NFI provisional estimates for woodland in the Cairngorms National Park

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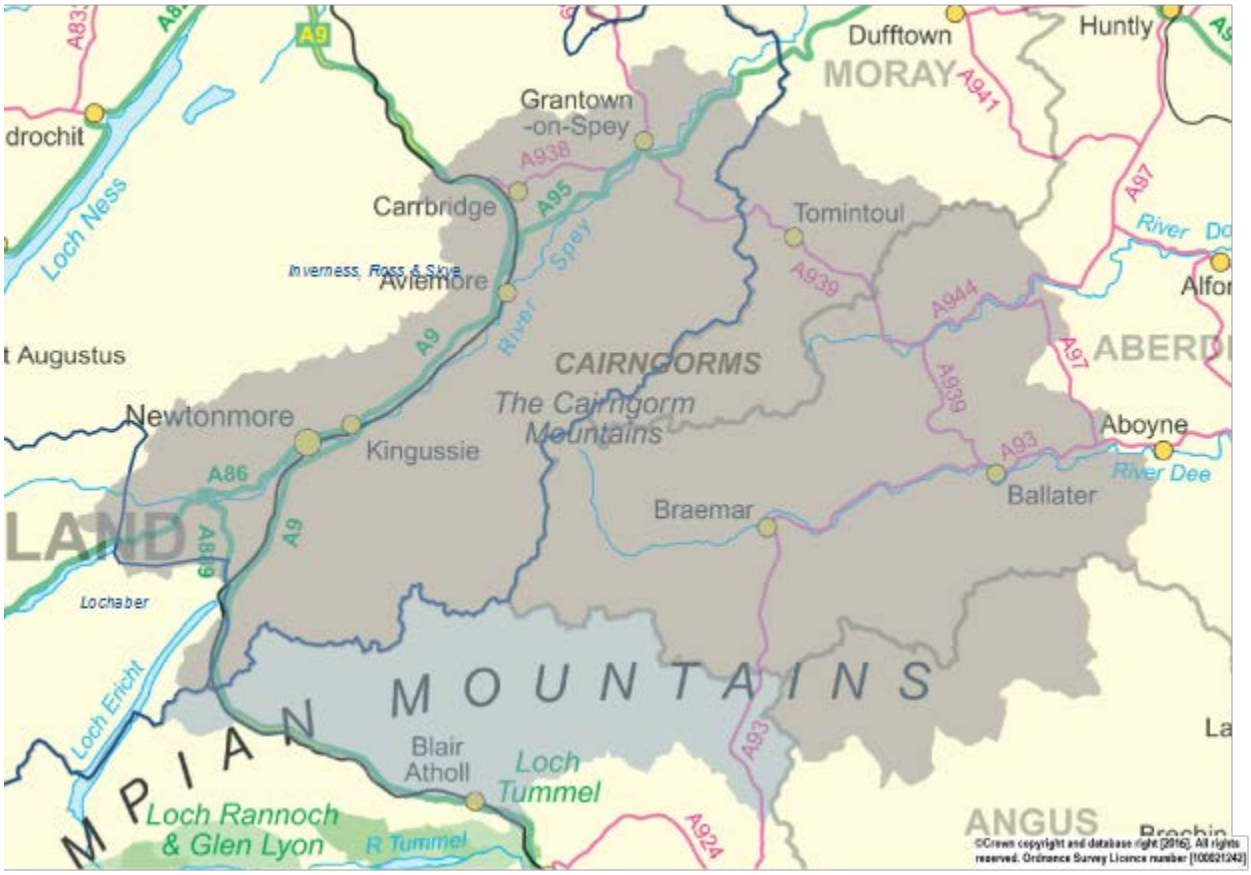
Summary

This report provides a detailed picture of stocked area of woodland, the standing volume of timber and associated biomass and carbon stock for the Cairngorms National Park. 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 forecasts of softwood timber availability* (2014) and *50-year forecast of hardwood timber availability* (2014). NFI reports are published at 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 forecast NFI reports.

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. Refer to the *Standing timber volume in 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 Scotland and GB context. Refer to the *NFI forecasts methodology overview* (2012) 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 Great Britain 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.

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 a for the Cairngorms National Park. The data sources used for the compilation of these estimates are the same as described in the National Forest Inventory 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 sub-compartment database, 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 attached to the private sector estimates, is provided in the earlier documents.

Results are provided for stocked area at 31 March 2012 (**Figure 1** and **Tables 1-3**), felled area (**Table 4**), standing volume at 31 March 2012 (**Figure 2** 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**) and the 'headline' 50-year forecast (**Figures 4-8** and **Tables 10-12**).

NFI Provisional Report

This report contains updated estimates from those published in the *NFI provisional estimates for woodlands in Cairngorms National Park* (2013) report.

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 standard errors (SE) attached to Private sector estimates are expressed in relative terms (%) to the right of the relevant estimate.

Caution needs to be applied in the interpretation of estimates with high relative standard errors. Such estimates cannot be relied upon to provide a value close to the actual value in the population reported on, and should be regarded as indicative values of the general level of the actual population value. Estimates and their standard errors with relative standard errors exceeding 25% are shown in amber in the tables as an indication that these estimates need to be treated with such caution. More precise estimates of these statistics would require further samples focused on the particular population of interest.

Where the standard error is high this indicates that the estimate should be interpreted with a degree of caution. Any estimate with a relatively large standard error is shown in amber in the tables.

These standard errors depend on the combination of a number of factors but broadly:

- The more woodland that is within the area of interest the more samples that will have been selected, generally leading to lower standard errors
- Increasing the number of categories and sub-categories used (e.g. conifers and broadleaves then sub-divided into species groupings) may well result in higher standard errors, especially for the categories that occur less frequently such as minor species
- More variability will also result in higher standard errors; for instance if a species is usually more evenly stocked when compared with another then its standard error will tend to be lower than the latter species.

Stocked area at 31 March 2012

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

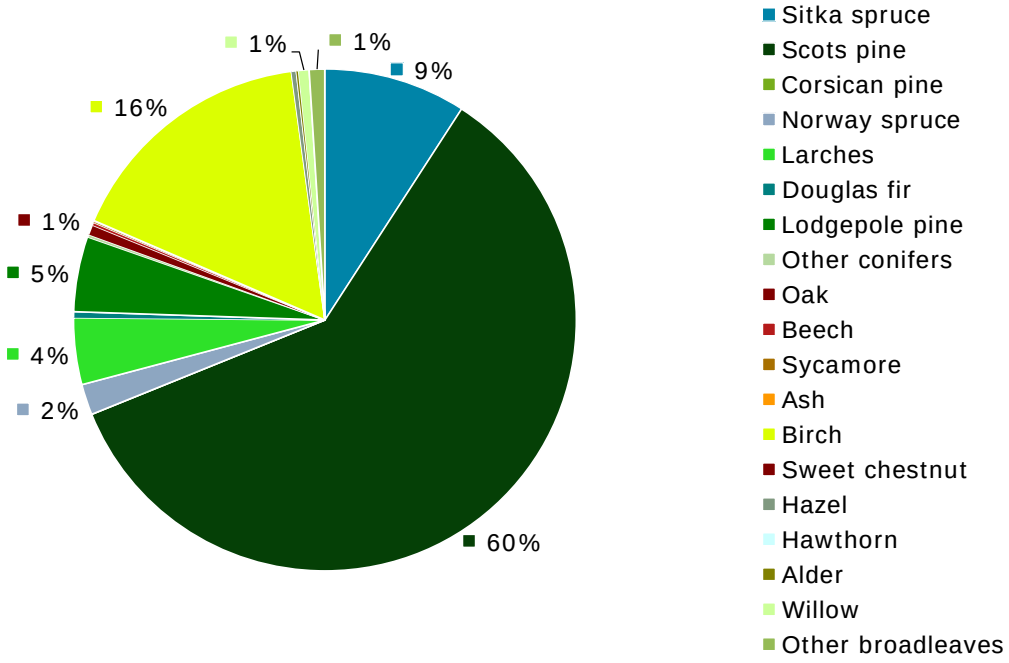


Table 1 Stocked area by principal tree species at 31 March 2012

Principal species	FC area (000 ha)	Private sector area (000 ha)	Private sector SE%	Total area (000 ha)
Conifers				
Sitka spruce	1.6	4.1	*19*	**5.6**
Scots pine	4.9	31.9	*5*	**36.7**
Corsican pine	0.0	0.0	-	**0.0**
Norway spruce	0.3	0.9	*34*	**1.2**
Larches	0.5	2.1	*23*	**2.6**
Douglas fir	< 0.1	0.2	*108*	**0.2**
Lodgepole pine	1.1	1.9	*29*	**3.0**
Other conifers	< 0.1	< 0.1	*67*	**0.1**
All conifers	**8.3**	**41.4**	***3***	**49.8**
Broadleaves				
Oak	< 0.1	0.4	*46*	**0.4**
Beech	0.0	0.1	*74*	**0.1**
Sycamore	< 0.1	< 0.1	*84*	**< 0.1**
Ash	0.0	< 0.1	*86*	**< 0.1**
Birch	0.2	9.9	*8*	**10.1**
Sweet chestnut	0.0	0.0	-	**0.0**
Hazel	0.0	0.2	*71*	**0.2**
Hawthorn	< 0.1	< 0.1	*108*	**< 0.1**
Alder	< 0.1	< 0.1	*64*	**< 0.1**
Willow	0.0	0.4	*44*	**0.4**
Other broadleaves	0.1	0.5	*24*	**0.6**
All broadleaves	**0.3**	**11.7**	***6***	**12.0**
All species				
All species	**8.6**	**53.4**	***2***	**62.0**

Table 2 Stocked area by age class at 31 March 2012

Age class	FC	Private sector		Total
	area (000 ha)	area (000 ha)	*SE%*	area (000 ha)
All conifers				
0–10 years	0.3	4.3	*16*	**4.7**
11–20 years	0.3	4.7	*19*	**4.9**
21–40 years	0.8	13.4	*10*	**14.1**
41–60 years	5.2	12.7	*12*	**17.9**
61–80 years	1.0	2.6	*28*	**3.6**
81–100 years	0.4	1.6	*35*	**2.0**
100+ years	0.5	2.1	*27*	**2.5**
Total	**8.3**	**41.4**	***3***	**49.8**
All broadleaves				
0–10 years	< 0.1	2.1	*28*	**2.2**
11–20 years	< 0.1	1.2	*28*	**1.3**
21–40 years	< 0.1	3.7	*19*	**3.7**
41–60 years	< 0.1	2.8	*20*	**2.8**
61–80 years	< 0.1	1.4	*39*	**1.5**
81–100 years	< 0.1	0.3	*86*	**0.3**
100+ years	< 0.1	0.3	*79*	**0.3**
Total	**0.3**	**11.7**	***6***	**12.0**
All species				
0–10 years	0.4	6.5	*14*	**6.9**
11–20 years	0.3	5.8	*16*	**6.1**
21–40 years	0.8	17.4	*9*	**18.2**
41–60 years	5.3	15.5	*10*	**20.8**
61–80 years	1.0	3.8	*24*	**4.8**
81–100 years	0.4	1.9	*33*	**2.3**
100+ years	0.5	2.4	*26*	**2.9**
Total	**8.6**	**53.4**	***2***	**62.0**

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

Mean stand DBH	FC	Private sector		Total
	area (000 ha)	area (000 ha)	*SE%*	area (000 ha)
All conifers				
0–7 cm	0.5	5.2	*16*	**5.6**
7–10 cm	0.2	3.9	*21*	**4.1**
10–15 cm	1.1	7.5	*10*	**8.6**
15–20 cm	2.4	5.1	*18*	**7.5**
20–30 cm	3.0	10.6	*12*	**13.6**
30–40 cm	1.1	4.1	*19*	**5.2**
40–60 cm	0.1	3.6	*21*	**3.7**
60–80 cm	0.0	0.7	*43*	**0.7**
80+ cm	0.0	0.8	*41*	**0.8**
Total	**8.3**	**41.4**	***3***	**49.8**
All broadleaves				
0–7 cm	0.1	2.3	*26*	**2.4**
7–10 cm	< 0.1	2.4	*24*	**2.5**
10–15 cm	< 0.1	2.1	*25*	**2.2**
15–20 cm	< 0.1	0.8	*38*	**0.8**
20–30 cm	< 0.1	2.6	*23*	**2.6**
30–40 cm	< 0.1	0.7	*27*	**0.7**
40–60 cm	0.0	0.5	*34*	**0.5**
60–80 cm	0.0	0.3	*60*	**0.3**
80+ cm	0.0	0.0	-	**0.0**
Total	**0.3**	**11.7**	***6***	**12.0**
All species				
0–7 cm	0.6	7.6	*13*	**8.2**
7–10 cm	0.2	6.3	*16*	**6.5**
10–15 cm	1.1	9.9	*9*	**11.0**
15–20 cm	2.5	5.9	*16*	**8.4**
20–30 cm	3.0	13.2	*11*	**16.2**
30–40 cm	1.1	4.9	*17*	**6.0**
40–60 cm	0.1	4.2	*19*	**4.3**
60–80 cm	0.0	0.7	*39*	**0.7**
80+ cm	0.0	0.8	*41*	**0.8**
Total	**8.6**	**53.4**	***2***	**62.0**

Table 4 Felled area at 31 March 2012

Clearfelled area	FC	Private sector		Total
	area (000 ha)	area (000 ha)	*SE%*	area (000 ha)
	0.7	2.6	*29*	**3.3**

Standing volume at 31 March 2012

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

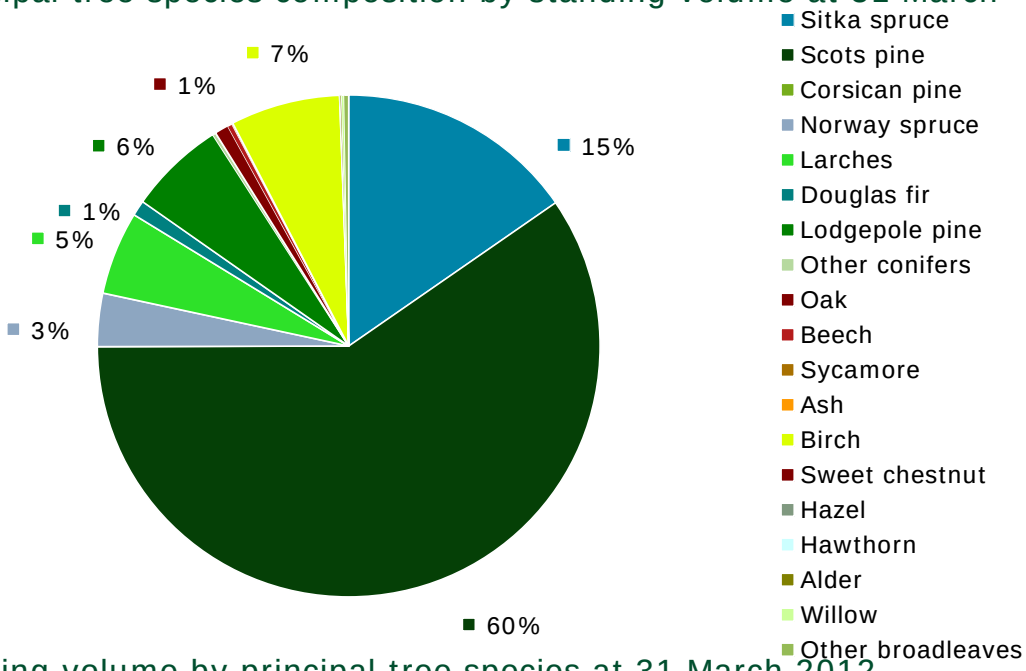


Table 5 Standing volume by principal tree species at 31 March 2012

Principal species	FC	Private sector		Total
	volume (000 m^3 obs)	volume (000 m^3 obs)	*SE%*	volume (000 m^3 obs)
Conifers				
Sitka spruce	441	1,402	*27*	**1,843**
Scots pine	1,031	6,125	*7*	**7,157**
Corsican pine	0	0	-	**0**
Norway spruce	62	348	*36*	**409**
Larches	95	549	*25*	**644**
Douglas fir	19	100	*108*	**119**
Lodgepole pine	216	526	*33*	**742**
Other conifers	13	11	*108*	**24**
All conifers	**1,879**	**9,134**	***6***	**11,013**
Broadleaves				
Oak	< 1	106	*66*	**106**
Beech	0	36	*79*	**36**
Sycamore	< 1	8	*91*	**8**
Ash	0	< 1	*75*	**< 1**
Birch	22	824	*11*	**845**
Sweet chestnut	0	0	-	**0**
Hazel	0	6	*58*	**6**
Hawthorn	0	< 1	*108*	**< 1**
Alder	< 1	10	*96*	**10**
Willow	0	19	*47*	**19**
Other broadleaves	5	30	*37*	**34**
All broadleaves	**27**	**1,040**	***12***	**1,067**
All species				
All species	**1,905**	**10,170**	***5***	**12,075**

Table 6 Standing volume by age class at 31 March 2012

Age class	FC	Private sector		Total
	volume (000 m^3 obs)	volume (000 m^3 obs)	*SE%*	volume (000 m^3 obs)
All conifers				
0–10 years	< 1	5	*93*	**5**
11–20 years	4	149	*25*	**153**
21–40 years	123	2,315	*14*	**2,438**
41–60 years	1,270	4,688	*13*	**5,958**
61–80 years	237	894	*32*	**1,131**
81–100 years	88	465	*41*	**554**
100+ years	156	617	*35*	**774**
Total	**1,879**	**9,134**	***6***	**11,013**
All broadleaves				
0–10 years	< 1	< 1	*104*	**< 1**
11–20 years	< 1	23	*33*	**23**
21–40 years	< 1	325	*18*	**325**
41–60 years	13	425	*20*	**437**
61–80 years	7	203	*38*	**210**
81–100 years	1	20	*66*	**21**
100+ years	5	45	*66*	**50**
Total	**27**	**1,040**	***12***	**1,067**
All species				
0–10 years	< 1	5	*92*	**6**
11–20 years	4	168	*23*	**173**
21–40 years	124	2,684	*13*	**2,808**
41–60 years	1,282	5,091	*12*	**6,373**
61–80 years	244	1,050	*28*	**1,293**
81–100 years	89	496	*39*	**585**
100+ years	162	676	*33*	**838**
Total	**1,905**	**10,170**	***5***	**12,075**

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

Mean stand DBH	FC	Private sector		Total
	volume (000 m^3 obs)	volume (000 m^3 obs)	*SE%*	volume (000 m^3 obs)
All conifers				
0–7 cm	< 1	5	*59*	**5**
7–10 cm	4	81	*20*	**86**
10–15 cm	159	763	*16*	**921**
15–20 cm	634	1,462	*20*	**2,095**
20–30 cm	764	3,907	*13*	**4,672**
30–40 cm	274	1,124	*20*	**1,398**
40–60 cm	44	1,521	*22*	**1,565**
60–80 cm	0	191	*43*	**191**
80+ cm	0	79	*56*	**79**
Total	**1,879**	**9,134**	***6***	**11,013**
All broadleaves				
0–7 cm	< 1	2	*53*	**2**
7–10 cm	< 1	90	*24*	**90**
10–15 cm	12	215	*24*	**226**
15–20 cm	11	84	*35*	**95**
20–30 cm	2	291	*21*	**293**
30–40 cm	< 1	144	*38*	**145**
40–60 cm	0	100	*34*	**100**
60–80 cm	0	115	*64*	**115**
80+ cm	0	0	-	**0**
Total	**27**	**1,040**	***12***	**1,067**
All species				
0–7 cm	< 1	7	*44*	**7**
7–10 cm	5	166	*16*	**171**
10–15 cm	170	999	*13*	**1,169**
15–20 cm	645	1,572	*19*	**2,217**
20–30 cm	767	4,151	*13*	**4,918**
30–40 cm	274	1,294	*20*	**1,569**
40–60 cm	44	1,654	*21*	**1,697**
60–80 cm	0	246	*44*	**246**
80+ cm	0	81	*56*	**81**
Total	**1,905**	**10,170**	***5***	**12,075**

Biomass and carbon stocks at 31 March 2012

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

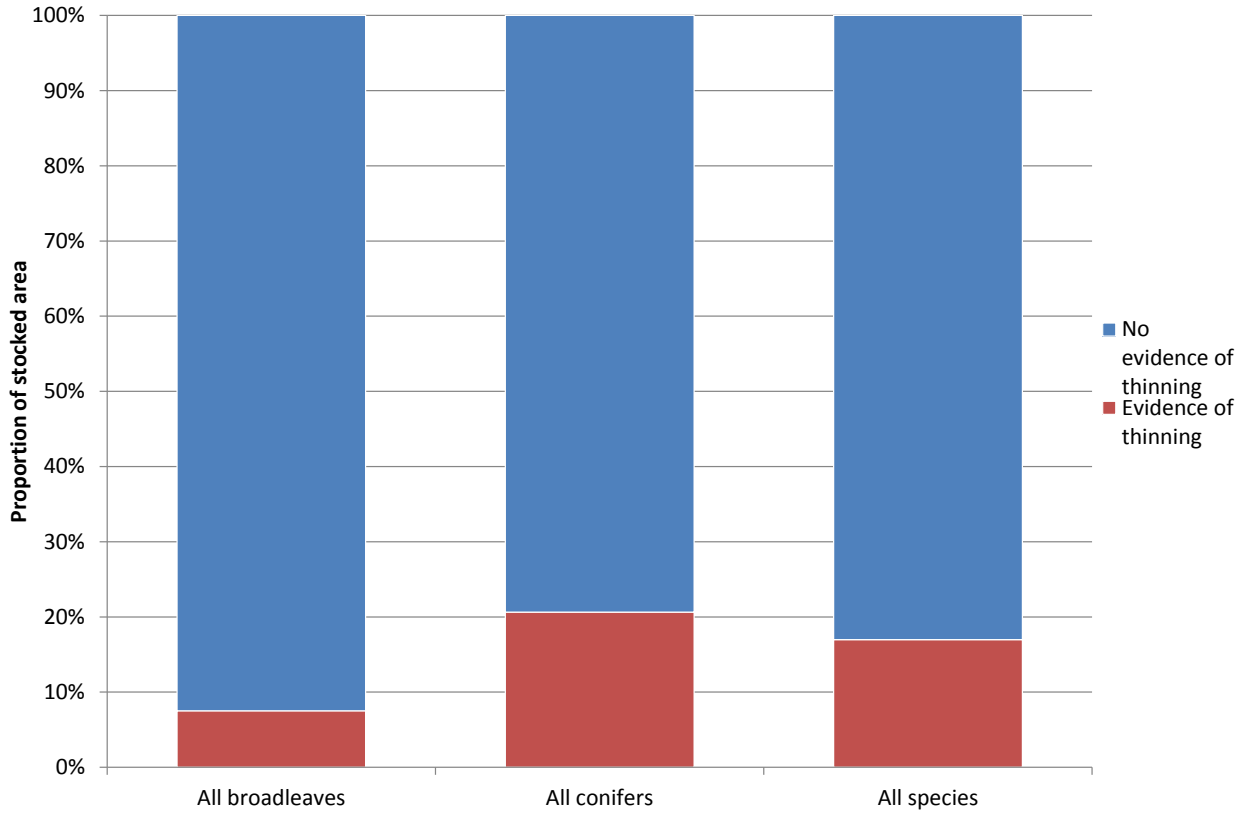
Principal species	FC	Private sector		Total
	biomass (000 odt)	biomass (000 odt)	*SE%*	biomass (000 odt)
Conifers				
Sitka spruce	277	821	*26*	**1,098**
Scots pine	763	4,356	*7*	**5,120**
Corsican pine	0	0	-	**0**
Norway spruce	34	184	*36*	**218**
Larches	65	337	*24*	**402**
Douglas fir	13	64	*108*	**77**
Lodgepole pine	161	353	*32*	**514**
Other conifers	7	5	*108*	**13**
All conifers	**1,322**	**6,170**	***5***	**7,491**
Broadleaves				
Oak	< 1	93	*64*	**93**
Beech	0	33	*78*	**33**
Sycamore	< 1	8	*87*	**8**
Ash	0	< 1	*75*	**< 1**
Birch	20	874	*11*	**895**
Sweet chestnut	0	0	-	**0**
Hazel	0	9	*61*	**9**
Hawthorn	0	< 1	*108*	**< 1**
Alder	< 1	11	*94*	**11**
Willow	0	20	*44*	**20**
Other broadleaves	5	29	*33*	**33**
All broadleaves	**25**	**1,078**	***11***	**1,103**
All species				
All species	**1,347**	**7,241**	***5***	**8,588**

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

Principal species	FC	Private sector		Total
	carbon (000 t)	carbon (000 t)	*SE%*	carbon (000 t)
Conifers				
Sitka spruce	138	410	*26*	**549**
Scots pine	382	2,178	*7*	**2,560**
Corsican pine	0	0	-	**0**
Norway spruce	17	92	*36*	**109**
Larches	33	168	*24*	**201**
Douglas fir	7	32	*108*	**39**
Lodgepole pine	81	177	*32*	**257**
Other conifers	4	3	*108*	**6**
All conifers	**661**	**3,085**	***5***	**3,746**
Broadleaves				
Oak	< 1	46	*64*	**46**
Beech	0	17	*78*	**17**
Sycamore	< 1	4	*87*	**4**
Ash	0	< 1	*75*	**< 1**
Birch	10	437	*11*	**447**
Sweet chestnut	0	0	-	**0**
Hazel	0	4	*61*	**4**
Hawthorn	0	< 1	*108*	**< 1**
Alder	< 1	5	*94*	**5**
Willow	0	10	*44*	**10**
Other broadleaves	2	14	*33*	**17**
All broadleaves	**13**	**539**	***11***	**552**
All species				
All species	**673**	**3,620**	***5***	**4,294**

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 Scotland 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 Scotland and GB context.

In **Tables 10-12** and **Figures 4-8** the figures 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 **Tables 10-12** and **Figures 4-8** 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 provide for:

- a 10% reduction in the area of conifers on the subsequent rotation
- restocking of currently clearfelled land
- predicted species choices are used for the restocking

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

- No reduction in stocked area.
- Like for like species choices are used for broadleaves.
- That 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 D4** of the *50-year forecast of softwood timber availability* (2014). The same restocking assumptions have been applied to both the FC and Private sector forecasts.

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

50-year forecast under the 'headline' harvesting scenario

Table 10 50-year forecast of average annual 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 (000 m^3 obs)		*SE%*	volume (000 m^3 obs)	volume (000 m^3 obs)		*SE%*	volume (000 m^3 obs)	volume (000 m^3 obs)		*SE%*	volume (000 m^3 obs)	volume (000 m^3 obs)		*SE%*	volume (000 m^3 obs)
All conifers	**63**	**298**	***13***	**361**	**70**	**354**	***21***	**424**	**57**	**336**	***15***	**393**	**53**	**419**	***15***	**471**
Sitka spruce	28	38	*26*	66	32	162	*41*	194	16	57	*58*	73	20	71	*57*	91
Scots pine	12	170	*17*	182	21	146	*11*	167	26	236	*18*	262	20	279	*18*	299
Corsican pine	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0
Norway spruce	3	7	*52*	11	2	9	*38*	11	2	9	*37*	11	2	10	*34*	12
Larches	4	40	*31*	44	3	17	*25*	20	2	14	*27*	16	4	23	*33*	26
Douglas fir	1	24	*108*	25	< 1	< 1	*108*	< 1	< 1	2	*108*	3	1	< 1	*108*	1
Lodgepole pine	15	14	*35*	29	11	21	*59*	32	11	13	*33*	24	5	31	*58*	36
Other conifers	< 1	< 1	*108*	< 1	< 1	< 1	*108*	1	< 1	< 1	*108*	1	< 1	< 1	*108*	1
All broadleaves	**< 1**	**29**	***22***	**29**	**< 1**	**46**	***22***	**46**	**< 1**	**44**	***38***	**44**	**< 1**	**40**	***30***	**40**
Oak	0	1	*58*	1	0	1	*58*	1	0	16	*87*	16	0	< 1	*76*	< 1
Beech	0	< 1	*99*	< 1	0	< 1	*73*	< 1	0	< 1	*73*	< 1	0	< 1	*73*	< 1
Sycamore	0	< 1	*103*	< 1	0	< 1	*101*	< 1	0	< 1	*101*	< 1	0	< 1	*101*	< 1
Ash	0	< 1	*79*	< 1	0	< 1	*79*	< 1	0	< 1	*79*	< 1	0	< 1	*70*	< 1
Birch	< 1	25	*26*	25	< 1	42	*24*	42	< 1	23	*20*	23	< 1	36	*33*	36
Sweet chestnut	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0
Hazel	0	< 1	*54*	< 1	0	< 1	*49*	< 1	0	< 1	*58*	< 1	0	< 1	*80*	< 1
Hawthorn	0	< 1	*108*	< 1	0	< 1	*108*	< 1	0	< 1	*108*	< 1	0	< 1	*108*	< 1
Alder	0	< 1	*82*	< 1	0	< 1	*58*	< 1	0	< 1	*58*	< 1	0	< 1	*49*	< 1
Willow	0	< 1	*39*	< 1	0	< 1	*36*	< 1	0	< 1	*34*	< 1	0	< 1	*37*	< 1
Other broadleaves	0	3	*62*	3	< 1	2	*48*	2	< 1	2	*68*	2	< 1	< 1	*37*	< 1
All species	**63**	**307**	***10***	**370**	**70**	**406**	***19***	**476**	**57**	**382**	***14***	**440**	**53**	**466**	***14***	**518**

Table 10 (cont'd) 50-year forecast of average annual 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 (000 m^3 obs)		*SE%*	volume (000 m^3 obs)	volume (000 m^3 obs)		*SE%*	volume (000 m^3 obs)	volume (000 m^3 obs)		*SE%*	volume (000 m^3 obs)	volume (000 m^3 obs)		*SE%*	volume (000 m^3 obs)
All conifers	**32**	**592**	***13***	**624**	**41**	**596**	***14***	**637**	**34**	**461**	***16***	**495**	**45**	**426**	***17***	**471**
Sitka spruce	13	73	*37*	86	12	73	*44*	85	14	85	*43*	99	17	87	*39*	104
Scots pine	14	387	*17*	400	21	420	*18*	441	14	331	*20*	345	20	278	*22*	299
Corsican pine	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0
Norway spruce	< 1	39	*66*	40	2	56	*48*	58	2	17	*41*	19	3	3	*20*	6
Larches	1	31	*36*	32	2	11	*30*	13	1	8	*34*	10	2	9	*31*	10
Douglas fir	< 1	< 1	*25*	< 1	1	3	*54*	4	< 1	3	*50*	3	< 1	3	*49*	4
Lodgepole pine	3	55	*55*	57	2	26	*68*	28	< 1	8	*58*	9	2	42	*52*	44
Other conifers	< 1	1	*60*	1	< 1	2	*35*	2	< 1	7	*71*	8	< 1	3	*15*	4
All broadleaves	**< 1**	**42**	***23***	**42**	**< 1**	**43**	***29***	**43**	**< 1**	**28**	***19***	**28**	**< 1**	**30**	***22***	**31**
Oak	0	2	*82*	2	< 1	< 1	*53*	< 1	< 1	< 1	*43*	1	< 1	1	*39*	1
Beech	0	< 1	*73*	< 1	0	7	*95*	7	0	< 1	*108*	< 1	0	< 1	*108*	< 1
Sycamore	0	< 1	*101*	< 1	0	< 1	*103*	< 1	0	< 1	*108*	< 1	0	0	-	0
Ash	0	< 1	*85*	< 1	0	< 1	*61*	< 1	0	< 1	*92*	< 1	0	< 1	*92*	< 1
Birch	< 1	35	*27*	35	< 1	30	*36*	30	< 1	18	*24*	18	< 1	24	*27*	24
Sweet chestnut	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0
Hazel	0	2	*52*	2	0	< 1	*91*	< 1	0	< 1	*77*	< 1	0	1	*72*	1
Hawthorn	0	< 1	*108*	< 1	0	< 1	*108*	< 1	0	< 1	*108*	< 1	< 1	< 1	*108*	< 1
Alder	< 1	< 1	*27*	< 1	< 1	< 1	*45*	< 1	< 1	< 1	*27*	< 1	< 1	< 1	*15*	< 1
Willow	0	2	*47*	2	0	2	*45*	2	0	5	*51*	5	0	1	*51*	1
Other broadleaves	< 1	1	*33*	1	< 1	2	*30*	2	< 1	2	*26*	2	< 1	2	*26*	2
All species	**32**	**644**	***12***	**676**	**41**	**632**	***13***	**673**	**35**	**495**	***15***	**529**	**45**	**459**	***16***	**504**

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

Principal species	2052–56				2057–61			
	FC	Private sector		Total	FC	Private sector		Total
	volume (000 m^3 obs)		*SE%*	volume (000 m^3 obs)	volume (000 m^3 obs)		*SE%*	volume (000 m^3 obs)
All conifers	**71**	**374**	***8***	**446**	**46**	**368**	***11***	**414**
Sitka spruce	42	40	*20*	82	18	85	*41*	104
Scots pine	18	300	*10*	319	21	256	*10*	276
Corsican pine	0	0	-	0	0	0	-	0
Norway spruce	3	3	*20*	6	2	5	*30*	7
Larches	3	21	*45*	25	3	12	*28*	14
Douglas fir	< 1	5	*43*	5	< 1	5	*35*	5
Lodgepole pine	3	< 1	*48*	3	< 1	< 1	*42*	< 1
Other conifers	1	5	*14*	6	1	6	*10*	8
All broadleaves	**< 1**	**43**	***23***	**44**	**1**	**46**	***25***	**48**
Oak	< 1	8	*81*	9	< 1	2	*34*	2
Beech	0	< 1	*108*	< 1	0	< 1	*108*	< 1
Sycamore	0	0	-	0	0	< 1	*104*	< 1
Ash	0	< 1	*92*	< 1	0	< 1	*92*	< 1
Birch	< 1	25	*22*	25	< 1	36	*33*	37
Sweet chestnut	0	0	-	0	0	0	-	0
Hazel	0	4	*103*	4	0	< 1	*63*	< 1
Hawthorn	0	< 1	*108*	< 1	0	< 1	*108*	< 1
Alder	< 1	2	*33*	2	< 1	3	*15*	3
Willow	0	2	*47*	2	0	3	*34*	3
Other broadleaves	< 1	2	*28*	2	< 1	2	*27*	2
All species	**72**	**424**	***8***	**496**	**47**	**420**	***10***	**467**

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

Forecast period	FC	Private sector		Total
	volume (000 m^3 obs)	volume (000 m^3 obs)	*SE%*	volume (000 m^3 obs)
All conifers				
2013–16	1,897	9,146	*6*	**11,043**
2017–21	1,824	9,390	*5*	**11,214**
2022–26	1,768	9,465	*5*	**11,232**
2027–31	1,764	9,521	*5*	**11,284**
2032–36	1,847	8,782	*6*	**10,629**
2037–41	1,971	7,744	*7*	**9,715**
2042–46	2,153	6,906	*7*	**9,059**
2047–51	2,361	6,503	*6*	**8,863**
2052–56	2,461	5,952	*7*	**8,413**
2057–61	2,605	6,258	*6*	**8,863**
All broadleaves				
2013–16	28	1,045	*12*	**1,072**
2017–21	30	990	*13*	**1,020**
2022–26	34	1,015	*12*	**1,048**
2027–31	39	1,003	*11*	**1,042**
2032–36	45	975	*10*	**1,020**
2037–41	51	980	*11*	**1,031**
2042–46	57	1,020	*11*	**1,076**
2047–51	62	1,071	*10*	**1,134**
2052–56	65	1,103	*10*	**1,169**
2057–61	68	1,116	*9*	**1,184**
All species				
2013–16	1,925	10,204	*5*	**12,129**
2017–21	1,853	10,463	*5*	**12,316**
2022–26	1,801	10,561	*5*	**12,362**
2027–31	1,802	10,606	*5*	**12,409**
2032–36	1,892	9,808	*6*	**11,700**
2037–41	2,022	8,786	*6*	**10,808**
2042–46	2,210	7,990	*6*	**10,200**
2047–51	2,423	7,633	*6*	**10,056**
2052–56	2,526	7,077	*6*	**9,604**
2057–61	2,673	7,379	*6*	**10,052**

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

Forecast period	FC	Private sector		Total
	volume (000 m^3 obs)	volume (000 m^3 obs)	*SE%*	volume (000 m^3 obs)
All conifers				
2013–16	63	355	*5*	**418**
2017–21	55	384	*5*	**439**
2022–26	50	383	*5*	**433**
2027–31	54	397	*5*	**451**
2032–36	59	381	*5*	**440**
2037–41	68	364	*6*	**432**
2042–46	76	348	*6*	**424**
2047–51	83	353	*6*	**435**
2052–56	84	357	*6*	**441**
2057–61	83	378	*5*	**461**
All broadleaves				
2013–16	< 1	37	*12*	**38**
2017–21	< 1	38	*11*	**38**
2022–26	< 1	39	*12*	**40**
2027–31	1	40	*12*	**41**
2032–36	1	39	*12*	**41**
2037–41	2	40	*12*	**41**
2042–46	2	42	*12*	**43**
2047–51	2	44	*10*	**46**
2052–56	2	46	*9*	**47**
2057–61	1	50	*10*	**52**
All species				
2013–16	63	395	*5*	**459**
2017–21	55	427	*4*	**482**
2022–26	50	427	*4*	**477**
2027–31	55	441	*4*	**496**
2032–36	61	423	*5*	**484**
2037–41	69	406	*5*	**475**
2042–46	78	391	*5*	**469**
2047–51	84	398	*5*	**482**
2052–56	85	403	*5*	**488**
2057–61	84	429	*5*	**513**

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

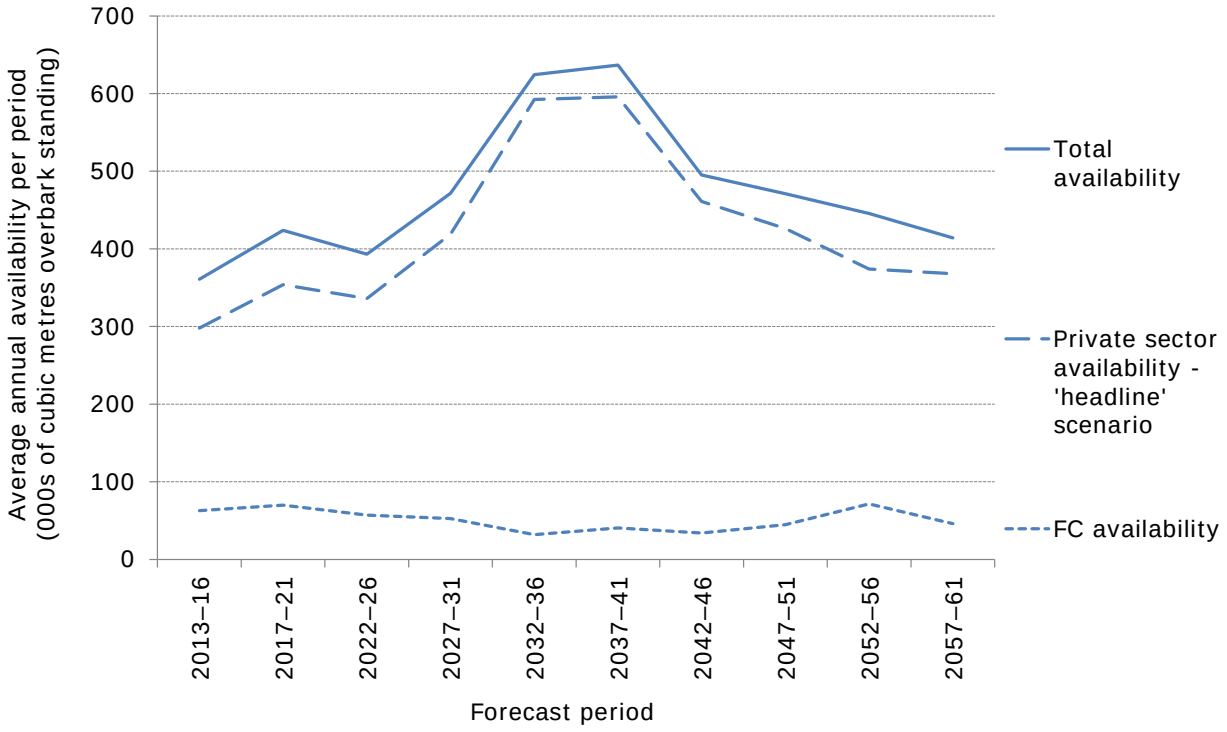


Figure 5 50-year forecast of average annual softwood availability

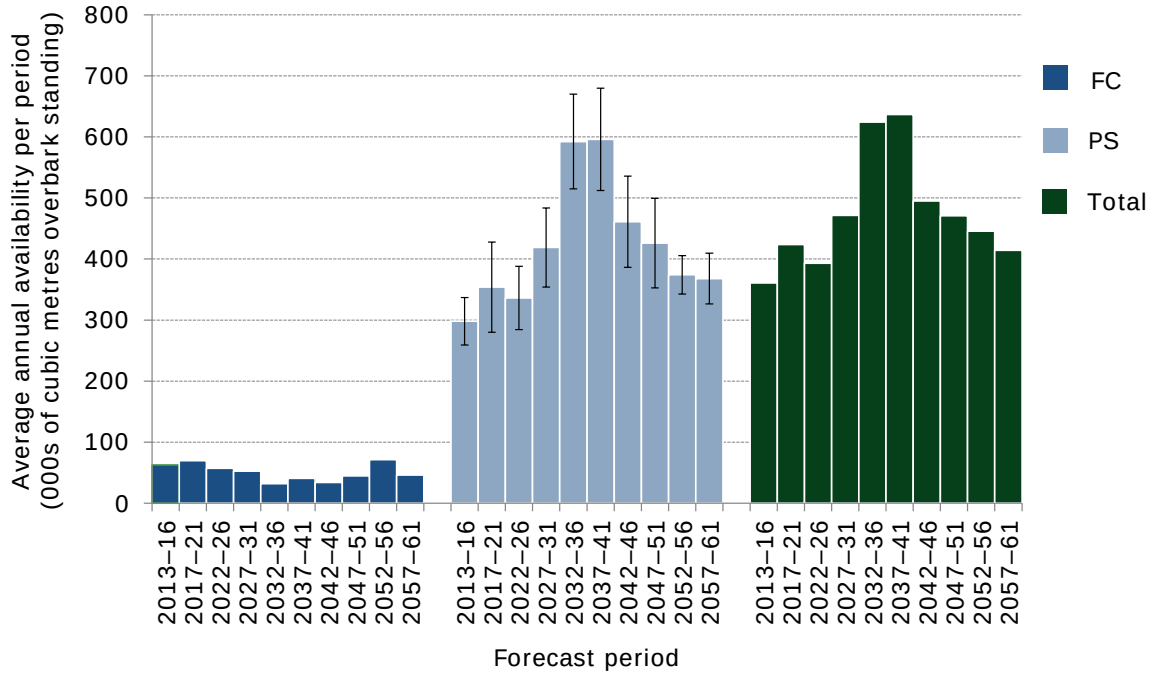


Figure 6 50-year forecast of average annual hardwood availability

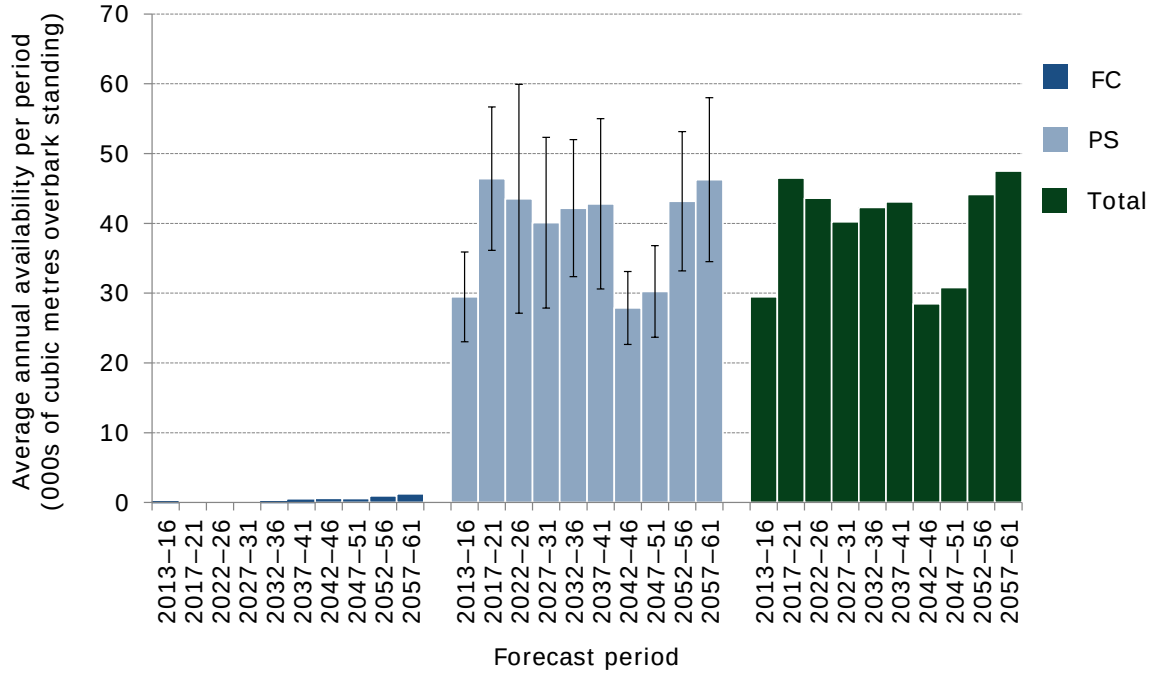


Figure 7 50-year forecast of softwood standing volume, increment and availability

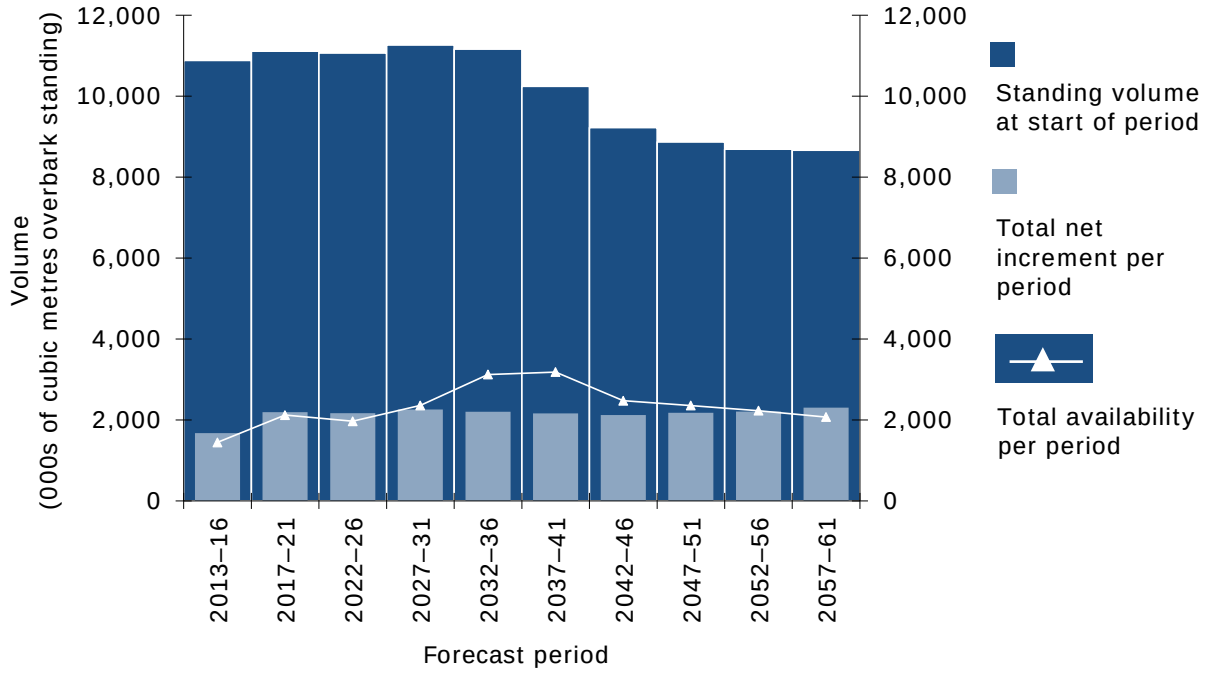
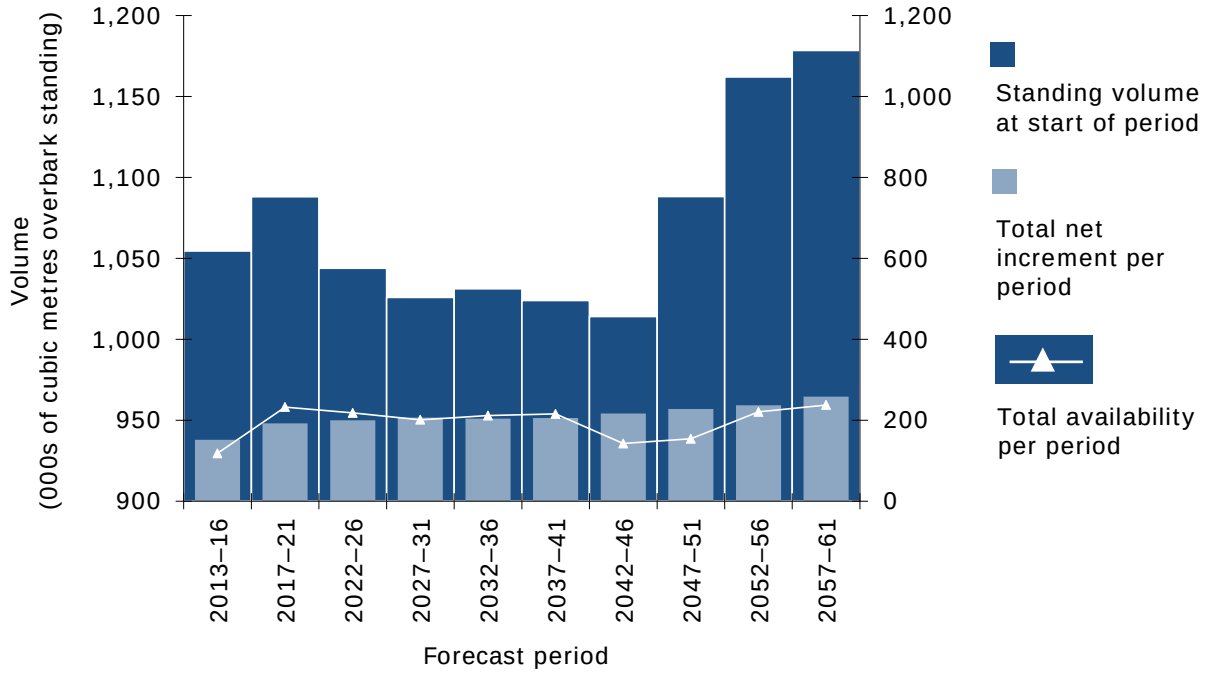


Figure 8 50-year forecast of hardwood standing volume, increment and availability



NFI national reports and papers

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

- GB 2011 preliminary estimates of broadleaved species
- GB 2011 standing coniferous timber volume
- UK 25-year forecast of softwood availability
- GB 25-year forecast of coniferous standing volume and increment
- Biomass in live woodland trees in Britain
- 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 timber availability
- 50-year forecast of hardwood timber availability
- 25-year forecast of softwood availability (2016) update

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.

Glossary

A glossary of terms is presented in the full suite of forecast reports which can be found at www.forestry.gov.uk/forecast.

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This report contains a subset of the information provided in the Official Statistics reports *50-year forecast of softwood timber availability* (2014) and *50-year forecast of hardwood timber availability* (2014) publications. More information about Official Statistics and the UK Statistics Authority is available at www.statisticsauthority.gov.uk

National Forest Inventory Statistician: Alan Brewer