

NFI provisional estimates for woodland within 50 miles of Southampton

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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 within a 50-mile radius of Southampton. 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.

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. 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 within 50 miles of Southampton. 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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(**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

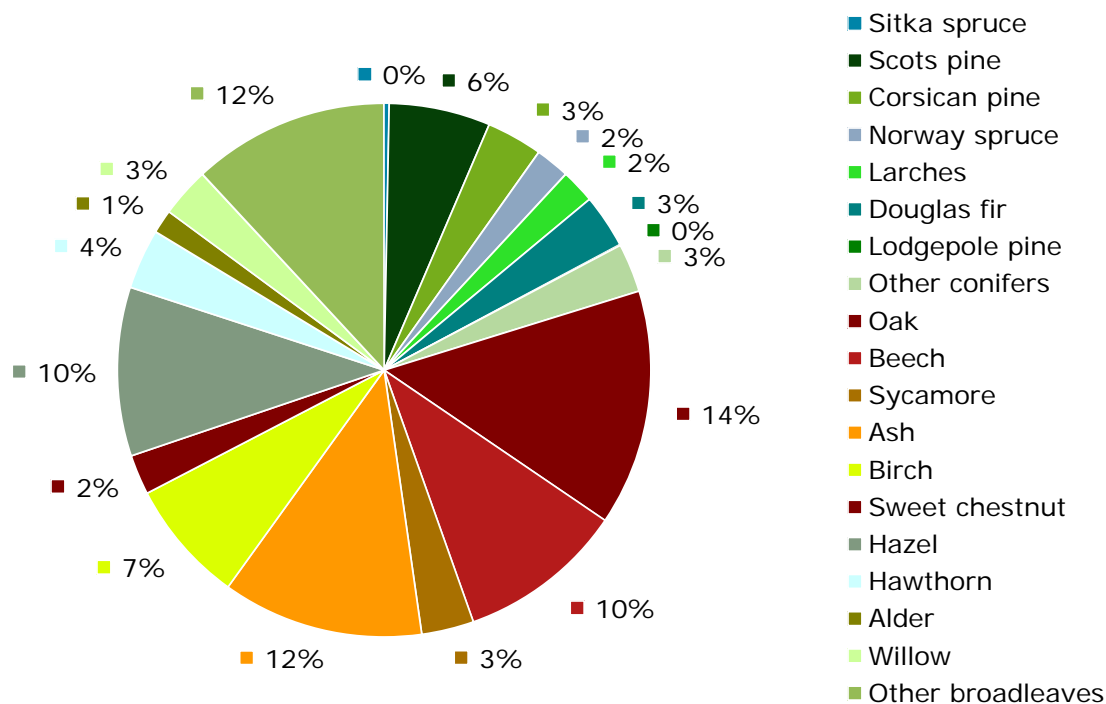
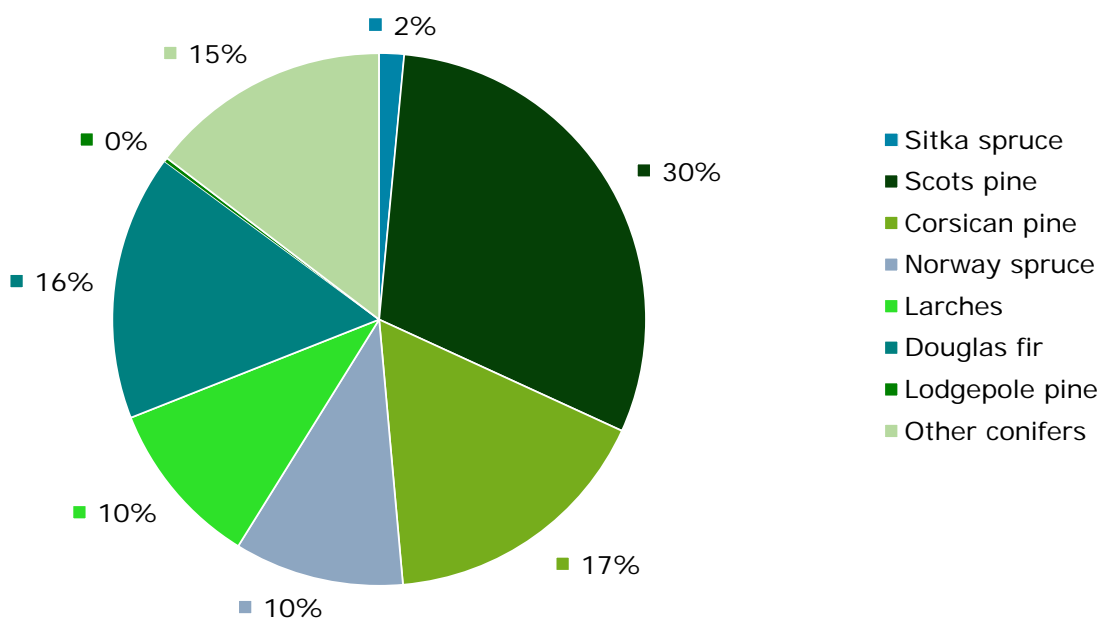


Figure 1a Principal conifer tree species composition by stocked area at 31 March 2012



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

Principal species	FC	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
Conifers				
Sitka spruce	0.1	0.6	40	0.6
Scots pine	2.9	9.6	10	12.5
Corsican pine	4.6	2.3	22	6.9
Norway spruce	0.8	3.4	15	4.2
Larches	0.5	3.6	14	4.2
Douglas fir	1.8	4.8	14	6.6
Lodgepole pine	0.0	0.1	71	0.1
Other conifers	1.2	4.8	12	6.0
All conifers	11.9	29.3	4	41.2
Broadleaves				
Oak	6.2	22.9	5	29.1
Beech	7.2	13.3	8	20.5
Sycamore	0.2	6.3	11	6.5
Ash	0.6	24.3	5	24.8
Birch	0.8	14.4	7	15.2
Sweet chestnut	0.2	4.8	15	4.9
Hazel	0.0	20.8	6	20.8
Hawthorn	0.0	7.4	9	7.4
Alder	0.1	2.8	14	2.9
Willow	0.0	6.1	11	6.1
Other broadleaves	2.0	22.3	6	24.3
All broadleaves	17.1	145.6	1	162.8
All species				
All species	29.1	174.8	1	203.9

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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	0.8	1.6	25	2.4
11–20 years	1.2	0.7	27	1.9
21–40 years	2.1	5.6	13	7.7
41–60 years	4.6	15.9	7	20.5
61–80 years	2.1	3.5	15	5.7
81–100 years	0.7	1.2	31	1.8
100+ years	0.4	0.9	29	1.2
Total	11.9	29.3	4	41.2
All broadleaves				
0–10 years	0.4	19.8	8	20.2
11–20 years	0.4	18.1	7	18.5
21–40 years	0.7	33.0	4	33.7
41–60 years	3.7	21.8	5	25.5
61–80 years	4.2	17.1	6	21.3
81–100 years	1.1	20.2	6	21.3
100+ years	6.7	15.5	7	22.3
Total	17.1	145.6	1	162.8
All species				
0–10 years	1.2	21.4	7	22.6
11–20 years	1.6	18.8	7	20.4
21–40 years	2.8	38.8	4	41.6
41–60 years	8.3	37.8	5	46.1
61–80 years	6.3	20.6	6	26.9
81–100 years	1.8	21.4	6	23.2
100+ years	7.1	16.1	7	23.2
Total	29.1	174.8	1	203.9

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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 (000 ha)	area (000 ha)	SE%	area (000 ha)
All conifers				
0–7 cm	0.2	1.5	24	1.7
7–10 cm	9.9	0.8	23	10.7
10–15 cm	116.4	1.6	22	118.0
15–20 cm	180.4	3.1	16	183.4
20–30 cm	752.3	7.5	11	759.8
30–40 cm	1,075.5	7.2	10	1,082.7
40–60 cm	887.4	5.8	12	893.2
60–80 cm	150.9	1.2	25	152.1
80+ cm	59.9	0.6	46	60.5
Total	11.9	29.3	4	41.2
All broadleaves				
0–7 cm	3.5	24.8	7	28.4
7–10 cm	25.9	25.8	5	51.7
10–15 cm	185.6	18.8	5	204.4
15–20 cm	311.9	13.4	6	325.3
20–30 cm	1,857.6	19.9	5	1,877.5
30–40 cm	1,271.7	14.1	7	1,285.8
40–60 cm	422.7	15.9	7	438.6
60–80 cm	81.8	8.8	9	90.6
80+ cm	37.7	4.0	14	41.7
Total	17.1	145.6	1	162.8
All species				
0–7 cm	3.7	26.3	6	30.1
7–10 cm	35.8	26.7	5	62.5
10–15 cm	302.0	20.5	5	322.5
15–20 cm	492.3	16.6	6	508.8
20–30 cm	2,609.9	27.4	5	2,637.3
30–40 cm	2,347.2	21.4	6	2,368.6
40–60 cm	1,310.1	21.4	6	1,331.5
60–80 cm	232.7	9.8	8	242.5
80+ cm	97.5	4.7	14	102.2
Total	29.1	174.8	1	203.9

Table 4 Felled area at 31 March 2012

Clearfelled area	FC	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
	0.8	1.6	28	2.4

Standing volume at 31 March 2012

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

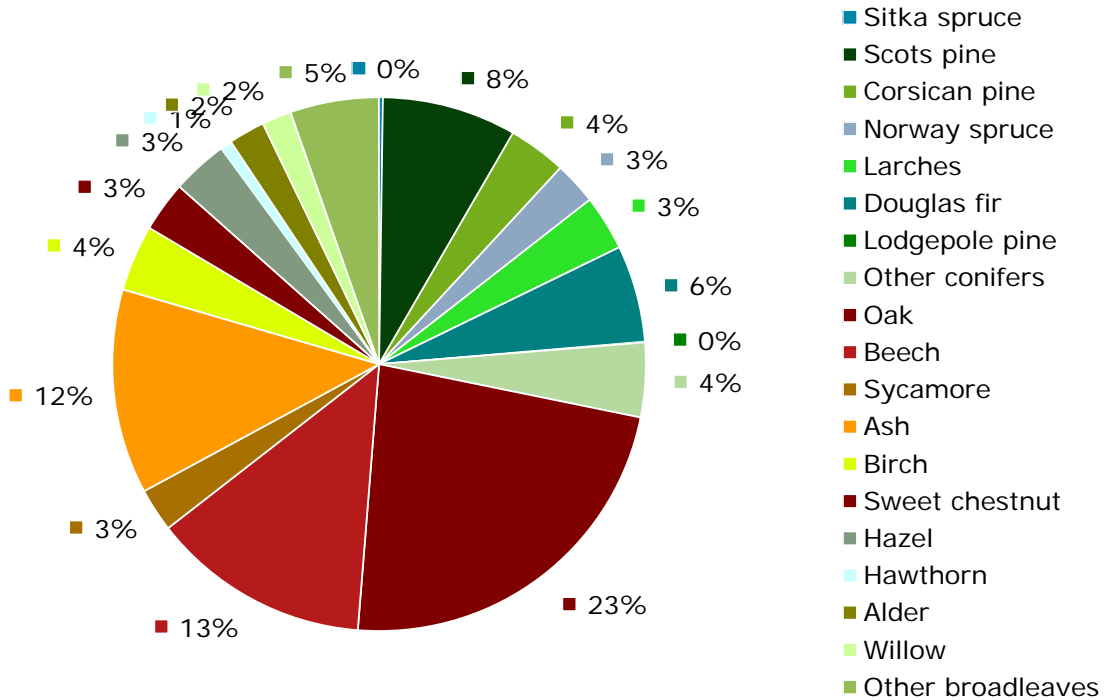
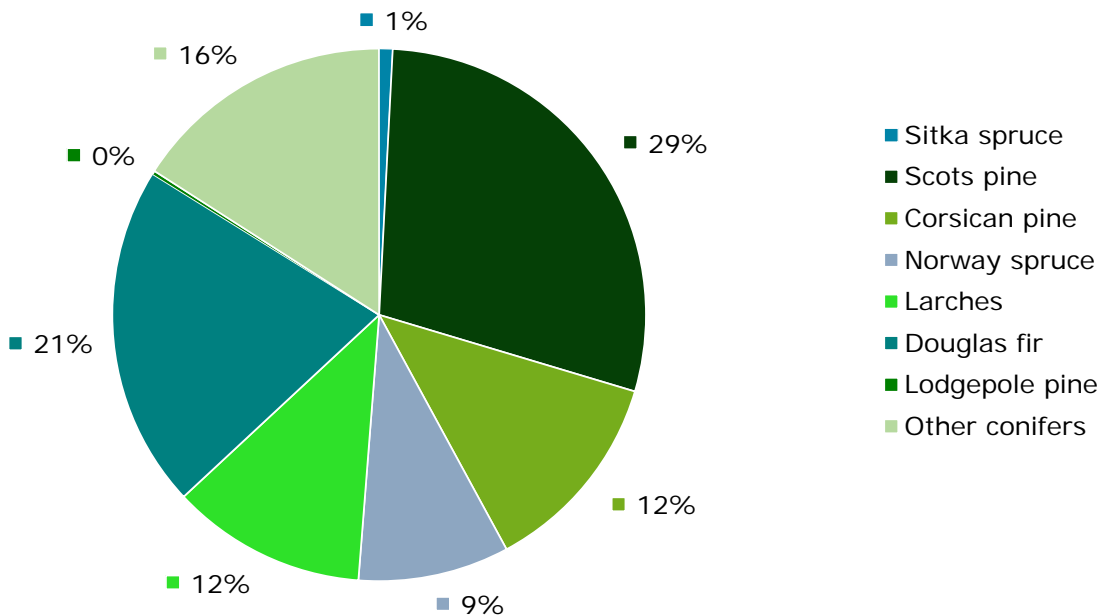


Figure 2a Principal conifer tree species composition by standing volume at 31 March 2012



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

Principal species	FC	Private sector		Total
	volume (000 m ³ obs)	volume (000 m ³ obs)	SE%	volume (000 m ³ obs)
Conifers				
Sitka spruce	14	105	30	119
Scots pine	844	3,350	11	4,194
Corsican pine	1,001	810	22	1,811
Norway spruce	222	1,110	18	1,332
Larches	115	1,603	14	1,718
Douglas fir	575	2,453	19	3,028
Lodgepole pine	9	22	77	31
Other conifers	453	1,863	14	2,316
All conifers	3,233	11,337	5	14,569
Broadleaves				
Oak	1,796	10,106	7	11,902
Beech	1,837	4,977	10	6,814
Sycamore	21	1,330	12	1,351
Ash	79	6,322	7	6,401
Birch	88	1,976	8	2,064
Sweet chestnut	34	1,537	14	1,571
Hazel	4	1,739	8	1,742
Hawthorn	0	355	12	355
Alder	18	1,121	18	1,139
Willow	0	914	18	914
Other broadleaves	321	2,455	10	2,777
All broadleaves	4,198	32,844	3	37,043
All species				
All species	7,431	44,128	2	51,559

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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	0	2	51	3
11–20 years	63	35	36	98
21–40 years	379	1,340	15	1,720
41–60 years	1,488	6,563	7	8,051
61–80 years	806	1,918	17	2,723
81–100 years	294	1,018	42	1,311
100+ years	203	461	31	663
Total	3,233	11,337	5	14,569
All broadleaves				
0–10 years	0	44	36	44
11–20 years	6	694	13	700
21–40 years	41	4,413	6	4,455
41–60 years	601	5,579	7	6,180
61–80 years	870	5,238	8	6,107
81–100 years	237	8,797	7	9,034
100+ years	2,443	8,079	9	10,522
Total	4,198	32,844	3	37,043
All species				
0–10 years	0	46	34	46
11–20 years	69	731	13	800
21–40 years	421	5,776	6	6,197
41–60 years	2,089	12,160	5	14,249
61–80 years	1,675	7,125	7	8,800
81–100 years	531	9,840	8	10,371
100+ years	2,646	8,450	8	11,096
Total	7,431	44,128	2	51,559

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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 (000 m ³ obs)	volume (000 m ³ obs)	SE%	volume (000 m ³ obs)
All conifers				
0–7 cm	0	0	75	0
7–10 cm	10	21	23	30
10–15 cm	116	228	28	345
15–20 cm	180	741	15	922
20–30 cm	752	2,444	11	3,197
30–40 cm	1,075	3,163	10	4,239
40–60 cm	887	3,411	12	4,298
60–80 cm	151	704	22	855
80+ cm	60	624	63	684
Total	3,233	11,337	5	14,569
All broadleaves				
0–7 cm	4	77	15	81
7–10 cm	26	973	7	998
10–15 cm	186	2,265	6	2,450
15–20 cm	312	2,469	7	2,781
20–30 cm	1,858	5,359	5	7,216
30–40 cm	1,272	5,181	8	6,453
40–60 cm	423	7,186	7	7,609
60–80 cm	82	5,745	9	5,826
80+ cm	38	3,590	16	3,628
Total	4,198	32,844	3	37,043
All species				
0–7 cm	4	77	15	81
7–10 cm	36	995	7	1,031
10–15 cm	302	2,498	6	2,800
15–20 cm	492	3,223	6	3,715
20–30 cm	2,610	7,818	5	10,428
30–40 cm	2,347	8,379	6	10,726
40–60 cm	1,310	10,540	6	11,850
60–80 cm	233	6,376	8	6,609
80+ cm	98	4,221	17	4,318
Total	7,431	44,128	2	51,559

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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 (000 odt)	biomass (000 odt)	SE%	biomass (000 odt)
Conifers				
Sitka spruce	8	65	30	73
Scots pine	585	2,242	11	2,827
Corsican pine	604	461	22	1,064
Norway spruce	123	590	17	713
Larches	72	946	14	1,019
Douglas fir	381	1,541	19	1,922
Lodgepole pine	6	14	76	20
Other conifers	250	1,067	13	1,317
All conifers	2,029	6,939	5	8,967
Broadleaves				
Oak	1,586	8,405	7	9,991
Beech	1,732	4,264	10	5,995
Sycamore	19	1,111	12	1,131
Ash	73	5,217	6	5,290
Birch	86	1,836	8	1,922
Sweet chestnut	31	1,192	14	1,224
Hazel	4	1,690	8	1,693
Hawthorn	0	421	11	421
Alder	15	815	18	830
Willow	0	938	17	938
Other broadleaves	289	2,272	9	2,561
All broadleaves	3,835	28,179	3	32,014
All species				
All species	5,864	35,095	2	40,959

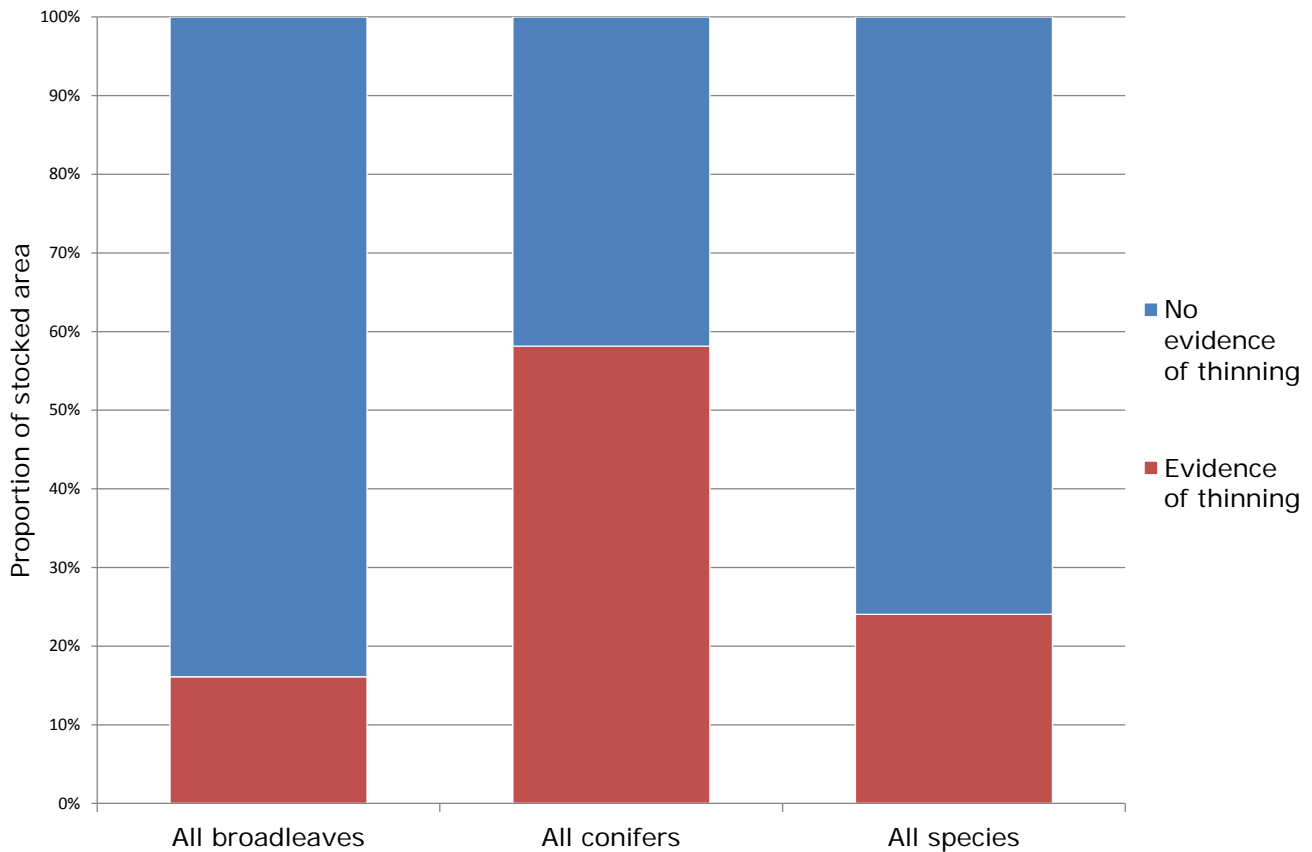
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Table 9 Total carbon stocks in principal tree species at 31 March 2012

Principal species	FC	Private sector		Total
	carbon (000 t)	carbon (000 t)	SE%	carbon (000 t)
Conifers				
Sitka spruce	4	32	30	37
Scots pine	292	1,121	11	1,413
Corsican pine	302	230	22	532
Norway spruce	61	295	17	357
Larches	36	473	14	509
Douglas fir	190	770	19	961
Lodgepole pine	3	7	76	10
Other conifers	125	534	13	659
All conifers	1,014	3,469	5	4,484
Broadleaves				
Oak	793	4,203	7	4,996
Beech	866	2,132	10	2,998
Sycamore	10	556	12	565
Ash	37	2,608	6	2,645
Birch	43	918	8	961
Sweet chestnut	16	596	14	612
Hazel	2	845	8	847
Hawthorn	0	210	11	210
Alder	7	407	18	415
Willow	0	469	17	469
Other broadleaves	145	1,136	9	1,280
All broadleaves	1,918	14,089	3	16,007
All species				
All species	2,932	17,547	2	20,479

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 (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	137	614	11	752	128	563	9	691	100	442	9	542	91	490	10	581
Sitka spruce	0	3	41	3	0	8	30	9	0	6	44	6	0	6	50	6
Scots pine	26	117	24	143	23	140	18	163	17	115	19	131	17	162	21	179
Corsican pine	56	89	34	145	52	47	41	99	45	35	45	80	29	18	36	48
Norway spruce	11	39	19	50	10	72	37	82	8	64	26	72	9	95	30	104
Larches	5	88	29	93	5	83	18	87	3	51	16	54	3	54	19	57
Douglas fir	21	167	26	188	19	115	23	134	16	92	26	108	19	71	29	90
Lodgepole pine	1	0	73	1	0	0	98	0	0	5	82	5	0	0	98	0
Other conifers	19	110	27	129	19	97	24	115	12	74	23	85	12	83	22	95
All broadleaves	69	387	12	456	10	330	12	339	55	180	15	236	10	160	25	170
Oak	13	59	24	72	2	82	29	84	10	57	37	67	2	24	27	25
Beech	47	53	25	101	5	91	22	96	38	51	25	89	5	78	49	84
Sycamore	1	24	34	25	0	12	38	12	1	4	26	5	0	4	24	4
Ash	2	140	21	142	1	70	18	71	2	20	18	22	1	13	32	15
Birch	1	30	25	31	1	34	23	34	1	18	21	19	0	10	32	10
Sweet chestnut	0	37	64	37	0	4	25	4	0	8	27	9	0	7	34	7
Hazel	0	6	57	6	0	7	51	7	0	7	26	7	0	8	46	8
Hawthorn	0	1	32	1	0	1	27	1	0	1	23	1	0	1	27	1
Alder	0	1	71	1	0	1	67	1	0	1	37	1	0	1	63	1
Willow	0	1	26	1	0	1	23	1	0	1	21	1	0	2	20	2
Other broadleaves	4	34	37	38	1	27	36	28	3	10	21	13	1	10	15	11
All species	206	994	8	1,201	138	888	7	1,026	156	621	8	777	101	652	10	752

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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 (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	76	425	11	501	81	302	14	384	130	288	14	419	90	235	12	325
Sitka spruce	2	9	26	11	2	8	19	10	4	11	19	15	2	11	13	14
Scots pine	11	211	19	222	17	124	26	141	19	79	25	99	15	75	25	90
Corsican pine	32	6	38	39	30	43	60	74	66	15	54	80	29	0	24	29
Norway spruce	6	48	34	54	6	21	25	27	6	56	34	62	8	33	31	42
Larches	3	33	18	36	3	26	19	29	7	22	19	28	5	21	19	26
Douglas fir	15	65	27	79	15	47	25	62	18	46	30	64	17	35	12	52
Lodgepole pine	0	0	98	0	0	0	57	0	0	1	94	1	0	0	43	0
Other conifers	7	53	27	59	8	32	21	40	11	58	42	69	13	59	21	72
All broadleaves	50	146	14	196	36	146	14	183	75	200	12	275	28	159	13	187
Oak	9	23	31	32	6	19	26	24	22	22	24	45	9	40	44	49
Beech	35	63	29	98	26	64	30	90	41	53	34	94	13	21	15	33
Sycamore	1	3	22	4	0	4	21	4	1	7	19	7	1	9	25	9
Ash	2	15	16	17	1	19	16	20	3	25	13	29	2	30	15	32
Birch	1	7	21	7	1	10	18	11	1	21	21	23	1	14	15	15
Sweet chestnut	0	13	46	13	0	3	29	4	0	28	48	28	0	7	66	7
Hazel	0	5	21	5	0	7	26	7	0	9	21	9	0	15	20	15
Hawthorn	0	1	15	1	0	2	13	2	0	2	13	2	0	2	13	2
Alder	0	0	39	1	0	1	41	1	0	1	35	1	0	1	47	1
Willow	0	2	19	2	0	3	28	3	0	4	30	4	0	2	25	2
Other broadleaves	3	11	12	14	2	13	11	16	5	25	24	30	2	17	15	19
All species	127	571	9	698	118	449	11	567	205	488	10	693	118	393	9	511

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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 (000 m ³ obs)	SE%	volume (000 m ³ obs)	volume (000 m ³ obs)	SE%	volume (000 m ³ obs)		
All conifers	80	296	16	376	85	234	8	318
Sitka spruce	2	16	11	18	2	17	11	19
Scots pine	15	70	25	85	18	83	20	101
Corsican pine	25	1	24	26	21	1	23	21
Norway spruce	6	94	47	100	7	20	16	28
Larches	3	21	18	24	4	23	18	27
Douglas fir	19	47	15	65	19	43	11	62
Lodgepole pine	0	0	40	0	1	0	40	1
Other conifers	10	47	13	57	13	47	10	60
All broadleaves	54	173	11	227	35	191	16	226
Oak	13	23	30	35	9	34	40	42
Beech	35	55	29	90	20	74	31	94
Sycamore	1	7	25	8	0	3	30	3
Ash	1	35	13	36	1	31	35	32
Birch	1	12	15	13	2	14	16	15
Sweet chestnut	1	4	46	5	1	11	65	11
Hazel	0	7	20	7	0	5	21	5
Hawthorn	0	2	13	2	0	4	38	4
Alder	0	1	51	1	0	1	79	1
Willow	0	6	41	6	0	3	47	3
Other broadleaves	3	19	18	22	3	11	14	14
All species	134	468	11	602	120	423	8	542

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Table 11 50-year forecast of standing volume; annual average 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	3,164	10,308	5	13,473
2017–21	3,209	9,224	6	12,433
2022–26	3,266	7,876	6	11,142
2027–31	3,353	6,686	7	10,039
2032–36	3,474	5,469	8	8,944
2037–41	3,552	5,115	8	8,666
2042–46	3,508	4,768	8	8,276
2047–51	3,405	4,938	7	8,343
2052–56	3,432	5,293	6	8,725
2057–61	3,415	5,567	6	8,983
All broadleaves				
2013–16	4,148	33,163	3	37,311
2017–21	4,318	34,497	3	38,814
2022–26	4,430	36,756	3	41,186
2027–31	4,578	39,657	2	44,235
2032–36	4,699	42,535	2	47,234
2037–41	4,731	45,349	2	50,080
2042–46	4,771	47,659	2	52,430
2047–51	4,759	49,868	2	54,627
2052–56	4,801	51,855	2	56,656
2057–61	4,818	53,374	2	58,192
All species				
2013–16	7,312	43,442	2	50,754
2017–21	7,527	43,708	2	51,235
2022–26	7,696	44,640	2	52,336
2027–31	7,931	46,350	2	54,281
2032–36	8,173	48,010	2	56,184
2037–41	8,283	50,464	2	58,747
2042–46	8,279	52,418	2	60,697
2047–51	8,164	54,789	2	62,952
2052–56	8,234	57,123	2	65,356
2057–61	8,233	58,907	2	67,140

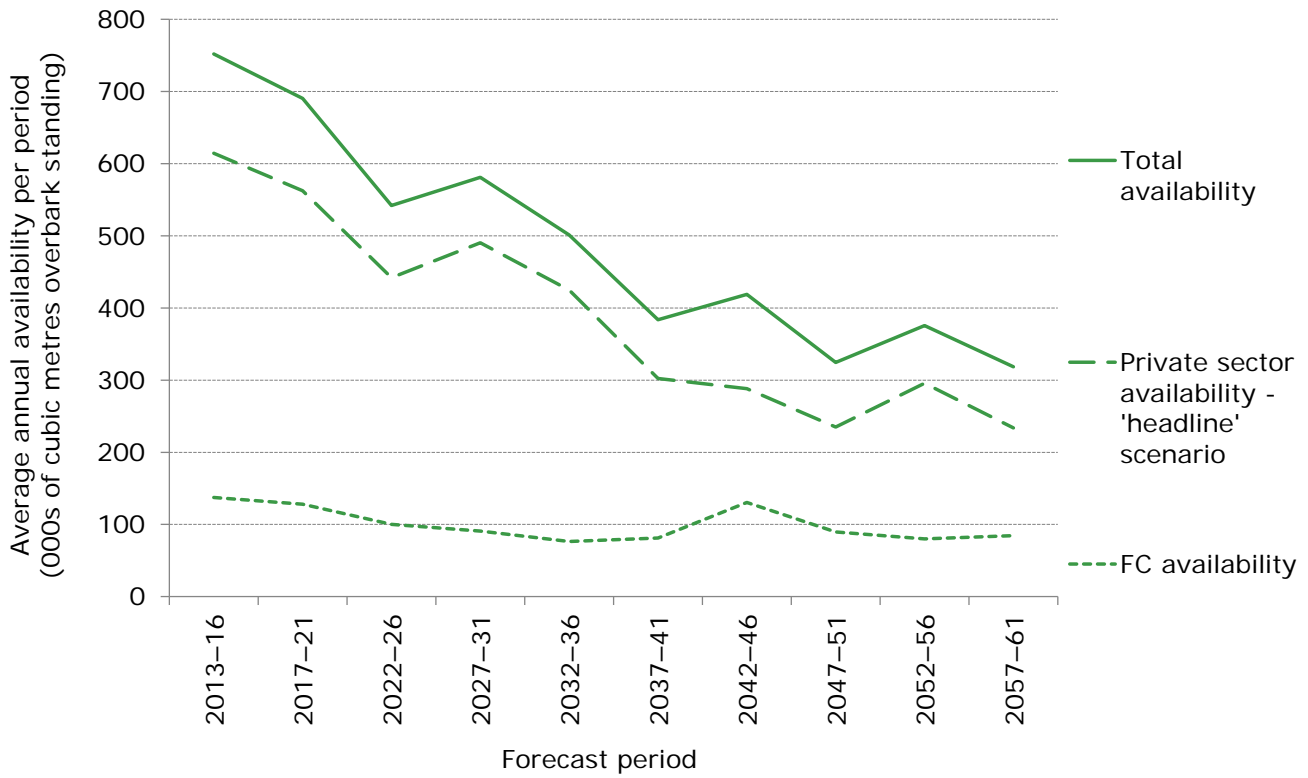
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Table 12 50-year forecast of net increment; annual average volumes within periods

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	119	323	5	442
2017–21	118	294	5	411
2022–26	108	247	6	355
2027–31	103	227	7	331
2032–36	99	214	7	313
2037–41	96	234	6	330
2042–46	92	260	6	352
2047–51	86	296	5	382
2052–56	85	328	5	413
2057–61	85	349	4	433
All broadleaves				
2013–16	60	563	4	623
2017–21	60	660	2	720
2022–26	58	726	2	784
2027–31	58	740	2	797
2032–36	58	721	2	779
2037–41	55	688	2	744
2042–46	54	639	2	693
2047–51	51	589	2	640
2052–56	49	544	3	593
2057–61	45	499	3	545
All species				
2013–16	179	887	3	1,065
2017–21	177	955	2	1,132
2022–26	166	974	2	1,140
2027–31	161	968	2	1,128
2032–36	156	935	2	1,091
2037–41	151	921	2	1,073
2042–46	146	897	2	1,043
2047–51	137	883	2	1,020
2052–56	133	870	2	1,003
2057–61	130	845	2	975

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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

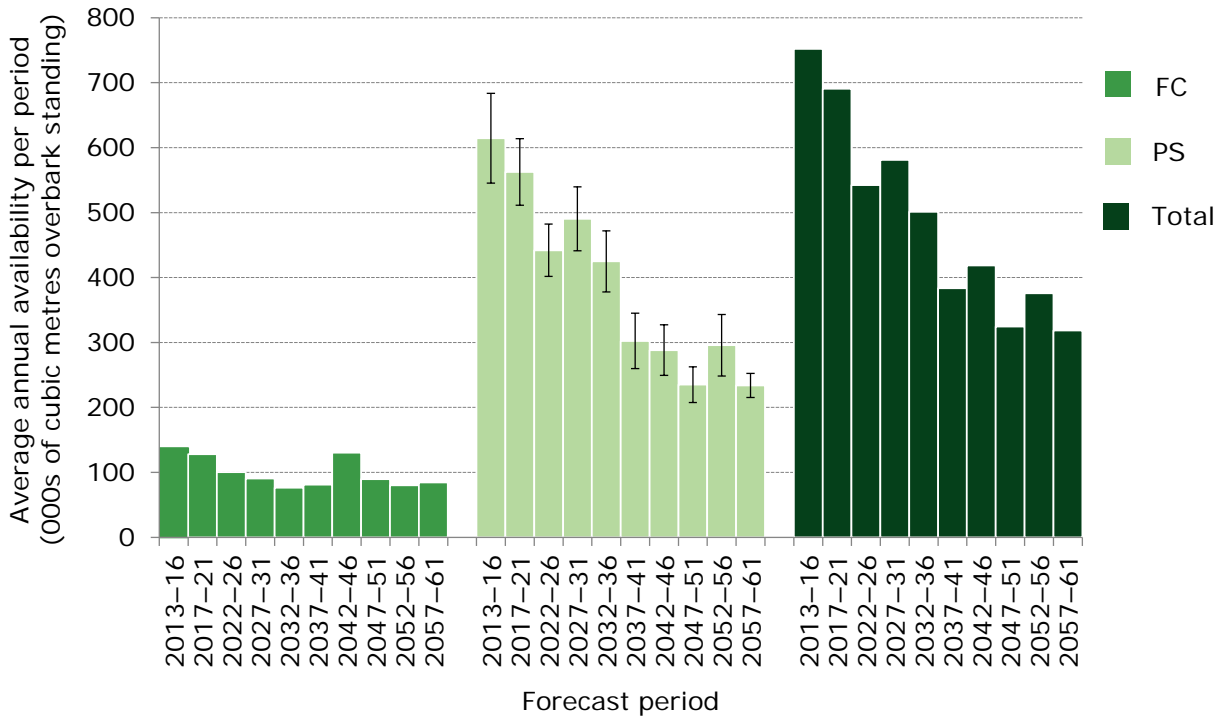
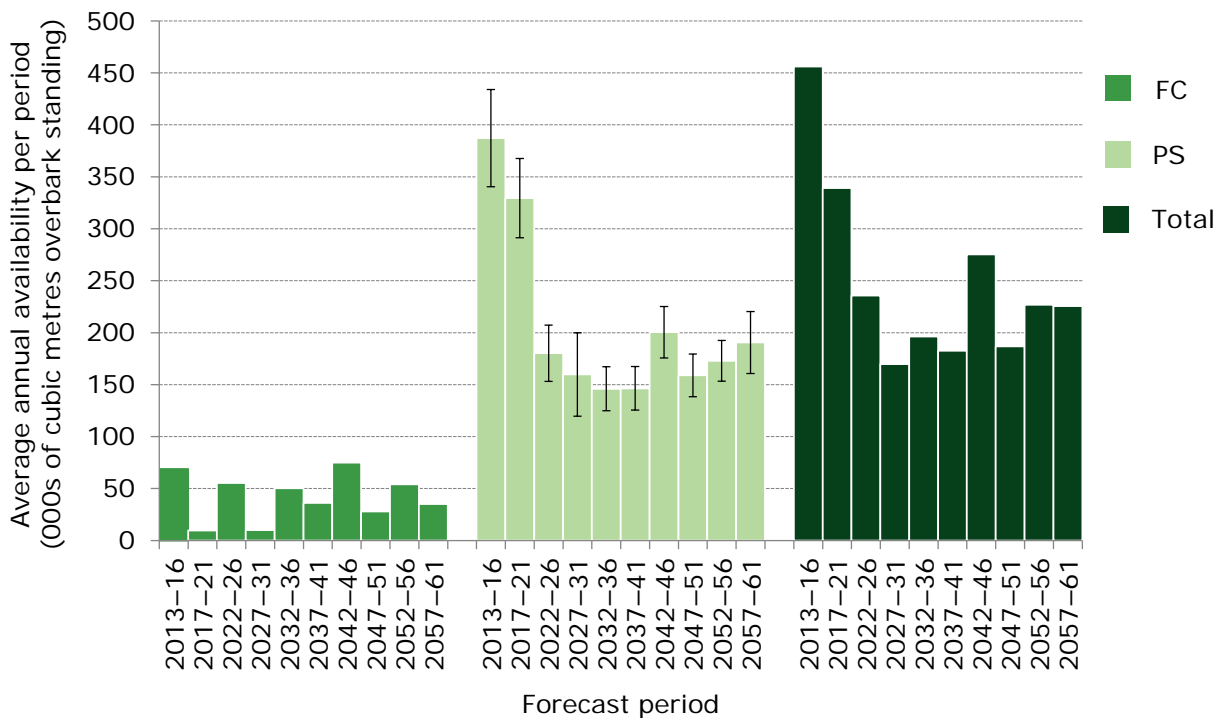


Figure 6 50-year forecast of average annual hardwood availability



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

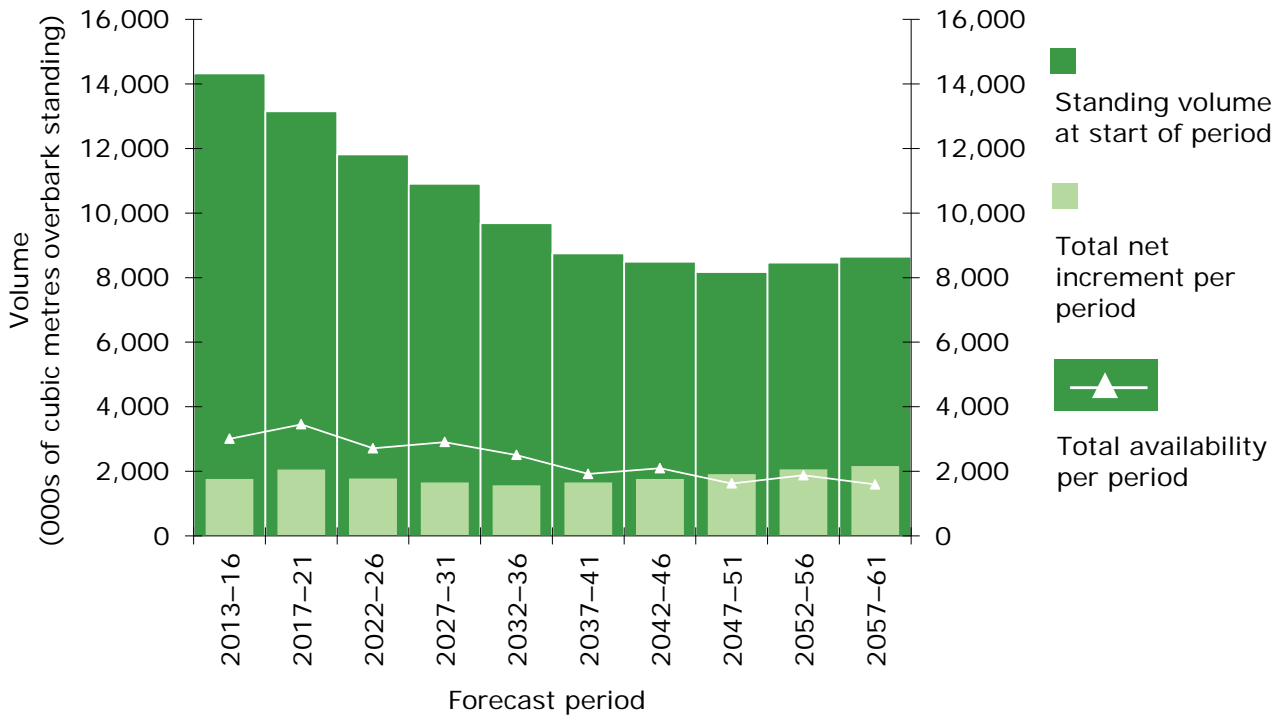
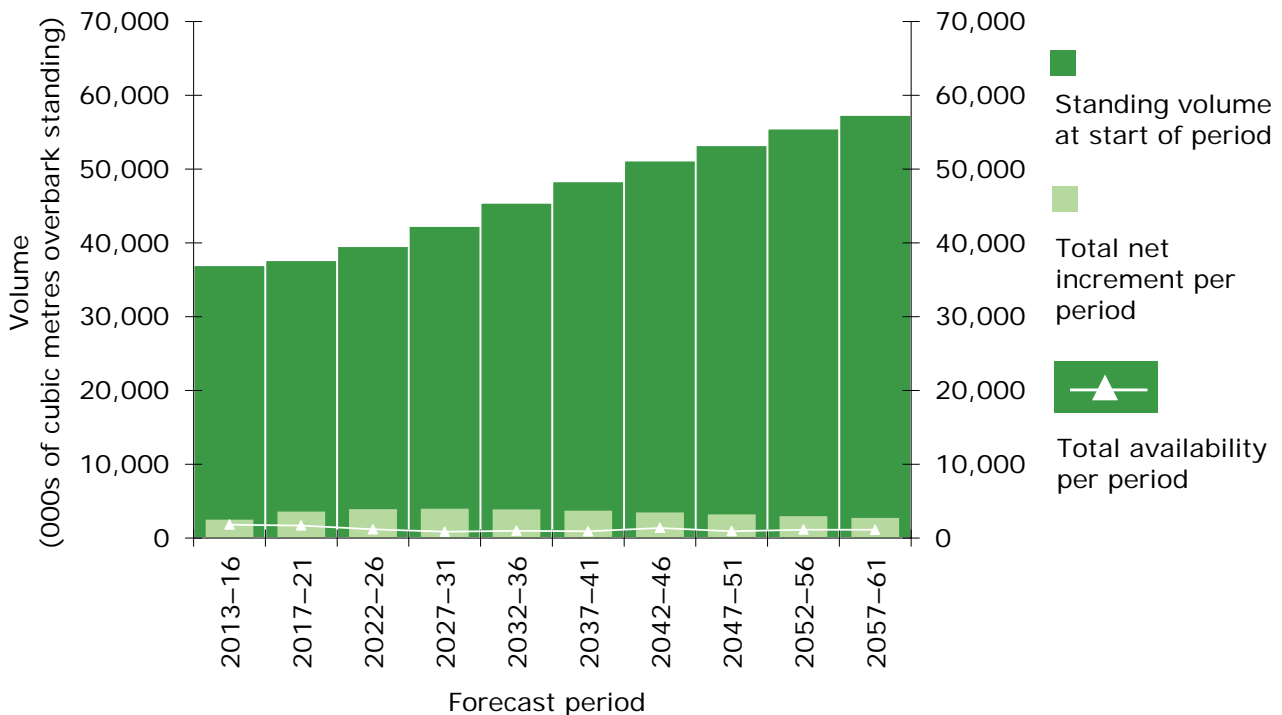


Figure 8 50-year forecast of hardwood standing volume, increment and availability



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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 (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	137	614	11	752	128	563	9	691	100	442	9	542	91	490	10	581
Sitka spruce	0	3	41	3	0	8	30	9	0	6	44	6	0	6	50	6
Scots pine	26	117	24	143	23	140	18	163	17	115	19	131	17	162	21	179
Corsican pine	56	89	34	145	52	47	41	99	45	35	45	80	29	18	36	48
Norway spruce	11	39	19	50	10	72	37	82	8	64	26	72	9	95	30	104
Larches	5	88	29	93	5	83	18	87	3	51	16	54	3	54	19	57
Douglas fir	21	167	26	188	19	115	23	134	16	92	26	108	19	71	29	90
Lodgepole pine	1	0	73	1	0	0	98	0	0	5	82	5	0	0	98	0
Other conifers	19	110	27	129	19	97	24	115	12	74	23	85	12	83	22	95
All broadleaves	69	2,194	5	2,263	10	1,741	4	1,751	55	944	6	999	10	760	8	770
Oak	13	269	16	281	2	283	17	285	10	199	19	209	2	212	13	214
Beech	47	118	16	165	5	153	15	159	38	137	22	176	5	129	30	134
Sycamore	1	152	15	153	0	111	15	111	1	50	20	51	0	20	13	20
Ash	2	807	9	809	1	505	7	506	2	173	8	175	1	89	12	90
Birch	1	175	9	176	1	211	10	212	1	101	10	101	0	55	16	55
Sweet chestnut	0	94	28	95	0	55	20	55	0	37	19	37	0	48	28	48
Hazel	0	146	9	146	0	149	9	149	0	97	12	97	0	50	17	50
Hawthorn	0	15	18	15	0	16	17	16	0	11	12	11	0	11	11	11
Alder	0	122	21	122	0	102	18	102	0	31	15	31	0	15	46	15
Willow	0	33	23	33	0	25	16	25	0	20	14	20	0	57	43	57
Other broadleaves	4	267	17	270	1	135	11	137	3	84	13	86	1	78	12	79
All species	206	2,805	4	3,011	138	2,302	4	2,440	156	1,386	5	1,542	101	1,253	6	1,354

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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 (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	76	425	11	501	81	302	14	384	130	288	14	419	90	235	12	325
Sitka spruce	2	9	26	11	2	8	19	10	4	11	19	15	2	11	13	14
Scots pine	11	211	19	222	17	124	26	141	19	79	25	99	15	75	25	90
Corsican pine	32	6	38	39	30	43	60	74	66	15	54	80	29	0	24	29
Norway spruce	6	48	34	54	6	21	25	27	6	56	34	62	8	33	31	42
Larches	3	33	18	36	3	26	19	29	7	22	19	28	5	21	19	26
Douglas fir	15	65	27	79	15	47	25	62	18	46	30	64	17	35	12	52
Lodgepole pine	0	0	98	0	0	0	57	0	0	1	94	1	0	0	43	0
Other conifers	7	53	27	59	8	32	21	40	11	58	42	69	13	59	21	72
All broadleaves	50	667	7	717	36	666	5	702	75	747	5	822	28	723	5	751
Oak	9	101	11	110	6	108	12	114	22	108	14	131	9	102	18	111
Beech	35	138	27	173	26	108	21	134	41	98	22	139	13	55	12	67
Sycamore	1	23	16	24	0	25	13	25	1	37	12	38	1	44	15	45
Ash	2	121	14	123	1	113	8	114	3	137	7	141	2	155	12	157
Birch	1	49	12	50	1	47	9	48	1	84	11	85	1	73	9	73
Sweet chestnut	0	51	27	52	0	19	22	20	0	51	30	52	0	38	33	38
Hazel	0	53	22	53	0	63	14	63	0	62	13	62	0	90	9	90
Hawthorn	0	14	11	14	0	26	19	26	0	19	10	19	0	17	10	17
Alder	0	11	22	12	0	13	16	13	0	17	17	17	0	18	19	18
Willow	0	19	12	19	0	56	25	56	0	28	28	28	0	21	16	21
Other broadleaves	3	83	10	86	2	87	8	89	5	103	8	108	2	108	13	110
All species	127	1,093	6	1,219	118	970	6	1,087	205	1,036	5	1,241	118	958	5	1,076

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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 (000 m ³ obs)	SE%	volume (000 m ³ obs)	volume (000 m ³ obs)	SE%	volume (000 m ³ obs)		
All conifers	80	296	16	376	85	234	8	318
Sitka spruce	2	16	11	18	2	17	11	19
Scots pine	15	70	25	85	18	83	20	101
Corsican pine	25	1	24	26	21	1	23	21
Norway spruce	6	94	47	100	7	20	16	28
Larches	3	21	18	24	4	23	18	27
Douglas fir	19	47	15	65	19	43	11	62
Lodgepole pine	0	0	40	0	1	0	40	1
Other conifers	10	47	13	57	13	47	10	60
All broadleaves	54	796	4	850	35	736	6	771
Oak	13	88	13	101	9	113	17	121
Beech	35	98	19	133	20	141	21	160
Sycamore	1	37	18	38	0	24	14	24
Ash	1	195	8	196	1	110	11	111
Birch	1	69	10	70	2	68	10	69
Sweet chestnut	1	21	21	22	1	54	31	54
Hazel	0	62	11	62	0	55	9	55
Hawthorn	0	21	10	21	0	29	16	29
Alder	0	16	17	16	0	14	15	14
Willow	0	56	24	56	0	33	21	33
Other broadleaves	3	128	11	130	3	91	9	93
All species	134	1,092	5	1,226	120	969	5	1,089

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

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	3,164	10,308	5	13,473
2017–21	3,209	9,224	6	12,433
2022–26	3,266	7,876	6	11,142
2027–31	3,353	6,686	7	10,039
2032–36	3,474	5,469	8	8,944
2037–41	3,552	5,115	8	8,666
2042–46	3,508	4,768	8	8,276
2047–51	3,405	4,938	7	8,343
2052–56	3,432	5,293	6	8,725
2057–61	3,415	5,567	6	8,983
All broadleaves				
2013–16	4,148	27,779	3	31,927
2017–21	4,318	22,652	3	26,970
2022–26	4,430	18,865	4	23,295
2027–31	4,578	18,460	3	23,038
2032–36	4,699	18,616	3	23,315
2037–41	4,731	19,412	3	24,143
2042–46	4,771	20,087	3	24,858
2047–51	4,759	21,056	3	25,814
2052–56	4,801	21,547	3	26,348
2057–61	4,818	21,749	3	26,567
All species				
2013–16	7,312	38,048	2	45,359
2017–21	7,527	31,840	3	39,367
2022–26	7,696	26,714	3	34,410
2027–31	7,931	25,112	3	33,043
2032–36	8,173	24,046	3	32,219
2037–41	8,283	24,478	3	32,760
2042–46	8,279	24,794	3	33,073
2047–51	8,164	25,923	3	34,086
2052–56	8,234	26,759	3	34,992
2057–61	8,233	27,224	2	35,457

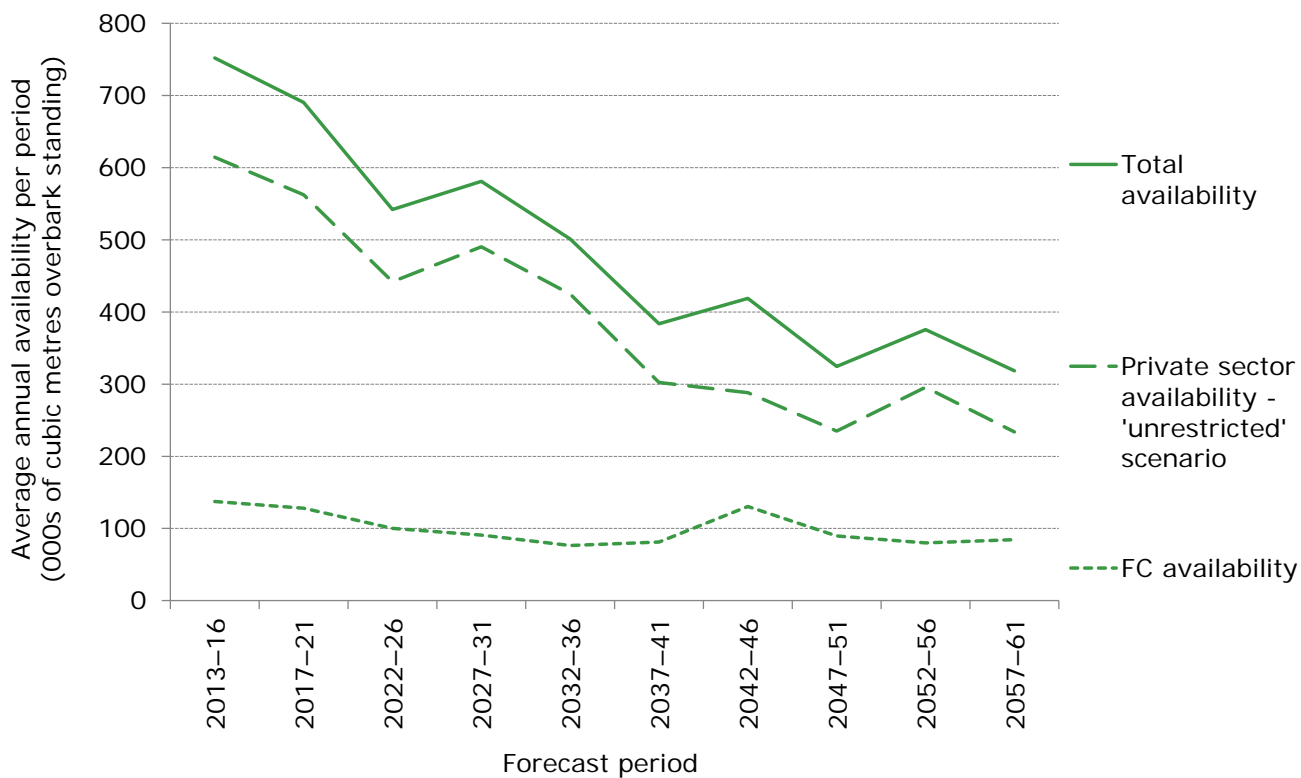
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Table 15 50-year forecast of net increment; annual average volumes within periods – unrestricted biological potential for Private sector hardwoods

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	119	323	5	442
2017–21	118	294	5	411
2022–26	108	247	6	355
2027–31	103	227	7	331
2032–36	99	214	7	313
2037–41	96	234	6	330
2042–46	92	260	6	352
2047–51	86	296	5	382
2052–56	85	328	5	413
2057–61	85	349	4	433
All broadleaves				
2013–16	60	546	4	606
2017–21	60	584	3	643
2022–26	58	612	3	670
2027–31	58	679	2	736
2032–36	58	765	2	822
2037–41	55	860	2	915
2042–46	54	909	2	963
2047–51	51	910	2	961
2052–56	49	859	2	908
2057–61	45	808	2	853
All species				
2013–16	179	869	3	1,048
2017–21	177	878	2	1,056
2022–26	166	860	2	1,026
2027–31	161	906	2	1,067
2032–36	156	979	2	1,135
2037–41	151	1,093	2	1,244
2042–46	146	1,168	2	1,314
2047–51	137	1,204	2	1,341
2052–56	133	1,186	2	1,319
2057–61	130	1,154	2	1,285

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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

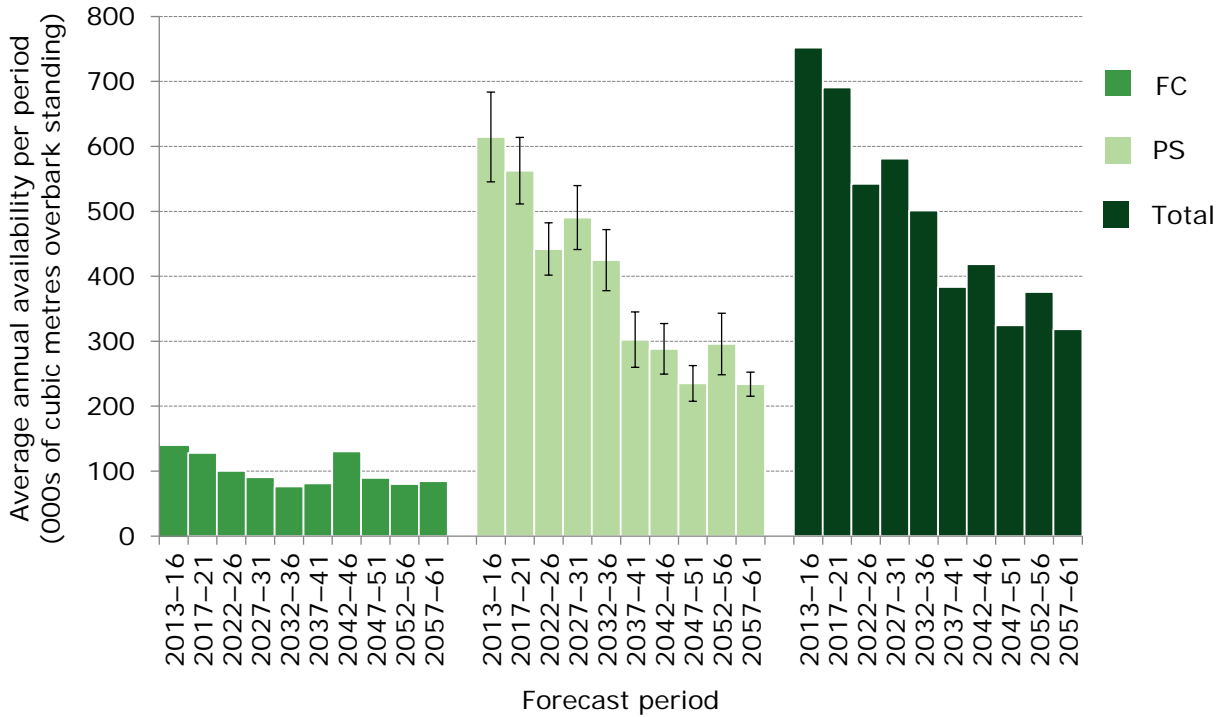
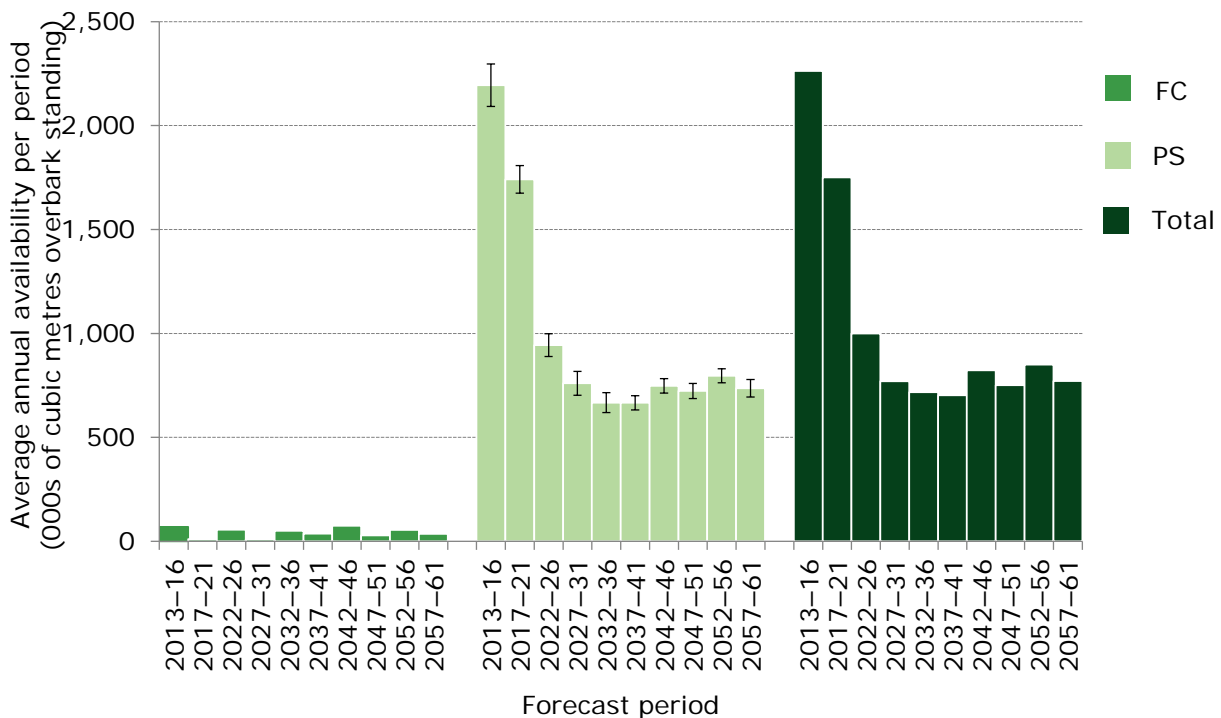


Figure 11 50-year forecast comparison of average annual hardwood availability – unrestricted biological potential for Private sector hardwoods



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

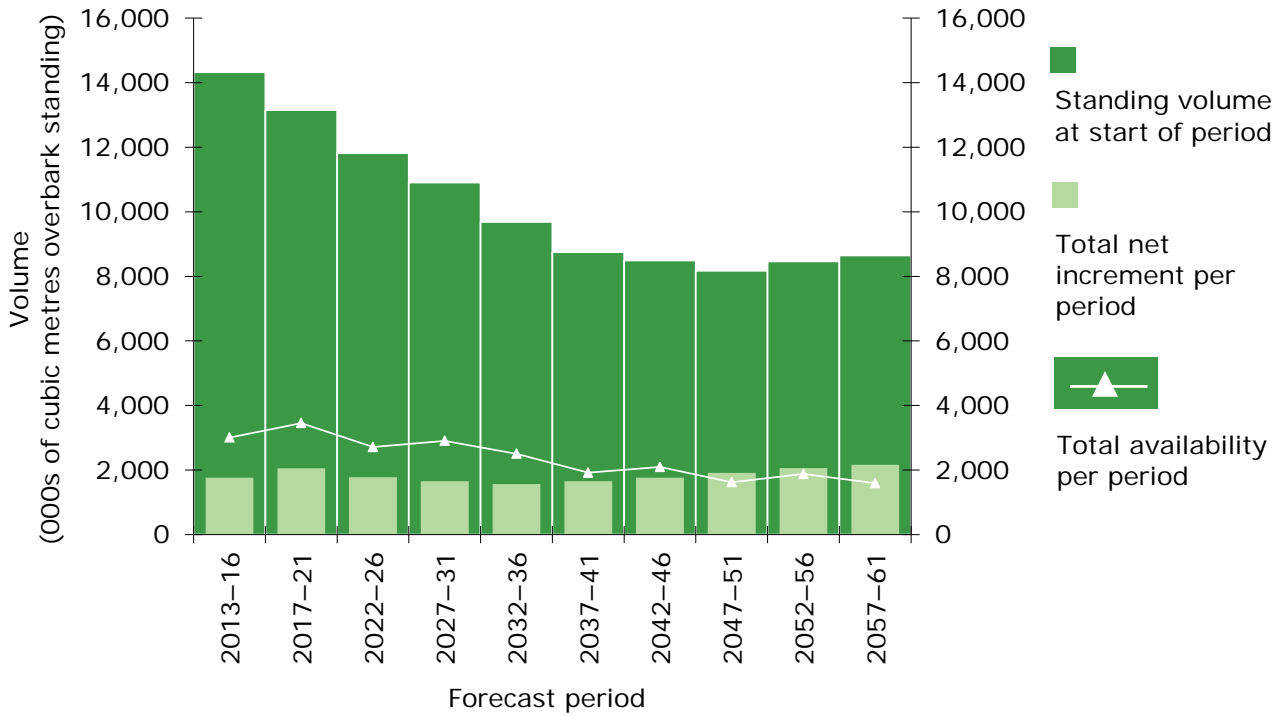
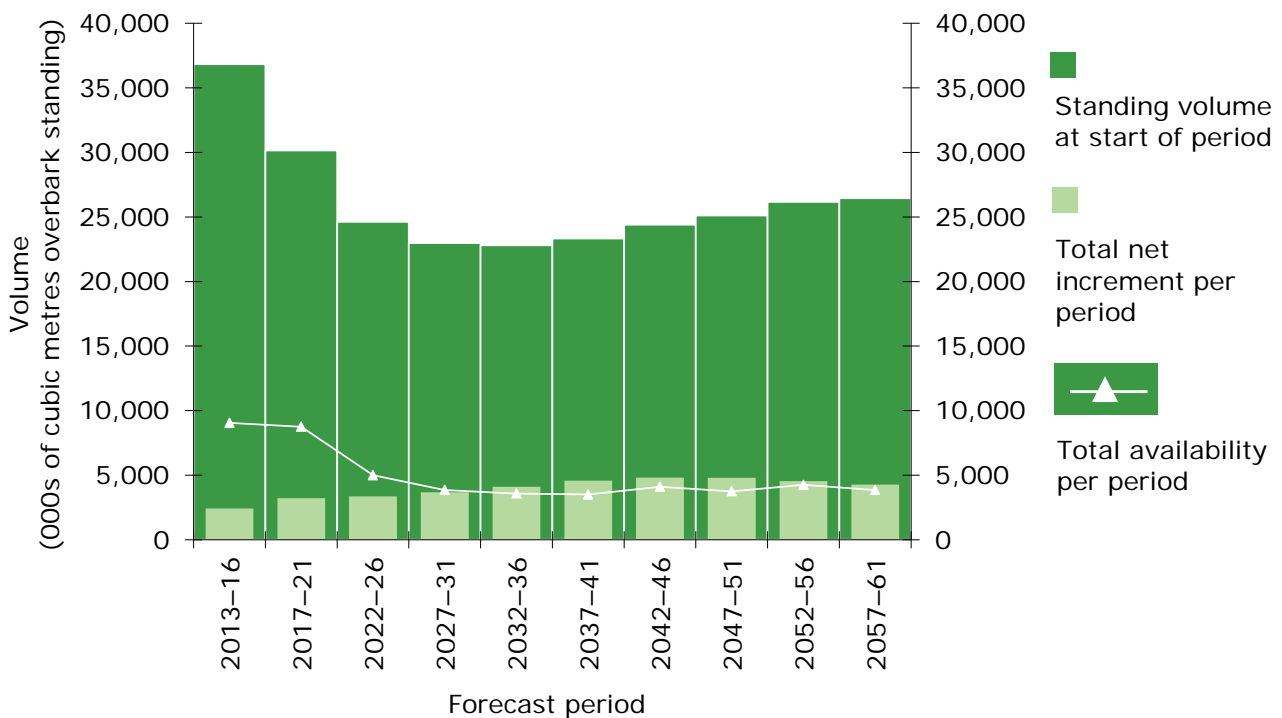


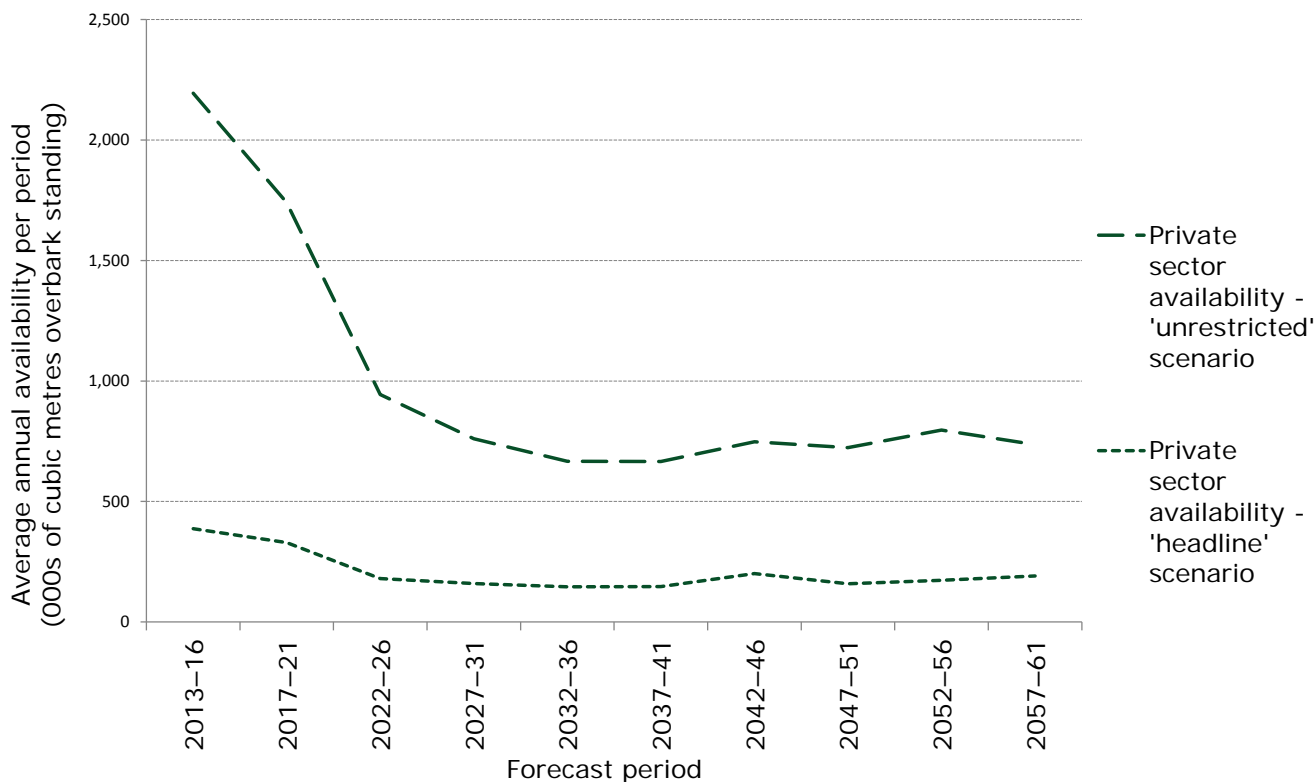
Figure 13 50-year summary of hardwood standing volume, increment and availability – unrestricted biological potential for Private sector hardwoods



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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

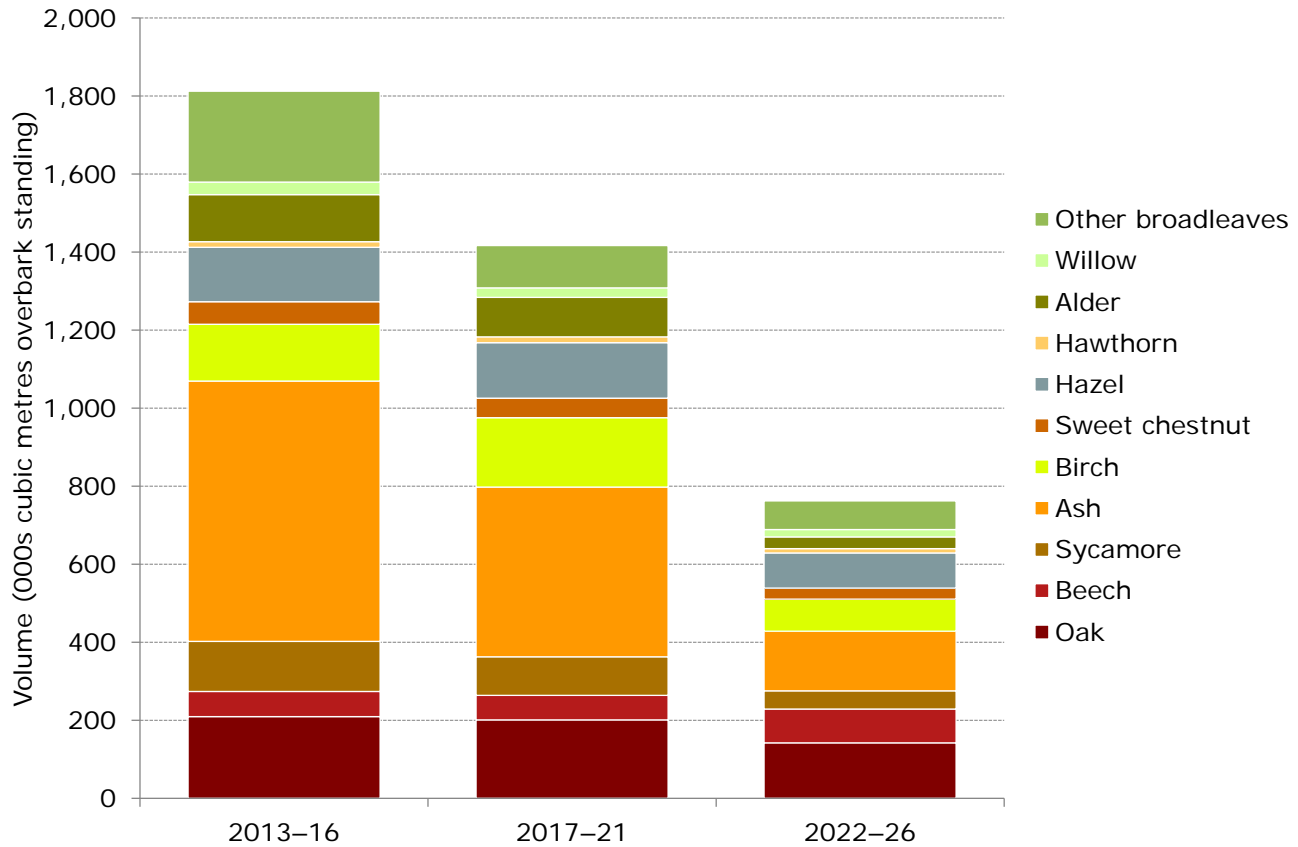


Table 16 15-year forecast comparison of average annual timber availability

Principal species	2013-16			2017-21			2022-26		
	Headline	Unrestricted volume (000 m ³ obs)	Difference	Headline	Unrestricted volume (000 m ³ obs)	Difference	Headline	Unrestricted volume (000 m ³ obs)	Difference
All conifers	752	752	0	691	691	0	542	542	0
Sitka spruce	3	3	0	9	9	0	6	6	0
Scots pine	143	143	0	163	163	0	131	131	0
Corsican pine	145	145	0	99	99	0	80	80	0
Norway spruce	50	50	0	82	82	0	72	72	0
Larches	93	93	0	87	87	0	54	54	0
Douglas fir	188	188	0	134	134	0	108	108	0
Lodgepole pine	1	1	0	0	0	0	5	5	0
Other conifers	129	129	0	115	115	0	85	85	0
All broadleaves	456	2,263	1,807	339	1,751	1,411	236	999	763
Oak	72	281	210	84	285	201	67	209	143
Beech	101	165	64	96	159	63	89	176	87
Sycamore	25	153	128	12	111	99	5	51	47
Ash	142	809	667	71	506	435	22	175	153
Birch	31	176	146	34	212	177	19	101	82
Sweet chestnut	37	95	58	4	55	50	9	37	29
Hazel	6	146	140	7	149	142	7	97	90
Hawthorn	1	15	14	1	16	15	1	11	11
Alder	1	122	120	1	102	101	1	31	30
Willow	1	33	32	1	25	24	1	20	19
Other broadleaves	38	270	233	28	137	109	13	86	74
All species	1,201	3,011	1,811	1,026	2,440	1,414	777	1,542	765

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.

Glossary

A glossary of terms is presented in the full suite of forecast reports which can be found at 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

National Forest Inventory Statistician: Alan Brewer