

# NFI provisional estimates for woodland in the North York Moors, Coast and Hills LEADER area

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[www.forestry.gov.uk/forecast](http://www.forestry.gov.uk/forecast)

## Summary

This report provides a detailed picture of the stocked area in woodland, the standing volume of timber and the associated live biomass and carbon stocks for woodland in the North York Moors, Coast and Hills LEADER programme area. These estimates are a subset of those published as part of the 2012 growing stock information presented in the National Forest Inventory (NFI) *50-year forecast of softwood timber availability (2014)* and *50-year forecast of hardwood timber availability (2014)*. NFI reports are published at [www.forestry.gov.uk/inventory](http://www.forestry.gov.uk/inventory).

In addition, the report provides forecasts of timber availability, standing volume and increment for softwoods and hardwoods arising from the stocked area and standing volume. Forecasts are based on the 'headline' harvesting scenario described in the 50-year forecasts NFI reports. An alternative forecast is provided using a harvesting scenario which brings all Private sector broadleaved woodland into production.

The estimates provided in this report are provisional in nature.



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## Approach

The approach taken in the derivation of these results and to be used in their interpretation is described in the full suite of forecast reports which can be found at [www.forestry.gov.uk/forecast](http://www.forestry.gov.uk/forecast). Refer to the *Standing timber volume for coniferous trees in Britain* (2012) and the *NFI preliminary estimates of quantities of broadleaved species in British woodlands with special focus on ash* (2012) reports for a description of the underlying methodologies and interpretation, and also for the England and Great Britain (GB) context. Refer to the *NFI forecasts methodology* (2012) overview report for a detailed description and discussion of forecasting future availability of timber from NFI field survey data and from information in the Forestry Commission's sub-compartment database (SCDB). The wider context of forecasts of timber production from woodland in GB and its constituent countries under a range of harvesting scenarios can be found in the *50-year forecast of softwood timber availability* (2014) and the *50-year forecast of hardwood timber availability* (2014).

The estimates reported here are based upon field samples assessed between October 2009 and August 2013, the results of which have been subjected to rigorous data quality assurance procedures. These field samples constitute approximately two-thirds of the sites to be sampled within the first cycle of NFI field sampling. As a consequence, the estimates in this report are classed as provisional.

## Results

The results presented in this report are estimates of standing volumes and stocked areas at 31 March 2012, and 50-year forecasts of softwood and hardwood availability under the 'headline' harvesting scenario and also under a scenario assuming all hardwoods are harvested in Private sector woodland in the NYMCH LEADER area. The data sources used for the compilation of these estimates are the same as described in the NFI reports *Standing timber volume for coniferous trees in Britain* (2012), the *50-year forecast of softwood availability* (2014) and the *50-year forecast of hardwood availability* (2014). Estimates for the Forestry Commission (FC) estate are derived from the FC's SCDB, while those for the Private sector (i.e. non-FC) estate are derived from information collected in the NFI field survey. A fuller description of these data sources and how they are used in the production of estimates, including sampling standard errors (SEs) attached to the Private sector estimates, is provided in the earlier documents.

Results are provided for stocked area at 31 March 2012 (**Figures 1–1a** and **Tables 1–3**), felled area (**Table 4**), standing volume at 31 March 2012 (**Figures 2–2a** and **Tables 5–7**), biomass and carbon stocks at 31 March 2012 (**Tables 8–9**), evidence of thinning in Private sector stands from the NFI field survey (**Figure 3**), the 'headline' 50-year forecast (**Figures 4–8** and **Tables 10–12**) and the 'unrestricted' 50-year forecast

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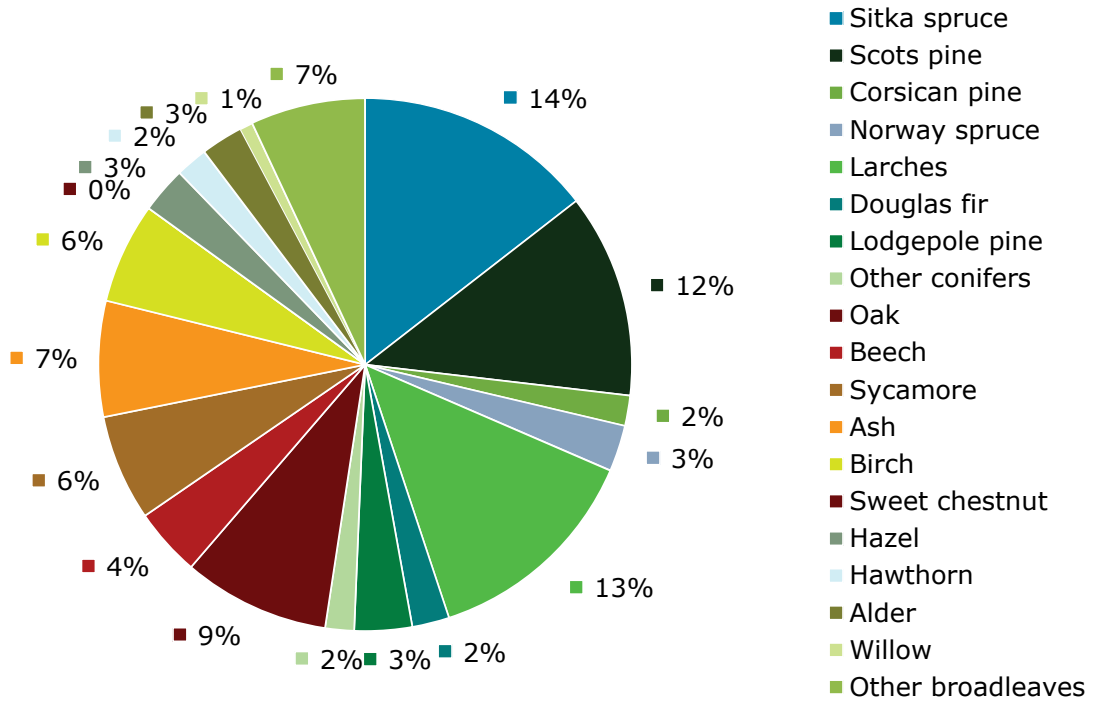
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(**Figures 9–13** and **Tables 13–15**). **Figures 14–15** and **Table 16** compare the hardwood production under the two scenarios.

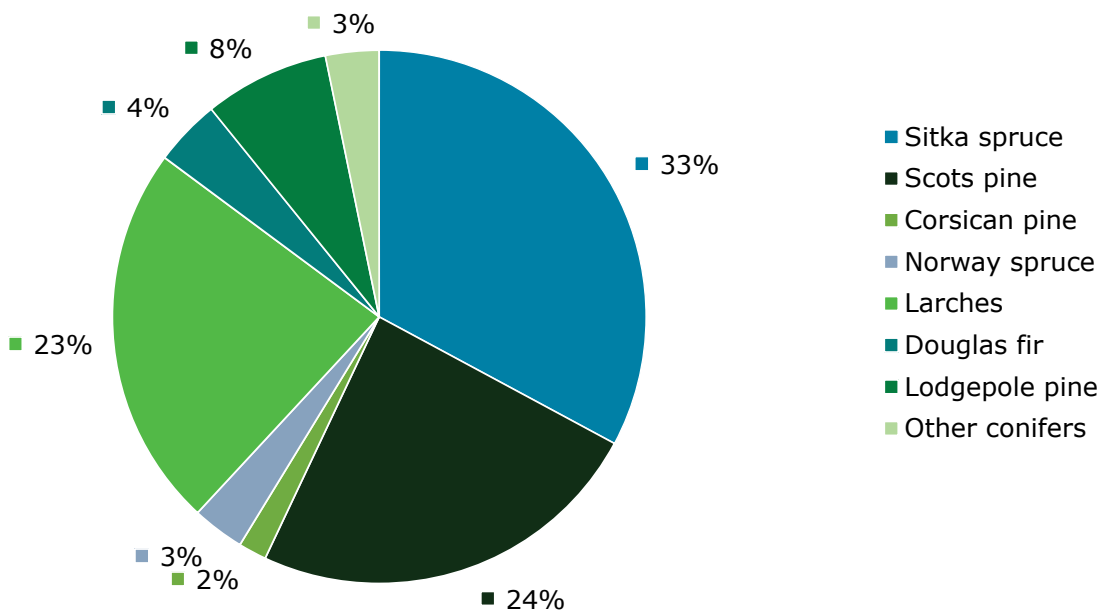
The values in the tables have been independently rounded, so may not add to the totals shown. In some breakdowns of Private sector estimates, the estimates in the body of the table may not sum to the quoted total because each individual value, including the total, has been independently generated by the estimation procedure used for results from the NFI sample survey. Sampling SEs attached to Private sector estimates are expressed in relative terms (%) to the right of the relevant estimate. Percentages in the pie charts may also not sum to 100 due to rounding.

## Stocked area at 31 March 2012

**Figure 1** Principal tree species composition by stocked area at 31 March 2012



**Figure 1a** Principal conifer tree species composition by stocked area at 31 March 2012



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**Table 1** Stocked area by principal tree species at 31 March 2012

| Principal species      | FC               | Private sector   |          | Total            |
|------------------------|------------------|------------------|----------|------------------|
|                        | area<br>(000 ha) | area<br>(000 ha) | SE%      | area<br>(000 ha) |
| <b>Conifers</b>        |                  |                  |          |                  |
| Sitka spruce           | 4.1              | 1.0              | 24       | <b>5.2</b>       |
| Scots pine             | 3.0              | 1.4              | 18       | <b>4.4</b>       |
| Corsican pine          | 0.2              | 0.4              | 33       | <b>0.7</b>       |
| Norway spruce          | 0.4              | 0.6              | 22       | <b>1.0</b>       |
| Larches                | 2.9              | 1.9              | 12       | <b>4.8</b>       |
| Douglas fir            | 0.5              | 0.3              | 29       | <b>0.8</b>       |
| Lodgepole pine         | 1.0              | 0.3              | 33       | <b>1.2</b>       |
| Other conifers         | 0.4              | 0.2              | 92       | <b>0.6</b>       |
| <b>All conifers</b>    | <b>12.6</b>      | <b>6.2</b>       | <b>8</b> | <b>18.8</b>      |
| <b>Broadleaves</b>     |                  |                  |          |                  |
| Oak                    | 0.3              | 2.9              | 15       | <b>3.2</b>       |
| Beech                  | 0.3              | 1.1              | 18       | <b>1.5</b>       |
| Sycamore               | 0.2              | 2.1              | 16       | <b>2.3</b>       |
| Ash                    | 0.2              | 2.4              | 21       | <b>2.5</b>       |
| Birch                  | 0.6              | 1.6              | 15       | <b>2.2</b>       |
| Sweet chestnut         | 0.0              | 0.0              | -        | <b>0.0</b>       |
| Hazel                  | 0.0              | 1.0              | 39       | <b>1.0</b>       |
| Hawthorn               | 0.0              | 0.7              | 21       | <b>0.7</b>       |
| Alder                  | 0.0              | 0.9              | 33       | <b>0.9</b>       |
| Willow                 | 0.0              | 0.3              | 44       | <b>0.3</b>       |
| Other broadleaves      | 0.6              | 1.8              | 14       | <b>2.5</b>       |
| <b>All broadleaves</b> | <b>2.3</b>       | <b>14.8</b>      | <b>6</b> | <b>17.1</b>      |
| <b>All species</b>     |                  |                  |          |                  |
| <b>All species</b>     | <b>14.9</b>      | <b>21.1</b>      | <b>4</b> | <b>36.0</b>      |



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**Table 2** Stocked area by age class at 31 March 2012

| Age class              | FC               | Private sector   |          | Total            |
|------------------------|------------------|------------------|----------|------------------|
|                        | area<br>(000 ha) | area<br>(000 ha) | SE%      | area<br>(000 ha) |
| <b>All conifers</b>    |                  |                  |          |                  |
| 0–10 years             | 1.2              | 0.1              | 35       | <b>1.3</b>       |
| 11–20 years            | 1.8              | 0.7              | 19       | <b>2.4</b>       |
| 21–40 years            | 2.8              | 1.7              | 23       | <b>4.5</b>       |
| 41–60 years            | 4.8              | 2.9              | 14       | <b>7.7</b>       |
| 61–80 years            | 1.5              | 0.7              | 27       | <b>2.2</b>       |
| 81–100 years           | 0.6              | 0.1              | 72       | <b>0.6</b>       |
| 100+ years             | 0.0              | 0.0              | -        | <b>0.0</b>       |
| <b>Total</b>           | <b>12.6</b>      | <b>6.2</b>       | <b>8</b> | <b>18.8</b>      |
| <b>All broadleaves</b> |                  |                  |          |                  |
| 0–10 years             | 0.1              | 1.1              | 19       | <b>1.2</b>       |
| 11–20 years            | 0.4              | 2.3              | 13       | <b>2.6</b>       |
| 21–40 years            | 0.4              | 2.8              | 15       | <b>3.2</b>       |
| 41–60 years            | 0.6              | 2.1              | 17       | <b>2.7</b>       |
| 61–80 years            | 0.5              | 2.8              | 22       | <b>3.3</b>       |
| 81–100 years           | 0.1              | 2.7              | 17       | <b>2.8</b>       |
| 100+ years             | 0.2              | 1.1              | 30       | <b>1.3</b>       |
| <b>Total</b>           | <b>2.3</b>       | <b>14.8</b>      | <b>6</b> | <b>17.1</b>      |
| <b>All species</b>     |                  |                  |          |                  |
| 0–10 years             | 1.3              | 1.2              | 17       | <b>2.5</b>       |
| 11–20 years            | 2.1              | 3.0              | 11       | <b>5.1</b>       |
| 21–40 years            | 3.2              | 4.5              | 13       | <b>7.8</b>       |
| 41–60 years            | 5.4              | 5.0              | 12       | <b>10.4</b>      |
| 61–80 years            | 2.0              | 3.5              | 19       | <b>5.5</b>       |
| 81–100 years           | 0.7              | 2.8              | 17       | <b>3.4</b>       |
| 100+ years             | 0.2              | 1.1              | 30       | <b>1.3</b>       |
| <b>Total</b>           | <b>14.9</b>      | <b>21.1</b>      | <b>4</b> | <b>36.0</b>      |

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**Table 3** Stocked area by mean stand DBH class at 31 March 2012

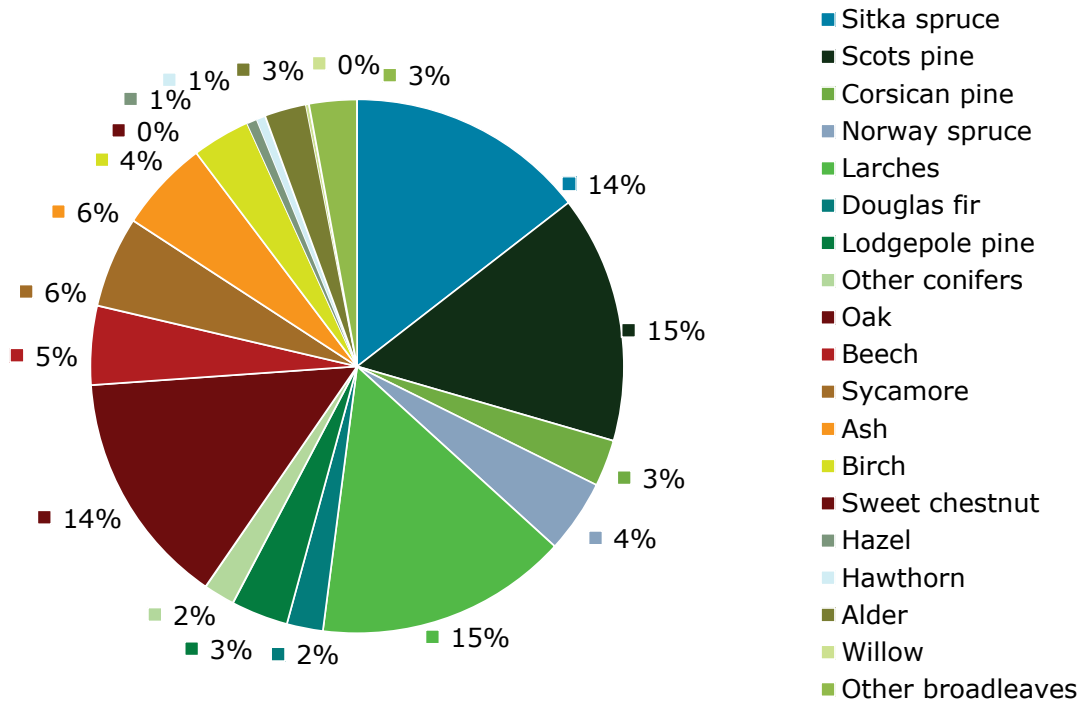
| Mean stand DBH         | FC               | Private sector   |          | Total            |
|------------------------|------------------|------------------|----------|------------------|
|                        | area<br>(000 ha) | area<br>(000 ha) | SE%      | area<br>(000 ha) |
| <b>All conifers</b>    |                  |                  |          |                  |
| 0-7 cm                 | 1.2              | 0.1              | 33       | <b>1.4</b>       |
| 7-10 cm                | 1.0              | 0.5              | 19       | <b>1.5</b>       |
| 10-15 cm               | 1.8              | 0.8              | 25       | <b>2.6</b>       |
| 15-20 cm               | 1.7              | 0.8              | 29       | <b>2.6</b>       |
| 20-30 cm               | 2.7              | 1.9              | 14       | <b>4.6</b>       |
| 30-40 cm               | 2.7              | 1.5              | 18       | <b>4.2</b>       |
| 40-60 cm               | 1.4              | 0.4              | 28       | <b>1.8</b>       |
| 60-80 cm               | 0.1              | 0.0              | 51       | <b>0.1</b>       |
| 80+ cm                 | 0.0              | 0.1              | 105      | <b>0.1</b>       |
| <b>Total</b>           | <b>12.6</b>      | <b>6.2</b>       | <b>8</b> | <b>18.8</b>      |
| <b>All broadleaves</b> |                  |                  |          |                  |
| 0-7 cm                 | 0.2              | 1.3              | 15       | <b>1.5</b>       |
| 7-10 cm                | 0.4              | 3.3              | 13       | <b>3.8</b>       |
| 10-15 cm               | 0.1              | 1.7              | 16       | <b>1.9</b>       |
| 15-20 cm               | 0.3              | 1.8              | 19       | <b>2.1</b>       |
| 20-30 cm               | 0.5              | 2.0              | 24       | <b>2.4</b>       |
| 30-40 cm               | 0.4              | 1.4              | 21       | <b>1.8</b>       |
| 40-60 cm               | 0.2              | 1.4              | 17       | <b>1.5</b>       |
| 60-80 cm               | 0.1              | 1.0              | 31       | <b>1.0</b>       |
| 80+ cm                 | 0.0              | 1.0              | 32       | <b>1.1</b>       |
| <b>Total</b>           | <b>2.3</b>       | <b>14.8</b>      | <b>6</b> | <b>17.1</b>      |
| <b>All species</b>     |                  |                  |          |                  |
| 0-7 cm                 | 1.5              | 1.4              | 14       | <b>2.9</b>       |
| 7-10 cm                | 1.4              | 3.8              | 11       | <b>5.2</b>       |
| 10-15 cm               | 1.9              | 2.5              | 15       | <b>4.5</b>       |
| 15-20 cm               | 2.0              | 2.6              | 16       | <b>4.7</b>       |
| 20-30 cm               | 3.2              | 3.9              | 14       | <b>7.1</b>       |
| 30-40 cm               | 3.1              | 2.9              | 14       | <b>6.0</b>       |
| 40-60 cm               | 1.6              | 1.8              | 14       | <b>3.4</b>       |
| 60-80 cm               | 0.1              | 1.0              | 30       | <b>1.1</b>       |
| 80+ cm                 | 0.1              | 1.1              | 31       | <b>1.2</b>       |
| <b>Total</b>           | <b>14.9</b>      | <b>21.1</b>      | <b>4</b> | <b>36.0</b>      |

**Table 4** Felled area at 31 March 2012

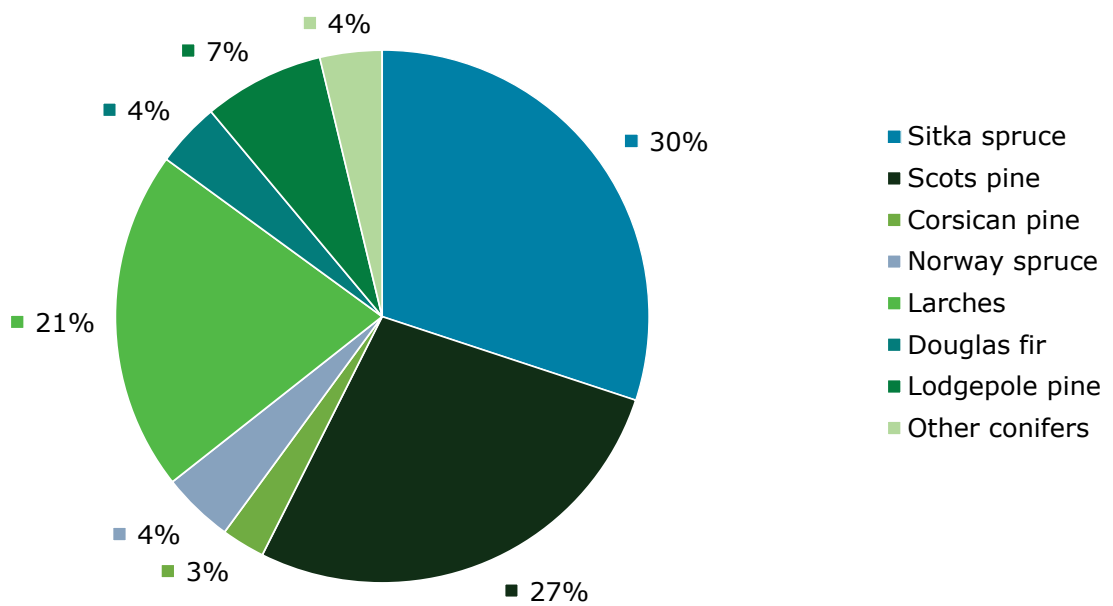
| Clearfelled area | FC               | Private sector   |     | Total            |
|------------------|------------------|------------------|-----|------------------|
|                  | area<br>(000 ha) | area<br>(000 ha) | SE% | area<br>(000 ha) |
|                  | 1.3              | 0.4              | 41  | <b>1.7</b>       |

## Standing volume at 31 March 2012

**Figure 2** Principal tree species composition by standing volume at 31 March 2012



**Figure 2a** Principal conifer tree species composition by standing volume at 31 March 2012



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**Table 5** Standing volume by principal tree species at 31 March 2012

| Principal species      | FC                                 | Private sector                     |          | Total                              |
|------------------------|------------------------------------|------------------------------------|----------|------------------------------------|
|                        | volume<br>(000 m <sup>3</sup> obs) | volume<br>(000 m <sup>3</sup> obs) | SE%      | volume<br>(000 m <sup>3</sup> obs) |
| <b>Conifers</b>        |                                    |                                    |          |                                    |
| Sitka spruce           | 695                                | 342                                | 35       | <b>1,037</b>                       |
| Scots pine             | 632                                | 441                                | 19       | <b>1,073</b>                       |
| Corsican pine          | 61                                 | 141                                | 45       | <b>202</b>                         |
| Norway spruce          | 100                                | 216                                | 27       | <b>316</b>                         |
| Larches                | 478                                | 617                                | 14       | <b>1,095</b>                       |
| Douglas fir            | 90                                 | 67                                 | 39       | <b>157</b>                         |
| Lodgepole pine         | 169                                | 79                                 | 46       | <b>248</b>                         |
| Other conifers         | 87                                 | 48                                 | 60       | <b>135</b>                         |
| <b>All conifers</b>    | <b>2,311</b>                       | <b>1,951</b>                       | <b>9</b> | <b>4,262</b>                       |
| <b>Broadleaves</b>     |                                    |                                    |          |                                    |
| Oak                    | 41                                 | 980                                | 21       | <b>1,021</b>                       |
| Beech                  | 50                                 | 293                                | 23       | <b>343</b>                         |
| Sycamore               | 34                                 | 361                                | 24       | <b>395</b>                         |
| Ash                    | 23                                 | 372                                | 27       | <b>395</b>                         |
| Birch                  | 40                                 | 212                                | 23       | <b>252</b>                         |
| Sweet chestnut         | 0                                  | 0                                  | -        | <b>0</b>                           |
| Hazel                  | 0                                  | 44                                 | 32       | <b>44</b>                          |
| Hawthorn               | 0                                  | 39                                 | 22       | <b>39</b>                          |
| Alder                  | 4                                  | 176                                | 28       | <b>180</b>                         |
| Willow                 | 0                                  | 14                                 | 53       | <b>14</b>                          |
| Other broadleaves      | 60                                 | 147                                | 19       | <b>207</b>                         |
| <b>All broadleaves</b> | <b>251</b>                         | <b>2,666</b>                       | <b>9</b> | <b>2,918</b>                       |
| <b>All species</b>     |                                    |                                    |          |                                    |
| <b>All species</b>     | <b>2,563</b>                       | <b>4,641</b>                       | <b>6</b> | <b>7,204</b>                       |

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**Table 6** Standing volume by age class at 31 March 2012

| Age class              | FC                                 | Private sector                     |          | Total                              |
|------------------------|------------------------------------|------------------------------------|----------|------------------------------------|
|                        | volume<br>(000 m <sup>3</sup> obs) | volume<br>(000 m <sup>3</sup> obs) | SE%      | volume<br>(000 m <sup>3</sup> obs) |
| <b>All conifers</b>    |                                    |                                    |          |                                    |
| 0–10 years             | 1                                  | 0                                  | -        | <b>1</b>                           |
| 11–20 years            | 68                                 | 38                                 | 36       | <b>107</b>                         |
| 21–40 years            | 507                                | 437                                | 30       | <b>943</b>                         |
| 41–60 years            | 1,118                              | 1,030                              | 13       | <b>2,147</b>                       |
| 61–80 years            | 441                                | 422                                | 25       | <b>863</b>                         |
| 81–100 years           | 170                                | 24                                 | 73       | <b>194</b>                         |
| 100+ years             | 7                                  | 0                                  | -        | <b>7</b>                           |
| <b>Total</b>           | <b>2,311</b>                       | <b>1,951</b>                       | <b>9</b> | <b>4,262</b>                       |
| <b>All broadleaves</b> |                                    |                                    |          |                                    |
| 0–10 years             | 0                                  | 2                                  | 45       | <b>2</b>                           |
| 11–20 years            | 2                                  | 154                                | 45       | <b>157</b>                         |
| 21–40 years            | 28                                 | 246                                | 18       | <b>274</b>                         |
| 41–60 years            | 86                                 | 422                                | 22       | <b>508</b>                         |
| 61–80 years            | 83                                 | 654                                | 23       | <b>737</b>                         |
| 81–100 years           | 15                                 | 816                                | 21       | <b>831</b>                         |
| 100+ years             | 38                                 | 372                                | 30       | <b>410</b>                         |
| <b>Total</b>           | <b>251</b>                         | <b>2,666</b>                       | <b>9</b> | <b>2,918</b>                       |
| <b>All species</b>     |                                    |                                    |          |                                    |
| 0–10 years             | 1                                  | 2                                  | 45       | <b>3</b>                           |
| 11–20 years            | 71                                 | 193                                | 37       | <b>264</b>                         |
| 21–40 years            | 535                                | 697                                | 21       | <b>1,232</b>                       |
| 41–60 years            | 1,204                              | 1,443                              | 12       | <b>2,646</b>                       |
| 61–80 years            | 524                                | 1,093                              | 17       | <b>1,617</b>                       |
| 81–100 years           | 185                                | 841                                | 21       | <b>1,025</b>                       |
| 100+ years             | 45                                 | 372                                | 30       | <b>417</b>                         |
| <b>Total</b>           | <b>2,563</b>                       | <b>4,641</b>                       | <b>6</b> | <b>7,204</b>                       |

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**Table 7** Standing volume by mean stand DBH class at 31 March 2012

| Mean stand DBH         | FC                                 | Private sector                     |          | Total                              |
|------------------------|------------------------------------|------------------------------------|----------|------------------------------------|
|                        | volume<br>(000 m <sup>3</sup> obs) | volume<br>(000 m <sup>3</sup> obs) | SE%      | volume<br>(000 m <sup>3</sup> obs) |
| <b>All conifers</b>    |                                    |                                    |          |                                    |
| 0-7 cm                 | 0                                  | 0                                  | -        | <b>0</b>                           |
| 7-10 cm                | 18                                 | 15                                 | 21       | <b>32</b>                          |
| 10-15 cm               | 174                                | 117                                | 28       | <b>291</b>                         |
| 15-20 cm               | 344                                | 168                                | 30       | <b>512</b>                         |
| 20-30 cm               | 601                                | 715                                | 19       | <b>1,316</b>                       |
| 30-40 cm               | 687                                | 588                                | 16       | <b>1,276</b>                       |
| 40-60 cm               | 457                                | 248                                | 28       | <b>706</b>                         |
| 60-80 cm               | 26                                 | 22                                 | 58       | <b>48</b>                          |
| 80+ cm                 | 4                                  | 77                                 | 58       | <b>82</b>                          |
| <b>Total</b>           | <b>2,311</b>                       | <b>1,951</b>                       | <b>9</b> | <b>4,262</b>                       |
| <b>All broadleaves</b> |                                    |                                    |          |                                    |
| 0-7 cm                 | 0                                  | 6                                  | 27       | <b>6</b>                           |
| 7-10 cm                | 11                                 | 115                                | 17       | <b>126</b>                         |
| 10-15 cm               | 19                                 | 244                                | 29       | <b>264</b>                         |
| 15-20 cm               | 46                                 | 222                                | 15       | <b>268</b>                         |
| 20-30 cm               | 64                                 | 457                                | 24       | <b>521</b>                         |
| 30-40 cm               | 59                                 | 367                                | 25       | <b>426</b>                         |
| 40-60 cm               | 27                                 | 372                                | 18       | <b>400</b>                         |
| 60-80 cm               | 15                                 | 504                                | 34       | <b>518</b>                         |
| 80+ cm                 | 10                                 | 379                                | 30       | <b>389</b>                         |
| <b>Total</b>           | <b>251</b>                         | <b>2,666</b>                       | <b>9</b> | <b>2,918</b>                       |
| <b>All species</b>     |                                    |                                    |          |                                    |
| 0-7 cm                 | 1                                  | 6                                  | 27       | <b>7</b>                           |
| 7-10 cm                | 28                                 | 130                                | 15       | <b>158</b>                         |
| 10-15 cm               | 193                                | 365                                | 22       | <b>558</b>                         |
| 15-20 cm               | 391                                | 395                                | 16       | <b>786</b>                         |
| 20-30 cm               | 665                                | 1,152                              | 15       | <b>1,817</b>                       |
| 30-40 cm               | 746                                | 977                                | 13       | <b>1,723</b>                       |
| 40-60 cm               | 485                                | 631                                | 15       | <b>1,115</b>                       |
| 60-80 cm               | 41                                 | 527                                | 33       | <b>567</b>                         |
| 80+ cm                 | 14                                 | 459                                | 27       | <b>473</b>                         |
| <b>Total</b>           | <b>2,563</b>                       | <b>4,641</b>                       | <b>6</b> | <b>7,204</b>                       |

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## Biomass and carbon stocks at 31 March 2012

**Table 8** Standing biomass by principal tree species at 31 March 2012

| Principal species      | FC                   | Private sector       |          | Total                |
|------------------------|----------------------|----------------------|----------|----------------------|
|                        | biomass<br>(000 odt) | biomass<br>(000 odt) | SE%      | biomass<br>(000 odt) |
| <b>Conifers</b>        |                      |                      |          |                      |
| Sitka spruce           | 459                  | 196                  | 33       | <b>656</b>           |
| Scots pine             | 455                  | 304                  | 19       | <b>759</b>           |
| Corsican pine          | 36                   | 79                   | 43       | <b>115</b>           |
| Norway spruce          | 54                   | 114                  | 26       | <b>168</b>           |
| Larches                | 314                  | 373                  | 13       | <b>687</b>           |
| Douglas fir            | 67                   | 45                   | 39       | <b>111</b>           |
| Lodgepole pine         | 121                  | 53                   | 45       | <b>174</b>           |
| Other conifers         | 50                   | 27                   | 71       | <b>77</b>            |
| <b>All conifers</b>    | <b>1,556</b>         | <b>1,190</b>         | <b>8</b> | <b>2,747</b>         |
| <b>Broadleaves</b>     |                      |                      |          |                      |
| Oak                    | 39                   | 844                  | 20       | <b>883</b>           |
| Beech                  | 49                   | 260                  | 21       | <b>309</b>           |
| Sycamore               | 31                   | 305                  | 24       | <b>335</b>           |
| Ash                    | 21                   | 324                  | 25       | <b>346</b>           |
| Birch                  | 40                   | 203                  | 21       | <b>243</b>           |
| Sweet chestnut         | 0                    | 0                    | -        | <b>0</b>             |
| Hazel                  | 0                    | 47                   | 29       | <b>47</b>            |
| Hawthorn               | 0                    | 47                   | 22       | <b>47</b>            |
| Alder                  | 3                    | 140                  | 27       | <b>143</b>           |
| Willow                 | 0                    | 14                   | 52       | <b>14</b>            |
| Other broadleaves      | 57                   | 152                  | 18       | <b>209</b>           |
| <b>All broadleaves</b> | <b>241</b>           | <b>2,354</b>         | <b>8</b> | <b>2,594</b>         |
| <b>All species</b>     |                      |                      |          |                      |
| <b>All species</b>     | <b>1,797</b>         | <b>3,560</b>         | <b>6</b> | <b>5,357</b>         |

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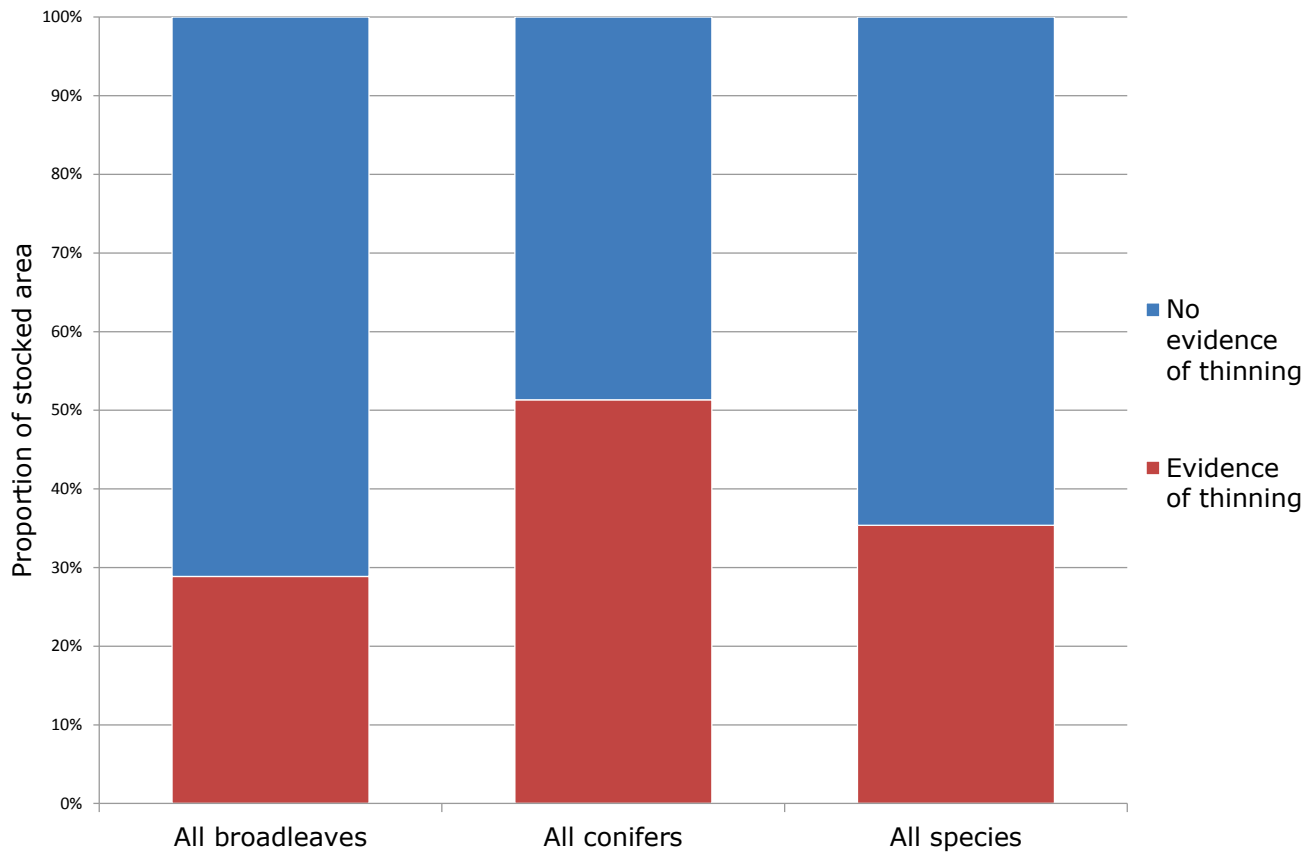
**Table 9** Total carbon stocks in principal tree species at 31 March 2012

| Principal species      | FC                | Private sector    |          | Total             |
|------------------------|-------------------|-------------------|----------|-------------------|
|                        | carbon<br>(000 t) | carbon<br>(000 t) | SE%      | carbon<br>(000 t) |
| <b>Conifers</b>        |                   |                   |          |                   |
| Sitka spruce           | 230               | 98                | 33       | <b>328</b>        |
| Scots pine             | 228               | 152               | 19       | <b>379</b>        |
| Corsican pine          | 18                | 40                | 43       | <b>57</b>         |
| Norway spruce          | 27                | 57                | 26       | <b>84</b>         |
| Larches                | 157               | 186               | 13       | <b>344</b>        |
| Douglas fir            | 33                | 22                | 39       | <b>56</b>         |
| Lodgepole pine         | 60                | 27                | 45       | <b>87</b>         |
| Other conifers         | 25                | 13                | 71       | <b>38</b>         |
| <b>All conifers</b>    | <b>778</b>        | <b>595</b>        | <b>8</b> | <b>1,373</b>      |
| <b>Broadleaves</b>     |                   |                   |          |                   |
| Oak                    | 19                | 422               | 20       | <b>441</b>        |
| Beech                  | 24                | 130               | 21       | <b>155</b>        |
| Sycamore               | 15                | 152               | 24       | <b>168</b>        |
| Ash                    | 11                | 162               | 25       | <b>173</b>        |
| Birch                  | 20                | 101               | 21       | <b>122</b>        |
| Sweet chestnut         | 0                 | 0                 | -        | <b>0</b>          |
| Hazel                  | 0                 | 23                | 29       | <b>23</b>         |
| Hawthorn               | 0                 | 24                | 22       | <b>24</b>         |
| Alder                  | 2                 | 70                | 27       | <b>71</b>         |
| Willow                 | 0                 | 7                 | 52       | <b>7</b>          |
| Other broadleaves      | 28                | 76                | 18       | <b>104</b>        |
| <b>All broadleaves</b> | <b>120</b>        | <b>1,177</b>      | <b>8</b> | <b>1,297</b>      |
| <b>All species</b>     |                   |                   |          |                   |
| <b>All species</b>     | <b>898</b>        | <b>1,780</b>      | <b>6</b> | <b>2,678</b>      |



## Evidence of thinning

**Figure 3** Evidence of thinning in Private sector sites



## 50-year forecast of timber availability

Refer to the NFI report *50-year forecast of softwood timber availability (2014)* for a description of the underlying methodology and interpretation of the softwood forecast, and also for the England and GB context.

Refer to the NFI report *50-year forecast of hardwood timber availability (2014)* for a description of the underlying methodology and interpretation of the hardwood forecast, and also for the England and GB context.

In **Figures 4–8 and Tables 10–12** the estimates for the Forestry Commission are based on harvesting regimes derived from Forestry Commission felling and thinning plans as of 31 March 2012.

For the Private sector, information for **Figures 4–8 and Tables 10–12** is based on a scenario which assumes felling at age of maximum mean annual increment with moderate wind risk measures for conifers. For broadleaves, however, only those areas where there is evidence of thinning are assumed to be managed in future. This is a highly conservative assumption but better reflects current practice than assuming all stands will be managed. In turn it is assumed that these broadleaved stands are managed to felling at age of maximum mean annual increment with moderate wind risk measures.

Restocking assumptions for conifer stands clearfelled during the forecast period have been implemented that assume:

- a 10% reduction in the area of conifers on the subsequent rotation
- restocking of currently clearfelled land
- a change in the composition of conifer species on restocking

Restocking assumptions for broadleaved stands clearfelled during the forecast period have been included that assume:

- no reduction in stocked area
- like-for-like species choices are used for broadleaves
- 50% of the land associated with the reduction in conifer stocked area arising from the assumption above is stocked with broadleaves

A full description of the restocking assumptions is to be found in Table D3 of the *50-year forecast of softwood timber availability (2014)*. The same restocking assumptions have been applied to both the Forestry Commission and Private sector forecasts.

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Woodland that is classed as currently clearfelled will be restocked according to the restock prescription.

In **Figures 9–13** and **Tables 13–15** the management assumptions for the Private sector hardwoods have been changed to assume all hardwoods are thinned and felled rather than only those in areas that have evidence of thinning. In this report, the tables and figures for estimates under this management scenario will be labelled as 'unrestricted'.

**Figures 14–15** and **Table 16** compare the Private sector hardwood timber availability under the two scenarios. **Figure 14** shows the Private sector hardwood availability for the two scenarios during the 50-year forecast. **Figure 15** and **Table 16** compare the hardwood availability in first 15 years of the forecast under the two scenarios.

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## 50-year forecast of timber availability under the 'headline' harvesting scenario

**Table 10** 50-year forecast of timber availability by time period and principal species

| Principal species      | 2013-16                            |                |                                    | 2017-21                            |                |                                    | 2022-26                            |                |                                    | 2027-31                            |                |                                    |           |            |           |            |
|------------------------|------------------------------------|----------------|------------------------------------|------------------------------------|----------------|------------------------------------|------------------------------------|----------------|------------------------------------|------------------------------------|----------------|------------------------------------|-----------|------------|-----------|------------|
|                        | FC                                 | Private sector | Total                              | FC                                 | Private sector | Total                              | FC                                 | Private sector | Total                              | FC                                 | Private sector | Total                              |           |            |           |            |
|                        | volume<br>(000 m <sup>3</sup> obs) | SE%            | volume<br>(000 m <sup>3</sup> obs) | volume<br>(000 m <sup>3</sup> obs) | SE%            | volume<br>(000 m <sup>3</sup> obs) | volume<br>(000 m <sup>3</sup> obs) | SE%            | volume<br>(000 m <sup>3</sup> obs) | volume<br>(000 m <sup>3</sup> obs) | SE%            | volume<br>(000 m <sup>3</sup> obs) |           |            |           |            |
| <b>All conifers</b>    | <b>118</b>                         | <b>101</b>     | <b>16</b>                          | <b>219</b>                         | <b>106</b>     | <b>92</b>                          | <b>16</b>                          | <b>199</b>     | <b>108</b>                         | <b>96</b>                          | <b>15</b>      | <b>204</b>                         | <b>88</b> | <b>96</b>  | <b>29</b> | <b>184</b> |
| Sitka spruce           | 40                                 | 24             | 42                                 | 63                                 | 37             | 12                                 | 25                                 | 49             | 35                                 | 11                                 | 27             | 46                                 | 35        | 49         | 56        | 83         |
| Scots pine             | 34                                 | 9              | 24                                 | 44                                 | 26             | 26                                 | 45                                 | 53             | 31                                 | 26                                 | 36             | 57                                 | 22        | 14         | 39        | 36         |
| Corsican pine          | 4                                  | 5              | 40                                 | 9                                  | 3              | 11                                 | 48                                 | 14             | 3                                  | 4                                  | 35             | 7                                  | 1         | 4          | 33        | 5          |
| Norway spruce          | 4                                  | 21             | 47                                 | 25                                 | 3              | 6                                  | 30                                 | 9              | 4                                  | 18                                 | 42             | 22                                 | 3         | 4          | 32        | 7          |
| Larches                | 23                                 | 27             | 16                                 | 50                                 | 21             | 31                                 | 21                                 | 52             | 17                                 | 21                                 | 15             | 39                                 | 12        | 19         | 14        | 31         |
| Douglas fir            | 4                                  | 2              | 38                                 | 6                                  | 3              | 2                                  | 32                                 | 5              | 3                                  | 8                                  | 65             | 11                                 | 4         | 2          | 25        | 6          |
| Lodgepole pine         | 7                                  | 10             | 76                                 | 17                                 | 10             | 1                                  | 40                                 | 11             | 12                                 | 5                                  | 71             | 17                                 | 8         | 1          | 44        | 9          |
| Other conifers         | 3                                  | 2              | 111                                | 4                                  | 2              | 2                                  | 76                                 | 5              | 2                                  | 2                                  | 82             | 4                                  | 2         | 2          | 95        | 4          |
| <b>All broadleaves</b> | <b>3</b>                           | <b>55</b>      | <b>19</b>                          | <b>58</b>                          | <b>3</b>       | <b>54</b>                          | <b>20</b>                          | <b>57</b>      | <b>3</b>                           | <b>42</b>                          | <b>21</b>      | <b>45</b>                          | <b>2</b>  | <b>15</b>  | <b>15</b> | <b>17</b>  |
| Oak                    | 0                                  | 4              | 41                                 | 4                                  | 0              | 7                                  | 37                                 | 8              | 0                                  | 4                                  | 35             | 4                                  | 0         | 3          | 39        | 3          |
| Beech                  | 1                                  | 3              | 28                                 | 4                                  | 1              | 3                                  | 25                                 | 4              | 1                                  | 12                                 | 39             | 13                                 | 1         | 4          | 33        | 4          |
| Sycamore               | 1                                  | 26             | 35                                 | 26                                 | 1              | 26                                 | 35                                 | 26             | 1                                  | 12                                 | 38             | 13                                 | 1         | 1          | 27        | 2          |
| Ash                    | 0                                  | 11             | 28                                 | 12                                 | 0              | 9                                  | 30                                 | 9              | 0                                  | 3                                  | 25             | 3                                  | 0         | 1          | 32        | 1          |
| Birch                  | 0                                  | 5              | 29                                 | 6                                  | 0              | 4                                  | 32                                 | 5              | 0                                  | 7                                  | 43             | 7                                  | 0         | 1          | 40        | 1          |
| Sweet chestnut         | 0                                  | 0              | -                                  | 0                                  | 0              | 0                                  | -                                  | 0              | 0                                  | 0                                  | -              | 0                                  | 0         | 0          | -         | 0          |
| Hazel                  | 0                                  | 0              | 54                                 | 0                                  | 0              | 0                                  | 55                                 | 0              | 0                                  | 0                                  | 53             | 0                                  | 0         | 0          | 46        | 0          |
| Hawthorn               | 0                                  | 0              | 35                                 | 0                                  | 0              | 0                                  | 29                                 | 0              | 0                                  | 0                                  | 53             | 0                                  | 0         | 0          | 48        | 0          |
| Alder                  | 0                                  | 2              | 56                                 | 2                                  | 0              | 2                                  | 59                                 | 2              | 0                                  | 5                                  | 75             | 5                                  | 0         | 2          | 62        | 2          |
| Willow                 | 0                                  | 0              | 65                                 | 0                                  | 0              | 0                                  | 64                                 | 0              | 0                                  | 0                                  | 73             | 0                                  | 0         | 0          | 68        | 0          |
| Other broadleaves      | 1                                  | 2              | 39                                 | 2                                  | 0              | 2                                  | 34                                 | 2              | 0                                  | 3                                  | 26             | 3                                  | 0         | 1          | 18        | 2          |
| <b>All species</b>     | <b>122</b>                         | <b>158</b>     | <b>12</b>                          | <b>280</b>                         | <b>109</b>     | <b>148</b>                         | <b>12</b>                          | <b>257</b>     | <b>111</b>                         | <b>140</b>                         | <b>12</b>      | <b>251</b>                         | <b>90</b> | <b>113</b> | <b>26</b> | <b>203</b> |

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**Table 10 (cont'd)** 50-year forecast of timber availability by time period and principal species

| Principal species      | 2032-36                            |                |                                    | 2037-41                            |                |                                    | 2042-46                            |                |                                    | 2047-51                            |                |                                    |           |           |           |            |
|------------------------|------------------------------------|----------------|------------------------------------|------------------------------------|----------------|------------------------------------|------------------------------------|----------------|------------------------------------|------------------------------------|----------------|------------------------------------|-----------|-----------|-----------|------------|
|                        | FC                                 | Private sector | Total                              | FC                                 | Private sector | Total                              | FC                                 | Private sector | Total                              | FC                                 | Private sector | Total                              |           |           |           |            |
|                        | volume<br>(000 m <sup>3</sup> obs) | SE%            | volume<br>(000 m <sup>3</sup> obs) | volume<br>(000 m <sup>3</sup> obs) | SE%            | volume<br>(000 m <sup>3</sup> obs) | volume<br>(000 m <sup>3</sup> obs) | SE%            | volume<br>(000 m <sup>3</sup> obs) | volume<br>(000 m <sup>3</sup> obs) | SE%            | volume<br>(000 m <sup>3</sup> obs) |           |           |           |            |
| <b>All conifers</b>    | <b>96</b>                          | <b>92</b>      | <b>15</b>                          | <b>188</b>                         | <b>79</b>      | <b>52</b>                          | <b>17</b>                          | <b>131</b>     | <b>69</b>                          | <b>47</b>                          | <b>13</b>      | <b>116</b>                         | <b>84</b> | <b>63</b> | <b>16</b> | <b>147</b> |
| Sitka spruce           | 37                                 | 12             | 35                                 | 49                                 | 42             | 7                                  | 38                                 | 50             | 39                                 | 10                                 | 29             | 49                                 | 45        | 8         | 26        | 53         |
| Scots pine             | 23                                 | 31             | 37                                 | 54                                 | 10             | 18                                 | 42                                 | 28             | 9                                  | 9                                  | 27             | 18                                 | 12        | 11        | 39        | 23         |
| Corsican pine          | 1                                  | 4              | 35                                 | 5                                  | 1              | 3                                  | 33                                 | 4              | 1                                  | 3                                  | 33             | 3                                  | 1         | 8         | 68        | 9          |
| Norway spruce          | 2                                  | 7              | 29                                 | 8                                  | 2              | 8                                  | 35                                 | 10             | 2                                  | 6                                  | 31             | 8                                  | 3         | 16        | 40        | 19         |
| Larches                | 16                                 | 24             | 19                                 | 40                                 | 12             | 11                                 | 16                                 | 23             | 10                                 | 9                                  | 17             | 19                                 | 12        | 11        | 16        | 22         |
| Douglas fir            | 5                                  | 3              | 20                                 | 7                                  | 7              | 3                                  | 16                                 | 9              | 5                                  | 3                                  | 14             | 8                                  | 7         | 6         | 25        | 13         |
| Lodgepole pine         | 9                                  | 2              | 49                                 | 12                                 | 2              | 1                                  | 30                                 | 3              | 1                                  | 5                                  | 80             | 5                                  | 1         | 0         | 36        | 2          |
| Other conifers         | 3                                  | 9              | 67                                 | 13                                 | 3              | 1                                  | 142                                | 4              | 4                                  | 2                                  | 177            | 5                                  | 4         | 2         | 40        | 6          |
| <b>All broadleaves</b> | <b>3</b>                           | <b>22</b>      | <b>21</b>                          | <b>25</b>                          | <b>3</b>       | <b>18</b>                          | <b>14</b>                          | <b>21</b>      | <b>3</b>                           | <b>39</b>                          | <b>19</b>      | <b>42</b>                          | <b>3</b>  | <b>20</b> | <b>14</b> | <b>23</b>  |
| Oak                    | 0                                  | 3              | 40                                 | 3                                  | 0              | 3                                  | 42                                 | 3              | 0                                  | 2                                  | 42             | 3                                  | 0         | 3         | 39        | 3          |
| Beech                  | 1                                  | 5              | 49                                 | 6                                  | 1              | 3                                  | 40                                 | 4              | 1                                  | 12                                 | 44             | 13                                 | 1         | 3         | 53        | 3          |
| Sycamore               | 1                                  | 3              | 29                                 | 3                                  | 0              | 5                                  | 28                                 | 6              | 1                                  | 8                                  | 23             | 9                                  | 1         | 5         | 28        | 6          |
| Ash                    | 0                                  | 2              | 26                                 | 2                                  | 0              | 3                                  | 24                                 | 3              | 0                                  | 8                                  | 36             | 8                                  | 0         | 3         | 23        | 3          |
| Birch                  | 0                                  | 4              | 87                                 | 5                                  | 1              | 1                                  | 24                                 | 2              | 1                                  | 4                                  | 34             | 4                                  | 1         | 3         | 34        | 4          |
| Sweet chestnut         | 0                                  | 0              | -                                  | 0                                  | 0              | 0                                  | -                                  | 0              | 0                                  | 0                                  | -              | 0                                  | 0         | 0         | -         | 0          |
| Hazel                  | 0                                  | 1              | 69                                 | 1                                  | 0              | 0                                  | 41                                 | 0              | 0                                  | 1                                  | 67             | 1                                  | 0         | 0         | 54        | 0          |
| Hawthorn               | 0                                  | 0              | 30                                 | 0                                  | 0              | 0                                  | 27                                 | 0              | 0                                  | 0                                  | 25             | 0                                  | 0         | 0         | 34        | 0          |
| Alder                  | 0                                  | 0              | 71                                 | 0                                  | 0              | 0                                  | 72                                 | 0              | 0                                  | 0                                  | 65             | 0                                  | 0         | 1         | 43        | 1          |
| Willow                 | 0                                  | 0              | 59                                 | 0                                  | 0              | 0                                  | 59                                 | 0              | 0                                  | 0                                  | 59             | 0                                  | 0         | 0         | 59        | 0          |
| Other broadleaves      | 0                                  | 3              | 33                                 | 3                                  | 0              | 2                                  | 18                                 | 2              | 0                                  | 2                                  | 16             | 3                                  | 0         | 2         | 18        | 2          |
| <b>All species</b>     | <b>99</b>                          | <b>114</b>     | <b>14</b>                          | <b>213</b>                         | <b>82</b>      | <b>70</b>                          | <b>13</b>                          | <b>152</b>     | <b>72</b>                          | <b>86</b>                          | <b>11</b>      | <b>158</b>                         | <b>87</b> | <b>83</b> | <b>13</b> | <b>170</b> |

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**Table 10 (cont'd)** 50-year forecast of timber availability by time period and principal species

| Principal species      | 2052-56                            |                |                                    | 2057-61                            |            |                                    |           |            |
|------------------------|------------------------------------|----------------|------------------------------------|------------------------------------|------------|------------------------------------|-----------|------------|
|                        | FC                                 | Private sector |                                    | Total                              | FC         | Private sector                     |           | Total      |
|                        | volume<br>(000 m <sup>3</sup> obs) | SE%            | volume<br>(000 m <sup>3</sup> obs) | volume<br>(000 m <sup>3</sup> obs) | SE%        | volume<br>(000 m <sup>3</sup> obs) |           |            |
| <b>All conifers</b>    | <b>52</b>                          | <b>66</b>      | <b>30</b>                          | <b>118</b>                         | <b>222</b> | <b>68</b>                          | <b>16</b> | <b>290</b> |
| Sitka spruce           | 21                                 | 12             | 22                                 | 33                                 | 113        | 11                                 | 20        | 124        |
| Scots pine             | 11                                 | 22             | 85                                 | 33                                 | 30         | 10                                 | 23        | 39         |
| Corsican pine          | 1                                  | 7              | 58                                 | 8                                  | 3          | 5                                  | 32        | 8          |
| Norway spruce          | 3                                  | 5              | 25                                 | 7                                  | 7          | 16                                 | 59        | 24         |
| Larches                | 7                                  | 9              | 16                                 | 16                                 | 47         | 10                                 | 15        | 57         |
| Douglas fir            | 4                                  | 5              | 14                                 | 10                                 | 14         | 10                                 | 19        | 25         |
| Lodgepole pine         | 1                                  | 1              | 60                                 | 2                                  | 2          | 0                                  | 38        | 2          |
| Other conifers         | 4                                  | 4              | 26                                 | 8                                  | 7          | 6                                  | 20        | 12         |
| <b>All broadleaves</b> | <b>3</b>                           | <b>31</b>      | <b>30</b>                          | <b>34</b>                          | <b>8</b>   | <b>21</b>                          | <b>16</b> | <b>29</b>  |
| Oak                    | 1                                  | 2              | 38                                 | 3                                  | 1          | 2                                  | 36        | 3          |
| Beech                  | 1                                  | 9              | 72                                 | 10                                 | 1          | 3                                  | 35        | 4          |
| Sycamore               | 1                                  | 9              | 32                                 | 9                                  | 1          | 5                                  | 31        | 5          |
| Ash                    | 0                                  | 3              | 29                                 | 3                                  | 0          | 4                                  | 42        | 4          |
| Birch                  | 1                                  | 2              | 25                                 | 2                                  | 3          | 3                                  | 22        | 6          |
| Sweet chestnut         | 0                                  | 0              | -                                  | 0                                  | 0          | 0                                  | -         | 0          |
| Hazel                  | 0                                  | 0              | 38                                 | 0                                  | 0          | 0                                  | 45        | 0          |
| Hawthorn               | 0                                  | 1              | 43                                 | 1                                  | 0          | 0                                  | 39        | 0          |
| Alder                  | 0                                  | 1              | 49                                 | 1                                  | 0          | 1                                  | 49        | 1          |
| Willow                 | 0                                  | 0              | 59                                 | 0                                  | 0          | 2                                  | 80        | 2          |
| Other broadleaves      | 0                                  | 4              | 41                                 | 4                                  | 2          | 2                                  | 35        | 4          |
| <b>All species</b>     | <b>54</b>                          | <b>97</b>      | <b>22</b>                          | <b>151</b>                         | <b>229</b> | <b>89</b>                          | <b>13</b> | <b>319</b> |

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**Table 11** 50-year forecast of standing volume; average annual volumes within periods

| Forecast period        | FC                                 | Private sector                     |     | Total                              |
|------------------------|------------------------------------|------------------------------------|-----|------------------------------------|
|                        | volume<br>(000 m <sup>3</sup> obs) | volume<br>(000 m <sup>3</sup> obs) | SE% | volume<br>(000 m <sup>3</sup> obs) |
| <b>All conifers</b>    |                                    |                                    |     |                                    |
| 2013–16                | 2,280                              | 1,784                              | 9   | <b>4,064</b>                       |
| 2017–21                | 2,391                              | 1,698                              | 10  | <b>4,089</b>                       |
| 2022–26                | 2,374                              | 1,552                              | 11  | <b>3,926</b>                       |
| 2027–31                | 2,418                              | 1,273                              | 9   | <b>3,691</b>                       |
| 2032–36                | 2,490                              | 1,076                              | 10  | <b>3,566</b>                       |
| 2037–41                | 2,557                              | 994                                | 10  | <b>3,550</b>                       |
| 2042–46                | 2,660                              | 977                                | 11  | <b>3,636</b>                       |
| 2047–51                | 2,833                              | 1,004                              | 11  | <b>3,837</b>                       |
| 2052–56                | 2,984                              | 1,001                              | 10  | <b>3,985</b>                       |
| 2057–61                | 2,924                              | 997                                | 9   | <b>3,921</b>                       |
| <b>All broadleaves</b> |                                    |                                    |     |                                    |
| 2013–16                | 263                                | 2,670                              | 9   | <b>2,933</b>                       |
| 2017–21                | 290                                | 2,708                              | 9   | <b>2,998</b>                       |
| 2022–26                | 320                                | 2,808                              | 9   | <b>3,128</b>                       |
| 2027–31                | 349                                | 2,994                              | 9   | <b>3,343</b>                       |
| 2032–36                | 377                                | 3,224                              | 8   | <b>3,601</b>                       |
| 2037–41                | 403                                | 3,439                              | 8   | <b>3,842</b>                       |
| 2042–46                | 427                                | 3,613                              | 8   | <b>4,040</b>                       |
| 2047–51                | 449                                | 3,765                              | 8   | <b>4,215</b>                       |
| 2052–56                | 469                                | 3,922                              | 8   | <b>4,391</b>                       |
| 2057–61                | 479                                | 4,036                              | 8   | <b>4,515</b>                       |
| <b>All species</b>     |                                    |                                    |     |                                    |
| 2013–16                | 2,543                              | 4,478                              | 6   | <b>7,021</b>                       |
| 2017–21                | 2,681                              | 4,428                              | 6   | <b>7,109</b>                       |
| 2022–26                | 2,694                              | 4,379                              | 6   | <b>7,073</b>                       |
| 2027–31                | 2,767                              | 4,273                              | 6   | <b>7,040</b>                       |
| 2032–36                | 2,867                              | 4,297                              | 6   | <b>7,164</b>                       |
| 2037–41                | 2,960                              | 4,428                              | 6   | <b>7,388</b>                       |
| 2042–46                | 3,087                              | 4,581                              | 6   | <b>7,668</b>                       |
| 2047–51                | 3,283                              | 4,759                              | 6   | <b>8,042</b>                       |
| 2052–56                | 3,453                              | 4,911                              | 6   | <b>8,364</b>                       |
| 2057–61                | 3,403                              | 5,020                              | 6   | <b>8,423</b>                       |

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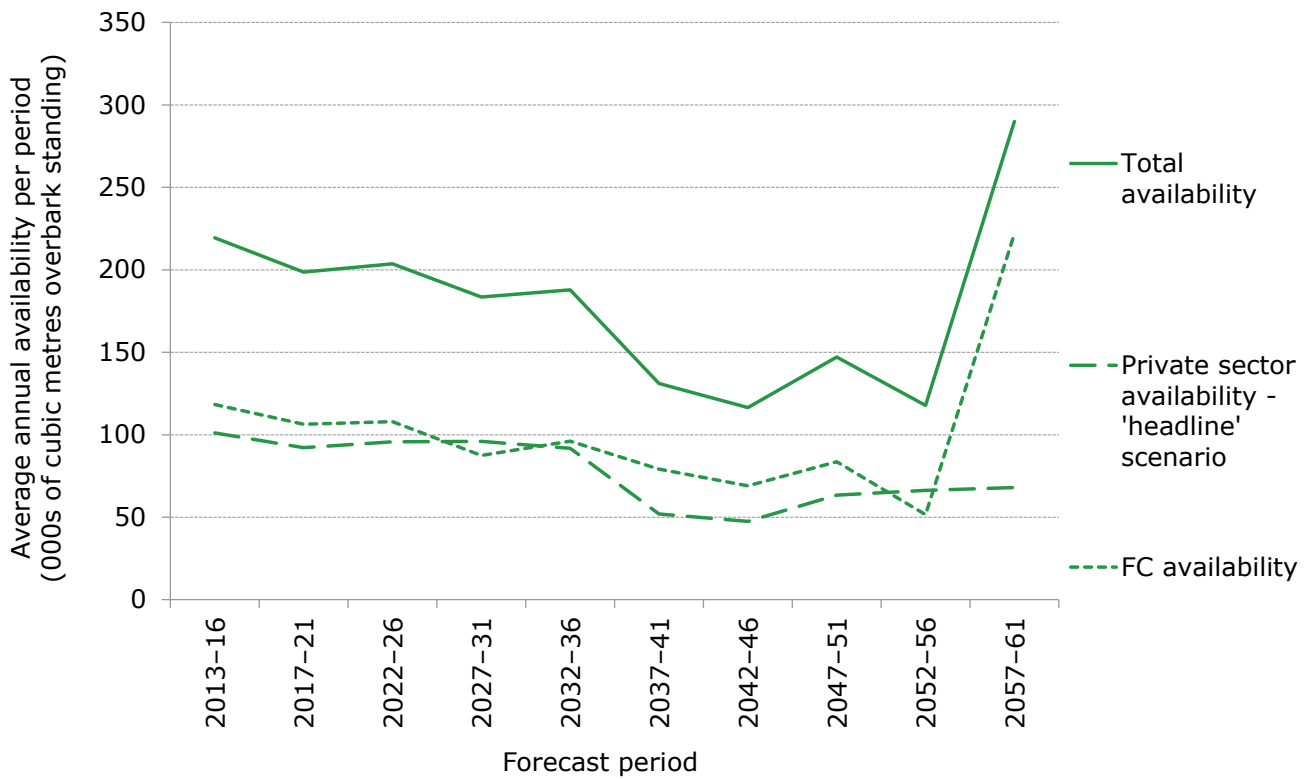
**Table 12** 50-year forecast of net increment; average annual volumes within periods

| Forecast period        | FC                                 | Private sector                     |     | Total                              |
|------------------------|------------------------------------|------------------------------------|-----|------------------------------------|
|                        | volume<br>(000 m <sup>3</sup> obs) | volume<br>(000 m <sup>3</sup> obs) | SE% | volume<br>(000 m <sup>3</sup> obs) |
| <b>All conifers</b>    |                                    |                                    |     |                                    |
| 2013–16                | 89                                 | 69                                 | 10  | <b>159</b>                         |
| 2017–21                | 111                                | 63                                 | 10  | <b>174</b>                         |
| 2022–26                | 103                                | 56                                 | 11  | <b>159</b>                         |
| 2027–31                | 102                                | 51                                 | 11  | <b>153</b>                         |
| 2032–36                | 100                                | 47                                 | 11  | <b>147</b>                         |
| 2037–41                | 102                                | 49                                 | 10  | <b>150</b>                         |
| 2042–46                | 103                                | 54                                 | 10  | <b>157</b>                         |
| 2047–51                | 107                                | 64                                 | 9   | <b>170</b>                         |
| 2052–56                | 109                                | 67                                 | 9   | <b>177</b>                         |
| 2057–61                | 111                                | 71                                 | 8   | <b>182</b>                         |
| <b>All broadleaves</b> |                                    |                                    |     |                                    |
| 2013–16                | 8                                  | 60                                 | 6   | <b>68</b>                          |
| 2017–21                | 9                                  | 64                                 | 6   | <b>73</b>                          |
| 2022–26                | 9                                  | 65                                 | 6   | <b>73</b>                          |
| 2027–31                | 8                                  | 63                                 | 6   | <b>72</b>                          |
| 2032–36                | 8                                  | 64                                 | 6   | <b>72</b>                          |
| 2037–41                | 8                                  | 65                                 | 7   | <b>72</b>                          |
| 2042–46                | 7                                  | 63                                 | 7   | <b>70</b>                          |
| 2047–51                | 7                                  | 58                                 | 7   | <b>65</b>                          |
| 2052–56                | 7                                  | 54                                 | 7   | <b>61</b>                          |
| 2057–61                | 7                                  | 50                                 | 7   | <b>57</b>                          |
| <b>All species</b>     |                                    |                                    |     |                                    |
| 2013–16                | 97                                 | 131                                | 5   | <b>229</b>                         |
| 2017–21                | 119                                | 129                                | 5   | <b>248</b>                         |
| 2022–26                | 112                                | 121                                | 5   | <b>233</b>                         |
| 2027–31                | 111                                | 114                                | 5   | <b>225</b>                         |
| 2032–36                | 108                                | 111                                | 5   | <b>219</b>                         |
| 2037–41                | 109                                | 112                                | 5   | <b>222</b>                         |
| 2042–46                | 110                                | 116                                | 4   | <b>226</b>                         |
| 2047–51                | 114                                | 121                                | 4   | <b>235</b>                         |
| 2052–56                | 116                                | 121                                | 5   | <b>237</b>                         |
| 2057–61                | 118                                | 121                                | 5   | <b>238</b>                         |



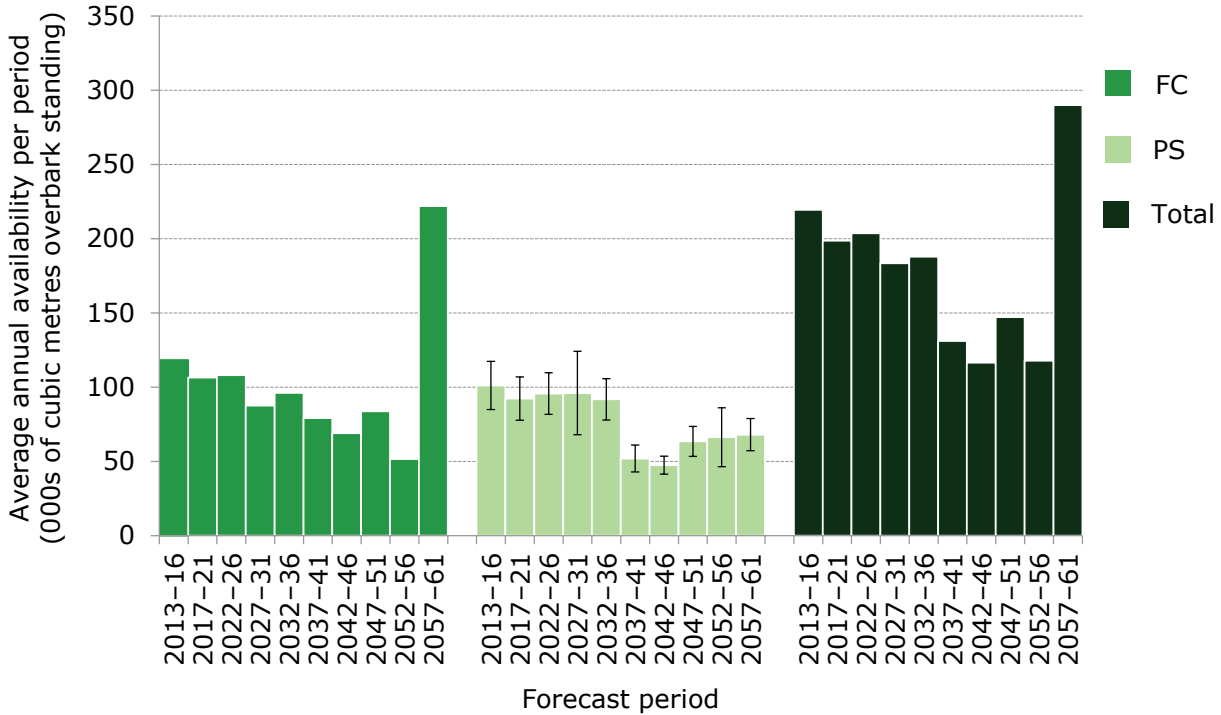
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**Figure 4** Overview of 50-year forecast of average annual softwood availability

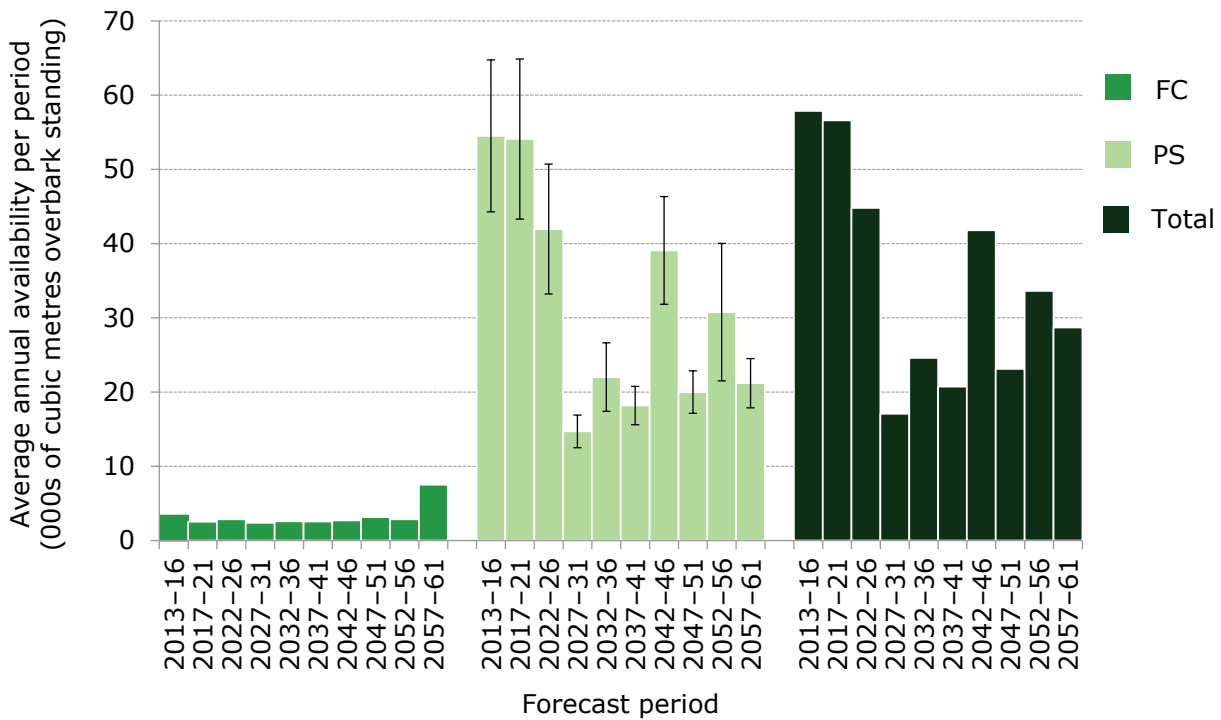


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**Figure 5** 50-year forecast of average annual softwood availability

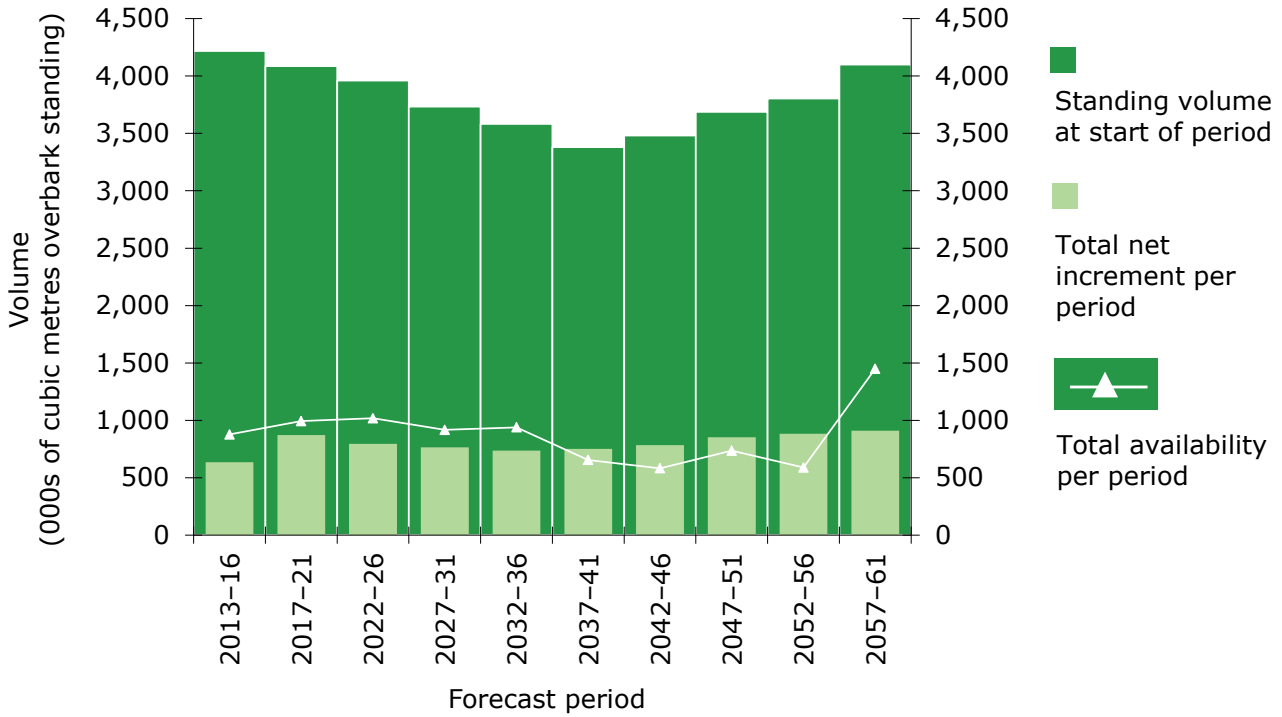


**Figure 6** 50-year forecast of average annual hardwood availability

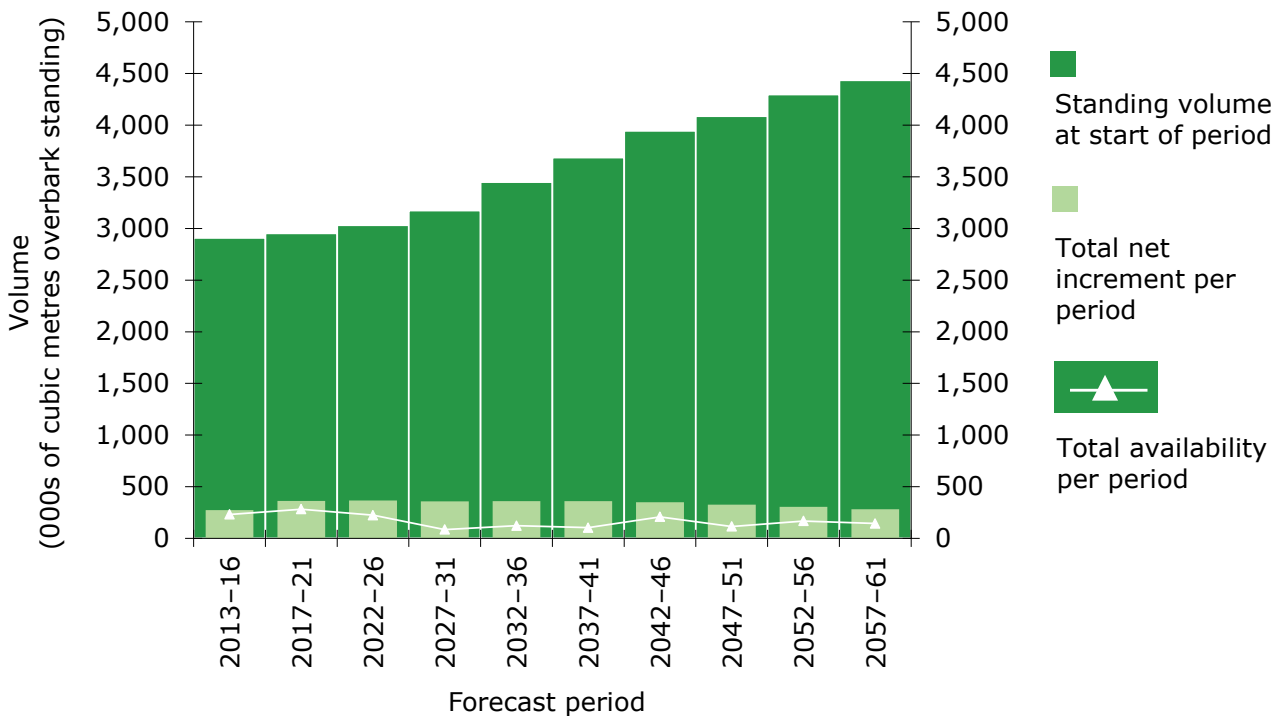


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**Figure 7** 50-year forecast of softwood standing volume, increment and availability



**Figure 8** 50-year forecast of hardwood standing volume, increment and availability



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## 50-year forecast of timber availability under the 'unrestricted' scenario

**Table 13** 50-year forecast of timber availability by time period and principal species – unrestricted biological potential for Private sector hardwoods

| Principal species      | 2013-16                            |                |                                    | 2017-21                            |                |                                    | 2022-26                            |                |                                    | 2027-31                            |                |                                    |           |            |           |            |
|------------------------|------------------------------------|----------------|------------------------------------|------------------------------------|----------------|------------------------------------|------------------------------------|----------------|------------------------------------|------------------------------------|----------------|------------------------------------|-----------|------------|-----------|------------|
|                        | FC                                 | Private sector | Total                              | FC                                 | Private sector | Total                              | FC                                 | Private sector | Total                              | FC                                 | Private sector | Total                              |           |            |           |            |
|                        | volume<br>(000 m <sup>3</sup> obs) | SE%            | volume<br>(000 m <sup>3</sup> obs) | volume<br>(000 m <sup>3</sup> obs) | SE%            | volume<br>(000 m <sup>3</sup> obs) | volume<br>(000 m <sup>3</sup> obs) | SE%            | volume<br>(000 m <sup>3</sup> obs) | volume<br>(000 m <sup>3</sup> obs) | SE%            | volume<br>(000 m <sup>3</sup> obs) |           |            |           |            |
| <b>All conifers</b>    | <b>118</b>                         | <b>101</b>     | <b>16</b>                          | <b>219</b>                         | <b>106</b>     | <b>92</b>                          | <b>16</b>                          | <b>199</b>     | <b>108</b>                         | <b>96</b>                          | <b>15</b>      | <b>204</b>                         | <b>88</b> | <b>96</b>  | <b>29</b> | <b>184</b> |
| Sitka spruce           | 40                                 | 24             | 42                                 | 63                                 | 37             | 12                                 | 25                                 | 49             | 35                                 | 11                                 | 27             | 46                                 | 35        | 49         | 56        | 83         |
| Scots pine             | 34                                 | 9              | 24                                 | 44                                 | 26             | 26                                 | 45                                 | 53             | 31                                 | 26                                 | 36             | 57                                 | 22        | 14         | 39        | 36         |
| Corsican pine          | 4                                  | 5              | 40                                 | 9                                  | 3              | 11                                 | 48                                 | 14             | 3                                  | 4                                  | 35             | 7                                  | 1         | 4          | 33        | 5          |
| Norway spruce          | 4                                  | 21             | 47                                 | 25                                 | 3              | 6                                  | 30                                 | 9              | 4                                  | 18                                 | 42             | 22                                 | 3         | 4          | 32        | 7          |
| Larches                | 23                                 | 27             | 16                                 | 50                                 | 21             | 31                                 | 21                                 | 52             | 17                                 | 21                                 | 15             | 39                                 | 12        | 19         | 14        | 31         |
| Douglas fir            | 4                                  | 2              | 38                                 | 6                                  | 3              | 2                                  | 32                                 | 5              | 3                                  | 8                                  | 65             | 11                                 | 4         | 2          | 25        | 6          |
| Lodgepole pine         | 7                                  | 10             | 76                                 | 17                                 | 10             | 1                                  | 40                                 | 11             | 12                                 | 5                                  | 71             | 17                                 | 8         | 1          | 44        | 9          |
| Other conifers         | 3                                  | 2              | 111                                | 4                                  | 2              | 2                                  | 76                                 | 5              | 2                                  | 2                                  | 82             | 4                                  | 2         | 2          | 95        | 4          |
| <b>All broadleaves</b> | <b>3</b>                           | <b>175</b>     | <b>12</b>                          | <b>178</b>                         | <b>3</b>       | <b>166</b>                         | <b>11</b>                          | <b>168</b>     | <b>3</b>                           | <b>95</b>                          | <b>10</b>      | <b>98</b>                          | <b>2</b>  | <b>46</b>  | <b>9</b>  | <b>48</b>  |
| Oak                    | 0                                  | 36             | 29                                 | 36                                 | 0              | 40                                 | 26                                 | 40             | 0                                  | 17                                 | 20             | 17                                 | 0         | 12         | 23        | 12         |
| Beech                  | 1                                  | 4              | 22                                 | 5                                  | 1              | 5                                  | 19                                 | 6              | 1                                  | 23                                 | 27             | 24                                 | 1         | 5          | 26        | 6          |
| Sycamore               | 1                                  | 32             | 29                                 | 33                                 | 1              | 36                                 | 27                                 | 36             | 1                                  | 18                                 | 33             | 18                                 | 1         | 6          | 31        | 7          |
| Ash                    | 0                                  | 47             | 29                                 | 47                                 | 0              | 31                                 | 32                                 | 31             | 0                                  | 10                                 | 21             | 10                                 | 0         | 4          | 18        | 5          |
| Birch                  | 0                                  | 19             | 26                                 | 19                                 | 0              | 19                                 | 25                                 | 20             | 0                                  | 13                                 | 25             | 13                                 | 0         | 4          | 23        | 4          |
| Sweet chestnut         | 0                                  | 0              | -                                  | 0                                  | 0              | 0                                  | -                                  | 0              | 0                                  | 0                                  | -              | 0                                  | 0         | 0          | -         | 0          |
| Hazel                  | 0                                  | 3              | 29                                 | 3                                  | 0              | 6                                  | 47                                 | 6              | 0                                  | 1                                  | 20             | 1                                  | 0         | 1          | 32        | 1          |
| Hawthorn               | 0                                  | 2              | 27                                 | 2                                  | 0              | 2                                  | 25                                 | 2              | 0                                  | 2                                  | 23             | 2                                  | 0         | 2          | 22        | 2          |
| Alder                  | 0                                  | 18             | 30                                 | 18                                 | 0              | 15                                 | 32                                 | 15             | 0                                  | 8                                  | 48             | 8                                  | 0         | 3          | 41        | 3          |
| Willow                 | 0                                  | 1              | 53                                 | 1                                  | 0              | 1                                  | 52                                 | 1              | 0                                  | 1                                  | 54             | 1                                  | 0         | 1          | 45        | 1          |
| Other broadleaves      | 1                                  | 9              | 26                                 | 10                                 | 0              | 10                                 | 24                                 | 10             | 0                                  | 8                                  | 15             | 8                                  | 0         | 7          | 18        | 8          |
| <b>All species</b>     | <b>122</b>                         | <b>279</b>     | <b>9</b>                           | <b>400</b>                         | <b>109</b>     | <b>260</b>                         | <b>9</b>                           | <b>369</b>     | <b>111</b>                         | <b>193</b>                         | <b>9</b>       | <b>304</b>                         | <b>90</b> | <b>144</b> | <b>20</b> | <b>234</b> |

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**Table 13 (cont'd)** 50-year forecast of timber availability by time period and principal species – unrestricted biological potential for Private sector hardwoods

| Principal species      | 2032-36                            |                |                                    | 2037-41                            |                |                                    | 2042-46                            |                |                                    | 2047-51                            |                |                                    |           |            |           |            |
|------------------------|------------------------------------|----------------|------------------------------------|------------------------------------|----------------|------------------------------------|------------------------------------|----------------|------------------------------------|------------------------------------|----------------|------------------------------------|-----------|------------|-----------|------------|
|                        | FC                                 | Private sector | Total                              | FC                                 | Private sector | Total                              | FC                                 | Private sector | Total                              | FC                                 | Private sector | Total                              |           |            |           |            |
|                        | volume<br>(000 m <sup>3</sup> obs) | SE%            | volume<br>(000 m <sup>3</sup> obs) | volume<br>(000 m <sup>3</sup> obs) | SE%            | volume<br>(000 m <sup>3</sup> obs) | volume<br>(000 m <sup>3</sup> obs) | SE%            | volume<br>(000 m <sup>3</sup> obs) | volume<br>(000 m <sup>3</sup> obs) | SE%            | volume<br>(000 m <sup>3</sup> obs) |           |            |           |            |
| <b>All conifers</b>    | <b>96</b>                          | <b>92</b>      | <b>15</b>                          | <b>188</b>                         | <b>79</b>      | <b>52</b>                          | <b>17</b>                          | <b>131</b>     | <b>69</b>                          | <b>47</b>                          | <b>13</b>      | <b>116</b>                         | <b>84</b> | <b>63</b>  | <b>16</b> | <b>147</b> |
| Sitka spruce           | 37                                 | 12             | 35                                 | 49                                 | 42             | 7                                  | 38                                 | 50             | 39                                 | 10                                 | 29             | 49                                 | 45        | 8          | 26        | 53         |
| Scots pine             | 23                                 | 31             | 37                                 | 54                                 | 10             | 18                                 | 42                                 | 28             | 9                                  | 9                                  | 27             | 18                                 | 12        | 11         | 39        | 23         |
| Corsican pine          | 1                                  | 4              | 35                                 | 5                                  | 1              | 3                                  | 33                                 | 4              | 1                                  | 3                                  | 33             | 3                                  | 1         | 8          | 68        | 9          |
| Norway spruce          | 2                                  | 7              | 29                                 | 8                                  | 2              | 8                                  | 35                                 | 10             | 2                                  | 6                                  | 31             | 8                                  | 3         | 16         | 40        | 19         |
| Larches                | 16                                 | 24             | 19                                 | 40                                 | 12             | 11                                 | 16                                 | 23             | 10                                 | 9                                  | 17             | 19                                 | 12        | 11         | 16        | 22         |
| Douglas fir            | 5                                  | 3              | 20                                 | 7                                  | 7              | 3                                  | 16                                 | 9              | 5                                  | 3                                  | 14             | 8                                  | 7         | 6          | 25        | 13         |
| Lodgepole pine         | 9                                  | 2              | 49                                 | 12                                 | 2              | 1                                  | 30                                 | 3              | 1                                  | 5                                  | 80             | 5                                  | 1         | 0          | 36        | 2          |
| Other conifers         | 3                                  | 9              | 67                                 | 13                                 | 3              | 1                                  | 142                                | 4              | 4                                  | 2                                  | 177            | 5                                  | 4         | 2          | 40        | 6          |
| <b>All broadleaves</b> | <b>3</b>                           | <b>67</b>      | <b>10</b>                          | <b>70</b>                          | <b>3</b>       | <b>59</b>                          | <b>10</b>                          | <b>62</b>      | <b>3</b>                           | <b>85</b>                          | <b>11</b>      | <b>88</b>                          | <b>3</b>  | <b>60</b>  | <b>10</b> | <b>63</b>  |
| Oak                    | 0                                  | 8              | 18                                 | 8                                  | 0              | 7                                  | 19                                 | 7              | 0                                  | 7                                  | 19             | 7                                  | 0         | 7          | 17        | 7          |
| Beech                  | 1                                  | 11             | 38                                 | 11                                 | 1              | 5                                  | 30                                 | 6              | 1                                  | 14                                 | 38             | 15                                 | 1         | 6          | 30        | 7          |
| Sycamore               | 1                                  | 7              | 25                                 | 7                                  | 0              | 13                                 | 27                                 | 14             | 1                                  | 14                                 | 17             | 15                                 | 1         | 10         | 24        | 10         |
| Ash                    | 0                                  | 14             | 30                                 | 14                                 | 0              | 10                                 | 16                                 | 10             | 0                                  | 18                                 | 24             | 18                                 | 0         | 11         | 21        | 12         |
| Birch                  | 0                                  | 11             | 42                                 | 11                                 | 1              | 5                                  | 17                                 | 5              | 1                                  | 13                                 | 25             | 14                                 | 1         | 8          | 19        | 9          |
| Sweet chestnut         | 0                                  | 0              | -                                  | 0                                  | 0              | 0                                  | -                                  | 0              | 0                                  | 0                                  | -              | 0                                  | 0         | 0          | -         | 0          |
| Hazel                  | 0                                  | 2              | 34                                 | 2                                  | 0              | 2                                  | 31                                 | 2              | 0                                  | 2                                  | 42             | 2                                  | 0         | 2          | 55        | 2          |
| Hawthorn               | 0                                  | 2              | 33                                 | 2                                  | 0              | 2                                  | 30                                 | 2              | 0                                  | 1                                  | 25             | 1                                  | 0         | 1          | 24        | 1          |
| Alder                  | 0                                  | 2              | 67                                 | 2                                  | 0              | 4                                  | 61                                 | 4              | 0                                  | 4                                  | 52             | 4                                  | 0         | 6          | 41        | 6          |
| Willow                 | 0                                  | 1              | 46                                 | 1                                  | 0              | 1                                  | 44                                 | 1              | 0                                  | 1                                  | 46             | 1                                  | 0         | 1          | 46        | 1          |
| Other broadleaves      | 0                                  | 9              | 25                                 | 9                                  | 0              | 10                                 | 20                                 | 11             | 0                                  | 9                                  | 19             | 10                                 | 0         | 10         | 41        | 10         |
| <b>All species</b>     | <b>99</b>                          | <b>159</b>     | <b>10</b>                          | <b>258</b>                         | <b>82</b>      | <b>111</b>                         | <b>9</b>                           | <b>192</b>     | <b>72</b>                          | <b>132</b>                         | <b>8</b>       | <b>204</b>                         | <b>87</b> | <b>123</b> | <b>10</b> | <b>210</b> |

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**Table 13 (cont'd)** 50-year forecast of timber availability by time period and principal species – unrestricted biological potential for Private sector hardwoods

| Principal species      | 2052-56                            |                |                                    | 2057-61                            |            |                                    |           |            |
|------------------------|------------------------------------|----------------|------------------------------------|------------------------------------|------------|------------------------------------|-----------|------------|
|                        | FC                                 | Private sector |                                    | Total                              | FC         | Private sector                     |           | Total      |
|                        | volume<br>(000 m <sup>3</sup> obs) | SE%            | volume<br>(000 m <sup>3</sup> obs) | volume<br>(000 m <sup>3</sup> obs) | SE%        | volume<br>(000 m <sup>3</sup> obs) |           |            |
| <b>All conifers</b>    | <b>52</b>                          | <b>66</b>      | <b>30</b>                          | <b>118</b>                         | <b>222</b> | <b>68</b>                          | <b>16</b> | <b>290</b> |
| Sitka spruce           | 21                                 | 12             | 22                                 | 33                                 | 113        | 11                                 | 20        | 124        |
| Scots pine             | 11                                 | 22             | 85                                 | 33                                 | 30         | 10                                 | 23        | 39         |
| Corsican pine          | 1                                  | 7              | 58                                 | 8                                  | 3          | 5                                  | 32        | 8          |
| Norway spruce          | 3                                  | 5              | 25                                 | 7                                  | 7          | 16                                 | 59        | 24         |
| Larches                | 7                                  | 9              | 16                                 | 16                                 | 47         | 10                                 | 15        | 57         |
| Douglas fir            | 4                                  | 5              | 14                                 | 10                                 | 14         | 10                                 | 19        | 25         |
| Lodgepole pine         | 1                                  | 1              | 60                                 | 2                                  | 2          | 0                                  | 38        | 2          |
| Other conifers         | 4                                  | 4              | 26                                 | 8                                  | 7          | 6                                  | 20        | 12         |
| <b>All broadleaves</b> | <b>3</b>                           | <b>69</b>      | <b>16</b>                          | <b>72</b>                          | <b>8</b>   | <b>60</b>                          | <b>11</b> | <b>67</b>  |
| Oak                    | 1                                  | 13             | 31                                 | 13                                 | 1          | 9                                  | 16        | 10         |
| Beech                  | 1                                  | 12             | 58                                 | 13                                 | 1          | 10                                 | 44        | 11         |
| Sycamore               | 1                                  | 11             | 26                                 | 11                                 | 1          | 7                                  | 22        | 8          |
| Ash                    | 0                                  | 7              | 22                                 | 7                                  | 0          | 9                                  | 25        | 9          |
| Birch                  | 1                                  | 4              | 16                                 | 5                                  | 3          | 5                                  | 15        | 9          |
| Sweet chestnut         | 0                                  | 0              | -                                  | 0                                  | 0          | 0                                  | -         | 0          |
| Hazel                  | 0                                  | 3              | 38                                 | 3                                  | 0          | 2                                  | 46        | 2          |
| Hawthorn               | 0                                  | 2              | 22                                 | 2                                  | 0          | 4                                  | 59        | 4          |
| Alder                  | 0                                  | 4              | 50                                 | 4                                  | 0          | 4                                  | 48        | 4          |
| Willow                 | 0                                  | 5              | 66                                 | 5                                  | 0          | 3                                  | 66        | 3          |
| Other broadleaves      | 0                                  | 8              | 24                                 | 9                                  | 2          | 6                                  | 22        | 7          |
| <b>All species</b>     | <b>54</b>                          | <b>135</b>     | <b>16</b>                          | <b>190</b>                         | <b>229</b> | <b>128</b>                         | <b>10</b> | <b>357</b> |

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**Table 14** 50-year forecast of standing volume; average annual volumes within periods – unrestricted biological potential for Private sector hardwoods

| Forecast period        | FC                                 | Private sector                     |     | Total                              |
|------------------------|------------------------------------|------------------------------------|-----|------------------------------------|
|                        | volume<br>(000 m <sup>3</sup> obs) | volume<br>(000 m <sup>3</sup> obs) | SE% | volume<br>(000 m <sup>3</sup> obs) |
| <b>All conifers</b>    |                                    |                                    |     |                                    |
| 2013–16                | 2,280                              | 1,784                              | 9   | <b>4,064</b>                       |
| 2017–21                | 2,391                              | 1,698                              | 10  | <b>4,089</b>                       |
| 2022–26                | 2,374                              | 1,552                              | 11  | <b>3,926</b>                       |
| 2027–31                | 2,418                              | 1,273                              | 9   | <b>3,691</b>                       |
| 2032–36                | 2,490                              | 1,076                              | 10  | <b>3,566</b>                       |
| 2037–41                | 2,557                              | 994                                | 10  | <b>3,550</b>                       |
| 2042–46                | 2,660                              | 977                                | 11  | <b>3,636</b>                       |
| 2047–51                | 2,833                              | 1,004                              | 11  | <b>3,837</b>                       |
| 2052–56                | 2,984                              | 1,001                              | 10  | <b>3,985</b>                       |
| 2057–61                | 2,924                              | 997                                | 9   | <b>3,921</b>                       |
| <b>All broadleaves</b> |                                    |                                    |     |                                    |
| 2013–16                | 263                                | 2,333                              | 9   | <b>2,596</b>                       |
| 2017–21                | 290                                | 1,876                              | 10  | <b>2,166</b>                       |
| 2022–26                | 320                                | 1,538                              | 12  | <b>1,858</b>                       |
| 2027–31                | 349                                | 1,508                              | 12  | <b>1,857</b>                       |
| 2032–36                | 377                                | 1,539                              | 12  | <b>1,916</b>                       |
| 2037–41                | 403                                | 1,606                              | 12  | <b>2,010</b>                       |
| 2042–46                | 427                                | 1,663                              | 11  | <b>2,091</b>                       |
| 2047–51                | 449                                | 1,743                              | 11  | <b>2,193</b>                       |
| 2052–56                | 469                                | 1,829                              | 11  | <b>2,298</b>                       |
| 2057–61                | 479                                | 1,908                              | 11  | <b>2,387</b>                       |
| <b>All species</b>     |                                    |                                    |     |                                    |
| 2013–16                | 2,543                              | 4,139                              | 6   | <b>6,683</b>                       |
| 2017–21                | 2,681                              | 3,595                              | 7   | <b>6,276</b>                       |
| 2022–26                | 2,694                              | 3,106                              | 8   | <b>5,800</b>                       |
| 2027–31                | 2,767                              | 2,785                              | 8   | <b>5,553</b>                       |
| 2032–36                | 2,867                              | 2,610                              | 8   | <b>5,477</b>                       |
| 2037–41                | 2,960                              | 2,593                              | 8   | <b>5,553</b>                       |
| 2042–46                | 3,087                              | 2,629                              | 8   | <b>5,716</b>                       |
| 2047–51                | 3,283                              | 2,734                              | 7   | <b>6,017</b>                       |
| 2052–56                | 3,453                              | 2,814                              | 7   | <b>6,267</b>                       |
| 2057–61                | 3,403                              | 2,888                              | 7   | <b>6,291</b>                       |

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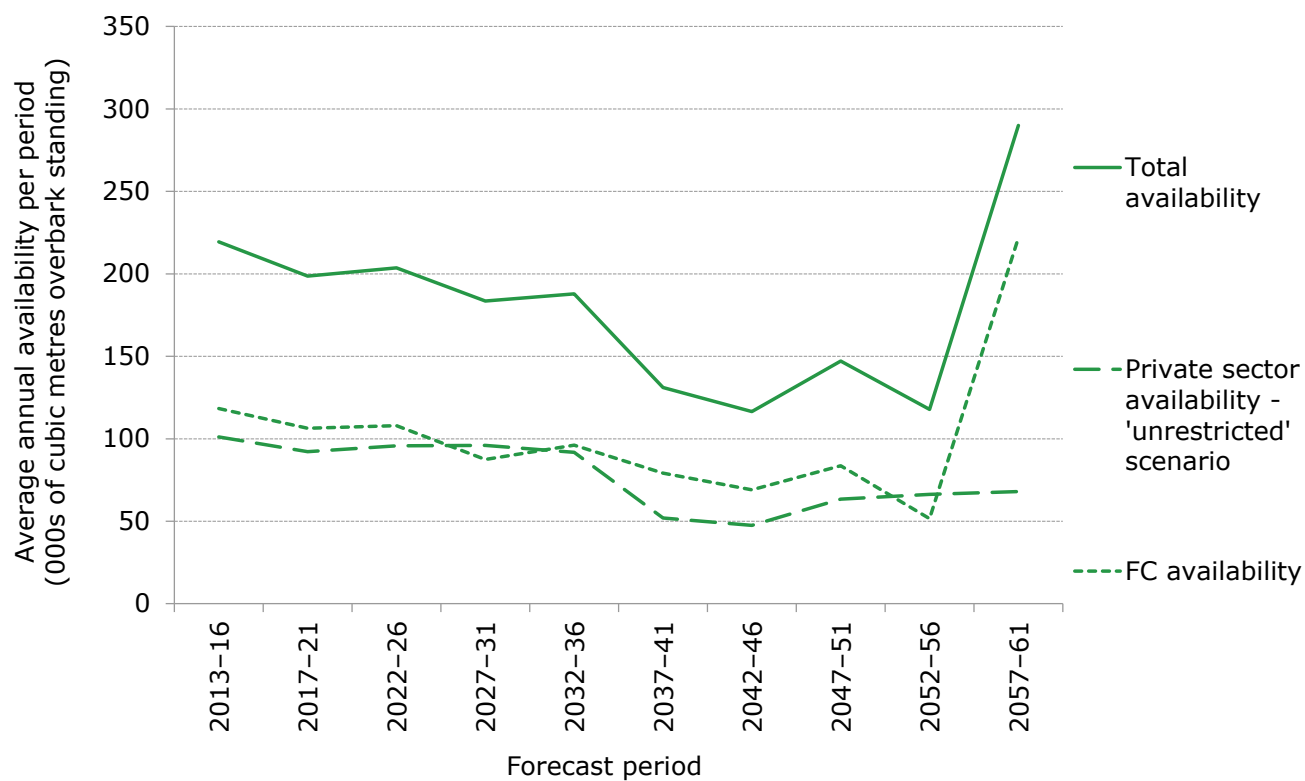
**Table 15** 50-year forecast of net increment; average annual volumes within periods – unrestricted biological potential for Private sector hardwoods

| Forecast period        | FC                                 | Private sector                     |     | Total                              |
|------------------------|------------------------------------|------------------------------------|-----|------------------------------------|
|                        | volume<br>(000 m <sup>3</sup> obs) | volume<br>(000 m <sup>3</sup> obs) | SE% | volume<br>(000 m <sup>3</sup> obs) |
| <b>All conifers</b>    |                                    |                                    |     |                                    |
| 2013–16                | 89                                 | 69                                 | 10  | <b>159</b>                         |
| 2017–21                | 111                                | 63                                 | 10  | <b>174</b>                         |
| 2022–26                | 103                                | 56                                 | 11  | <b>159</b>                         |
| 2027–31                | 102                                | 51                                 | 11  | <b>153</b>                         |
| 2032–36                | 100                                | 47                                 | 11  | <b>147</b>                         |
| 2037–41                | 102                                | 49                                 | 10  | <b>150</b>                         |
| 2042–46                | 103                                | 54                                 | 10  | <b>157</b>                         |
| 2047–51                | 107                                | 64                                 | 9   | <b>170</b>                         |
| 2052–56                | 109                                | 67                                 | 9   | <b>177</b>                         |
| 2057–61                | 111                                | 71                                 | 8   | <b>182</b>                         |
| <b>All broadleaves</b> |                                    |                                    |     |                                    |
| 2013–16                | 8                                  | 59                                 | 6   | <b>67</b>                          |
| 2017–21                | 9                                  | 59                                 | 6   | <b>68</b>                          |
| 2022–26                | 9                                  | 58                                 | 7   | <b>67</b>                          |
| 2027–31                | 8                                  | 61                                 | 7   | <b>69</b>                          |
| 2032–36                | 8                                  | 70                                 | 8   | <b>78</b>                          |
| 2037–41                | 8                                  | 80                                 | 9   | <b>87</b>                          |
| 2042–46                | 7                                  | 86                                 | 9   | <b>94</b>                          |
| 2047–51                | 7                                  | 86                                 | 9   | <b>93</b>                          |
| 2052–56                | 7                                  | 83                                 | 8   | <b>90</b>                          |
| 2057–61                | 7                                  | 82                                 | 7   | <b>89</b>                          |
| <b>All species</b>     |                                    |                                    |     |                                    |
| 2013–16                | 97                                 | 130                                | 5   | <b>227</b>                         |
| 2017–21                | 119                                | 124                                | 6   | <b>244</b>                         |
| 2022–26                | 112                                | 115                                | 6   | <b>227</b>                         |
| 2027–31                | 111                                | 111                                | 5   | <b>222</b>                         |
| 2032–36                | 108                                | 116                                | 6   | <b>225</b>                         |
| 2037–41                | 109                                | 127                                | 6   | <b>237</b>                         |
| 2042–46                | 110                                | 140                                | 5   | <b>250</b>                         |
| 2047–51                | 114                                | 149                                | 5   | <b>263</b>                         |
| 2052–56                | 116                                | 150                                | 5   | <b>266</b>                         |
| 2057–61                | 118                                | 153                                | 5   | <b>271</b>                         |



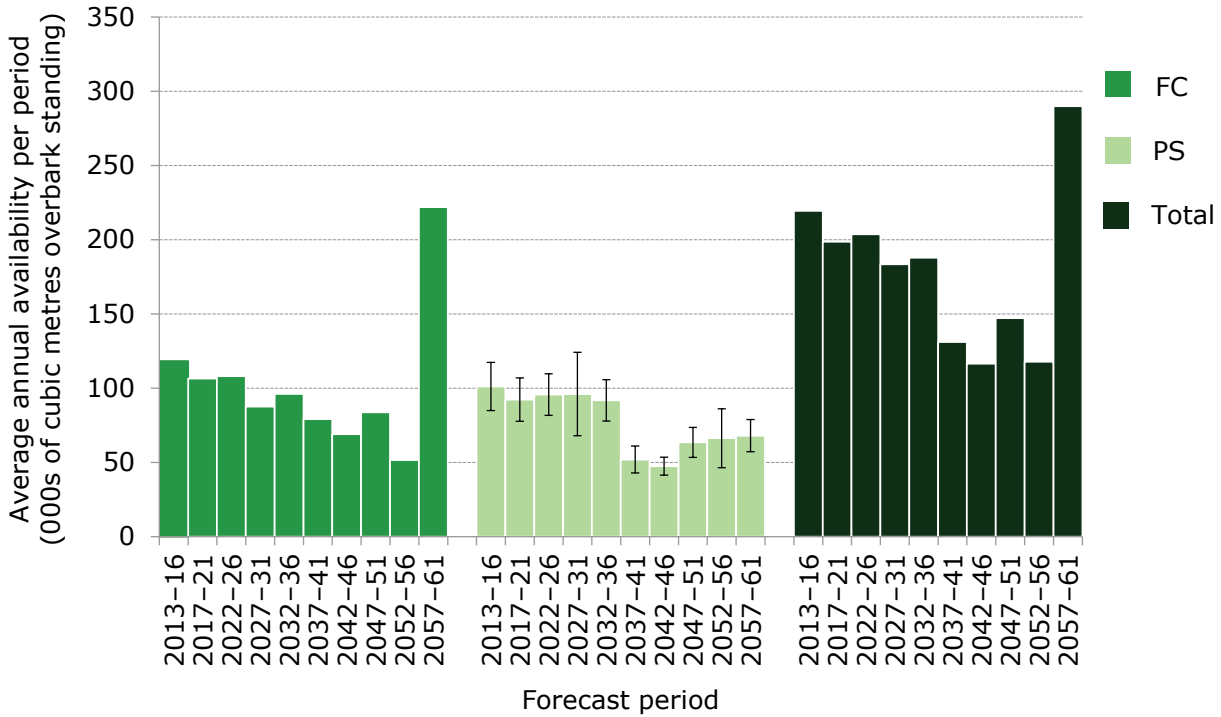
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**Figure 9** Overview of 50-year forecast of average annual softwood availability – unrestricted biological potential for Private sector hardwoods

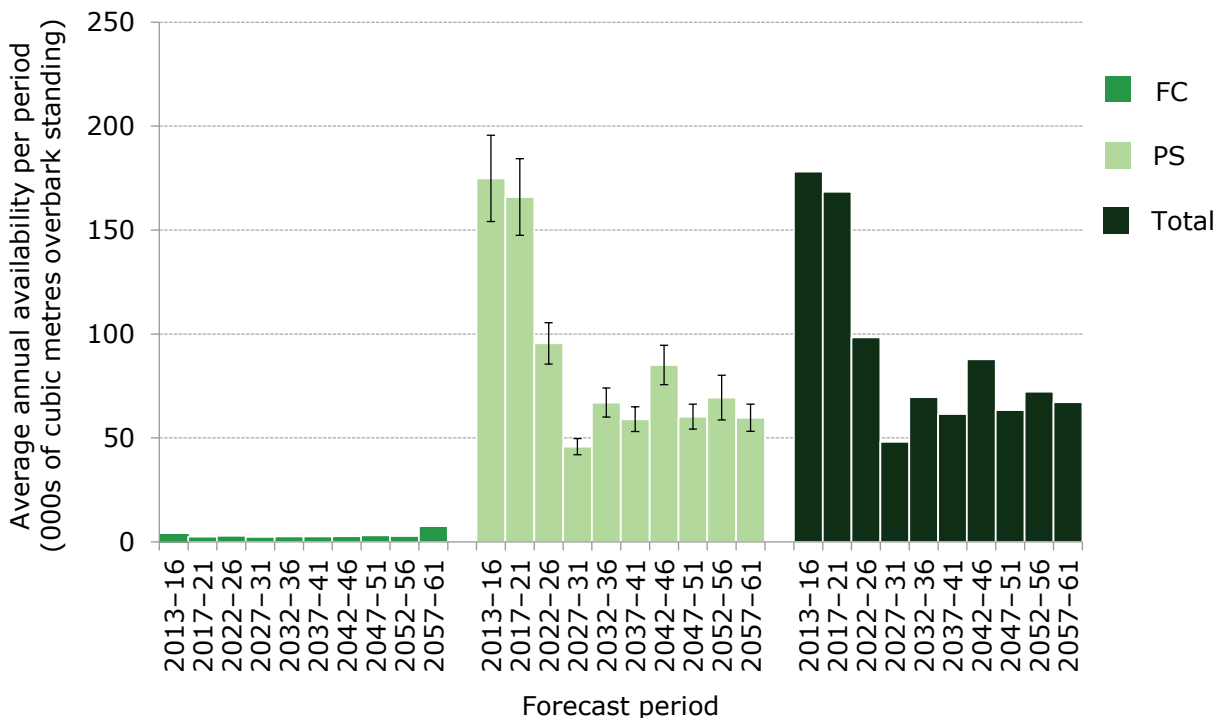


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**Figure 10** 50-year forecast comparison of average annual softwood availability–unrestricted biological potential for Private sector hardwoods

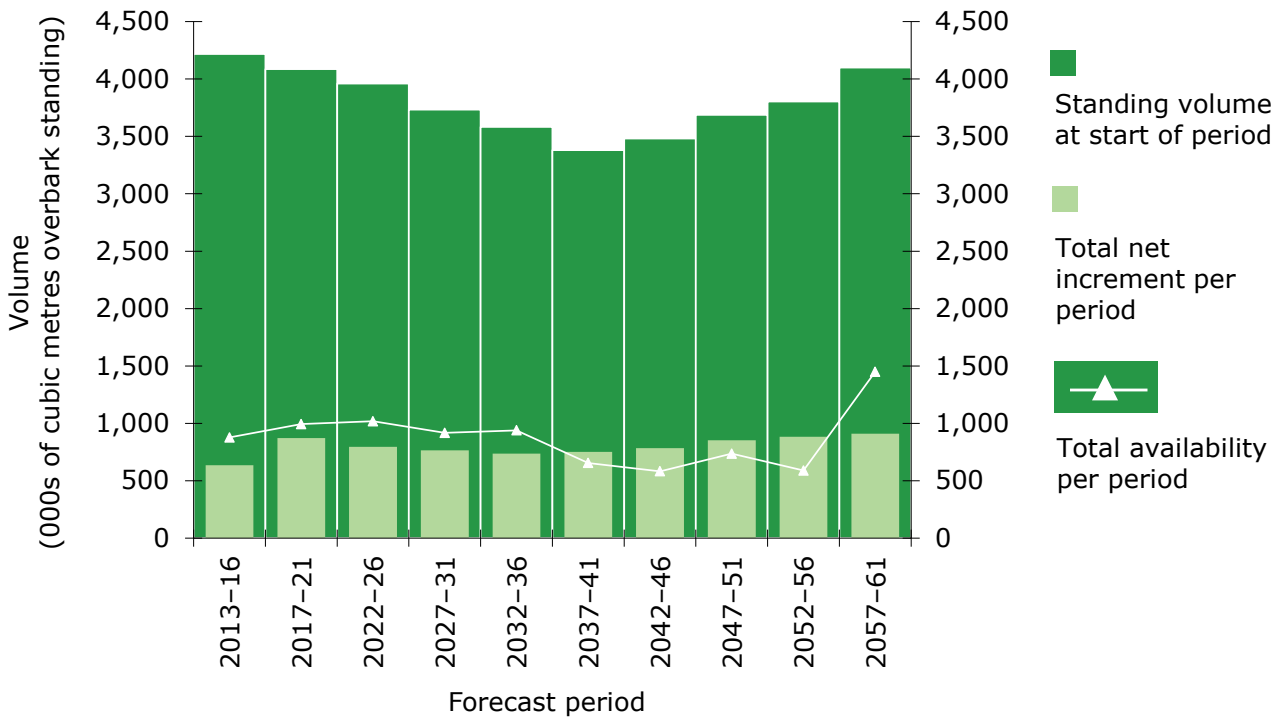


**Figure 11** 50-year forecast comparison of average annual hardwood availability – unrestricted biological potential for Private sector hardwoods

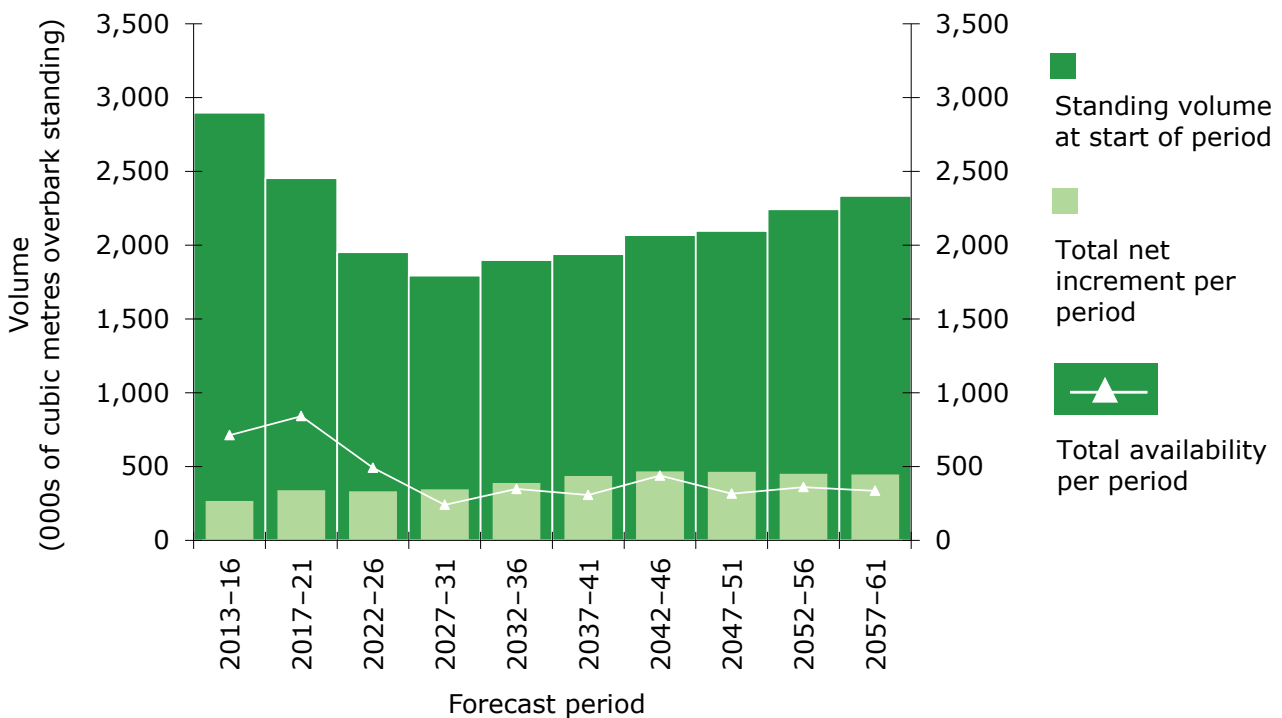


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**Figure 12** 50-year summary of softwood standing volume, increment and availability – unrestricted biological potential for Private sector hardwoods



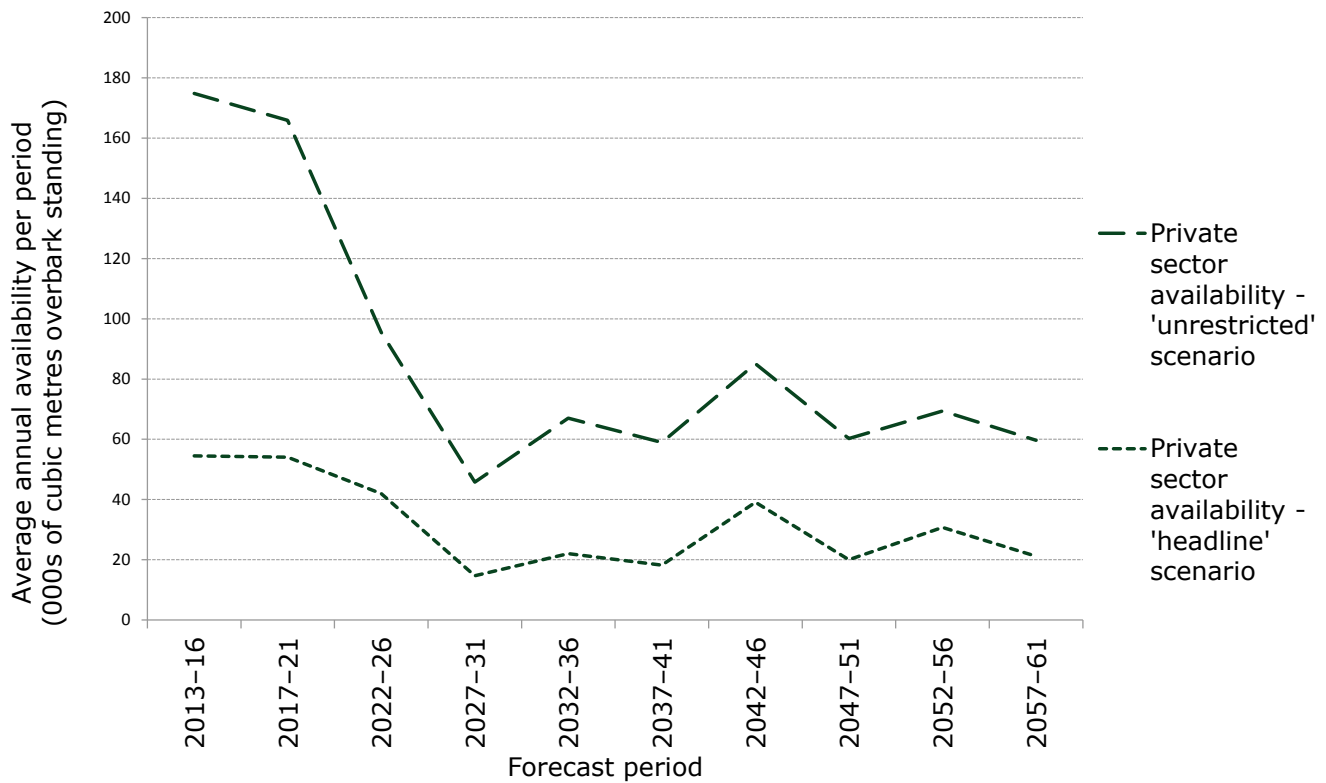
**Figure 13** 50-year summary of hardwood standing volume, increment and availability – unrestricted biological potential for Private sector hardwoods



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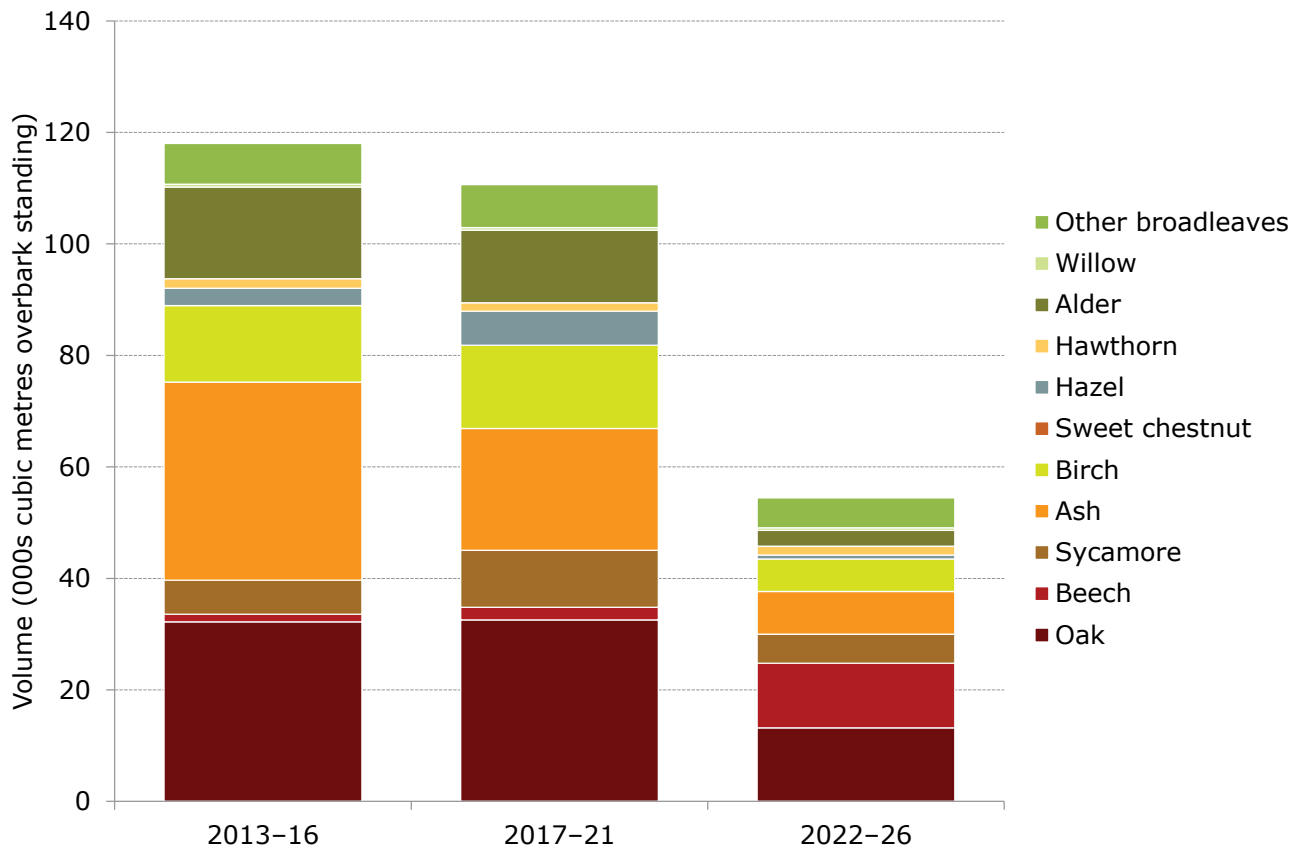
## Comparison of hardwood production between harvesting scenarios

**Figure 14** 50-year forecast comparison of average annual hardwood timber availability



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**Figure 15** 15-year forecast comparison of average annual hardwood timber availability



**Table 16** 15-year forecast comparison of average annual timber availability

| Principal species      | 2013-16    |                                     |            | 2017-21    |                                     |            | 2022-26    |                                     |            |
|------------------------|------------|-------------------------------------|------------|------------|-------------------------------------|------------|------------|-------------------------------------|------------|
|                        | Headline   | Unrestricted volume<br>(000 m³ obs) | Difference | Headline   | Unrestricted volume<br>(000 m³ obs) | Difference | Headline   | Unrestricted volume<br>(000 m³ obs) | Difference |
| <b>All conifers</b>    | <b>219</b> | <b>219</b>                          | <b>0</b>   | <b>199</b> | <b>199</b>                          | <b>0</b>   | <b>204</b> | <b>204</b>                          | <b>0</b>   |
| Sitka spruce           | 63         | 63                                  | 0          | 49         | 49                                  | 0          | 46         | 46                                  | 0          |
| Scots pine             | 44         | 44                                  | 0          | 53         | 53                                  | 0          | 57         | 57                                  | 0          |
| Corsican pine          | 9          | 9                                   | 0          | 14         | 14                                  | 0          | 7          | 7                                   | 0          |
| Norway spruce          | 25         | 25                                  | 0          | 9          | 9                                   | 0          | 22         | 22                                  | 0          |
| Larches                | 50         | 50                                  | 0          | 52         | 52                                  | 0          | 39         | 39                                  | 0          |
| Douglas fir            | 6          | 6                                   | 0          | 5          | 5                                   | 0          | 11         | 11                                  | 0          |
| Lodgepole pine         | 17         | 17                                  | 0          | 11         | 11                                  | 0          | 17         | 17                                  | 0          |
| Other conifers         | 4          | 4                                   | 0          | 5          | 5                                   | 0          | 4          | 4                                   | 0          |
| <b>All broadleaves</b> | <b>58</b>  | <b>178</b>                          | <b>120</b> | <b>57</b>  | <b>168</b>                          | <b>112</b> | <b>45</b>  | <b>98</b>                           | <b>54</b>  |
| Oak                    | 4          | 36                                  | 32         | 8          | 40                                  | 33         | 4          | 17                                  | 13         |
| Beech                  | 4          | 5                                   | 1          | 4          | 6                                   | 2          | 13         | 24                                  | 12         |
| Sycamore               | 26         | 33                                  | 6          | 26         | 36                                  | 10         | 13         | 18                                  | 5          |
| Ash                    | 12         | 47                                  | 36         | 9          | 31                                  | 22         | 3          | 10                                  | 8          |
| Birch                  | 6          | 19                                  | 14         | 5          | 20                                  | 15         | 7          | 13                                  | 6          |
| Sweet chestnut         | 0          | 0                                   | 0          | 0          | 0                                   | 0          | 0          | 0                                   | 0          |
| Hazel                  | 0          | 3                                   | 3          | 0          | 6                                   | 6          | 0          | 1                                   | 1          |
| Hawthorn               | 0          | 2                                   | 2          | 0          | 2                                   | 2          | 0          | 2                                   | 2          |
| Alder                  | 2          | 18                                  | 16         | 2          | 15                                  | 13         | 5          | 8                                   | 3          |
| Willow                 | 0          | 1                                   | 1          | 0          | 1                                   | 0          | 0          | 1                                   | 0          |
| Other broadleaves      | 2          | 10                                  | 7          | 2          | 10                                  | 8          | 3          | 8                                   | 5          |
| <b>All species</b>     | <b>280</b> | <b>400</b>                          | <b>121</b> | <b>257</b> | <b>369</b>                          | <b>112</b> | <b>251</b> | <b>304</b>                          | <b>54</b>  |

## NFI national reports and papers

The principal themes reported on for the 2011 woodland profile and future forecasts are:

- 2011 preliminary estimates of broadleaved species in British woodlands
- 2011 standing coniferous timber volume
- 25-year forecast of softwood availability
- 25-year forecast of coniferous standing volume and increment
- 2011 biomass in live woodland trees in Britain
- 2011 carbon in live woodland trees in Britain

The principal themes reported on for the 2012 woodland profile and future forecasts are:

- 50 year forecast of softwood availability
- 50 year forecast of hardwood availability

Each theme has a series of reports, papers and data, tailored for different audiences and uses. All the documents and data can be found on the NFI website [www.forestry.gov.uk/inventory](http://www.forestry.gov.uk/inventory).

## Glossary

A glossary of terms is presented in the full suite of forecast reports which can be found at [www.forestry.gov.uk/forecast](http://www.forestry.gov.uk/forecast).

## Official Statistics

This is an Official Statistics publication. More information about Official Statistics and the UK Statistics Authority is available at [www.statisticsauthority.gov.uk](http://www.statisticsauthority.gov.uk)

National Forest Inventory Statistician: Alan Brewer