PROVISIONAL ESTIMATES OF **TREE STOCK SALES** AND **FOREST PLANTING** IN 2016

PURPOSE

This report provides the provisional estimates of the sales of tree stocks and the areas of commercial forest planted in 2016. It also provides a tentative estimate of mānuka seedling sales and the area planted.

BACKGROUND

Each spring the Ministry for Primary Industries (MPI) undertakes a survey of tree stock sales from commercial forestry nurseries. This information is then modelled to estimate total sales, and to generate estimates of planting by species or species groups, and the total area planted. In 2016, 28 commercial forestry nurseries completed the survey, a response rate of 100 percent.

TREE STOCK SALES

Tree stock sales reported in 2016 totalled 52.7 million seedlings, compared to 49.5 million seedlings sold in 2015. The main increase was in radiata pine where sales increased by 3.5 million (8%), and in particular in radiata pine with a Growth and Form (GF)[1] of greater than 19 (20%). Table 1 provides a breakdown of sales since 2009, by species and species groups.

1 Growth and Form (GF) rating – where the higher the rating the greater potential gain in tree growth and form from the genetic improvement.

Table 1: Tree stock sales from 2009 to 2016 (millions)

	2009	2010	2011	2012	2013	2014	2015	2016p
Radiata pine	37.7	46.4	58.9	64.6	48.5	47.2	45.8	49.3
Douglas-fir	3.0	3.6	5.1	4.0	3.1	1.9	2.0	2.2
Other softwoods	1.5	1.3	1.3	1.3	0.7	0.8	0.5	0.4
All hardwoods	1.0	1.9	2.3	2.6	1.9	0.9	1.3	0.8
TOTAL	43.2	53.2	67.6	72.5	54.1[1]	50.8	49.5[1]	**52.7**

p Provisional.

Note

1 Individual entries may not add up to totals due to rounding to the nearest 100 000.

RADIATA PINE

Annual radiata pine tree stock sales by categories are shown in Table 2.

Table 2: Radiata Pine Tree Stock Sales from 2003 to 2016 (millions)

Year		GF < 14	GF 14 – 19	GF > 19	Cuttings	GF Plus	TOTAL[1]
2003		0.1	14.6	7.6	14.0	11.2	**47.4**
2004		less than 0.1	13.8	4.8	16.0	8.8	**43.5**
		GF < 14	**GF 14 – 19**	**GF > 19**	**Cuttings/clones**		
2005		less than 0.1	9.0	10.6	12.9		**32.6**
2006		less than 0.1	7.6	11.3	9.9		**28.8**
2007		0.1	11.2	17.2	8.1		**36.7**
2008		0.3	11.7	15.4	8.8		**36.2**
2009		0.2	10.9	17.0	9.6		**37.7**
	Stand Select	**GF < 14**	**GF 14 – 19**	**GF > 19**	**Cuttings/clones**		
2010	1.9	1.1	17.6	13.2	12.6		**46.4**
2011	12.2	0.4	16.1	16.8	13.4		**58.9**
2012	16.6	0.7	15.1	20.3	11.9		**64.6**
2013	9.9	less than 0.1	9.1	17.1	12.3		**48.5**
2014	5.8	0.2	11.6	14.5	15.1		**47.2**
2015	4.4	0.2	10.1	17.1	14.0		**45.8**
2016	3.4	less than 0.1	11.0	20.6	14.3		**49.3**

Note

1. Individual entries may not add up to totals due to rounding to the nearest 100 000.

The proportions of the area planted in radiata pine with a GF rating of 20 or more and a GF rating of 19 or less (and Stand Select) are estimated in Table 3. (Stand select is forest grown from seed collected by a Radiata Pine Breeding Company shareholder in accordance with a set of criteria that authenticate the seed source and the genetic quality of that source.)

Table 3: Estimated Percentage of Total Area of Radiata Pine Planting by GF Category

Radiata pine GF Rating	2009	2010	2011	2012	2013	2014	2015	2016[p]
Seedlings ≤ GF19	28	44[1]	49[1]	48[1]	38[1]	36[1]	31[1]	28[1]
Seedlings/cuttings ≥ GF20	72	56	51	52	62	64	69	72

p Provisional.

Note

1. Includes Stand Select.

FOREST PLANTING

The total area of forest planting in the winter of 2016 is provisionally estimated from the nursery survey data and associated modelling to be 48 000 hectares.

Table 4: Estimated Areas Planted in 2016 by Species and Species Groups

Species/species group	Area (hectares)[1]	Percentage of total area[2]
Radiata pine	46 000	96
Douglas-fir	1 000	3
Other exotic softwoods	less than 1 000	1
All exotic hardwoods	less than 1 000	1
TOTAL	**48 000**	**100**

Notes

1. The estimated areas in Table 4 have been rounded to the nearest 1000 hectares or recorded as less than 1000 hectares where the area is between 1 and 999 hectares.
2. Percentage does not sum to 100 due to rounding.

The annual National Exotic Forest Description report (NEFD; published in January 2017) provides a provisional estimate of new planting in the 2016 calendar year of 2000 hectares. This is based on responses to a survey of larger-scale forest owners and managers. A further 1500 hectares are estimated to have been established by smaller-scale owners under the Afforestation Grant Scheme. The combined area of new planting in 2016 is estimated to be in the order of 3500 hectares.

Replanting of harvested areas is provisionally estimated to be 44 500 hectares in 2016. This is the residual area from the estimated total area of planting (48 000 hectares) minus the estimated area of new planting (3500 hectares).

The total areas of new planting and replanting by species and species groups for 2016 are provided in Table 5. These allocations are based on the estimated percentage of total planting accounted for by each species or species group.

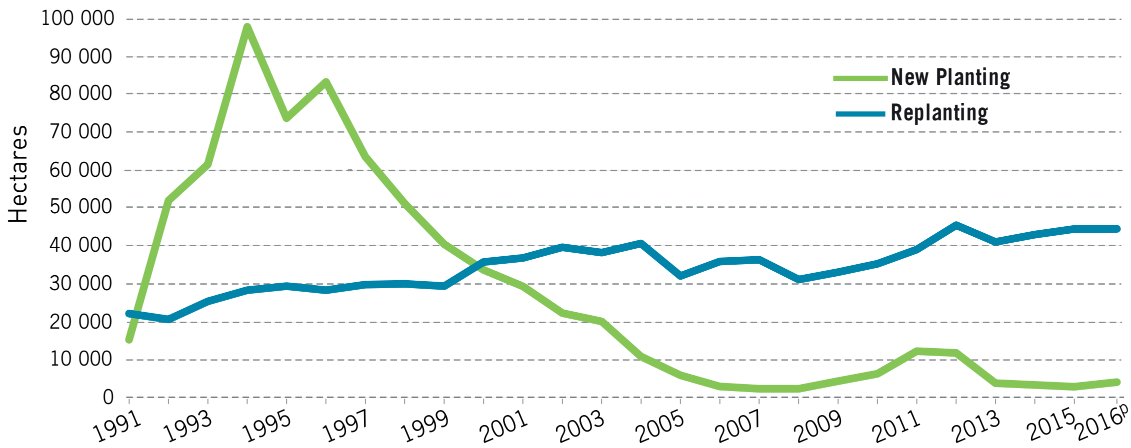
Table 5: Estimated Areas[1] (hectares) of New Planting and Replanting for 2016 (provisional)

Species/species group	New Planting	Replanting
Radiata pine	3 000	43 000
Douglas-fir	less than 1000	1000[2]
Other exotic softwoods	less than 1000	less than 1000
All exotic hardwoods	less than 1000	less than 1000
TOTAL[3]	**3 500**	**44 500**

Notes
1. The estimated areas in Table 5 are either rounded to the nearest 1000 hectares or recorded as less than 1000 hectares where they are between 1 and 999 hectares.
2. May include harvested areas of radiata pine replanted with Douglas-fir.
3. The sums of the component areas do not necessarily equal the total areas as a result of rounding.

Figure 1 provides a visual outline of the estimated areas of new planting and replanting since 1991.

Figure 1: Estimated Areas of New Planting and Replanting



p Provisional estimates for 2016.

LOOKING TOWARDS 2017

The 2016 nursery survey asked nursery managers whether they expect sales in 2017 to be similar to, lower, or higher than 2016. Of the 20 commercial forestry nurseries that responded, one indicated that they expect sales to be lower, nine indicated they expect sales to be at similar levels, and ten indicated they expect sales to be higher in 2017.

REVIEW OF 2016 PLANTING ESTIMATES

The nursery survey and the associated modelling are only intended to provide early approximations of the areas of total planting and planting by species or species groups for the year. These are subsequently reviewed and revised as necessary when data are received directly from forest owners through the annual survey for the NEFD.

PROVISIONAL ESTIMATES FOR MĀNUKA

This is the first year that MPI has attempted to gather information on mānuka seedling sales and to estimate the area planted. Twelve nurseries were identified as undertaking bulk sales of mānuka, including eight of the 28 commercial forestry nurseries noted above. It is tentatively estimated that 9.8 million seedlings were sold and about 6300 hectares were planted, mostly for the honey industry, some for revegetation and a small area for investigating mānuka oil production.

These estimates should be used cautiously. MPI will endeavour to develop the nursery survey processes for mānuka in 2017.

2017 STOCKING RATES SURVEY

In 2017, MPI plans to undertake a survey of stocking rates at forest establishment. The information is used in a model that applies "averaged" regional stocking rates to seedling sales data to estimate the nationally planted area.

ACKNOWLEDGEMENTS

MPI thanks all the nursery managers who supplied information in 2016 that enable these estimates of tree stock sales and planting rates to be made.

FOR MORE INFORMATION

John Novis
MPI, Policy and Trade Branch (Christchurch)
Phone: 03 943 1708
Email: john.novis@mpi.govt.nz

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Requests for copies should be directed to:

Publications Logistics Officer
Ministry for Primary Industries
PO Box 2526
Welington 6140
www.mpi.govt.nz

Email: brand@mpi.govt.nz
Telephone: 0800 00 83 33

February 2017