

OVERVIEW

2

New Zealand's planted production forests covered an estimated 1.80 million hectares as at 1 April 2006. This area is estimated to be accurate to plus or minus 5 percent. That is, the total area (net stocked) is estimated to be between 1.71 and 1.89 million hectares. For further information refer to Chapter 5, "Reliability of Data".

The total planted forest stem volume is estimated to be 418 million cubic metres with an average forest stand age (area weighted) of 14.3 years.

Table 2.1 (see page 4) provides key national forestry statistics as at 1 April 2006 and compares these with statistics for 2005.

Seventy percent of the forest area is in the North Island and thirty percent is in the South Island. Thirty-one percent of the entire planted forest estate is in the Central North Island wood supply region.

Figures 8.1 and 8.2 (see pages 16–17) in this report show the location of New Zealand's planted forests as identified in the New Zealand Land Cover Database version 2 (NZLCDB2).

Figure 2.1 shows the age structure of the New Zealand planted forest estate. Very little of the forest area is planted in

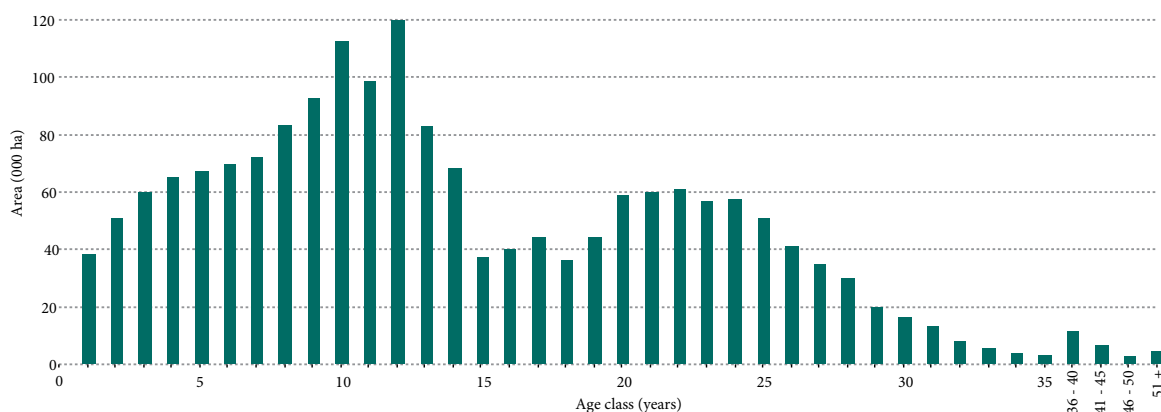
trees older than 32 years, a reflection of the economic rotation age of the dominant species, radiata pine. Radiata pine is typically harvested between 26 and 32 years old. The figure shows that the areas of forest planted from the late 1970s to the mid-1980s are now approaching harvest age. Also, the large areas of forest planted between 1992 and 1998, now 8 to 14 years old, are very apparent. Harvesting of these areas will begin around 2020.

»» SPECIES AND SILVICULTURE

Radiata pine is the dominant species, making up 89 percent of the planted forest area. Douglas-fir is the next most common species, making up 6 percent. The remainder of the area is planted in cypress species, eucalyptus species, other softwood species and other hardwood species.

About 62 percent (993 000 hectares) of the radiata pine planted forest estate is, or is expected to be, pruned to a height of at least four metres. Approximately 11 percent (110 000 hectares) of pruned radiata pine is older than 25 years, while 17 percent (173 000 hectares) of pruned radiata pine is between 21 and 25 years old. Seventy-two percent (710 000 hectares) of the pruned radiata pine is 20 years old or under.

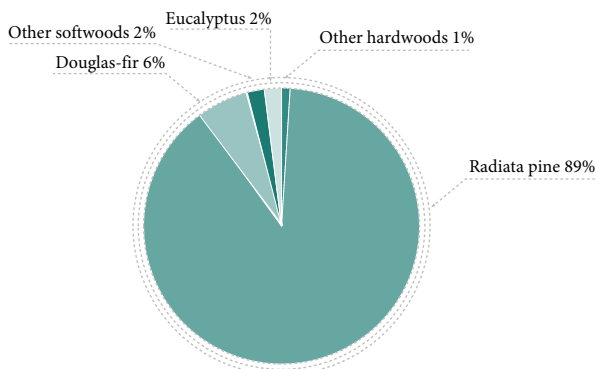
»» FIGURE 2.1: TOTAL ESTIMATED PLANTED PRODUCTION FOREST AREA BY AGE CLASS, AS AT 1 APRIL 2006¹



Note

1. The area is shown for each age in single years up to 35 years. After this, five-year age classes are shown.

»» FIGURE 2.2: SPECIES DISTRIBUTION – 2006



The area of production thinned forest has declined over the last decade. Approximately 16 percent of the radiata pine planted forest currently is, or is expected to be, production thinned. In 1995, 28 percent of the radiata pine forests was, or was intended to be, production thinned. Production thinning of the radiata resource has decreased in the Central North Island region from 65 percent in 1995 to 22 percent in 2006.

Information collected in the 2006 survey indicates that 60 percent of the forest resource is first-rotation forest, 30 percent is second or subsequent rotation, while information is incomplete for 10 percent of the estate. Of the

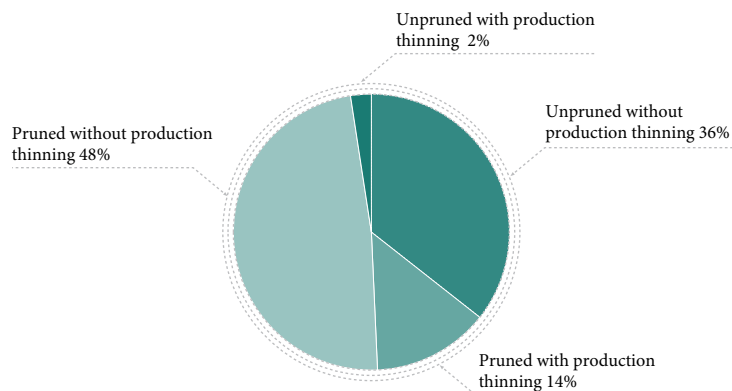
identified first-rotation forest, 57 percent is aged 15 years or under.

»» PLANTING

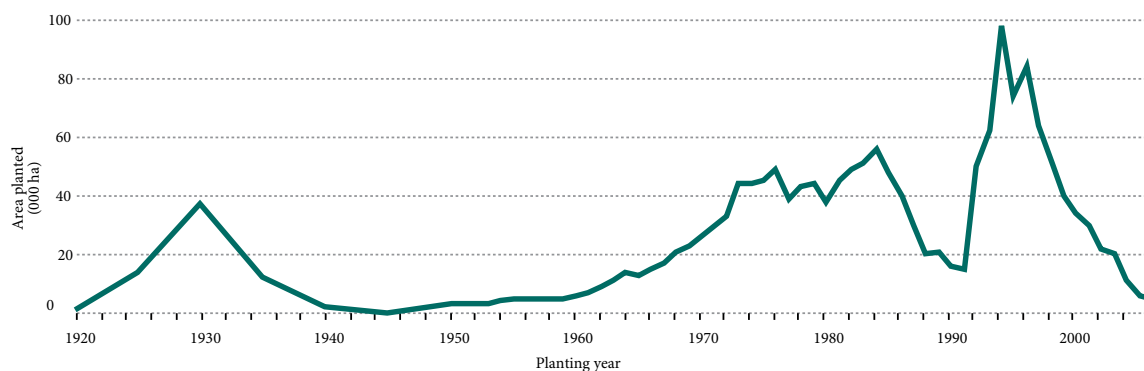
An estimated 6000 hectares of new forest were established in 2005. It is provisionally estimated that 5000 hectares of new planting occurred during 2006.

The average new planting rate over the last 30 years has been 42 000 hectares per year. In the period 1992 to 1998 new planting rates were high – averaging 69 000 hectares per year. Since 1998 new planting has declined. At 5000 hectares in 2006, new planting is at its lowest level since 1959.

»» FIGURE 2.3: RADIATA PINE BY TENDING REGIME – 2006



»» FIGURE 2.4: NEW FOREST PLANTING – 2006



»» TABLE 2.1: NATIONAL EXOTIC FOREST ESTATE STATISTICS

AREA AND STANDING VOLUME STATISTICS	AS AT 1 APRIL 2005 ¹	AS AT 1 APRIL 2006
FOREST AREA		
Total net stocked area (ha)	1 811 000	1 800 000
Harvested area awaiting restocking (ha)	42 700	37 100
GROWTH CHARACTERISTICS		
Standing volume (000 m ³)	404 548 ^r	418 152
Average standing volume (m ³ /ha)	223 ^r	232
Area-weighted average age (years)	13.9	14.3
AREA BY SPECIES		
Radiata pine (ha)	1 611 000	1 603 000
Douglas-fir (ha)	115 000	113 000
Cypress species (ha)	6 000	7 000
Other softwoods (ha)	28 000	28 000
Eucalyptus species (ha)	33 000	31 000
Other hardwoods (ha)	18 000	18 000
RADIATA PINE AREA BY TENDING REGIME		
Pruned with production thinning (ha)	226 000	219 000
Pruned without production thinning (ha)	793 000	774 000
Unpruned with production thinning (ha)	40 000	39 000
Unpruned without production thinning (ha)	541 000	571 000
PLANTING STATISTICS		
	YEAR ENDED 31 DECEMBER 2004¹	YEAR ENDED 31 DECEMBER 2005
NEW PLANTING		
Total estimated new planting (ha) ²	10 600	6 000
Restocking (ha)	39 600	31 900
HARVESTING STATISTICS		
	YEAR ENDED 31 MARCH 2005¹	YEAR ENDED 31 MARCH 2006
HARVESTING		
Area clear felled – all species (ha)	39 000	38 800
Area clear felled – radiata pine (ha)	36 200	34 300
Volume clear felled – all species (TRVIB ³ , 000 m ³)	17 580	17 862
Volume clear felled – radiata pine (TRVIB, 000 m ³)	16 725	16 671
Volume production thinned – all species (TRVIB, 000 m ³)	719	410
Total volume removed – all species (TRVIB, 000 m ³)	18 299	18 272
Average clear fell yield – all species (m ³ /ha)	450	460
Average clear fell yield – radiata pine (m ³ /ha)	462	486
Area-weighted average clear fell age for radiata pine (years)	27.9	28.2
Estimated planted forest roundwood removal (000 m ³) ⁴	19 234	18 962

Notes

1. Source: *A National Exotic Forest Description* as at 1 April 2005, Ministry of Agriculture and Forestry, 2006.
2. The method used to estimate new planting is described on page 6 of this report.
3. Total recoverable volume inside bark.
4. Source: Ministry of Agriculture and Forestry (July 2006) *Forestry Production and Trade for the March 2006 Quarter*. This is an indirect estimate based on the application of conversion factors to the various forestry products produced. It is included here as a comparison with the direct estimate of the total volume removed from the 2006 NEFD Survey.

Symbols
r revised

It is estimated that between 1990 and 2006, about 680 000 hectares of new forest were established. New entrants to forestry have carried out much of this post-1990 new planting. While these new owners have planted a significant area of forest during the 1990s, 70 percent (1.3 million hectares) of the entire forest resource is owned by growers with more than 1000 hectares of forest.

»» DEFORESTATION

The relatively new trend of not replanting forest after harvesting, and in a few cases converting immature forest to pasture, started on a larger scale in 2004. New Zealand has always had a relatively dynamic landscape so changes in land use are not unusual. However, historically little conversion of planted production forest land has occurred. The 2006 survey indicates that approximately 12 900 hectares of forest clear felled in the year ended 31 March 2006 will not be replanted. This area represents 33 percent of the area harvested, and compares with historical information indicating that only about 2 to 5 percent of the area harvested has not been replanted in the past.

»» HARVESTING

An estimated 18.3 million cubic metres of roundwood were harvested from New Zealand's planted production forests in the year ended 31 March 2006. An estimated 17.9 million cubic metres came from clear felling

38 800 hectares of planted forest, and 0.4 million cubic metres from production thinning.

The radiata pine harvest comprised approximately 12 percent pruned logs, 66 percent unpruned logs, and 22 percent pulp and chip logs. About 31 900 hectares of previously clear felled planted forest were replanted in 2005.

Significant areas of forest established in the late 1970s and early 1980s are now maturing and are expected to be harvested over the next decade.

»» FIGURE 2.5: RADIATA PINE HARVEST VOLUME BY LOG GRADE, YEAR ENDED 31 MARCH 2006

