



# Provisional Estimates of Tree Stock Sales and Forest Planting in 2020

## PURPOSE

This report provides provisional estimates of the sales of trees and the areas of commercial forest planted in 2020. It also provides an estimate of mānuka seedling sales and the area planted in mānuka.

## BACKGROUND

Each spring the Ministry for Primary Industries (MPI) undertakes a survey of tree stock sales from commercial forestry nurseries. The results are aggregated to produce estimates of total national sales, then modelled to estimate the area of planting by species, species groups, and total area.

In 2020, all of the 25 commercial forestry nurseries completed the survey. Ten nurseries undertaking bulk sales of mānuka seedlings also completed the survey (some of which are also commercial forestry nurseries).

## TREE STOCK SALES

Tree stock sales reported in 2020 totalled 91.9 million seedlings, compared to 88.8 million sold in 2019. The main increase was in radiata pine where sales rose by 4.4 million seedlings (5.2 percent).

**Table 1: Tree Stock Sales from 2011 to 2020 (millions)**

|                 | 2011        | 2012        | 2013         | 2014        | 2015         | 2016        | 2017         | 2018        | 2019        | 2020 <sup>p</sup> |
|-----------------|-------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|-------------|-------------------|
| Radiata pine    | 58.9        | 64.6        | 48.5         | 47.2        | 45.8         | 49.3        | 48.0         | 56.6        | 84.0        | 88.4              |
| Douglas-fir     | 5.1         | 4.0         | 3.1          | 1.9         | 2.0          | 2.2         | 2.0          | 1.4         | 1.9         | 0.8               |
| Other softwoods | 1.3         | 1.3         | 0.7          | 0.8         | 0.5          | 0.4         | 0.7          | 0.9         | 1.4         | 1.5               |
| All hardwoods   | 2.3         | 2.6         | 1.9          | 0.9         | 1.3          | 0.8         | 0.7          | 1.0         | 1.5         | 1.2               |
| <b>TOTAL</b>    | <b>67.6</b> | <b>72.5</b> | <b>54.11</b> | <b>50.8</b> | <b>49.51</b> | <b>52.7</b> | <b>51.31</b> | <b>59.9</b> | <b>88.8</b> | <b>91.9</b>       |

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### Note

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

## BREAKDOWN OF RADIATA PINE PLANTING

The trend seen between 2011 and 2017 of an increasing focus on control pollinated seedlings plus cuttings and clones in the percentage of the area planted was not maintained in 2019, although total sales of control pollinated radiata pine and cuttings/clones increased.

**Table 2: Tree Stock Sales from 2011 to 2020 (millions)**

|                 | 2011        | 2012        | 2013         | 2014        | 2015         | 2016        | 2017         | 2018        | 2019        | 2020 <sup>p</sup> |
|-----------------|-------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|-------------|-------------------|
| Radiata pine    | 58.9        | 64.6        | 48.5         | 47.2        | 45.8         | 49.3        | 48.0         | 56.6        | 84.0        | 88.4              |
| Douglas-fir     | 5.1         | 4.0         | 3.1          | 1.9         | 2.0          | 2.2         | 2.0          | 1.4         | 1.9         | 0.8               |
| Other softwoods | 1.3         | 1.3         | 0.7          | 0.8         | 0.5          | 0.4         | 0.7          | 0.9         | 1.4         | 1.5               |
| All hardwoods   | 2.3         | 2.6         | 1.9          | 0.9         | 1.3          | 0.8         | 0.7          | 1.0         | 1.5         | 1.2               |
| <b>TOTAL</b>    | <b>67.6</b> | <b>72.5</b> | <b>54.11</b> | <b>50.8</b> | <b>49.51</b> | <b>52.7</b> | <b>51.31</b> | <b>59.9</b> | <b>88.8</b> | <b>91.9</b>       |

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### Notes

- control pollinated stock plus cuttings and clones involves taking pollen from a known “father” cone and using it to pollinate a known “mother” cone. This produces control-pollinated (CP) seed
- open pollinated stock plus Stand Select is where pollination is allowed naturally

## FOREST PLANTING

The total area of forest planting in the winter of 2020 is provisionally estimated from the nursery survey data and associated modelling to be 90,000 hectares. The modelling generated national average stocking rates for radiata pine of 1,030 stems per hectare for open pollinated plus Stand Select, and 968 stems per hectare for control pollinated plus cuttings and clones.

**Table 3: Estimated Areas Planted in 2020 by Species and Species Groups**

| Species/species group  | Area (hectares) | Percentage of total area |
|------------------------|-----------------|--------------------------|
| Radiata pine           | 87,000          | 97                       |
| Douglas-fir            | 1,000           | 1                        |
| Other exotic softwoods | 1,000           | 1                        |
| All exotic hardwoods   | 1,000           | 1                        |
| <b>TOTAL</b>           | <b>90,000</b>   | <b>100</b>               |

### Notes

- The estimated areas in Table 3 have been rounded to the nearest 1,000 hectares or recorded as less than 1,000 hectares where the area is between 1 and 999 hectares.
- These figures may vary from the NEFD, as the NEFD only includes forests of over 40 hectares in the survey frame.

The total area of new planting in 2020 is estimated to be 19,201 hectares. This is based on a separate survey of large-scale forest owners and managers, and information from Te Uru Rākau for Crown Forestry and smaller-scale owners under forestry grant schemes.

The total areas of new planting and replanting by species and species groups for 2020 are provided in Table 4. These allocations are based on the estimated percentage of total planting accounted for by each species or species group.

**Table 4: Estimated Areas<sup>1</sup> (hectares) of New Planting and Replanting for 2020 (provisional)**

| Species/species group  | New Planting    | Replanting      |
|------------------------|-----------------|-----------------|
| Radiata pine           | 16,000          | 43,000          |
| Douglas-fir            | less than 1,000 | less than 1,000 |
| Other exotic softwoods | less than 1,000 | less than 1,000 |
| All exotic hardwoods   | less than 1,000 | less than 1,000 |
| <b>TOTAL</b>           | <b>19,000</b>   | <b>44,000</b>   |

### Notes

- The estimated areas are either rounded to the nearest 1,000 hectares or recorded as less than 1,000 hectares where they are between 1 and 999 hectares.
- The 44,000 figure is based on what is reported by respondents as part of the NEFD. Harvesting production figures put the area of cleared production forest that will be replanted to be close to 60,000 hectares. This number may be revised in the next NEFD.



## LOOKING TOWARDS 2021

The 2019 nursery survey asked commercial forestry nursery managers about anticipated sale levels in 2020. The bulk of the nurseries responded to this question, and their feedback indicates that total seedlings sales may reach 100 million in 2020.

## REVIEW OF 20 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 revised as necessary when data are received directly from forest owners through the annual survey for the National Exotic Forest Description (NEFD).

## PROVISIONAL ESTIMATES FOR MĀNUKA

This is the fourth year that MPI has gathered information on mānuka seedling sales to estimate the area planted. Ten nurseries were identified as undertaking bulk sales of mānuka, of which nine provided sales information.

It is estimated that 5.7 million mānuka seedlings were sold, mostly for the honey industry, some for revegetation and some for research on mānuka oil production. This is a decrease in sales compared to 2019 (6.9 million seedlings).

MPI has re-assessed the stocking rates used in calculating the planted area based on the latest available industry information, in particular the planting rates for commercial honey establishment. This results in a small increase in the estimated planted area for 2020 of 4,255 hectares, compared to the 2019 estimate of 4,800 hectares.

## ACKNOWLEDGEMENTS

MPI thanks all the nursery managers who supplied seedling sales information in 2020, and forest owners, managers and consultants who provided stocking rate information, that enable these estimates of tree stock sales and planted areas to be made.

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### Disclaimer

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