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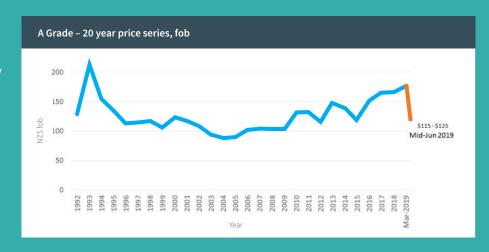
Living with volatility

Volatility and uncertainty in the export log market has abruptly returned as many expected would happen after a long period of buoyant prices.

In a little over a month prices for A grade (top quality) logs have fallen by over \$35/ tonne to close to \$115/tonne (AWG) – a rapid, 25% decline. Too rapid for any supply side adjustment, large volumes of logs are now sitting on skid sites, yards, wharves and ships that will flow for some time in to a soft, and softening, Chinese market.

At \$100/tonne, or less, we are looking at prices last seen four to five years ago and that was after the last meaningful market correction.

It's clearly significant and here for a while.



EXCESS SUPPLY TO CHINA

Over the past five years the amount of wood sitting on the wharves in China has been nudging five million cubic metres. That is a large overhang to digest, especially when purchased at higher than the prevailing prices. New Zealand has been a key contributor to this stockpile with our exports at record levels and up 20% on last year alone.

Meanwhile other wood is also pouring into China. It's a replay of the beetle devastation in forests in western Canada and the US in recent years. This time, it's the European spruce bark beetle, attacking spruce forests especially in eastern Europe.

Prolonged higher temperatures have enabled the beetle to add another generation per summer, with devastating consequences to the trees.

European spruce death was 40 million m³ last year and is still increasing. As well, intense storms have been knocking trees down.

The response in all cases has been to move as much dead or dying timber as possible before it degrades. China has been a prime target market. Softwood log exports to China from the EU have doubled this year. A more valued timber, very willing seller, and new lower cost ways to rail the wood from Europe, has understandably depressed the price.

European lumber exports to China have increased significantly too (17% in the first five months of 2019) more than offsetting the fall in imports from the United States. This is largely due to the new train lines developed under the Belt and Road initiative with around 500 special timber trains now operating – many dedicated to delivering Russian lumber. The falling lumber price has in turn pushed down log prices.

REDUCED DEMAND

Like the Chinese New Year, this time of year in China (Summer and monsoon time) is typified by lower construction activity and a number of processing factories with shortened hours.

Furthermore, stricter environmental regulations as part of the 13th Five Year Plan have resulted in many smaller wood products businesses closing to give way to larger, but yet-to-be built, plants.

The United States – China trade friction initially benefitted New Zealand wood exports by removing significant US log and lumber competition. But, now the tariffs have been extended to include wood products, it is impacting Chinese processing production. Of the US\$200B Chinese imports facing tariffs, US\$75B are wood products and the list covers everything from charcoal to reinforced windows.

And the retaliatory tariffs imposed by China are also an issue. These impose costs on Chinese exporters and subdue domestic economic activity. This has been coupled with a yuan that is sitting close to ten-year low against the dollar.

OUTCOME

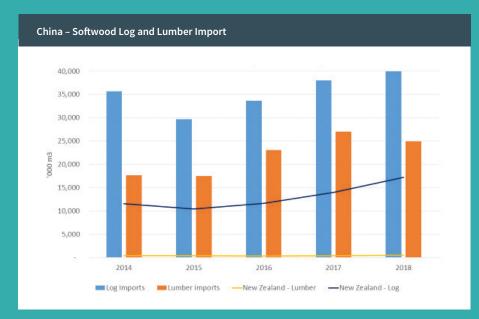
In the short term, we have sellers with wood in transit but without a guaranteed home, desperate to do deals with buyers already sitting on significant losses. It's a self-fulfilling scenario and typifies any commodity market.

The inventory overhang needs to clear first. This is likely to occur over the coming growers are already cutting back on harvesting. This creates a challenge for owners and even more for their contractors. that has the pockets to carry on through down times and maintain the workforce even if at reduced hours. Small woodlot owners, by comparison and understandably, may stop harvesting completely.

The US - China trade dispute is harder to predict a resolution. Friendship could suddenly break out or it could be that Premier Xi prefers to wait until November next year to see if the US elections deliver

If the US and China do hold hands that will likely boost both their timber industries. By one estimate, the US 25% increase on existing Chinese tariffs has added US\$2.5B to the cost of US house

The railway infrastructure developments in China servicing Europe and Russia are a permanent change and will make wood from these sources more competitive, although it will also help constrain seaport and shipping costs for alternative routes.

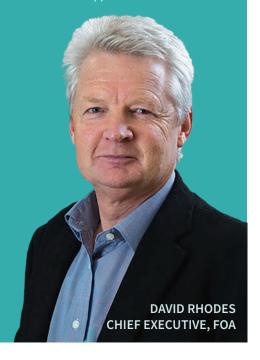


It is important to put these ongoing push and pull factors into perspective. China is the world's largest wood-consuming country for a reason. Annual demand is 600 million m³ wood per year and the 2017 ban on native forest harvesting has pushed reliance on imported timber to 54% and is projected to grow.

Aside from exports, around 20 million Chinese households need new housing every year. The growth in China's appetite, versus New Zealand's ability to supply, is contrasted in the second graph. There is every reason to believe that China's growth will continue, even if at a subdued rate. But we already know that New Zealand's production is near peak capacity. The wall of wood that was causing sleepless nights 20 years ago is being devoured and our production in coming years will drop. Furthermore, 40% of our wood is still processed on-shore and will benefit from the price fall.

Less than a year ago concern was being expressed at the falling log inventories pushing up prices. Sharp price falls of this magnitude have arguably seen an gradual recovery. That recovery may be of the factors at play.

But, of course, something else we haven't foreseen will happen before then.





Fifty Shades of the Truth?

In a direct attack on the New Zealand forest industry, a Wairarapa based campaign – 50 Shades of Green – is struggling to put a coherent case to the public against the realities of land-use economics.

Whichever way you calculate it, the answers come out the same. Forestry returns, per year, per hectare, will consistently outperform the income from drystock farming.

Landowners have for years been planting woodlots in back gullies of harder hill country. For most parts of the meat market cycle this land is usually marginal for running sheep. Now, farmers are justified in taking the same interest in their flatter paddocks where carrying capacity rises to ten or more stock units a hectare. The trees will generally grow better and their extraction costs are lower.

Well-founded predictions of increases in the price of carbon are driving much of this new interest. To drive what the Emissions Trading Scheme is meant to achieve – a reduction in New Zealand's net greenhouse gas emissions – the trading price of carbon needs to be considerably higher.

In this context, forestry becomes an even more prudent choice for a landowner or investor. Of course, much of the value of carbon flows on to farm prices – which could deter buyers.

For an existing landowner though, it's either an opportunity for a welcome extra income stream or for an enhanced capital gain longer term. No wonder 50 Shades followers are calling forestry by the angry epithet of 'lucrative'.

Fifty Shades has wisely tried to take its argument to the politicians away from considering relative incomes and onto another track. It's claiming that sheep and beef farming provides seven jobs per thousand hectares while forestry uses only one labour unit. It is using a Wairoa employment survey which measured the number of workers employed by the owner of the property – not the number of workers on the property.

The campaign has a number of lazy reporters repeating this claim as established fact.

It is highly arguable at best and fake news at worst. A proper study of Wairoa employment – one centre of farmer dissatisfaction – has shown in-forest employment is much higher than on-farm employment – not the other way around.

A more recent broader Poverty Bay survey found much the same. Nationally, the 2017 NZIER examination of the forest industry, concluded there were 6.5 FTEs per 1000 hectares of forest. Sheep and beef FTEs are about two per 1000 hectares.

Different individual forest companies are reporting workers at about 6 FTEs, with a few highly mechanised exceptions.

The strong evidence is that forestry brings employment to a rural region. It is a provider for a community and jobs in its local shops and services. Rural depopulation may not be a myth, but to claim that it is caused by forestry arriving in a region is a 50 Shades of Green fable.

Fifty Shades' targeting doesn't end there of course. It's making out that the local afforestation is arriving from overseas, driven by the government's streamlining the Overseas Investment Office applications for forestry in October 2017.

Again, the facts are embarrassing for the claimants. The Overseas Investment Office register of approvals since the Ministerial Directive on Forestry, shows only three approvals – albeit in the heart of 50 Shadesland in Masterton, Wairoa and Eketahuna. The combined area to be planted is about 2,500 hectares.

Next to the 50 Shades of Green estimated 30,000 hectares of conversions in the East Coast-Wairarapa Region, these acquisitions hardly merit notice. All they indicate are that local landowners are voting with their planting spades. Planting is at least 92 percent domestic.

Again, 50 Shades is hard pressed to find facts to work with.





Mythmaking of indigenous trees

More than a quarter of the New Zealand landscape has an indigenous forest cover. These flora range from scrubby second growth to stands of magnificent virgin kauri, beach and podocarps.

These trees form the basis of New Zealand's unique ecosystem.

Timber from such trees as matai, rimu, kauri, puriri, totara and kahikatea has been prized for different uses for hundreds of years and woodlots continue to be planted.

There is recent misplaced advocacy for the role of using indigenous trees in a new role – as sequesters of carbon. The increasing proportion of native trees in the Billion Trees is sometimes justified as helping address global warming.

In a major feature article on forestry in an issue of the NZ Listener this month, an unnamed source postulated that indigenous trees were better at fighting global warming than pines because they outlast pine trees.

The following week, Radio New Zealand interviewed and quoted climate change expert, Jim Salinger, who claimed that the carbon fixing ability of indigenous trees was forty times that of pines.

The scientific reality is quite different.

A radiata pine plantation will typically sequest 25-35 tonnes of carbon dioxide per hectare a year. A rate of 16 tonnes for kauri is exceptional.

Total CO₂ for the radiata regimes and other tree species. Total CO, comparison 1800.0 1600.0 -Rad prd low Rad prd med 1400.0 Rad prd high Rad unord low 1200.0 Rad unprd med Rad unord high 1000.0 Rad 2 rot Totara 800.0 Kauri Douglas fir Redwood Euc. fastigata 400.0 Cypress 200.0 0.0 Age in years Thomas Paul et al, Scion, January 2008

In a 2016 report, the Parliamentary Commissioner for the Environment explained that a typical permanent rotation of pines will continue to sequest 600 tonnes of CO, per hectare in the trees for as long as the forest exists, but that it took regenerating podocarps 50 years to sequest 300 tonnes, half of the pine total.

After 100 years native trees will begin to top the heights of 20 year old pine trees. Most climate change experts would agree that the fight against climate change will be won or lost well within the next 100 years while waiting for these trees to grow.





Tolaga Bay - one year on

A set of responses is under-way to prevent a re-occurrence of the 2018 Tolaga Bay debris flood. Measures range from utilising more of the potential debris, to improved management and harvesting of erosion prone forestland.

On Monday June 4th last year torrential rain hit the catchments upstream from Tolaga Bay on the East Coast north of Gisborne and flooded the lowlands below.

The concentrated downfall on highly erodible soils pushed harvest debris into the waterways and caused more damage downstream than just floodwaters alone would have inflicted.

The lack of commercial outlets for low value logs and residue material left behind after harvesting was another contributing factor. Continued rain over the following ten days added to the problems.

The storm mobilised other debris such as willows and poplars, and deposited the wood downstream, against the Wigan Bridge on Tauwharepare Road in particular, and on beaches.

Heightened media attention was sharply critical of forestry, following a previous highprofile debris flood on similarly vulnerable soils at Tasman Bay in February. The reporters didn't like harvesting on steep erosion prone land and what they considered a slow clean-up.

The industry responded. In August, forest growers and harvest planners along with experts in weather sciences, hydrology and insurance met in Auckland. The participants heard that we can expect more of these intense storms in the future. World-wide there are increasing insurance claims for storms and floods.

A positive feature of the Tolaga Bay flooding was the great majority of roads and landing sites held up. Most debris was from mid slope failures. The hydrologists at the Auckland conference stressed that very intense rainfall will result in slope failures, irrespective of vegetation cover - exotic or indigenous forest, and even more so on non-forested land.

From the 2018 Auckland workshop a number of initiatives were identified and prioritised.

The first was to investigate commercial options for the utilisation of harvesting residues on the East Coast. This has been completed by Scion which has identified options including feedstock for electricity generation, boiler fuel and panel products.

A second set of projects focused on harvesting and how to reduce the risk of harvest residues entering waterways.

Good progress has been made on developing and testing a new grapple designed specially to operate below a helicopter to remove harvesting slash such as broken tops, dead stems and large branch material, from streams and mid slopes at risk of failure and then to move this material to safer ground. The prototype grapple has been successfully tested in the southern North Island and a forest near Gisborne.

Another project is to evaluate methods less likely to break the tree when it is felled. One approach is a fixed felling head for an excavator machine that gives the felling machine greater control over the tree being felled including the speed and direction of falling. A trial has been undertaken with a machine working on steep land in the Nelson area.

Before the Tolaga Bay storm the industry and government had worked together on identifying a new national environmental standard for forestry (NES-PF) and this has identified geographic areas that are of high risk of erosion. The slash in the debris flood at Tolaga Bay was from plantings which were specifically a recognition of the vulnerability of the widespread land in pasture destroyed by Cyclone Bola 30 years before.

Forest owners are now identifying those high-risk areas within their forests and either retiring these areas or re-planting native species such as manuka, which will serve as nurseries for larger trees.

JUNE **AUGUST** APRIL

A further project is examining whether it is possible to plan harvesting differently in order to stagger clear felling within catchments to reduce the extent of vulnerable areas.

A follow up workshop in Auckland in April 2019 provided updates on these projects and the many other initiatives that forest owners in the area are undertaking to reduce the risk of harvesting debris being mobilised. Leaving higher stumps, for instance, to capture slash on

Others included improved designs for debris dams - on and off site - to capture material, removal of harvest residue from at risk areas to more secure areas, increased tree stockings on high risk areas, use of modern remote sensing and drones to better identify risk areas, upskilling and training of staff and improved catchment level planning. Many companies have been improving their communication with neighbouring land owners well before harvesting.

This meeting confirmed that forest owners are taking ownership of the problem and are committed to improving practices and making changes to ensure that when the next intense storm occurs, and there will be a next time, that the risk of woody debris entering waterways and moving downstream is significantly reduced.



GMOs and the Law





Whether the Hazardous Substances and New Organisms Act 1996 (HSNO) remains fit for purpose has again become debatable. With current and future challenges to our environment (among other things), is low risk beneficial technology unnecessarily inhibited by the current regime?

Russell McVeagh lawyers, Catherine Marks and David Raudkivi are asking whether the current regime can better enable adoption of low risk beneficial GM technology pending longer term legislative review.

Broadly, HSNO permits the testing and releasing of genetically modified organisms (GMOs) in New Zealand by way of a rigorous approval regime which is regulated by the Environmental Protection Authority (EPA). However, as implemented, the regime is highly restrictive with only three GMOs approved for conditional release since the HSNO Act was enacted 25 years ago.

Amending HSNO would inevitably be a lengthy process. Accordingly, it is important to consider whether there is scope within the current framework for better enabling beneficial low risk genetic modification technologies.

This question is relevant to the forestry sector. For example, the work on sterile varieties of Douglas-fir to limit the future spread of wilding pines using CRISPR-Cas 9 gene-editing technology (as featured in the last edition of the FOA Bulletin).



GMOs are "new organisms" as defined in HSNO. There processes for new organisms;

- (1) import, develop or field test in
- containment with conditions;
- (3) to import or release from

There is also a power to make regulations that carve out specified new organisms from the GMO definition.

On its face, the EPA is empowered by the regime to allow the benefits of GMOs to be realised if the risks can be safely managed. The factors to be considered allow for risk and benefit to be weighed and a balanced decision to be reached.

It is true that HSNO mandates a precautionary approach (under s 7), and is more restrictive than most overseas equivalents. However, this does not prevent the EPA from adopting a proportionate and risk-based assessment in any particular case. The High Court reflected on s 7 in GE Free NZ in Food and the Environment Inc v Environmental Risk Management Authority [2011] NZRMA 45, where it stated: "the scheme of the Act is risk averse as exemplified by s 7. However, it cannot be said to be a "no risk" statute. There is always risk inherent in the approval of any new research endeavour".

Despite this legislative framework, that accommodates some level of risk, EPA appears to favour a zero-risk approach.

For example, the current field-testing approval for new sterile varieties of Douglasfir requires the trees to be destroyed as soon as cones appear. This means it is not possible to complete research to demonstrate that trees are sterile. A Catch-22 results where proof of sterility is required in order to move to an approval for release. It is notable that legislation requires only that there must be controls in place that "limit the likelihood of any accidental release" of any organism providing scope for a range of risk reduction strategies such as covering cones.

Such a restrictive approach inevitably has a negative knock on effect for funding in research and development in innovative GM technologies, reducing the opportunity for beneficial outcomes in the future.

In our view, there is scope to adjust the risk/benefit approach without change

to the primary legislation and without losing any of the rigour of the regime.

One option is to update and amend the regulations in order to remove certain new techniques from the GMO definition. This issue was last addressed in 2016 following a 2014 High Court decision which held geneediting techniques were not included in the regulations and so required approval. Among other things, the government consulted on whether to amend the regulations to include gene-editing techniques.

During consultation, the government expressed its view that there were no known health or environmental risks associated with new techniques such as gene-editing (the outcomes are indistinguishable from organisms developed through natural processes).

However, it decided to adopt a cautious approach to avoid being an "early mover" and to address only drafting issues in the short term. This was intended to be a holding position.

It is arguably timely to revisit this issue in order to ensure that benefits from low risk techniques are not being unnecessarily lost.

In the meantime, EPA could amend the statutory decision-making methodology that it must apply and give greater direction on the benefit/risk assessment (the methodology comes into effect, and is amended, by way of Order-in-Council so legislative change is not required).

Another option is for the relevant Minister to provide direction by way of a policy statement to the EPA, which the EPA, as a Crown Agent, must give effect to.

The adjustments above would require Ministerial support, but if there is a strong policy case, these are approaches that could be explored.



Going batty at Port Blakely

Numbers of endangered long-tailed bats (pekapeka) could be set to rise in South Canterbury, thanks to a long-term conservation project centred in Raincliff Forest, involving owners Port Blakely.

Port Blakely health safety and environmental manager Zac Robinson says he has developed a real passion for the elusive and "cool little creatures", after leading the company's collaboration with experts in the Long-Tailed Bat Working Group (LTBWG), which aims to protect the bats and increase their numbers and enhance their habitat.

Once widespread, the long-tailed bat - one of two remaining bat species that are New Zealand's only native land mammals is now ranked as 'nationally critical', which is just one step from extinction. The only known population on the east coast of New Zealand is in South Canterbury, of around 300 bats.

Sonar monitoring and tracking of the South Cantabrian bats in plantation forests started in 2008 in a Department of Conservation (DOC) study, partly funded by Port Blakely. This led, in 2014, to discovery of previously unknown roost trees for around 50 bats in the company's 83 hectare Raincliff Forest, near Timaru. This is one of the largest of the region's six bat colonies and so important in conservation terms.

Historically significant, Raincliff has been a relatively small, "but really special", part of the Port Blakely estate, since 1999, and will never be managed as a regular production forest, says Robinson. It contains big, old exotic tree species with plenty of large cavities - ideal roosting sites for the bats, which constantly move between roost sites, making them difficult to trace. However, 15 roost trees, including special maternity sites, have now been mapped by the company and LTBWG and are fully protected.

"It's given us a really nice opportunity to protect the bats and their roosts," says ECan biodiversity officer Rob Carson-Iles.

Like other organisations in the LTBWG including DOC, Port Blakely, pest-control specialists High Country Contracting, Forest & Bird, Land Information NZ and the local council - ECan is committed to getting the best outcome for the bats, he says.



The elusive pekapeka, weighs the same as a \$2 coin (8-11 g), can live up to 20 years, is nocturnal, has small ears, feeds on insects within a 100 square km home-range and pairs produce just one offspring a year. Credit: Chris Hillock Photography.

The group's Raincliff programme includes continuous predator control for rats, possums and stoats, and the recent installation of 'bat bands' - aluminium sleeves sponsored by Ullrich Aluminium - around roost trees.

Information boards about the endangered bats help raise awareness with the public using the Raincliff bike and walking tracks daily.

Bat-spotting evenings, starting at twilight and running until well past midnight, have been popular with the local community too. Two recent events were fully booked with around 120 attending, including – and showing their commitment to the project - almost all of the Timaru-based Port Blakely staff.

The company has bought ten bat monitors for use in the pre-planning of any operation it undertakes, either in its own estate or in private woodlots, to map bat movements and identify new roosting sites. Robinson says this is helping to raise awareness amongst landowners.

It is too early to see results - the bats only reproduce once a year – but surveys suggest predator numbers are down in Raincliff, reports Carson-Iles, who praises Port Blakely for its supportive role.

"They are not just keen to make the right noises, but actually just to do the things that need to be done."

Port Blakely - a fifth generation family-owned company from the US Pacific Northwest



DOC's Damien Bromwich (left) sharing his knowledge with some of the young bat-spotters at the pekapeka spotting evening.

that takes a long-term view on managing its forests - includes wildlife habitat as part of their stewardship forestry approach. They view this project as an example of how forest landowners can be part of the solution, explains Robinson.

"We're fortunate to be able to make proactive and tangible changes in the environmental space. Sustainable and environmentally-friendly forest management is going to be a key component in minimising the effects of climate change.

"It's important business leads by example," he says.

If you are interested in finding out more about, or getting involved in the long-tailed bat project, contact the South Canterbury Long-Tailed Bat Working Group through Zac Robinson zrobinson@portblakely.com.



Forestry a growth story for KiwiRail

This June the Napier – Wairoa rail line was re-opened. It is just one of a number of positive initiatives between forestry and KiwiRail.

Carting logs by rail is likely to be economically, socially and environmentally better than increasing the forest industry's road transport footprint.

have included:

- overall forestry business in just the six months to December – driven by strong growth in the volume of logs.
- The log wagon fleet has grown by 130 additional log wagon conversions coming on-stream over the next six months, and a further 200 wagon conversions are planned soon.
- In the Bay of Plenty alone, KiwiRail runs 60 forestry trains each week Murupara-Kawerau and Kinleith.
- by a third. About 15 wagons will be added to one of the two daily trains as more wagons become available. This means around 6000 fewer logging truck trips annually across the Rimutakas.

- The New Zealand Transport Agency Board has approved a \$96 million investment in the Wairarapa Line.
- could take 200,000 tonnes of logs off the region's roads. \$400,000 from the Provincial Growth Fund has been allocated for government officials to evaluate the potential of a new rail hub near Dannevirke and, if successful, up to \$4 million for KiwiRail to build the hub at Tapuata.
- Restoration of the Napier to Wairoa line – with plans to establish a to six trains a week. This was the first mothballed rail line to be reopened in 15 years.







Successful levy vote now awaits confirmation

Forest owners are now awaiting the expected formal confirmation from the Minister of Forestry that the Forest Growers Levy Referendum is approved.

In April, forest owners voted on renewing the Commodity Levies Act, Forest Materials Levy Order, for another six years. The original order, ultimately providing an up to ten million dollars a year work programme for industry-wide good, expires later this year after being voted in in 2013.

Earlier this year the apiculture industry overwhelmingly rejected a proposal to levy honey production, so levy orders are by no means automatically adopted by potential levy payers.

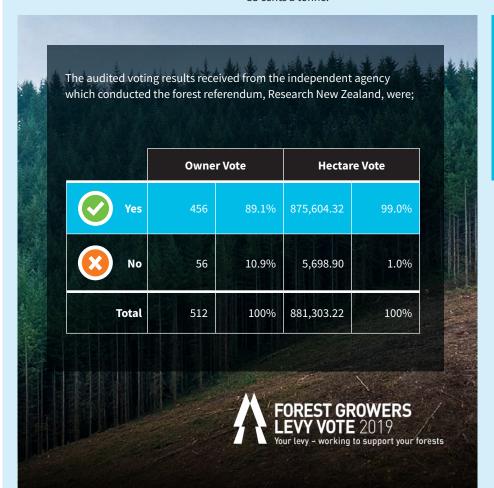
Both of the voting majorities were higher this time than in the inaugural levy vote in 2013.

The largest area represented by a 'no' vote in 2019 was 620 hectares.

The 2019 Work Programme budget is for a levy at 27 cents per tonne of wood. This level is the same rate as the Levy Trust board had set for the whole six-year duration of the previous order. This is collected at delivery to either port or processor. The new order provides for the levy to be increased if necessary up to 33 cents a tonne.

The national harvest increase, assessed by MPI to produce 37 million cubic metres of logs to March this year, from 34 million last year, will result in an increase in levy income for 2019 without an increase in the levy rate per tonne.

There is a proposal to alter the makeup of the Levy Trust, to more accurately represent the range of forest sizes producing logs which pay the levy.



THE LARGEST AREA REPRESENTED BY A 'NO' VOTE IN 2019 WAS

HECTARES.



InZone at Fieldays

The forest industry sponsored InZone careers bus teamed up with Toi Ohomai and machinery supplier Transdiesel at the Mystery Creek National Fieldays in Hamilton this June to promote careers in the industry and the profile of the industry itself.



FOA CEO, David Rhodes makes a point to Radio New Zealand's Carol Styles.



 $In Zone, Toi\ Ohomai\ and\ Transdiese Is cored\ a\ prime\ site\ at\ Mystery\ Creek.$



LOVE OUR FORESTS

YOUR FUTURE DOES





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