

NFI provisional estimates for woodland within 25 miles of Pontrilas

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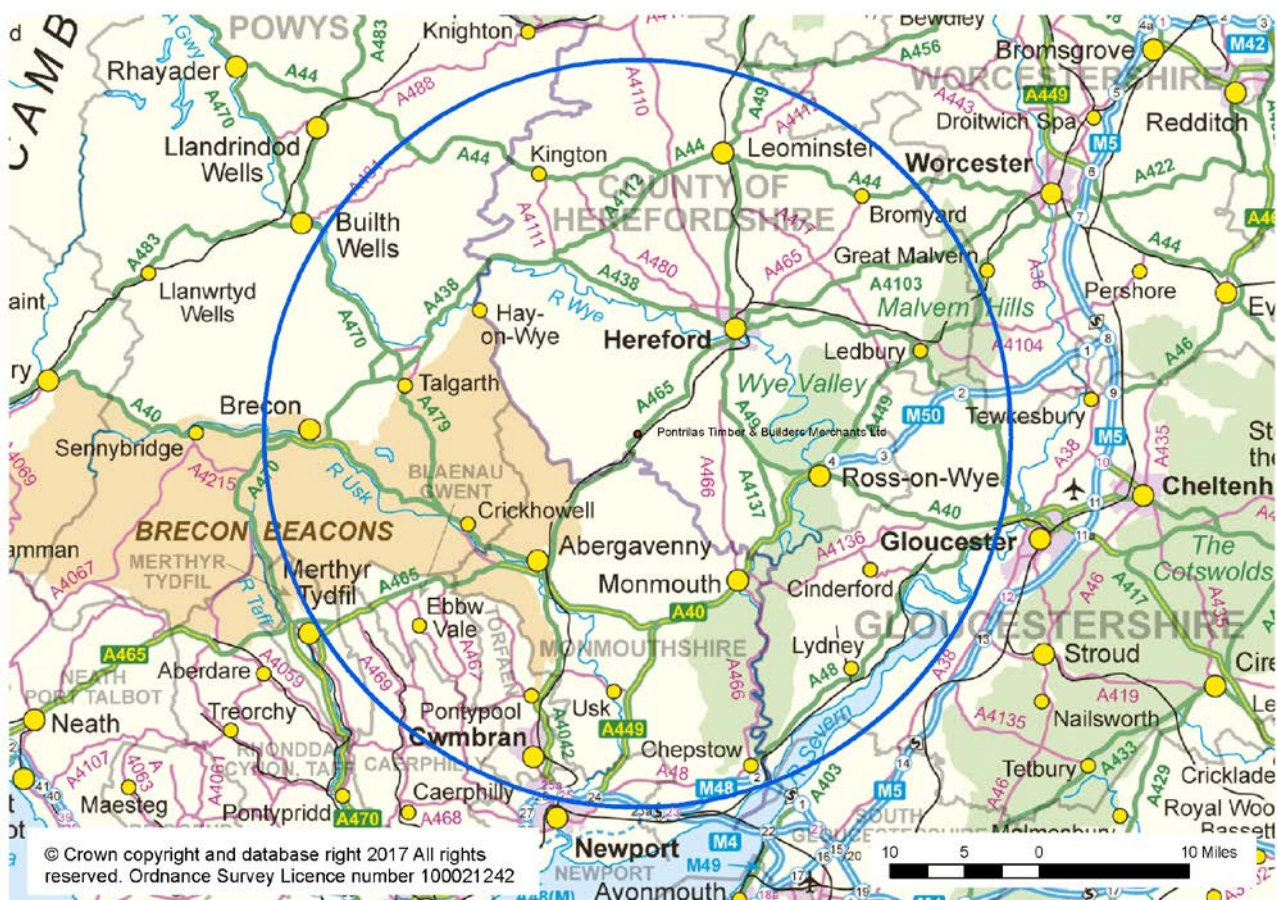
Website: www.forestry.gov.uk/inventory
www.forestry.gov.uk/forecast

Summary

This report provides a detailed picture of stocked area and the standing volume of timber for woodland within a 25 mile radius of Pontrilas. 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* and *50-year forecast of hardwood timber availability*. NFI reports are published at www.forestry.gov.uk/inventory.

In addition, the report provides forecasts of timber availability, for softwoods and hardwoods arising from the stocked area and standing volume. Forecasts are based on the 'headline' harvesting scenario described in the NFI 50-year forecast reports. Forecasting for broadleaved woodland in the Private sector 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 in coniferous trees in Britain* (2012) and the *NFI preliminary estimates of quantities of broadleaved species in British Woodlands with special focus on ash* (2014) 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* (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. 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 stocked areas and standing volumes at 31 March 2012, and 25-year forecasts of softwood and hardwood availability under the 'headline' harvesting scenario and modified to assume that all hardwoods are harvested in woodland within 25 miles of Pontrilas. 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) and the Natural Resources Wales (NRW) estates are derived from their sub-compartment databases, while those for the private sector (i.e. non-FC in England or non-NRW in Wales) 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.

The Private sector forecast in this report represents the potential availability of timber under the assumption of harvesting to maximise timber production. The actual levels of timber that will be produced will vary from the results reported here as production

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depends on the harvesting choices made by forest and woodland owners who are unlikely to consistently choose to maximise production over the forecast period.

Results are provided for stocked area at 31 March 2012 (**Figures 1a-1b** and **Tables 1-3**), felled area (**Table 4**), standing volume at 31 March 2012 (**Figures 2a-2b** and **Tables 5-7**) and the 25-year forecast (**Figures 3 - 6** and **Tables 8-9**).

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.

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) will 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.

In this report, for the 25 mile radius, for some of the variables reported, the categories have been pooled into broader categories to produce figures with more acceptable standard errors.

Stocked area at 31 March 2012

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

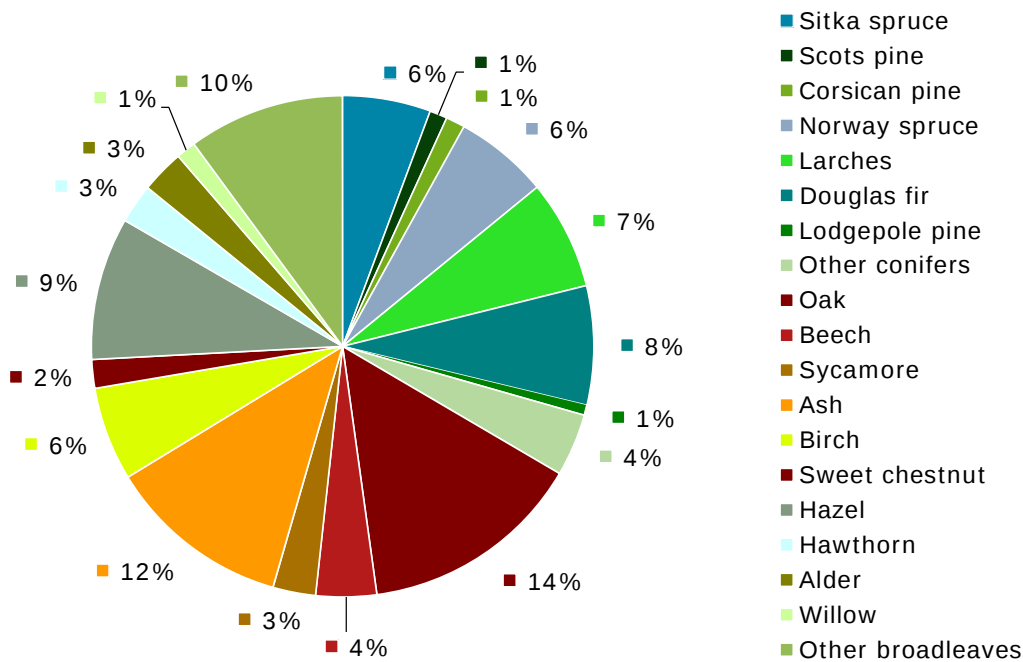
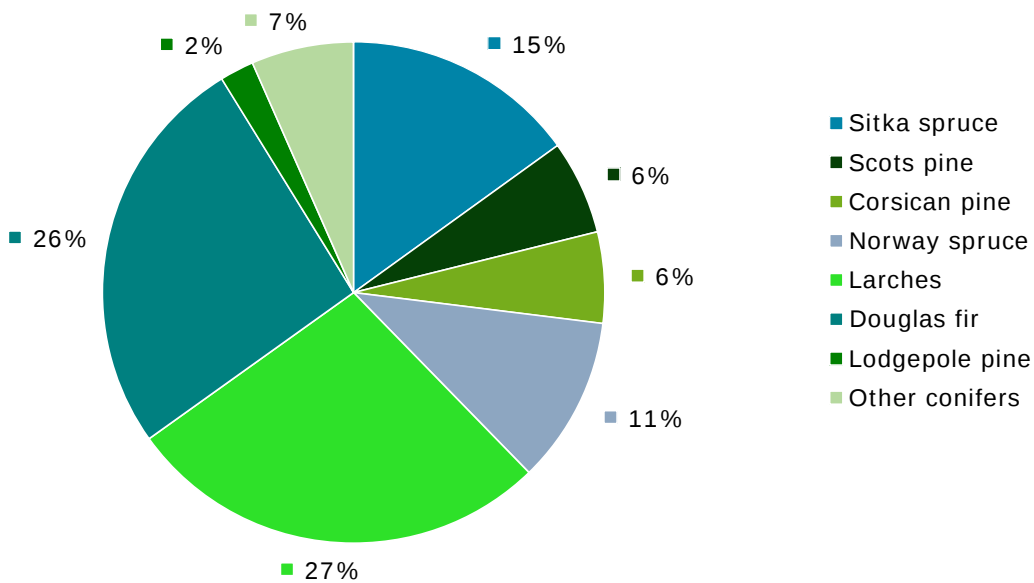


Figure 1b Principal conifer tree species composition by stocked area at 31 March 2012



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

Principal species	FC/NRW	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
Conifers				
Sitka spruce	1.7	2.0	28	3.7
Scots pine	0.7	0.0	54	0.7
Corsican pine	0.7	0.1	64	0.8
Norway spruce	1.2	2.7	23	3.9
Larches	3.1	1.5	22	4.6
Douglas fir	3.0	2.0	20	5.0
Lodgepole pine	0.2	0.2	78	0.4
Other conifers	0.7	1.9	36	2.6
All conifers	11.3	10.5	9	21.8
Broadleaves				
Oak	3.5	5.8	15	9.3
Beech	1.6	0.9	25	2.5
Sycamore	0.1	1.7	41	1.8
Ash	0.6	7.1	10	7.7
Birch	0.7	3.3	25	3.9
Sweet chestnut	0.4	0.8	37	1.2
Hazel	0.1	5.9	14	6.0
Hawthorn	0.0	1.6	24	1.6
Alder	0.1	1.7	22	1.8
Willow	0.0	0.8	28	0.8
Other broadleaves	2.2	4.4	12	6.6
All broadleaves	9.3	34.0	3	43.4
All species				
All species	20.6	44.5	2	65.2

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Table 2 Stocked area by age class at 31 March 2012

Age class	FC/NRW	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
All conifers				
0–10 years	1.0	0.1	66	1.0
11–40 years	4.4	3.7	21	8.1
41–60 years	4.8	5.3	17	10.1
61–100 years	1.1	1.5	43	2.6
100+ years	0.0	0.0	-	0.0
Total	11.3	10.5	9	21.8
All broadleaves				
0–10 years	0.7	4.0	17	4.7
11–40 years	1.7	13.2	9	14.8
41–60 years	1.7	6.2	18	7.9
61–100 years	2.9	7.4	14	10.3
100+ years	2.4	3.3	23	5.7
Total	9.3	34.0	3	43.4
All species				
0–10 years	1.6	4.1	17	5.7
11–40 years	6.1	16.8	8	22.9
41–60 years	6.5	11.5	12	18.0
61–100 years	4.0	8.9	13	12.8
100+ years	2.5	3.3	23	5.8
Total	20.6	44.5	2	65.2

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

Mean stand DBH	FC/NRW	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
All conifers				
0–7 cm	1.1	0.1	61	1.2
7–15 cm	1.8	1.8	30	3.6
15–30 cm	4.0	3.0	24	7.0
30–60 cm	4.1	5.4	17	9.5
60+ cm	0.2	0.3	63	0.5
Total	11.3	10.5	9	21.8
All broadleaves				
0–7 cm	1.0	4.3	14	5.3
7–15 cm	2.2	11.7	10	13.9
15–30 cm	3.3	8.2	11	11.5
30–60 cm	2.7	7.5	13	10.1
60+ cm	0.2	2.3	26	2.5
Total	9.3	34.0	3	43.4
All species				
0–7 cm	2.1	4.4	14	6.5
7–15 cm	4.0	13.5	9	17.5
15–30 cm	7.3	11.2	10	18.5
30–60 cm	6.8	12.8	10	19.6
60+ cm	0.5	2.6	24	3.0
Total	20.6	44.5	2	65.2

Table 4 Felled area at 31 March 2012

Clearfelled area	FC/NRW	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
	0.6	0.4	59	1.0

Standing volume at 31 March 2012

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

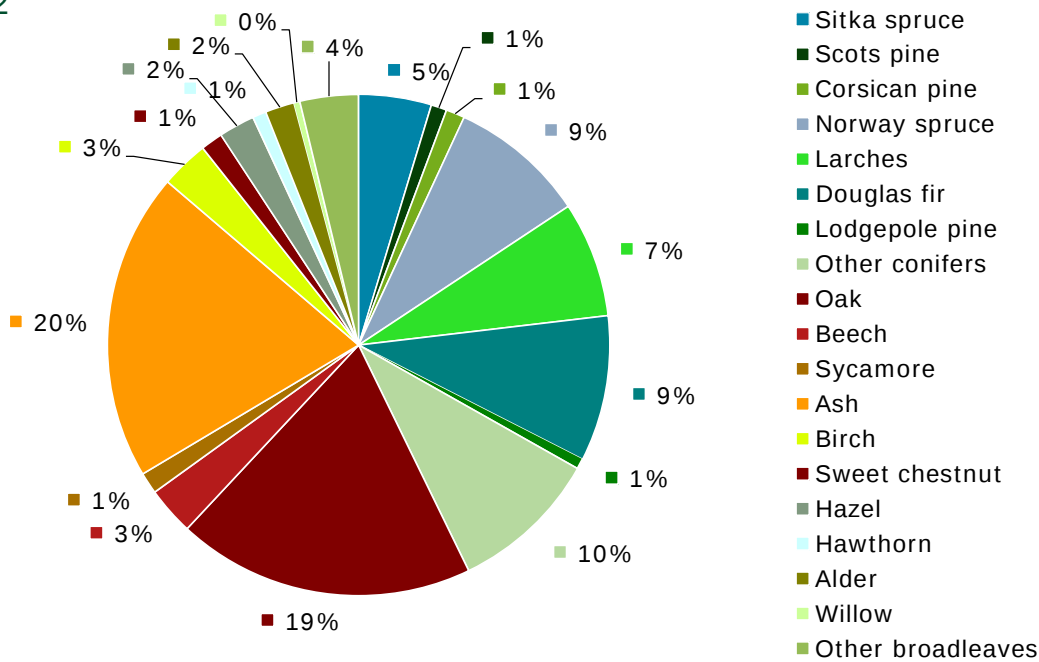
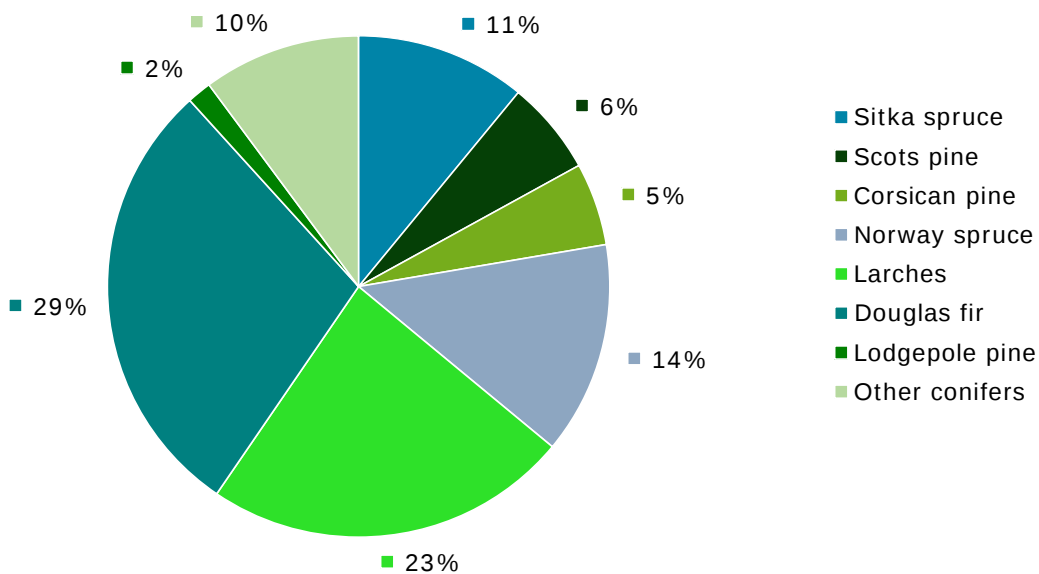


Figure 2b Principal conifer tree species composition by standing volume at 31 March 2012



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

Principal species	FC/NRW	Private sector		Total
	volume (000 m ³ obs)	volume (000 m ³ obs)	SE%	volume (000 m ³ obs)
Conifers				
Sitka spruce	329	560	31	889
Scots pine	182	11	58	192
Corsican pine	160	69	59	229
Norway spruce	412	1,261	26	1,673
Larches	707	708	29	1,416
Douglas fir	865	921	24	1,786
Lodgepole pine	47	81	78	128
Other conifers	305	1,524	48	1,828
All conifers	3,007	5,134	16	8,141
Broadleaves				
Oak	603	3,037	21	3,640
Beech	360	230	24	590
Sycamore	8	254	40	263
Ash	97	3,681	32	3,779
Birch	63	524	24	587
Sweet chestnut	45	225	34	270
Hazel	11	430	23	441
Hawthorn	0	168	39	168
Alder	17	338	21	354
Willow	0	75	30	75
Other broadleaves	240	474	19	714
All broadleaves	1,444	9,437	14	10,881
All species				
All species	4,451	14,571	10	19,022

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Table 6 Standing volume by age class at 31 March 2012

Age class	FC/NRW	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	0	60	1
11–40 years	760	979	23	1,739
41–60 years	1,808	2,653	18	4,461
61–100 years	422	1,502	49	1,924
100+ years	16	0	-	16
Total	3,007	5,134	16	8,141
All broadleaves				
0–10 years	0	13	56	13
11–40 years	83	1,564	12	1,647
41–60 years	265	1,397	17	1,663
61–100 years	558	4,190	28	4,748
100+ years	538	2,273	31	2,810
Total	1,444	9,437	14	10,881
All species				
0–10 years	1	13	56	14
11–40 years	844	2,543	12	3,386
41–60 years	2,073	4,051	13	6,124
61–100 years	979	5,692	24	6,672
100+ years	554	2,273	31	2,826
Total	4,451	14,571	10	19,022

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

Mean stand DBH	FC/NRW	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	1	124	1
7–15 cm	156	193	47	349
15–30 cm	1,264	1,115	23	2,379
30–60 cm	1,472	3,604	23	5,076
60+ cm	114	222	47	336
Total	3,007	5,134	16	8,141
All broadleaves				
0–7 cm	4	21	27	25
7–15 cm	208	938	14	1,146
15–30 cm	648	1,655	13	2,303
30–60 cm	541	3,132	11	3,673
60+ cm	43	3,691	36	3,734
Total	1,444	9,437	14	10,881
All species				
0–7 cm	4	21	26	26
7–15 cm	365	1,131	14	1,495
15–30 cm	1,913	2,770	12	4,683
30–60 cm	2,013	6,736	13	8,749
60+ cm	157	3,913	34	4,070
Total	4,451	14,571	10	19,022

25-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, Wales and GB context.

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In **Tables 8 and 9** and **Figures 3-6** the estimates for the Forestry Commission and Natural Resources Wales are based on harvesting regimes derived from their felling and thinning plans as of 31 March 2012.

For the Private sector, information for **Tables 8 and 9** and **Figures 3-6** is based on a scenario which assumes felling at age of maximum mean annual increment with moderate wind risk measures for conifers and broadleaves.

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
- a change in the composition of conifer species on 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, NRW and Private sector forecasts.

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

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25-year forecast of timber availability

Table 8 25-year forecast of timber availability by time period and principal species; average annual volumes within period

Principal species	2017–21			2022–26			2027–31					
	FC/NRW	Private sector	Total	FC/NRW	Private sector	Total	FC/NRW	Private sector	Total			
	volume (000 m³ obs)	SE%	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)			
All conifers	136	266	21	402	120	232	24	352	119	130	21	249
Sitka spruce	21	39	84	60	15	48	44	63	18	4	74	21
Scots pine	6	0	69	7	4	0	69	4	3	0	69	3
Corsican pine	9	2	48	12	7	9	95	16	7	0	70	7
Norway spruce	21	77	48	98	20	75	62	95	16	29	36	45
Larches	27	34	31	60	23	25	30	48	21	21	31	42
Douglas fir	35	36	25	70	36	38	33	74	41	20	31	61
Lodgepole pine	2	1	78	4	2	1	78	3	1	1	78	2
Other conifers	14	77	45	91	13	36	51	50	14	55	47	69
All broadleaves	33	389	9	422	9	205	10	215	32	141	15	173
Oak	14	13	29	26	3	31	50	34	14	16	24	30
Beech	10	3	28	13	3	7	41	10	9	3	28	12
Sycamore	0	22	38	23	0	12	42	12	0	15	64	16
Ash	2	171	13	173	1	63	17	64	2	20	20	22
Birch	1	53	26	54	0	17	20	17	1	22	56	23
Sweet chestnut	2	7	35	9	1	10	52	11	2	24	51	26
Hazel	0	50	37	50	0	16	26	16	0	9	33	9
Hawthorn	0	5	29	5	0	5	30	5	0	4	33	4
Alder	1	35	24	36	0	16	27	16	0	7	38	8
Willow	0	2	37	2	0	2	30	2	0	3	25	3
Other broadleaves	3	26	30	29	1	27	27	28	3	18	29	22
All species	169	654	10	823	129	437	13	567	151	272	12	423

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Table 8 (cont'd) 25-year forecast of timber availability by time period and principal species; average annual volumes within period

Principal species	2032–36				2037–41			
	FC/NRW	Private sector		Total	FC/NRW	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	120	324	22	444	114	168	28	282
Sitka spruce	32	119	44	152	16	31	88	47
Scots pine	3	0	69	3	4	1	37	5
Corsican pine	4	0	70	4	2	0	71	3
Norway spruce	13	105	44	118	13	65	58	78
Larches	21	21	31	42	26	12	31	38
Douglas fir	40	21	29	61	41	15	22	56
Lodgepole pine	0	1	78	1	1	20	78	21
Other conifers	8	55	39	63	10	25	48	35
All broadleaves	9	142	11	151	31	153	25	184
Oak	3	22	33	25	12	54	70	66
Beech	1	3	27	4	9	7	53	16
Sycamore	0	8	32	8	0	7	34	8
Ash	1	27	18	28	2	29	13	31
Birch	1	17	29	17	2	14	30	15
Sweet chestnut	1	4	53	5	2	4	52	6
Hazel	0	21	35	21	0	10	25	10
Hawthorn	0	4	33	4	0	5	28	5
Alder	0	17	39	17	0	5	24	6
Willow	0	3	25	3	0	3	25	3
Other broadleaves	2	16	21	18	4	15	16	19
All species	129	465	16	594	145	321	19	466

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Table 9 25-year forecast of timber availability by period, top-diameter class and conifer or broadleaves

Top diameter class (cm)	2017–21			2022–26			2027–31			2032–36			2037–41		
	FC/NRW	Private sector		FC/NRW	Private sector		FC/NRW	Private sector		FC/NRW	Private sector		FC/NRW	Private sector	
	(000 m ³)	(000 m ³)	SE%	(000 m ³)	(000 m ³)	SE%	(000 m ³)	(000 m ³)	SE%	(000 m ³)	(000 m ³)	SE%	(000 m ³)	(000 m ³)	SE%
All conifers															
7–14	22	18	19	18	15	20	16	8	28	20	21	32	18	16	27
14–16	9	7	25	7	7	17	7	4	23	8	12	35	7	6	43
16–18	10	8	26	7	8	19	7	4	21	9	14	37	7	7	53
18–24	31	42	32	25	38	21	25	17	22	28	65	31	23	31	45
24–34	35	83	23	32	74	24	30	39	24	28	100	24	26	44	31
34–44	15	48	25	15	42	32	15	26	24	13	50	25	13	27	38
44–54	7	26	28	7	24	38	8	15	28	7	28	28	7	16	41
54+	6	33	38	8	24	47	10	18	36	9	33	34	13	21	40
Total	136	266	21	120	232	24	119	130	21	120	324	22	114	168	28

Top diameter class (cm)	2017–21			2022–26			2027–31			2032–36			2037–41		
	FC/NRW	Private sector		FC/NRW	Private sector		FC/NRW	Private sector		FC/NRW	Private sector		FC/NRW	Private sector	
	(000 m ³)	(000 m ³)	SE%	(000 m ³)	(000 m ³)	SE%	(000 m ³)	(000 m ³)	SE%	(000 m ³)	(000 m ³)	SE%	(000 m ³)	(000 m ³)	SE%
All broadleaves															
7–14	8	84	17	3	49	9	6	47	8	5	57	8	8	61	7
14–16	2	20	15	1	10	9	2	9	13	1	11	16	2	9	15
16–18	2	19	12	1	10	10	2	8	12	1	10	18	2	9	23
18–24	7	60	9	2	35	12	7	22	16	1	25	18	6	28	41
24–34	8	93	10	2	56	16	9	32	26	1	21	20	8	32	57
34–44	3	54	11	1	26	17	4	14	32	0	9	28	3	8	41
44–54	1	29	12	0	11	19	1	5	42	0	5	32	1	2	32
54+	1	30	18	0	8	19	1	5	55	0	4	40	1	4	44
Total	33	389	9	9	205	10	32	141	15	9	142	11	31	153	25

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Figure 3 Overview of 25-year forecast of average annual softwood availability

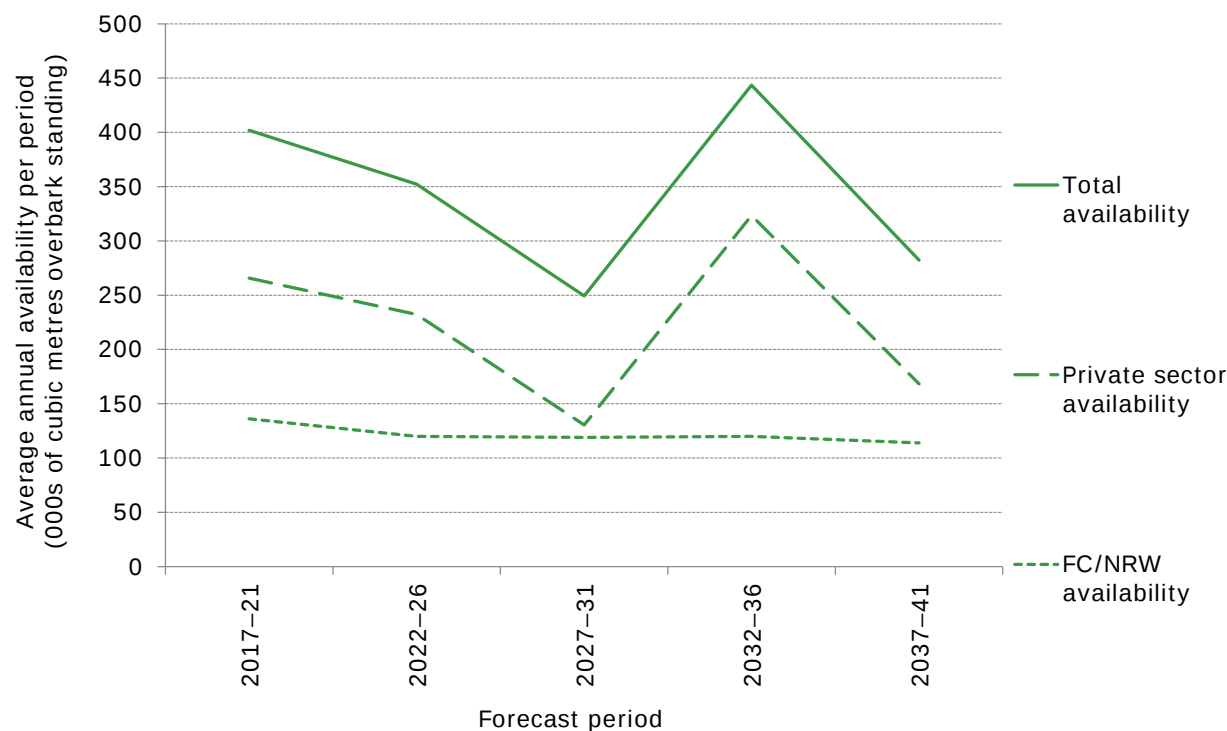
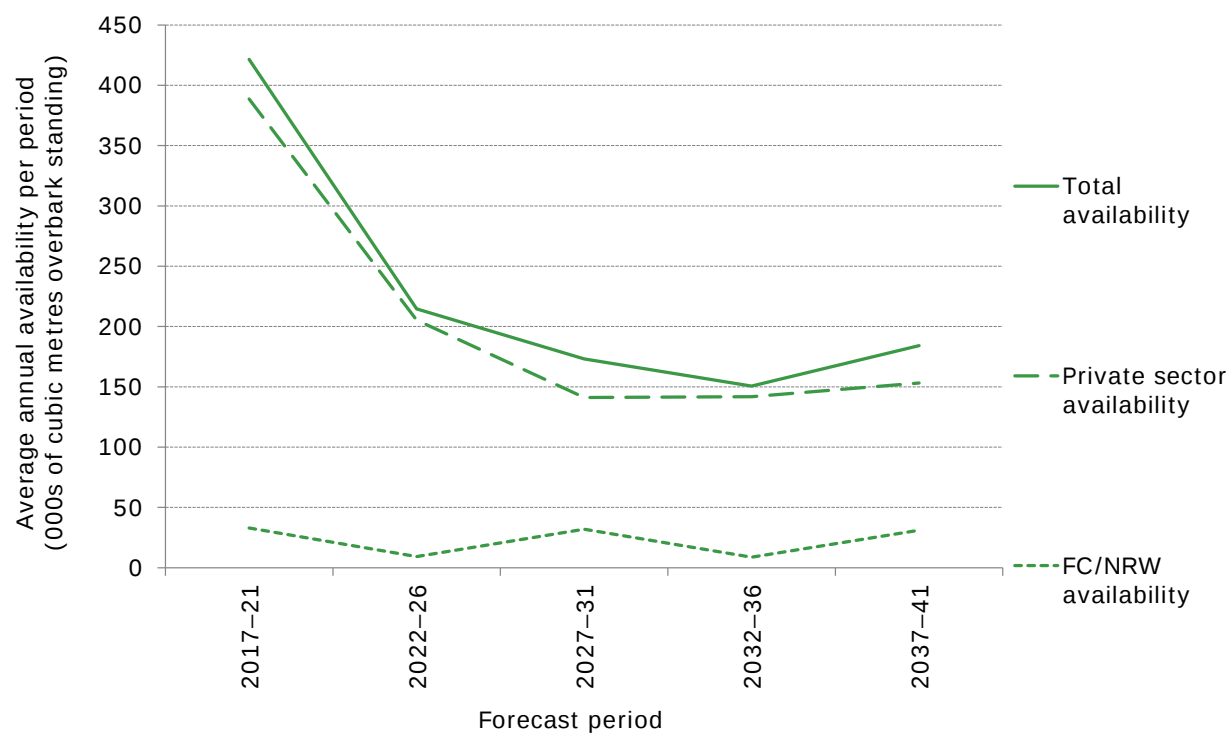


Figure 4 Overview of 25-year forecast of average annual hardwood availability



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Figure 5 25-year forecast of average annual softwood availability

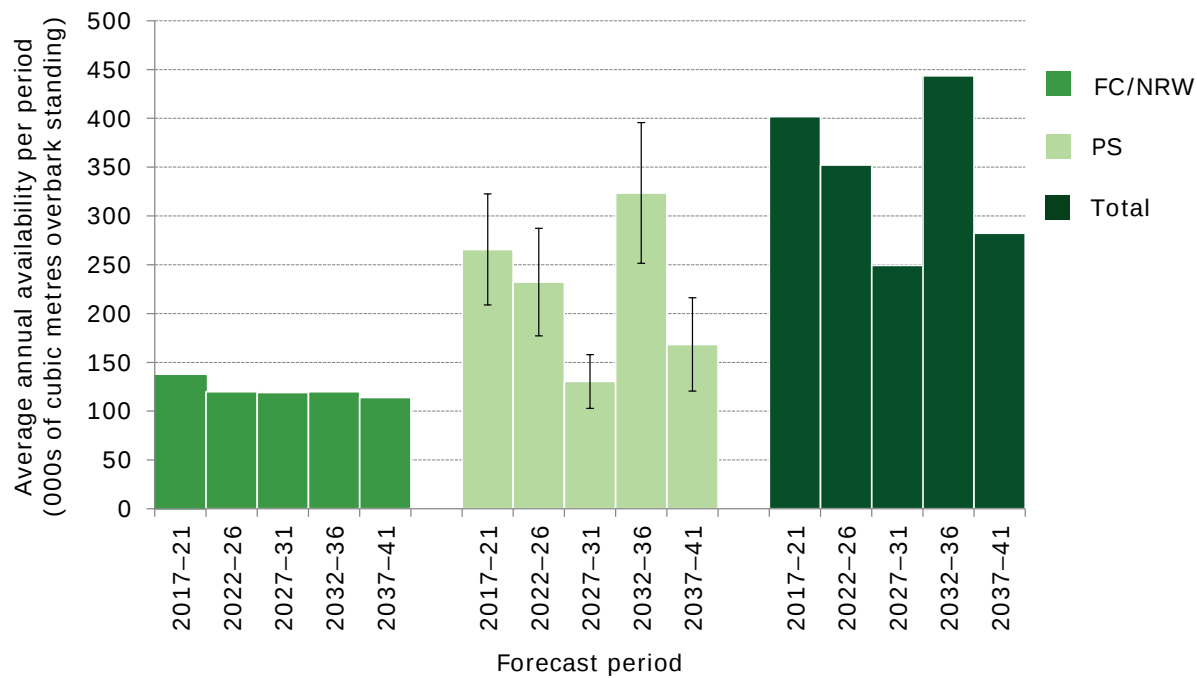
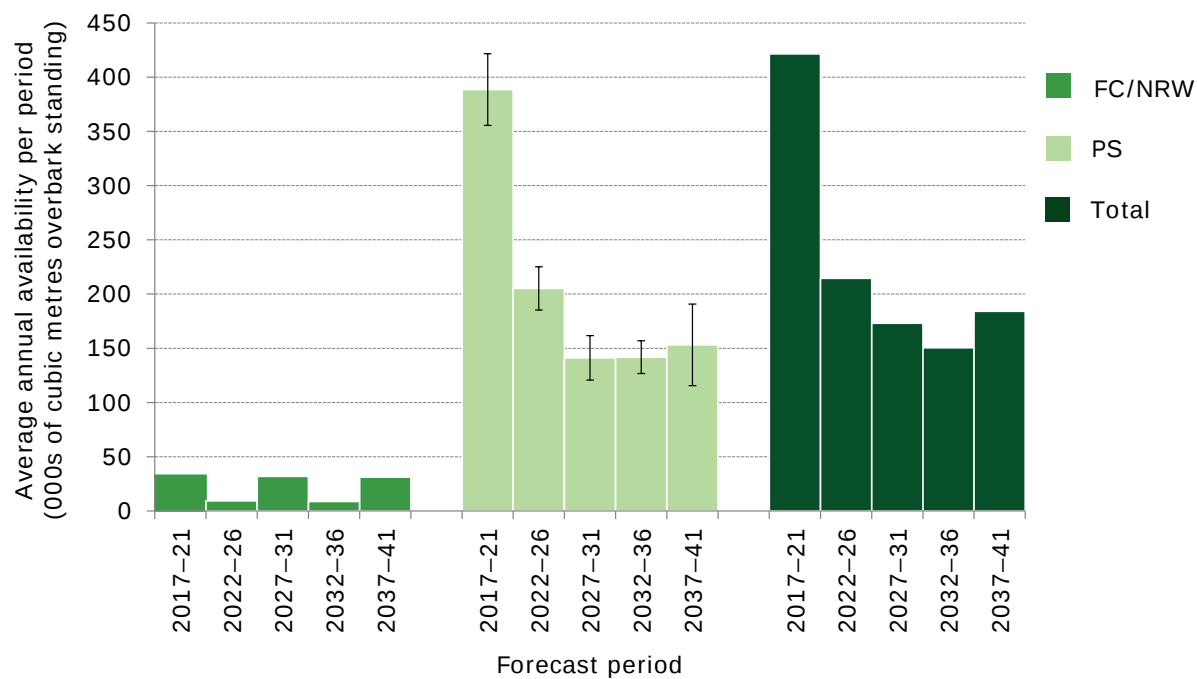


Figure 6 25-year forecast of average annual hardwood availability



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

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