National Exotic Forest Description 1992 National and Regional Wood Supply Forecasts

In April 1993, the Ministry of Forestry published their woodflow projections out to 2040. The Executive Summary from this publication is reprinted below.

Executive Summary

The potential sustainable wood supply available from New Zealand's plantation forests is forecast to rise from the current level of 14 million m^3 in 1992* to over 23 million m^3 by 2005. Radiata pine makes up approximately 80% of the wood supply forecast in 1992 and is expected to increase to 90% by 2000. The volume of pruned logs is forecast to rise gradually from 350,000 m^3 in 1991 to 3.4 million m^3 in 2005.

Five scenarios are used in this study to show the outcome of a range of options on the long-term sustainable supply of wood. Three scenarios are based on the age of clearfelling and two on levels of new planting.

The primary assumptions for each of these scenarios are:

Base cut	Target clearfell age for radiata pine – 30 years
Early cut	Target clearfell age for radiata pine – 25 years
Late cut	Target clearfell age for radiata pine – 35 years
Plant 50,000	New planting of 50,000 hectares annually
Plant 100,000	New planting of 100,000 hectares annually

All areas clearfelled are assumed to be replanted in the year following clearfelling. In the two planting scenarios a target clearfell age for radiata pine of 30 years was used and the specified level of new planting commenced from April 1, 1992. Radiata pine was modelled on a non-declining yield basis in all scenarios.

Separate forecasts were carried out for each of the ten wood supply regions – Northland, Auckland, Central North Island, East Coast, Hawkes Bay, Southern North Island, Nelson/Marlborough, West Coast, Canterbury and Otago/Southland. These were then aggregated to provide national forecasts.

The forecast for each of the clearfell age scenarios reaches a plateau, where the annual recoverable volume becomes reasonably static indefinitely. Table 2 sum-

Table 1: National wood supply forecasts (average annual recoverable volumes 000 000 m^3/yr)

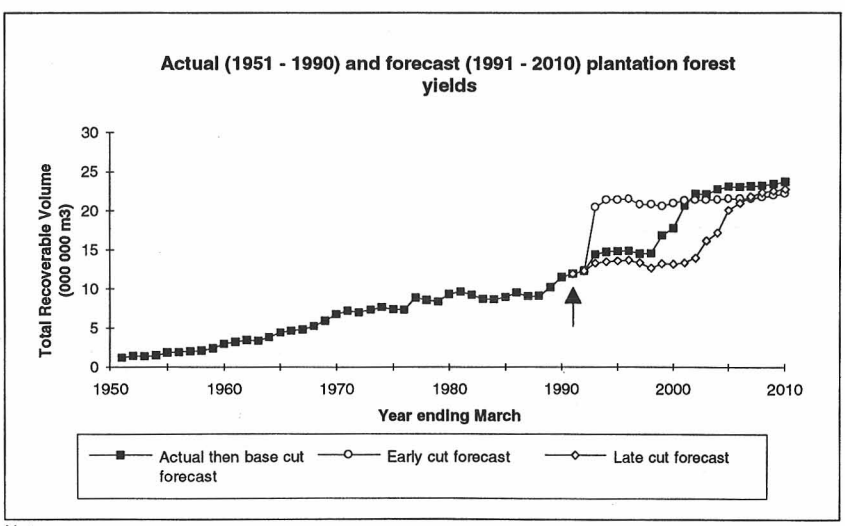
Lustrum	Base cut	Early cut	Late cut	Plant 50 000 ha/yr	Plant 100 000 ha/yr
1991-95	13.7	17.5	12.9	13.6	13.6
1996-00	15.7	20.9	13.2	15.8	15.8
2001-05	22.1	21.4	16.1	23.9	24.2
2006-10	23.3	21.8	22.1	26.8	27.7
2011-15	23.5	22.1	23.4	28.7	29.8
2016-20	23.6	22.2	24.5	30.4	35.3
2021-25	23.7	22.2	24.5	38.4	61.5

Based on an estimated **91.8%** of the national forest plantation area

* Source: Ministry of Forestry Statistical Release, Estimate of Roundwood Removals from New Zealand Forests, 22 January 1993. This estimate is derived from production data using conversion factors.

Table 2: Maximum recoverable volumes forecast for the clearfell age scenarios

Scenario	Target age of radiata (years)	Maximum recoverable volume (000 000 m^3)	Year available from
Base Cut	30	23.0 - 23.5	2005 on
Early Cut	25	20.5 - 22.0	1993 on
Late Cut	35	22.5 - 24.5	2009 on



Notes:

1. The arrow indicates the beginning of the forecasts (1991).
2. Source of actual plantation forest yields, New Zealand Forestry Statistics 1991, Ministry of Forestry, 1991. Table A10, pg 16.

marises these levels and the times that these levels are reached. The new planting scenarios do not reach a plateau since new areas of forest are continuously established over the entire forecast horizon.

The early cut forecast demonstrates a sharp rise in wood supply, with a sustainable plateau being reached almost immediately. However, this plateau is at lower level than the other scenarios. It is also important to recognise that the physical properties of radiata pine logs from 25-year-old stands are different from logs produced from 30-year-old stands.

These forecasts are conservative, since the forest area database used in deriving them does not include all plantation forest areas. Approximately 91.8% (1.16 million ha) of the estimated 1.26 million hectares of national plantation forests in 1990 was represented. No attempt was made to scale the area data up to 100%, as this would have involved making certain assumptions about the characteristics of the unrepresented forest area.

The graph on page 43 shows the wood supply forecasts in context with historical levels of plantation forest yields since 1951.

The Central North Island is the dominant wood supply region producing 58% of the forecast national wood supply in 1993. However the proportion of wood this region is forecast to produce does diminish as other regions with extensive young plantation forests, such as Northland and East Coast, begin to mature.

The proportion of the total forest area represented in each of the ten regional wood supply forecasts varies from 74% in the Southern North Island region to 98% in the Nelson/Marlborough region. These proportions are shown along with the base cut regional wood supply forecasts in Table 3.

It should be recognised that the harvest from New Zealand's plantation forests are not regulated by the artificial regional boundaries used in this study. Plantation forests are generally managed to maximise the benefits to the enterprise which owns them.

The forecasts contained in this report are essentially resource-based forecasts of the level of harvest attainable, given the assumptions on yields, areas and harvesting constraints outlined. This is not a prediction of how companies will manage the cut from their forests, nor is it a prescription for how their cut should be managed.

Table 3: Regional base cut wood supply forecasts (average annual recoverable volumes 000 m^3/yr)

Wood Supply Region	% of total net prod. forest area used in forecast	Lustrum 1991-95	1996-00	2001-05	2006-10	2011-15
Northland	86.5	538	818	1 606	2 284	2 306
Auckland	93.1	696	1 061	1 274	1 314	1 326
Central North Island	96.7	8 380	8 006	10 022	10 109	10 283
East Coast	96.4	237	484	1 238	1 511	1 475
Hawkes Bay	87.3	695	827	1 534	1 474	1 482
Southern North Island	74.4	492	628	1 183	1 185	1 187
Nelson/Marlborough	98.0	1 203	1 785	2 382	2 438	2 521
Canterbury	90.5	370	509	691	738	717
West Coast	78.4	126	269	374	376	416
Otago/Southland	88.0	924	1 318	1 812	1 869	1 795
New Zealand total	**91.8**	**13 661**	**15 705**	**22 116**	**23 299**	**23 508**

National wood supply forecasts