the best insurance against

a more government interventionist and potentially brutal approach in the future to reduce their greenhouse gas discharge rates.

The indigenous afforestation, 300,000 hectares the Commission hopes to see planted, also by 2035, is all but irrelevant in these equations to achieve the goal of a carbon neutral economy by 2050.

Sheep and beef farm carbon – the numbers

Beef + Lamb New Zealand has repeated its call for a much more fine-grained measuring system to ensure all vegetation on the New Zealand landscape is captured in carbon sequestration assessment. At the moment small plantings, such as shelterbelts, are not counted.

The Climate Change Commission has acknowledged this deficiency and wants the technology, which is already available, to be harnessed to more accurately map foliage patterns. Higher detail mapping, and inclusion of the results, would surely benefit the commercial forest industry as well. Considerable indigenous forest sections among the exotics are not counted in present carbon assessments.

Beef + Lamb is asking for ETS credits, even it appears for the 131,000 hectares of pre-1990 forests. This is very optimistic given that the government has long ago rejected this for the forest industry.

Meanwhile the fact needs repeating, exotics sequester much earlier and faster than native trees. The Ministry for the Environment's recent rebuttal of a B+L commissioned report from AUT last year, which claimed 90 percent farm carbon removals, has once more highlighted how important pine trees are as a carbon tool.

The MfE assessment of carbon sequestration on sheep and beef properties was instead much less, only a 30 percent offset carbon sink. Of that, 82 percent was founded on the 313,984 hectares of exotic forestry on those farms.

The million plus hectares of indigenous trees, also on sheep and beef properties, were assessed by MfE as contributing only 14 percent of the total carbon sequestration.

As is much less the case with the rest of the plantation estate, the yearly offsetting ability of the 182,000 hectares of post 1989 sheep and beef farm exotic forests will diminish as the peak plantings of the 1990s are harvested out. Emissions will soon exceed sequestration without an expansion of that forest area.

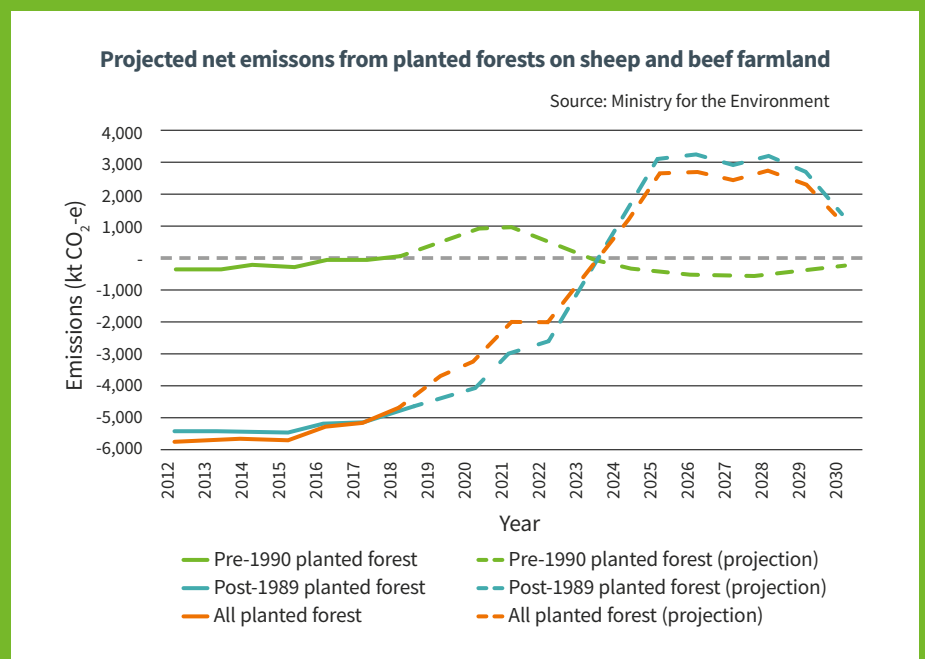
The Commission sees native forests locking up significantly large volumes of carbon many decades into the future.

Beef + Lamb says it welcomes this. But it remains to be seen how many farmers will actually convert their farmland and take on the high cost and risk of planting

and maintaining these trees. At best, any worthwhile indigenous harvest will be next century and offer in the meantime a lower carbon credit value than exotics do.



See page 12 for a graphic showing relative land areas.





First of the durable eucalypts commercial planting this winter

An investment of \$9 million over the past 13 years to select durable eucalypts is entering the plantation planting stage this season with regions identified for where processing industries will develop.

The vision of the New Zealand Dryland Forests Initiative is to develop sustainable niche durable hardwood industries on 60,000 hectares of eucalypt forests, next to the 21,000 hectares of eucalypts already growing in New Zealand.

The durables supply a future network of regional wood processing industries, employing 2,400 FTEs and producing 360,000 m³/year of products worth more than \$1 billion annually.

Opportunities are seen with eucalypts sawn timber replacing CCA treated softwoods, posts and poles for horticulture and agriculture use, substitution of Australian hardwood imports, exports to replace Australian and tropical hardwoods and utilising the timber for modern engineered timber such as laminated veneer lumber and cross-laminated timber.

Research is led by the University of Canterbury School of Forestry and seedling and clonal plant production is overseen by Proseed at Amberley.

Other partners are the Marlborough Research Centre Trust and Vineyard Timbers.

As part of Forest Growers Research Specialty Wood Products Research Partnership (SWP), NZDFI receives funds from the Forest Growers Levy Trust as well as funding under Te Uru Rākau's One Billion Trees Partnership Fund.

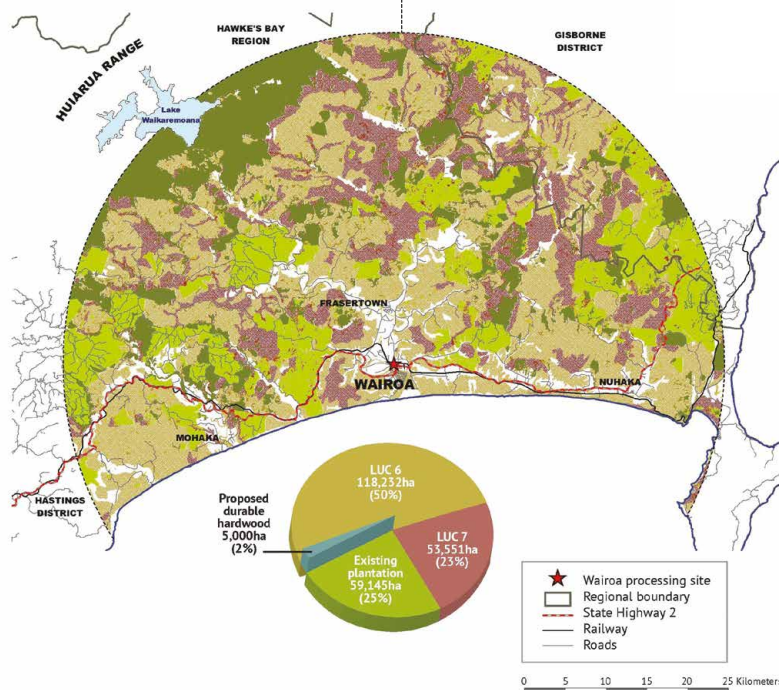
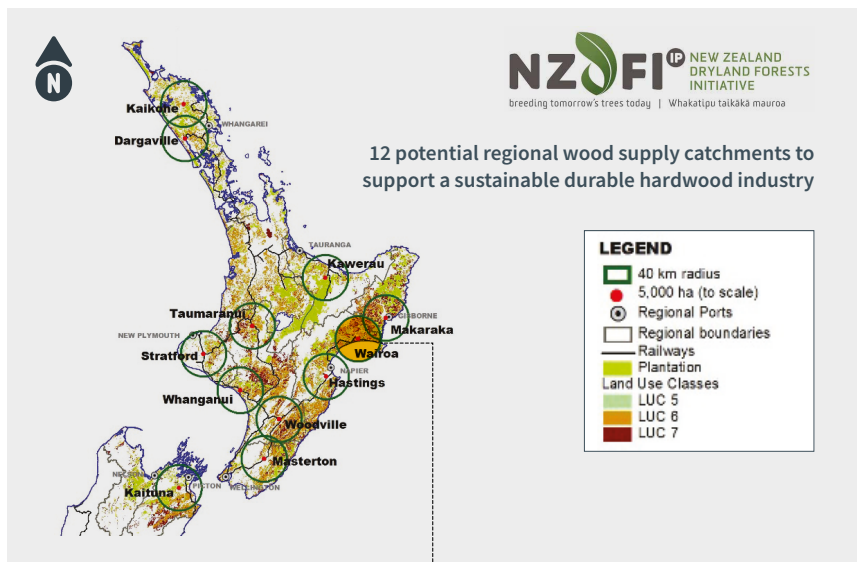
Durable eucalypts grow fast and produce large volumes of biomass, as fibre for pulp or biofuels, pharmaceutical oils from eucalypt foliage, and other novel products to contribute to New Zealand's emerging circular bio-economy, especially from short rotation eucalypt forests.

Working with regional partners

Developing sustainable regional hardwood industries will be achieved by reaching annual planting targets in each wood supply catchment, agreed and driven by regional partners such as regional councils. NZDFI is working in three priority regions –

Marlborough, Hawke's Bay and Wairarapa, and has identified other potential regions.

Each catchment will need a central processing site of about five hectares of industrially zoned land with good connections to road and rail as well as ports for export.



Around 5,000 hectares, planted over 30 years (equivalent to 170 hectares per year) will be sufficient to supply a small-to-medium processing operation. The catchment should produce a sustainable annual log supply of 60,000-80,000 cubic metres.

The annual estimated contribution to each region, if a sawmilling and re-manufacturing operation was established, is a GDP of \$82.5 million and 200 direct jobs, plus other indirect employment.

One identified site is in Wairoa, possibly close to the existing mill on the north side of the Wairoa River. Suitable sites of Land Use Capability classes 5-7, and cut-over plantation forest, could be planted. The 5,000 ha required to attract future investment in a processing operation equates to just 2.1% of this total area within 40 kilometres of Wairoa.

Further details, and similar maps for wood supply catchments centred on Kaituna in Marlborough, and Masterton in Wairarapa are on the NZDFI website.

Why durable eucalypts?

- Class 1 or 2 durability (Australian Standard), so do not require tanalising.
- Well adapted to climate change predictions – NZDFI has been breeding these species in dry environments for drought tolerance.
- Versatile species – can be grown in different regimes, including short rotations for posts, poles and biomass, longer rotation for sawlogs, continuous cover or permanent carbon forests.
- Very dense compared to even *Pinus radiata* – so greater carbon capture for any given productivity. This should be

recognised by the forthcoming species-specific ETS Hardwood Look-Up tables.

- Coppice vigorously – this means more carbon storage and better soil protection compared with species that have to be replanted following harvest.
- Support birds and bees through production of pollen and nectar and so allow a native understorey to develop in some environments with sufficient rainfall and native seed sources.

NZDFI acknowledges that there are some perceived negative consequences of eucalypt plantations – for example, fire risk, water availability and quality, vineyard taint and the risk of wildings.

University of Canterbury nomination for international science award



Campbell Harvey

PhD student in forest engineering, Campbell Harvey, is this year's New Zealand nomination for the International Council of Forest and Paper Associations' Blue Sky Award.

His work on the measurement of post-harvest forest slash is timely, given the development through this year, of the Forest Industry Transformation Plan, which relies on taking more wood off the post-harvest forest landscape to find profitable uses in the growing bioeconomy.

There is also the ongoing value in improving harvest engineering and residue security from refining slash management guidelines, as the industry grapples with the threat of

'another Tolaga Bay' on steep and difficult terrain.

Campbell Harvey has been using drones and flight control programmes to capture imagery of slash piles on landings. He then processes the images for volume/shape calculation.

Campbell is a 2013 graduate of the Forest Engineering programme. Before that, he had worked for five years with PF Olsen in Canterbury and Marlborough.

His work at Canterbury University is part funded through a grant from the Forest Growers Levy Trust.

The ICFPA launched the Blue-Sky Young Researchers and Innovation Award in 2016. This global award is to recognise young researchers exploring forest science,

CAMPBELL HARVEY HAS BEEN USING DRONES AND FLIGHT CONTROL PROGRAMMES TO CAPTURE IMAGERY OF SLASH PILES ON LANDINGS.



products using forest-based raw materials, process improvements or other innovations throughout the value chain.

Scion's Brionny Hooper was a previous New Zealand nomination.

See Campbell Harvey's Blue Sky application video at;

<https://www.forestrycareers.nz/news-and-events/campbell-harvey/>





Forestry not likely as responsible for glyphosate contamination of mānuka honey

Despite suspicions that glyphosate used for weed release spraying in forestry blocks may have contaminated mānuka honey exports to Japan, the fact that most mānuka flowers at a different time of the year to weed spraying makes the contamination risk very restricted.

The calendar of mānuka flowering starts in October in Northland. East Cape and Great Barrier bees are collecting mid-November. In early December it's Waikato's turn. Later in the month the mānuka in Wairarapa and northern South Island is flowering. Late December and into January bees are working the Central North Island flowers. Taranaki concludes the season in February.

Pre-plant desiccation in exotic forests is an autumn job prior to winter planting. Foresters use the chemical to suppress vigorously-growing weeds, such as gorse, blackberry, broom or kill off genetically inferior self-germinated pine seedlings.

Spraying might start as early as February if it is a good growing season, but the bulk of it is through March and April.

Thus, the risk of bees picking up glyphosate when they are collecting mānuka pollen is confined to some seasons in Taranaki, or the uncommon use of glyphosate as a holding spray mid-summer for the following season.

Glyphosate was developed as a herbicide in 1970. It is absorbed through foliage and kills plants by inhibiting a growth enzyme. The material breaks down in the soil.

For years, land users across the world have used glyphosate. But in 2015 the International Agency for Research on Cancer (IARC) decided the chemical was probably carcinogenic to humans.

This ruling was fiercely contested by New Zealand's farm chemicals umbrella body, AGCARM, other UN bodies, as well as regulators in the United States and Europe.

The Environmental Protection Authority (EPA) last July was sanguine, stating the spray

was safe if used properly. It has though just announced a survey of use in New Zealand and considering restricting its use.

MPI has been more reassuring; "A 5-year-old child would have to eat roughly 230 kilograms of honey each day for the rest of its life to reach the WHO acceptable daily intake for glyphosate," MPI wrote.

But then, Japan threatened to stop importing New Zealand honey because some samples sold there exceeded local glyphosate level limits.

Forestry accounts for just 13 percent of nationwide herbicide use, way below horticulture at 41 percent, according to the most recently available figures, from 2013.

Colin Maunder, sustainability manager at Timberlands, says it's difficult to establish an economic crop without using glyphosate. It's a broad-spectrum herbicide, easy to use, and relatively low cost.

The contact desiccant, paraquat, can only be used on horticulture and agriculture operations.

Other formulas, such as tuber targeting metsulfuron-methyl, are being tried. Other methods, such as hand or machine grubbing, are often ineffective and the workers able to do the job are hard to find.

And a narrow spectrum herbicide or biocontrol often simply led to new problems.

"You get rid of the gorse and then broom will come in, so you will need something else for the broom," Colin Maunder says.

The forestry taint suspicion stems from beekeepers putting hives out to get the premium mānuka honey in or near pine plantations. Bees don't like mānuka and



they can easily travel five kilometres to get to other flowers they prefer.

They are less likely to find these flowers in a mature pine forest, where the canopy has suppressed most flowering plants.

With such restricted alternative opportunities, the mānuka honey is relatively pure.

Colin Maunder said the forestry industry would be happy to speak to honey producers about reducing the risk.

This could be about the February overlap period in Taranaki, the uncommon mid-summer spraying, whether hives were overwintered in forests (they usually are used elsewhere for crop and clover pollination during this time) and perhaps road-side spraying.

Apiculture New Zealand's chief executive Karin Kos said there needed to be more careful ways of using the spray.

"We are not saying, ban glyphosate. We are saying beekeepers and landowners need to talk, and that has been missing a bit."

Karin Kos said she had been talking to Horticulture New Zealand, Federated Farmers and Local Government about this problem and is speaking to the FOA as well.



Marlborough forest inspections conflict

Marlborough foresters are at loggerheads with the Marlborough District Council over the conflicting demands between the RMA rules and those governing health and safety.

Throw in privacy and due process issues and it is another conflict which may spread from Marlborough's 17,400 hectares of exotic forest to other regions.

The pressing issue for now is access to forestry land by environment inspectors.

On the face of it, this seems fair enough, or else why would inspectors exist in the first place?

The trouble is, they can come onto the land as of right, find faults in a company's activities, and produce a negative report, all without always getting the point of view of forestry staff or management.

This can mean a problem with a perfectly innocent explanation can become subject to council bureaucratic processes and publicised to the public at large.

And those inspections might not be safe. An inspector might meet a forestry truck coming around the corner, and neither knows the other is there.

Behaviour like this could breach health and safety legislation, but, according to the inspectors, it is in compliance with the Resource Management Act.

This means foresters are required to obey the law and breach it at the same time.

Another conflict of laws is the requirement for a drone operator to seek permission before flying over private land. Drones are routinely used for environment inspections. MDC insists it does not have to ask for permission, as its right to inspect gives it this power automatically.

All this is a major headache for people like Vern Harris, who is executive officer of the Marlborough Forest Industry Association.

He says inspectors might see mistakes or even breaches of the law for things for which there is a simple explanation.

"If you are not there with (the inspectors), then there is no way of discussing things they might find before they are recorded into the system," he says.

And health and safety was an extra problem.

"I'd hate to think what would happen if there was an accident, you wouldn't want to test it."

Vern Harris is not opposed to having council inspections in principle.

"If one is honest about it there have been times when forestry operators have not followed the rules or done what they should have done," he says.

"You get cowboy operators and we all suffer from that."

But the way the inspections were done was a problem. On top of that the owner had to pay the cost of the inspection, sometimes at \$25 to \$30 a hectare.

Vern Harris adds foresters had asked many times for the right to negotiate with the council on this matter.

"At the end of the day it would be nice to have the regulator and the regulated working from the same songbook."

Trish Fordyce is an Auckland lawyer who works for the Forest Owners Association on environment matters.

"There are a lot of health and safety issues that need to be dealt with."

Trish Fordyce adds the problem was likely to spread because the Marlborough model, which contracted out enforcement to the private sector, was under consideration in other areas.

The issue boiled down to a clash of laws. Health and safety legislation required forewarning and the Resource Management Act allowed unscheduled visits.

"AT THE END OF THE DAY IT WOULD BE NICE TO HAVE THE REGULATOR AND THE REGULATED WORKING FROM THE SAME SONGBOOK."

VERN HARRIS
MARLBOROUGH FOREST INDUSTRY ASSOCIATION

To make matters worse, health and safety legislation had strict liability clauses, which meant landowners who did not comply had very little defence in court.

And at this stage, she says, not enough had been done to try to overcome this impasse.

In response to these claims, the compliance manager for Marlborough District Council, James Clark agreed permission was not required from a landowner before an environmental inspection.

But in practice, the Council, via its contracted agent GeoInsight, advised property owners of an impending visit for routine inspections.

And to date, GeoInsight had obtained prior approval from forestry contractors or owners to undertake inspections and had not relied on powers of entry.

This process could though be changed if the inspections followed a formal complaint about conditions on the forestry site.

James Clark also denied that reports were written without input from a forestry owner.

Cost recovery was also permitted under government policy. He says many steps were taken to ensure safety.

But foresters could not prevent an enforcement officer from conducting an inspection on health and safety grounds.

"If there is an urgent issue that needs to be inspected immediately, enforcement officers have the right to skip these processes and go straight into the inspection."



RECOGNITION

Forestry - three out of four

Forestry won three of the four prizes in the MPI / AGMARDT Primary Industries Good Employer Awards in April, against the best of the rest of the land-based industries.



The Supreme Award Rayonier Matariki Forests

“THE CALIBRE AND PASSION OF OUR PEOPLE ARE WHAT MAKES US A GREAT COMPANY AND ONE WHICH PEOPLE WANT TO BE A PART OF.”

BRENDAN SLUI
MANAGING DIRECTOR



Māori Business Award Rewi Haulage at Rangitukia

“THE WAY WE DO THINGS IS ORIENTATED TO OUR WIDER WHĀNAU AND TO HELP BUILD STRONGER LOCAL COMMUNITIES AND BUSINESSES WHICH WE NEED. IT’S LESS ABOUT INDIVIDUALS.”

CHUBB REWI
DIRECTOR (TŪHOE)



It is a sure sign the forest sector has both come of age and is ready for the challenges ahead.

FOA Vice President, Grant Dodson, says the winners are representative of many other individuals and companies who are working to high professional standards in our industry.

“On top of forestry’s key role in absorbing greenhouse gases, the government also expects an increase in our forest products’ overseas earnings of \$2.6 billion within ten years.”



Health and Safety Work Environment Award Port Blakely

“OUR HEALTH AND SAFETY CULTURE IS THE RESULT OF HARD WORK OVER AT LEAST THE PAST DECADE. AND IT APPLIES NOT JUST TO PHYSICAL SAFETY, BUT TO OVERALL WELLBEING OF OUR PEOPLE.”

ZAC ROBINSON (ON LEFT OF PHOTO)
HEALTH, SAFETY AND ENVIRONMENT MANAGER



“We need good companies and people to achieve this, and doing so well in these awards, against the best in the whole primary sector, shows we can do it.”





Tokomairiro - forestry training at school

Tokomairiro High School at Milton has taken on board the fact that forestry is a great career prospect in the Otago Region and sees no need to wait until pupils have passed school age to formally train in forestry skills.



2021 Forestry Pathways Programme trainees learning chainsaw skills

Tokomairiro offers NZQA Unit Standards to learners working towards NCEA Levels 1 and 2, as well as an option to gain a Forestry Qualification, which includes up to 40 credits at Level 3.

There are three programme pathways;

1. A Forestry Pathways Course for senior students still enrolled in school
2. Youth Guarantee Course for school leavers aged 16 – 19
3. An Alternative Education programme for those under 16 who have disengaged at school

As well as delivering standards on site, Tokomairiro offers practical components and supports students into work experience while assisting with applications for suitable employment.

The programme is supported by the Forest Growers Levy Trust.

This past year, during the Covid lockdown, the students worked on knowledge unit standards for pruning and planting through distance learning.

Tokomairiro is supported by practical interaction visits to local forest companies; City Forests, Ernslaw One and Wenita Forest Products.

Wenita CEO, Dave Cormack says it's difficult to get skilled machine operators

and silvicultural contractors, particularly pruners, in Otago and Southland.

"This course certainly helps to de-mystify the industry and debunk some of the misconceptions which so often parents have about safety, professionalism and career opportunities for young people in the industry."

"Alistair McKenzie, the course tutor, still works in the forest and has a good network of industry contacts and his experience and knowledge feeds into the content of each course."



Alistair McKenzie

Dave Cormack says the courses provide the experience for a range of forest operations and further training opportunities during the course. Some of the participants may decide to move into silviculture or harvesting work when they leave secondary school. Others might consider further forestry education at polytech or university, or go into farming.



Stanley Moko (18), trainee from the 2020 Forestry Pathways Course

"When I completed the Pathways Course, I was able to look at all the job opportunities the forestry industry has to offer and gain a broad knowledge of the forest areas of trees grown in the Otago Southland area."

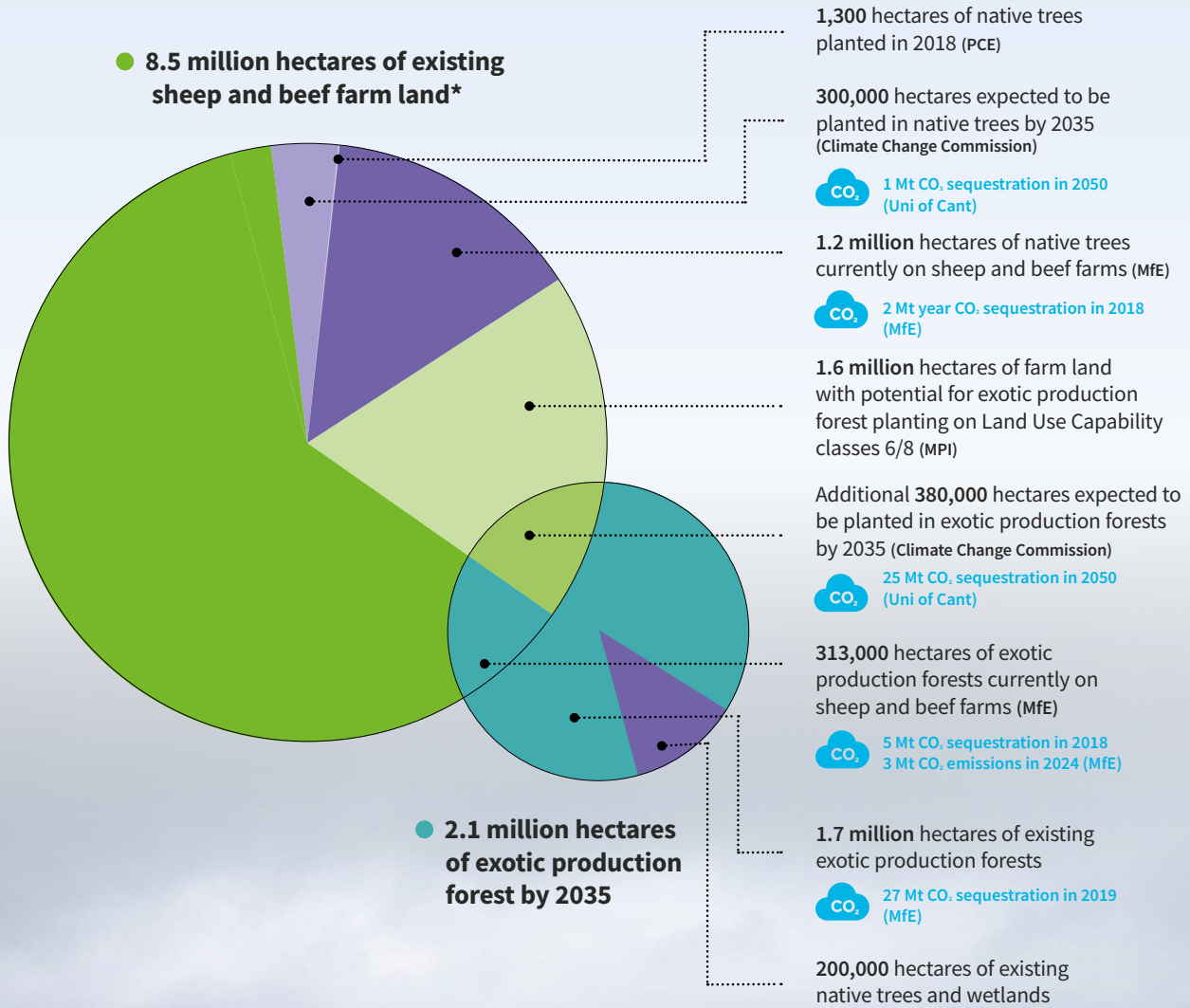
I found that the skills gained were suited to silviculture and I was able to improve on my planting, pruning, thinning and general chainsaw skills on this course. As a result of this I was able to get a full-time sustainable job with a contract forestry crew and will move from pruning to planting in a couple of months.

I like the close team atmosphere and friendship. It's great!

After planting, I will be able to move to a thinning crew to get more experience in that field. Also, I am working towards a National Certificate in pruning of which I already have some modules from the Pathways Course.

As well as gaining full time work for myself, my stepfather is going to gain employment from the same contractor. He has the skills but is out of work."

Forestry and hill country farm use and carbon rates - existing and future potential



*Calculations of the total New Zealand sheep and beef farm area vary greatly. They range from 7.5m ha to 10.4m ha.