

NFI provisional estimates for woodland in the Enterprise M3

Local Enterprise Partnership

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Summary

This report provides a detailed picture of stocked area of woodland and standing volume of timber for the Enterprise M3 Local Enterprise Partnership (LEP) area. These estimates are a subset of those published as part of the 2012 National Forest Inventory (NFI) 50-year forecasts of softwood timber availability and 50-year forecast of hardwood timber availability. Reports are published at www.forestry.gov.uk/inventory.

In addition the report provides forecasts of increment, standing volume and of timber availability for softwoods and hardwoods arising from this stocked area and standing volume. Forecasts are based on the 'headline' harvesting scenarios described in the 50-year forecast suite of 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* and the *NFI preliminary estimates of quantities of broadleaved species in British Woodlands with special focus on ash* reports for a description of the underlying methodologies and interpretation, and also for the England and GB context. Refer to the *NFI forecasts methodology 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 Great Britain and its constituent countries under a range of harvesting scenarios can be found in the *50-year forecast of softwood timber availability* and the *50-year forecast of hardwood timber availability*.

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 and also under a scenario assuming all hardwoods are harvested for the Enterprise M3 LEP. 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**), the "headline" 50-year forecast (**Figures 4-8** and **Tables 10-12**) and the "unrestricted" 50-year forecast (**Figures 9-13** and **Tables 13-15**). **Figure 14** compares the hardwood production under the two scenarios.

Stocked area at 31 March 2012

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

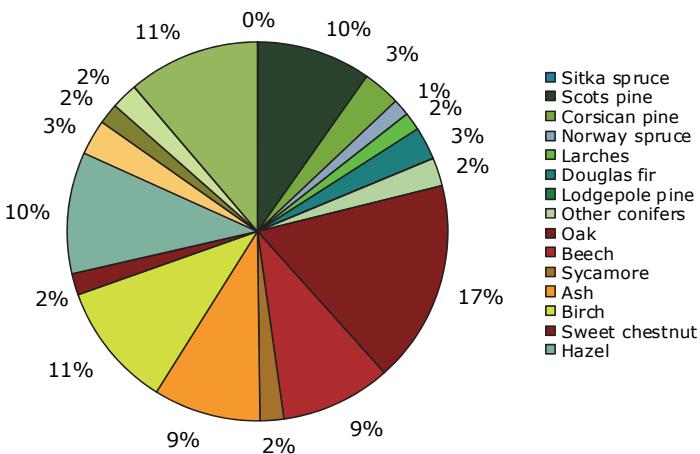


Table 1 Stocked area by principal tree species at 31 March 2012

Principal species	FC	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
Enterprise M3 LEP				
All conifers	6.3	12.1	7	18.3
Sitka spruce	0.1	0.0	90	0.1
Scots pine	1.9	6.5	12	8.4
Corsican pine	2.1	0.6	44	2.8
Norway spruce	0.3	0.9	31	1.2
Larches	0.2	1.1	25	1.3
Douglas fir	1.1	1.3	32	2.4
Lodgepole pine	0.0	0.0	-	0.0
Other conifers	0.5	1.6	21	2.1
All broadleaves	10.2	58.3	2	68.5
Oak	4.9	10.0	8	15.0
Beech	3.4	4.7	14	8.1
Sycamore	0.0	1.7	17	1.7
Ash	0.2	7.7	10	7.9
Birch	0.5	8.8	9	9.2
Sweet chestnut	0.1	1.5	20	1.6
Hazel	0.0	9.0	9	9.0
Hawthorn	0.0	2.6	13	2.6
Alder	0.1	1.5	21	1.5
Willow	0.0	1.9	19	1.9
Other broadleaves	1.0	8.7	8	9.7
All species	16.5	70.4	1	86.9

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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	0.4	0.7	36	1.1
11-20 years	0.7	0.3	50	1.0
21-40 years	1.1	1.9	21	3.0
41-60 years	2.0	6.6	12	8.6
61-80 years	1.3	2.0	23	3.3
81-100 years	0.5	0.4	48	0.9
100+ years	0.3	0.2	49	0.4
Total	6.3	12.1	7	18.3
All broadleaves				
0-10 years	0.2	6.5	9	6.7
11-20 years	0.2	7.7	10	7.9
21-40 years	0.3	14.1	7	14.4
41-60 years	1.0	10.2	8	11.2
61-80 years	1.4	7.1	10	8.5
81-100 years	0.9	6.7	11	7.5
100+ years	6.2	6.0	11	12.2
Total	10.2	58.3	2	68.5
All species				
0-10 years	0.6	7.2	9	7.8
11-20 years	0.9	8.1	10	9.0
21-40 years	1.4	16.1	6	17.4
41-60 years	3.1	16.8	7	19.9
61-80 years	2.7	9.2	9	11.9
81-100 years	1.4	7.1	11	8.5
100+ years	6.4	6.0	11	12.4
Total	16.5	70.4	1	86.9

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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	0.5	0.5	32	1.0
7-10 cm	0.2	0.5	36	0.7
10-15 cm	0.8	0.5	33	1.3
15-20 cm	0.4	1.0	31	1.4
20-30 cm	1.2	3.1	19	4.3
30-40 cm	1.5	2.6	19	4.1
40-60 cm	1.5	2.9	18	4.3
60-80 cm	0.2	0.6	29	0.9
80+ cm	0.1	0.2	51	0.3
Total	6.3	12.1	7	18.3
All broadleaves				
0-7 cm	0.3	9.5	9	9.7
7-10 cm	0.4	10.2	7	10.6
10-15 cm	0.6	7.7	8	8.3
15-20 cm	0.8	5.3	10	6.1
20-30 cm	4.2	8.5	7	12.6
30-40 cm	2.6	5.4	11	8.0
40-60 cm	1.0	6.6	10	7.6
60-80 cm	0.3	3.3	15	3.6
80+ cm	0.1	1.8	23	1.8
Total	10.2	58.3	2	68.5
All species				
0-7 cm	0.7	10.0	8	10.8
7-10 cm	0.5	10.8	7	11.3
10-15 cm	1.3	8.3	8	9.6
15-20 cm	1.3	6.3	10	7.6
20-30 cm	5.3	11.6	7	17.0
30-40 cm	4.1	8.1	9	12.2
40-60 cm	2.5	9.2	9	11.7
60-80 cm	0.5	4.0	13	4.5
80+ cm	0.2	2.0	22	2.1
Total	16.5	70.4	1	86.9

Table 4 Felled area at 31 March 2012

Clearfelled area	FC	Private sector		Total
	area (ha)	area (ha)	SE%	area (ha)
Enterprise M3 LEP	493.6	951.1	40	1,444.7

Standing volume at 31 March 2012

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

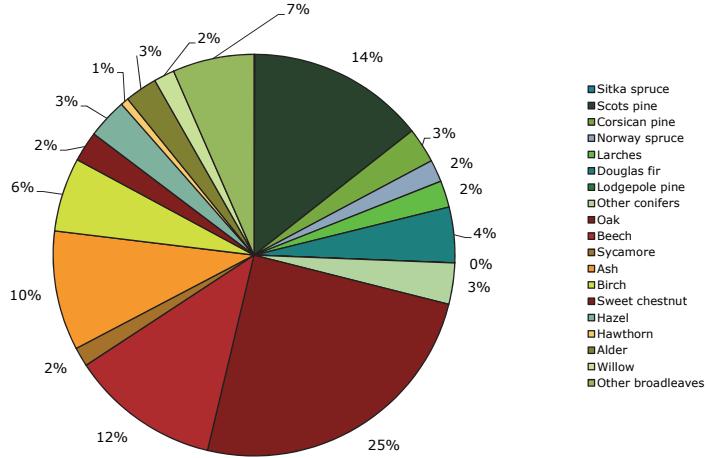


Table 5 Standing volume by principal tree species at 31 March 2012

Principal species	FC	Private sector		Total
	volume (000 m ³ obs)	volume (000 m ³ obs)	SE%	volume (000 m ³ obs)
Enterprise M3 LEP				
All conifers	1,812	4,729	8	6,541
Sitka spruce	13	2	90	15
Scots pine	643	2,584	14	3,227
Corsican pine	451	189	55	639
Norway spruce	95	305	35	401
Larches	50	434	25	484
Douglas fir	368	639	30	1,007
Lodgepole pine	3	0	-	3
Other conifers	189	558	23	747
All broadleaves	2,953	13,042	5	15,995
Oak	1,564	4,021	11	5,584
Beech	1,090	1,623	16	2,713
Sycamore	3	345	23	348
Ash	19	2,149	14	2,168
Birch	54	1,287	12	1,341
Sweet chestnut	28	521	24	549
Hazel	2	726	13	727
Hawthorn	0	144	18	144
Alder	15	572	25	587
Willow	0	374	30	374
Other broadleaves	179	1,299	15	1,478
All species	4,765	17,786	4	22,551

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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	3	2	55	5
11-20 years	38	5	50	44
21-40 years	184	390	24	574
41-60 years	678	2,682	12	3,360
61-80 years	529	1,188	22	1,716
81-100 years	230	314	51	544
100+ years	151	148	78	299
Total	1,812	4,729	8	6,541
All broadleaves				
0-10 years	0	21	42	21
11-20 years	3	278	24	281
21-40 years	21	1,848	8	1,869
41-60 years	176	2,373	9	2,549
61-80 years	285	2,215	11	2,500
81-100 years	196	2,837	12	3,033
100+ years	2,272	3,470	14	5,742
Total	2,953	13,042	5	15,995
All species				
0-10 years	3	23	38	26
11-20 years	41	285	24	326
21-40 years	205	2,251	8	2,456
41-60 years	854	5,059	8	5,913
61-80 years	814	3,417	11	4,231
81-100 years	425	3,170	12	3,596
100+ years	2,423	3,581	14	6,004
Total	4,765	17,786	4	22,551

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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	46	0
7-10 cm	4	9	36	13
10-15 cm	75	59	36	133
15-20 cm	94	253	30	347
20-30 cm	406	1,063	20	1,469
30-40 cm	596	1,085	16	1,681
40-60 cm	504	1,675	19	2,179
60-80 cm	96	402	31	498
80+ cm	37	183	48	220
Total	1,812	4,729	8	6,541
All broadleaves				
0-7 cm	1	34	18	36
7-10 cm	13	416	9	429
10-15 cm	91	930	8	1,021
15-20 cm	198	926	11	1,124
20-30 cm	1,486	2,369	8	3,855
30-40 cm	871	1,857	11	2,728
40-60 cm	239	2,705	10	2,944
60-80 cm	43	2,170	15	2,213
80+ cm	11	1,635	26	1,646
Total	2,953	13,042	5	15,995
All species				
0-7 cm	1	35	18	36
7-10 cm	17	427	9	444
10-15 cm	165	993	8	1,158
15-20 cm	291	1,187	11	1,479
20-30 cm	1,893	3,449	8	5,342
30-40 cm	1,467	2,962	9	4,429
40-60 cm	743	4,314	9	5,057
60-80 cm	139	2,589	13	2,728
80+ cm	48	1,830	24	1,878
Total	4,765	17,786	4	22,551

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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)
Enterprise M3 LEP				
All conifers	1,154	2,972	8	4,126
Sitka spruce	8	1	90	9
Scots pine	442	1,707	14	2,150
Corsican pine	274	109	55	383
Norway spruce	52	164	35	215
Larches	32	260	25	292
Douglas fir	242	399	30	641
Lodgepole pine	2	0	-	2
Other conifers	103	320	23	423
All broadleaves	2,684	11,207	4	13,891
Oak	1,374	3,348	10	4,722
Beech	1,039	1,428	16	2,467
Sycamore	2	282	23	284
Ash	19	1,751	14	1,769
Birch	53	1,186	11	1,239
Sweet chestnut	24	398	23	422
Hazel	2	706	12	707
Hawthorn	0	170	18	170
Alder	12	418	24	430
Willow	0	372	30	372
Other broadleaves	160	1,158	13	1,317
All species	3,839	14,192	3	18,030

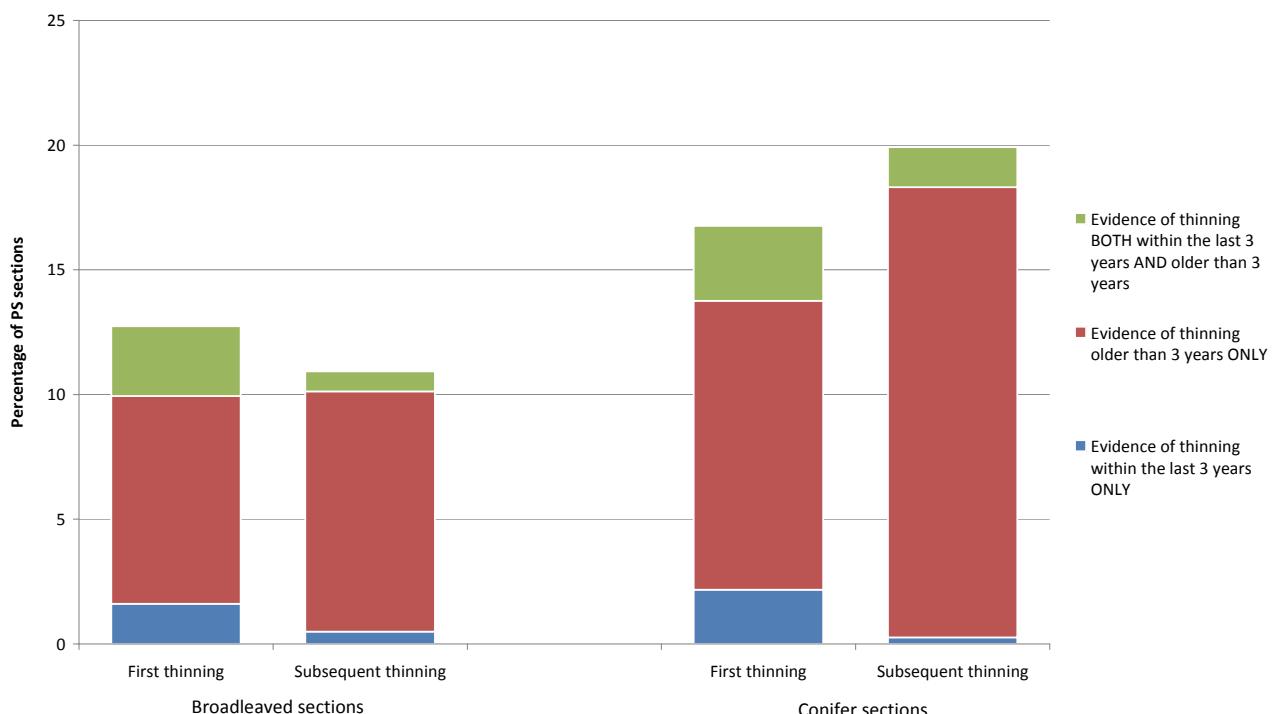
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Table 9 Total carbon stocks in principal tree species at 31 March 2012

Principal species	FC	Private sector		Total
	carbon (000 t)	carbon (000 t)	SE%	carbon (000 t)
Enterprise M3 LEP				
All conifers	489	1,486	8	1,975
Sitka spruce	3	1	90	4
Scots pine	169	854	14	1,022
Corsican pine	129	55	55	183
Norway spruce	24	82	35	106
Larches	14	130	25	144
Douglas fir	109	199	30	308
Lodgepole pine	1	0	-	1
Other conifers	41	160	23	201
All broadleaves	278	5,603	4	5,881
Oak	89	1,674	10	1,762
Beech	151	714	16	865
Sycamore	1	141	23	142
Ash	5	875	14	880
Birch	7	593	11	600
Sweet chestnut	6	199	23	205
Hazel	0	353	12	353
Hawthorn	0	85	18	85
Alder	0	209	24	209
Willow	0	186	30	186
Other broadleaves	20	579	13	599
All species	767	7,096	3	7,863

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 **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 these tables is based on a scenario which assumes felling at age of maximum mean annual increment with moderate wind risk measures for conifers and for hardwoods. For hardwoods however, only those areas that have evidence of thinning are assumed to be managed in future. This is a highly conservative assumption but does better reflect current practice than assuming all stands will be managed. In turn it is assumed that these 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 included that provide for:

- a 10% reduction in the area of conifers on the subsequent rotation
- currently clearfelled land is restocked
- 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 D3** 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.

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

In **Tables 13-15** and **Figures 9-13** 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”.

Figure 14 compares the Private sector hardwood timber availability 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														
	volume (000m ³ obs)	SE%	volume (000m ³ obs)	volume (000m ³ obs)	SE%	volume (000m ³ obs)	volume (000m ³ obs)	SE%	volume (000m ³ obs)	volume (000m ³ obs)	SE%	volume (000m ³ obs)					
All conifers	66	252	17	318		66	201	13	267	50	220	17	270	45	202	18	247
Sitka spruce	0	0	90	0	0	90	0	0	90	0	0	90	0	0	0	90	0
Scots pine	18	147	28	165	16	102	21	119	11	96	25	107	13	107	27	120	
Corsican pine	21	6	48	27	26	6	55	32	22	33	74	56	14	1	77	15	
Norway spruce	4	12	34	16	4	16	34	20	2	9	35	11	4	24	69	28	
Larches	2	18	30	20	2	31	44	33	1	13	29	14	1	21	36	22	
Douglas fir	13	45	40	58	11	18	33	29	8	39	50	48	9	14	36	23	
Lodgepole pine	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	
Other conifers	7	22	27	30	6	27	26	33	4	29	37	33	4	34	46	39	
All broadleaves	24	6	16	31	4	17	11	21	20	29	8	49	4	46	7	50	
Oak	7	0	29	7	1	1	30	1	6	1	29	7	1	1	22	2	
Beech	14	0	50	15	1	1	37	2	12	2	24	14	1	4	29	5	
Sycamore	0	0	65	0	0	0	28	0	0	2	27	2	0	3	23	3	
Ash	1	1	53	2	0	2	32	2	1	4	20	4	0	9	16	9	
Birch	1	0	29	1	0	3	33	4	0	5	24	5	0	6	22	6	
Sweet chestnut	0	0	73	0	0	0	53	0	0	1	48	1	0	1	43	1	
Hazel	0	0	40	0	0	2	25	2	0	4	17	4	0	6	17	6	
Hawthorn	0	1	42	1	0	1	33	1	0	1	30	1	0	1	28	1	
Alder	0	0	50	0	0	1	44	1	0	1	41	1	0	1	41	1	
Willow	0	1	49	1	0	1	39	1	0	1	35	1	0	2	29	2	
Other broadleaves	1	2	26	3	1	5	19	6	1	8	16	9	1	12	15	13	
All species	90	257	17	347	70	218	12	288	70	251	15	321	49	250	15	298	

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

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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			Total	
	FC	Private sector	Total	FC	Private sector	Total		
	volume (000m ³ obs)	SE%	volume (000m ³ obs)	volume (000m ³ obs)	SE%	volume (000m ³ obs)		
All conifers	46	96	22	142	49	103	15	152
Sitka spruce	2	7	16	9	1	8	14	10
Scots pine	10	32	20	43	12	51	29	63
Corsican pine	13	0	44	13	10	0	42	10
Norway spruce	3	22	87	25	3	7	30	10
Larches	2	5	29	7	1	5	29	7
Douglas fir	12	13	25	24	13	13	24	26
Lodgepole pine	0	0	39	0	0	0	39	0
Other conifers	5	15	21	20	8	18	21	26
All broadleaves	20	117	12	137	22	43	11	65
Oak	9	3	21	12	4	3	20	7
Beech	9	5	24	14	14	5	23	20
Sycamore	0	8	33	8	0	1	65	1
Ash	0	39	24	39	0	1	55	2
Birch	0	13	44	13	1	1	18	3
Sweet chestnut	0	1	35	1	1	1	38	1
Hazel	0	17	35	17	0	9	39	9
Hawthorn	0	5	17	5	0	5	17	5
Alder	0	0	-	0	0	0	-	0
Willow	0	3	27	3	0	3	27	3
Other broadleaves	1	21	25	23	2	13	17	15
All species	66	212	12	279	71	145	11	217

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

Forecast period	FC	Private sector		Total
	volume (000m ³ obs)	volume (000m ³ obs)	SE%	volume (000m ³ obs)
All conifers				
2013-16	1,787	4,383	8	6,170
2017-21	1,815	3,987	9	5,802
2022-26	1,854	3,315	10	5,169
2027-31	1,916	2,859	11	4,775
2032-36	1,976	2,189	13	4,165
2037-41	2,005	1,863	14	3,868
2042-46	1,987	1,762	13	3,750
2047-51	1,912	1,901	12	3,813
2052-56	1,905	2,166	11	4,072
2057-61	1,884	2,353	9	4,237
All broadleaves				
2013-16	2,937	13,615	4	16,552
2017-21	3,003	14,738	4	17,741
2022-26	3,049	16,088	4	19,136
2027-31	3,113	17,414	4	20,526
2032-36	3,178	18,639	3	21,817
2037-41	3,140	19,735	3	22,875
2042-46	3,158	20,538	3	23,696
2047-51	3,122	21,154	3	24,276
2052-56	3,153	21,516	3	24,668
2057-61	3,150	22,074	3	25,224
All species				
2013-16	4,724	18,029	4	22,753
2017-21	4,818	18,755	4	23,574
2022-26	4,903	19,432	3	24,335
2027-31	5,029	20,301	3	25,330
2032-36	5,154	20,850	3	26,004
2037-41	5,145	21,617	3	26,762
2042-46	5,145	22,316	3	27,461
2047-51	5,034	23,071	3	28,105
2052-56	5,058	23,698	3	28,756
2057-61	5,034	24,445	3	29,479

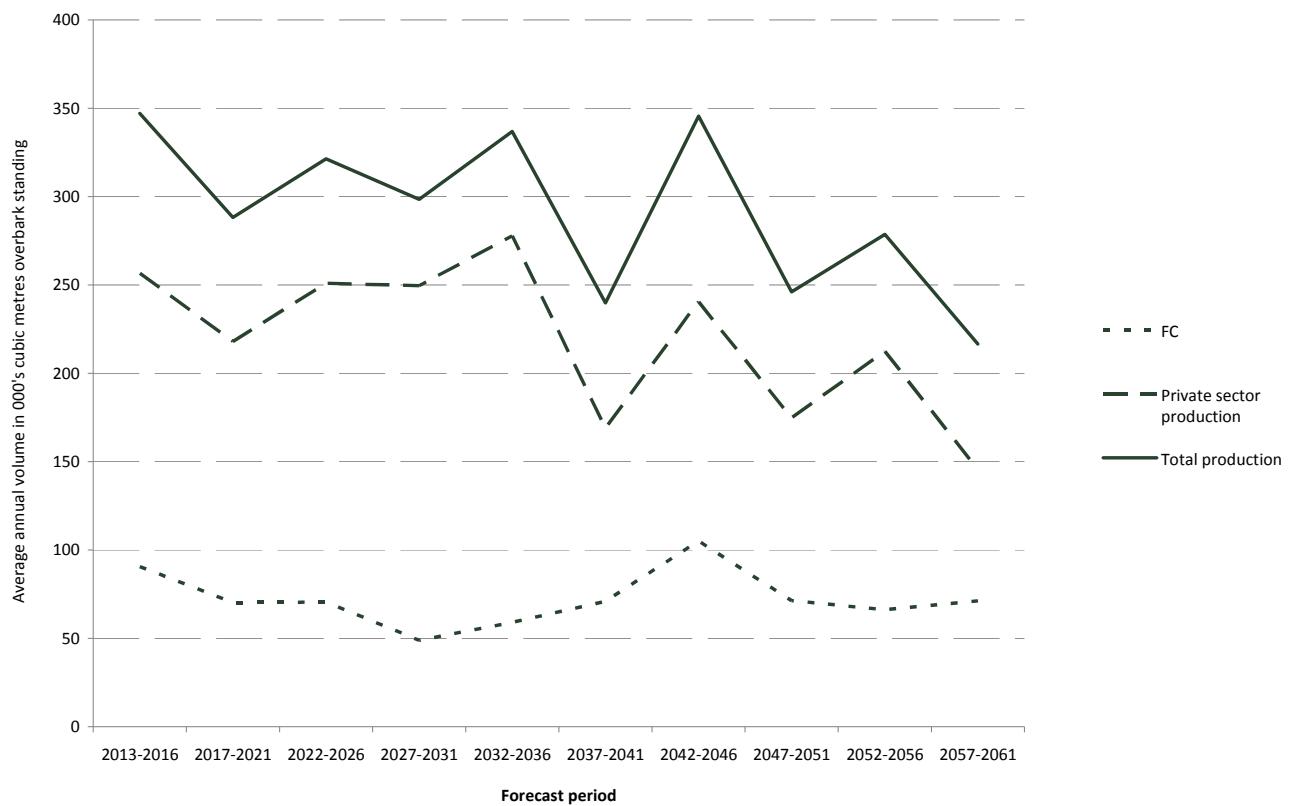
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Table 12 50-year forecast of net increment; annual average volumes within periods

Forecast period	FC	Private sector		Total
	volume (000m ³ obs)	volume (000m ³ obs)	SE%	volume (000m ³ obs)
All conifers				
2013-16	64	133	7	197
2017-21	63	121	8	184
2022-26	58	101	10	158
2027-31	56	94	10	150
2032-36	54	86	11	140
3037-41	52	90	11	142
2042-46	50	101	10	151
2047-51	47	119	9	166
2052-56	46	136	8	182
2057-61	47	147	8	194
All broadleaves				
2013-16	22	238	5	260
2017-21	23	276	4	299
2022-26	22	303	3	325
2027-31	24	304	3	327
2032-36	24	289	3	313
3037-41	23	269	3	292
2042-46	23	244	3	267
2047-51	22	216	3	238
2052-56	23	187	4	209
2057-61	22	171	4	193
All species				
2013-16	86	372	4	458
2017-21	85	398	3	484
2022-26	80	405	3	485
2027-31	79	399	3	478
2032-36	78	376	3	453
3037-41	75	360	3	435
2042-46	73	345	4	419
2047-51	70	335	4	404
2052-56	69	323	4	391
2057-61	69	318	4	387

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



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Figure 5 50-year forecast of average annual softwood production

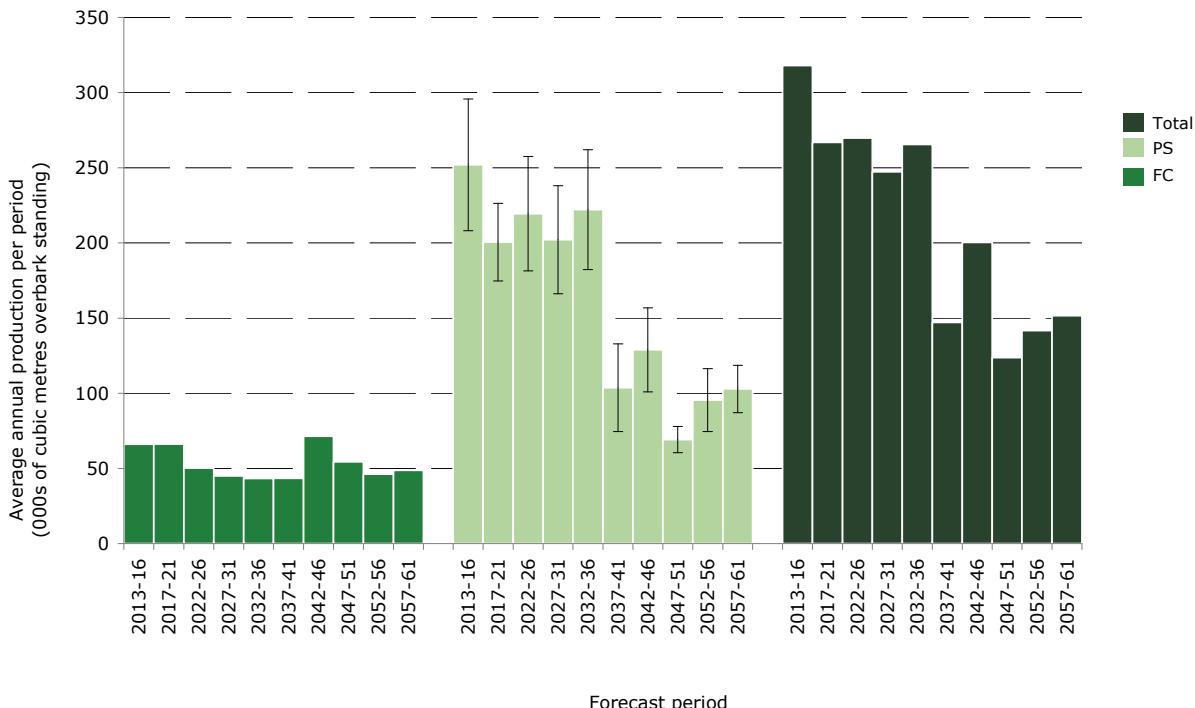
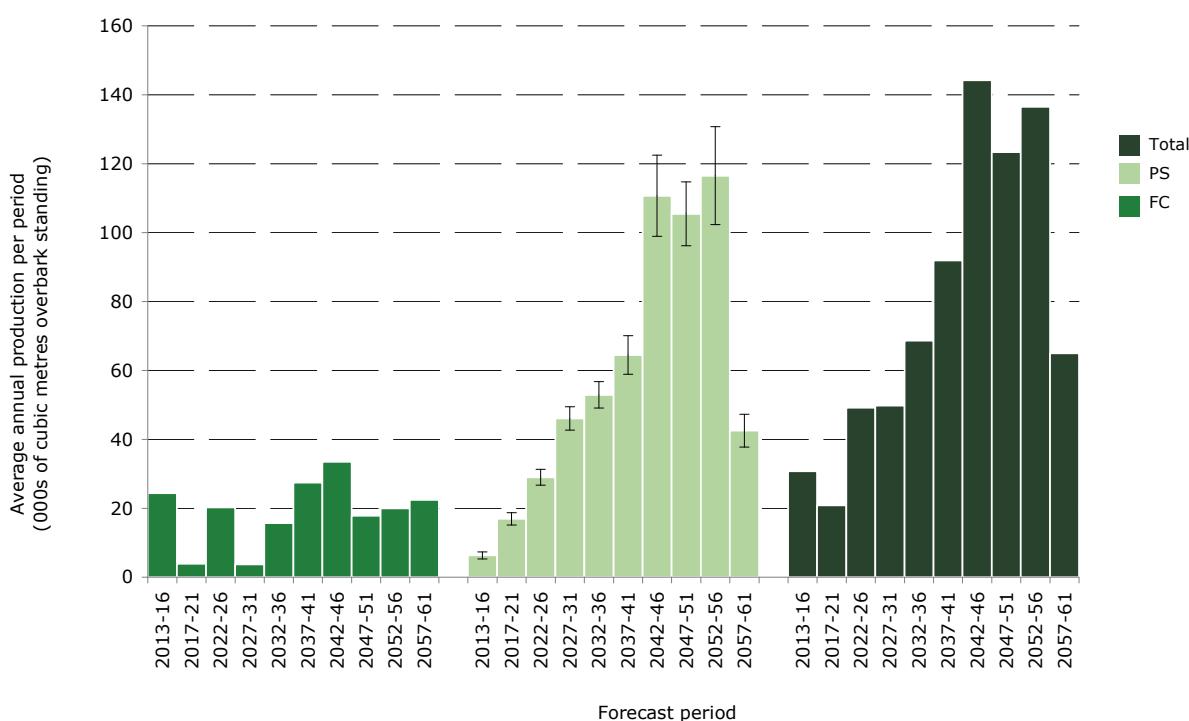


Figure 6 50-year forecast of average annual hardwood production



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

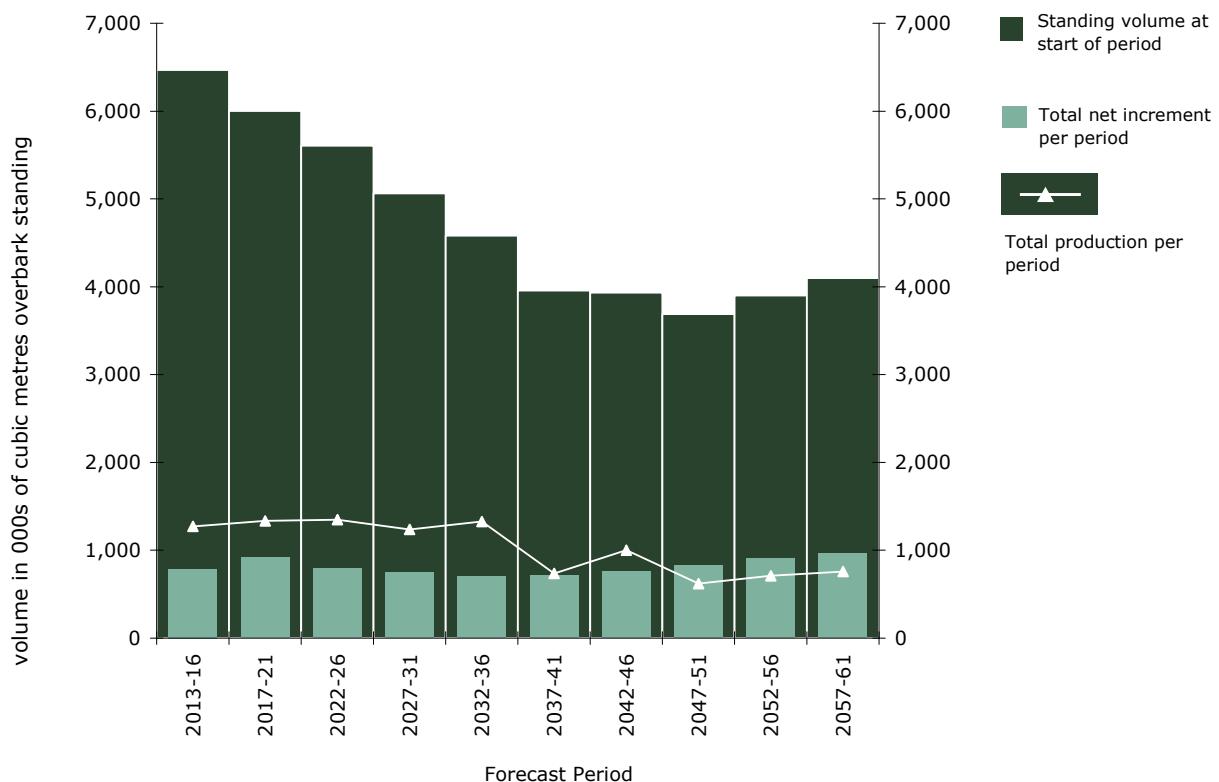
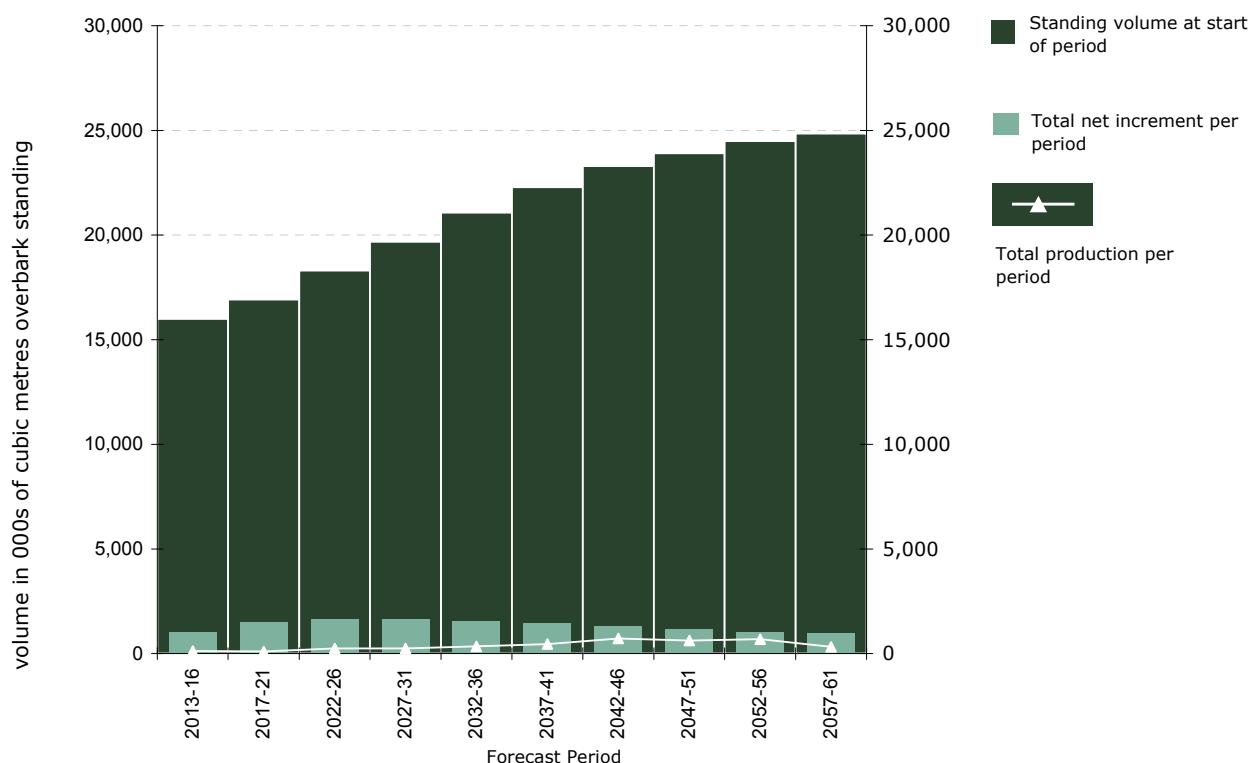


Figure 8 50-year forecast of hardwood standing volume, increment and production



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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 PS hardwoods

Principal species	2013-16			2017-21			2022-26			2027-31							
	FC	Private sector	Total														
	volume (000m ³ obs)	SE%	volume (000m ³ obs)	volume (000m ³ obs)	SE%	volume (000m ³ obs)	volume (000m ³ obs)	SE%	volume (000m ³ obs)	volume (000m ³ obs)	SE%	volume (000m ³ obs)					
All conifers	66	252	17	318		66	201	13	267	50	220	17	270	45	202	18	247
Sitka spruce	0	0	90	0	0	90	0	0	90	0	0	90	0	0	90	0	0
Scots pine	18	147	28	165	16	102	21	119	11	96	25	107	13	107	27	120	
Corsican pine	21	6	48	27	26	6	55	32	22	33	74	56	14	1	77	15	
Norway spruce	4	12	34	16	4	16	34	20	2	9	35	11	4	24	69	28	
Larches	2	18	30	20	2	31	44	33	1	13	29	14	1	21	36	22	
Douglas fir	13	45	40	58	11	18	33	29	8	39	50	48	9	14	36	23	
Lodgepole pine	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	
Other conifers	7	22	27	30	6	27	26	33	4	29	37	33	4	34	46	39	
All broadleaves	24	537	6	562	4	578	6	582	20	305	7	325	4	232	9	236	
Oak	7	13	16	20	1	14	13	15	6	21	14	26	1	64	21	65	
Beech	14	12	20	26	1	11	18	13	12	14	18	26	1	17	17	18	
Sycamore	0	26	26	26	0	32	24	32	0	8	21	8	0	5	20	5	
Ash	1	156	12	157	0	157	12	157	1	57	15	57	0	26	19	26	
Birch	1	115	12	116	0	144	15	144	0	62	14	63	0	34	23	35	
Sweet chestnut	0	15	31	15	0	14	31	14	0	17	51	17	0	19	51	19	
Hazel	0	58	15	58	0	59	15	59	0	55	19	55	0	21	24	21	
Hawthorn	0	4	20	4	0	5	17	5	0	4	17	4	0	5	16	5	
Alder	0	58	25	58	0	58	25	58	0	15	22	15	0	4	32	4	
Willow	0	14	30	14	0	12	29	12	0	10	30	10	0	14	60	14	
Other broadleaves	1	65	18	67	1	71	17	72	1	42	24	43	1	32	15	32	
All species	90	790	7	880	70	782	5	852	70	528	8	598	49	437	9	486	

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

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

Principal species	2052-56				2057-61			
	FC	Private sector		Total	FC	Private sector		Total
	volume (000m ³ obs)	SE%	volume (000m ³ obs)		volume (000m ³ obs)	SE%	volume (000m ³ obs)	
All conifers	46	96	22	142	49	103	15	152
Sitka spruce	2	7	16	9	1	8	14	10
Scots pine	10	32	20	43	12	51	29	63
Corsican pine	13	0	44	13	10	0	42	10
Norway spruce	3	22	87	25	3	7	30	10
Larches	2	5	29	7	1	5	29	7
Douglas fir	12	13	25	24	13	13	24	26
Lodgepole pine	0	0	39	0	0	0	39	0
Other conifers	5	15	21	20	8	18	21	26
All broadleaves	20	303	6	323	22	245	8	268
Oak	9	15	22	24	4	29	40	33
Beech	9	32	38	40	14	28	34	42
Sycamore	0	13	22	13	0	7	26	7
Ash	0	67	16	67	0	30	13	30
Birch	0	51	15	52	1	47	14	48
Sweet chestnut	0	6	47	7	1	11	45	11
Hazel	0	32	19	32	0	25	16	25
Hawthorn	0	9	16	9	0	14	29	14
Alder	0	7	24	7	0	7	24	7
Willow	0	15	37	15	0	9	38	9
Other broadleaves	1	53	13	54	2	37	13	38
All species	66	400	7	466	71	349	7	420

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

Forecast period	FC	Private sector		Total
	volume (000m ³ obs)	volume (000m ³ obs)	SE%	volume (000m ³ obs)
All conifers				
2013-16	1,787	4,383	8	6,170
2017-21	1,815	3,987	9	5,802
2022-26	1,854	3,315	10	5,169
2027-31	1,916	2,859	11	4,775
2032-36	1,976	2,189	13	4,165
2037-41	2,005	1,863	14	3,868
2042-46	1,987	1,762	13	3,750
2047-51	1,912	1,901	12	3,813
2052-56	1,905	2,166	11	4,072
2057-61	1,884	2,353	9	4,237
All broadleaves				
2013-16	2,937	12,213	4	15,150
2017-21	3,003	10,753	4	13,756
2022-26	3,049	9,713	5	12,762
2027-31	3,113	9,848	5	12,961
2032-36	3,178	10,188	5	13,366
2037-41	3,140	10,610	5	13,750
2042-46	3,158	10,987	5	14,145
2047-51	3,122	11,304	5	14,427
2052-56	3,153	11,496	5	14,649
2057-61	3,150	11,683	4	14,833
All species				
2013-16	4,724	16,620	4	21,344
2017-21	4,818	14,751	4	19,569
2022-26	4,903	13,027	3	17,930
2027-31	5,029	12,699	3	17,728
2032-36	5,154	12,359	3	17,513
2037-41	5,145	12,449	3	17,594
2042-46	5,145	12,721	3	17,866
2047-51	5,034	13,176	3	18,210
2052-56	5,058	13,633	3	18,691
2057-61	5,034	14,006	3	19,040

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

Forecast period	FC	Private sector		Total
	volume (000m ³ obs)	volume (000m ³ obs)	SE%	volume (000m ³ obs)
All conifers				
2013-16	64	133	7	197
2017-21	63	121	8	184
2022-26	58	101	10	158
2027-31	56	94	10	150
2032-36	54	86	11	140
3037-41	52	90	11	142
2042-46	50	101	10	151
2047-51	47	119	9	166
2052-56	46	136	8	182
2057-61	47	147	8	194
All broadleaves				
2013-16	22	229	5	251
2017-21	23	237	4	260
2022-26	22	242	3	265
2027-31	24	268	3	291
2032-36	24	303	3	327
3037-41	23	340	3	363
2042-46	23	355	3	378
2047-51	22	353	3	375
2052-56	23	325	3	347
2057-61	22	300	3	322
All species				
2013-16	86	362	4	448
2017-21	85	359	3	445
2022-26	80	344	3	424
2027-31	79	363	3	442
2032-36	78	390	3	468
3037-41	75	431	3	506
2042-46	73	457	3	530
2047-51	70	472	3	542
2052-56	69	461	3	530
2057-61	69	448	3	517

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Figure 9 Overview of 50-year forecast of average annual timber availability – unrestricted biological potential



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Figure 10 50-year forecast comparison of average annual softwood production – unrestricted biological potential

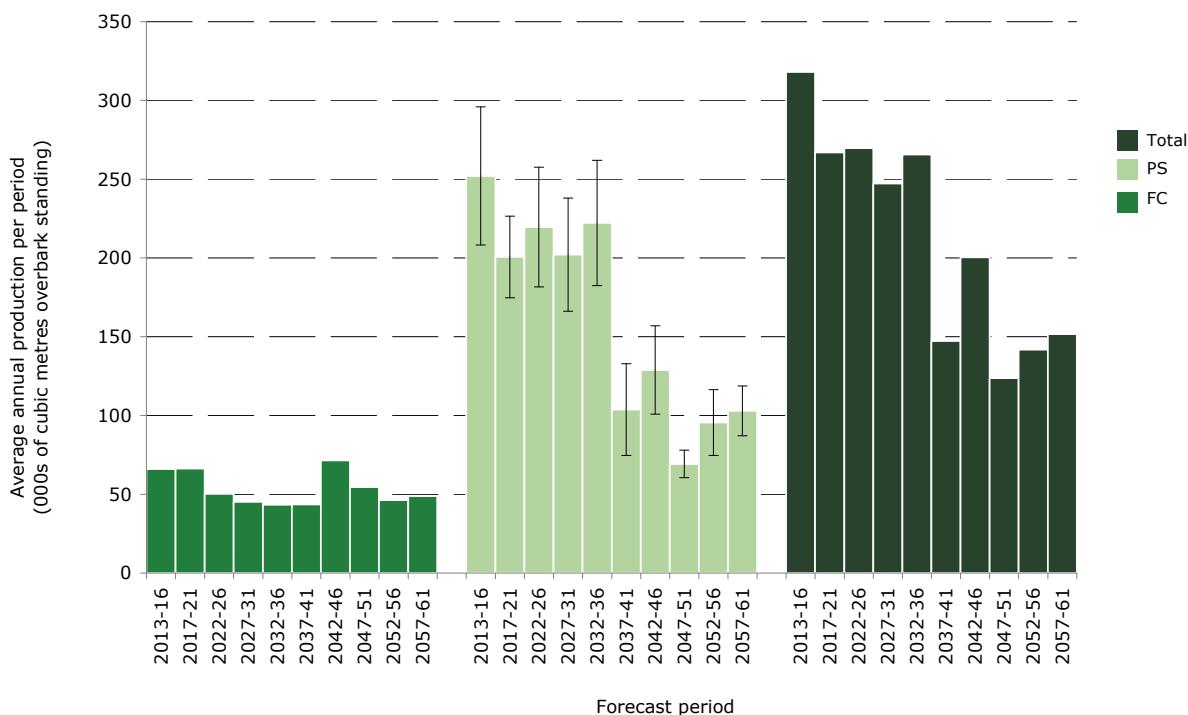
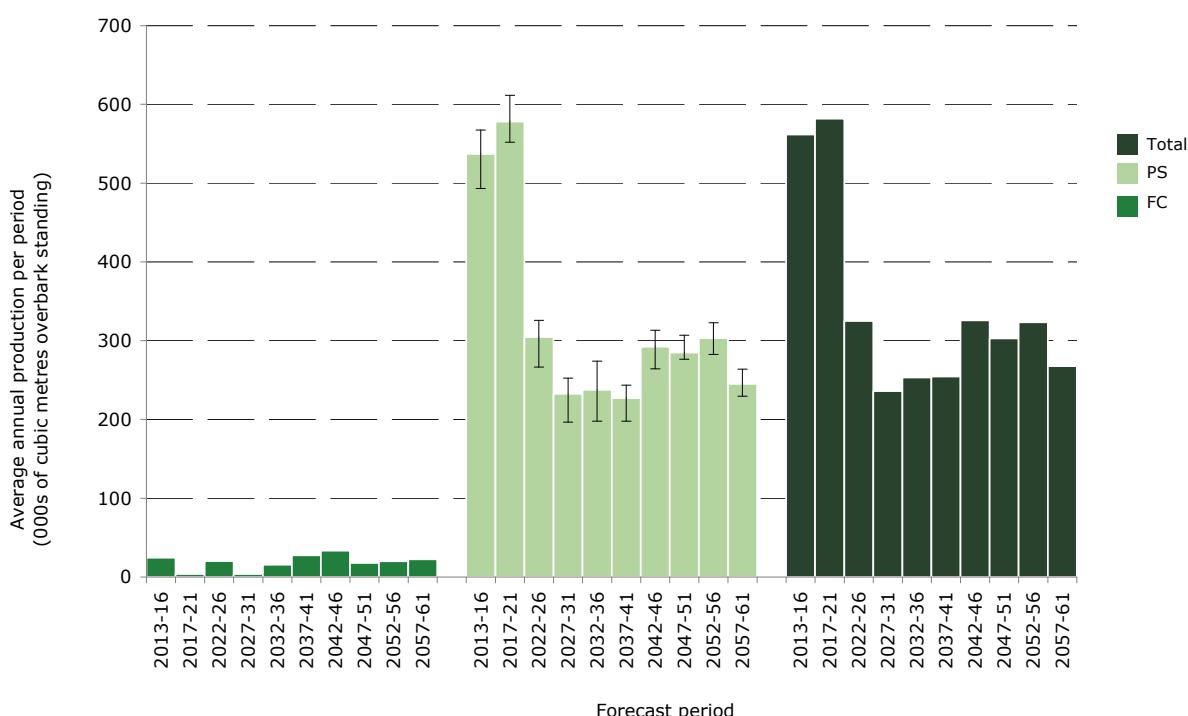


Figure 11 50-year forecast comparison of average annual hardwood production – unrestricted biological potential



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Figure 12 50-year summary of softwood standing volume, increment and production – unrestricted biological potential

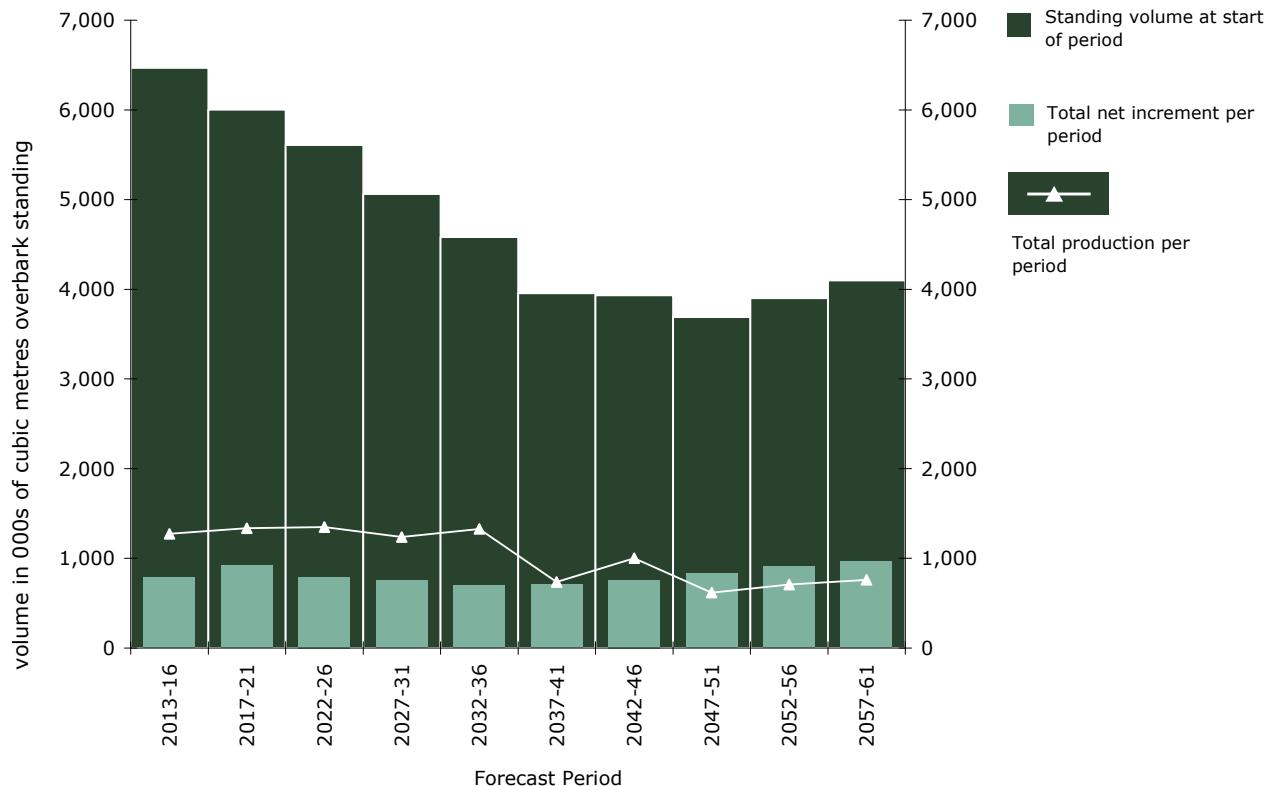
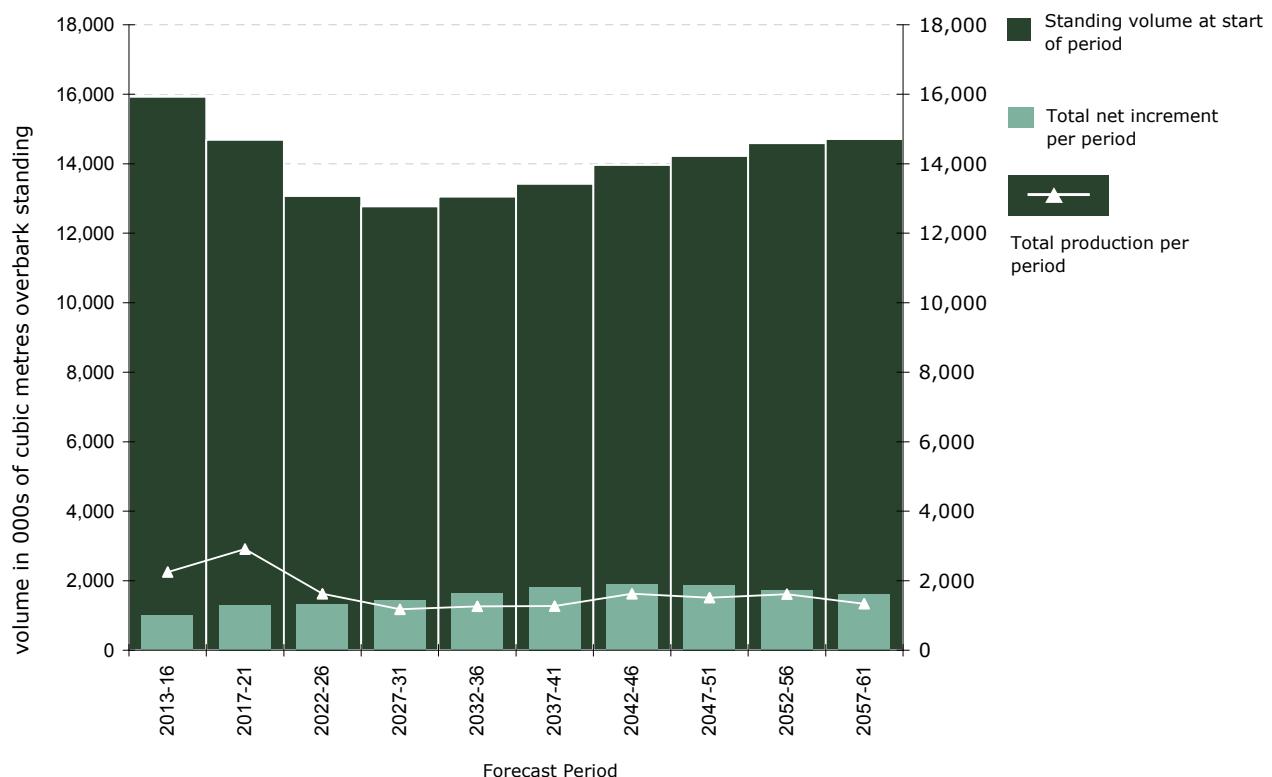


Figure 13 50-year summary of hardwood standing volume, increment and production – unrestricted biological potential



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Comparison of hardwood production between harvesting scenarios

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

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