

Facts & Figures

2022/23

**NEW ZEALAND PLANTATION
FOREST INDUSTRY**





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Minister's Foreword



It is a privilege to be the Minister of a sector that is a cornerstone of our economy and communities and has a really important role to play in our future. While it has become evident that forestry practices need to improve and adapt for the increased pressures of climate change, wood and wood products form a vital component of the bioeconomy.

Transforming the sector requires us to overcome some of its long-standing challenges. Being the world's largest softwood exporter should not be seen as a badge of honour, but instead a missed opportunity. As of 2022, only about 40% of our annual forest harvest is processed onshore. If we can find high-value uses for the 60% we currently export, we will grow our prosperity and help our country transition to a low-carbon future.

Around 90% of our production forests are radiata pine. Pine will continue to play a key role in our sector, due to its excellent properties and fast growth, but we are also making strong progress on different species, some of which include tōtara, redwoods, eucalypts and a range of other species. Māori have a key role in leading this change to ensure we use our resources sustainably to support current and future generations. Wood is a remarkable material – our scientists have shown that wood fibre can be used in biofuels, bioplastics, and biopharmaceuticals. Over time, it will be commercially viable to use wood and wood-based products to replace almost all products and fuels traditionally made from petrochemicals.

It is for all these reasons this Government is excited about the future of the forestry and wood processing sector. Countries across the world are seeking to reduce emissions, and our comparative advantage of turning sunlight into wood products that are low carbon by their very nature is almost unsurpassed.

Through Budget 2022, Government committed \$384 million of investment to forestry and wood processing; a key plank in our Emissions Reduction Plan.

In April I announced how we are going to invest around \$57 million of that Budget in a Wood Processing Growth Fund. Increased investment in wood processing is critical for sector transformation.

This announcement followed on from the launch of Te Ara Whakahou Ahumahi Ngahere – the Forestry and Wood Processing Industry Transformation Plan in November last year and is a further demonstration of Government's commitment to supporting and growing the sector. There has already been significant progress towards transformation with some key projects:

- The University of Canterbury is establishing New Zealand's first Wood Processing Master's degree with ITP and Wide Trust funding
- Research is going into opportunities to improve the use of wood products through standards and regulatory settings
- We are already seeing strong benefits out of the partnership with Oji, looking at options to transform their Kinleith site.

We have a number of other important projects and initiatives in development, which the Government looks forward to advancing in collaboration with the sector.

Hon Peeni Henare
Minister of Forests

SECTION 1

Planted Forestry Highlights



New Zealand Planted Forestry Highlights

1,757,451 ha is the estimated net stocked plantation forest area at 1 April 2022. This is an increase in the plantation forest area of 17,480 ha from 1 April 2021.

1

In 2022

34.4 million m³

was harvested from New Zealand forests, which is 1.2m m³ less than in the 2021 calendar year.

2

The value of all forestry exports to 31 March 2023 was

\$6.69

billion. Of this, \$3.52 billion was logs.

3

Forestry export returns are expected to exceed

\$7 billion

for the first time in 2027, at \$7.33 billion.

4

Processing for domestic consumption consumed

6.55 million m³ of logs in 2022, 19% of the harvest, while processing for export consumed 6.58 million m³.

5

Source Boxes 1, 2, 3 & 4 MPI

3

New Zealand Planted Forestry in Summary

Area and standing volume statistics	As at 1 April 2020	As at 1 April 2021p ⁴	As at 1 April 2021r ⁵	As at 1 April 2022
Forest area				
Net stocked area (ha)	1,716,575	1,739,971	1,739,971	1,757,451
Harvested area awaiting restocking (ha)	54,380	45,487	47,700	50,221
Total forest area	1,770,955	1,785,458	1,787,671	1,807,672
Growth characteristics				
Standing volume (000 m ³)	512,403	531,395	531,395	549,385
Average standing volume (m ³ /ha)	299	305	305	313
Area-weighted average age (years)	18.1	18.3	18.3	18.6
Area by species²				
Radiata pine (ha)	1,545,102	1,571,574	1,571,574	1,587,466
Douglas-fir (ha)	102,236	97,584	97,584	100,105
Cypress species (ha)	10,034	9,970	9,970	9,057
Other softwoods (ha)	24,619	24,027	24,027	25,290
Eucalypts (ha)	21,757	21,950	21,950	22,035
Other hardwoods (ha)	12,827	14,866	14,866	13,498
Radiata pine area by tending regime				
Pruned with production thinning (ha)	138,754	136,898	136,898	137,640
Pruned without production thinning (ha)	537,733	520,952	520,952	509,959
Unpruned with production thinning (ha)	52,931	58,121	58,121	66,202
Unpruned without production thinning (ha)	815,684	855,602	855,602	873,666
Planting statistics				
	Year ended 31 December 2019	Year ended 31 December 2020 p	Year ended 31 December 2020 r	Year ended 31 December 2021
New planting³				
Total estimated new planting (ha)	19,000	34,000	34,000	45,000
Restocking (ha)	42,179	42,907	42,907	40,424
Harvesting statistics³				
	Year ended 31 March 2020	Year ended 31 March 2021 p	Year ended 31 March 2021 r	Year ended 31 March 2022
Harvesting				
Estimated planted forest roundwood removal (000m ³) ⁶	34,441	34,383	34,264	34,401
Average harvest age – radiata pine (years)	29.1	28.5	28.5	27.8

Notes

² Individual entries may not add to totals due to rounding.

³ The forestry statistics released in this report, and in particular, new planting estimates, may differ from those produced in the Agricultural Production Survey by Statistics New Zealand. These surveys use different survey frames and designs.

⁴ The 2020 and 2022 survey sought data from owners with 40 hectares of forest or more.

⁵ All standing and harvest volumes are reported as recoverable volumes

⁶ Estimate from the annual roundwood removal statistics.

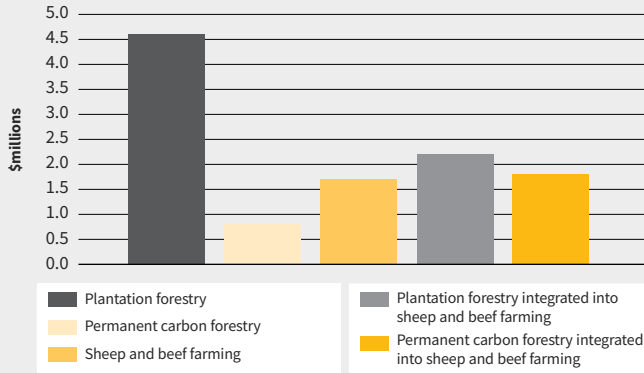
⁷ The restocking area and area awaiting restocking does not include forests under 40 hectares.

Source National exotic forest estate statistics NEFD 2022, MPI

4

Land Use and Returns

Annual Total Value Chain Impact per 1,000 hectares - Value-Add by Land-Use



Export Value Calculations^{1,2}

Export product category	Million ha 2019*	Year to June 2022 exports million \$	Export dollar per ha/yr
Horticulture	0.1	6,782	67,820
Dairy	2.2	21,998	9,999
Forestry	1.8	3,654	3,654
Meat and wool	8.8	12,310	1,399
All pastoral farms	11.1	34,308	3,091



Notes

¹ These export return figures do not take into account the different land class ratios used for the four listed industry categories, nor the shift of product across categories, such as beef from dairy cows.

² These are export figures alone and do not reflect the different domestic consumption levels across the primary sector. Nor do they reflect different ROI levels.

Source Annual total value chain impact per 1,000 hectares - Value-Add by Land-Use Economic Impacts of Forestry In New Zealand, PwC 2020

Source Export Value Calculations MPI

Forestry and the Primary Sector

MPI anticipates that the value of forest product exports will reach

\$6.59 billion
in 2024.

1

MPI Prediction for Primary Industry Sector Export Values 2024

(\$ billions)



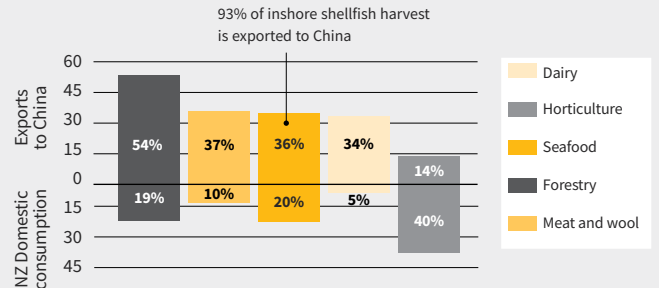
MPI Prediction for Primary Industry In-sector Export Values 2024

(\$ billions)

Export	Billions \$
Whole milk powder	\$7.31
Butter, anhydrous milk fat & cream	\$4.39
Beef & veal	\$4.28
Logs	\$3.66
Lamb	\$3.07
Cheese	\$2.97
All other forest products	\$2.93
Kiwifruit	\$2.91
Wine	\$2.45

Proportion of Exports to China by Primary Sector compared to consumption in New Zealand

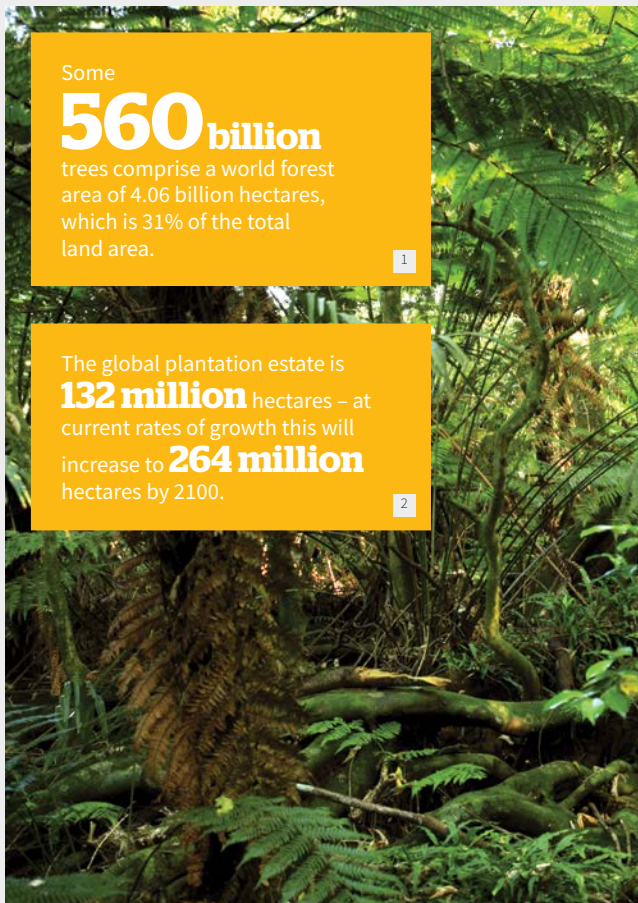
(% percentage)



Source MPI, SOPI June 2023

Source Proportion of consumption in New Zealand DCANZ, MIA, MPI, SNZ, HNZ

Global Forests



Some **560 billion** trees comprise a world forest area of 4.06 billion hectares, which is 31% of the total land area. 1

The global plantation estate is **132 million** hectares – at current rates of growth this will increase to **264 million** hectares by 2100. 2

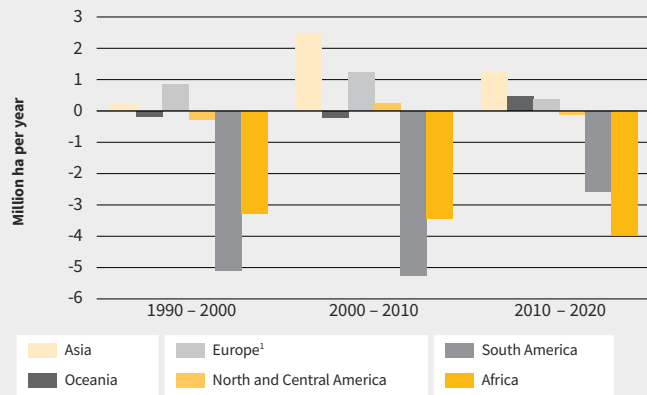


The forest area designated for soil and water protection has increased from 200m ha in 1990 to

399m ha in 2020. 3

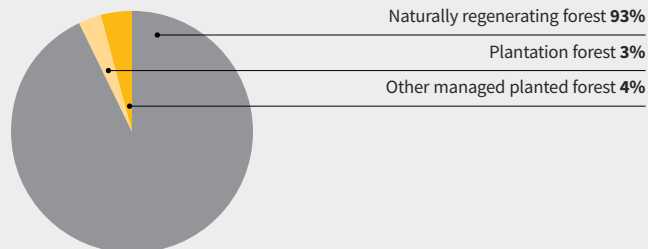
Source Box 1 FAO Global Forest Resources Assessment 2020
Source Box 2 Potsdam Institute of Climate Research 2022
Source Box 3 FAO Global Forest Resources Assessment 2020

Annual Forest Area Net Change, by Decade and Region, 1990-2020

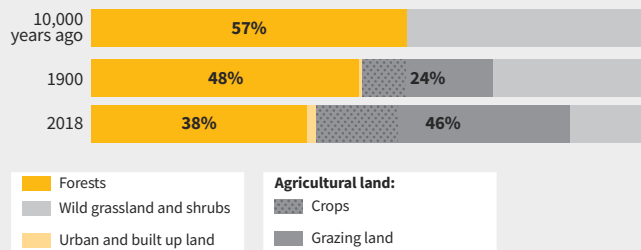


Naturally Regenerating versus Managed Planted Forests

(% of global forest area)



Reduction in Global Forests 8,000 BC to 2018



Notes

¹ According to the regional breakdown used in FRA 2020, Europe includes the Russian Federation.

Source Annual Forest Area Net Change, by Decade and Region 1990-2020 FAO Global Forest Resources Assessment 2020

Source Naturally Regenerating versus Planted Forests FAO Global Forest Resources Assessment 2020

Source Reduction in Global Forests 8,000 BC to 2018 OurWorldinData.org

SECTION 2

New Zealand Planted Forestry



THE WORLD HAS LOST

178 million

HECTARES OF FOREST SINCE 1990,
WHICH IS 6.5 TIMES THE AREA OF
NEW ZEALAND, THOUGH THE RATE
OF LOSS HAS FALLEN FROM 7.8M
HA TO 4.7M HA PER YEAR, MOST OF
WHICH OCCURS IN AFRICA.

1

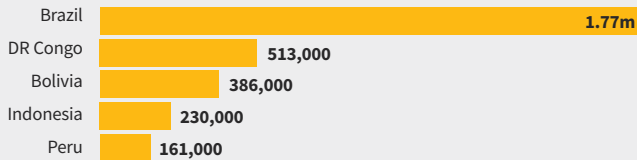
World forests' carbon fell from 668 gigatonnes in 1990 to

662 gigatonnes in 2020.

2

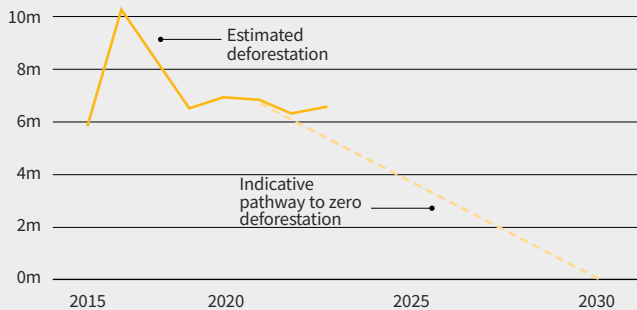
Top 5 countries for primary tropical forest loss

Hectares lost in 2022



World track to end deforestation by 2023

Global deforestation, millions of hectares per year



Some year-to-year variability may be due to measurement accuracy

Source **Box 1 & 2** FAO Global Forest Resources Assessment 2020

Source **Top 5 countries for primary tropical forest loss** Global Forest Watch

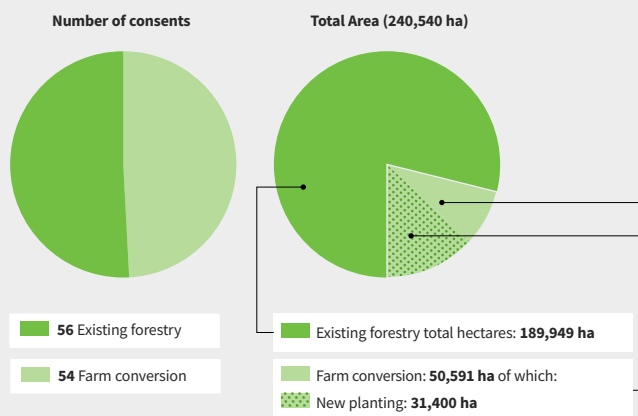
Source **World track to end deforestation by 2023** Global Forest Watch

Planted Forest Mix and Ownership

Special Forestry one off purchase consents approved

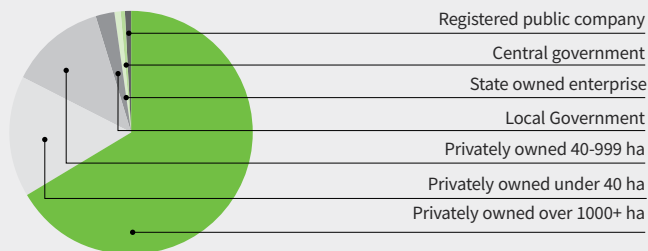
July 2022 – June 2023

SFT type	Consents approved	Gross total area (ha)	Net area (ha)	New plant area (ha)
Existing forestry	12	169,756	-7091.58	-
Farm conversion	27	23,922	21,884	14,896.95
Grand Total	39	193,678	14,793	14,896.95



Forest Ownership ^{1,2,3,4,5}

As at 1 April 2022



Notes

- Ownership is based solely on the ownership of the forest irrespective of the ownership of the land.
- Figure represents percentage of net stocked planted production forest area by ownership type.
- Significant changes in forest ownership have occurred since 2003, resulting in large areas of forest previously owned by public companies now being privately owned.
- The legal entities included in the "Privately owned" category are private companies, partnerships, individuals and trusts, which includes Māori trusts and incorporations.
- "Central Government" forests are predominantly Crown-owned forests on Māori lease-hold land. These forests are managed by Crown Forestry.

All approvals up to August 2023 were granted under the special forestry test, pending full implementation of the Overseas Investment (Forestry) Amendment Act 2022, which reintroduces the benefit to New Zealand test. Negative values for 'net area' are because overall the applicants had a higher % of NZ ownership than the vendors.

Source **Forest Ownership** NEFD 2022

Source **Special Forestry one off purchase consents approved** Overseas Investment Office

NZ Plantation Forest Ownership - Underlying Land Status

As at 31 December 2022

Firm/Entity	Underlying Land Status (Productive area (ha))				Total
	Freehold	Leasehold			
		Crown	Māori Inc.	Other	
Kaingaroa Timberlands Limited	1,402		186,837		188,239
Manulife Investment Management Forest Management (NZ) Ltd	83,966	7,952	55,508	16,360	163,786
Rayonier Matariki Forests	57,425	27,097	17,966	17,806	120,294
Ernslaw One	60,908	23,456	7,095	1,927	93,386
OneFortyOne	22,637		39,628	298	62,563
Summit Forests NZ Limited	4,683	18,115	24,340	2,456	49,594
Tasman Pine Forests Ltd	25,306		9,044	2,249	36,599
Pan Pac Forest Products	6,504	817	28,287	-	35,608
Ngai Tahu Forestry	35,253				35,253
Aratu Forests Ltd	31,783		2,130	1,100	35,013
Global Forest Partners LP	33,659			95	33,754
Wenita	10,129			23,369	33,498
Roger Dickie NZ	32,686				32,686
Juken New Zealand	9,907	14,593	6,675	1,124	32,299
Port Blakely Ltd	30,026		223	1,624	31,873
Forest Enterprises	28,133	2,008		557	30,698
China Forestry Group Corporation	15,154	7,049	73	7,649	29,925
Lake Taupo Forest Trust	24,830		1,000	3,371	29,201
Crown Forestry (MPI)		1,488	18,628	9,060	29,176
City Forests	23,436			1,751	25,187
Lake Rotoaira Forest Trust	7,717		431	1,385	9,533
Totals	545,544	102,575	397,865	92,181	1,138,165

Notes

Total Prod area is as at 31 December 2022

Source **NZ Plantation Forest Ownership - Underlying Land Status** FOA

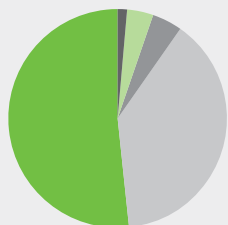
Commercial Planted Forest Ownership and Management

As at 31 December 2022

Firm/Entity	Forest Management Productive Area (ha)	
	(TIMO)	Property Management
Kaingaroo Timberlands Limited		188,239
Manulife Investment Management Forest Management (NZ) Ltd		163,786
P F Olsen Ltd		140,000
Rayonier New Zealand Ltd		
Ernslaw One	78,061	15,325
OneFortyOne		62,563
Summit Forests NZ Limited		49,594
Tasman Pine Forests Ltd		
Pan Pac Forest Products		35,837
Juken New Zealand		32,299
Forest Enterprises	18,720	11,977
Port Blakely Ltd		39,090
Aratu Forests Ltd		28,817
Crown Forestry (MPI) ¹		29,175
Roger Dickie NZ	32,686	
Forest Management NZ Ltd		35,232
Ngai Tahu Forestry		28,101
Wenita		29,530
City Forests		20,083
Global Forest Partners LP	16,622	
Forest 360		32,000
NZ Forest Managers Ltd		89,130
Totals	144,724	940,114

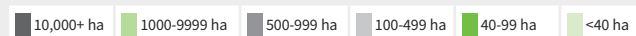
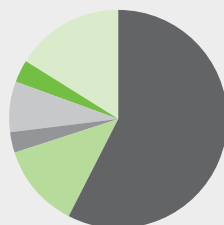
Number of Forest Owners by National Size Class

As at 1 April 2022



Forest Area by Forest Owner National Size Class

As at 1 April 2022



Notes see page 14

Environmental Certification

As at 31 December 2022

Company	Environmental Certification Body	
	FSC (ha)	PEFC (ha)
Rayonier New Zealand Ltd	159,536	159,536
PanPac Forest Products Ltd	46,147	
NZ Forest Managers Ltd	65,591	
Wenita Forest Products Ltd	33,498	
Aratu Forests Ltd	35,013	35,013
Juken New Zealand Ltd	32,299	
PF Olsen Ltd	16,091	
Summit Forests NZ Limited	45,745	
Kaingaroo Timberlands Limited	188,239	188,239
Port Blakely Ltd	37,310	
Southland Plantation Forest Company of New Zealand	13,926	
M&R Forestland Management Ltd	22,098	
China Forestry Group Corporation	10,560	
Tasman Pine Forests Ltd	36,559	
Ngai Tahu Forestry	45,828	
Forest Enterprises	35,950	
City Forests Ltd	23,338	
Ernslaw One Ltd	93,386	
Manulife Investment Management Forest Management (NZ) Ltd	163,786	163,786
Craigpine Timber Ltd	2,266	
OneFortyOne	79,610	
Total	1,186,776	546,574

P13 Notes

This table is designed to identify who manages NZ forests.

Within "management" there are 2 main categories:

1) Timber Investment Management (commonly referred to as a TIMO)

These organisations do not own any forest. The forests are owned by retail investors or institutional funds.

2) Property Management

Planning and managing field operations, mapping and maintaining records.

Some entities carry out both functions within the same organisation, others carry out both for some parts of a forest estate and not others.

¹All forests are managed by Crown Forestry, though day to day supervision is contracted to a range of forest management companies.

Source Commercial Planted Forest Ownership and Management FOA

Source Number of Forest Owners by National Size Class NEFD 2022

Source Forest Area by Forest Owner National Size Class NEFD 2022

P14 Notes

¹Crown Forestry forests are managed under an FSC licence held by NZ Forest Managers

n.b. Productive Area = Net Stocked Area + Area Awaiting Restocking

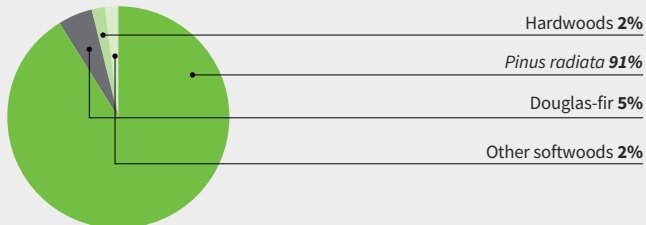
Total Certified Area = Total Forest Area as recorded on FSC certificate

Source Environmental Certification FOA

Planted Forests by Species

Species Distribution

As at 1 April 2022



Approximate Harvest Age Over the Past Five Years

Species	Harvest Age
Pinus radiata	27.8 years
Douglas-fir	40.4 years
Cypress	31.7 years
Eucalypts	22.3 years

Pinus radiata makes up **91%** of the planted area in New Zealand, and comprises 95% of the current planting.

1

Minor Plantation Species

Other pines; *P. nigra*, *P. muricata*, *P. ponderosa*
 Other softwoods; Redwoods, Larch, Cryptomeria, Cypress
 Indigenous species; Kauri, Tōtara, Black Beech (Tawairauriki)
 Other hardwoods; Poplars, Acacia, Willows, Black Walnut, Paulownia, Oaks
 Non-durable eucalypts; *E. obliqua*, *E. fastigata*, *E. regnans*, *E. nitens*,
E. saligna, *E. botryoides*.
 Durable eucalypts; *E. globoidea*, *E. bosistoana*, *E. quadrangulata*,
E. pilularis, *E. muelleriana*.
 Most durable species include; *E. microcorys*, *E. cladocalyx*, Tōtara,
 Silver Pine (Manoao), Robinia, Puriri

Source Species Distribution MPI

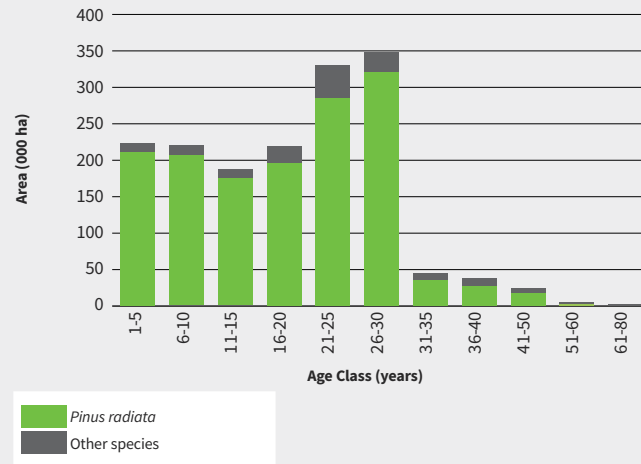
Source Approximate Harvest Age Over the Past Five Years MPI

Source Box 1 NEFD

Net Stocked Area by Age Classes

Forest Area by Age Class and Species

As at 1 April 2022



Source Forest Area by Age Class and Species NEFD 2022

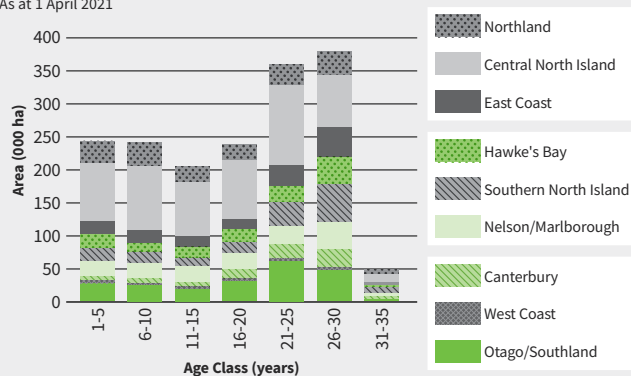
Planted Forest Area by Regions

Area Planted in all Species by Territorial Authority

Region	Estimated Total Forest Area (ha)			
	2020	2021	2022	%
Northland	188,586	194,023	200,029	11%
Central North Island	564,448	560,001	564,856	32%
East Coast	155,359	157,295	158,546	9%
Hawke's Bay	131,994	139,558	141,444	8%
Southern North Island	167,718	176,250	177,393	10%
Nelson/Marlborough	164,639	167,920	168,239	10%
Canterbury	96,721	95,278	94,812	5%
West Coast	30,157	30,285	29,399	2%
Otago/Southland	216,953	219,361	222,730	13%
Total	1,716,575	1,739,971	1,757,448	100%

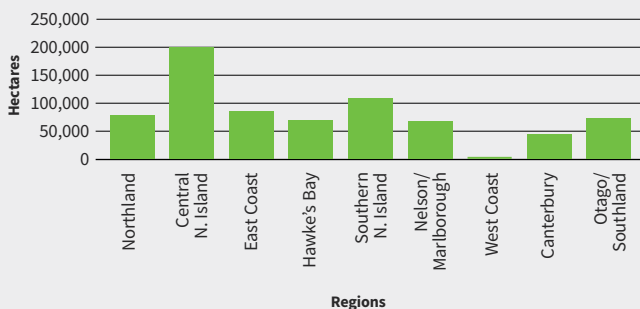
Forest Area by Age Class and Wood Supply Region

As at 1 April 2021



Forest Area Planted in *Pinus Radiata* by Wood Supply Region

Of Harvestable Age (21+) Per Region (ha)



Source: Area Planted in all Species by Territorial Authority NEFD 2022

Source: Forest Area by Age Class and Wood Supply Region NEFD 2022

Source: Forest Area Planted in *Pinus Radiata* by Wood Supply Region MPI

Planted Forest Age and Volume

The total planted forest standing volume in April 2022 was

549 million m³,
an increase of 18 million m³
from the 2021 revised figure.

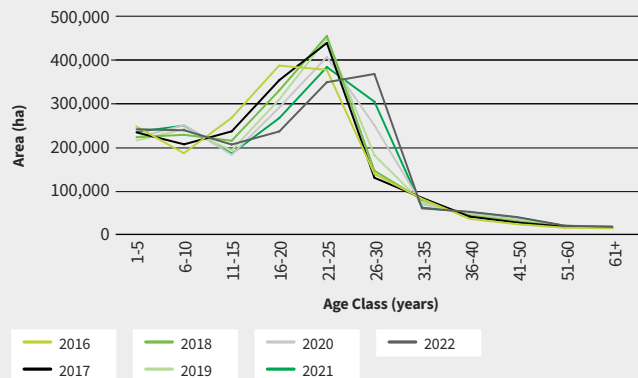
1

The average age of plantation trees was

18.6 years in April 2022,
which is 3.6 months older than in April 2021.

2

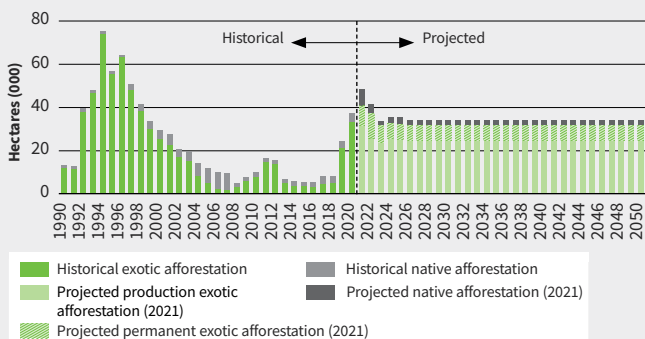
Age Class Over Time



Source: NEFD 2022

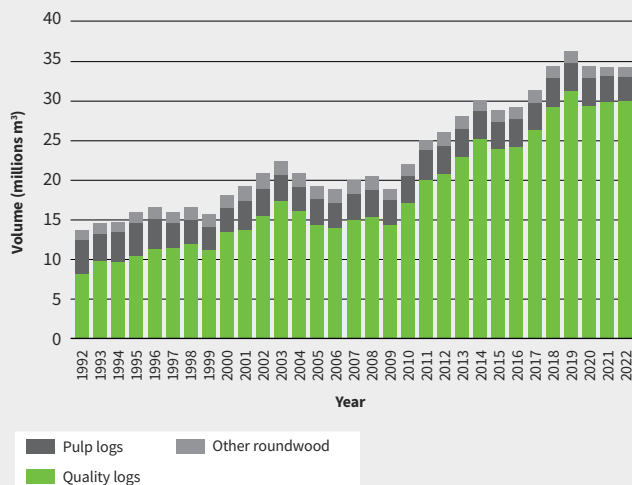
Forest Planting, Harvest and Deforestation

Projections for Afforestation to 2050



Plantation Forest Harvest

Year ended March



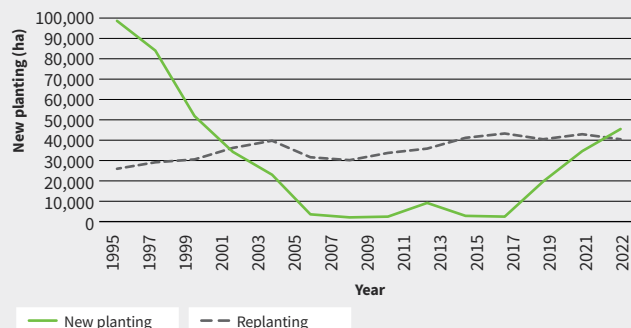
The percentage planting of controlled pollinated seedlings/cuttings/clones has declined to

32% from 75% in 2017.

1

Source: Projections for Afforestation to 2050 Ministry for the Environment
Source: Plantation Forest Harvest MPI

Estimated Area of New Planting and Replanting



85,424 ha OF PLANTATION FOREST WAS PLANTED IN 2021, COMPRISING 40,424HA OF REPLANTING AND 45,000HA OF NEW PLANTING.

1

Tree Stock Sales from 2014 to 2022 (millions)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<i>Pinus radiata</i>	64.6	48.5	47.2	45.8	49.3	48	56.6	84	88.4	91.8	114
Other	7.9	5.7	3.6	3.8	3.4	3.4	3.3	4.8	3.5	4.7	6
Total	72.5	54.2	50.8	49.6	52.7	51.4	59.9	88.8	91.9	96.5	120

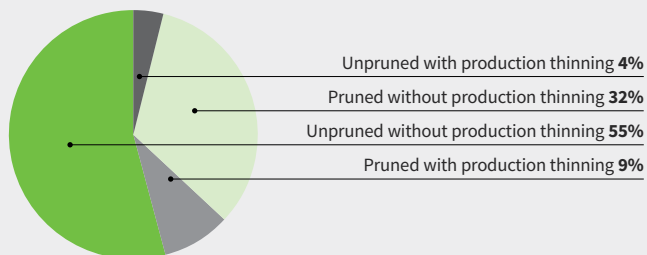
Estimated Percentages of Total Area of Radiata Pine Planting by Categories

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Open pollinated seedlings	48	38	36	31	28	25	30	47	36	54	68
Control pollinated seedlings, cuttings/clones	52	62	64	69	72	75	70	53	64	46	32

Source: Estimated Area of New Planting and Replanting MPI
Source: Box 1 MPI
Source: Tree Stock Sales from 2014 to 2022 Tree Stock Sales, MPI
Source: Estimated Percentages of Total Area of Radiata Pine Planting by Categories Tree Stock Sales, MPI

Forest Management Trends

Radiata Pine by Tending Regime



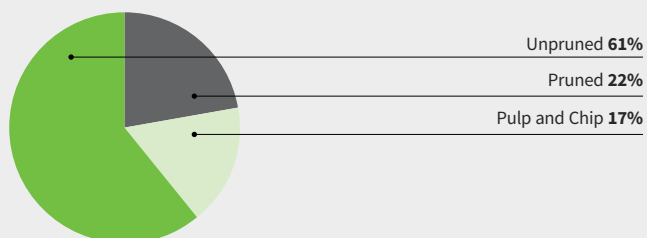
	2018 Hectares	2019 Hectares	2020 Hectares	2021 ^P Hectares	2022 ^P Hectares
Pruned with production thinning	145,859	140,318	138,754	136,899	137,640
Pruned without production thinning	574,564	547,042	537,733	520,952	509,959
Unpruned with production thinning	51,664	50,733	52,931	58,121	66,202
Unpruned without production thinning	760,358	787,617	815,685	855,603	873,666

^PRevised, ^PProvisional

The area under an unpruned management regime has slightly decreased, to now about **59%** of the *Pinus radiata* forest estate. The area of production thinned radiata forest is decreasing more dramatically, now to about 13%. ¹

Pinus Radiata Harvest Volume by Log Type

For Year Ended 31 March 2022



Source Radiata Pine by Tending Regime MPI

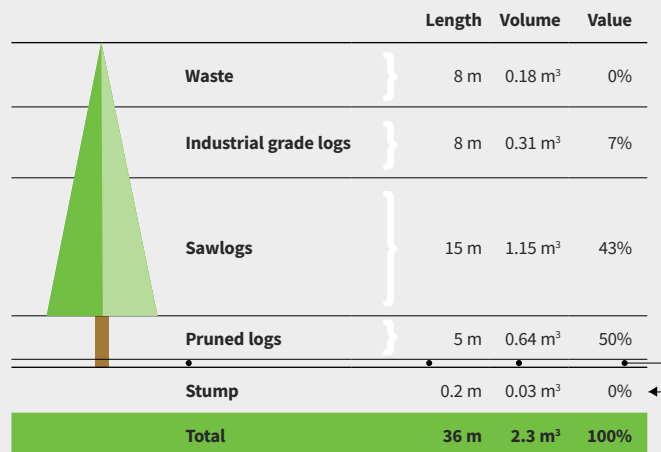
Source Box 1 MPI

Source Pinus Radiata Harvest Volume by Log Type MPI

Typical Log Out-turn

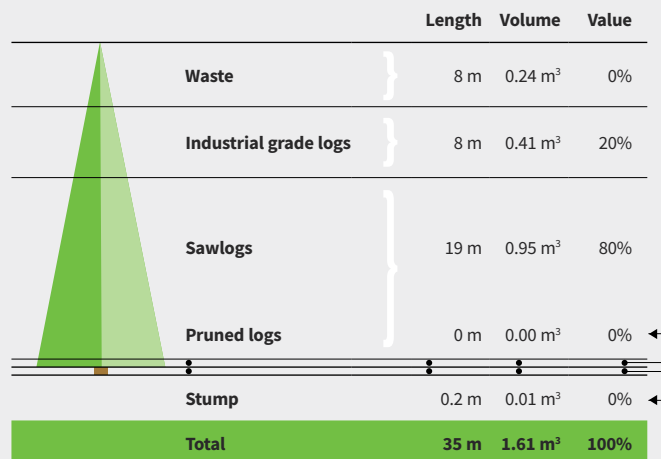
Direct Sawlog Regime

Pruned and thinned. Final Crop Stocking 228 stems per hectare.



Structural Regime

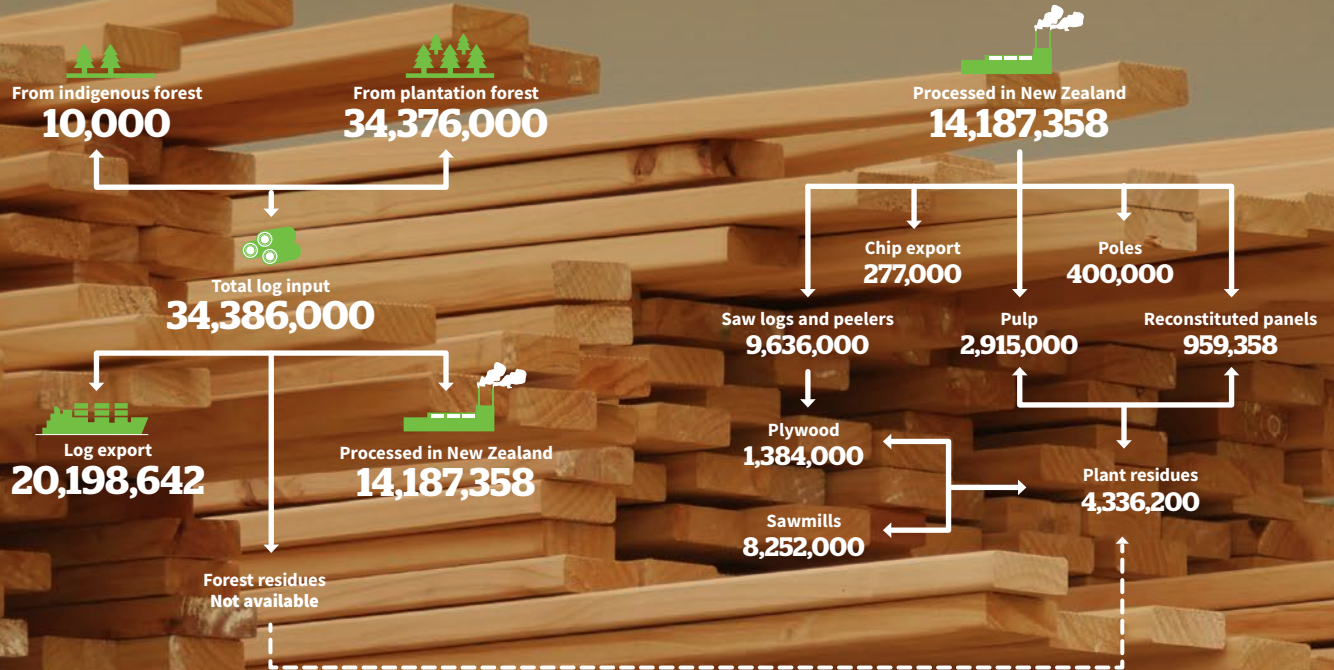
Thinned. Final Crop Stocking 487 stems per hectare.



Source Direct Sawlog Regime & Structural Regime Scion

Log Flow in the New Zealand Forestry Industry

For Year Ended December 2022, in tonnes



THE INDIGENOUS TREE HARVEST NOW REPRESENTS LESS THAN **0.03%** OF THE TOTAL.

Reporting a Suspected Pest/Disease

Nun moth

(*Lymantria monacha*)



Asian Spongy Moth

(*Lymantria dispar asiatica*
(formerly Asian Gypsy Moth))



How are you protecting your Forest?

We are fortunate that our forests are free of a large number of pests and diseases that are having significant impacts elsewhere in the world and we would like to keep it that way.

The earlier we detect them the greater the likelihood that we can successfully control or eradicate them.

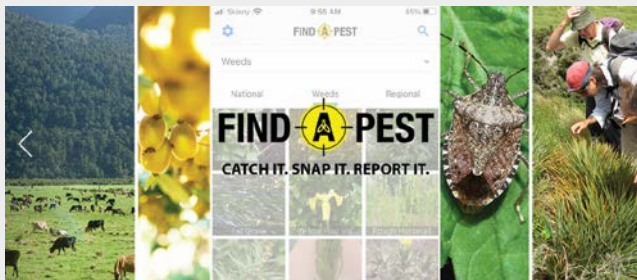
If you see anything out of the ordinary or believe that you have found something that shouldn't be here, take a photo and if possible, collect a sample and call Biosecurity New Zealand's Exotic Pest and Disease Hotline on **0800 80 99 66** or report online:

<https://report.mpi.govt.nz/pest>.

A specialist investigator will contact you and get any detail and advise you on what might be required (i.e. photos, samples, or site visits).

Alternatively, you can submit a photo using the Find-a-Pest app (<https://www.findapest.nz/>). These are then screened before either being sent on to the iNaturalist site for ID or redirected to MPI if they considered to be new to New Zealand. Find-a-Pest is ideal if you are just not sure what you are looking at and want to get an ID relatively quickly with little fuss.

Remember good quality, close up photos of the pest and any plant damage are really useful.



Source Nun moth <https://www.inaturalist.org/observations/35245189>

Source Asian Spongy Moth https://commons.wikimedia.org/wiki/File:Lymantria_dispar_MHNT_Chenille_portrait.jpg, Muséum de Toulouse, CC BY-SA 4.0 <<https://creativecommons.org/licenses/by-sa/4.0/>>, via Wikimedia Commons

SECTION 3

Export and Production



Export Destinations

For Year Ended December 2022



World Totals \$NZ 6,073,757,683

Logs	3,548,106,707
Panels	472,986,267
Paper & Paperboard	500,018,180
Pulp	950,077,332
Sawn Timber & Sleepers	980,328,849
Other Forestry Products	304,207,320

1. China (People's Republic of) \$NZ 3,624,029,171

Logs	3,136,822,316	Logs	648,941
Panels	10,292,538	Panels	45,908,048
Paper & Paperboard	36,706,072	Paper & Paperboard	235,367,159
Pulp	380,197,691	Pulp	88,488,354
Sawn Timber & Sleepers	59,006,410	Sawn Timber & Sleepers	137,373,429
Other Forestry Products	1,004,144	Other Forestry Products	130,648,892

2. Australia \$NZ 638,434,823

Logs	648,941
Panels	45,908,048
Paper & Paperboard	235,367,159
Pulp	88,488,354
Sawn Timber & Sleepers	137,373,429
Other Forestry Products	130,648,892

7. Taiwan \$NZ 134,426,846

Logs	33,590,224
Panels	8,387,316
Paper & Paperboard	11,227,622
Pulp	34,402,651
Sawn Timber & Sleepers	46,402,651
Other Forestry Products	398,771

8. India \$NZ 123,330,221

Logs	3,117,287
Panels	1,960,053
Paper & Paperboard	115,355,040
Pulp	2,275,838
Sawn Timber & Sleepers	2,275,838
Other Forestry Products	2,275,838

3. South Korea \$NZ 507,132,258

Logs	316,984,030	Logs	40,693,361
Panels	111,277	Panels	236,640,851
Paper & Paperboard	20,212,861	Paper & Paperboard	464,786
Pulp	118,495,878	Pulp	6,229,976
Sawn Timber & Sleepers	51,083,618	Sawn Timber & Sleepers	29,017,444
Other Forestry Products	244,594	Other Forestry Products	94,922,009

4. Japan \$NZ 407,968,427

Logs	40,693,361
Panels	236,640,851
Paper & Paperboard	464,786
Pulp	6,229,976
Sawn Timber & Sleepers	29,017,444
Other Forestry Products	94,922,009

9. Thailand \$NZ 103,792,698

Logs	70,540
Panels	254,549
Paper & Paperboard	7,569,955
Pulp	56,947,448
Sawn Timber & Sleepers	37,637,193
Other Forestry Products	1,313,013

10. Vietnam \$NZ 81,357,412

Logs	1,145,925
Panels	30,553,063
Paper & Paperboard	1,598,285
Pulp	8,822,313
Sawn Timber & Sleepers	39,187,465
Other Forestry Products	50,361

5. United States \$NZ 386,949,131

Logs	3,715	Logs	24,294
Panels	50,174,296	Panels	26,962,176
Paper & Paperboard	8,948,033	Paper & Paperboard	11,646,449
Pulp	48	Pulp	72,996,246
Sawn Timber & Sleepers	313,454,489	Sawn Timber & Sleepers	24,918,603
Other Forestry Products	14,368,550	Other Forestry Products	33,503,628

6. Indonesia \$NZ 170,051,396

Logs	24,294
Panels	26,962,176
Paper & Paperboard	11,646,449
Pulp	72,996,246
Sawn Timber & Sleepers	24,918,603
Other Forestry Products	33,503,628

11. Philippines \$NZ 89,903,959

Logs	36,508,116
Panels	21,345,425
Paper & Paperboard	13,070,068
Pulp	15,017,636
Sawn Timber & Sleepers	3,962,714
Other Forestry Products	3,962,714

12. Other \$NZ 486,712,089

Logs	18,123,361
Panels	24,076,750
Paper & Paperboard	142,971,480
Pulp	55,071,619
Sawn Timber & Sleepers	224,954,073
Other Forestry Products	21,514,806

Source Top Export Destinations MPI

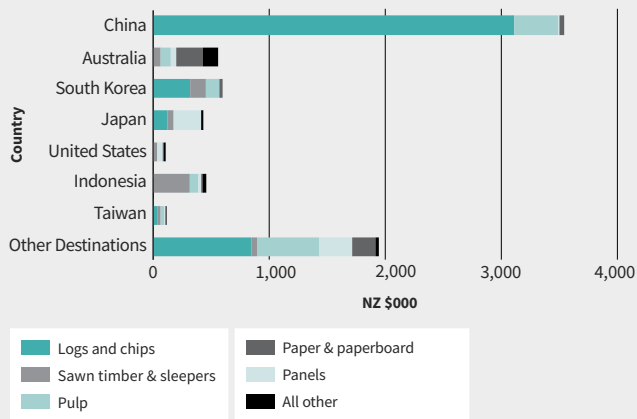
Export Value by Destination and Product¹

For year ended 31 December 2022

Total Export Value by Main Countries of Destination

Country of Destination	Total Export Value (NZD\$million)			
	2019	2020	2021	2022
China	3,272	2,970	3,855	3,624
Australia	575	517	574	638
South Korea	393	366	419	507
Japan	408	335	360	407
United States	251	289	299	386
Indonesia	143	121	163	170
Taiwan	86	85	130	134
India	326	157	125	123
Hong Kong	76	139	116	12
Thailand	136	123	121	103
Vietnam	102	115	87	81
Malaysia	76	62	84	76
Philippines	97	65	79	89
Netherlands	44	37	54	66
Saudi Arabia	60	52	42	22
All Other Destinations	250	206	257	308
Grand Total	6,304	5,648	6,773	6,754

Exports of Forestry Products by Main Countries of Destination



Notes

¹ Values are NZ\$ f.o.b. and may include items, e.g. some plywood items, for which no quantities are given.

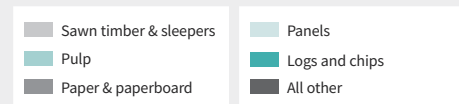
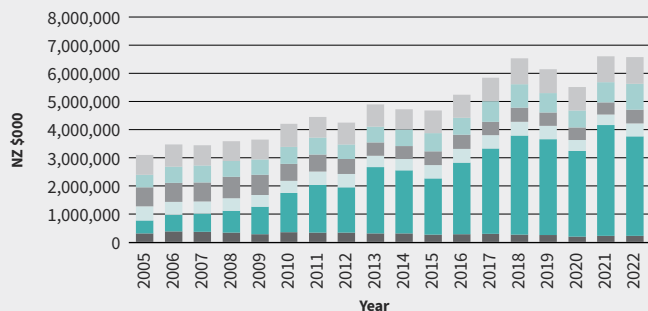
² All other forestry products include chips, mouldings, manufactures of paper and paperboard, furniture and miscellaneous forestry products.

³ Other countries are all other countries to which New Zealand has exported forest products during the year.

Source MPI

Major Forest Product Export Earners¹

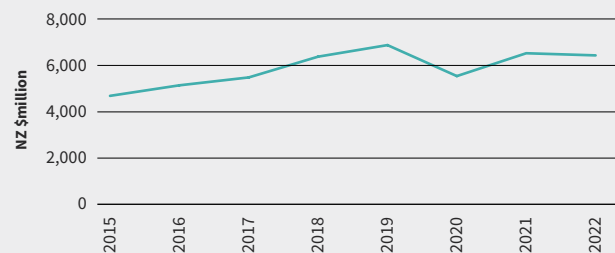
For year ended December 2022



MPI EXPECTS TOTAL EXPORT RETURNS FOR FOREST PRODUCTS TO REACH \$7.33 BILLION IN THE YEAR TO JUNE 2027, WHICH WOULD BE AN INCREASE OF \$1.878 BILLION ON RETURNS OF \$5.452 BILLION IN 2020.

Forestry Product Export Values

For year ended June



Notes

¹ Paper and paperboard includes Newsprint data, therefore differs from Statistics NZ data

Source Major Export Earners MPI, SOPI June 2023

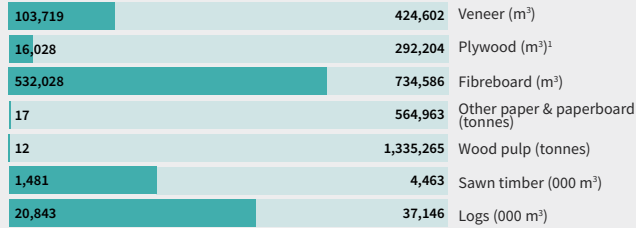
Source Box 1 MPI

Source Forestry Product Export Values MPI

Production and Exports of Selected Forestry Products

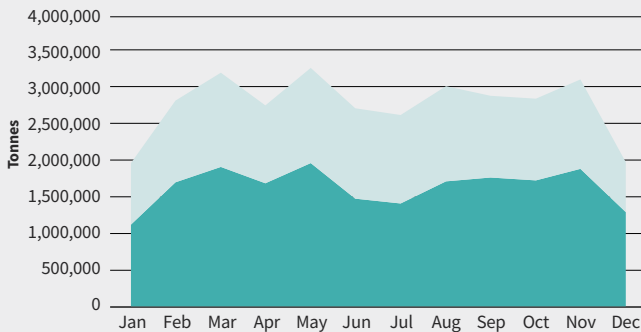
For Year Ended 31 June 2022

NZ domestic consumption



Quantity exported²
Domestic consumption

NZ Plantation Harvest: 2022



Export
Domestic

MPI expects log exports to increase in value to

\$4.140 billion

in the year to June 2027, while other product returns will increase to \$3.190 billion in the same period.

1

Notes

¹ Plywood includes laminated veneer lumber

² Exports excluded re-exports

Source Production and Exports of Selected Forestry Products MPI

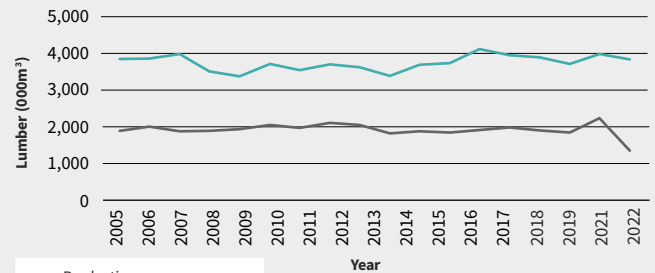
Source NZ Plantation Harvest 2022 FOA

Source Box 1 MPI

New Zealand Lumber and Log Production and Exports

Lumber Production and Exports

For Year Ended 2022



Production
Exports

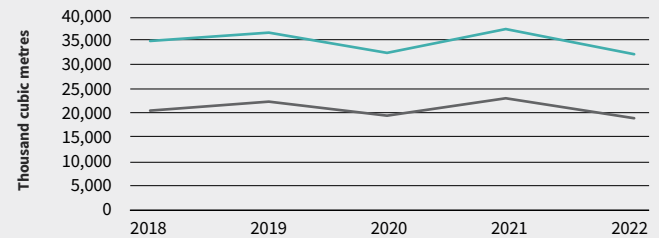
Forestry Export Revenue, 2020-24 (\$NZ million)

For Year Ended 30 June

Year to 30 June	Actual			Forecast	
	2020	2021	2022	2023	2024
Logs	2,877	3,854	3,810	3,920	3,450
Sawn timber & sleepers	809	910	1,010	1,000	890
Pulp	646	663	760	750	690
Paper & paperboard	492	438	430	410	460
Panels	438	389	400	440	480
Chips	56	61	60	70	60
Other forest products ¹	222	215	250	260	200
Total	5,539	6,531	6,720	6,850	6,230
Y/Y % change	19.5%	8.1%	2.7%	2%	5%

Log and Processed Timber Production and Export

Total harvest



Harvest volume
Log export volume

Notes

¹ Other forest products include: structural or moulded wood, furniture and prefabricated buildings

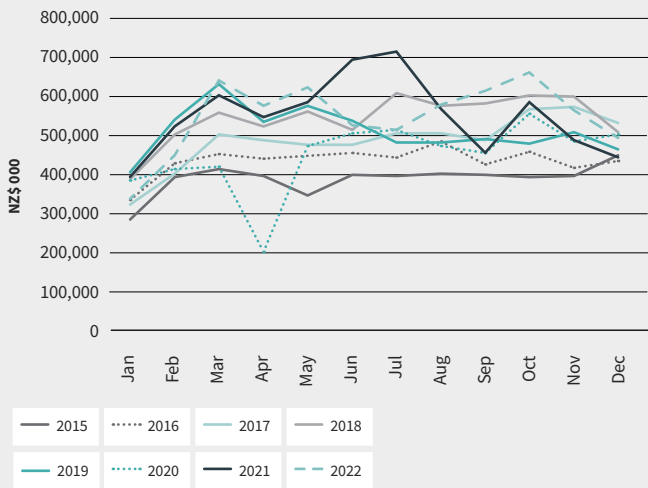
Source Lumber Production and New Zealand Lumber Exports MPI

Source Forestry Export Revenue, 2018-23 MPI

Source Log and Processed Timber Production and Export FOA

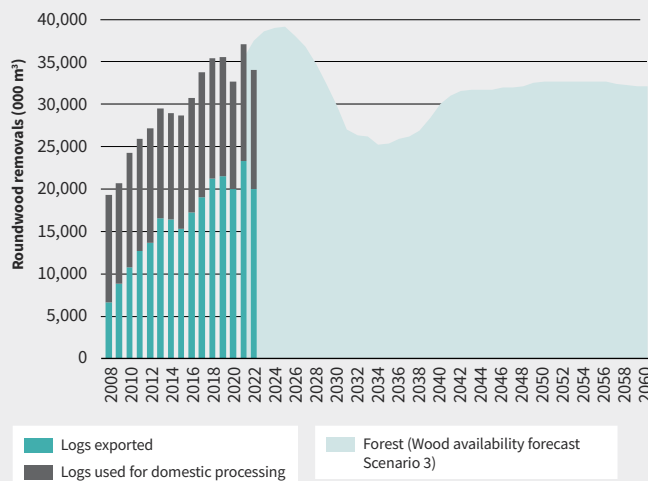
New Zealand Logs

Forestry Export Revenue by Month and Year \$NZ



Volume of Logs used in Domestic Processing versus Exported

For Year Ended December



Source Export and Domestic Log Prices MPI
 Source Volume of Logs used in Domestic Processing versus Exported MPI
 Scenario 3: Margules Groome Wood Availability Forecast 2021 – 2060

Forestry and Wood Processing Industry Transformation Plan - Te Ara Whakahou - Ahumahi Ngahere

BY 2030 THE INDUSTRY WILL INCREASE;



LOGS PROCESSED EACH YEAR

↑25%

(UP FROM 14.2 MILLION M³ TODAY)

USE OF TIMBER IN CONSTRUCTION EACH YEAR BY

↑25%

(UP FROM 1.4 MILLION M³ TODAY)

THE SPECIES RANGE BY REDUCING YEARLY PLANTING OF PINUS RADIATA FROM 96% TO

↑80%

BY 2040 THE INDUSTRY WILL INCREASE;

VALUE ADDED YEARLY EXPORTS FROM \$2.5 BILLION TO

↑\$3.1 billion

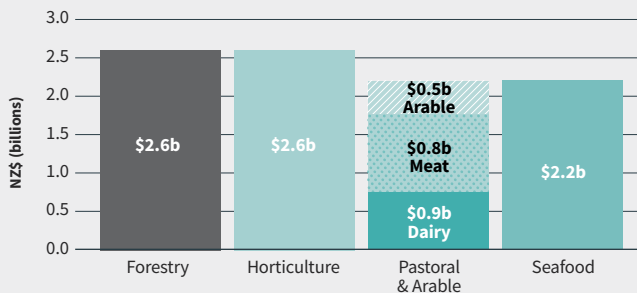
BY 2050 THE INDUSTRY WILL HAVE PROVIDED;

14 million m³ INNOVATIVE CONSTRUCTION MATERIAL

16.4 million m³ COAL REPLACEMENT MATERIAL

49.3 million m³ OIL FUEL REPLACEMENT MATERIAL

Anticipated additional export sector returns in 2030



Notes

Both 2020 and 2030 harvests are assumed at 36mm³ of logs

Source Forestry and Wood Processing Industry Transformation Plan Te Ara Whakahou - Ahumahi Ngahere

Source Anticipated additional export sector returns in 2030 Fit for a Better World - Background analysis on export earnings in the primary sector

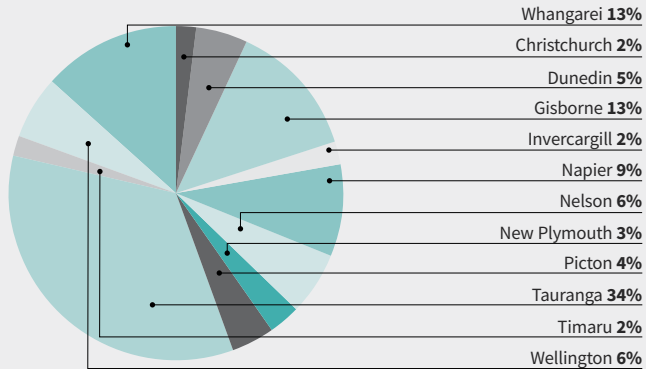
Log Exports by Port

Log Export Quantity and Export Value by Port

For Year Ended December 2022 (\$000s)

Port of Loading	Export Quantity (000 m ³)	Export value (\$NZ000)
Auckland	64	14,872
Christchurch	386	82,972
Dunedin	1,120	168,348
Gisborne	2,414	402,253
Invercargill	545	122,165
Napier	2,585	447,716
Nelson	1,058	153,830
New Plymouth	1,126	203,008
Picton	783	114,997
Tauranga	5,895	1,079,176
Timaru	414	65,453
Wellington	1,684	286,066
Whangārei	2,117	407,245
Total	20,198	3,548,106

Logs Percentage Export Quantity by Port¹



Notes

¹ Ports with <1% not included.

Source Log Export Quantity and Export Value by Port MPI

Source Logs Percentage Export Quantity by Port MPI

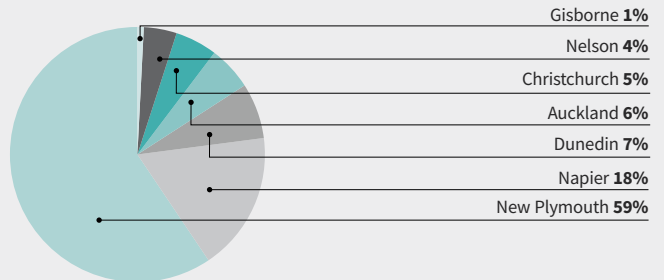
Sawn Timber Exports by Port

For Year Ended December 2023 (\$000s)

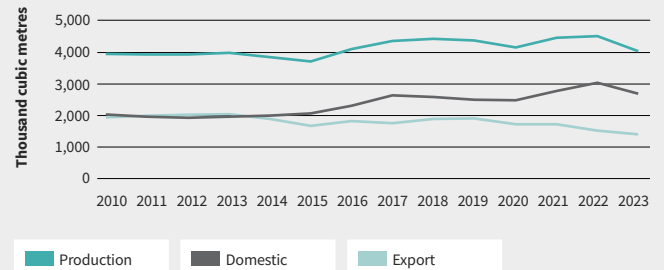
Sawn Timber Export Quantity and Export Value by Port

NZ Port	Export Quantity (000 m ³)	Export value (\$NZ000)
Auckland	77	58,195
Christchurch	74	50,128
Dunedin	98	49,713
Gisborne	11	2,168
Invercargill	0.6	862
Napier	245	123,456
Nelson	58	36,295
New Plymouth	827	654,430
Tauranga	0.2	184
Wellington	4	4,892
Whangārei	0.06	19
Total	1,397	980,346

Sawn Timber Export Quantity by Port



Domestic demand for sawn timber



Source Sawn Timber Export Quantity and Export Value by Port MPI

Source Sawn Timber Percentage Export Quantity by Port MPI

Source Domestic demand for sawn timber MPI, SOPI

Forest Processing Industry 2022

Updated March 2021

Northland

BBS Timbers Ltd, Whangarei	
CHH Woodproducts, LVL (Marsden Point)	
Colville Sawmill Company	
Croft Poles Ltd (Whangarei)	(S)
ETC 2006 Ltd, Marsden Point	
Juken New Zealand Ltd	(S)
Northland Mill (Kaitaia)	
Juken New Zealand Ltd	
Triboard Mill (Kaitaia)	
Kaihu Valley Sawmill, Mamaranui	(S)
Kiwi Timber Protection Ltd, Whangarei	(MW)
Mac Direct Ltd, Patumahoe	(S)
Marusumi Whangarei Ltd (Marsden Point)	
Mt Pokaka Timber Products (Kerikeri)	(S)
North Sawn Lumber (Marsden Point)	
Northpine Sawmill (Waipu)	(S)
Rosvall Sawmill (Whangarei)	(S)
Timpack Industries Ltd, Auckland	(MW)
TTT Products (Tuakau)	
Waipapa Pine (Whangarei)	(S)

Auckland

Abodo Wood Ltd, Auckland	
Anderson & O'Leary Ltd (Pinepac), Whenuapai	
Big Tuff Timber Products Limited, Puhinui	
Central Frame and Truss, Auckland	
Claymark Ltd, Henderson	(MW)
Claymark Ltd, Thames	(S)
Cypress Sawmill, Waitoki	(S)
Herman Pacific Ltd, Silverdale	(S)
Max Birt Sawmills (Pokeno)	(S)
Jenkin Timber (Auckland)	
JSC Timber, Kumeu	(MW)
Kopine, Thames	

Max Birt Sawmill (Ohinewai)	(S)
Oji Fibre Solutions, Penrose	(PTP)
Pallet Supplies Co Ltd, Manukau	
Papakura Timber Processors Ltd, Papakura	(S)
Timberlab Solutions Ltd (Auckland)	
Topuni Timber Ltd, Kaiwaka	
TTT Products Ltd, Tuakau	(PO)
G J Weck and Sons Limited, Papakura	

Central North Island

Alkieman Custom Jointing Ltd, Tokoroa	
Central Wood Recyclers Limited	
CHH Woodproducts Kawerau Sawmill (Kawerau)	(S)
CHH Woodproducts, Plywood (Tokoroa)	(P)
Claymark Profiles, Rotorua	
Claymark Rotorua Sawmill Ltd (Rotorua)	(S)
Claymark Sawmills (Katikati)	(S)
Donnelly Sawmills (Rotorua)	(S)
Hautapu Pine Products Limited, Taihape	(PO)
Hume Pine (Rotorua)	
Kiwi Lumber (Putaruru)	(S)
KLC (Rotorua)	
Laminated Beams Ltd (Papamoa)	
Laminex Group (Taupo)	
Les O'Leary Limited, Tokoroa	(S)
Lockwood Group (Rotorua)	
Lumbercorp N.Z. Ltd Huntly	
LumberOne Ltd (Tauranga)	
McAlpines (Rotorua)	(S)
North Sawn Lumber Ltd, Ruakaka	
Oji Fibre Solutions Kinleith Mill (Tokoroa)	(PP)
Oji FS Tasman Ltd (Kawerau)	(PP)

Otorohanga Timber Company (Otorohanga)	
OTC Timber Co Ltd, Otorohanga	
Pedersen Kawerau Limited	(PP)
Pedersen Kinleith Limited	(PP)
Permapine (Reporoa)	
Pacific Pine Industries (Putaruru)	(S)
Pine Sawmills (Rotorua)	(S)
Pukepine Sawmills (1998) Ltd, Te Puke	
Pure Pine Mouldings (Te Puke)	
Red Stag Timber (Rotorua)	(S)
R.H. Tregoweth Ltd, Te Kuiti	(S)
SCA Hygiene Australasia (Kawerau)	(PP)
Sequal Lumber (Kawerau)	(S)
Tauriko Sawmill & Timber Supplies, Tauranga	
Tenon Manufacturing Ltd (Taupo)	(S)
Timpack Industries Ltd, Mount Maunganui	(MW)
Waitete Sawmills Ltd, Te Kuiti	
Whakatane Mill Ltd (Whakatane)	(PP)
Winstone Pulp International (Ohakune)	(S, PP)
WJ Mouldings Ltd (Tauranga)	
WPI Tangiwai Sawmill & Pulpmill, Karioi	(S, PP)

East Coast

East Coast Lumber Ltd	
Juken New Zealand, Gisborne Mill	
Kiwi Lumber (Gisborne) Limited, Gisborne	
Wood Engineering Technology Ltd	(S)

Hawke's Bay

East Coast Lumber (Wairoa)	(S)
Napier Pine (Napier)	(S)
Pan Pac Forest Products Ltd (Napier)	(S, PP)
Ruahine Timber 2017 Limited, Ormondville	(PO)
The Pallet Company Ltd, Napier	
Tumu Timbers (Hastings)	

Southern North Island

Clelands Timber Products Ltd (New Plymouth)	(S)
Davis Sawmilling Co (Featherston)	(S)
Eastown Timber Products Ltd (Whanganui)	(S)
Juken New Zealand (Masterton)	(S/PP)
Kaimata Sawmills, Inglewood	(S)
Kiwi Lumber (Dannevirke)	(S)
Kiwi Lumber (Masterton)	(S)
Lumber Processors, Pahiatua	(S)
Mangorei Plus, New Plymouth	(S, PO)
Mitchpine Ltd (Levin)	(S)
Pukeko Sawmills, Lepperton	(S)
Taranakipine, Bell Block	(S)
Taranakipine Ltd (New Plymouth)	
Taranaki Sawmills Ltd	
Techlam (Levin)	
Ticehurst Timber Processors Ltd, Carterton	
Timpack Industries Ltd, New Plymouth	(MW)
Value Timber Supplies Ltd, Inglewood	
W Crighton & Son Ltd (Levin)	(S)

Nelson/Marlborough

CHH Wood Products, Nelson Sawmill (Eves Valley)	(S)
D&E Taylor Timbers Ltd, Hope	
Eurocell Wood Products (Nelson)	
Goldpine Ltd (Richmond)	

Forest Processing Industry 2022

Continued

Halswell Timber Limited (Nelson)		Philip Wareing Ltd, Methven	
Heagney Bros Ltd, Blenheim		Point Lumber Ltd, Washdyke	(PO)
Motueka Lumber Co (Motueka)	(S)	Southern Pine Products Ltd (Christchurch)	
Nelson Forests Ltd (Renwick)	(S)	SRS New Zealand Ltd (Rolleston)	(S)
Nelson Pine Industries (Richmond)	(PP)	Starwood Products Ltd (Timaru)	
Oji Fibre Solutions (NZ) Tasman		Steve Murphy Limited, Kaiapoi	
Plankville Ltd, Richmond	(S)	Stoneyhurst Timbers Ltd (Christchurch)	(S)
Prowood Ltd (Motueka)	(S)	Sutherland & Co Ltd, Kaiapoi	
Southpine Ltd (Nelson)	(S)	Temuka Timber & Firewood, Temuka	
Southwood NZ Limited, Motueka	(S)	Timpack Industries Ltd, Timaru	
Timberlink New Zealand Ltd, Blenheim		Triple Trees Ltd T/A Waitohi Timber, Temuka	
Timpack Industries Ltd, Nelson	(MW)	Westco Lumber Ltd (Christchurch)	(S)
XLAM (Nelson)	(MW)		

Canterbury

Adams Sawmilling Co Ltd, Ashburton	(S)
Ashley Industrial Services Ltd, Oxford	(S)
Belfast Timber (Christchurch)	
Bennetts Sawmill Limited, Oxford	(S)
Brindle Sawmills Ltd (Christchurch)	(S)
Canterbury Roundwood 2006 Ltd, Rangiora	(MW)
Canterbury Woodchip Supplies Limited, Arundel	(CEF)
Daiken (Rangiora)	(MW, PP)
Fraemohs Industries (Kaiapoi)	
John Fairweather Specialty Timber Solutions, Sefton	(S)
Loburn Sawmill Limited, Loburn	(MW)
Lumberworx Ltd (Christchurch)	(MW)
McAlpines (Rangiora)	(S)
McVicar Timber Group Ltd, Christchurch	(S)
Mitchell Bros Sawmillers Ltd, Darfield	(S)
Niagara Sawmilling Ashburton	

West Coast

International Panel and Lumber Ltd (Greymouth)	(PP)
NZ Sustainable Forest Products Ltd (Reefton)	(S)
Southern Pine Products Ltd (Stillwater) (Greymouth)	(S)
Stillwater Lumber Ltd, Stillwater	(S, WP)
Westco Lumber Ltd (Hokitika)	(S)
Westimber Limited, Ngahere	(S)

Otago Southland

Beven West Sawmilling Ltd, Invercargill	(S)
Craigpine Timber Ltd (Winton)	(S)
Daiken Southland Ltd (Mataura)	
Findlater Sawmilling Ltd, Winton	
Gorton Timber Co Ltd, Milton	
Hewvan Enterprises Ltd, Palmerson	
Hollows Timber Co Ltd, Balclutha	
Lindsay & Dixon (Tuatapere)	(S)

Ngahere Sawmilling Co (Gore)	(S)
Niagara Sawmilling Co Ltd (Invercargill/Ashburton)	(S)
Otago Lumber (Gore)	(S)
Pan Pac Otago (Mosgiel and Milton)	(S)
Pankhurst Sawmilling (2015) Ltd, Riverton	(S)
Pooles Timber Ltd t/a Great Southern, Invercargill	(S)
Southwood Exports (Awaaura)	
Stuart Timber Co Ltd (Tapanui)	(S)
Timpack Industries Ltd, Dunedin	(MW)
Truss Tech (Cromwell)	
Young Brothers (2016), Mosgiel	(PO)

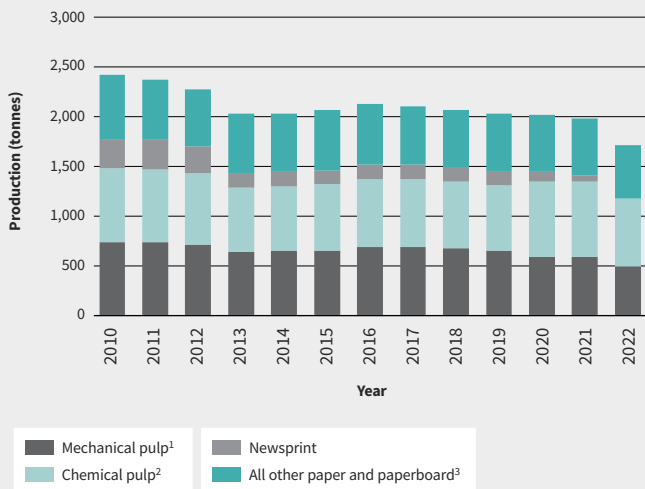
Sawmills

Processing Plants	
Fibreboard (MDF & Hardboard)	F
Particleboard (Incl Strandboard)	P
Plywood	PL
Poles	PO
Pulp and Paper	PP
Veneer/LVL/CLT	V
Paper/Tissue/Paperboard	PTP
Chip Export Facilities	CEF
Manufactured Wood Products	MW

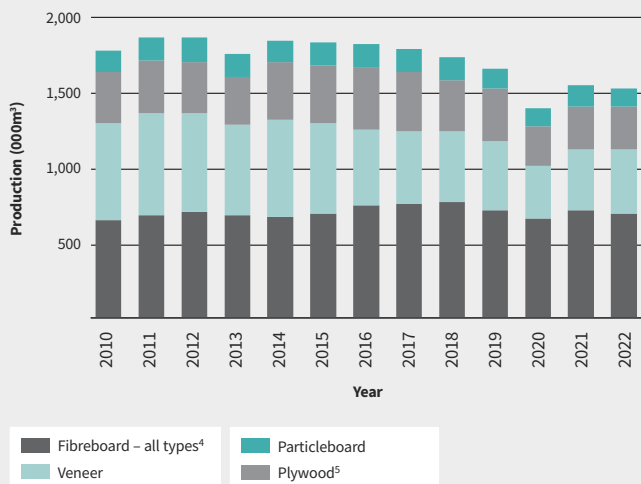


Paper, Pulp and Panel Products Production

Paper and Pulp Production 2010-2022



Panel Products Production 2010-2022



Notes

- ¹ Mechanical Pulp is those export items in HS item grouping 4701.
- ² Chemical Pulp is those export items in HS groupings 4702, 4703, 4704 and 4705.
- ³ All other paper and paperboard includes printing and writing paper, other paper and paperboard.
- ⁴ Fibreboard includes MDF, hardboard & softboard.
- ⁵ Plywood includes laminated veneer lumber.

Source Paper and Pulp Production MPI
 Source Panel Products Production MPI

SECTION 4

Health, Safety and Training



TOGETHER TOWARDS ZERO

The Forest Industry Safety Council is a pan-industry initiative to reduce and ultimately eliminate deaths and serious injuries in New Zealand plantation forestry, by;

- Improving leadership of safety
- Providing easy-to-use forest safety resources through www.safetree.nz website
- Sharing better information on what's causing injuries
- Getting companies and workers more competent
- Helping the sector adapt to the Health and Safety at Work Act 2015.

**FOREST
INDUSTRY
SAFETY
COUNCIL**

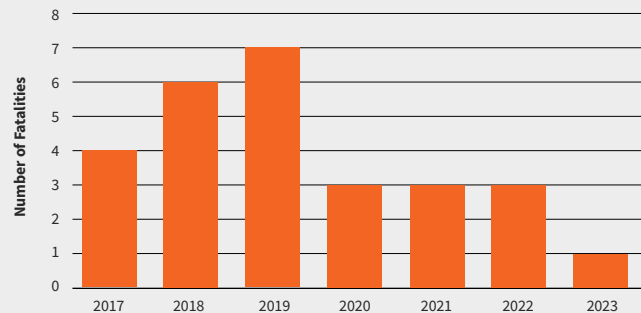


safetree[™]
You are the key

www.fisc.org.nz

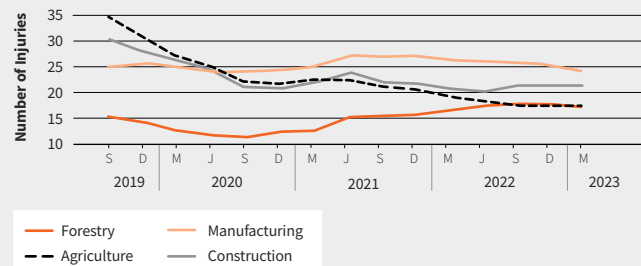
Health and Safety in the Forest Industry 2017-2023

Fatalities as at August 2023



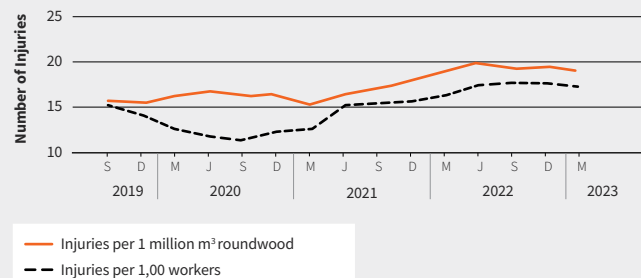
Injuries to Workers¹

Rate of injuries to workers resulting in more than a week off work



How Do We Compare?²

Rate of injuries to workers resulting in more than a week off work



Notes

¹ Rolling average last four quarters per 1000 workers.

² Rolling average last four quarters.

Source **Fatalities** WorkSafe/MPI/FISC

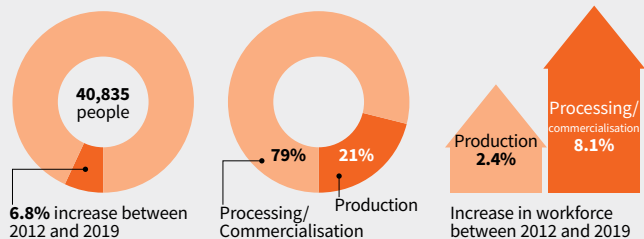
Source **Injuries to Workers** WorkSafe/MPI/FISC

Source **How Do We Compare?** WorkSafe/MPI/FISC

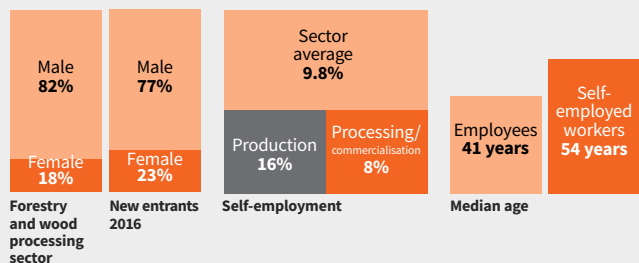
Forestry Workforce

Workforce count

The forestry and wood processing workforce makes up 11.1 percent of the food and fibre workforce. The sector is significantly more male dominated than other sectors, with men making up 82 percent of workers.

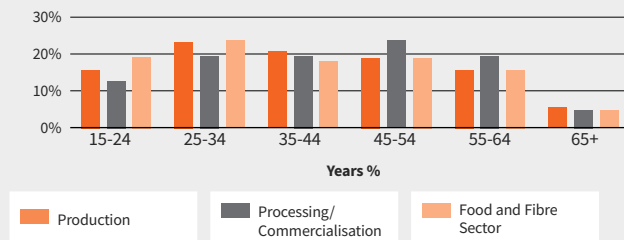


Demographics

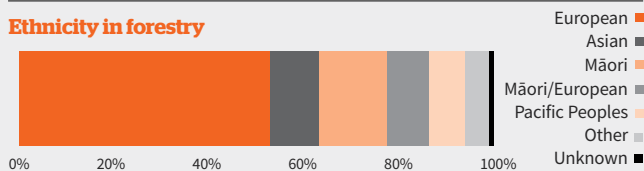


Age profile

The processing/commercialisation workforce has an older profile than the production and food and fibre sectors workforce. Workers aged 55 years and over comprise 24 percent of the workforce.



Ethnicity in forestry



Source Food and fibre workforce: Snapshot MPI

Industry Training 2023

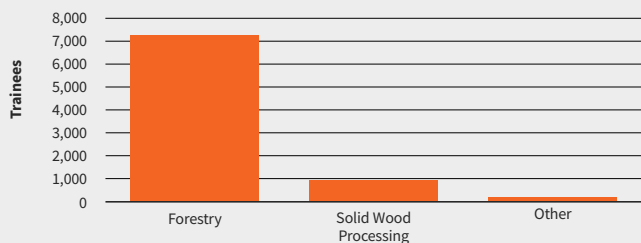
University of Canterbury

34 students completed their degrees at the University of Canterbury School of Forestry in 2022 – 23 with the Bachelor of Forestry Science and 11 with Bachelor of Engineering (Honours) (Forest Engineering).

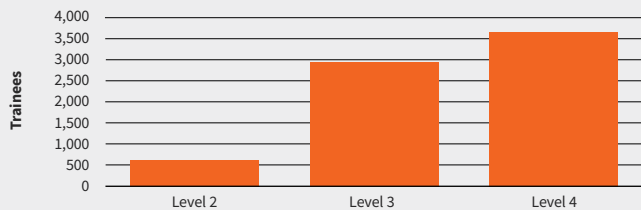
1

Competenz

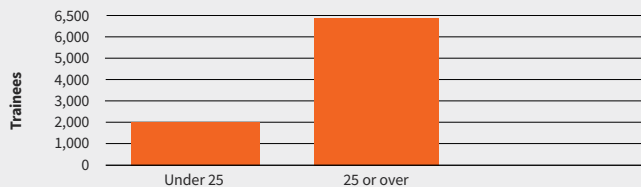
Trainee Count



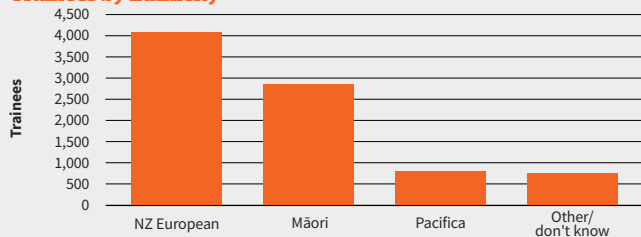
Trainee by Qualification Level



Trainees by Age



Trainees by Ethnicity



Source Box 1 University of Canterbury
Source Industry Training Competenz

Optimise your workforce with on-the-job forestry training

Equip your crew with the
skills your business needs.

Learn more at
competenz.org.nz/forestry



Competenz



Te Pūkenga

SECTION 5

Supplementary Information



Vision for 2050: Forestry will be New Zealand's number 1 primary sector and exemplify the best plantation forest management in the world.

01

Tree growth and forest production efficiency will have both doubled.

02

Our increasingly diverse forests will provide valuable products tailored to our customers' needs.

03

People will be attracted to work in forestry because they will be safe, valued and well trained.

04

Expanding commercial plantation forestry will have been the prime means of achieving New Zealand's net zero carbon goal by 2050, while providing other substantial environmental and social benefits.

05

Our licence to operate will have widespread support.



Commodity Levies

There are 31 Orders under the Commodity Levies Act, with single orders covering forestry, beef/lamb and dairy sectors. There are multiple orders for seafood, arable crops and horticulture. While the value of exports does not define the full value of any particular sector, it does provide a general impression of the production quantity of any industry and how much support a levy order gives it. The higher the ratio of levy income against the export returns, the greater the degree of support that levy gives to the particular industry. As can be seen below, the three other main export earners enjoy up to twice as much support from their levy payers, compared with the forest industry.

Ratio of CLA levy raised – against export income to December 2022

Sector	Export earnings m	Levy collected m	\$1 of levy supports \$ of exports
Dairy	\$21,998	\$70	\$314
Beef+Lamb	\$11,681	\$30.3	\$385
Horticulture	\$6,782	\$18.74	\$362
Forestry	\$6,578	\$10.86	\$606

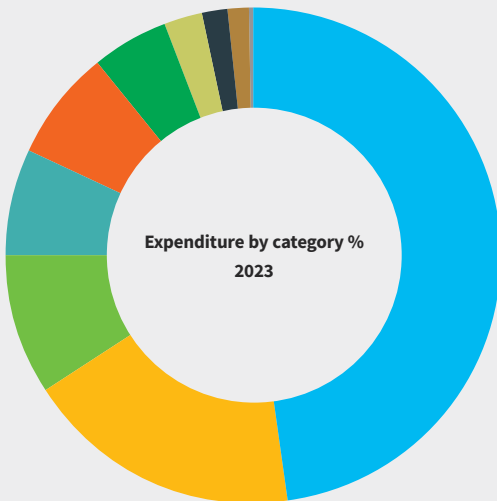


How the FGL is Invested

The current Harvested Wood Material Levy Order runs from 2019 to 2025. It is the second six-year order for wood material under the Commodity Levies Act 1990 voted for by Levy payers during the period. The Levy is paid on logs delivered to mills and ports. The present rate is 33 cents per tonne of harvested log.

The Levy generated \$10,875 million in 2022, which is a decline of 7.2% from 2021.

The Levy investment, through a yearly industry good Work Programme, is made by a seven-person board with an independent chair and representation of both larger and smaller scale foresters. <https://fglt.org.nz/>



48% Research, Science and Technology

Research across the value chain, including specific *Pinus radiata* research, diseases, forest fire behaviour, wilding conifer control, propagation, automation, safety, environment and timber processing.

18.3% Operational Costs (incl. Administration)

Represents Levy collection and database maintenance costs, business compliance costs and all direct costs associated with supporting FGLT secretariat and the planning, management and delivery of the annual Work Programme.

9.3% Forest Biosecurity

Oversight for forest biosecurity. Surveillance and diagnostics for pests and pathogens of plantation forestry, incursion response preparedness and readiness, including the Government Industry Agreement

6.9% Promotions

“Wood – Our Low Carbon Future” promotion with Te Uru Rakau, Mystery Creek National Fieldays Forest Hub. Promotional Marketing and sponsorship with print, television, social media, events and highway billboards.

7.3% Health and Safety

The industry commitment to support the work of the Forest Industry Safety Council (FISC) to drive down the number of forest accidents.

5.1% Training and Careers

Advise government agencies and training providers of number and direction of skills required in forest industry, promote training and career pathways for these skills.

2.5% Forest Resources and Environment

Forest growing and environment issues, including Forest Stewardship Council certification, biodiversity and freshwater management and climate change.

1.4% Transport

Working with the Log Transport Safety Council and represents forest growers' transport interests to local and central government. Log Transport Safety Improvement Plan (LTSIP). National safety compliance.

1% Small and Medium Forest Enterprises

Serves the needs of small and medium forest owners, as a conduit between other FOA/FFA Committees, and Forest Growers Levy Trust (FGLT) Board level in addition to FOA and FFA.

0.2% Fire

Providing plantation forest owners and managers with strategic guidance and coordination on the 4Rs of fire (Reduction, Readiness, Response and Recovery) and to foster collaboration with regulatory agencies, service providers, land management entities and the science community.

New Zealand's Greenhouse Gas Inventory

The Carbon Cycle

Planting trees begins a cycle that continuously removes, releases and re-absorbs greenhouse gases such as carbon dioxide. As trees grow, they absorb carbon dioxide through the process of photosynthesis. The carbon dioxide absorbed by the growing forest remains stored within the wood products used throughout the lifetime of the building structure or product.

When a structure or product reaches the end of its lifetime, the carbon dioxide is released back into the atmosphere as the wood decays or is burnt as fuel.

Wood can be recycled to extend its lifetime and slow down the natural release of carbon dioxide back into the atmosphere. Once the carbon dioxide is released, it is available to be re-absorbed by growing trees.

New Zealand's Greenhouse Gas Inventory

In 2021, New Zealand's total greenhouse gas emissions were 76.8 million tonnes of carbon dioxide (Mt CO₂-e). In 1990, gross emissions were 65.2 Mt CO₂-e.

In 2021, 21.1 Mt CO₂ was removed from the atmosphere by the forestry sector, compared with 21.2 Mt CO₂ in 1990. Forestry sector carbon removals in 2021 reduced total emissions to 55.7 Mt CO₂ or an offset of 27.5 %.

Agriculture continued to be the largest contributor to New Zealand's greenhouse gas emissions, with 49% of the total at 37.8 Mt CO₂-e, compared with energy at 41%.

	Total emissions (million tonnes CO ₂ -e)	2021-22 Population (millions)	Emissions per each (tonnes CO ₂ -e)
Sheep	9.0	25.3	0.36
Deer	0.9	0.8	1.1
Beef	7.1	3.9	1.8
Dairy	13.6	6.2	2.2
Cars*	13.8	4.4	3.1
Plantation pines	-21.1	1152	-0.018



Notes

* Motor Industry Association

Source Stock numbers from SOPI June 2022

Source Emissions, MfE, including New Zealand Greenhouse Gas Inventory 1999 – 2020

Forests Removing Carbon

How is carbon removed from the atmosphere by New Zealand's forests?

Forests act as carbon sinks – a reservoir which removes and stores more carbon from the atmosphere than it releases. Trees use carbon dioxide (CO₂) as part of their 'breathing' cycle – taking in CO₂ and storing it within roots, trunks and branches – and releasing oxygen.

A young forest will remove small amounts of CO₂ until the trees establish and when forests will remove the most carbon. As a forest ages and its growing process slows, it will revert to absorbing less carbon again.

At harvesting, the forest ceases to be a carbon sink. But instead of releasing all the carbon it has stored, the harvested wood retains some of it. All wood products store carbon that will eventually be released, however the rate at which that carbon is released depends on the type of product and the type of treatment the wood has undergone.

The amount of carbon removed by New Zealand's forests is therefore dependent on the coverage of forestland, the age and species of the trees and the rate of harvest.

New Zealand has committed to reduce net greenhouse gas emissions to 30% below 2005 levels by 2030 and to net zero carbon by 2050.

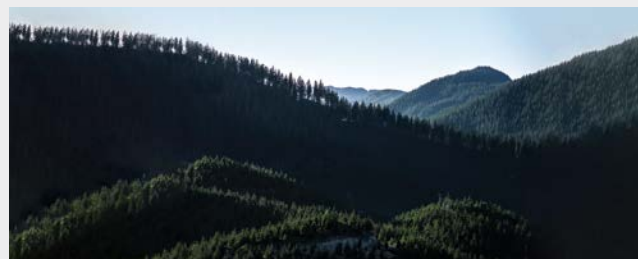
Area by species registered under Emissions Trading Scheme

Year	Forest Type	Species Group	Area (ha)
2022	Exotic	Douglas Fir	42,404
		Mixed	2024
		Other Exotic Hardwoods	12,467
		Other Exotic Softwoods	14,928
		Pinus radiata	398,268
		Total	468,270
	Indigenous	Indigenous	76,201
		Total	76,201
		2022 Total	544,471

73.4 %

of the total exotic forest estate is outside the ETS

1

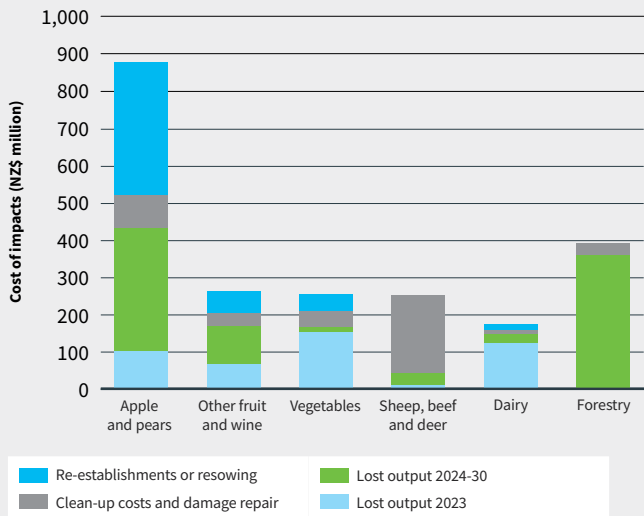


Source Box 1 MPI

Environmental Impacts

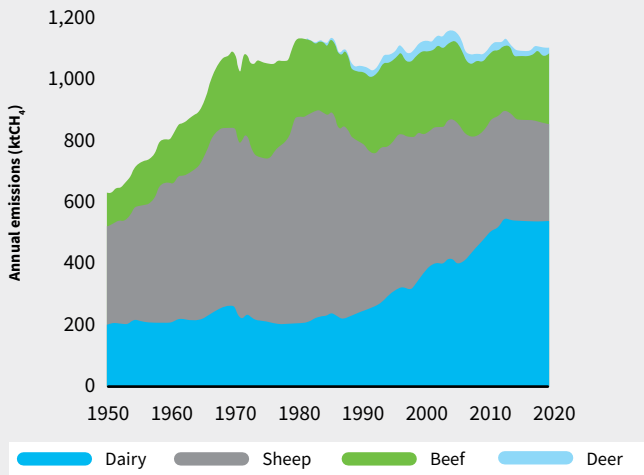
Estimated on-farm impacts from Cyclone Gabrielle

Cost of impacts, NZ\$ million



Livestock numbers and livestock methane emissions between 1950 and 2021.

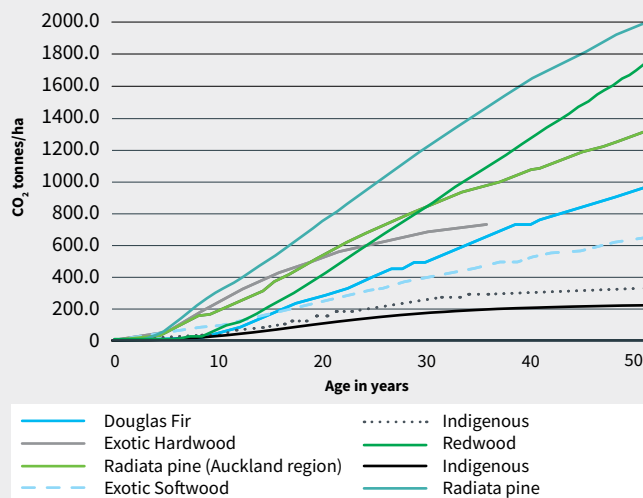
The chart begins in 1950 because this is the first year that disaggregated statistics for dairy cattle and beef cattle are available.



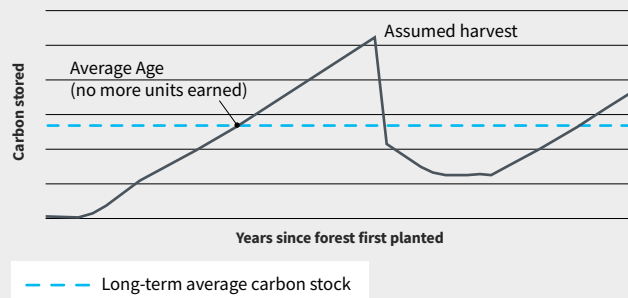
Source: **Estimated on-farm impacts from Cyclone Gabrielle** MPI, June SOPI
 Source: **Livestock methane emissions** Parliamentary Commissioner for the Environment

Carbon Sequestration

Default Yield Tables of CO₂ Storage for Radiata and Other Tree Species



Carbon accounting practices



Forests first registered in the ETS between 1 January 2019 and 31 December 2022 have the option to move to averaging in 2023. Forests registered before 1 January 2019 will remain on the stock change (current) approach. **Forests registered after 1 Jan 2023 must use averaging unless registered as permanent post-1989 forest.**

Source: **Default Yield Tables of CO₂ Storage for Radiata and Other Tree Species** MPI
Actual measured forest carbon sequestration graphed by Dr Euan Mason, University of Canterbury.
Redwood rate Mike Watt and Rob Webster
 Source: **Carbon accounting practices** MPI

Biking in New Zealand's production forests

At least **96** production forests with bike access

Number of bikers in 2022 across New Zealand's plantation forests



335,000 visitors from outside host region + **265,000** locals from within host region = **600,000** bikers in plantation forests

Visitor stay characteristics:

3.9 nights and **\$292** per day

Economic impacts on host regions by bike visitors to plantation forests



\$291 million
New spending in 2022



68% spend lift
Since 2029 (\$173m)



1,490 jobs
Supported in 2022

Top regions:

Rotorua, Auckland, Queenstown, Dunedin and Christchurch

Potential future spending in host regions by bike visitors to plantation forests



9.5% growth
in spend from 2022 to 2027



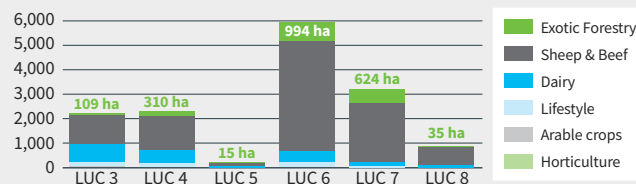
\$318 million
total annual spend by 2027

Source Benji Patterson

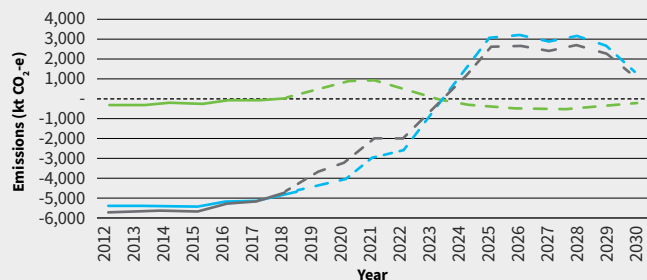
Forestry as a Land Use

Farms Online (15.9m ha) - Land Use by Land Use Capability¹

(1000s of ha)



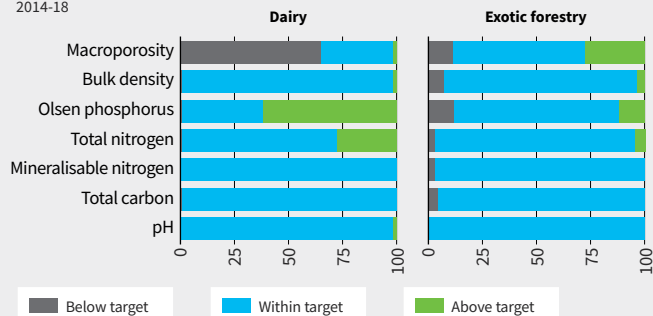
Net Emissions and Removals from Vegetation and Soils on Sheep and Beef Farms



Legend:
 - Pre-1990 planted forest (solid green line)
 - Post-1989 planted forest (dashed green line)
 - All planted forest (solid blue line)
 - Pre-1990 planted forest (projection) (dashed green line)
 - Post-1989 planted forest (projection) (dashed blue line)
 - All planted forest projection (dashed blue line)

Sites within Target Range of Soil Quality Indicators by Land Use Capability to Ensure Best Yields and Lowest Environment Damage

2014-18



Notes

¹ The highest Land Use Capability class is 1, with classes 1-4 capable of cultivation, to steep class 8 with little productive capacity.

Source Farms Online - Land Use by Land Use Capability MPI

Source Net emissions and removals from vegetation and soils on sheep and beef farms MfE, March 2021

Source Sites within Target Range of Soil Quality Indicators by Land Use, 2014-18 Manaaki Whenua - Landcare Research

Sector Agreements

Plantation Forestry Rural Fire Control Charter 2021

FOA, FFA, FENZ and Te Uru Rākau New Zealand Forest Service support a charter to encourage working together to develop and promote objectives and actions to improve wildfire management for NZ, and communicate these objectives to our respective members and personnel.

Forestry Sector and Transpower MOU 2018:

FOA, FFA and FICA signed this working relationship MOU with Transpower to promote safety compliance, risk minimisation and works coordination where forestry is near Transpower's lines.

Forest Government Industry Agreement for Biosecurity 2015

The FOA has signed a Government Industry Agreement to protect New Zealand forests from introduced pests, weeds and diseases through sharing of costs and decision making. The Forest Biosecurity Surveillance programme began on 1 July 2016, covering all commercial plantations.

Forest Industry Safety Council 2015

The FOA is participating in FISC as the pan-industry Health and Safety initiative. FISC has an independent cross sector board. FISC's mission is to reduce the rate of serious injury and fatalities in plantation forests, with an ultimate goal of eliminating them.

Cooperation with Farmers 2013

The MOU with Federated Farmers, FOA and FFA is to manage relationships between forest owners/managers and their farming neighbours to promote co-operation and constructive neighbourly relations.

Eliminating Illegal Forest Products 2008

The FOA, WPMA and Pine Manufacturers Association joined NGOs in calling on the New Zealand government, importers, processors, retailers, New Zealand forest and plantation managers and processors of forest and plantation products, to strongly oppose the importation and use of illegally harvested and traded forest products in New Zealand.

New Zealand Climate Change Accord 2007

An agreement between FOA/FFA, the Timber Design Society and eight NGOs acknowledging the contribution of indigenous and plantation forests to mitigate climate change, which also provides a renewable, reusable and recyclable resource. The Accord endorses the principle of polluter pays.

New Zealand Forest Accord 1991 and 2007

The Forest Accord is between forest and timber groups and 10 NGOs to agree on; defining areas unsuitable for forestry, maintaining existing natural forest, recognition of commercial forestry as essential, indigenous forest extraction only on a sustainable basis and new forests not disturbing natural indigenous vegetation.

Terms, Names and Sites

Area and volume

- An average *Pinus radiata* tree yields 2.4 m³ of wood at harvest.
- 1 hectare of 28 year-old *Pinus radiata* contains between 650 and 800 m³ of wood.
- 1 hectare grows up to 28 m³ of wood each year.
- A log truck and trailer carries approximately 30 tonnes of logs.
- A log ship contains approximately 30-35,000 tonnes of logs.
- By weight, the ratio of oxygen to carbon in carbon dioxide is 1-2.66.
- One unit mass of Nitrous oxide (N₂O) has 298 times the Global Warming Potential of a unit of Carbon dioxide (CO₂) over 100 years.
- Methane (CH₄) has 25 times the GWP of Carbon dioxide.

Abbreviations

AAU	Assigned Amount Unit
CCC	He Pou a Rangi Climate Change Commission
CER	Certified Emissions Reduction
ERU	Emissions Reduction Unit
FAO	Food & Agriculture Organization of the United Nations
FFA	New Zealand Farm Forestry Association
FGLT	Forest Growers Levy Trust
FICA	Forest Industry Contractors Association
FIEA	Forest Industry Engineering Association
FISC	Forest Industry Safety Council
FOA	New Zealand Forest Owners Association
FSC	Forest Stewardship Council
MfE	Ministry for the Environment
MPI	Ministry for Primary Industries
NEFD	National Exotic Forest Description
NZIER	New Zealand Institute of Economic Research
NZU	NZ Units
OIO	Overseas Investment Office
PEFC	Programme for the Endorsement of Forest Certification
SOPI	Situation and Outlook for Primary Industries
Stats NZ	Statistics New Zealand
WPMA	Wood Processors and Manufacturers Association

Facts & Figures organisation sites

Competenz	www.competenz.org.nz
FAO	www.fao.org/forestry
FFA	www.nzffa.org.nz
FGLT	www.fgl.org.nz
FIEA	www.fiea.org.nz
FISC	www.safetree.nz
FSC	www.nz.fsc.org/en-nz
MfE	www.mfe.govt.nz
MPI	www.mpi.govt.nz
NZIER	www.nzier.org.nz
NZFOA	www.nzfoa.org.nz
PEFC	www.pefc.org
Rare Species	www.rarespecies.nzfoa.org.nz
Scion	www.scionresearch.com
Statistics NZ	www.stats.govt.nz
WPMA	www.wpma.org.nz
WorkSafe NZ	www.business.govt.nz/worksafe

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Log Pricing Data

Log Type, Pricing Point, and Market	Dec-15 Quarter	Mar-16 Quarter	Jun-16 Quarter	Sep-16 Quarter	Dec-16 Quarter	Mar-17 Quarter	Jun-17 ¹ Quarter	Sep-17 Quarter	Dec-17 Quarter	Mar-18 Quarter	Jun-18 Quarter	Sep-18 Quarter	Dec-18 Quarter	Mar-19 Quarter	Jun-19 Quarter	Sep-19 Quarter	Dec-19 Quarter	Mar-20 Quarter	Jun-20 Quarter	Sep-20 Quarter	Dec-20 Quarter	Mar-21 Quarter	Jun-21 Quarter	Sep-21 Quarter	Dec-21 Quarter	Mar-22 Quarter	Jun-22 Quarter	Sep-22 Quarter	Dec-22 Quarter
EXPORT (NZ\$ per JAS m³ f.o.b)																													
Pruned	121-228	220-230	204-236	184-207	180-225	185-214	152-213	177-217	184-222	176-222	175-234	153-236	166-228	169-237	182-221	133-195	164-211	138-187	135-216	167-197	151-286	170-223	198-269	132-247	128-235	147-287	142-226	157-218	147-225
A Grade	81-141	119-166	146-169	138-162	141-173	150-180	145-182	151-180	144-168	147-172	154-175	145-172	150-172	158-183	151-172	121-141	144-156	120-146	111-161	125-141	135-156	150-178	172-196	134-180	112-135	110-238	109-157	133-159	119-156
J Grade	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
K Grade	91-135	99-158	136-162	124-157	135-167	142-174	134-177	142-174	137-158	132-165	141-168	133-158	138-162	146-176	143-160	109-137	132-149	112-138	98-149	111-133	126-145	141-166	162-189	127-173	102-128	102-231	95-148	115-148	111-148
Pulp	65-118	55-138	120-143	111-134	125-140	126-149	125-153	123-166	117-148	122-150	130-151	119-152	127-154	135-159	129-144	98-117	116-130	74-122	91-133	102-118	102-131	128-151	133-178	118-156	88-115	87-218	82-134	112-146	93-128
Average	123	148	165	152	161	165	166	169	159	166	166	164	167	176	166	136	150	134	151	148	152	164	182	164	129	164	145	148	149
DOMESTIC (NZ\$ per tonne delivered at mill)																													
P1	135-174	140-187	142-195	140-193	142-186	151-189	155-191	157-193	157-195	149-199	150-197	160-195	164-200	168-196	166-196	163-197	158-198	160-194	165-199	164-194	165-192	165-194	165-200	165-200	165-201	165-203	159-206	154-205	170-204
P2	105-170	129-182	134-188	130-192	102-189	125-142	115-189	120-190	120-190	97-191	126-194	143-195	128-195	132-194	125-195	114-191	128-191	129-192	149-194	115-197	125-198	130-197	128-187	150-202	145-199	145-197	145-204	145-195	145-203
S1	96-109	102-118	104-123	105-123	105-126	114-127	115-136	116-143	116-152	124-159	122-151	122-148	122-148	122-148	122-152	122-143	122-137	118-147	127-137	126-148	131-136	132-140	136-145	124-154	137-148	131-146	140-168	135-145	140-144
S2	85-109	90-115	90-118	80-116	93-120	83-124	117-130	116-135	120-144	115-141	120-141	123-143	120-143	122-144	110-147	115-142	120-132	117-132	110-130	117-125	117-135	117-134	126-147	113-148	99-139	122-158	123-157	125-141	125-137
L1 and L2	78-109	79-130	71-132	74-130	82-138	81-126	83-145	80-130	71-143	89-137	82-137	84-141	90-141	84-141	71-144	63-118	91-118	71-121	82-124	83-120	84-121	83-126	86-136	86-171	86-137	79-129	84-133	84-128	86-135
S3 and L3	69-96	68-106	82-119	69-107	71-112	71-116	71-120	94-138	83-134	109-136	109-129	88-130	111-133	104-132	96-135	84-124	88-113	82-117	100-139	93-112	102-119	99-120	97-132	72-142	72-124	97-123	100-150	88-125	101-125
Run of bush	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pulp	31-55	31-59	44-59	31-61	40-52	40-61	31-56	31-59	30-59	31-60	31-66	31-77	32-68	50-79	32-64	31-61	30-60	31-75	31-79	31-60	31-75	28-65	31-77	31-79	31-80	32-77	31-77	31-77	32-67
Average	102	110	114	111	111	111	126	136	134	134	135	133	135	136	136	127	125	126	129	124	127	131	135	139	133	134	140	133	136

Notes

¹ Weighted averages have been used from June 2017. Please take care when comparing with previous quarters.

* Limited response - very small volume traded.

- Data not available.

Source Log Pricing Data MPI

Source Forest, Dairy, Wool and Coffee Prices Global Dairy Trade, International Coffee Organization, Interest.co.nz (wool), MPI (logs)

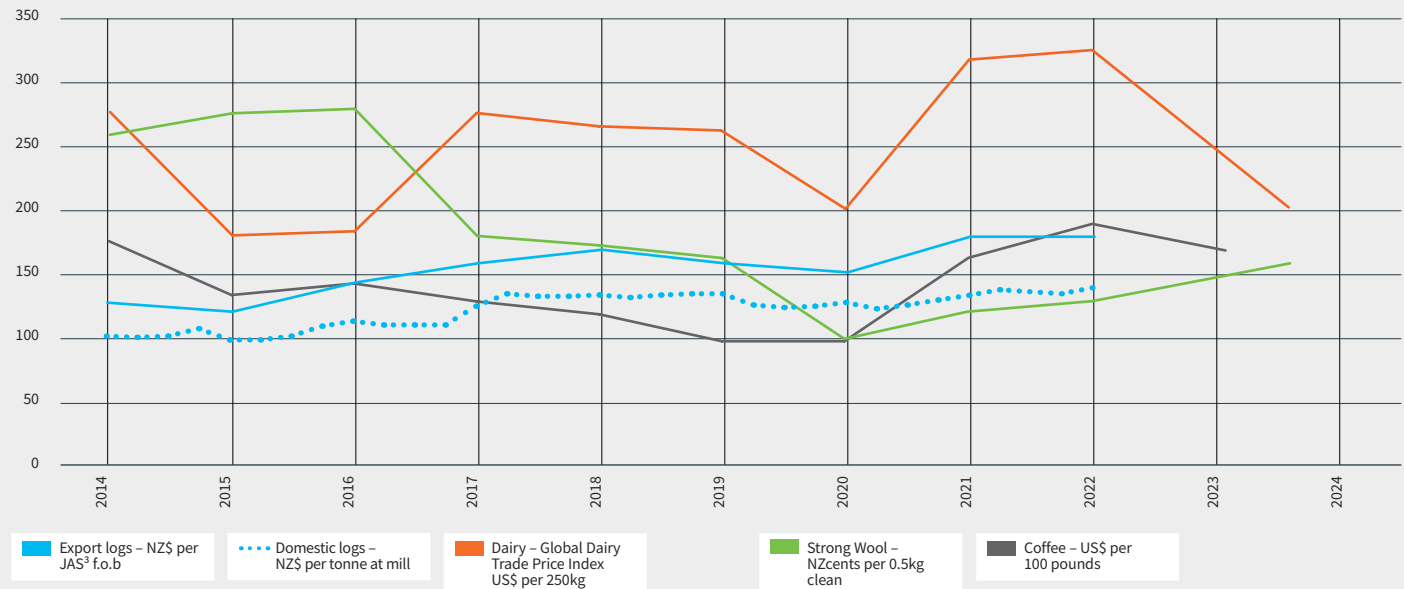
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