

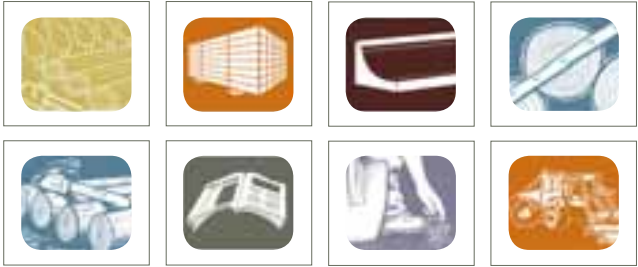
**NEW ZEALAND PLANTATION  
FOREST INDUSTRY**

# **FACTS & FIGURES**



**2009/2010**

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# 76 mt

NZ emits approximately 76 million tonnes of CO<sub>2</sub> equivalent per annum, and 76 million NZUs are required to fully offset this level of emissions.

# \$877 M

Log export volumes over the year ending June 2009 increased 26.1% to 7.6 million m<sup>3</sup> with an increase in export earnings of 57.6% to \$NZ877 million when compared with the June 2008 year. The considerable rise in log export volumes can be attributed to increased demand from China.

# 19.5 Mm<sup>3</sup>

The total volume of logs harvested over the year ending June 2009 increased 3.3 percent when compared with the June 2008 year to 19.5 million m<sup>3</sup>.

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# Foreword



The forestry industry is hugely important to the New Zealand economy. The primary sector is our growth engine – and forestry and wood processing are a vital part of this.

Commercial forestry is currently New Zealand's third largest export earner, at \$3.7 billion, contributing 2.8% to GDP. The forestry sector has enormous potential for economic growth and innovation.

Potential wood availability in 2025 is a little over 35 million cubic metres. Given the current harvest is around 20 million cubic metres this gives a potential increase in volume of 75%.

Domestic use will absorb only a small proportion of this projected growth which is why the industry, together with the Government, needs an even stronger focus on export markets.

This effort will be assisted by the Primary Growth Partnership which will see significant investment in research and innovation programmes across the primary sectors.

Programmes will be co-funded by Government and industry with \$30 million in Crown funding available in the 2009/10 financial year, growing to \$70 million by 2012/13 – and ongoing.

I believe the Primary Growth Partnership has the potential to transform the primary sectors in New Zealand.

Forestry and wood products have unique environmental credentials and the industry is founded on a renewable resource. Government and industry efforts must be directed towards realising these benefits for all New Zealanders.

Growth in the forestry sector equals growth for New Zealand.

A handwritten signature in black ink, appearing to be 'D. Carter', written over a thin horizontal line.

Hon David Carter  
Minister of Forestry

# New Zealand and Planted Forestry in Summary

Area and standing volume statistics	1 April '07	1 April '08 <sup>1</sup>	1 April '09 <sup>P</sup>
<b>Net stocked forest area (ha)</b>			
Total estimated area	1,790,000	1,761,000	1,751,000
<b>Growth characteristics</b>			
Standing volume (000 m <sup>3</sup> )	434,039	445,933	456,874
Average standing volume (m <sup>3</sup> /ha)	242	253	261
Area-weighted average age (years)	14.8	15.2	15.6
<b>Area by species (ha)</b>			
Radiata pine	1,597,000	1,575,000	1,568,000
Douglas-fir	113,000	111,000	109,000
Cypress species	8,000	9,000	9,000
Other exotic softwoods	27,000	26,000	26,000
Eucalyptus species	29,000	25,000	25,000
Other exotic hardwoods	16,000	15,000	13,000
<b>Planting statistics</b>			
	<b>Year ended 31 Dec '06</b>	<b>Year ended 31 Dec '07</b>	<b>Year ended 31 Dec '08</b>
<b>New planting (ha)</b>			
Total estimated new planting <sup>3</sup>	2,600	2,400	1,100
Restocking	34,400	34,700	29,500
Harvested area awaiting restocking	35,600	47,500	43,700
<b>Harvesting statistics<sup>4</sup></b>			
	<b>Year ended 31 Mar '07</b>	<b>Year ended 31 Mar '08</b>	<b>Year ended 31 Mar '09</b>
<b>Harvesting (ha)</b>			
Area clear felled (ha)	43,000	41,400	41,800 <sup>5</sup>
Volume clear felled (TRVIB <sup>4</sup> 000 m <sup>3</sup> )	19,075	18,663	19,192 <sup>5</sup>
Volume production thinned (TRVIB <sup>4</sup> 000 m <sup>3</sup> )	251	195	190 <sup>5</sup>
Total volume removed (TRVIB <sup>4</sup> 000 m <sup>3</sup> )	19,326	18,858	19,382
Average clear fell yield (m <sup>3</sup> /ha)	444	451	459
Area-weighted average clear fell age for radiata pine (years)	28.1	27.9	28.3
Estimated planted forest roundwood removal (000 m <sup>3</sup> ) <sup>6</sup>	19,897 <sup>r</sup>	20,388	18,847

## Notes:

<sup>1</sup> Source: *A National Exotic Forest Description as at 1 April 2008*, Ministry of Agriculture and Forestry, 2009.

<sup>2</sup> Individual entries may not add to totals due to rounding.

<sup>3</sup> The method used to estimate new planting is described on page 6 of *A National Exotic Forest Description as at 1 April 2008*, Ministry of Agriculture and Forestry, 2009.

<sup>4</sup> All volumes are reported as recovered volumes inside bark (TRVIB)

<sup>5</sup> These figures contain provisional data from 2009 NEFD survey and estimates based on 2008 NEFD survey.

<sup>6</sup> Source: *Annual log and roundwood removal statistics*, Ministry of Agriculture and Forestry, 2009.

This is an indirect estimate that uses conversion factors for each forestry product to estimate the total roundwood input that would be required to produce total forest product outputs. It is included here as a comparison with the direct estimate of the total volume removed from the 2009 NEFD Survey.

<sup>r</sup> Revised

<sup>P</sup> Provisional

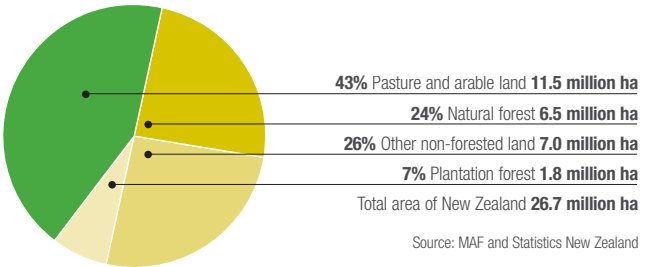
# New Zealand and Economic Indicators

	31 March '08	31 March '09
Population	4,262,900	4,281,200
GDP \$ billion	135.5	134.2
GDP per capita \$	31,944	31,343
Exports \$ billion	38.1	41.4
Forest products exports total \$ billion	3.2	3.7
Total overseas debt \$ billion	153.9	176.6
Annual percentage change in GDP	3.1%	-1.0%
Inflation (as measured by annual percentage change in CPI)	3.4%	3.0%
Forestry and wood processing sector contribution to GDP	2.9%	2.8%

† Revised

Source: Statistics New Zealand and FOA as at 31 March 2009

## New Zealand Land Use 2009



# Employment in forestry and processing activities

Activity	Employee Count <sup>1</sup> as at Mid-February					
	2003	2004	2005	2006	2007	2008
Forestry	1,140 <sup>r</sup>	1,020 <sup>r</sup>	780 <sup>r</sup>	710 <sup>r</sup>	610 <sup>r</sup>	620
Logging	4,940 <sup>r</sup>	4,170 <sup>r</sup>	3,890 <sup>r</sup>	3,520 <sup>r</sup>	3,670 <sup>r</sup>	3,610
Services to Forestry	4,120 <sup>r</sup>	3,430 <sup>r</sup>	3,120 <sup>r</sup>	2,850 <sup>r</sup>	2,300 <sup>r</sup>	2,350
<b>Total Forestry and Logging</b>	<b>10,200<sup>r</sup></b>	<b>8,620<sup>r</sup></b>	<b>7,790<sup>r</sup></b>	<b>7,080<sup>r</sup></b>	<b>6,580<sup>r</sup></b>	<b>6,580</b>
Log Sawmilling	8,120 <sup>r</sup>	7,600 <sup>r</sup>	7,550 <sup>r</sup>	7,050 <sup>r</sup>	6,820 <sup>r</sup>	6,160
Wood Chipping	30	18	9	12	9	15
Timber Resawing and Dressing	1,880 <sup>r</sup>	1,920 <sup>r</sup>	2,040 <sup>r</sup>	1,980 <sup>r</sup>	2,210 <sup>r</sup>	2,070
Plywood & Veneer Manufacturing	1,900 <sup>r</sup>	2,000 <sup>r</sup>	2,030 <sup>r</sup>	1,710 <sup>r</sup>	1,770 <sup>r</sup>	1,570
Fabricated Wood Manufacture	1,380 <sup>r</sup>	1,370 <sup>r</sup>	1,280 <sup>r</sup>	1,180 <sup>r</sup>	1,130 <sup>r</sup>	980
Pulp, Paper & Paperboard Manufacturing	2,930 <sup>r</sup>	2,720 <sup>r</sup>	2,690	2,350 <sup>r</sup>	2,090	2,040
<b>Total Forestry and First Stage Processing</b>	<b>26,440<sup>r</sup></b>	<b>24,248<sup>r</sup></b>	<b>23,389<sup>r</sup></b>	<b>21,362<sup>r</sup></b>	<b>20,609<sup>r</sup></b>	<b>19,415</b>

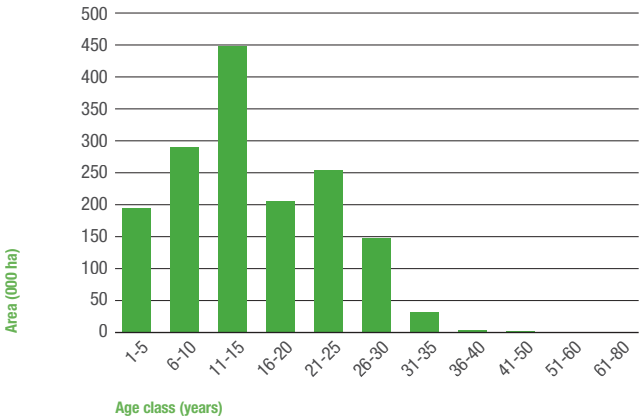
Source: Statistics New Zealand

<sup>1</sup> **Employee count** is a head-count of all salary and wage earners for the February reference month. Previous releases in this series described "Persons engaged" (total number of full-time employees and working proprietors (ie number of persons working 30 hours or more per week plus half the number of persons working part-time)), and so the data is not strictly comparable with previous releases in this series.

<sup>r</sup> Revised

## Net stocked area of Radiata Pine

(By age class at 1 April 2008)

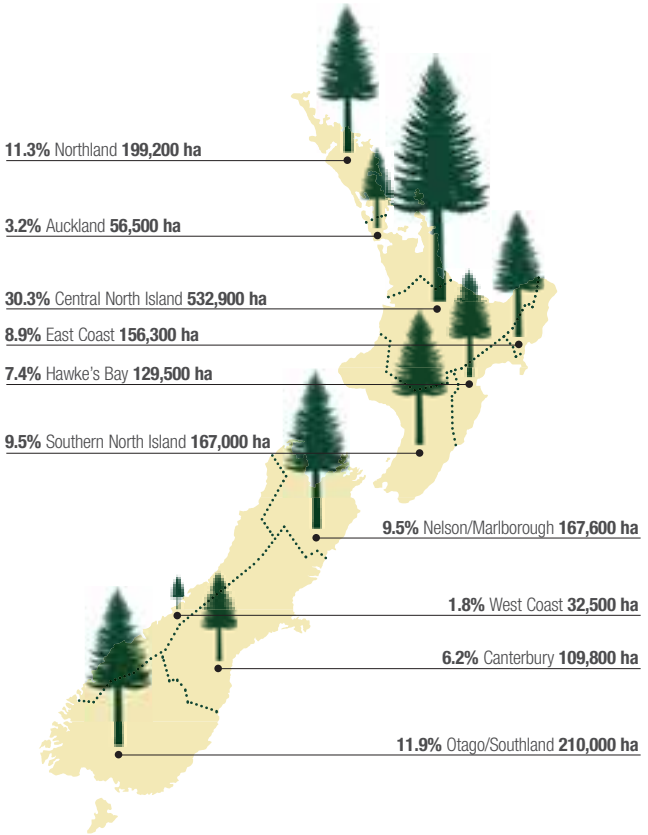


Source: NEFD 2008



# Where the Plantation Forests are

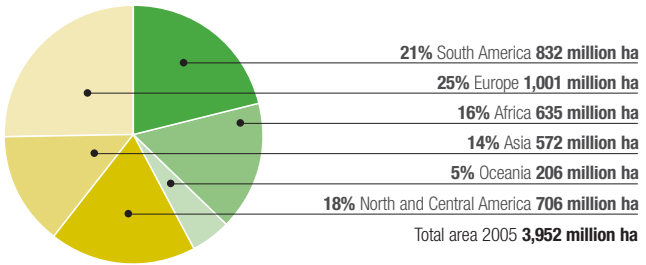
(Hectares)



**Total 1,761,000 hectares**

Source: NEFD 2008

# Global forest areas by main regions (2005)



Did you know that New Zealand's forest industry supplies 1.1% of world and 8.8% of Asia Pacific's forest products trade? All from just 0.05% of the world's forest resource and an annual harvest area equivalent to 0.0009% of global forest cover. The reason:

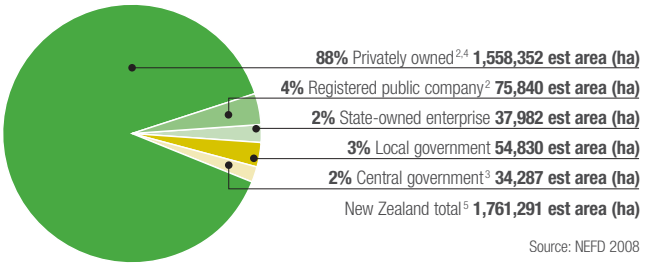
highly  
productive,  
sustainably  
managed  
plantation  
forests.





## Plantation forest ownership<sup>1</sup>

(Net stocked planted production forest area as at 1 April 2008 by ownership category)



### Note:

<sup>1</sup> Ownership is based solely on the ownership of the forest irrespective of the ownership of the land.

<sup>2</sup> "Privately owned" includes all privately owned forests. The legal entities included in this category are private companies, partnerships, individuals and trusts, which include Maori trusts and incorporations.

<sup>3</sup> "Central Government" forests are predominantly Crown owned forests on Maori leasehold land.

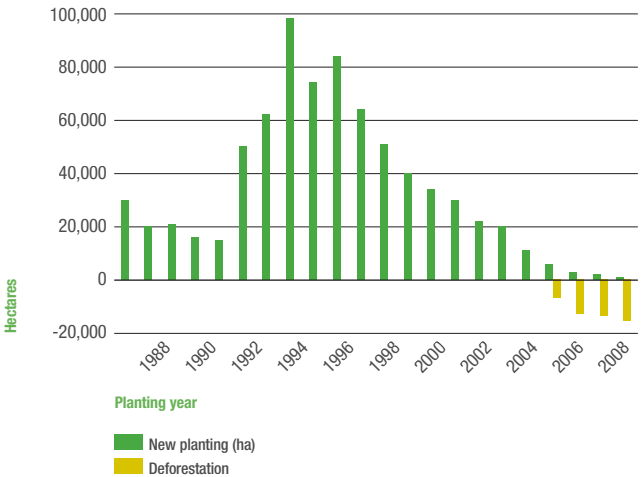
These forests are managed by the Ministry of Agriculture and Forestry.

<sup>4</sup> Note that significant changes in forest ownership occurred during 2003 resulting in large areas of forest previously owned by public companies now being privately owned.

<sup>5</sup> Individual entries may not sum to totals shown due to rounding.



## New forest planting and deforestation since 1997



Source: NEFD 2008

**Note:**

<sup>1</sup> These estimates do not include immature forest cleared for other land uses.

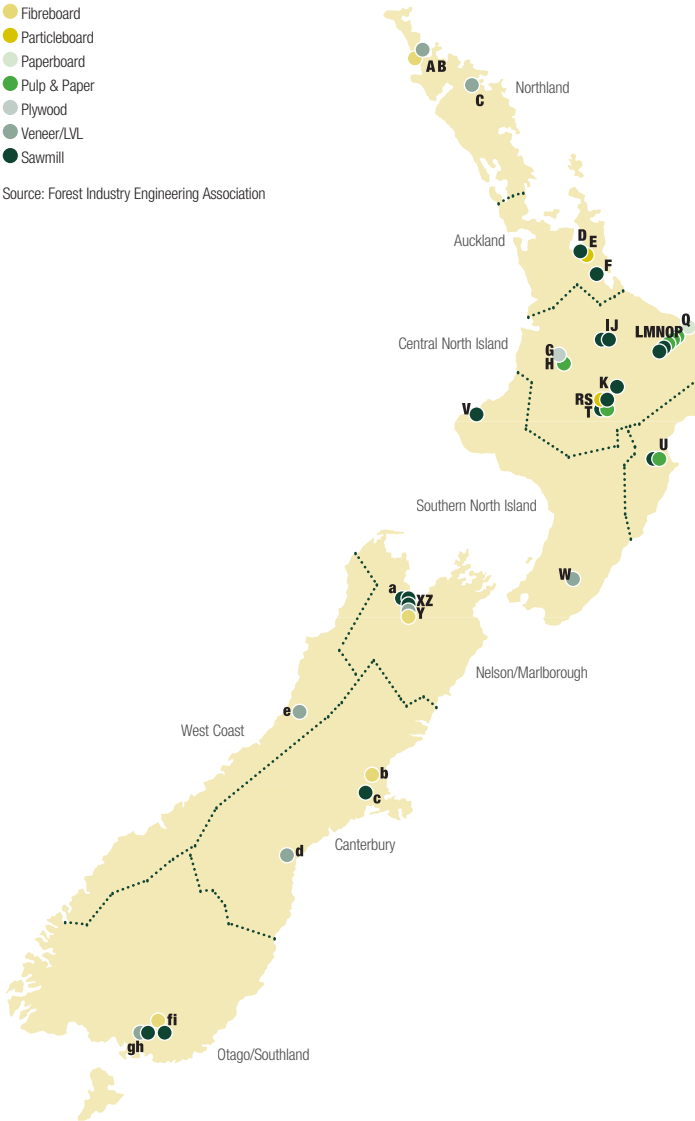
Deforestation is a relatively new phenomenon and sensitivity over deforestation and the increased separation between forest and land ownership has made it difficult to collect this information in a postal survey.

Official statistics of the area of forest not intended to be replanted after harvest are unavailable before 2005.

# Location of major wood processors by wood supply region

- Fibreboard
- Particleboard
- Paperboard
- Pulp & Paper
- Plywood
- Veneer/LVL
- Sawmill

Source: Forest Industry Engineering Association





#### Northland:

- **A** Juken New Zealand Ltd Triboard Mill (Kaitaia)
- **B** Juken New Zealand Ltd Northland Mill (Kaitaia)
- **C** Carter Holt Harvey Woodproducts, LVL (Marsden Point)

#### Auckland:

- **D** Thames Timber Ltd (Thames) **50,000-99,999 m<sup>3</sup>**
- **E** Carter Holt Harvey Woodproducts, Kopine (Kopu)

#### Central North Island:

- **F** Claymark Sawmills Ltd (Katikati) **50,000-99,999 m<sup>3</sup> sawn**
- **G** Carter Holt Harvey Woodproducts, Plywood (Tokoroa)
- **H** Carter Holt Harvey Kinleith (Tokoroa)
- **I** Claymark Rotorua Sawmill Ltd (Rotorua) **50,000-99,999 m<sup>3</sup>**
- **J** Tachikawa Forest Products (NZ) Ltd (Rotorua) **> 100,000 m<sup>3</sup>**
- **K** Red Stag Timber (Waipa) **> 100,000 m<sup>3</sup>**
- **L** Carter Holt Harvey Woodproducts, Kawerau Sawmill (Kawerau) **> 100,000 m<sup>3</sup>**
- **M** Sequel Lumber (Kawerau) **50,000-99,999 m<sup>3</sup>**
- **N** SCA Hygiene Australasia (Kawerau)
- **O** Carter Holt Harvey Tasman Ltd (Kawerau)
- **P** Norske Skog Tasman Ltd (Kawerau)
- **Q** Carter Holt Harvey Pulp & Paper (Whakatane)
- **R** Laminex Group (Taupo)
- **S** Tenon Ltd (Taupo) **> 100,000 m<sup>3</sup>**
- **T** Winstone Pulp International (Ohakune) **50,000-99,999 m<sup>3</sup>**

#### Hawkes Bay:

- **U** Pan Pac Forest Products Ltd (Napier) **> 100,000 m<sup>3</sup>**

#### Southern North Island:

- **V** Taranakipine Ltd (New Plymouth) **50,000-99,999 m<sup>3</sup>**
- **W** Juken New Zealand (Masterton)

#### Nelson/Marlborough:

- **X** Waimea Sawmillers Ltd (Nelson) **50,000-99,999 m<sup>3</sup>**
- **Y** Nelson Pine Industries Ltd (Richmond)
- **Z** Southpine (Nelson) Ltd (Nelson) **50,000-99,999 m<sup>3</sup>**
- **a** Carter Holt Harvey Woodproducts, Nelson Sawmill (Eves Valley) **> 100,000 m<sup>3</sup>**

#### Canterbury:

- **b** Daiken (Rangiora)
- **c** SRS New Zealand Ltd (Rolleston) **50,000-99,999 m<sup>3</sup>**
- **d** Starwood Products Ltd (Timaru)

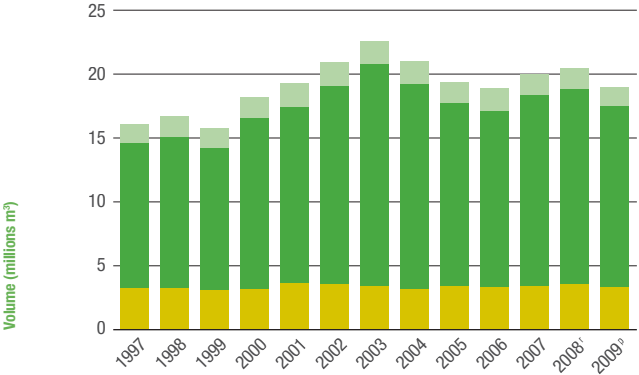
#### West Coast:

- **e** International Panel and Lumber Ltd (Greymouth)

#### Otago/Southland:

- **f** Dongwha Patinna NZ Ltd (Mataura)
- **g** Southland Veneers (Invercargill)
- **h** Niagara Sawmilling Co.Ltd (Invercargill) **50,000-99,999 m<sup>3</sup>**
- **i** Craigpine Timber Ltd (Winton) **> 100,000 m<sup>3</sup>**

# Plantation Forest Harvest



Year ended March

- Pulp logs
- Quality logs\*
- Other roundwood\*

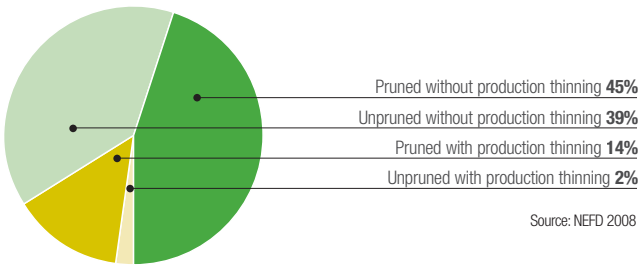
\*Other roundwood (small logs & export chips)  
 \*Quality logs (saw logs, peeler logs, export logs)  
<sup>r</sup> Revised  
<sup>p</sup> Provisional

Source: MAF

## Forest Management Trends – Radiata Pine

	2003	2004	2005	2006	2007	2008
Pruned without production thinning	50%	49%	49%	48%	47%	45%
Unpruned without production thinning	29%	33%	34%	36%	37%	39%
Pruned with production thinning	17%	16%	14%	14%	14%	14%
Unpruned with production thinning	4%	2%	3%	2%	2%	2%

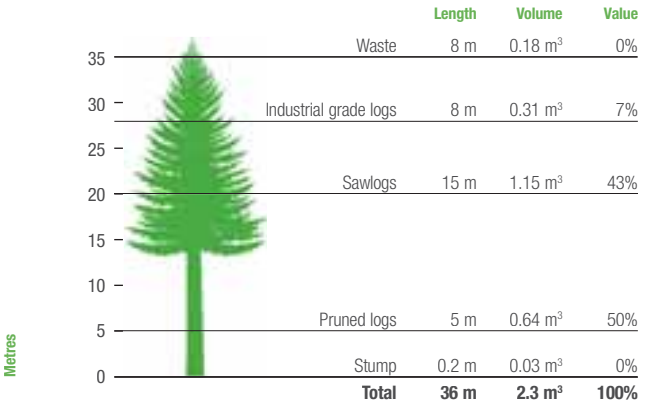
## Forest Management Trends – Radiata Pine (2008)



Source: NEFD 2008



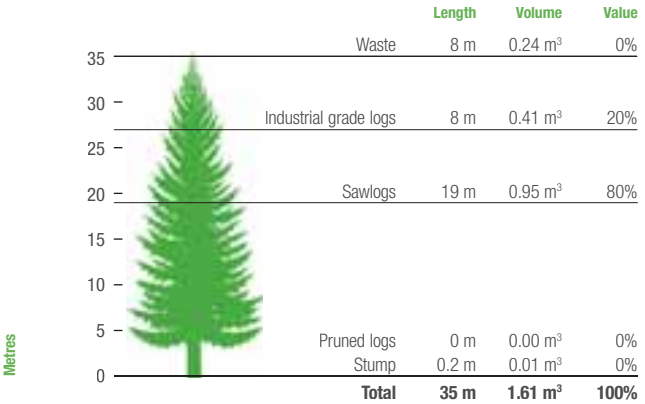
# Typical Log Out-turn



## Direct Sawlog Regime

Pruned and thinned to waste. Final Crop Stocking 228 spha.

Source: SCION



## Structural Regime

No pruning. Thinned to waste. Final Crop Stocking 487 spha.

Source: SCION

Average site (Site Index 29 m, 300Index 23 m<sup>3</sup>/ha/yr). Clearfelled at 28 yrs.

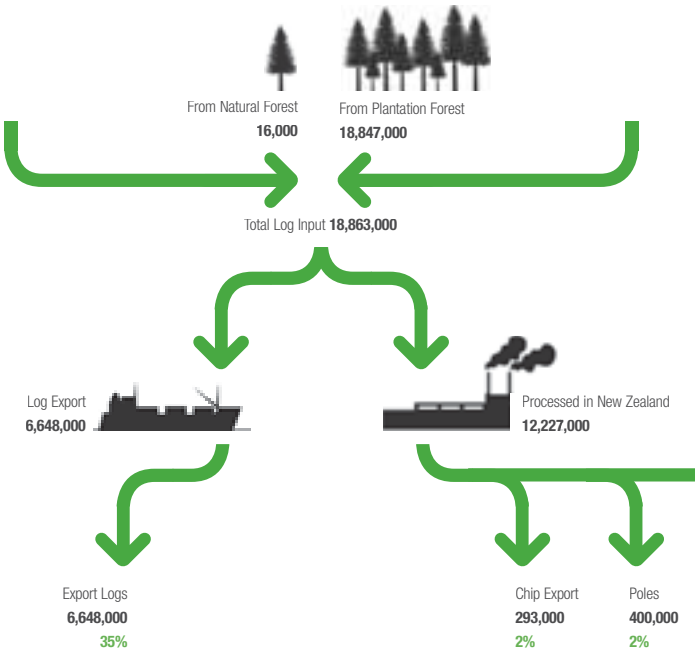
Approximately 45% of the pine estate is managed under a regime with pruning and thinning to waste.

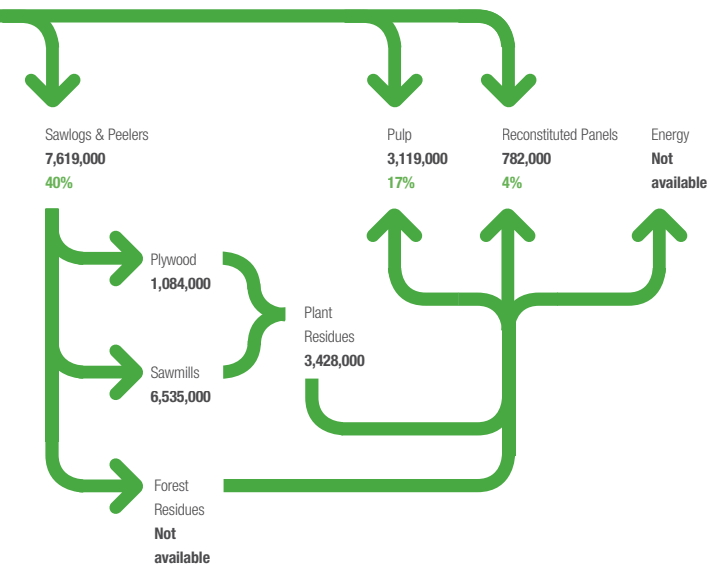
Approximately 39% of the pine estate is managed under a regime with no pruning and thinning to waste.

# Log Flow in the New Zealand Forestry Industry

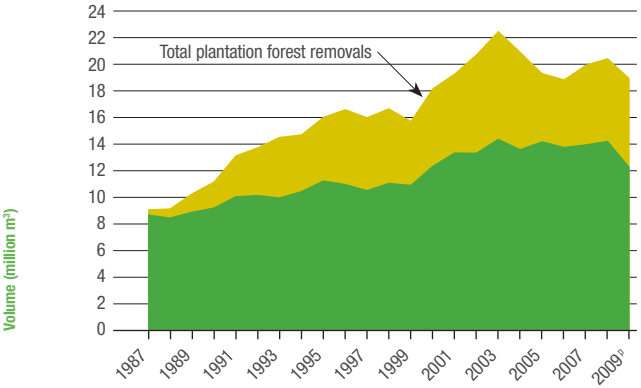
(Volumes in m<sup>3</sup> roundwood equivalent. Year ended 31 March 2009)

Source: MAF





# Where the log harvest goes



**Year ended 31 March**

- Exported in log form
- Processed in New Zealand

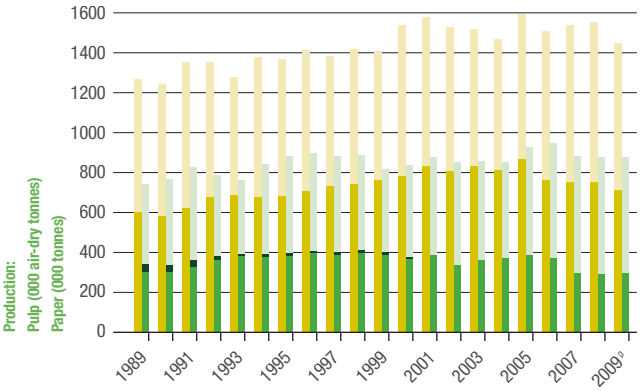
Note: Export logs data in 2007, further processed and production forest removals data from 2003 to 2007 have been revised.

<sup>p</sup> Provisional

Source: MAF



# Wood pulp, paper and paperboard production



Year ended 31 March

- Mechanical pulp
- Chemical pulp
- Newsprint
- Other printing and writing paper
- Other paper and paperboard\*

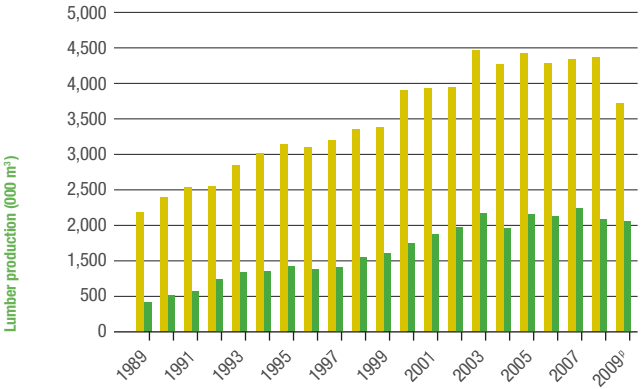
\* All other paper and paperboard includes household and sanitary papers, packaging paper and paperboard.  
 NB. Other printing and writing paper no longer produced in New Zealand.

<sup>r</sup> Revised

<sup>p</sup> Provisional

Source: MAF

# Lumber production and exports



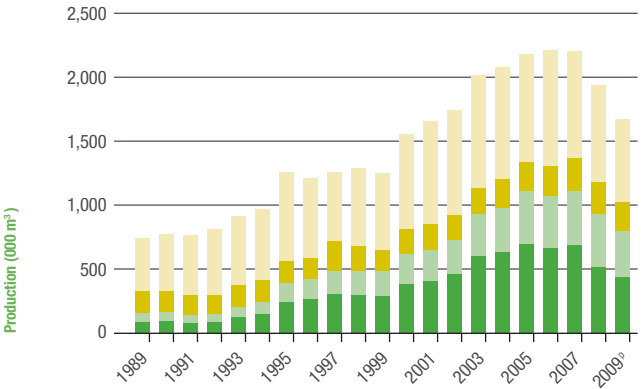
Year ended 31 March

- Indigenous and plantation grown forest lumber
- Lumber Exports

<sup>p</sup> Provisional

Source: MAF

# panel products production



Year ended 31 March

- Veneer
- Plywood
- Particleboard
- Fibreboard

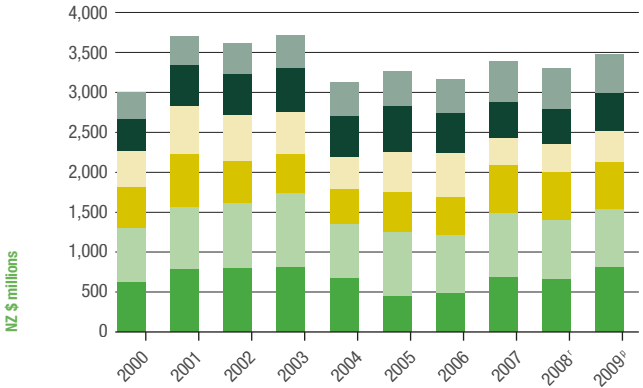
Note: Plywood includes laminated veneer lumber.

Fibreboard includes MDF, hardboard and softboard.

<sup>p</sup> Provisional

Source: MAF

# Maj or export earners



Year ended 31 March

- Logs and chips
- Lumber
- Wood pulp
- Paper and paperboard
- Panel
- Other products

Note: Excludes Re-exports

<sup>r</sup> Revised

<sup>p</sup> Provisional

Source: Statistics New Zealand



# Top export destinations

Exports of Forestry Products by Main Countries of Destination for the year ended March 2009 (provisional);

<b>United Arab Emirates</b>		<b>India</b>		<b>Thailand</b>		<b>Vietnam</b>	
<b>\$NZ60,444</b>		<b>\$NZ93,155</b>		<b>\$NZ50,781</b>		<b>\$NZ73,438</b>	
Logs & Poles	15.7%	Logs & Poles	59.2%	Logs & Poles	0.8%	Logs & Poles	3.2%
Sawn timber	38.7%	Sawn timber	2.2%	Sawn timber	42.3%	Sawn timber	66.6%
Wood pulp	–	Wood pulp	1.0%	Wood pulp	22.5%	Wood pulp	3.5%
Paper & Paperboard	2.3%	Paper & Paperboard	21.4%	Paper & Paperboard	6.5%	Paper & Paperboard	1.6%
Panel products	6.1%	Panel products	5.1%	Panel products	3.2%	Panel products	15.9%
All other	37.2%	All other	11.2%	All other	24.7%	All other	9.2%



<b>Saudi Arabia</b>		<b>China, People's Republic of</b>		<b>Malaysia</b>		<b>Indonesia</b>	
<b>\$NZ54,622</b>		<b>\$NZ619,858</b>		<b>\$NZ47,866</b>		<b>\$NZ135,773</b>	
Logs & Poles	–	Logs & Poles	48.5%	Logs & Poles	8.0%	Logs & Poles	1.2%
Sawn timber	51.7%	Logs & Poles	15.6%	Sawn timber	12.6%	Sawn timber	17.4%
Wood pulp	–	Sawn timber	23.2%	Wood pulp	33.8%	Wood pulp	55.0%
Paper & Paperboard	1.9%	Wood pulp	5.5%	Paper & Paperboard	36.5%	Paper & Paperboard	3.9%
Panel products	26.9%	Paper & Paperboard	5.2%	Panel products	8.5%	Panel products	11.1%
All other	19.6%	Panel products	2.0%	All other	0.6%	All other	11.4%

Note:  
All other forestry products include chips, mouldings, manufactures of paper and paperboard, furniture and miscellaneous forest products.  
Other countries are all other countries to which New Zealand has exported forestry products during the year.

Source: Statistics New Zealand and FOA



Values are \$NZ f.o.b.

<b>Korea, Republic of</b>		<b>Japan</b>		<b>USA</b>		<b>Other Countries</b>	
<b>\$NZ385,737</b>		<b>\$NZ515,889</b>		<b>\$NZ255,479</b>		<b>\$NZ252,656</b>	
Logs & Poles	69.4%	Logs & Poles	17.2%	Logs & Poles	—	Logs & Poles	0.6%
Sawn timber	3.9%	Sawn timber	8.5%	Sawn timber	59.6%	Sawn timber	29.4%
Wood pulp	16.8%	Wood pulp	18.8%	Wood pulp	0.8%	Wood pulp	9.1%
Paper & Paperboard	4.2%	Paper & Paperboard	0.0%	Paper & Paperboard	4.5%	Paper & Paperboard	29.4%
Panel products	5.1%	Panel products	40.3%	Panel products	9.4%	Panel products	6.9%
All other	0.6%	All other	15.3%	All other	25.8%	All other	24.5%



<b>Australia</b>		<b>Philippines</b>		<b>Taiwan</b>		<b>Hong Kong (SAR)</b>	
<b>\$NZ963,510</b>		<b>\$NZ96,904</b>		<b>\$NZ74,928</b>		<b>\$NZ33,317</b>	
Logs & Poles	0.0%	Logs & Poles	—	Logs & Poles	10.3%	Logs & Poles	0.1%
Sawn timber	16.5%	Sawn timber	13.2%	Sawn timber	36.0%	Sawn timber	4.4%
Wood pulp	12.3%	Wood pulp	6.2%	Wood pulp	36.1%	Wood pulp	3.3%
Paper & Paperboard	34.7%	Paper & Paperboard	44.6%	Paper & Paperboard	11.3%	Paper & Paperboard	84.3%
Panel products	9.2%	Panel products	28.8%	Panel products	6.0%	Panel products	2.8%
All other	27.3%	All other	7.1%	All other	0.3%	All other	5.1%

ry products.

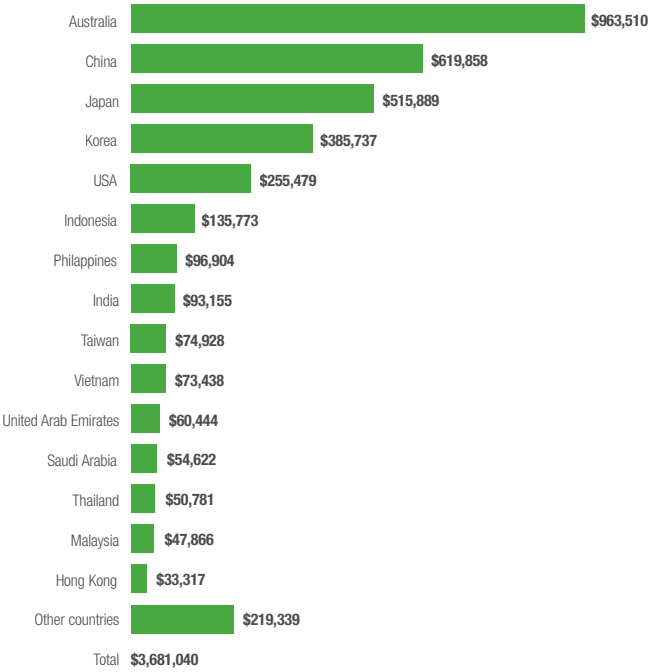
# Top export destinations

Includes Newsprint export figures

Exports of Forestry Products by Main Countries of Destination for the year ended March 2009 (provisional)

\$NZ f.o.b. 000

## Top export destinations

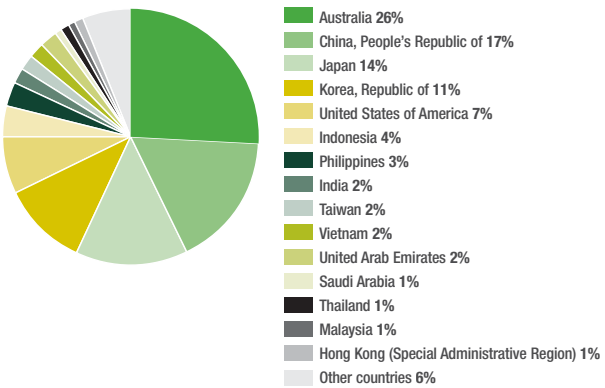


Source: Statistics New Zealand and FOA



# Exports of Forestry Products from New Zealand

For year ended 31 March 2009 (provisional)



Source: Statistics New Zealand and FOA

# Production and exports of selected forestry products

Year ended 31 March 2009 <sup>(P)</sup>

Forestry Product	2006				Total Production	Quantity Exported <sup>2</sup>
	Total Production	Quantity Exported <sup>2</sup>	% Exported	Export Value (\$NZm f.o.b.)		
Logs (000 m <sup>3</sup> )	18,827	5,073	26.95%	447	19,915	5,973
Wood Chips(BDU m <sup>3</sup> )	..	262,403	..	39	..	267,836
Sawn Timber (000 m <sup>3</sup> )	4,235	1,821	43.00%	720	4,301	1,938
Chemical Pulp (tonnes)	742,800	484,945	65.29%	323	784,995	612,641
Mechanical Pulp (tonnes)	818,373	369,124	45.10%	155	743,996	197,789
Newsprint <sup>3</sup> (tonnes)	367,064	300,010	81.73%	251	292,015	139,020
Other Paper and Paperboard (tonnes)	573,396	381,640	66.56%	293	579,931	378,530
Fibreboard (m <sup>3</sup> )	906,938	708,152	78.08%	240	836,755	657,072
Plywood <sup>1</sup> (m <sup>3</sup> )	403,808	106,076	26.27%	135	421,794	72,463
Veneer (m <sup>3</sup> )	665,206	138,487	20.82%	73	688,312	154,740
Particleboard (m <sup>3</sup> )	238,205	107,728	45.22%	59	256,239	110,197
Cont Shaped Wood	..	..	..	114	..	..
Manufactures	..	..	..	167	..	..
Wooden Furniture	..	..	..	53	..	..
Miscellaneous and other wood products				93		
<b>All Forestry Products</b>	..	..	..	<b>3,164</b>	..	..
Total New Zealand Exports	..	..	..	29,700	..	..
<b>Forest Exports as a % of Total Exports</b>	..	..	..	<b>10.65%</b>	..	..

Source: MAF, Statistics New Zealand and FOA

Note:

<sup>1</sup> Plywood includes laminated veneer lumber.

<sup>2</sup> Exports excluded re-exports.

<sup>3</sup> Newsprint figures 2007 and 2008 year ended December, 2009 year ended June.

<sup>P</sup> Provisional

.. Not available

2007		2008				2009			
% Exported	Export Value (\$NZm f.o.b.)	Total Production	Quantity Exported <sup>2</sup>	% Exported	Export Value (\$NZm f.o.b.)	Total Production	Quantity Exported <sup>2</sup>	% Exported	Export Value (\$NZm f.o.b.)
29.99%	634	20,406	6,199	30.38%	598	18,887	6,655	35.24%	739
..	47	..	366,832	..	62	..	296,038	..	70
45.06%	805	4,341	1,771	40.80%	727	3,593	1,739	48.40%	726
78.04%	516	801,179	623,128	77.78%	514	735,264	583,383	79.34%	490
26.58%	79	745,288	243,102	32.62%	97	704,876	233,162	33.08%	96
47.61%	151	258,654	188,053	72.70%	202	291,279	181,865	62.44%	202
65.27%	342	585,429	374,770	64.02%	350	575,914	372,937	64.76%	387
78.53%	243	765,044	579,222	75.71%	229	644,654	502,323	77.92%	246
17.18%	109	416,383	77,680	18.66%	112	362,102	82,183	22.70%	113
22.48%	48	512,575	134,820	26.30%	43	430,685	146,337	33.98%	50
43.01%	51	245,309	118,341	48.24%	53	230,462	133,483	57.92%	68
..	123	..	..	..	119	..	..	..	96
..	188	..	..	..	211	..	..	..	225
..	55	..	..	..	52	..	..	..	42
..	150	..	..	..	126	..	..	..	131
..	<b>3,540</b>	..	..	..	<b>3,494</b>	..	..	..	<b>3,681</b>
..	33,479	..	..	..	36,645	..	..	..	41,399
..	<b>10.57%</b>	..	..	..	<b>9.53%</b>	..	..	..	<b>8.89%</b>

# Value of exports by product and destination

Year ended 31 March 2009 <sup>(\*)</sup>

Country of Destination	Logs & Poles Value (\$NZ000)	Lumber Value (\$NZ000)
Australia	64	158,988
China, People's Republic of	300,521	96,969
Japan	88,529	43,635
Korea, Republic of	267,503	15,145
United States of America	–	152,245
Indonesia	1,606	23,616
Philippines	–	12,809
India	55,135	2,013
Taiwan	7,719	26,976
Vietnam	2,362	48,879
United Arab Emirates	9,507	23,390
Saudi Arabia	–	28,238
Thailand	414	21,472
Malaysia	3,825	6,042
Hong Kong (Special Administrative Region)	18	1,465
Fiji	–	1,080
Other countries	1,314	63,463
<b>Total</b>	<b>738,517</b>	<b>726,425</b>

Source: Statistics New Zealand and FOA

Note:

Values are \$NZ f.o.b. and may include items, e.g. some plywood items, for which no quantities are given. Paper and paperboard includes Newsprint exports for year ended Jun 09, all other products are for the year ended Mar 09.

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

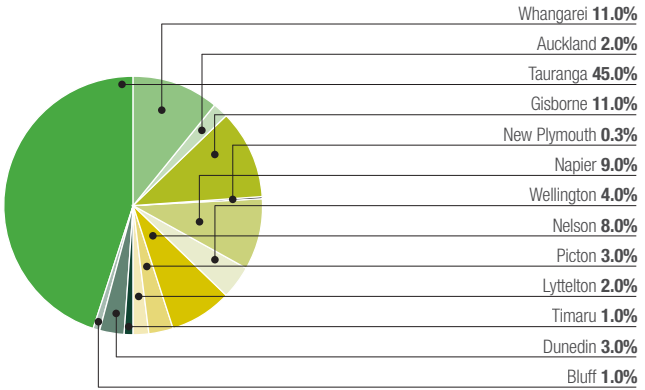
Other countries are all other countries to which New Zealand has exported forestry products during the year.

<sup>\*</sup> Provisional

Wood Pulp Value (\$NZ000)	Paper & Paperboard Value (\$NZ000)	Panel Products Value (\$NZ000)	All Other Forestry Products Value (\$NZ000)	All Forestry Products Value (\$NZ000)	% of Total
118,760	334,032	88,287	263,379	963,510	26%
143,682	33,940	32,396	12,350	619,858	17%
96,910	3	208,007	78,805	515,889	14%
64,975	16,108	19,801	2,205	385,737	11%
1,970	11,488	23,958	65,818	255,479	7%
74,686	5,249	14,979	15,518	135,654	4%
6,018	43,239	27,940	6,898	96,904	3%
912	19,938	4,701	10,456	93,155	2%
27,043	8,427	4,519	244	74,928	2%
2,540	1,181	11,702	6,774	73,438	2%
–	1,413	3,659	22,475	60,444	2%
–	1,037	14,664	10,683	54,622	1%
11,410	3,282	1,645	12,558	50,781	1%
16,156	17,463	4,074	306	47,866	1%
1,094	28,095	938	1,707	33,317	1%
3	12,982	1,644	11,456	27,165	1%
19,905	51,561	13,686	42,364	192,293	5%
<b>586,064</b>	<b>589,438</b>	<b>476,600</b>	<b>563,996</b>	<b>3,681,040</b>	<b>100%</b>

# Log exports by port

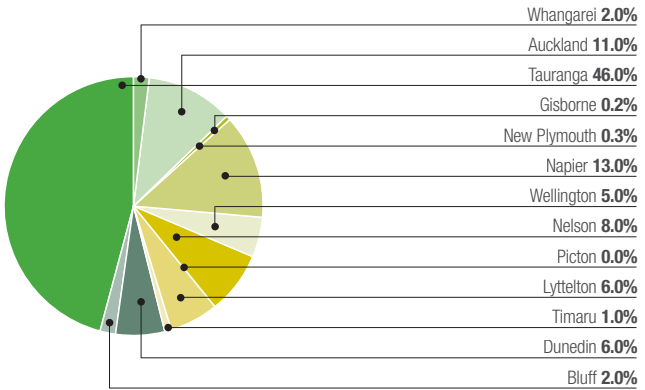
Year ended 31 March 2009



Source: Statistics New Zealand

# Sawn Timber Exports by Port

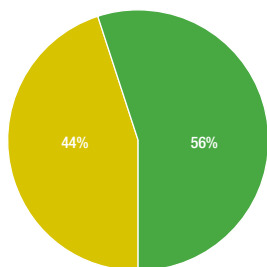
Year ended 31 March 2009



Source: Statistics New Zealand



# Proportion of New Zealand's 1.75 million ha plantation certified by FSC



■ Non Certified  
■ Certified

	<b>Productive Area (ha)</b>
Hancock Forest Management	222,154
Timberlands Ltd	183,069
Ernslaw One Ltd (North Island)	72,059
PF Olsen Ltd	63,145
Juken New Zealand Ltd	60,451
Rayonier NZ	38,051
PanPac Forest Products Ltd	34,271
NZ Forest Managers Ltd	34,052
Crown Forestry, MAF (West Coast)	30,006
PF Olsen Ltd	29,761
Hikurangi Forest Farms Ltd	28,636
Wenita Forest Products Ltd	25,101
Blakely Pacific	23,287
Ernslaw One Ltd (South Island)	22,127
City Forests Ltd	16,044
Southland Plantation Forest Company of NZ	10,544
<b>Total</b>	<b>892,758</b>
Other	94,493
<b>Total Plantation FSC</b>	<b>987,251</b>

Note: Productive Area = Net Stocked Area + Area Awaiting Restocking.

Figures as at 30 June 2009

Source: FSC/NZ FSC Certified Forest Owner/Manager Cluster Group

# 54 %

FOA members contributed 10,690,076 m<sup>3</sup> of FSC Certified product to the total NZ harvest production of 19,693,000 m<sup>3</sup> which equates to 54% of total production.

Source: FOA 2009

# Forest industries training statistics

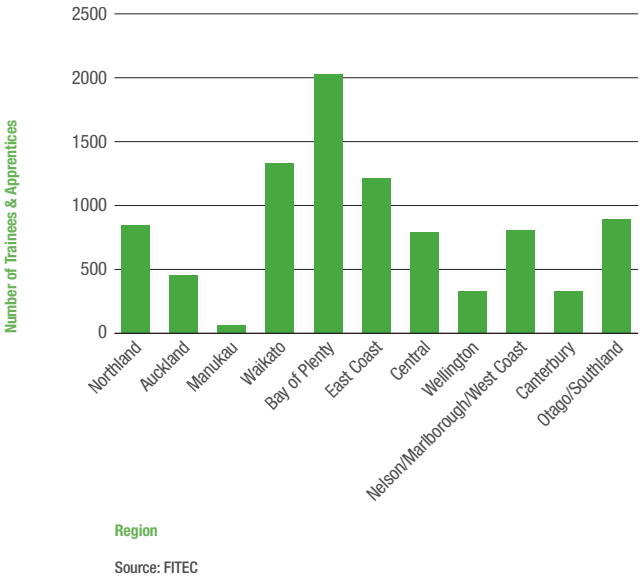
## Trainees and Apprentices by sector

as at December 2009



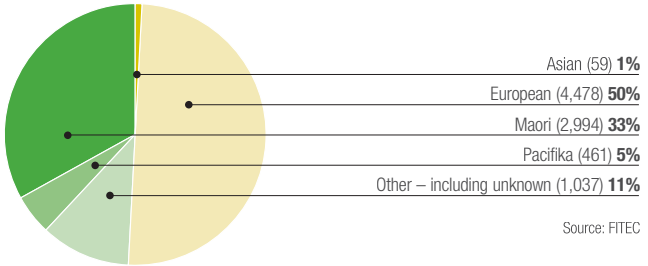
## Trainees and apprentices by region

as at December 2009



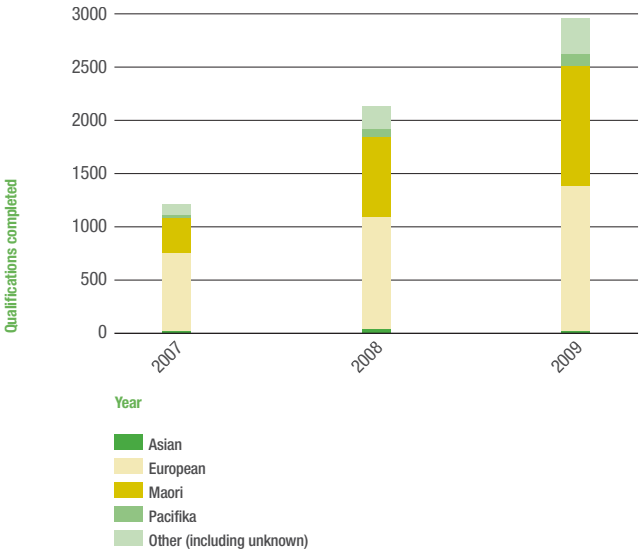
# Trainees and apprentices by Ethnicity

as at December 2009



# Qualifications completed by ethnicity

as at December 2009



Source: FITEC



## Members of the New Zealand Forest Owners Association are committed to the following agreements:

### **New Zealand Forest Accord 1991**

The New Zealand Forest Accord 1991 was updated in 2007 to reaffirm the principles of the 1991 Accord and respond to the threat of climate change. It is an agreement between conservation groups and most major plantation growers and users to:

- Define areas unsuitable for forestry
- Acknowledge that existing natural forest should be maintained
- Recognise commercial forests as essential
- Ensure any use of wood from indigenous forests is on a sustainable, value-added basis
- Ensure new plantation forests will not disturb areas of natural indigenous vegetation

[www.nzfoa.org.nz](http://www.nzfoa.org.nz)

### **New Zealand Climate Change Accord 2007**

Acknowledging, inter alia:

- The environmental benefits delivered by indigenous and plantation forests
- That carbon sequestration by forests is a key mechanism to offset greenhouse gas emissions
- That policies must be consistent with the Polluter Pays Principle, be broad-based and cover all greenhouse gases in all sectors, should avoid net increases in greenhouse gases, should promote the retention and expansion of indigenous forests and the replanting and expansion of plantation forests; ensure all sectors are taking responsibility, be consistent with customary rights and the Treaty of Waitangi and acknowledge that wood is a renewable reusable and recyclable resource.

[www.nzfoa.org.nz](http://www.nzfoa.org.nz)

## **Eliminating Illegal Forest Products**

On 14 August 2008 a statement was signed in which the signatories called on the New Zealand Government, importers, processors, retailers, New Zealand forest and plantation managers and processors of forest and plantation products to support their call to strongly oppose the import and the use of illegally harvested and traded forest products in New Zealand. Trading in illegal products contributes to deforestation, biodiversity loss, poverty and other adverse social effects, and undermines the viability of legal forest products.

Prohibition of the import of these products will benefit New Zealand's legal forest products industries; assist in improving the producer countries' social, environmental, and economic well being; and show that New Zealand is responsibly addressing the problem. Illegal logging is not sustainable and thus eliminating illegal logging is an important step towards achieving sustainable forestry globally.

The organisations that signed the statement were: the Ecologic Foundation, Environment & Conservation Organisations of New Zealand (ECO), Greenpeace Aotearoa New Zealand, NZ Forest Owners Association, NZ Farm Forestry Association, NZ Pine Manufacturers Association, Royal Forest and Bird Protection Society, Sustainable Energy Forum, Wood Processors Association of New Zealand and WWF New Zealand.

[www.nzfoa.org.nz](http://www.nzfoa.org.nz)

## **Log Transport Safety Accord**

Log truck operators and forest owners on 7 August 2008 signed an updated Log Transport Safety Accord designed to further improve the safety of all road users. Since the accord was first signed in 2001 there has been a 65% reduction in log truck crashes, and a 75% reduction in rollover crashes, during a time of rapid growth in the logging industry. The Accord has been updated with the aim of reducing the rollover crash rate even further.

[www.nzfoa.org.nz](http://www.nzfoa.org.nz)

## **Principles for Commercial Plantation Forest Management in New Zealand**

To promote understanding between the signatory parties with a view to New Zealand achieving environmental excellence in plantation forest management and participating as an effective advocate internationally for the sustainable management of plantation forests and the protection, preservation, and sustainable management of natural forests. These principles are complementary to the New Zealand Forest Accord (August 1991).

[www.nzfoa.org.nz](http://www.nzfoa.org.nz)

# NZ WOOD: Forests and wood fight climate change

Wood is the world's most renewable raw material. For this reason forests and the wood they provide are vital in the fight against climate change. As the effects of global warming impact on our environment, the use of renewable and sustainable building materials has never been so important.

The stages of the wood story – planting and renewal, growth, harvesting and use are part of a renewable cycle that takes and stores carbon dioxide from the atmosphere, making wood a better-than carbon-neutral building material.

## **Wood is the only construction material which has absorbed CO<sub>2</sub> from the atmosphere when produced, not emitted more**

During its production, one tonne of:

- concrete – has released 159 kilos of CO<sub>2</sub> into the atmosphere
- steel – has released 1.24 tonnes of CO<sub>2</sub> into the atmosphere
- aluminium – has released 9.3 tonnes of CO<sub>2</sub> into the atmosphere
- wood, however, has absorbed a net 1.7 tonnes of CO<sub>2</sub> from the atmosphere, over and above the energy expended in growing, harvesting and processing.

## **The more timber you use in a house, the more CO<sub>2</sub> you remove from the atmosphere**

- It takes around 20 trees to build an average house frame
- A steel house frame has added 4.5 tonnes of CO<sub>2</sub> to the atmosphere
- A wooden house frame has absorbed 9.5 tonnes CO<sub>2</sub> from the atmosphere
- Choosing timber options for an average house can take around 20 tonnes net of CO<sub>2</sub> out of the atmosphere (saving equivalent of 150 trips Auckland to Wellington, or 7.1 years of car use)
- Using alternative materials (concrete, steel, brick and aluminium) can add 24 tonnes net CO<sub>2</sub> to the atmosphere (costing the equivalent of 180 trips Auckland to Wellington, or 8.6 years of car use)

Using wood is something we can all do to help the environment. By demanding and using more sustainably produced wood, we can ensure that more trees will be planted and more carbon dioxide will be absorbed from the atmosphere.

The result is a better world for ourselves, our families and future generations. It's simple.

*Wood. Our most renewable raw material.*

<http://www.nzwood.co.nz>



# Major New Zealand Forestry Species

**There are a range of New Zealand plantation grown exotic and indigenous species to suit a range of applications including structural, appearance, engineered wood products, furniture and joinery.**

## **Radiata Pine**

Radiata Pine has a number of structural uses including decking, fencing, exterior cladding, window sashes, pergolas, landscaping, shingles, barge boards and exterior trim. Untreated, it can be used for furniture, mouldings, trim and panelling. Panel products, such as plywood, MDF and laminated veneer lumber, are also available from radiata pine resources.

## **Douglas-fir**

Douglas-fir can be used for roof trusses and framing, internal panelling, and glue laminated beams. As well as being popular for light timber framing, the larger dimensional stock is sought after for exposed interior posts and beams because of its good stability and freedom from twist. Glue lamination to produce beams, arches and scaffold planks is also common.

## **Macrocarpa**

Macrocarpa has a range of uses including ceiling sarking, exposed beams, flooring, wall panelling, framing, furniture, solid wood bench tops, architraves and skirtings. It can be used outside for weatherboard, soffit, fascia, pergolas, decking and outdoor furniture. It is not recommended in-ground for construction purposes (including in-ground posts for fencing, decking and pergolas).

## **Eucalypts**

Eucalypts have a number of applications. The Blue Gum group is suitable for tongue and groove flooring, in-sequence parquet, overlay, joinery stairs, doors, furniture, paneling, decking, outdoor furniture, and sliced veneer. The Stringybark group is suitable for flooring, joinery, decking, cross arms (mainly *E. microcorys*), and sliced veneer. The Ash group is suitable for furniture, joinery, and sliced veneer.

Source: <http://www.nzwood.co.nz/species/>

# New Zealand Forest Owners' Association strategic plan

## **Vision**

New Zealand planted forests are a major part of the New Zealand economy, providing a range of sustainably managed products, and acknowledged as an integral part of the country's regional development. They are also recognised as a major component in New Zealand's contribution to meeting the effects of climate change and addressing a range of other environmental challenges.

Against this background, the NZ Forest Owners Association is the recognised and respected body of the commercial forest growing industry.

## **Mission**

The mission statement of New Zealand Forest Owner's Association (FOA) is:

"To actively promote sustainable commercial forestry in New Zealand with a view to creating a favourable economic, political and social climate for the profitable operation of members' businesses."

## **Objectives**

### **Objective 1 – Services**

Provide specific services to members which protect or add value to their businesses.

### **Objective 2 – Promotion**

Promote forestry as an important part of New Zealand's national and regional economies as well as an important contributor to environmental sustainability and climate change outcomes.

### **Objective 3 – Advocacy**

Advocate central and local government policies and third party policies which facilitate the economic performance of plantation forestry and secure the asset.

### **Objective 4 – Collaboration**

Encourage better outcomes for forest growing through industry collaboration to provide enhanced productivity and production and/or reduced operating costs.

FOA represents the owners of New Zealand's commercial plantation forests. The association and its members are committed to the highest standards of sustainable silviculture, environmental practice and workforce safety. Plantation forestry is science-based and highly innovative. It is New Zealand's third largest export industry and a major regional employer. It is the industry with the greatest potential to transform New Zealand into a carbon-neutral economy where all land-based industries are environmentally sustainable. Its members' forests comprise more than 75 per cent of the country's 1.75 million hectares of plantation forestry.





## Terms and things

### Area and Volume

- A hectare (ha) = 100 x 100 metres (about the size of two rugby fields).
- A cubic metre (m<sup>3</sup>) = 1 metre x 1 metre x 1 metre (about three times the size of a household dishwasher).
- An average radiata pine tree yields 2.4 m<sup>3</sup> of wood at harvest.
- 1 hectare of 28 year-old radiata pine contains between 650 and 800 m<sup>3</sup> of wood.
- 1 hectare grows up to 28 m<sup>3</sup> of wood each year.
- NZ radiata pine plantations yield up to 30% more wood per hectare than they did 60 years ago.
- A log truck and trailer contains approximately 30 tonnes of logs.
- A log ship contains approximately 30-35,000 tonnes of logs.

### Costs and Values

- It costs 18 - 24 cents to truck one m<sup>3</sup> of wood one km (for 100 km that is \$18 - \$24 per m<sup>3</sup>).
- Harvesting costs begin around \$15 - \$24 per m<sup>3</sup> – increasing with steeper terrain, environmental sensitivities, smaller trees etc.
- Depending on market conditions, the average radiata pine tree when harvested is worth \$50 - \$200 to the grower.
- Value of wood being grown (added) each year in one hectare of forest is between \$500 and \$1,500.
- High quality pruned stands, well located to the market can sell for as much as \$50,000 per hectare net to the owner, while unpruned stands may net less than \$10,000 – particularly if logging and cartage costs are higher.

*Note: Prices are indicative only.*

# Carbon emissions and sequestration

## **The Carbon Cycle**

Planting trees begins a cycle that continuously removes, releases and reabsorbs destructive greenhouse gases such as carbon dioxide. As trees grow, they absorb carbon dioxide through the process of photosynthesis.

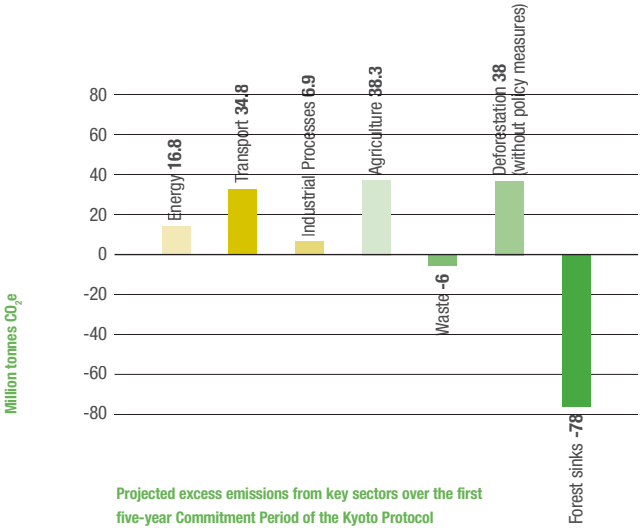
The carbon dioxide absorbed by the growing forest remains stored within the wood products used throughout the lifetime of the building structure or product.

At the end of a structure's or product's lifetime the carbon dioxide is released back into the atmosphere when 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.

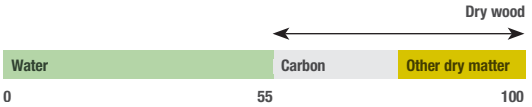
When wood materials decay or are burnt as fuel they release carbon dioxide that was absorbed during the growth of the trees and are therefore carbon neutral.

# Carbon emissions by key sectors and forest Sequestration

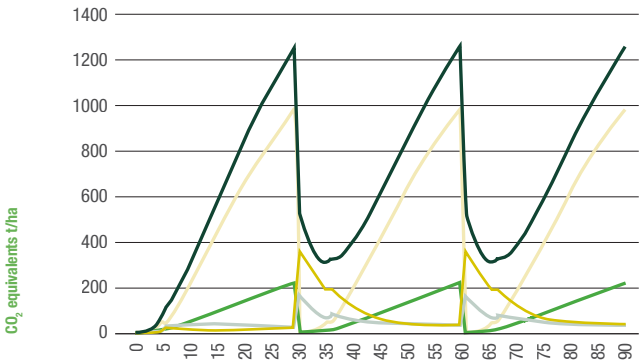


Source: NZ Ministry for the Environment/FOA

- In 2005, forests removed 25.5 m tonnes of CO<sub>2</sub> from the atmosphere.
- 1 hectare sequesters approximately 25 tonnes CO<sub>2</sub> per year.
- A fresh log contains about 55% water; approximately 50% of the balance is carbon.



# Carbon Yield d: Mul tiple Rotations



Stand age (years)

- Total
- Above ground live biomass
- Below ground live biomass
- Dead woody litter
- Fine litter

Growth Modelling region: Waikato Taupo, Latitude 37.8, Altitude 495 m  
300Index 29.0 m<sup>3</sup>/ha/year, Site index 34.8 m

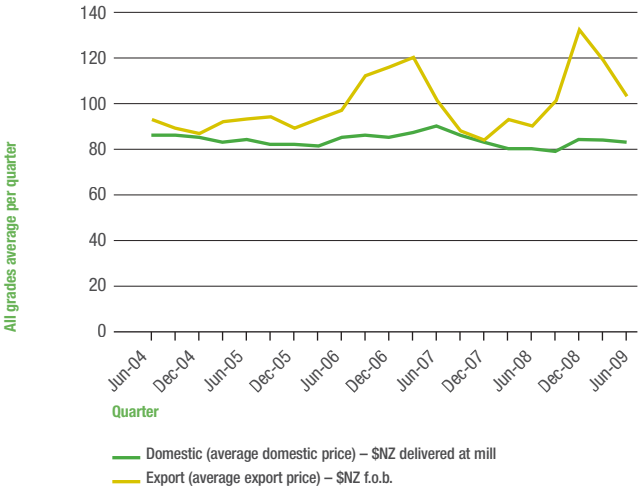
This is the classic sawtooth carbon sequestration graph for a plantation stand. It shows the sequestration and loss of carbon in the system over time. It records the gradual sequestration of carbon in the different layers (leaves, roots and litter) and the assumed release when the crop is harvested. Note the difference in release at harvesting time for the different layers, with a level of carbon being retained as sequestered, despite the crop being harvested.

The graph is for an unpruned stand, harvested age 30, waste thinned at age 6 to 450 spha.

The choice of harvest age is dependent upon the crop owner's principal stand objective (timber, carbon, etc).

Graph shows CO<sub>2</sub> equivalent (CO<sub>2</sub> tonnes = 44/12xCarbon tonnes).

# Export and domestic Log Pricing



Source: MAF

# Log pricing data

Log Type, Pricing Point and Market	Jun-04	Sep-04	Dec-04	Mar-05
	Quarter	Quarter	Quarter	Quarter
<b>Export (\$NZ per JAS m<sup>3</sup> f.o.b)</b>				
Pruned-Japan, Korea	..	142-249	139-217	134-183
A Grade-Japan	74-115	58-96	64-100	83-90
J Grade-Japan	54-91	57-76	55-80	73-79
K Grade-Korea	54-101	50-70	45-75	70-100
Pulp	40-46	41-47	43-54	47-65
<b>All grades average per quarter</b>	<b>93</b>	<b>89</b>	<b>87</b>	<b>92</b>
<b>Domestic (\$NZ per tonne delivered at mill)</b>				
P1	138-169	146-177	139-171	130-145
P2	96-155	99-150	93-140	93-130
S1	79-90	80-95	80-93	78-99
S2	64-85	70-80	69-90	76-95
L1 and L2	50-74	50-72	48-67	47-65
S3 and L3	50-70	49-68	48-74	47-73
Run of bush	..	..	..	..
Pulp	37-48	33-39	36-41	36-47
<b>All grades average per quarter</b>	<b>86</b>	<b>86</b>	<b>85</b>	<b>83</b>

Source: MAF

Jun-05	Sep-05	Dec-05	Mar-06	Jun-06	Sep-06	Dec-06	Mar-07	Jun-07	Sep-07	Dec-07	Mar-08	Jun-08	Sep-08	Dec-08	Mar-09	Jun-09
Quarter	Quarter	Quarter	Quarter	Quarter	Quarter	Quarter	Quarter	Quarter	Quarter	Quarter	Quarter	Quarter	Quarter	Quarter	Quarter	Quarter
133-227	145-236	139-149	128-200	141-170	173-178	153-232	144-230	112-133	101-114	101-114	121-165	121-165	122-175	198-216	169-206	126-158
85-95r	82-93	88-93	70-99	94-100	104-119	106-111	114-122	96-120	93-109	93-109	92-96	93-98	88-103	121-133	95-131	95-106
72-80r	53-77	72-81	76-87	80-93	98-102	98-102	114-120	107-118	90-106	90-106	80-85	70-84	90	112	116	85
48-86	58-90	78-82	65-86	75-88	87-111	93-110	107-111	90-108	72-88	72-88	76-82	70-87	80-93	106-116	86-116	85-102
45-62r	48-56	50-57	48-64	57-72	65-84	73-84	59-78	57-70	45-62	45-62	45-62	58-62	68-76	75-93	56-94	65-86
<b>93</b>	<b>94</b>	<b>89</b>	<b>93</b>	<b>97</b>	<b>112</b>	<b>116</b>	<b>120</b>	<b>101</b>	<b>88</b>	<b>84</b>	<b>93</b>	<b>90</b>	<b>101</b>	<b>132</b>	<b>119</b>	<b>103</b>
135-147	139-143	130-137	123-140	124-154	133-147	128-147	130-137	123-141	123-141	123-141	118-141	118-132	120-130	116-126	116-128	116-135
99-142r	98-108	94-128	90-129	97-111	99-130	93-115	93-107	98-111	92-111	97-111	92-107	92-105	93-105	89-109	95-107	93-107
78-92	77-93	80-93	80-92	81-91	82-93	82-86	86-88	91-98	85-85	67-87	82-87	81-87	80-87	89-96	85-97	84-90
60-90	74-88	73-88	63-89	80-92	75-93	82-90	63-93	90-94	85-94	82-89	57-88	61-85	57-85	78-89	75-88	77-87
51-65	51-65	50-69	51-67	58-75	58-77	58-87	63-76	73-96	59-80	60-79	57-70	57-76	60-69	69-75	70-76	68-72
51-76	51-77	50-74	48-73	57-78	53-73	58-73	63-76	68-82	64-76	56-71	57-69	61-65	57-65	63-67	64-69	64-67
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35-49	37-49	38-50	38-51	38-52	39-51	40-52	41-56	40-55	41-53	41-52	40-51	40-55	39-56	41-62	40-64	40-62
<b>84</b>	<b>82</b>	<b>82</b>	<b>81</b>	<b>85</b>	<b>86</b>	<b>85</b>	<b>86</b>	<b>90</b>	<b>86</b>	<b>83</b>	<b>80</b>	<b>80</b>	<b>79</b>	<b>84</b>	<b>84</b>	<b>83</b>

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