

# National Forest Inventory statistics for East Midlands

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

## East Midlands

### Map 1 Map of England and the aligned areas

The map shows shortened names for some of the aligned areas. The short names and their full equivalents are to be found in **Appendix A**.



## Key findings for East Midlands

East Midlands (EMD) has a land area of 693,900 hectares making it 10th out of the 14 aligned areas by land area. With 56,483 ha of woodland, EMD ranks 11th out of 14 in terms of woodland area (8% woodland cover). Some 15% of the woodland is under Forestry Commission ownership or management.

Scots pine is the most commonly occurring of the conifer species when assessed by stocked area (41%) and standing volume (45%). Corsican pine is the most commonly occurring species when assessed by number of trees (40%).

Oak is the most commonly occurring of the broadleaved species whether assessed by stocked area (20%), standing volume (28%) or number of trees (13%).

Some 22% of standing coniferous volume is beyond the age of maximum mean annual increment (or above terminal height of 25m in higher windthrow risk areas). The harvesting assumptions applied in the forecast assume that a proportion of this volume will be felled over a period of time from the start of the forecast. Some 13% of conifer and mixed broadleaf/conifer sections (PS only) show evidence of thinning.

Overall 56% of standing broadleaved volume is beyond the age of maximum mean annual increment (or above terminal height of 25m in higher windthrow risk areas). Some 19% of broadleaved sections (PS only) show evidence of thinning.

Across EMD:

- Ash is estimated as 10% of total stocked area (13% of broadleaved stocked area), 14% of standing volume (22% of broadleaved standing volume) and 9% of the number of trees (12% of the number of broadleaved trees).
- Oak is estimated as 15% of total stocked area (20% of broadleaved stocked area), 18% of standing volume (28% of broadleaved standing volume) and 11% of the number of trees (13% of the number of broadleaved trees).
- Sweet chestnut is estimated as 2% of total stocked area (3% of broadleaved stocked area), 3% of standing volume (5% of broadleaved standing volume) and 2% of the number of trees (2% of the number of broadleaved trees).
- Larch is estimated as 3% of total stocked area (13% of conifer stocked area), 5% of standing volume (14% of conifer standing volume) and 2% of the number of trees (9% of the number of conifer trees).

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## Introduction

National forest inventories are carried out by the Forestry Commission to provide accurate, up-to-date information about the size, distribution, composition and condition of the forests and woodlands in Great Britain (GB). This information is essential for developing and monitoring policies and guidance to support sustainable forest management.

The current National Forest Inventory (NFI), which began in 2010, is a multipurpose operation that has involved the production of a forest and woodland map for Britain and a continuing programme of field surveys (the first cycle of field surveys completed in late 2015) of the mapped forest and woodland areas.

Information and data collected by the National Forest Inventory is being used for a number of purposes, including estimates and 25-year forecasts of forest metrics such as:

- standing volume
- timber availability
- tree growth and increment
- carbon stocks
- biomass

Estimates of aspects of the biodiversity and social value of forests and woodlands will also be provided by the NFI.

This report brings together key woodland information for England previously published across the range of NFI thematic reports. Within the NFI programme, results are presented by the NUTS 1 boundaries<sup>\*</sup>. This report heads a series of reports where the woodland statistics are broken down by aligned area. The data sources and methodology covering the suite of reports is to found in the report for England and the aligned areas.

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<sup>\*</sup> See <http://ec.europa.eu/eurostat/web/nuts/overview> for a description of the Nomenclature of territorial units for statistics (NUTS) classification system.

## How the estimates are prepared

The methodology, data sources and assumptions are described in the England report. It is important that the estimates presented in this report are interpreted in the light of the information provided in the England report.

The methodology introduces the sub-compartment database and the National Forest Inventory. It describes the metrics presented in this report and how they are derived. The methodology covers how the FC and private sector (PS) forecasts are prepared and includes commentary on the assumptions made in order to calculate the forecast estimates. Finally the methodology covers the tree health metrics.

## Note on the estimates

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 attached to Private sector estimates are expressed in relative terms (%) to the right of the relevant estimate and as  $\pm$  error bars in the figures. Percentages in the pie charts may also not sum to 100 due to rounding.

Due to biological and sampling constraints, for example where there is a very small population of a species within a particular region, the estimates may have a high associated standard error. Since this indicates a high level of uncertainty around those estimates then caution should be used when drawing any conclusions from these values as the estimate may not be representative of the real population. Such estimates have been 'lowlighted' in the tables.

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Suitability for harvesting .....	54
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# Part 2 - what our woodlands are like today

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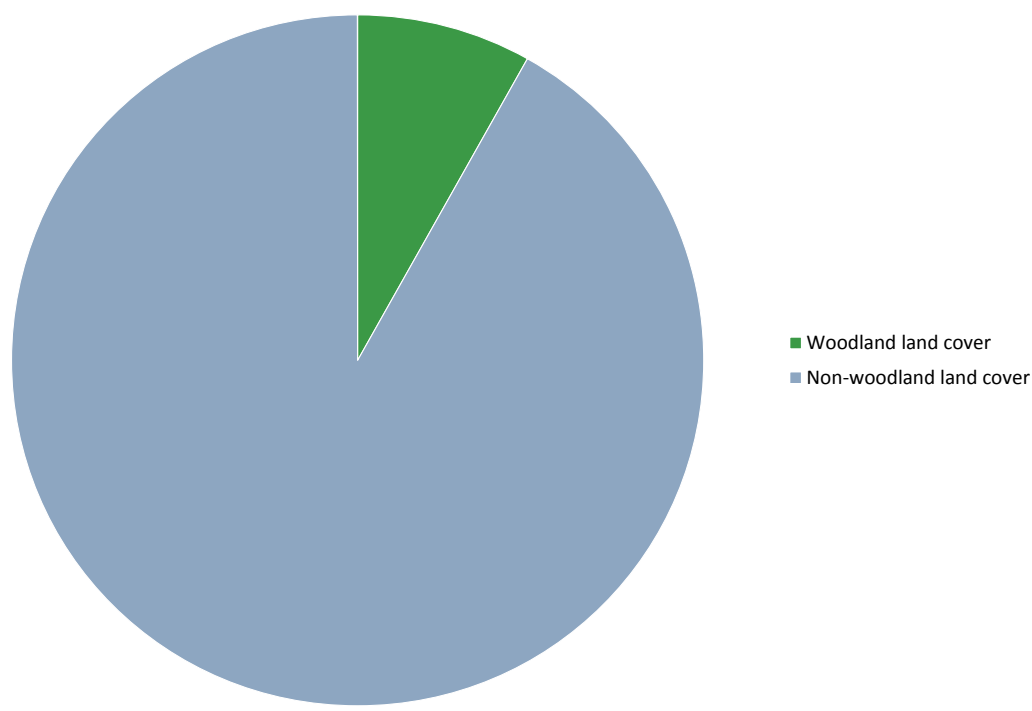
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# Woodland area statistics

## Woodland area by woodland type

**Figure 1** Woodland area by woodland type



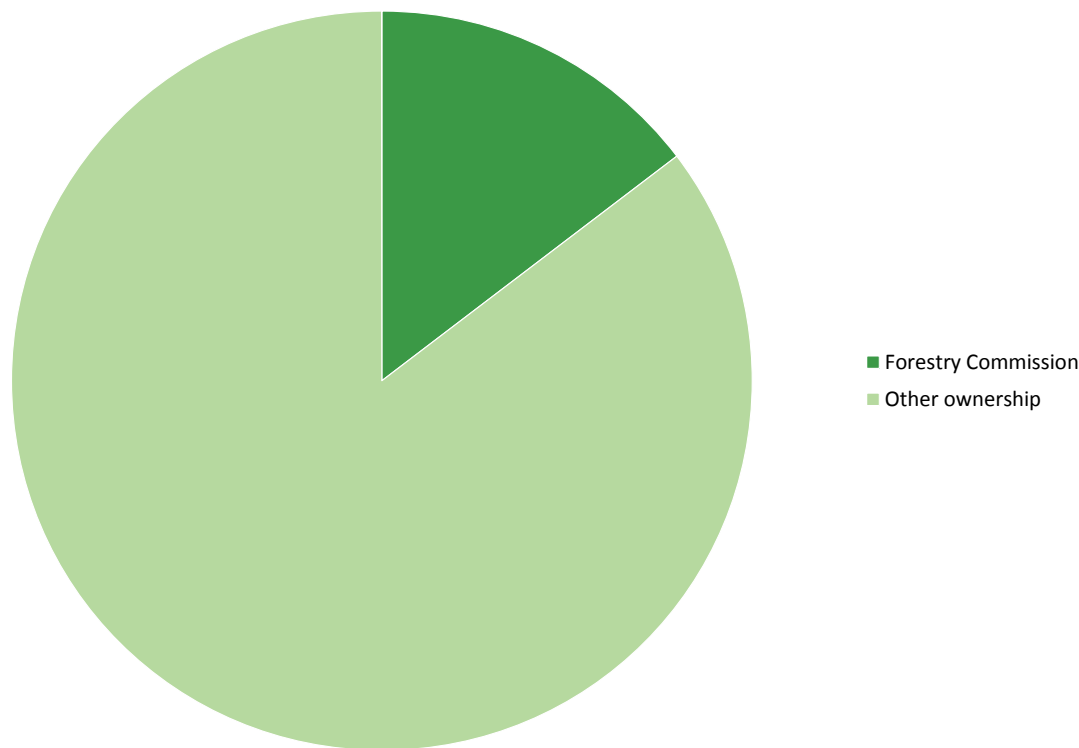
**Table 1** Woodland area by woodland type

Woodland Type	Area (ha)	%
East Midlands		
Woodland	54,184	96%
Assumed woodland	2,188	4%
Low density	110	0%
Total mapped woodland	56,483	100%
Non-woodland area	637,417	
Land area	693,900	
Woodland land cover		8%
Non-woodland land cover		92%

# Part 2 - what our woodlands are like today

## Woodland area by ownership

**Figure 2** Woodland area by ownership



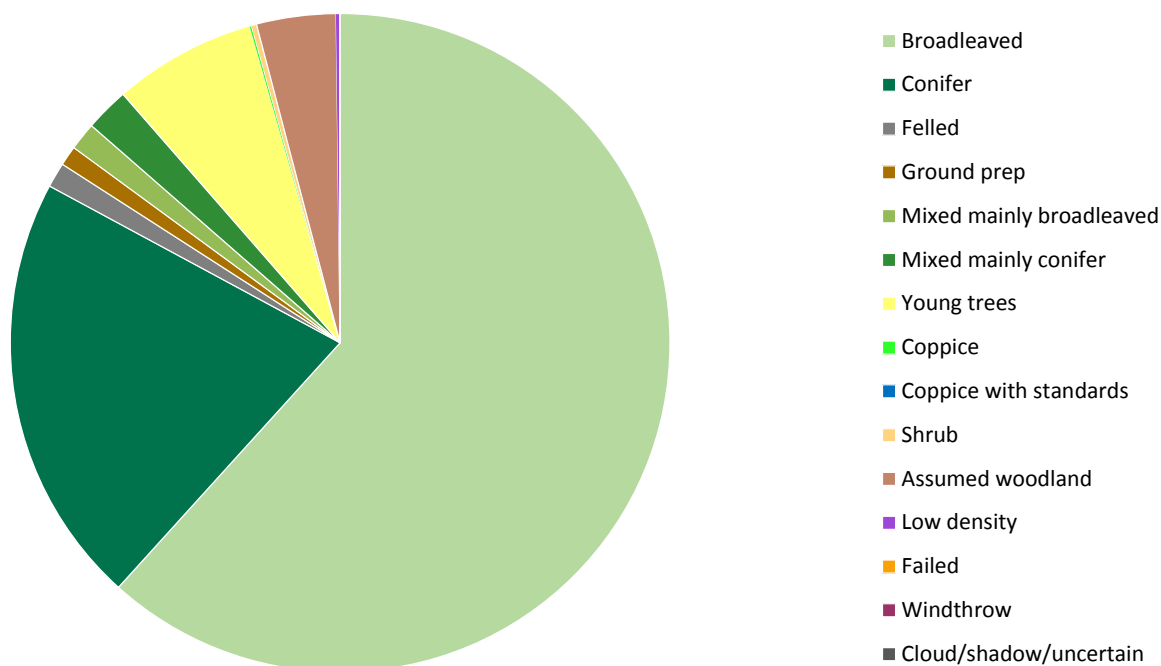
**Table 2** Woodland area by ownership

Ownership	Area (ha)	% Woodland
East Midlands		
Forestry Commission	8,259	15%
Other ownership	48,225	85%
Total area of woodland	56,483	100%

## Part 2 - what our woodlands are like today

### Woodland area by interpreted forest type

**Figure 3** Woodland area by interpreted forest type



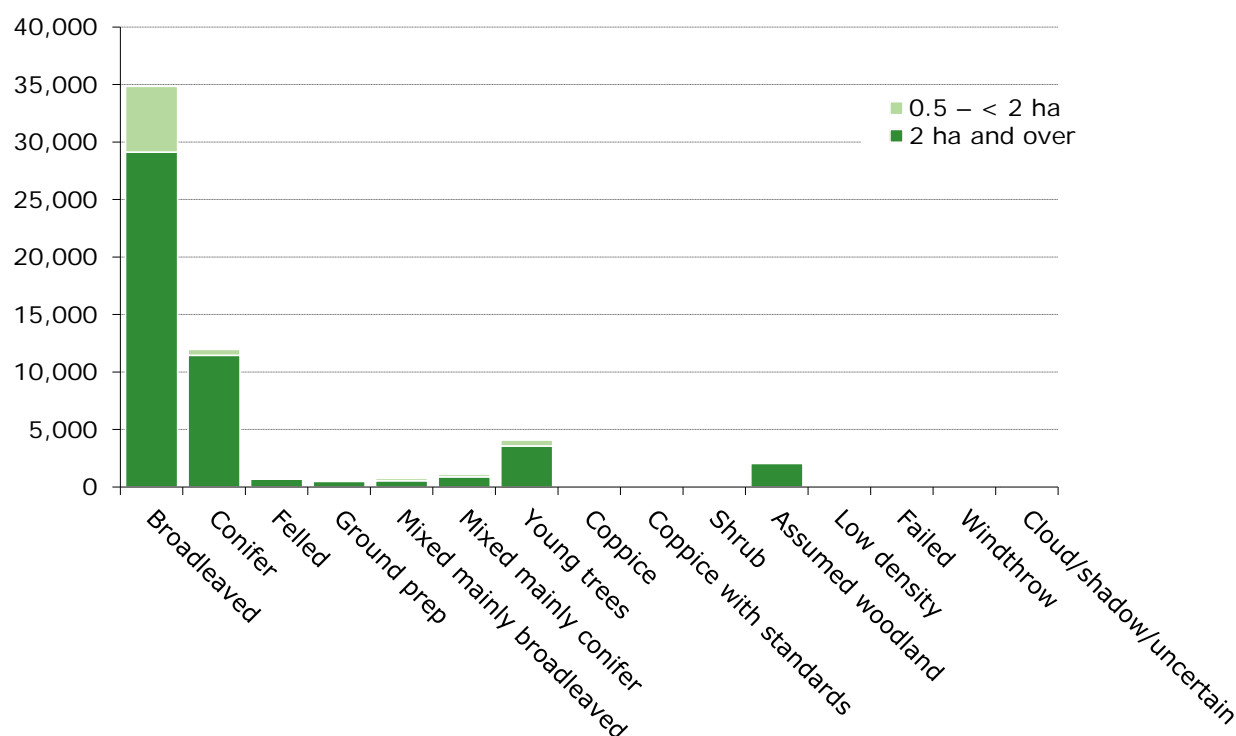
**Table 3** Woodland area by interpreted forest type

Forest type	Total area (ha)	% of total area
East Midlands		
Broadleaved	34,849	62%
Conifer	11,964	21%
Felled	694	1%
Ground prep	547	1%
Mixed mainly broadleaved	768	1%
Mixed mainly conifer	1,218	2%
Young trees	3,942	7%
Coppice	59	0%
Coppice with standards	0	0%
Shrub	140	0%
Assumed woodland	2,188	4%
Low density	110	0%
Failed	0	0%
Windthrow	0	0%
Cloud/shadow/uncertain	4	0%
TOTALS	56,483	100%

## Part 2 - what our woodlands are like today

### Woodland area by interpreted forest type and woodland size

**Figure 4** Woodland area by interpreted forest type and woodland size



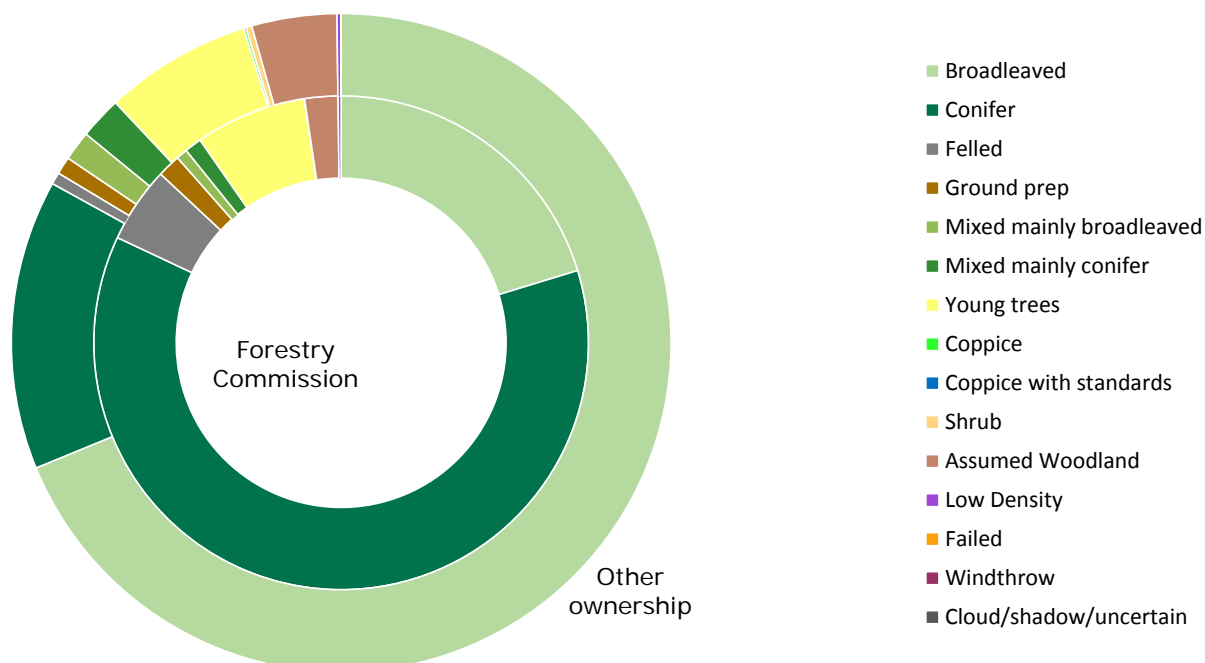
**Table 4** Woodland area by interpreted woodland type and woodland size

Forest type	Woodland size		Total area (ha)
	2 ha and over	0.5 – < 2 ha	
East Midlands			
Broadleaved	29,124	5,725	34,849
Conifer	11,457	507	11,964
Felled	680	14	694
Ground prep	496	43	540
Mixed mainly broadleaved	539	221	761
Mixed mainly conifer	886	210	1,096
Young trees	3,572	500	4,072
Coppice	57	2	59
Coppice with standards	0	0	0
Shrub	74	70	144
Assumed woodland	2,060	126	2,186
Low density	100	15	115
Failed	0	0	0
Windthrow	0	0	0
Cloud/shadow/uncertain	4	0	4
TOTALS	49,050	7,433	56,483

## Part 2 - what our woodlands are like today

### Woodland area by interpreted forest type and ownership

**Figure 5** Woodland area by interpreted forest type and ownership



**Table 5** Woodland area by interpreted forest type and ownership

Forest type	Forestry Commission		Other ownership	
	Area (ha)	% of total area	Area (ha)	% of total area
East Midlands				
Broadleaved	1,674	20%	33,175	69%
Conifer	5,098	62%	6,866	14%
Felled	411	5%	283	1%
Ground prep	125	2%	414	1%
Mixed mainly broadleaved	61	1%	701	1%
Mixed mainly conifer	92	1%	1,004	2%
Young trees	600	7%	3,478	7%
Coppice	0	0%	59	0%
Coppice with standards	0	0%	0	0%
Shrub	2	0%	138	0%
Assumed Woodland	179	2%	2,009	4%
Low Density	16	0%	94	0%
Failed	0	0%	0	0%
Windthrow	0	0%	0	0%
Cloud/shadow/uncertain	0	0%	4	0%
<b>TOTALS</b>	<b>8,259</b>	<b>100%</b>	<b>48,225</b>	<b>100%</b>

## Part 2 - what our woodlands are like today

### Woodland area by interpreted forest type, woodland size and ownership

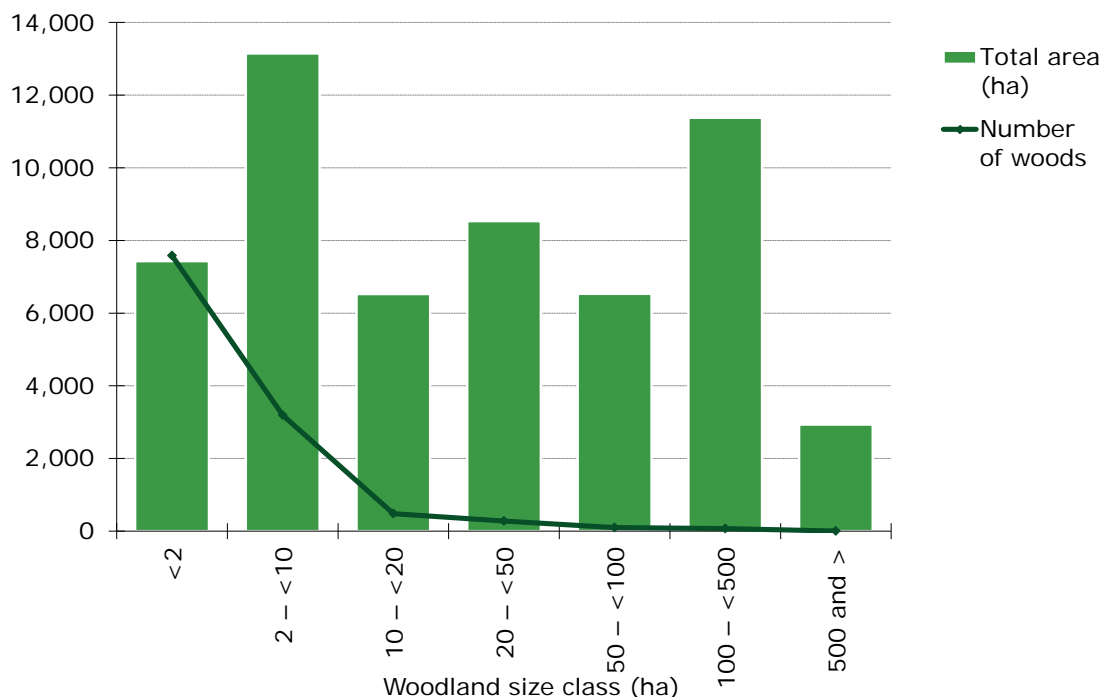
**Table 6** Woodland area by interpreted forest type, woodland size and ownership

Forest type	2 ha and over		0.5 – < 2 ha		Total area (ha)
	Forestry Commission	Other	Forestry Commission	Other	
East Midlands					
Broadleaved	1,670	27,455	5	5,722	34,852
Conifer	5,097	6,361	1	506	11,964
Felled	410	270	< 1	13	694
Ground prep	120	376	4	39	539
Mixed mainly broadleaved	61	478	0	222	762
Mixed mainly conifer	92	794	< 1	210	1,096
Young trees	594	2,978	6	500	4,078
Coppice	0	57	0	2	59
Coppice with standards	0	0	0	0	0
Shrub	2	72	0	66	140
Assumed woodland	179	1,885	< 1	125	2,189
Low Density	16	83	0	11	110
Failed	0	0	0	0	0
Windthrow	0	0	0	0	0
Cloud/shadow/uncertain	0	4	0	0	4
Totals	8,241	40,812	18	7,416	56,486

## Part 2 - what our woodlands are like today

### Woodland area by size class distribution

**Figure 6** Woodland area by size class distribution



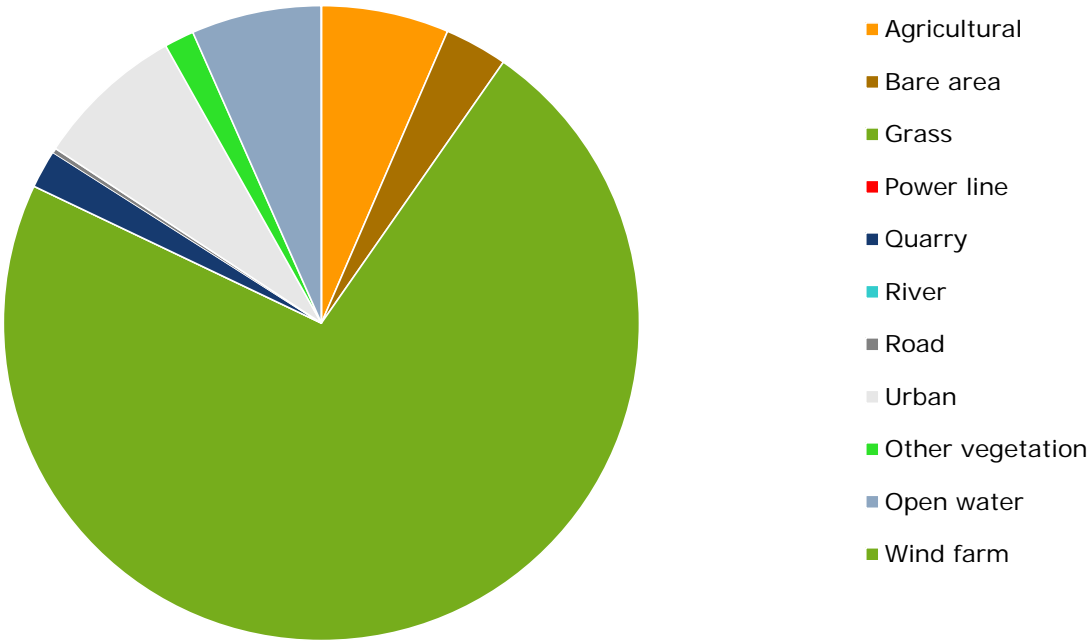
**Table 7** Woodland area by size class distribution

Size class (ha)	Total area (ha)	Number of woods	% of total area	Mean wood area (ha)
East Midlands				
<2	7,433	7,582	13%	< 1
2 – <10	13,147	3,190	23%	4
10 – <20	6,528	480	12%	14
20 – <50	8,532	278	15%	31
50 – <100	6,531	97	12%	67
100 – <500	11,380	71	20%	160
500 and >	2,932	4	5%	733
All woods	56,483	11,702	100%	5

# Part 2 - what our woodlands are like today

## Open areas in woodland by land use type

**Figure 7** Open areas in woodland by land use type



**Table 8** Open areas in woodland by land use type

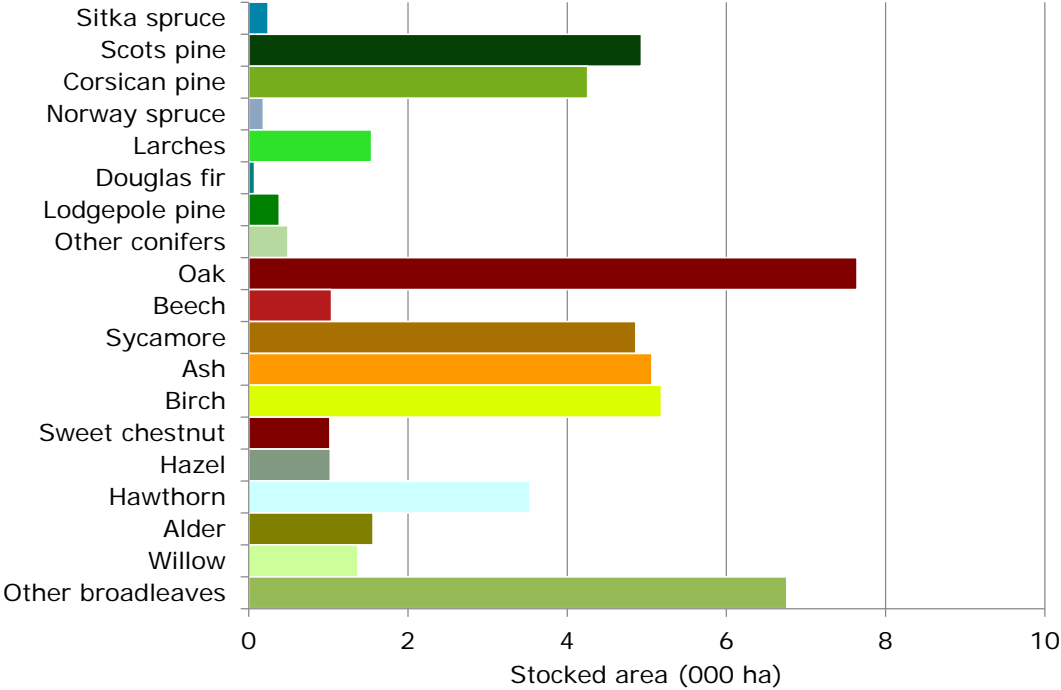
Interpreted open area	Total area (ha)	% of total area
East Midlands		
Agricultural	55	6%
Bare area	27	3%
Grass	610	72%
Power line	0	0%
Quarry	16	2%
River	0	0%
Road	2	0%
Urban	64	8%
Other vegetation	13	2%
Open water	56	7%
Wind farm	0	0%
TOTALS	843	100%



# Net area under canopy

## Stocked area by species

**Figure 8** Stocked area by principal tree species



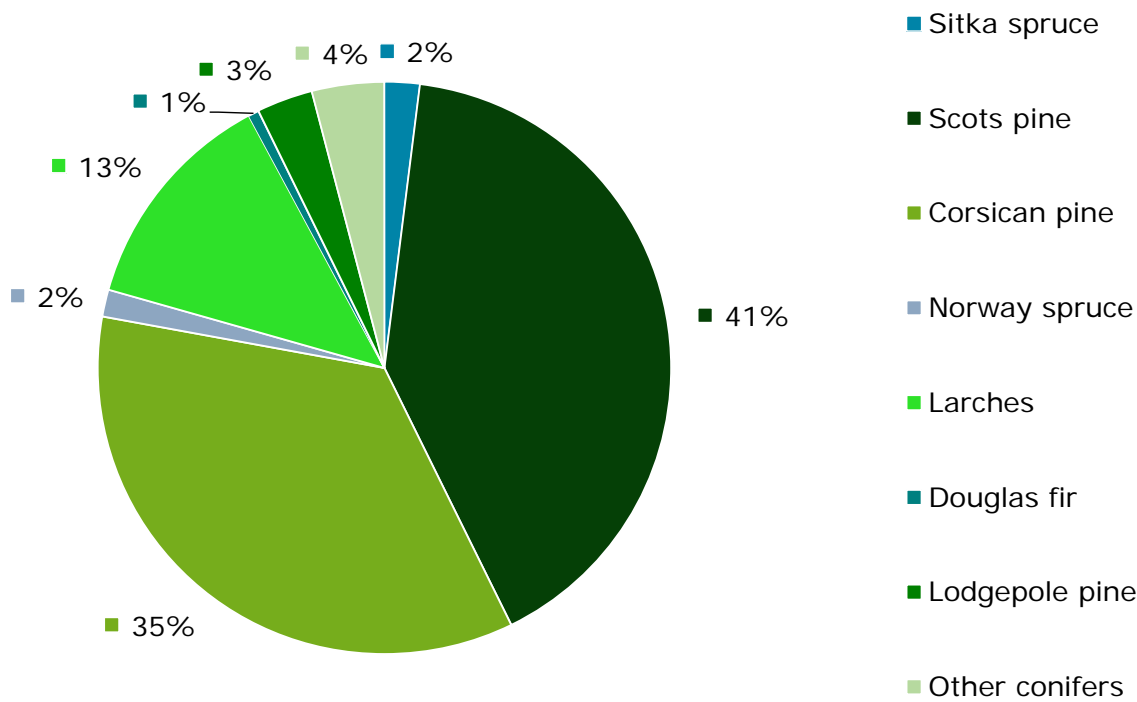
## Part 2 - what our woodlands are like today

**Table 9** Stocked area by principal tree species

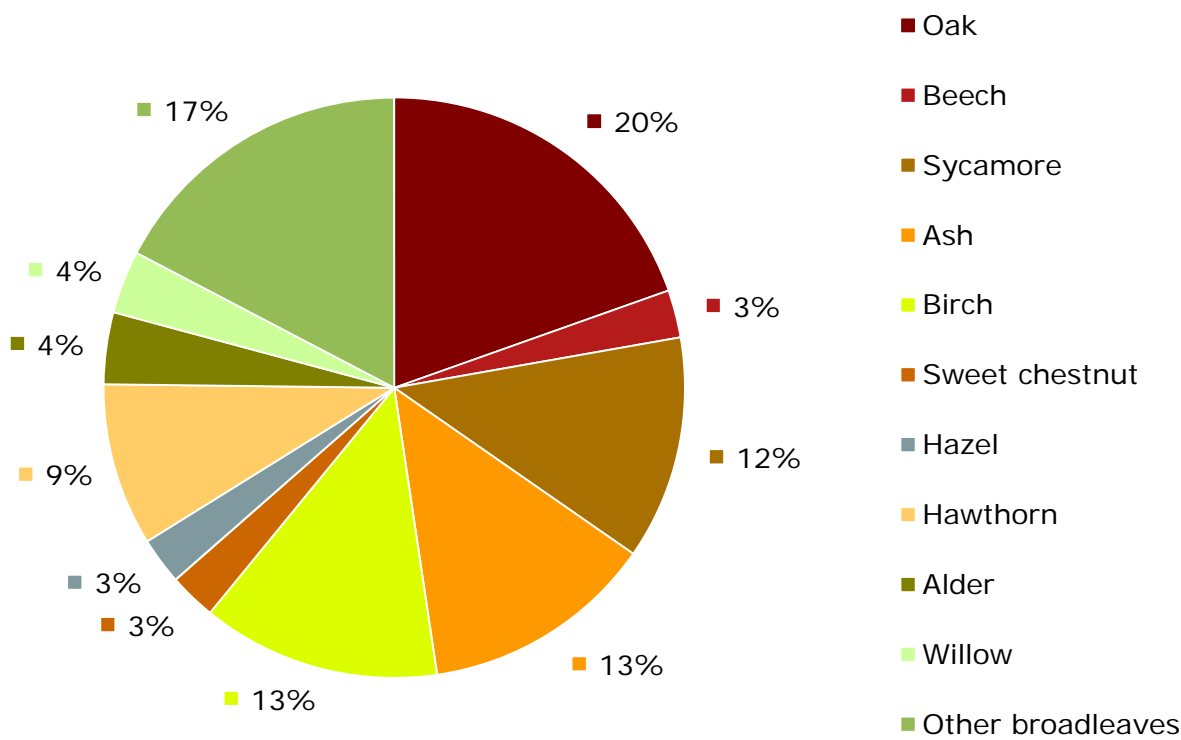
Principal species	FC	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
<b>Conifers</b>				
Sitka spruce	0.2	0.0	-	<b>0.2</b>
Scots pine	1.0	3.9	17	<b>4.9</b>
Corsican pine	2.7	1.6	34	<b>4.3</b>
Norway spruce	< 0.1	0.2	44	<b>0.2</b>
Larches	0.3	1.3	30	<b>1.5</b>
Douglas fir	< 0.1	< 0.1	77	<b>&lt; 0.1</b>
Lodgepole pine	0.4	0.0	-	<b>0.4</b>
Other conifers	< 0.1	0.4	46	<b>0.5</b>
<b>All conifers</b>	<b>4.7</b>	<b>7.4</b>	<b>10</b>	<b>12.1</b>
<b>Broadleaves</b>				
Oak	0.2	7.5	13	<b>7.6</b>
Beech	0.2	0.8	37	<b>1.0</b>
Sycamore	0.2	4.7	17	<b>4.9</b>
Ash	0.1	4.9	14	<b>5.1</b>
Birch	0.3	4.9	16	<b>5.2</b>
Sweet chestnut	< 0.1	1.0	37	<b>1.0</b>
Hazel	< 0.1	1.0	30	<b>1.0</b>
Hawthorn	0.0	3.5	19	<b>3.5</b>
Alder	< 0.1	1.6	30	<b>1.6</b>
Willow	< 0.1	1.4	31	<b>1.4</b>
Other broadleaves	0.9	5.8	14	<b>6.8</b>
<b>All broadleaves</b>	<b>2.0</b>	<b>37.0</b>	<b>3</b>	<b>39.1</b>
<b>All species</b>				
<b>All species</b>	<b>6.7</b>	<b>44.4</b>	<b>2</b>	<b>51.2</b>

# Part 2 - what our woodlands are like today

**Figure 9** Stocked area by principal conifer species



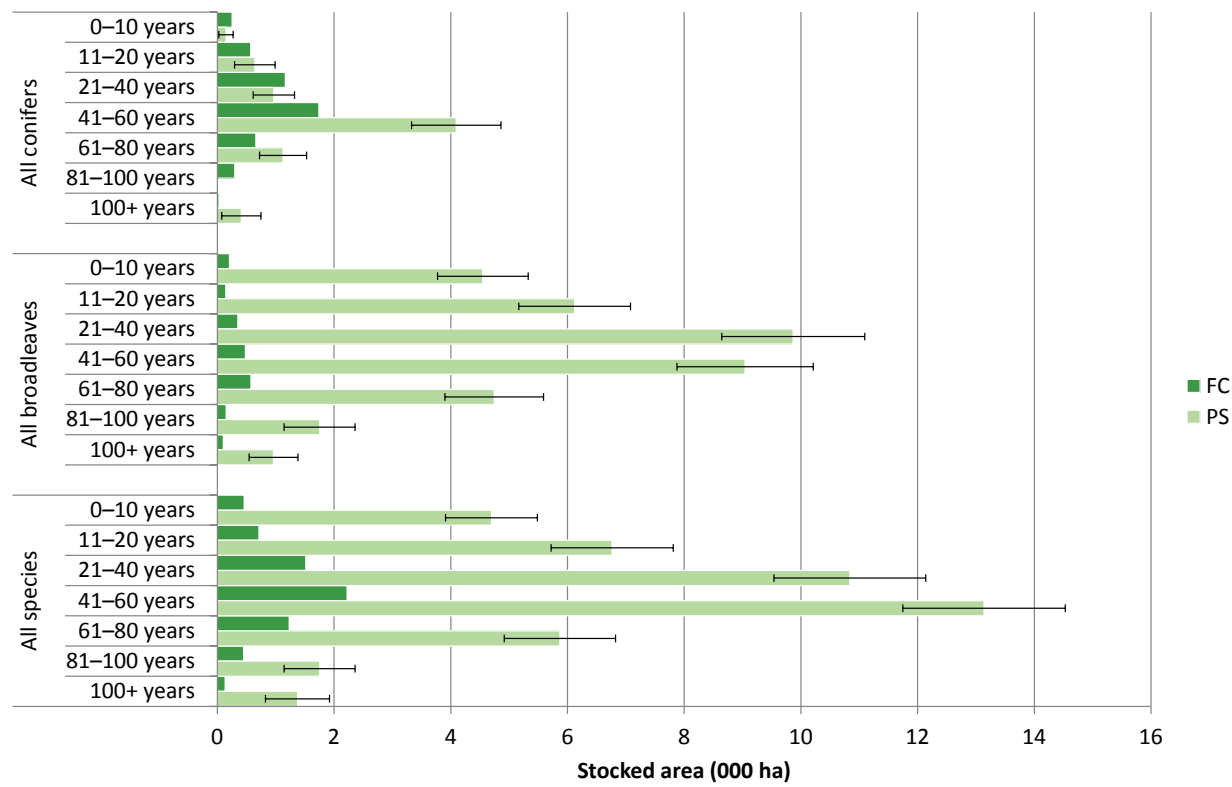
**Figure 10** Stocked area by principal broadleaved species



# Part 2 - what our woodlands are like today

## Stocked area by age class

**Figure 11** Stocked area by age class



## Part 2 - what our woodlands are like today

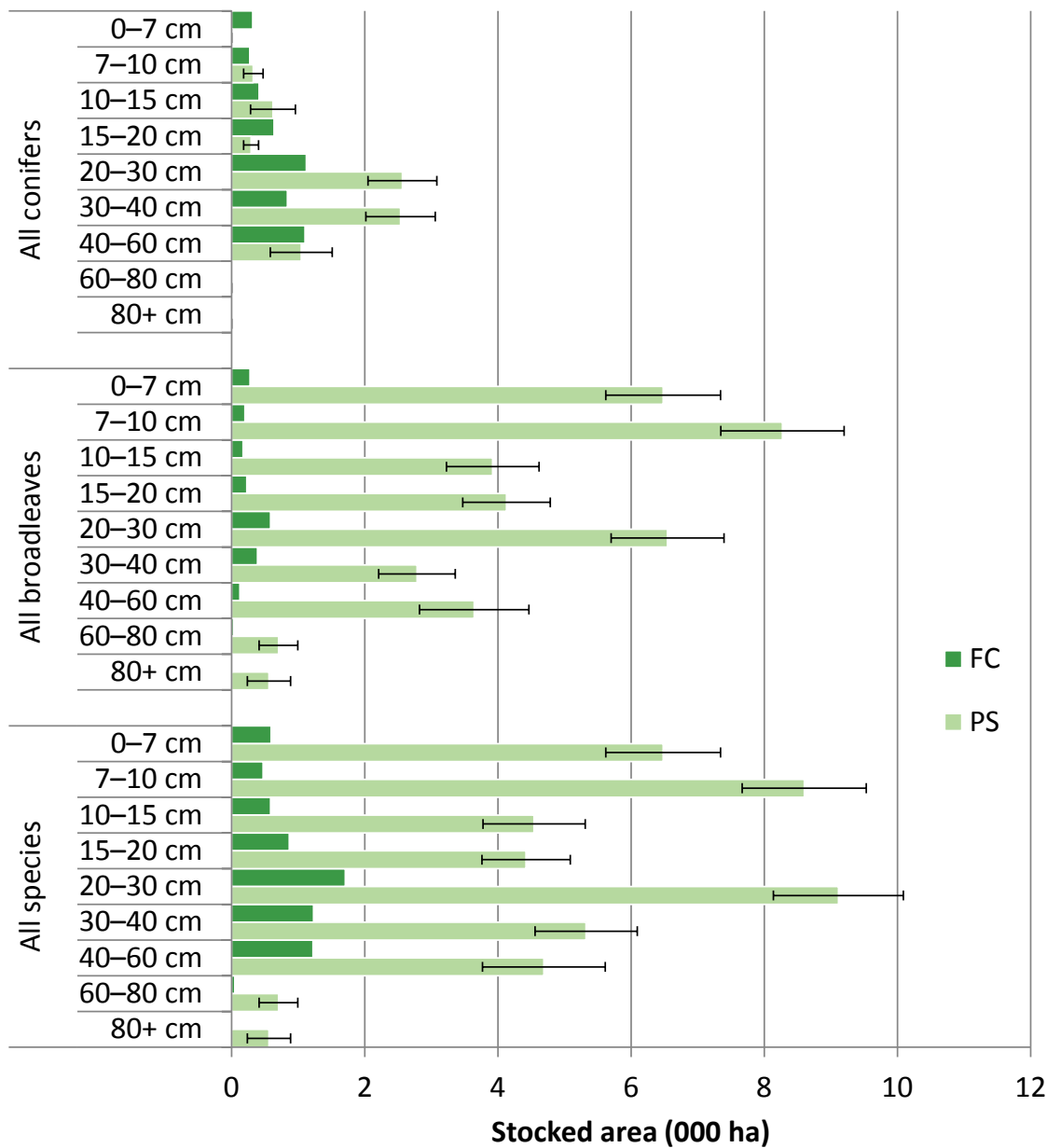
**Table 10** Stocked area by age class

Age class (years)	FC	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
<b>All conifers</b>				
0–10	0.3	0.1	82	0.4
11–20	0.6	0.6	54	1.2
21–40	1.2	1.0	36	2.1
41–60	1.7	4.1	19	5.8
61–80	0.7	1.1	36	1.8
81–100	0.3	0.0	-	0.3
100+	< 0.1	0.4	82	0.4
<b>Total</b>	<b>4.7</b>	<b>7.4</b>	<b>10</b>	<b>12.1</b>
<b>All broadleaves</b>				
0–10	0.2	4.5	17	4.8
11–20	0.1	6.1	16	6.3
21–40	0.4	9.9	12	10.2
41–60	0.5	9.0	13	9.5
61–80	0.6	4.7	18	5.3
81–100	0.2	1.8	35	1.9
100+	0.1	1.0	43	1.1
<b>Total</b>	<b>2.0</b>	<b>37.0</b>	<b>3</b>	<b>39.1</b>
<b>All species</b>				
0–10	0.5	4.7	17	5.2
11–20	0.7	6.8	15	7.5
21–40	1.5	10.8	12	12.4
41–60	2.2	13.1	11	15.4
61–80	1.2	5.9	16	7.1
81–100	0.5	1.8	35	2.2
100+	0.1	1.4	40	1.5
<b>Total</b>	<b>6.7</b>	<b>44.4</b>	<b>2</b>	<b>51.2</b>

# Part 2 - what our woodlands are like today

## Stocked area by mean stand dbh class

**Figure 12** Stocked area by mean stand dbh class



## Part 2 - what our woodlands are like today

**Table 11** Stocked area by mean stand dbh class

Mean stand DBH (cm)	FC	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
<b>All conifers</b>				
0–7	0.3	0.0	-	<b>0.3</b>
7–10	0.3	0.3	45	<b>0.6</b>
10–15	0.4	0.6	54	<b>1.0</b>
15–20	0.6	0.3	38	<b>0.9</b>
20–30	1.1	2.6	20	<b>3.7</b>
30–40	0.8	2.5	21	<b>3.4</b>
40–60	1.1	1.0	44	<b>2.1</b>
60–80	< 0.1	0.0	-	<b>&lt; 0.1</b>
80+	0.0	0.0	-	<b>0.0</b>
<b>Total</b>	<b>4.7</b>	<b>7.4</b>	<b>10</b>	<b>12.1</b>
<b>All broadleaves</b>				
0–7	0.3	6.5	13	<b>6.8</b>
7–10	0.2	8.3	11	<b>8.5</b>
10–15	0.2	3.9	18	<b>4.1</b>
15–20	0.2	4.1	16	<b>4.4</b>
20–30	0.6	6.5	13	<b>7.1</b>
30–40	0.4	2.8	21	<b>3.2</b>
40–60	0.1	3.6	23	<b>3.8</b>
60–80	< 0.1	0.7	41	<b>0.7</b>
80+	< 0.1	0.6	58	<b>0.6</b>
<b>Total</b>	<b>2.0</b>	<b>37.0</b>	<b>3</b>	<b>39.1</b>
<b>All species</b>				
0–7	0.6	6.5	13	<b>7.1</b>
7–10	0.5	8.6	11	<b>9.1</b>
10–15	0.6	4.5	17	<b>5.1</b>
15–20	0.9	4.4	15	<b>5.3</b>
20–30	1.7	9.1	11	<b>10.8</b>
30–40	1.2	5.3	14	<b>6.6</b>
40–60	1.2	4.7	20	<b>5.9</b>
60–80	< 0.1	0.7	41	<b>0.8</b>
80+	< 0.1	0.6	58	<b>0.6</b>
<b>Total</b>	<b>6.7</b>	<b>44.4</b>	<b>2</b>	<b>51.2</b>

# Part 2 - what our woodlands are like today

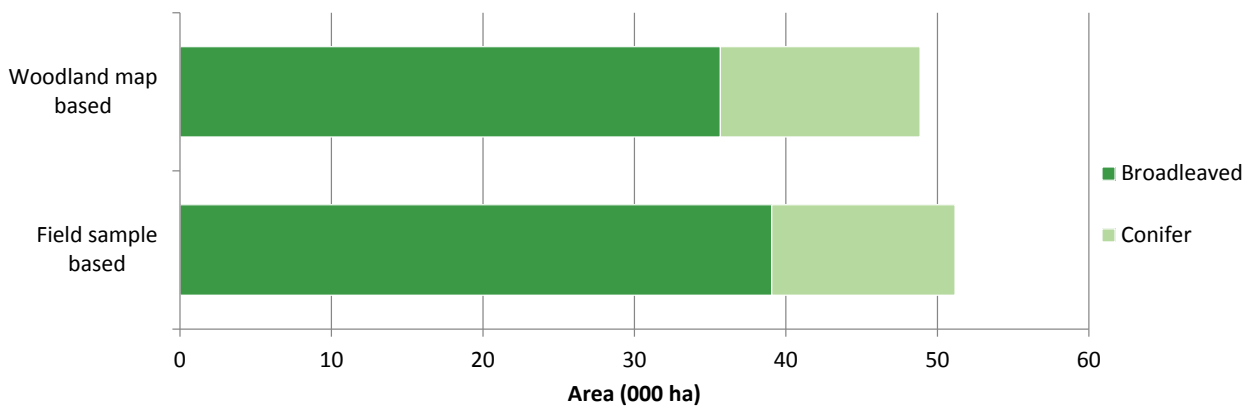
## Clearfelled area

**Table 12** Clearfelled area

Clearfelled area	FC	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
East Midlands	0.3	0.3	81	0.6

## Comparison of mapped area estimates and stocked area estimates

**Figure 13** Simplified comparison of mapped area and stocked area



**Table 13** Simplified comparison of mapped area and stocked area

	Woodland map based	Field sample based
	area (000 ha)	
East Midlands		
Broadleaved	35.7	39.1
Conifer	13.2	12.1

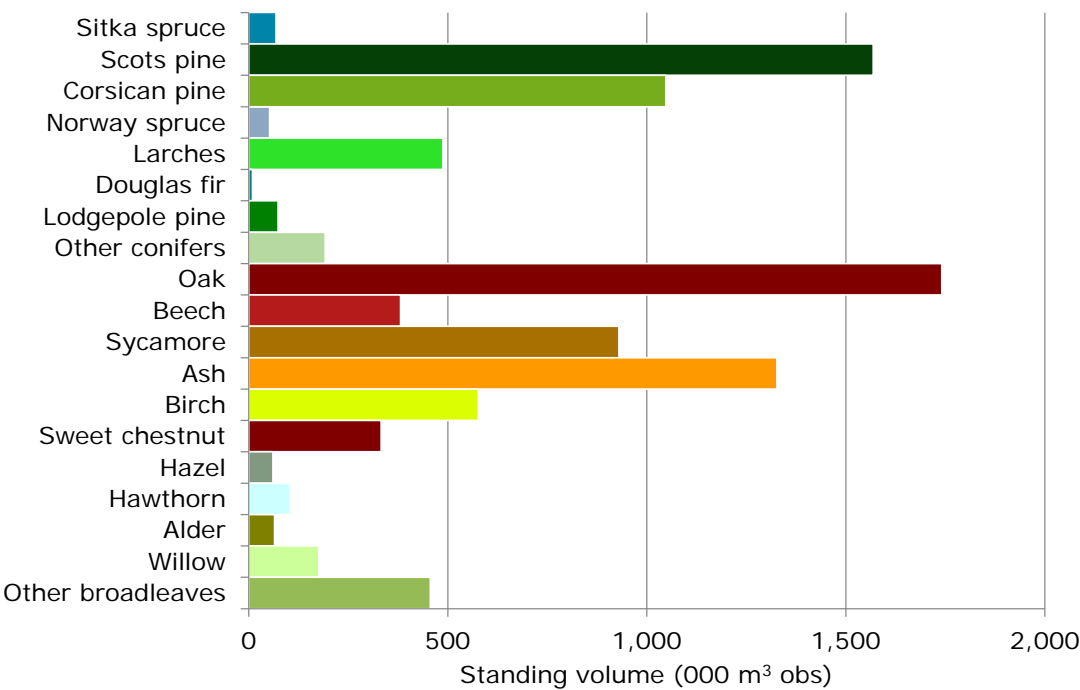
The broadleaved class includes broadleaved, mixed mainly broadleaved, coppice and coppice with standards. The conifer class includes conifer and mixed mainly conifer. The transition class is excluded from this table as it is not possible to differentiate between conifer and broadleaves with aerial photography interpretation. The area of young trees is included in the field sample based estimates.



# Standing volume

## Standing volume by species

**Figure 14** Standing volume by principal tree species



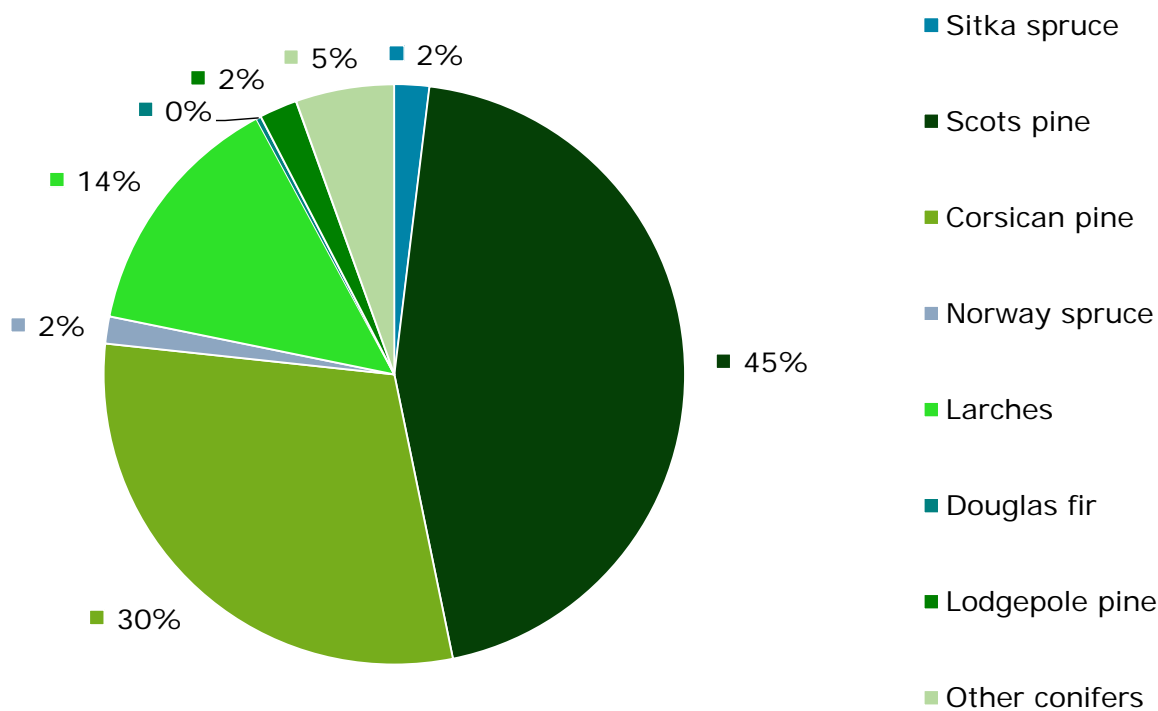
## Part 2 - what our woodlands are like today

**Table 14** Standing volume by principal tree species

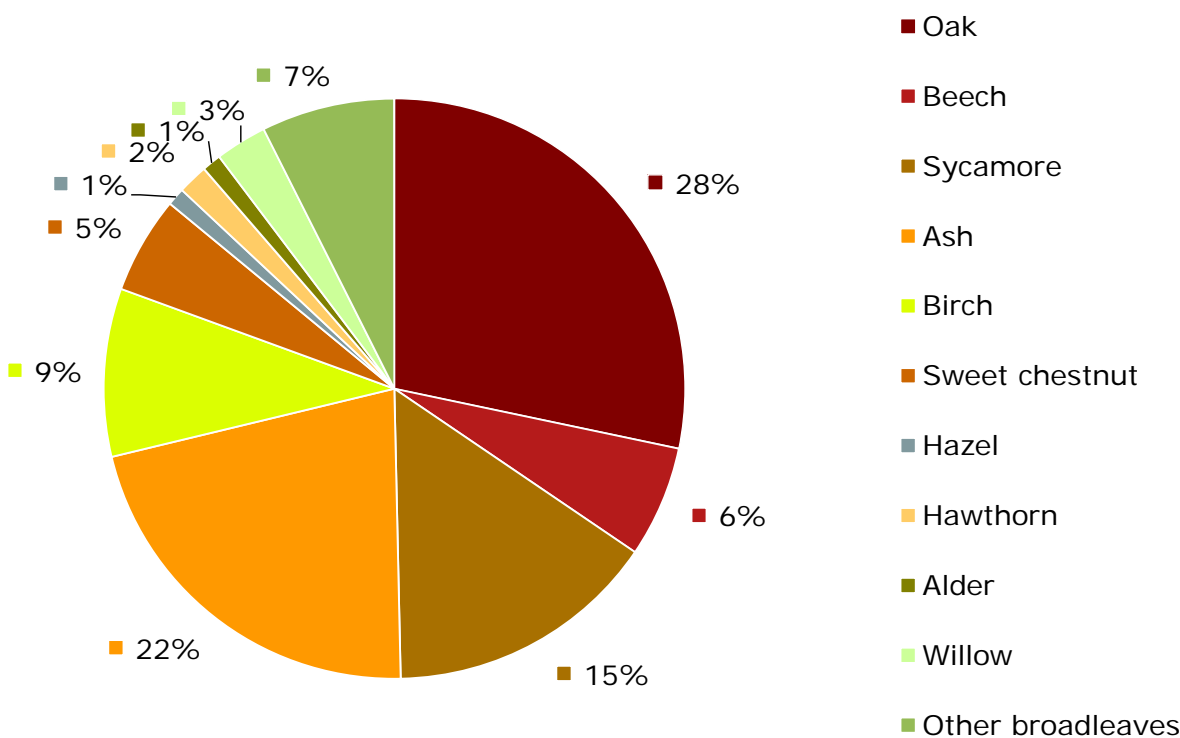
Principal species	FC	Private sector		Total
	volume (000 m <sup>3</sup> obs)	volume (000 m <sup>3</sup> obs)	SE%	volume (000 m <sup>3</sup> obs)
<b>Conifers</b>				
Sitka spruce	68	0	-	<b>68</b>
Scots pine	252	1,317	21	<b>1,569</b>
Corsican pine	642	406	33	<b>1,048</b>
Norway spruce	2	51	48	<b>53</b>
Larches	36	452	37	<b>488</b>
Douglas fir	< 1	9	77	<b>9</b>
Lodgepole pine	74	0	-	<b>74</b>
Other conifers	15	177	51	<b>192</b>
<b>All conifers</b>	<b>1,088</b>	<b>2,411</b>	<b>13</b>	<b>3,500</b>
<b>Broadleaves</b>				
Oak	19	1,722	20	<b>1,741</b>
Beech	49	333	52	<b>381</b>
Sycamore	22	908	20	<b>930</b>
Ash	13	1,314	23	<b>1,327</b>
Birch	30	546	17	<b>576</b>
Sweet chestnut	10	323	42	<b>333</b>
Hazel	< 1	61	33	<b>61</b>
Hawthorn	0	103	26	<b>103</b>
Alder	< 1	64	37	<b>65</b>
Willow	< 1	176	35	<b>176</b>
Other broadleaves	78	378	22	<b>456</b>
<b>All broadleaves</b>	<b>221</b>	<b>5,928</b>	<b>9</b>	<b>6,149</b>
<b>All species</b>				
<b>All species</b>	<b>1,309</b>	<b>8,339</b>	<b>7</b>	<b>9,648</b>

# Part 2 - what our woodlands are like today

**Figure 15** Standing volume by principal conifer species



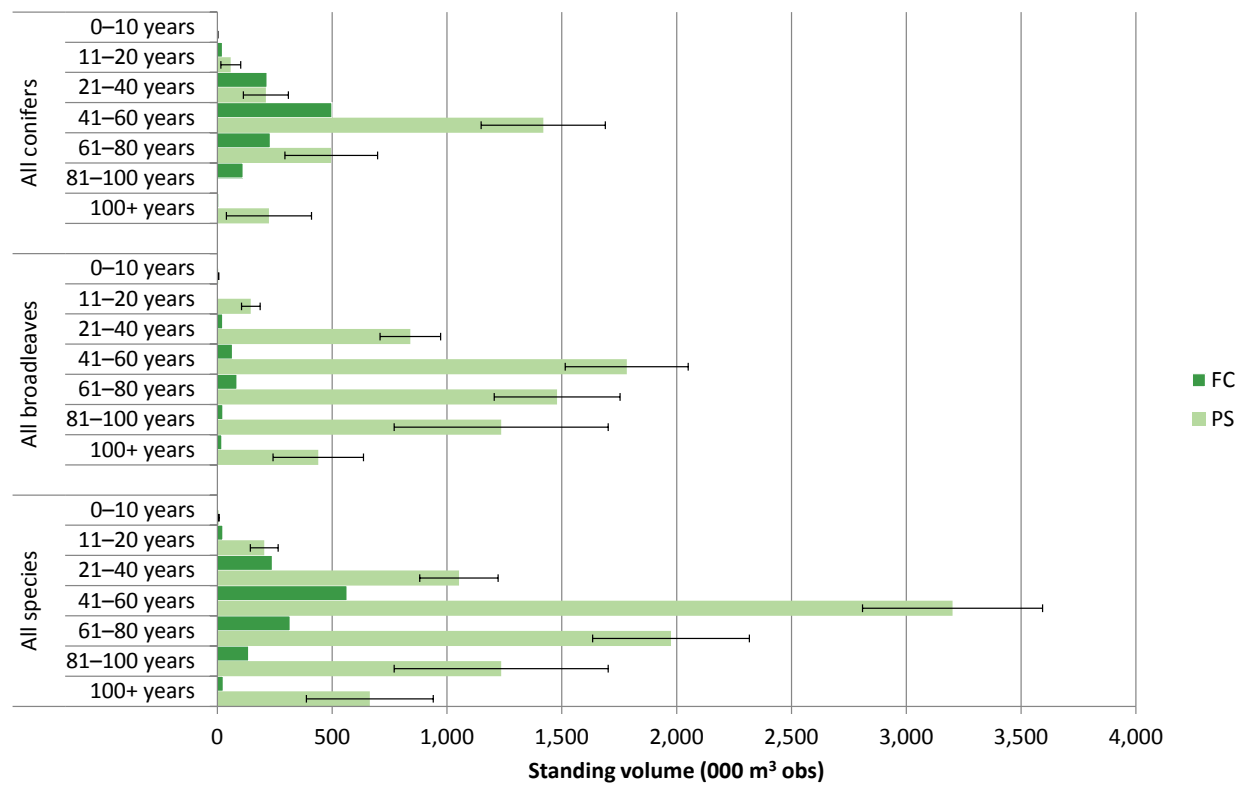
**Figure 16** Standing volume by principal broadleaved species



# Part 2 - what our woodlands are like today

## Standing volume by age class

**Figure 17** Standing volume by age class



## Part 2 - what our woodlands are like today

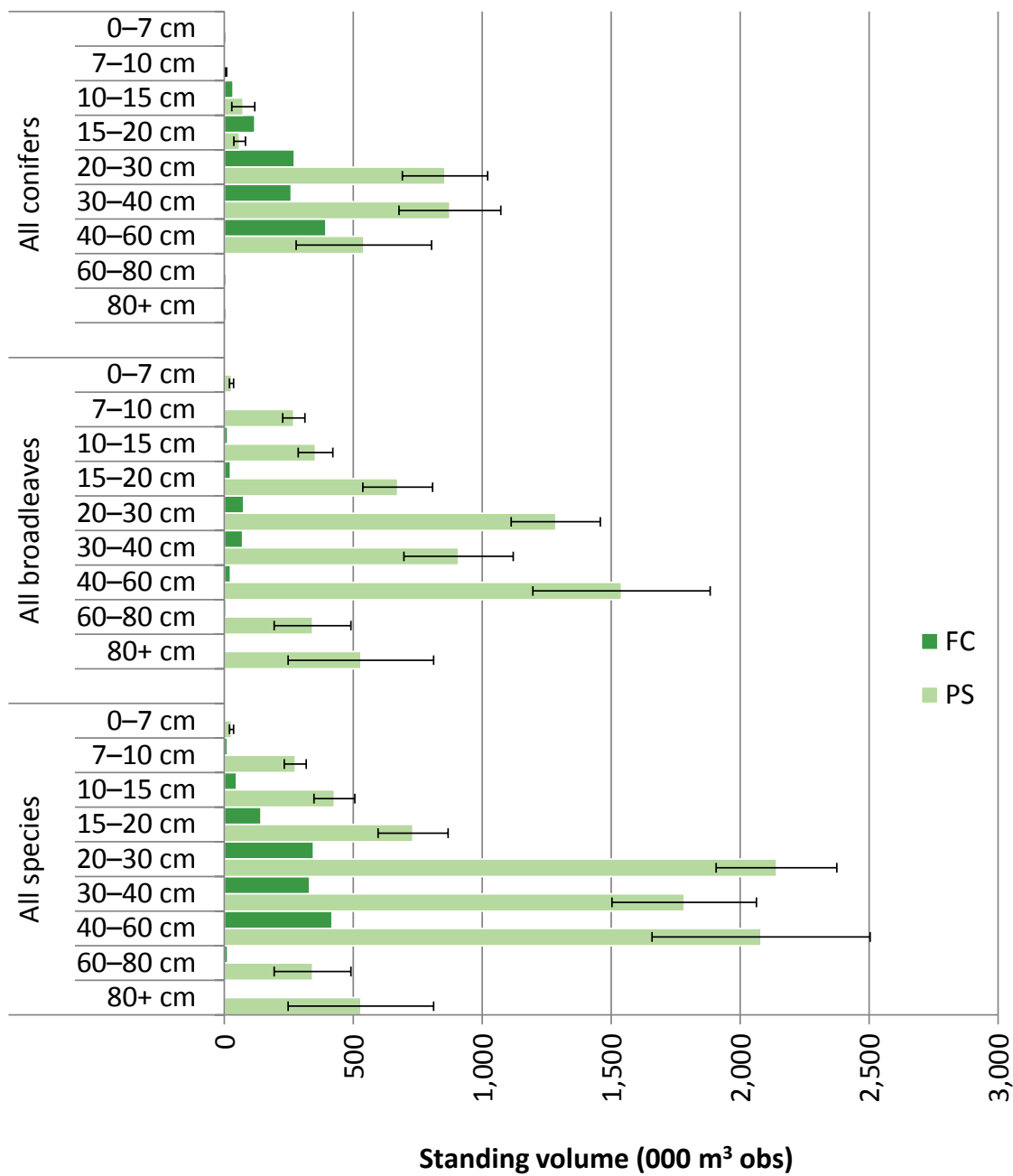
**Table 15** Standing volume by age class

Age class (years)	FC	Private sector		Total
	volume (000 m <sup>3</sup> obs)	volume (000 m <sup>3</sup> obs)	SE%	volume (000 m <sup>3</sup> obs)
All conifers				
0–10	< 1	1	82	1
11–20	23	59	74	81
21–40	216	212	46	428
41–60	499	1,419	19	1,918
61–80	231	496	41	727
81–100	113	0	-	113
100+	7	225	82	231
<b>Total</b>	<b>1,088</b>	<b>2,411</b>	<b>13</b>	<b>3,500</b>
All broadleaves				
0–10	< 1	4	44	4
11–20	1	146	28	147
21–40	23	840	16	864
41–60	66	1,783	15	1,849
61–80	86	1,479	19	1,566
81–100	24	1,236	38	1,260
100+	20	440	45	459
<b>Total</b>	<b>221</b>	<b>5,928</b>	<b>9</b>	<b>6,149</b>
All species				
0–10	< 1	6	39	6
11–20	24	204	30	228
21–40	239	1,052	16	1,291
41–60	565	3,202	12	3,767
61–80	317	1,975	17	2,292
81–100	137	1,236	38	1,373
100+	26	664	42	691
<b>Total</b>	<b>1,309</b>	<b>8,339</b>	<b>7</b>	<b>9,648</b>

# Part 2 - what our woodlands are like today

## Standing volume by mean stand dbh class

**Figure 18** Standing volume by stand mean dbh class



## Part 2 - what our woodlands are like today

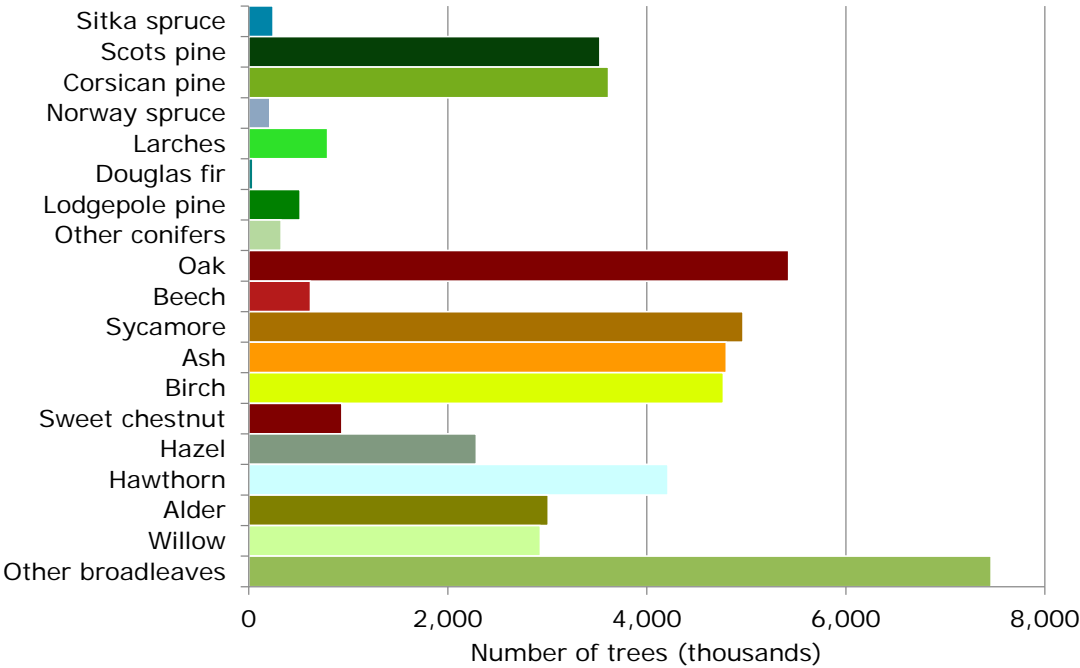
**Table 16** Standing volume by mean stand dbh class

Mean stand DBH (cm)	FC	Private sector		Total
	volume (000 m <sup>3</sup> obs)	volume (000 m <sup>3</sup> obs)	SE%	volume (000 m <sup>3</sup> obs)
<b>All conifers</b>				
0–7	< 1	0	-	< 1
7–10	5	6	48	11
10–15	34	74	60	107
15–20	119	60	37	178
20–30	271	856	19	1,127
30–40	259	875	23	1,134
40–60	394	541	48	935
60–80	6	0	-	6
80+	0	0	-	0
<b>Total</b>	<b>1,088</b>	<b>2,411</b>	<b>13</b>	<b>3,500</b>
<b>All broadleaves</b>				
0–7	< 1	28	29	28
7–10	6	269	16	276
10–15	13	353	19	367
15–20	24	672	20	696
20–30	75	1,285	13	1,360
30–40	71	908	23	980
40–60	24	1,540	22	1,563
60–80	7	342	44	349
80+	< 1	530	53	530
<b>Total</b>	<b>221</b>	<b>5,928</b>	<b>9</b>	<b>6,149</b>
<b>All species</b>				
0–7	< 1	28	29	28
7–10	12	275	16	287
10–15	47	427	19	474
15–20	142	732	19	874
20–30	346	2,141	11	2,487
30–40	330	1,783	16	2,114
40–60	418	2,081	20	2,499
60–80	13	342	44	355
80+	< 1	530	53	530
<b>Total</b>	<b>1,309</b>	<b>8,339</b>	<b>7</b>	<b>9,648</b>

# Number of measureable trees

## Number of measureable trees by species

**Figure 19** Number of measureable trees by principal tree species





## Part 2 - what our woodlands are like today

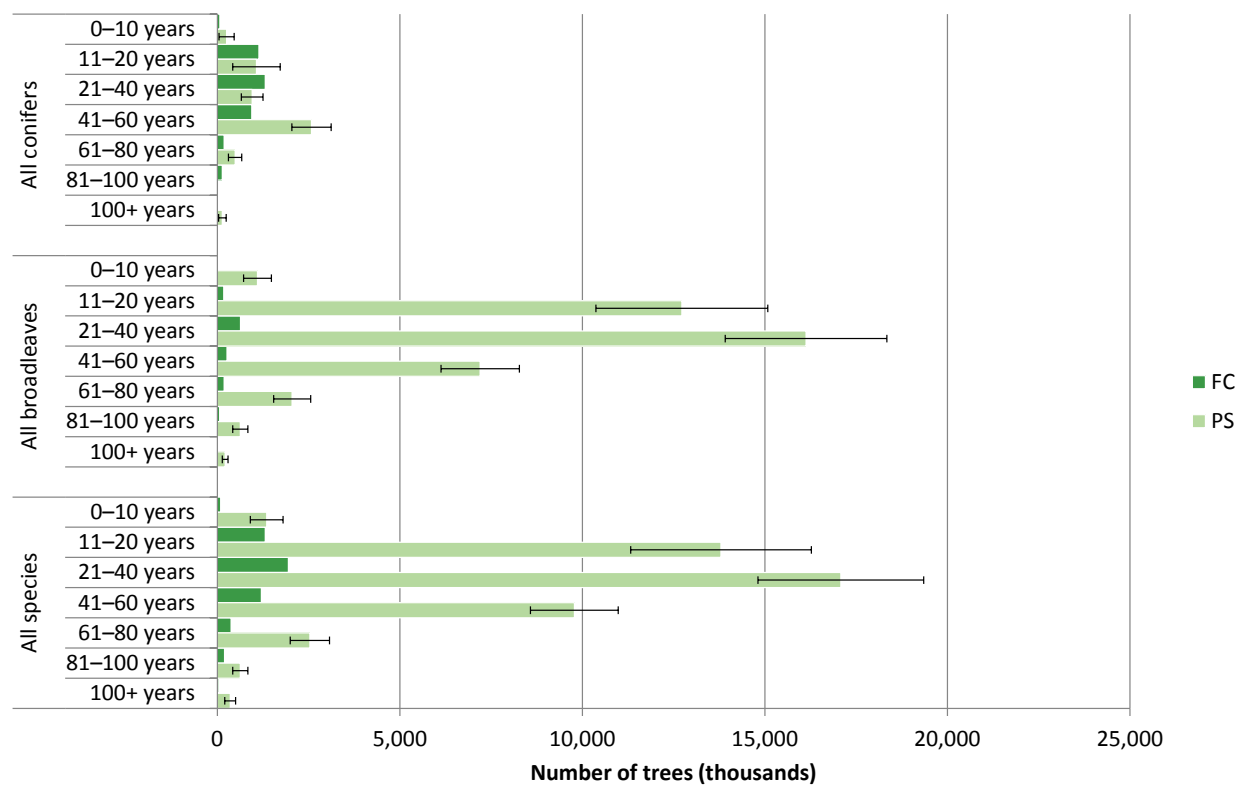
**Table 17** Number of measureable trees by principal tree species

Principal species	FC	Private sector		Total
	number of trees (thousands)	number of trees (thousands)	SE%	number of trees (thousands)
<b>Conifers</b>				
Sitka spruce	243	0	-	<b>243</b>
Scots pine	414	3,115	17	<b>3,529</b>
Corsican pine	2,328	1,289	51	<b>3,617</b>
Norway spruce	16	197	46	<b>212</b>
Larches	202	591	25	<b>794</b>
Douglas fir	28	14	77	<b>42</b>
Lodgepole pine	516	0	-	<b>516</b>
Other conifers	48	277	50	<b>325</b>
<b>All conifers</b>	<b>3,794</b>	<b>5,484</b>	<b>15</b>	<b>9,278</b>
<b>Broadleaves</b>				
Oak	150	5,276	16	<b>5,426</b>
Beech	116	505	39	<b>621</b>
Sycamore	87	4,879	19	<b>4,966</b>
Ash	53	4,747	19	<b>4,800</b>
Birch	265	4,504	16	<b>4,769</b>
Sweet chestnut	30	906	39	<b>936</b>
Hazel	< 1	2,288	35	<b>2,288</b>
Hawthorn	0	4,214	29	<b>4,214</b>
Alder	5	3,005	34	<b>3,009</b>
Willow	< 1	2,930	34	<b>2,930</b>
Other broadleaves	672	6,789	16	<b>7,461</b>
<b>All broadleaves</b>	<b>1,377</b>	<b>40,045</b>	<b>7</b>	<b>41,422</b>
<b>All species</b>				
<b>All species</b>	<b>5,172</b>	<b>45,529</b>	<b>6</b>	<b>50,700</b>

# Part 2 - what our woodlands are like today

## Number of measureable trees by age class

**Figure 20** Number of measureable trees by age class



## Part 2 - what our woodlands are like today

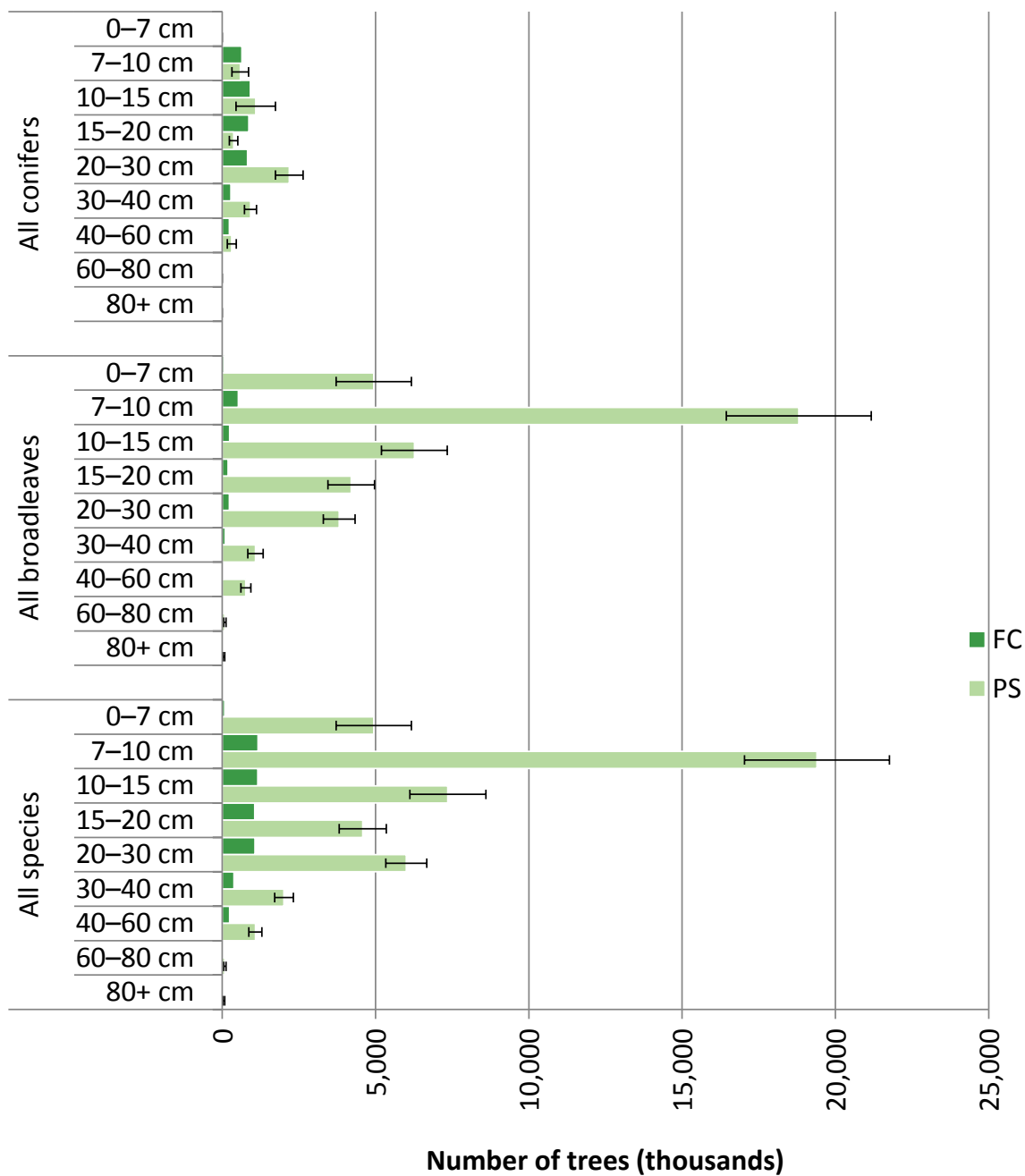
**Table 18** Number of measureable trees by age class

Age class (years)	FC	Private sector		Total
	number of trees (thousands)	number of trees (thousands)	SE%	number of trees (thousands)
<b>All conifers</b>				
0–10	68	253	82	321
11–20	1,137	1,072	60	2,209
21–40	1,311	955	31	2,266
41–60	944	2,581	21	3,524
61–80	188	487	37	674
81–100	135	0	-	135
100+	12	137	76	149
<b>Total</b>	<b>3,794</b>	<b>5,484</b>	<b>15</b>	<b>9,278</b>
<b>All broadleaves</b>				
0–10	22	1,099	35	1,121
11–20	177	12,726	19	12,903
21–40	637	16,126	14	16,763
41–60	264	7,200	15	7,464
61–80	188	2,048	25	2,236
81–100	62	630	33	693
100+	26	216	37	242
<b>Total</b>	<b>1,377</b>	<b>40,045</b>	<b>7</b>	<b>41,422</b>
<b>All species</b>				
0–10	90	1,352	33	1,442
11–20	1,314	13,798	18	15,112
21–40	1,949	17,081	13	19,029
41–60	1,208	9,781	12	10,988
61–80	376	2,535	21	2,910
81–100	198	630	33	828
100+	38	352	42	391
<b>Total</b>	<b>5,172</b>	<b>45,529</b>	<b>6</b>	<b>50,700</b>

# Part 2 - what our woodlands are like today

## Number of measureable trees by mean stand dbh class

**Figure 21** Number of measureable trees by mean stand dbh class



## Part 2 - what our woodlands are like today

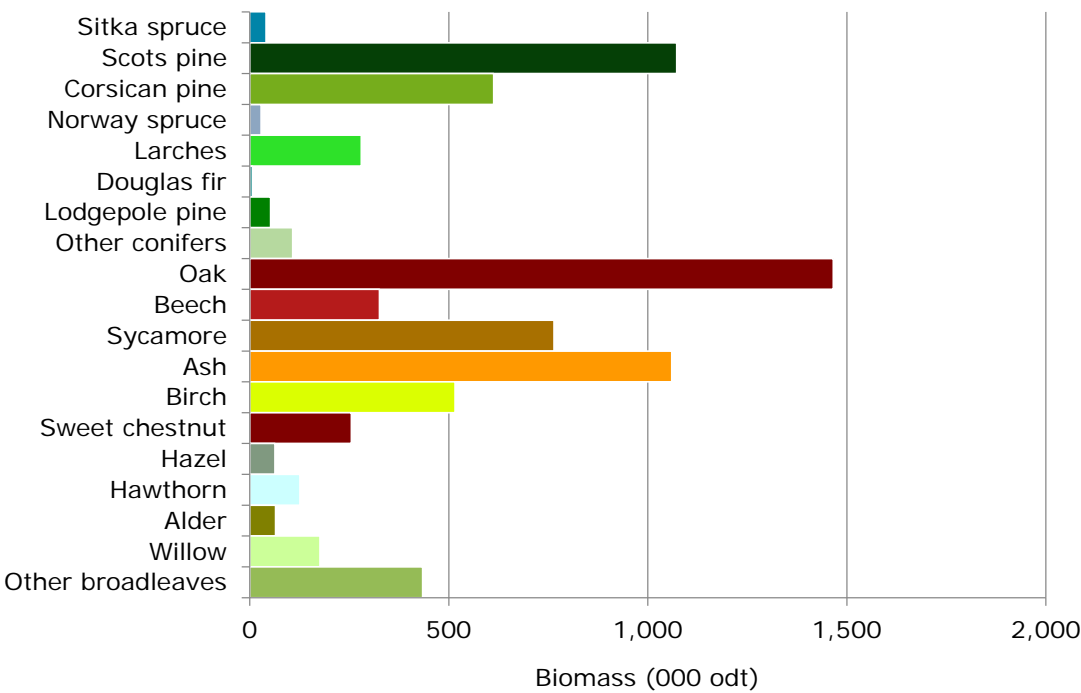
**Table 19** Number of measureable trees by mean stand dbh class

Mean stand DBH	FC	Private sector		Total
	number of trees (thousands)	number of trees (thousands)	SE%	number of trees (thousands)
<b>All conifers</b>				
0–7 cm	24	0	-	<b>24</b>
7–10 cm	640	590	46	<b>1,229</b>
10–15 cm	917	1,092	59	<b>2,010</b>
15–20 cm	869	376	37	<b>1,245</b>
20–30 cm	831	2,188	21	<b>3,018</b>
30–40 cm	281	926	21	<b>1,208</b>
40–60 cm	230	312	47	<b>542</b>
60–80 cm	2	0	-	<b>2</b>
80+ cm	0	0	-	<b>0</b>
<b>Total</b>	<b>3,794</b>	<b>5,484</b>	<b>15</b>	<b>9,278</b>
<b>All broadleaves</b>				
0–7 cm	58	4,945	25	<b>5,003</b>
7–10 cm	530	18,807	13	<b>19,337</b>
10–15 cm	242	6,267	17	<b>6,510</b>
15–20 cm	193	4,210	18	<b>4,403</b>
20–30 cm	236	3,816	14	<b>4,053</b>
30–40 cm	100	1,089	23	<b>1,189</b>
40–60 cm	16	771	21	<b>787</b>
60–80 cm	2	86	42	<b>88</b>
80+ cm	< 1	52	54	<b>52</b>
<b>Total</b>	<b>1,377</b>	<b>40,045</b>	<b>7</b>	<b>41,422</b>
<b>All species</b>				
0–7 cm	82	4,945	25	<b>5,027</b>
7–10 cm	1,170	19,397	12	<b>20,567</b>
10–15 cm	1,160	7,360	17	<b>8,519</b>
15–20 cm	1,062	4,586	17	<b>5,648</b>
20–30 cm	1,067	6,004	11	<b>7,071</b>
30–40 cm	381	2,016	15	<b>2,397</b>
40–60 cm	246	1,083	20	<b>1,329</b>
60–80 cm	4	86	42	<b>90</b>
80+ cm	< 1	52	54	<b>52</b>
<b>Total</b>	<b>5,172</b>	<b>45,529</b>	<b>6</b>	<b>50,700</b>

## Biomass stocks in live woodland trees

### Biomass stocks by species

**Figure 22** Biomass stocks by principal tree species



## Part 2 - what our woodlands are like today

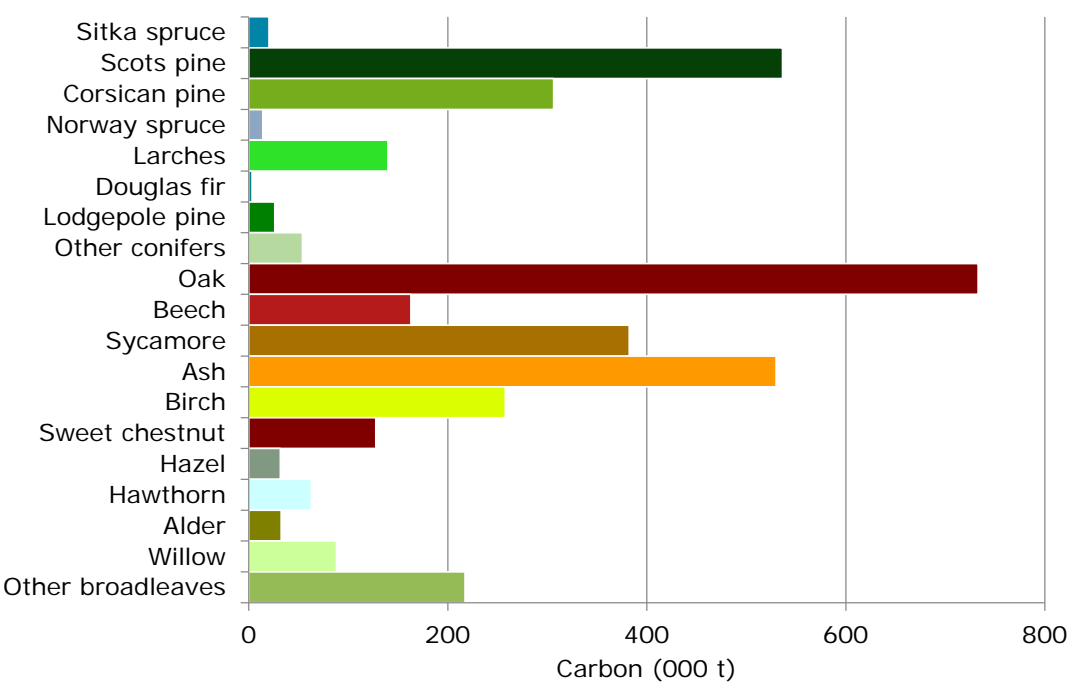
**Table 20** Biomass stocks by principal tree species

Principal species	FC	Private sector		Total
	biomass (000 odt)	biomass (000 odt)	SE%	biomass (000 odt)
<b>Conifers</b>				
Sitka spruce	40	0	-	<b>40</b>
Scots pine	177	896	21	<b>1,073</b>
Corsican pine	378	235	33	<b>613</b>
Norway spruce	1	27	47	<b>28</b>
Larches	23	257	36	<b>280</b>
Douglas fir	< 1	6	77	<b>7</b>
Lodgepole pine	52	0	-	<b>52</b>
Other conifers	9	100	51	<b>108</b>
<b>All conifers</b>	<b>680</b>	<b>1,521</b>	<b>13</b>	<b>2,201</b>
<b>Broadleaves</b>				
Oak	18	1,448	19	<b>1,466</b>
Beech	44	282	52	<b>326</b>
Sycamore	20	745	19	<b>765</b>
Ash	12	1,048	21	<b>1,060</b>
Birch	29	487	17	<b>516</b>
Sweet chestnut	8	247	42	<b>255</b>
Hazel	< 1	63	32	<b>63</b>
Hawthorn	0	126	24	<b>126</b>
Alder	< 1	64	36	<b>65</b>
Willow	< 1	176	32	<b>176</b>
Other broadleaves	72	362	19	<b>434</b>
<b>All broadleaves</b>	<b>203</b>	<b>5,049</b>	<b>8</b>	<b>5,252</b>
<b>All species</b>				
<b>All species</b>	<b>883</b>	<b>6,570</b>	<b>7</b>	<b>7,453</b>

# Carbon stocks in live woodland trees

## Carbon stocks by species

**Figure 23** Carbon stocks by principal tree species





## Part 2 - what our woodlands are like today

**Table 21** Carbon stocks by principal tree species

Principal species	FC	Private sector		Total
	carbon (000 t)	carbon (000 t)	SE%	carbon (000 t)
<b>Conifers</b>				
Sitka spruce	20	0	-	<b>20</b>
Scots pine	88	448	21	<b>536</b>
Corsican pine	189	117	33	<b>306</b>
Norway spruce	< 1	14	47	<b>14</b>
Larches	12	128	36	<b>140</b>
Douglas fir	< 1	3	77	<b>3</b>
Lodgepole pine	26	0	-	<b>26</b>
Other conifers	4	50	51	<b>54</b>
<b>All conifers</b>	<b>340</b>	<b>760</b>	<b>13</b>	<b>1,101</b>
<b>Broadleaves</b>				
Oak	9	724	19	<b>733</b>
Beech	22	141	52	<b>163</b>
Sycamore	10	372	19	<b>382</b>
Ash	6	524	21	<b>530</b>
Birch	14	243	17	<b>258</b>
Sweet chestnut	4	124	42	<b>128</b>
Hazel	< 1	32	32	<b>32</b>
Hawthorn	0	63	24	<b>63</b>
Alder	< 1	32	36	<b>33</b>
Willow	< 1	88	32	<b>88</b>
Other broadleaves	36	181	19	<b>217</b>
<b>All broadleaves</b>	<b>101</b>	<b>2,525</b>	<b>8</b>	<b>2,626</b>
<b>All species</b>				
<b>All species</b>	<b>442</b>	<b>3,285</b>	<b>7</b>	<b>3,727</b>

# Part 2 - what our woodlands are like today

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## Existing woodland management information and economic viability data (PS only)

### Sample square distribution

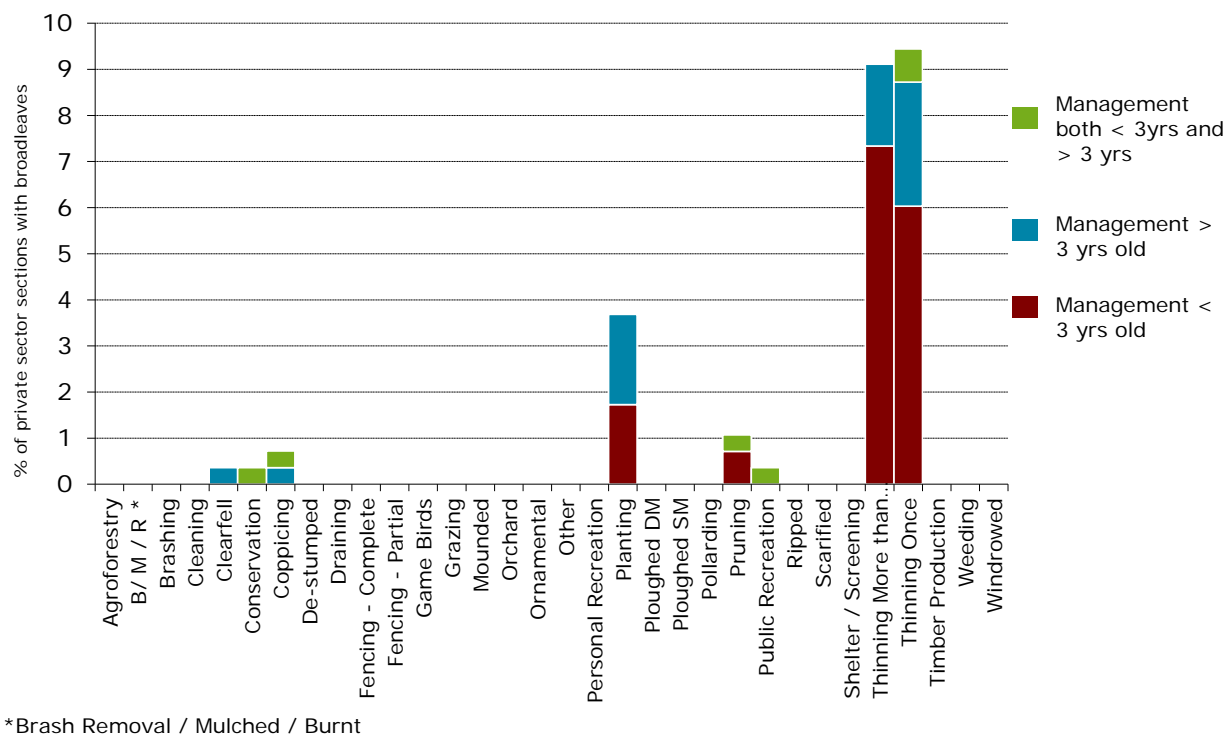
**Table 22** Sample square distribution

Number of squares surveyed	Number of squares surveyed	Number of Private sector squares surveyed	Number of Private sector squares containing coniferous species	Number of Private sector squares containing broadleaved species
East Midlands	150	146	68	141

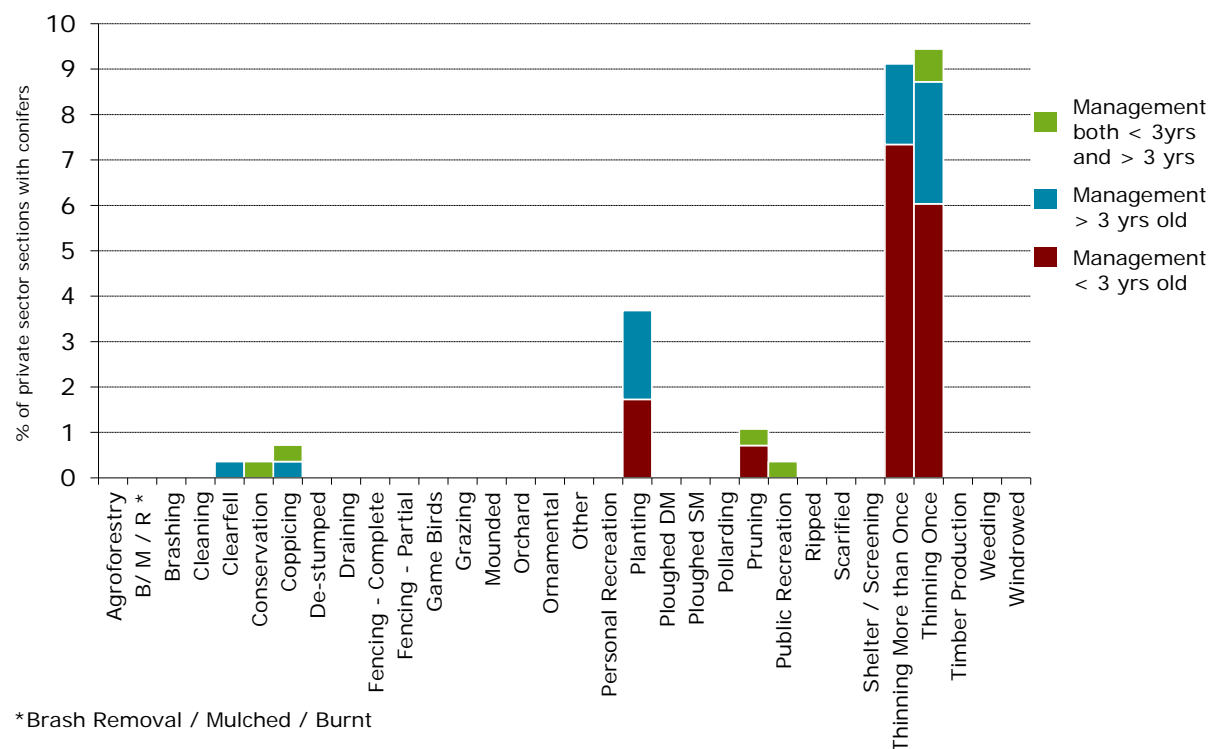
# Part 2 - what our woodlands are like today

## Evidence of management

**Figure 24** Evidence of management in PS broadleaf sections

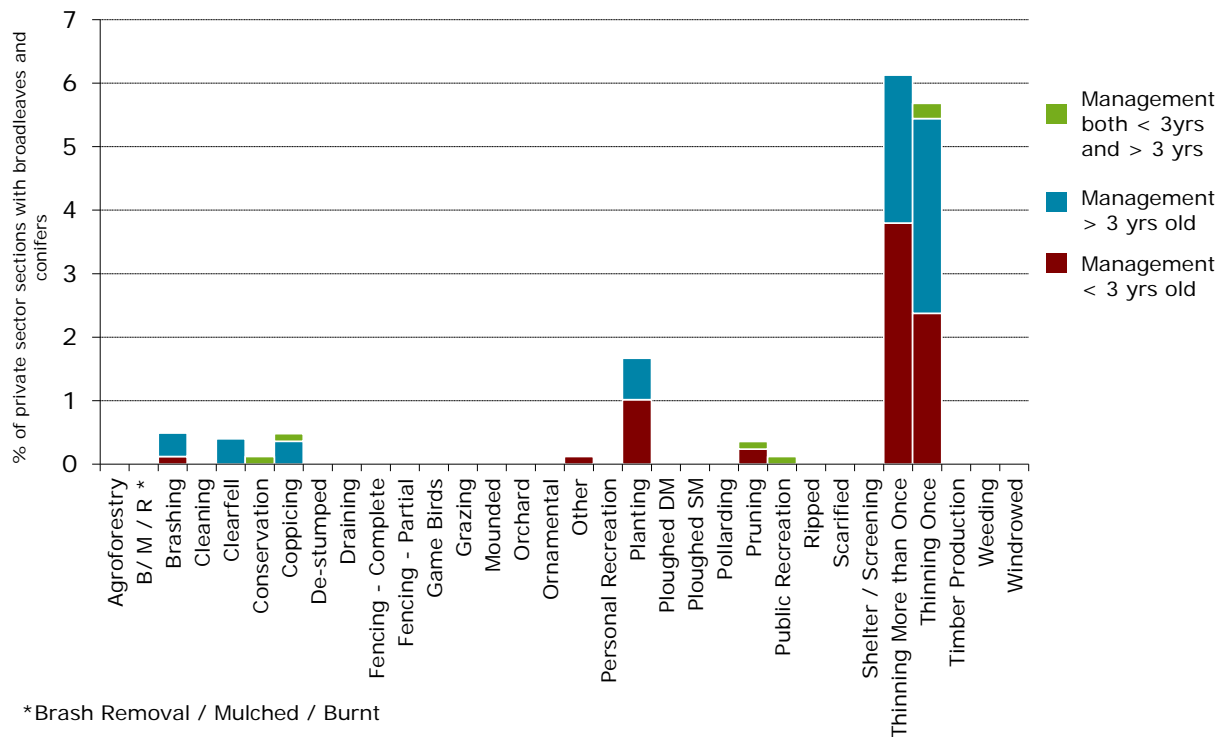


**Figure 25** Evidence of management in PS conifer sections

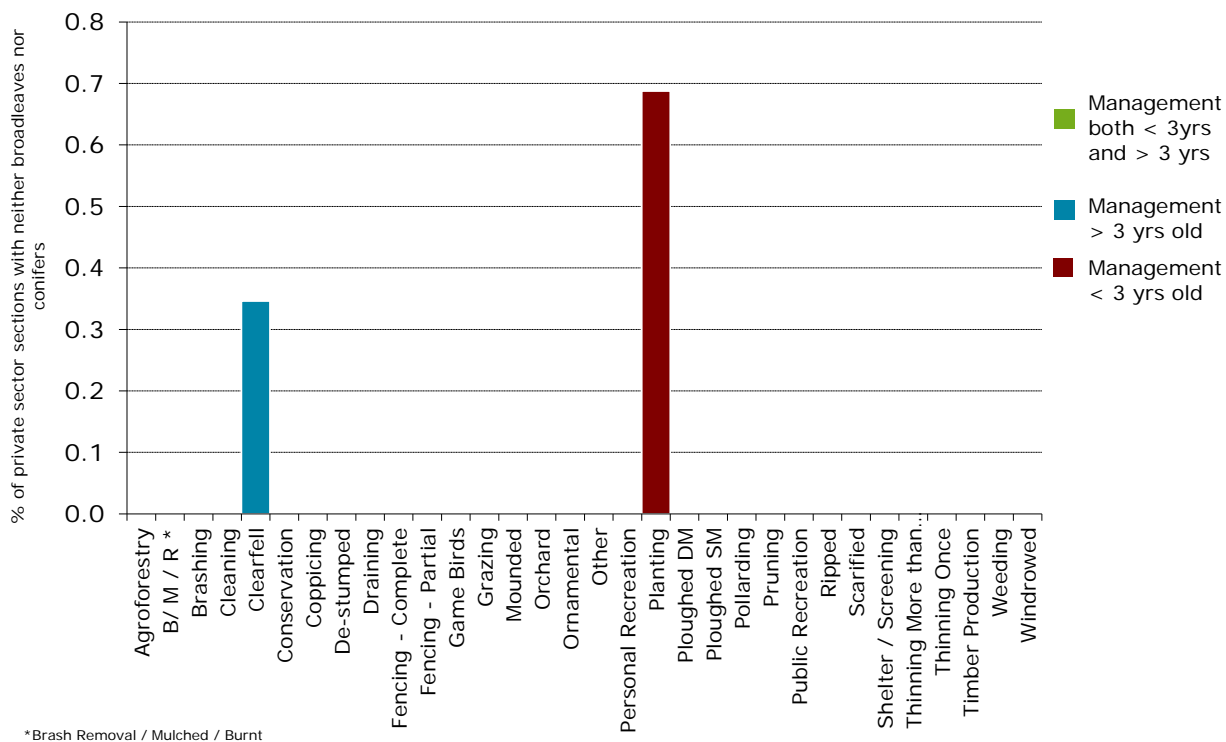


# Part 2 - what our woodlands are like today

**Figure 26** Evidence of management in PS mixed broadleaf/conifer sections



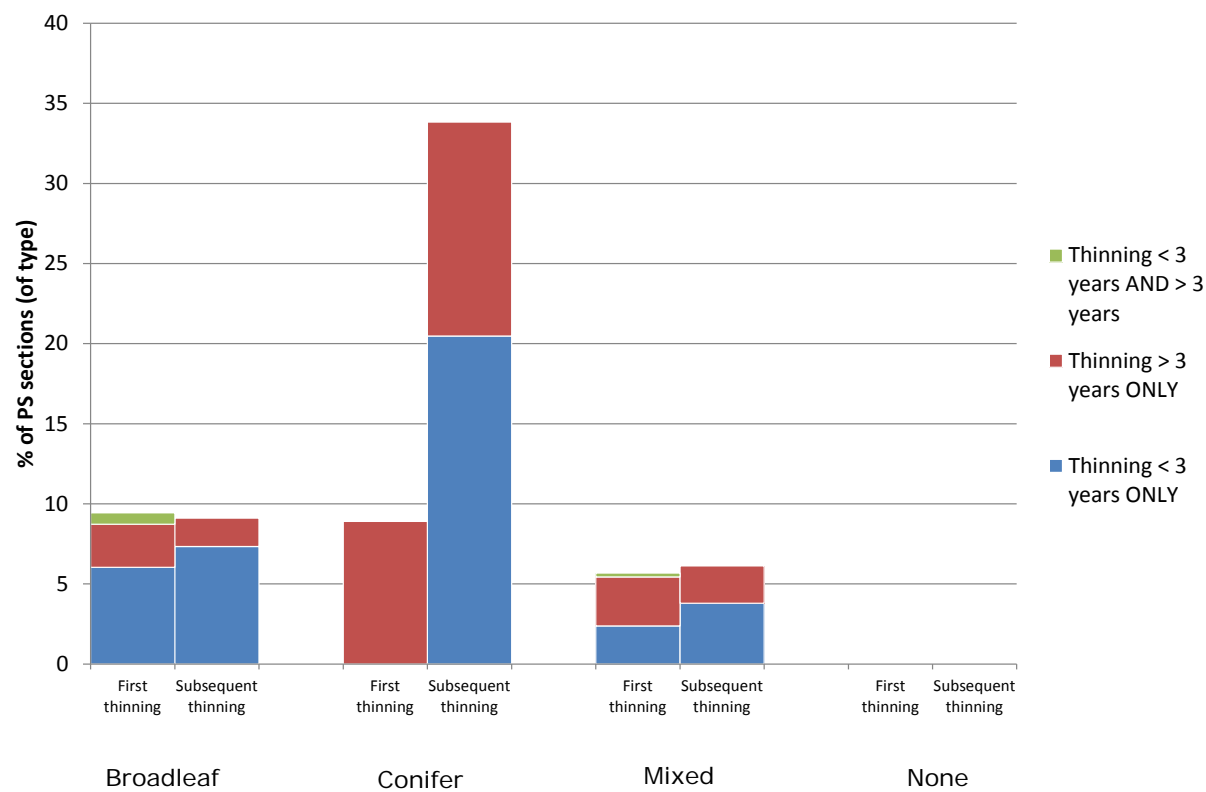
**Figure 27** Evidence of management in PS sections with no broadleaf or conifer



# Part 2 - what our woodlands are like today

## Evidence of thinning

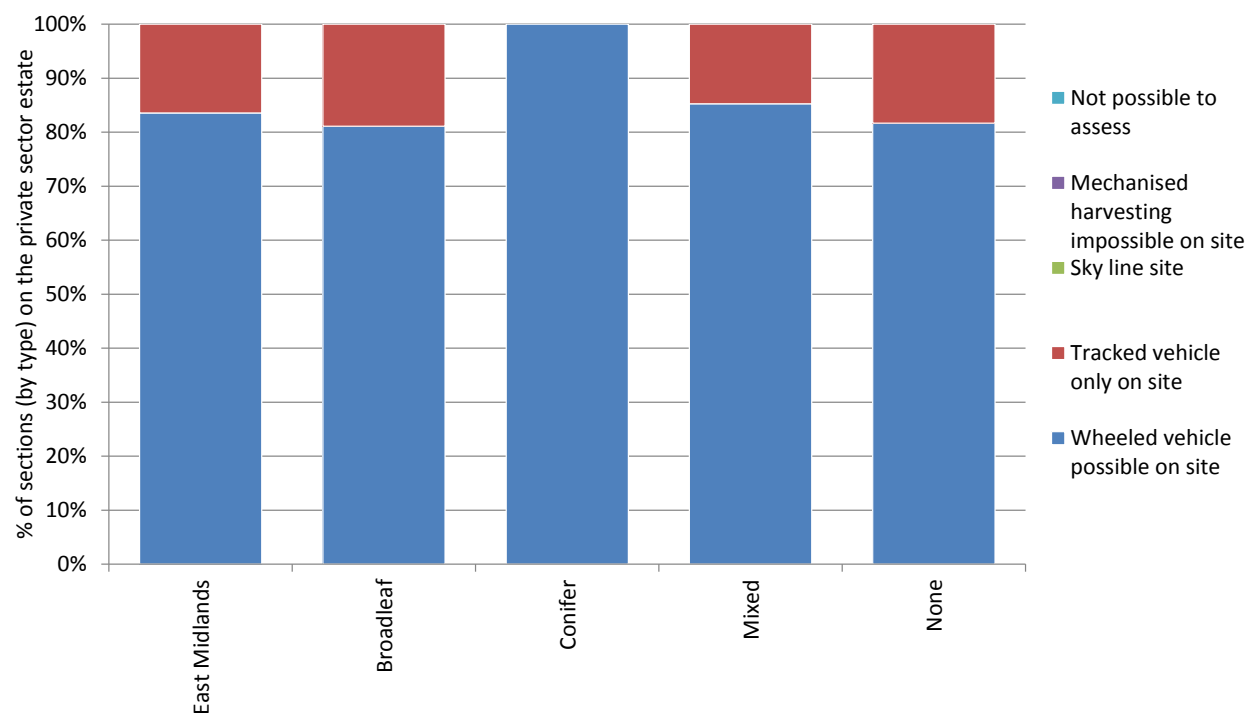
**Figure 28** Evidence of thinning



# Part 2 - what our woodlands are like today

## Suitability for harvesting

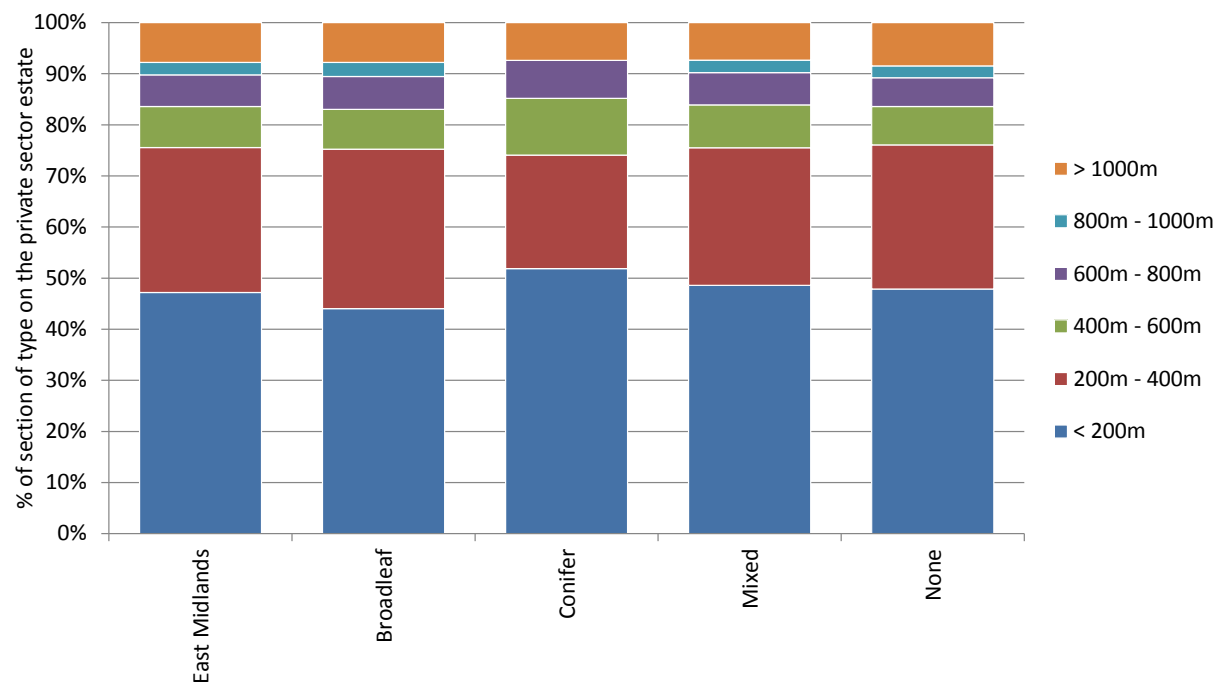
Figure 29 Suitability for harvesting



# Part 2 - what our woodlands are like today

## Distance to road

Figure 30 Distance to road



# Part 2 - what our woodlands are like today

## Type of road or ride

Figure 31 Road or ride in survey square

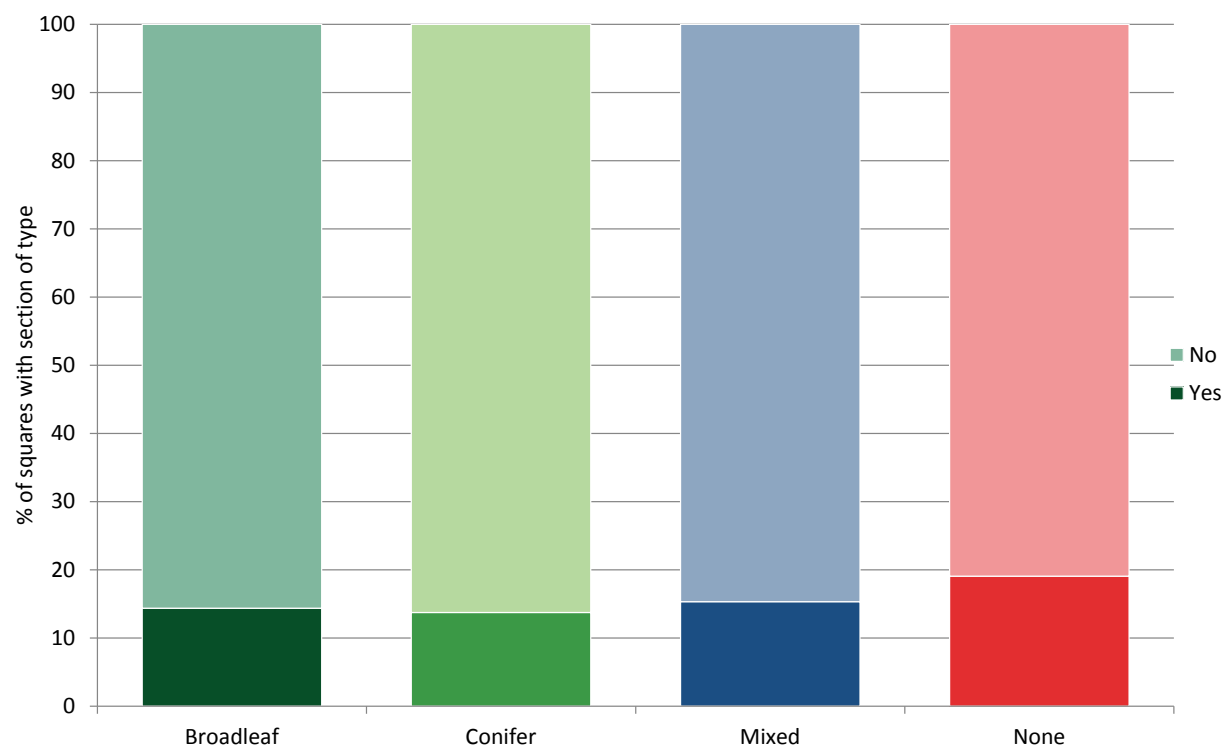
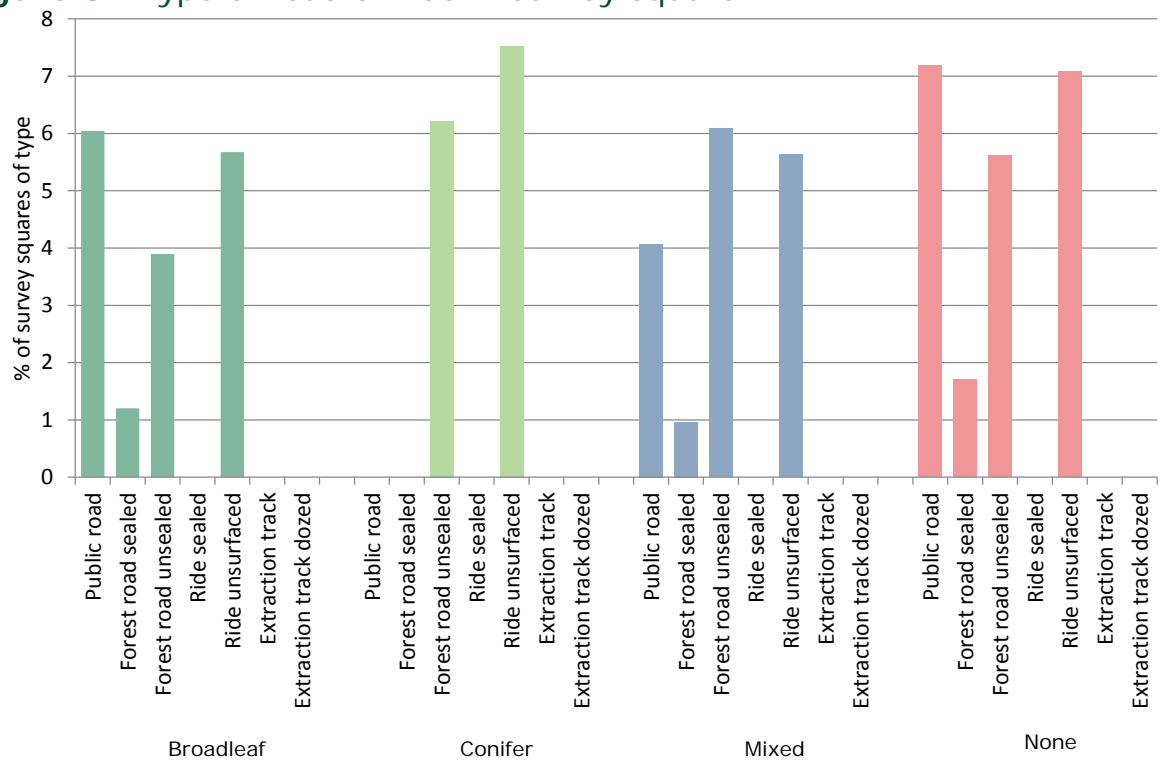


Figure 32 Type of road or ride in survey square

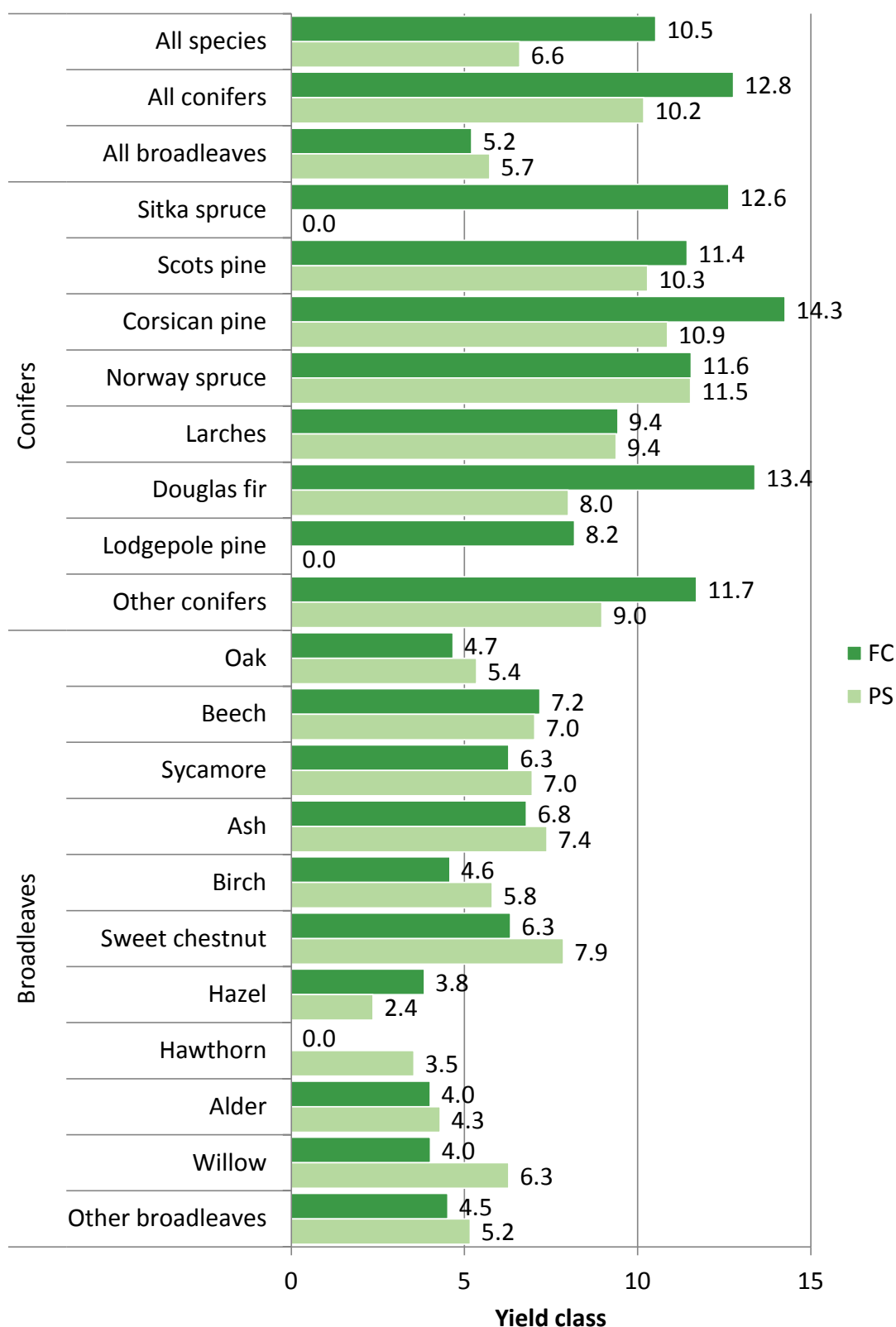




## Part 2 - what our woodlands are like today

### Mean yield class

**Figure 33** Mean yield class by principal tree species (FC and PS)



## Part 2 - what our woodlands are like today

**Table 23** Mean yield class by principal tree species (FC and PS)

Principal species	FC	Private sector
	mean yield class weighted by area	
Conifers		
Sitka spruce	12.6	0.0
Scots pine	11.4	10.3
Corsican pine	14.3	10.9
Norway spruce	11.6	11.5
Larches	9.4	9.4
Douglas fir	13.4	8.0
Lodgepole pine	8.2	0.0
Other conifers	11.7	9.0
All conifers	12.8	10.2
Broadleaves		
Oak	4.7	5.4
Beech	7.2	7.0
Sycamore	6.3	7.0
Ash	6.8	7.4
Birch	4.6	5.8
Sweet chestnut	6.3	7.9
Hazel	3.8	2.4
Hawthorn	0.0	3.5
Alder	4.0	4.3
Willow	4.0	6.3
Other broadleaves	4.5	5.2
All broadleaves	5.2	5.7
All species		
All species	10.5	6.6

### Overdue timber stocks

#### Overdue volume and area

**Table 24** Standing volume in overdue timber stocks

	FC	Private sector	
	volume (000 m <sup>3</sup> obs)	volume (000 m <sup>3</sup> obs)	SE %
East Midlands			
All conifers	34	746	34
All broadleaves	5	3,435	15
<b>All species</b>	<b>39</b>	<b>4,181</b>	<b>14</b>

**Table 25** Stocked area of overdue timber stocks

	FC	Private sector	
	area (000 ha)	area (000 ha)	SE %
East Midlands			
All conifers	0.1	1.6	31
All broadleaves	< 0.1	9.7	10
<b>All species</b>	<b>0.2</b>	<b>11.3</b>	<b>10</b>

## Part 3 – How our woodlands might change over time

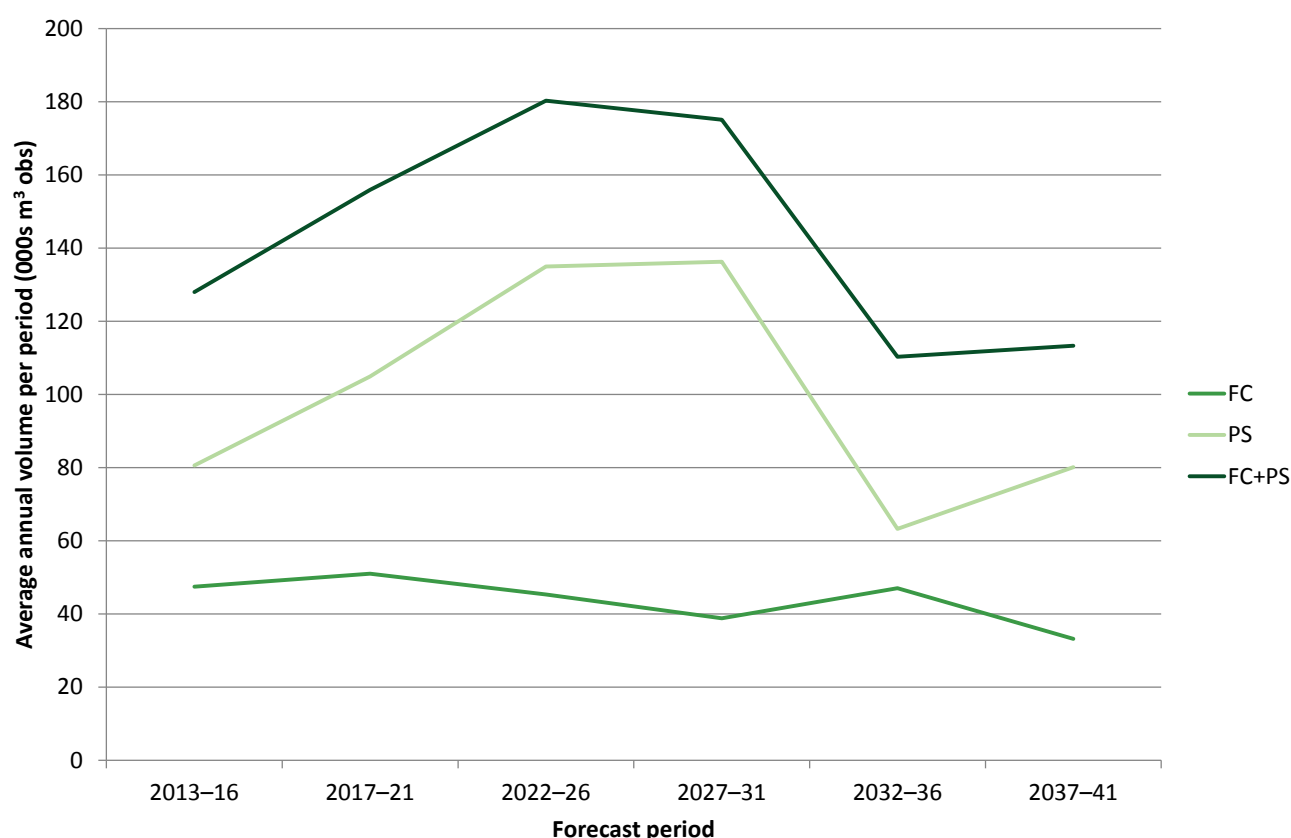
<b>25-year softwood forecast .....</b>	<b>61</b>
25-year forecast of softwood timber availability .....	61
25-year forecast of softwood timber availability by principal species .....	63
25-year forecast of softwood timber availability % spruce .....	64
25-year forecast of softwood timber availability by top diameter class .....	65
25-year forecast of standing volume in conifers.....	67
25-year forecast of net increment in conifers .....	68
Combined standing volume, net increment and availability .....	69
<b>50-year softwood forecast .....</b>	<b>70</b>
50-year forecast of softwood timber availability .....	70
50-year forecast of softwood timber availability by principal species .....	72
50-year forecast of softwood timber availability % spruce .....	75
50-year forecast of standing volume in conifers.....	76
50-year forecast of net increment in conifers .....	77
Combined standing volume, net increment and availability .....	78
<b>50-year hardwood forecast .....</b>	<b>79</b>
50-year forecast of hardwood timber availability .....	79
50-year forecast of hardwood timber availability by principal species .....	81
50-year forecast of hardwood timber availability by top diameter class .....	84
50-year forecast of standing volume in broadleaves.....	87
50-year forecast of net increment in broadleaves .....	91
Combined standing volume, net increment and availability .....	95

## Part 3 - how our woodlands might change

### 25-year softwood forecast

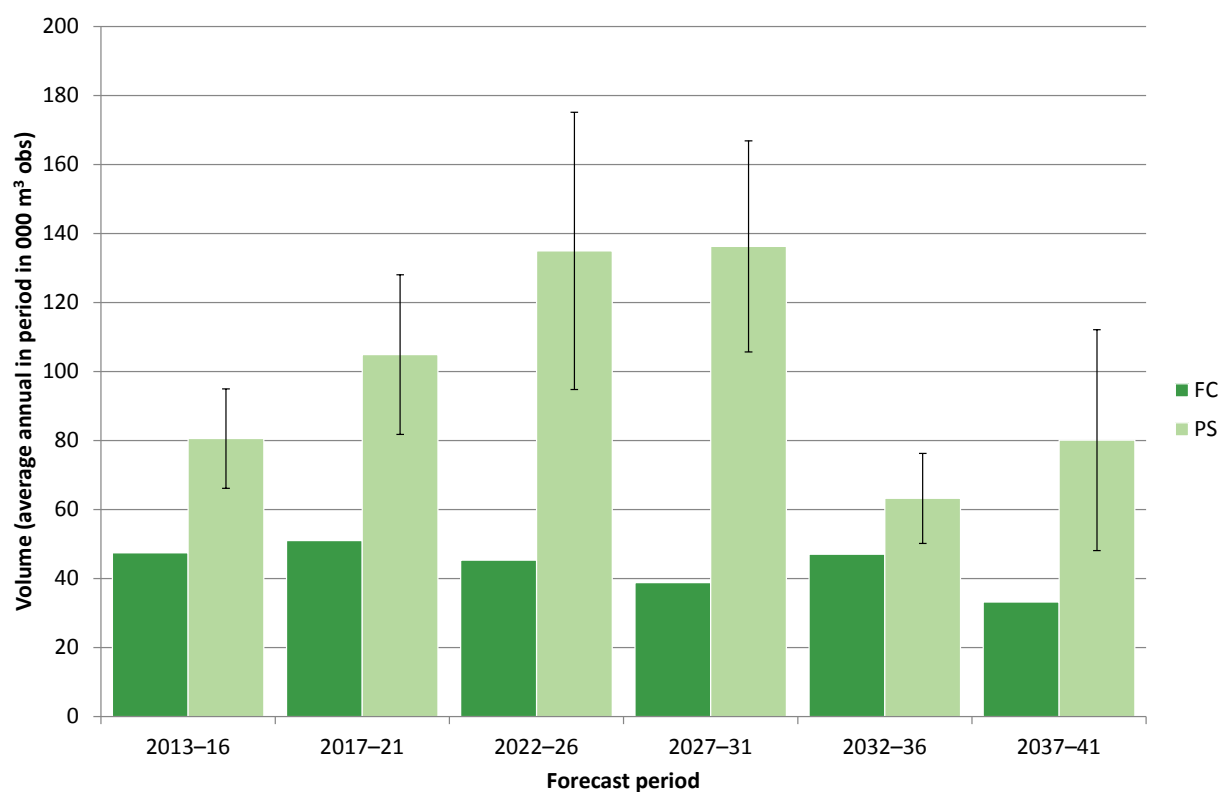
#### 25-year forecast of softwood timber availability

**Figure 34** Summary of 25-year forecast of softwood timber availability; average annual volume within period



## Part 3 - how our woodlands might change

**Figure 35** 25-year forecast of softwood timber availability; average annual volume within period



**Table 26** 25-year forecast of softwood availability; average annual volume within period

Forecast period	FC	Private sector		Total
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)
<b>East Midlands</b>				
2013-16	47	81	18	<b>128</b>
2017-21	51	105	22	<b>156</b>
2022-26	45	135	30	<b>180</b>
2027-31	39	136	22	<b>175</b>
2032-36	47	63	21	<b>110</b>
2037-41	33	80	40	<b>113</b>

## Part 3 - how our woodlands might change

### 25-year forecast of softwood timber availability by principal species

**Table 27** 25-year forecast of softwood timber availability by principal species; average annual volume within period

Principal species	2013–16			2017–21		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
All conifers	47	81	18	51	105	22
Sitka spruce	1	0	–	1	0	–
Scots pine	12	47	24	14	36	28
Corsican pine	30	13	42	31	29	46
Norway spruce	< 1	2	45	< 1	1	44
Larches	1	15	35	1	21	36
Douglas fir	< 1	0	–	< 1	< 1	77
Lodgepole pine	3	0	–	3	0	–
Other conifers	< 1	4	61	< 1	18	67

**Table 27 (cont'd)** 25-year forecast of softwood timber availability by principal species; average annual volume within period

Principal species	2022–26			2027–31		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
All conifers	45	135	30	39	136	22
Sitka spruce	< 1	0	–	< 1	0	–
Scots pine	11	88	44	8	82	30
Corsican pine	31	22	66	26	29	71
Norway spruce	< 1	1	44	< 1	5	76
Larches	1	13	35	2	12	37
Douglas fir	< 1	< 1	77	< 1	2	77
Lodgepole pine	2	0	–	2	0	–
Other conifers	< 1	10	81	< 1	6	85

## Part 3 - how our woodlands might change

**Table 27 (cont'd)** 25-year forecast of softwood timber availability by principal species; average annual volume within period

Principal species	2032–36			2037–41		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
All conifers	47	63	21	33	80	40
Sitka spruce	1	< 1	81	3	1	57
Scots pine	8	34	31	5	62	52
Corsican pine	35	5	57	21	5	59
Norway spruce	< 1	5	84	< 1	1	44
Larches	1	17	33	1	9	39
Douglas fir	< 1	< 1	81	< 1	< 1	45
Lodgepole pine	< 1	0	–	< 1	< 1	81
Other conifers	< 1	< 1	91	< 1	1	53

## 25-year forecast of softwood timber availability % spruce

**Table 28** 25-year forecast of softwood timber availability % spruce

East Midlands		Top diameter class (cm)								Total
		7–14	14–16	16–18	18–24	24–34	34–44	44–54	54+	
2013–16	FC (%)	5	4	4	3	2	< 1	< 1	< 1	<b>3</b>
	PS (%)	11	7	5	2	< 1	< 1	< 1	0	<b>2</b>
2017–21	FC (%)	4	4	4	4	2	1	< 1	< 1	<b>2</b>
	PS (%)	5	5	5	2	< 1	< 1	< 1	0	<b>1</b>
2022–26	FC (%)	3	4	4	3	2	1	< 1	< 1	<b>2</b>
	PS (%)	3	4	4	2	< 1	< 1	< 1	< 1	<b>1</b>
2027–31	FC (%)	8	6	6	4	2	1	< 1	< 1	<b>2</b>
	PS (%)	4	4	5	5	4	2	< 1	< 1	<b>4</b>
2032–36	FC (%)	15	9	5	3	1	1	2	< 1	<b>3</b>
	PS (%)	15	9	7	6	7	10	13	18	<b>10</b>
2037–41	FC (%)	24	19	12	6	6	8	10	11	<b>10</b>
	PS (%)	16	10	6	3	1	< 1	0	0	<b>3</b>



## Part 3 - how our woodlands might change

### 25-year forecast of softwood timber availability by top diameter class

**Table 29** 25-year forecast of softwood timber availability by top diameter class; average annual volume within period

Top diameter class (cm)	2013–16			2017–21		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
7–14	7	6	16	5	7	18
14–16	3	3	16	2	3	18
16–18	3	4	15	3	4	18
18–24	9	17	15	10	21	23
24–34	13	28	20	15	39	25
34–44	7	14	27	9	19	27
44–54	4	6	34	5	8	31
54+	2	3	49	4	4	43
Total	47	81	18	51	105	22

**Table 29 (cont'd)** 25-year forecast of softwood timber availability by top diameter class; average annual volume within period

Top diameter class (cm)	2022–26			2027–31		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
7–14	3	7	22	2	8	22
14–16	2	3	18	1	4	22
16–18	2	4	16	2	6	27
18–24	8	20	23	7	31	27
24–34	14	49	32	13	54	26
34–44	8	30	37	7	21	25
44–54	4	15	42	3	8	31
54+	4	6	38	3	3	41
Total	45	135	30	39	136	22

## Part 3 - how our woodlands might change

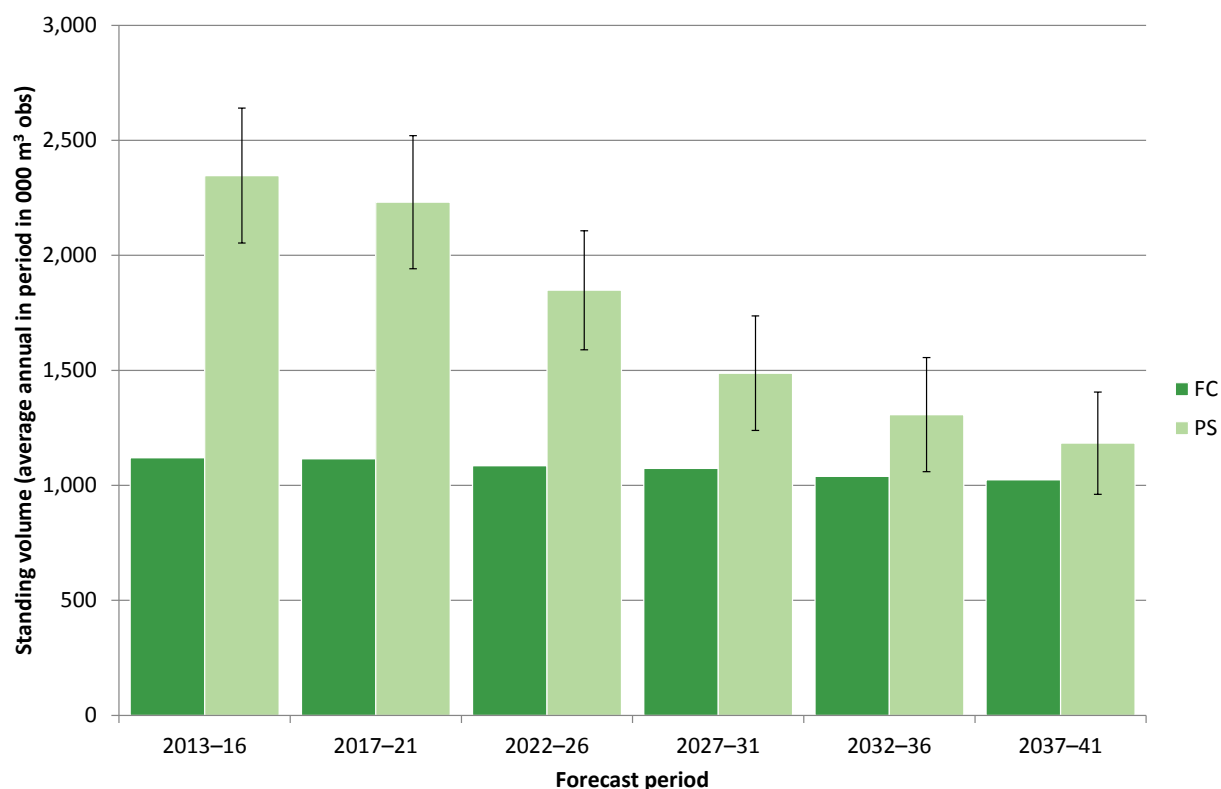
**Table 29 (cont'd)** 25-year forecast of softwood timber availability by top diameter class; average annual volume within period

Top diameter class (cm)	2032–36			2037–41		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
7–14	3	5	23	4	7	23
14–16	1	2	23	1	2	23
16–18	2	2	23	1	3	26
18–24	9	10	21	6	12	30
24–34	17	20	23	11	26	43
34–44	8	12	25	5	15	56
44–54	3	6	29	2	8	65
54+	3	6	40	2	7	57
Total	47	63	21	33	80	40

## Part 3 - how our woodlands might change

### 25-year forecast of standing volume in conifers

**Figure 36** 25-year forecast of standing volume in conifers



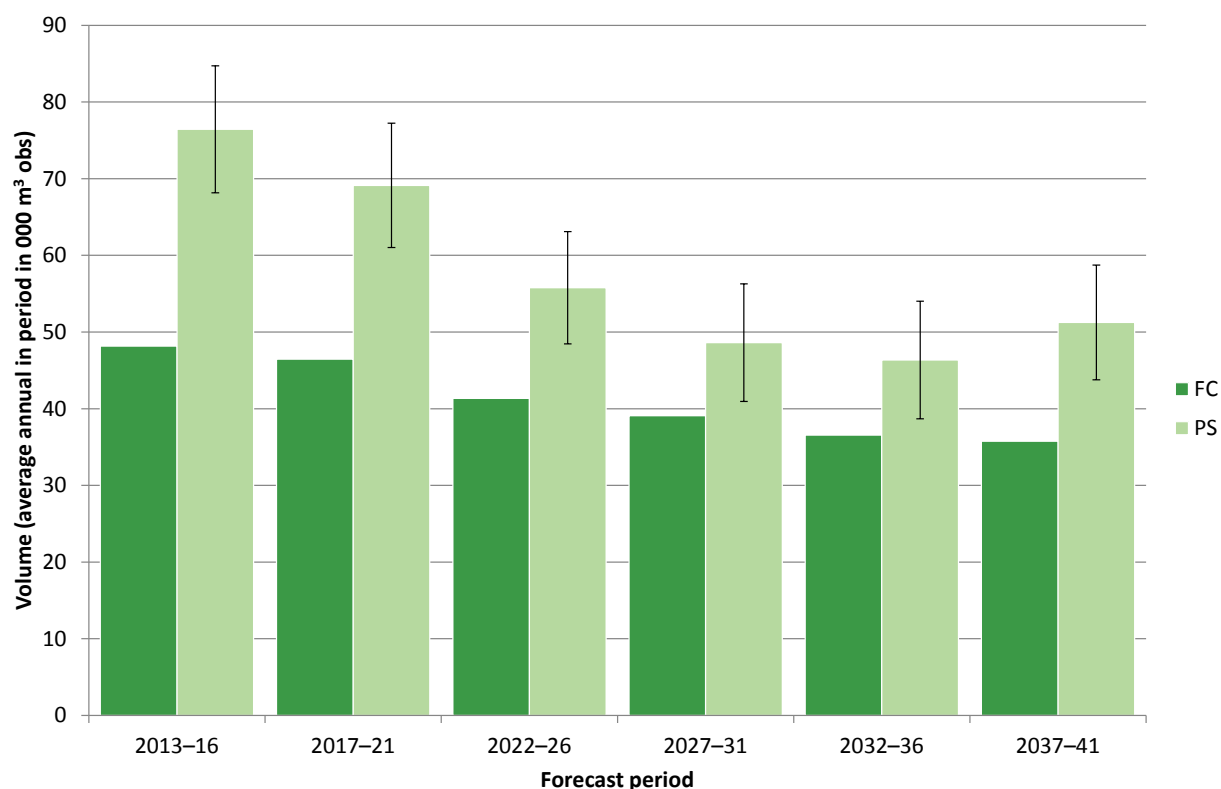
**Table 30** 25-year forecast of standing volume in conifers; average annual volume within period

Forecast period	FC	Private sector		Total
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)
East Midlands				
2013-16	1,120	2,347	13	3,467
2017-21	1,116	2,231	13	3,347
2022-26	1,086	1,848	14	2,934
2027-31	1,073	1,488	17	2,561
2032-36	1,039	1,308	19	2,347
2037-41	1,024	1,184	19	2,207

## Part 3 - how our woodlands might change

### 25-year forecast of net increment in conifers

**Figure 37** 25-year forecast of net increment in conifers



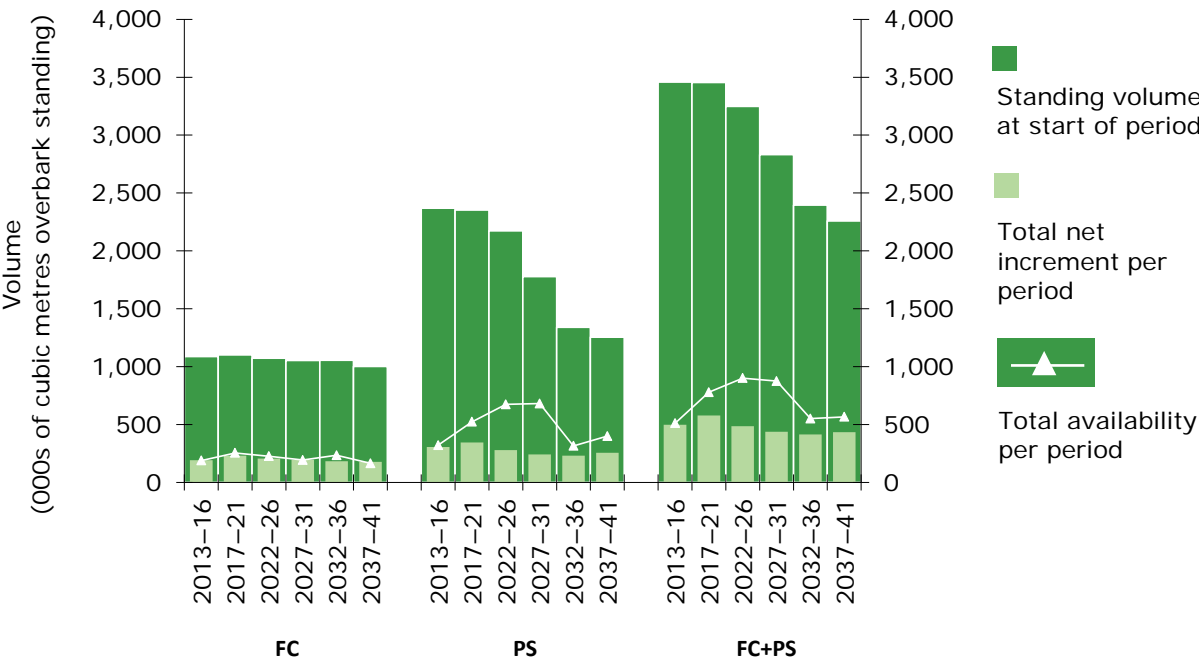
**Table 31** 25-year forecast of net increment in conifers; average annual volume within period

Forecast period	FC	Private sector		Total
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)
East Midlands				
2013-16	48	76	11	125
2017-21	46	69	12	116
2022-26	41	56	13	97
2027-31	39	49	16	88
2032-36	37	46	17	83
2037-41	36	51	15	87

# Part 3 - how our woodlands might change

## Combined standing volume, net increment and availability

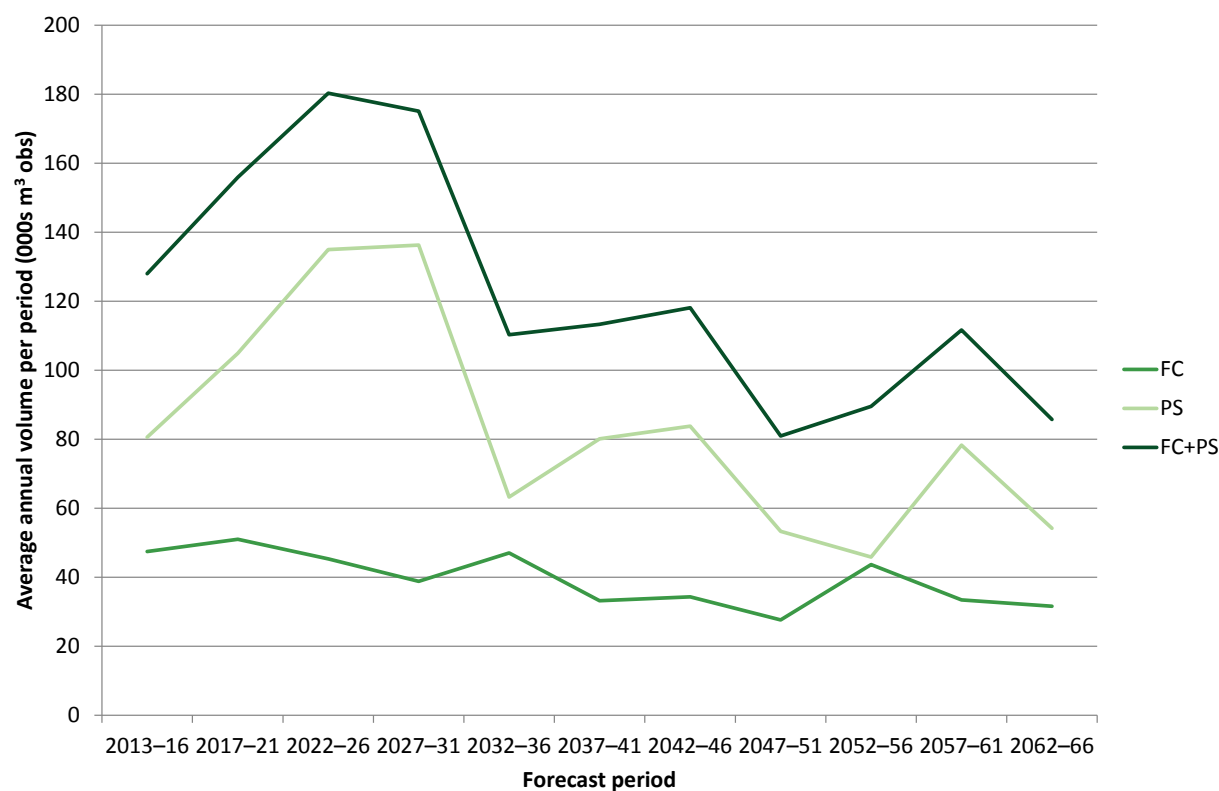
**Figure 38** 25-year forecast of standing volume, net increment and softwood availability



## 50-year softwood forecast

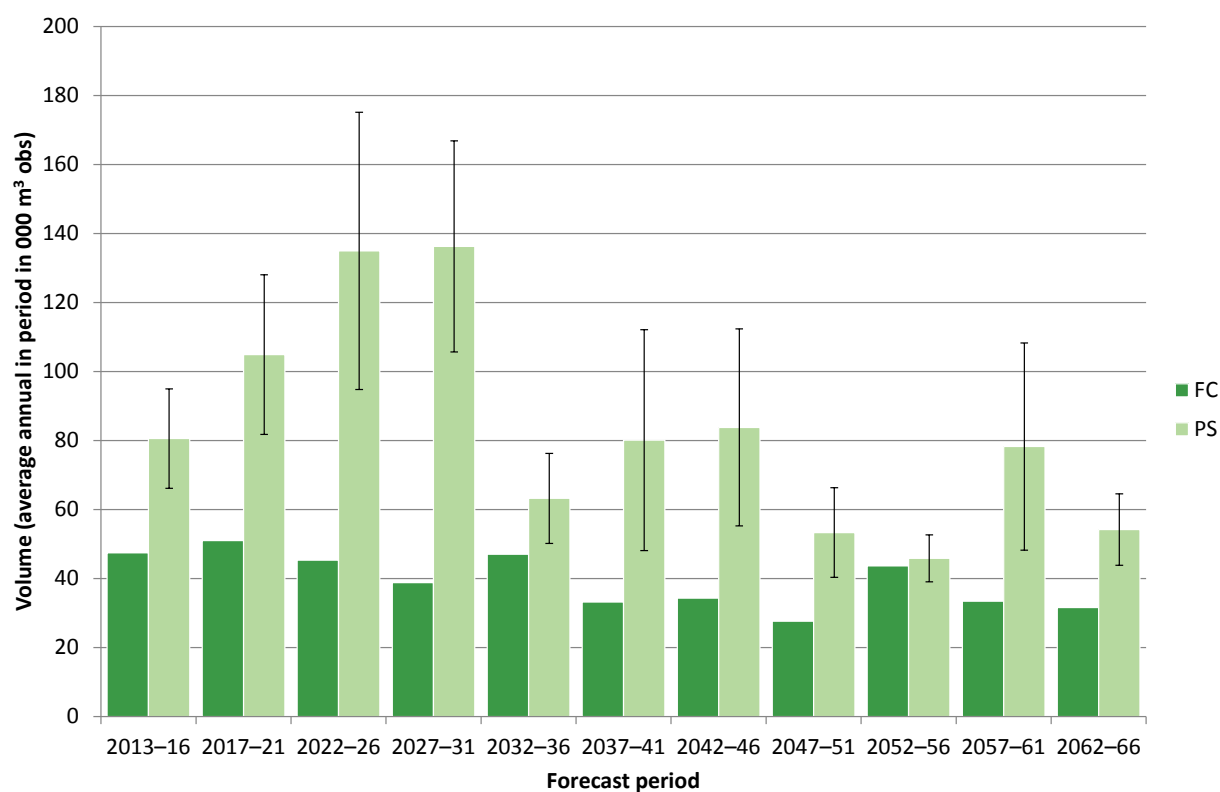
### 50-year forecast of softwood timber availability

**Figure 39** Summary of 50-year forecast of softwood timber availability; average annual volume within period



## Part 3 - how our woodlands might change

**Figure 40** 50-year forecast of softwood timber availability; average annual volume within period



**Table 32** Summary of 50-year forecast of softwood timber availability; average annual volume within period

Forecast period	FC	Private sector		Total
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)
East Midlands				
2013-16	47	81	18	128
2017-21	51	105	22	156
2022-26	45	135	30	180
2027-31	39	136	22	175
2032-36	47	63	21	110
2037-41	33	80	40	113
2042-46	34	84	34	118
2047-51	28	53	24	81
2052-56	44	46	15	90
2057-61	33	78	38	112
2062-66	32	54	19	86

## Part 3 - how our woodlands might change

### 50-year forecast of softwood timber availability by principal species

**Table 33** 50-year forecast of softwood timber availability by principal species; average annual volume within period

Principal species	2013–16			2017–21		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
All conifers	47	81	18	51	105	22
Sitka spruce	1	0	-	1	0	-
Scots pine	12	47	24	14	36	28
Corsican pine	30	13	42	31	29	46
Norway spruce	< 1	2	45	< 1	1	44
Larches	1	15	35	1	21	36
Douglas fir	< 1	0	-	< 1	< 1	77
Lodgepole pine	3	0	-	3	0	-
Other conifers	< 1	4	61	< 1	18	67

**Table 33 (cont'd)** 50-year forecast of softwood timber availability by principal species; average annual volume within period

Principal species	2022–26			2027–31		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
All conifers	45	135	30	39	136	22
Sitka spruce	< 1	0	-	< 1	0	-
Scots pine	11	88	44	8	82	30
Corsican pine	31	22	66	26	29	71
Norway spruce	< 1	1	44	< 1	5	76
Larches	1	13	35	2	12	37
Douglas fir	< 1	< 1	77	< 1	2	77
Lodgepole pine	2	0	-	2	0	-
Other conifers	< 1	10	81	< 1	6	85



## Part 3 - how our woodlands might change

**Table 33 (cont'd)** 50-year forecast of softwood timber availability by principal species; average annual volume within period

Principal species	2032–36			2037–41		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
All conifers	47	63	21	33	80	40
Sitka spruce	1	< 1	81	3	1	57
Scots pine	8	34	31	5	62	52
Corsican pine	35	5	57	21	5	59
Norway spruce	< 1	5	84	< 1	1	44
Larches	1	17	33	1	9	39
Douglas fir	< 1	< 1	81	< 1	< 1	45
Lodgepole pine	< 1	0	-	< 1	< 1	81
Other conifers	< 1	< 1	91	< 1	1	53

**Table 33 (cont'd)** 50-year forecast of softwood timber availability by principal species; average annual volume within period

Principal species	2042–46			2047–51		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
All conifers	34	84	34	28	53	24
Sitka spruce	4	1	47	2	2	34
Scots pine	5	63	45	6	25	30
Corsican pine	21	3	84	15	3	81
Norway spruce	< 1	1	38	< 1	8	62
Larches	2	8	39	1	8	40
Douglas fir	< 1	2	35	< 1	2	30
Lodgepole pine	< 1	< 1	81	< 1	< 1	81
Other conifers	1	6	51	2	5	30

## Part 3 - how our woodlands might change

**Table 33 (cont'd)** 50-year forecast of softwood timber availability by principal species; average annual volume within period

Principal species	2052–56			2057–61		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
All conifers	44	46	15	33	78	38
Sitka spruce	3	3	27	3	4	25
Scots pine	9	21	21	7	21	19
Corsican pine	26	2	78	17	33	88
Norway spruce	< 1	< 1	27	< 1	1	29
Larches	2	8	38	2	8	39
Douglas fir	2	3	24	1	4	22
Lodgepole pine	< 1	< 1	81	< 1	< 1	81
Other conifers	3	7	27	3	8	25

**Table 33 (cont'd)** 50-year forecast of softwood timber availability by principal species; average annual volume within period

Principal species	2062–66		
	FC	Private sector	
	volume (000 m <sup>3</sup> obs)		SE%
East Midlands			
All conifers	32	54	19
Sitka spruce	3	4	21
Scots pine	11	31	30
Corsican pine	11	< 1	36
Norway spruce	< 1	3	31
Larches	2	4	37
Douglas fir	2	4	22
Lodgepole pine	< 1	< 1	81
Other conifers	3	8	24

## Part 3 - how our woodlands might change

### 50-year forecast of softwood timber availability % spruce

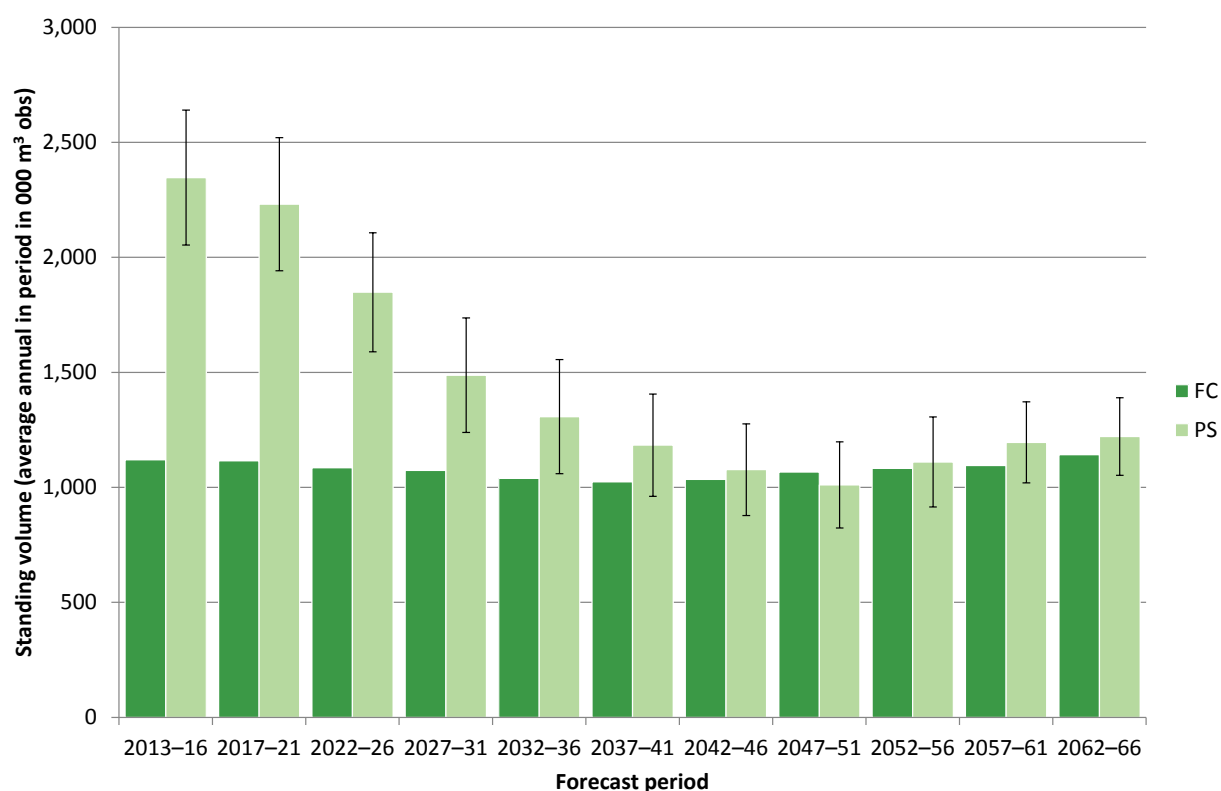
**Table 34** 50-year forecast of softwood timber availability % spruce

East Midlands		Top diameter class (cm)								Total
		7-14	14-16	16-18	18-24	24-34	34-44	44-54	54+	
2013-16	FC (%)	5	4	4	3	2	< 1	< 1	< 1	<b>3</b>
	PS (%)	11	7	5	2	< 1	< 1	< 1	0	<b>2</b>
2017-21	FC (%)	4	4	4	4	2	1	< 1	< 1	<b>2</b>
	PS (%)	5	5	5	2	< 1	< 1	< 1	0	<b>1</b>
2022-26	FC (%)	3	4	4	3	2	1	< 1	< 1	<b>2</b>
	PS (%)	3	4	4	2	< 1	< 1	< 1	< 1	<b>1</b>
2027-31	FC (%)	8	6	6	4	2	1	< 1	< 1	<b>2</b>
	PS (%)	4	4	5	5	4	2	< 1	< 1	<b>4</b>
2032-36	FC (%)	15	9	5	3	1	1	2	< 1	<b>3</b>
	PS (%)	15	9	7	6	7	10	13	18	<b>10</b>
2037-41	FC (%)	24	19	12	6	6	8	10	11	<b>10</b>
	PS (%)	16	10	6	3	1	< 1	0	0	<b>3</b>
2042-46	FC (%)	27	27	25	19	10	5	5	3	<b>13</b>
	PS (%)	10	10	7	3	1	< 1	< 1	0	<b>3</b>
2047-51	FC (%)	17	20	20	14	6	4	3	2	<b>10</b>
	PS (%)	12	18	22	27	34	26	19	0	<b>20</b>
2052-56	FC (%)	13	14	14	12	5	3	3	2	<b>7</b>
	PS (%)	10	15	16	14	6	1	< 1	< 1	<b>9</b>
2057-61	FC (%)	12	13	14	15	10	5	4	2	<b>10</b>
	PS (%)	9	12	11	7	3	< 1	0	0	<b>6</b>
2062-66	FC (%)	9	12	11	7	3	< 1	0	0	<b>6</b>
	PS (%)	12	13	14	15	13	9	7	5	<b>12</b>

## Part 3 - how our woodlands might change

### 50-year forecast of standing volume in conifers

**Figure 41** 50-year forecast of standing volume in conifers; average annual volume within period



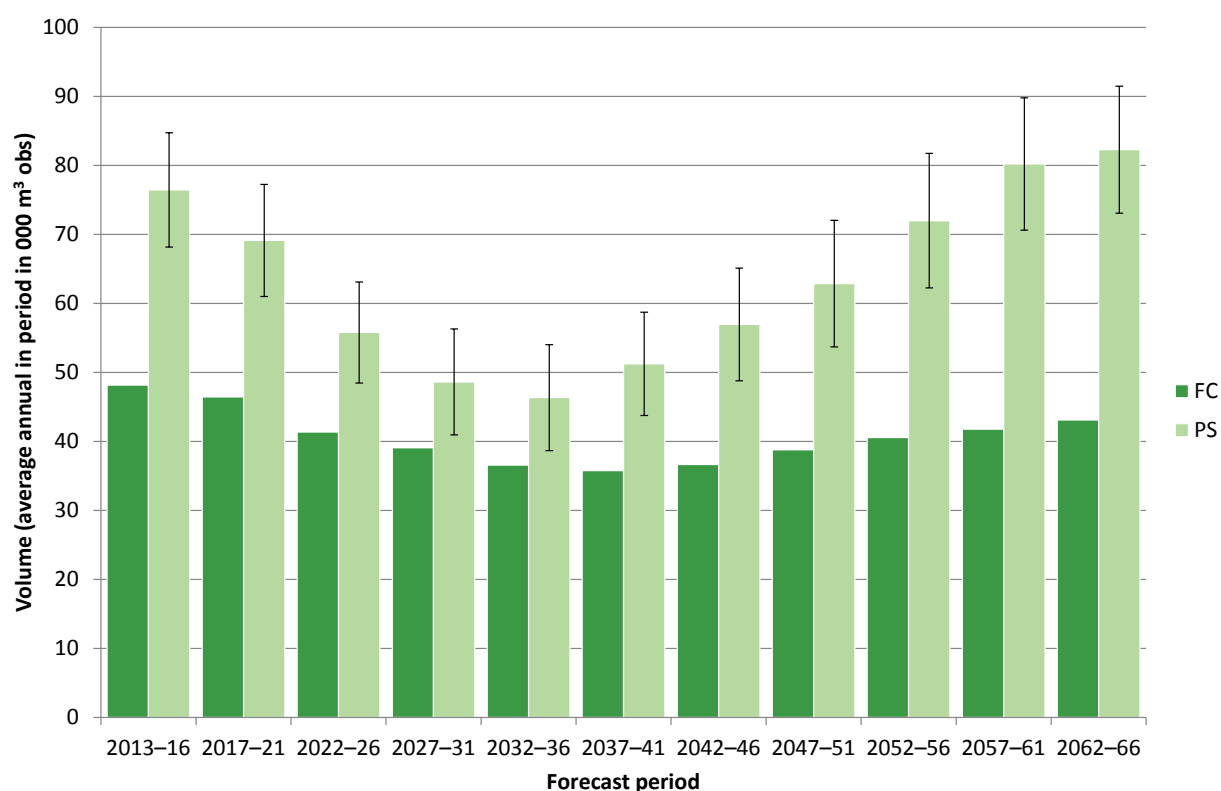
**Table 35** 50-year forecast of standing volume in conifers; average annual volume within period

Forecast period	FC	Private sector		Total
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)
East Midlands				
2013–16	1,120	2,347	13	3,467
2017–21	1,116	2,231	13	3,347
2022–26	1,086	1,848	14	2,934
2027–31	1,073	1,488	17	2,561
2032–36	1,039	1,308	19	2,347
2037–41	1,024	1,184	19	2,207
2042–46	1,035	1,077	19	2,112
2047–51	1,067	1,011	19	2,077
2052–56	1,083	1,111	18	2,193
2057–61	1,095	1,196	15	2,291
2062–66	1,142	1,221	14	2,364

## Part 3 - how our woodlands might change

### 50-year forecast of net increment in conifers

**Figure 42** 50-year forecast of net increment in conifers; average annual volume within period



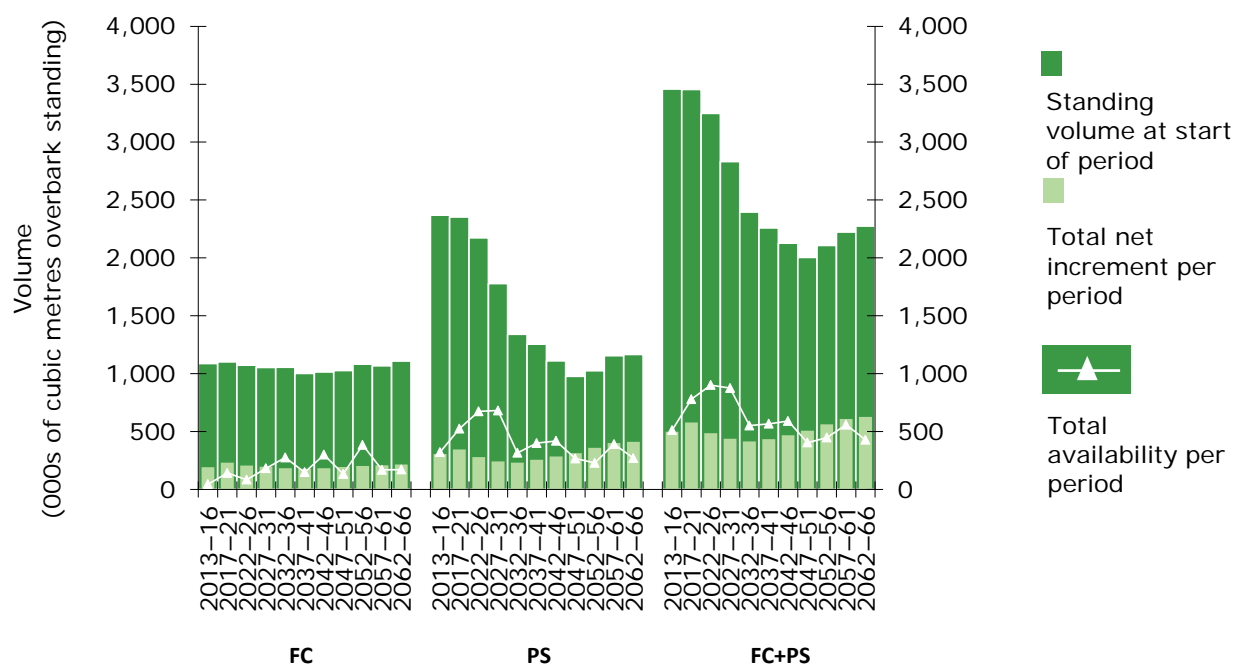
**Table 36** 50-year forecast of net increment in conifers; average annual volume within period

Forecast period	FC	Private sector		Total
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000m³ obs)
East Midlands				
2013-16	48	76	11	125
2017-21	46	69	12	116
2022-26	41	56	13	97
2027-31	39	49	16	88
2032-36	37	46	17	83
2037-41	36	51	15	87
2042-46	37	57	14	94
2047-51	39	63	15	102
2052-56	41	72	14	113
2057-61	42	80	12	122
2062-66	43	82	11	125

# Part 3 - how our woodlands might change

## Combined standing volume, net increment and availability

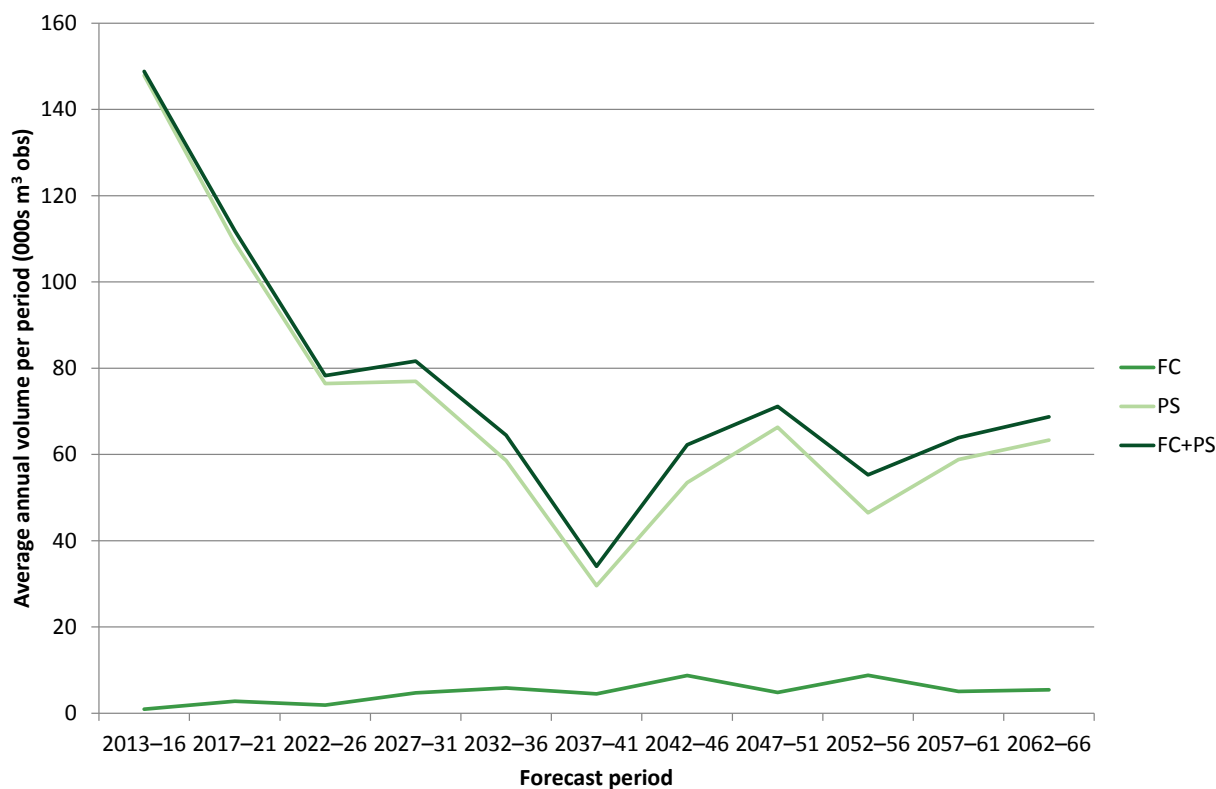
**Figure 43** 50-year forecast of standing volume, net increment and softwood availability



## 50-year hardwood forecast

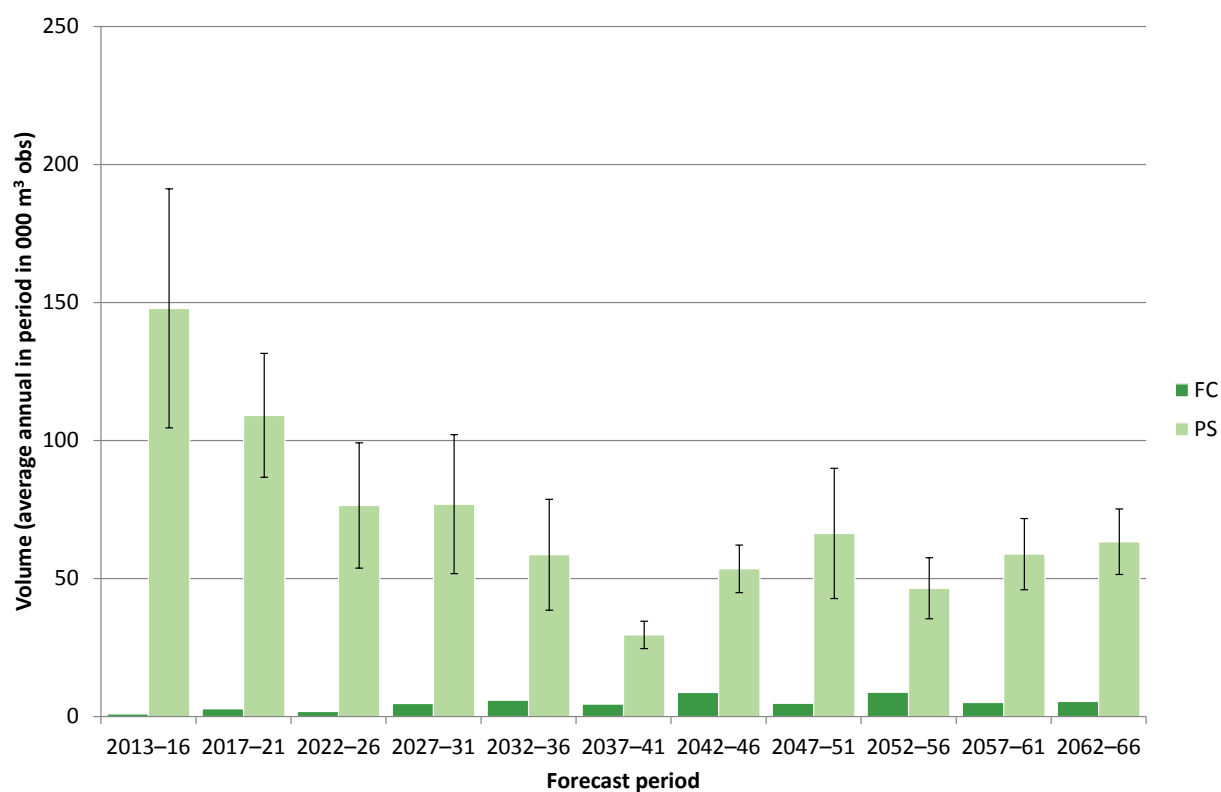
### 50-year forecast of hardwood timber availability

**Figure 44** Summary of 50-year forecast of hardwood timber availability; average annual volume within period



## Part 3 - how our woodlands might change

**Figure 45** 50-year forecast of hardwood timber availability; average annual volume within period



**Table 37** 50-year forecast of hardwood timber availability; average annual volume within period

Forecast period	FC	Private sector		Total
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)
East Midlands				
2013-16	< 1	148	29	149
2017-21	3	109	21	112
2022-26	2	76	30	78
2027-31	5	77	33	82
2032-36	6	59	34	64
2037-41	4	30	17	34
2042-46	9	53	16	62
2047-51	5	66	36	71
2052-56	9	46	24	55
2057-61	5	59	22	64
2062-66	5	63	19	69



## Part 3 - how our woodlands might change

### 50-year forecast of hardwood timber availability by principal species

**Table 38** 50-year forecast of hardwood timber availability by principal species; average annual volume within period

Principal species	2013–16			2017–21		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
All broadleaves	< 1	148	29	3	109	21
Oak	< 1	18	62	< 1	21	53
Beech	< 1	< 1	82	< 1	< 1	71
Sycamore	< 1	49	42	< 1	26	38
Ash	< 1	51	54	< 1	30	39
Birch	< 1	19	32	< 1	19	32
Sweet chestnut	< 1	2	58	< 1	3	63
Hazel	0	2	45	0	1	50
Hawthorn	0	3	41	0	2	33
Alder	< 1	< 1	96	< 1	< 1	47
Willow	0	< 1	42	0	< 1	53
Other broadleaves	< 1	5	54	1	6	45

**Table 38 (cont'd)** 50-year forecast of hardwood timber availability by principal species; average annual volume within period

Principal species	2022–26			2027–31		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
All broadleaves	2	76	30	5	77	33
Oak	< 1	21	51	< 1	58	43
Beech	< 1	< 1	58	< 1	< 1	55
Sycamore	< 1	11	36	< 1	3	37
Ash	< 1	6	39	< 1	2	50
Birch	< 1	7	27	< 1	< 1	24
Sweet chestnut	< 1	21	87	< 1	3	71
Hazel	< 1	3	72	< 1	4	81
Hawthorn	0	2	40	0	2	42
Alder	< 1	< 1	37	< 1	< 1	37
Willow	0	< 1	49	< 1	< 1	57
Other broadleaves	< 1	6	41	1	4	28

## Part 3 - how our woodlands might change

**Table 38 (cont'd)** 50-year forecast of hardwood timber availability by principal species; average annual volume within period

Principal species	2032–36			2037–41		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
All broadleaves	6	59	34	4	30	17
Oak	< 1	33	60	< 1	4	38
Beech	2	< 1	54	< 1	< 1	47
Sycamore	1	4	31	1	5	31
Ash	< 1	3	42	< 1	4	38
Birch	< 1	2	30	< 1	4	31
Sweet chestnut	< 1	3	71	< 1	3	71
Hazel	< 1	4	60	< 1	< 1	82
Hawthorn	0	2	39	0	2	35
Alder	< 1	< 1	37	< 1	< 1	36
Willow	< 1	< 1	54	< 1	< 1	54
Other broadleaves	1	7	40	1	6	46

**Table 38 (cont'd)** 50-year forecast of hardwood timber availability by principal species; average annual volume within period

Principal species	2042–46			2047–51		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
All broadleaves	9	53	16	5	66	36
Oak	< 1	5	35	< 1	9	37
Beech	1	< 1	37	< 1	< 1	28
Sycamore	2	16	38	< 1	8	27
Ash	2	7	26	< 1	7	33
Birch	< 1	7	23	< 1	8	23
Sweet chestnut	< 1	3	71	< 1	24	95
Hazel	< 1	< 1	79	< 1	1	60
Hawthorn	0	2	34	0	4	53
Alder	< 1	1	44	< 1	< 1	49
Willow	< 1	< 1	54	< 1	< 1	54
Other broadleaves	2	11	39	1	4	26

## Part 3 - how our woodlands might change

**Table 38 (cont'd)** 50-year forecast of hardwood timber availability by principal species; average annual volume within period

Principal species	2052–56			2057–61		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
All broadleaves	9	46	24	5	59	22
Oak	< 1	8	30	< 1	8	32
Beech	2	< 1	22	< 1	2	72
Sycamore	1	13	39	< 1	10	36
Ash	< 1	12	55	< 1	8	50
Birch	1	5	30	< 1	11	33
Sweet chestnut	< 1	1	58	< 1	12	81
Hazel	< 1	1	61	< 1	1	51
Hawthorn	0	2	35	0	2	43
Alder	< 1	0	-	< 1	0	-
Willow	< 1	< 1	54	< 1	< 1	54
Other broadleaves	3	3	33	2	4	38

**Table 38 (cont'd)** 50-year forecast of hardwood timber availability by principal species; average annual volume within period

Principal species	2062–66		
	FC	Private sector	
	volume (000 m³ obs)		SE%
East Midlands			
All broadleaves	5	63	19
Oak	< 1	9	28
Beech	2	< 1	15
Sycamore	< 1	15	36
Ash	< 1	8	49
Birch	< 1	19	33
Sweet chestnut	< 1	< 1	61
Hazel	< 1	2	45
Hawthorn	0	5	57
Alder	< 1	< 1	50
Willow	< 1	< 1	54
Other broadleaves	1	4	29

## Part 3 - how our woodlands might change

### 50-year forecast of hardwood timber availability by top diameter class

**Table 39** 50-year forecast of hardwood timber availability by top diameter class; average annual volume within period

Top diameter class (cm)	2013–16			2017–21		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
7–14	< 1	18	21	< 1	17	26
14–16	< 1	5	32	< 1	5	26
16–18	< 1	7	32	< 1	6	24
18–24	< 1	27	30	< 1	21	23
24–34	< 1	32	25	< 1	28	23
34–44	< 1	19	38	< 1	14	29
44–54	< 1	10	41	< 1	7	33
54+	< 1	30	68	< 1	11	60
Total	< 1	148	29	3	109	21

**Table 39 (cont'd)** 50-year forecast of hardwood timber availability by top diameter class; average annual volume within period

Top diameter class (cm)	2022–26			2027–31		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
7–14	< 1	14	20	1	12	18
14–16	< 1	3	24	< 1	2	31
16–18	< 1	3	24	< 1	2	34
18–24	< 1	10	23	< 1	7	33
24–34	< 1	18	37	1	16	38
34–44	< 1	11	48	< 1	14	42
44–54	< 1	6	51	< 1	8	45
54+	< 1	10	65	< 1	17	53
Total	2	76	30	5	77	33

## Part 3 - how our woodlands might change

**Table 39 (cont'd)** 50-year forecast of hardwood timber availability by top diameter class; average annual volume within period

Top diameter class (cm)	2032–36			2037–41		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
7–14	2	15	15	1	16	15
14–16	< 1	2	22	< 1	2	17
16–18	< 1	2	25	< 1	1	22
18–24	< 1	6	27	< 1	4	27
24–34	1	11	48	< 1	4	34
34–44	< 1	9	59	< 1	2	42
44–54	< 1	5	63	< 1	< 1	48
54+	< 1	8	56	< 1	1	56
Total	6	59	34	4	30	17

**Table 39 (cont'd)** 50-year forecast of hardwood timber availability by top diameter class; average annual volume within period

Top diameter class (cm)	2042–46			2047–51		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
7–14	2	20	15	2	17	15
14–16	< 1	4	22	< 1	3	14
16–18	< 1	4	22	< 1	3	14
18–24	2	10	19	1	9	16
24–34	2	9	32	< 1	11	36
34–44	< 1	3	34	< 1	7	64
44–54	< 1	< 1	40	< 1	4	74
54+	< 1	1	58	< 1	12	91
Total	9	53	16	5	66	36

## Part 3 - how our woodlands might change

**Table 39 (cont'd)** 50-year forecast of hardwood timber availability by top diameter class; average annual volume within period

Top diameter class (cm)	2052–56			2057–61		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
7–14	2	14	16	2	15	17
14–16	< 1	3	16	< 1	3	18
16–18	< 1	2	17	< 1	4	19
18–24	2	7	21	< 1	11	22
24–34	2	9	36	< 1	14	36
34–44	< 1	5	50	< 1	7	40
44–54	< 1	3	62	< 1	3	44
54+	< 1	3	60	< 1	2	42
Total	9	46	24	5	59	22

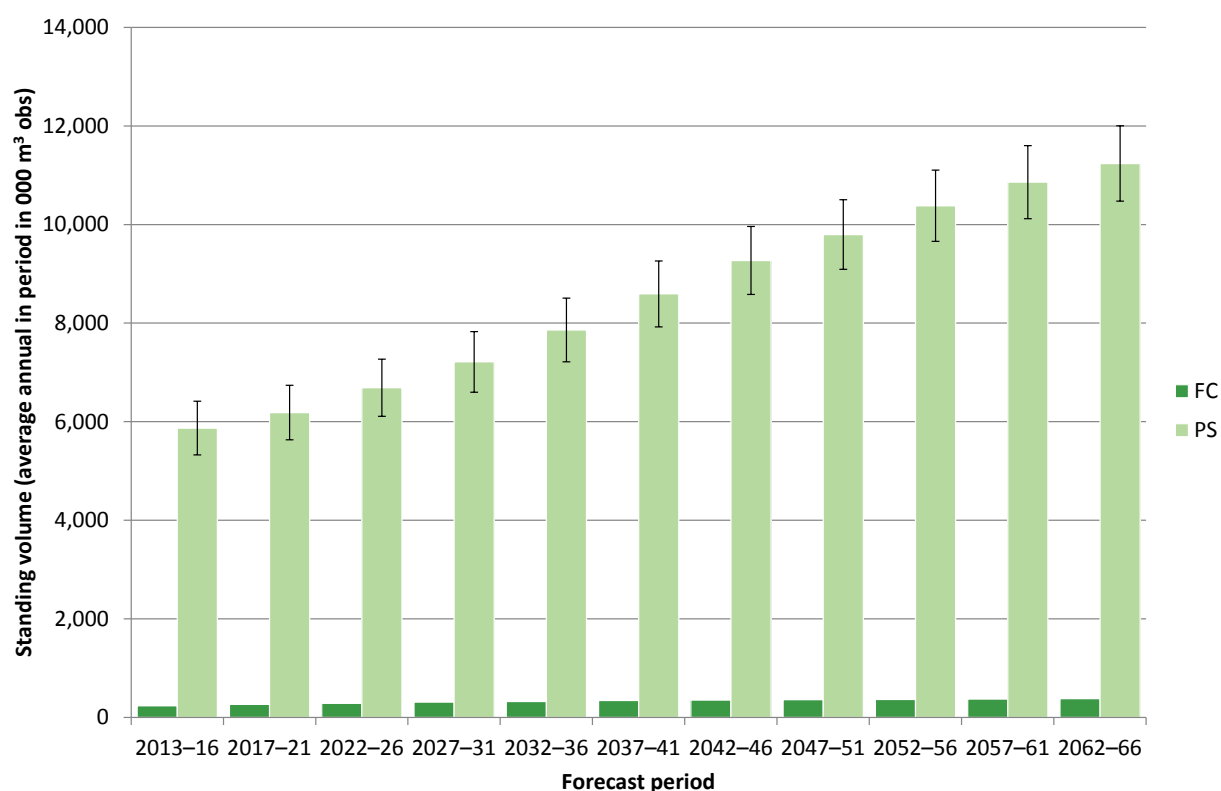
**Table 39 (cont'd)** 50-year forecast of hardwood timber availability by top diameter class; average annual volume within period

Top diameter class (cm)	2062–66		
	FC	Private sector	
	volume (000 m³ obs)		SE%
East Midlands			
7–14	2	18	16
14–16	< 1	5	19
16–18	< 1	5	20
18–24	1	16	21
24–34	< 1	13	31
34–44	< 1	4	40
44–54	< 1	2	45
54+	< 1	2	45
Total	5	63	19

## Part 3 - how our woodlands might change

### 50-year forecast of standing volume in broadleaves

**Figure 46** 50-year forecast of standing volume in broadleaves; average annual volume within period



**Table 40** 50-year forecast of standing volume in broadleaves; average annual volume within period

Forecast period	FC	Private sector		Total
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)
East Midlands				
2013-16	< 1	148	29	149
2017-21	3	109	21	112
2022-26	2	76	30	78
2027-31	5	77	33	82
2032-36	6	59	34	64
2037-41	4	30	17	34
2042-46	9	53	16	62
2047-51	5	66	36	71
2052-56	9	46	24	55
2057-61	5	59	22	64
2062-66	5	63	19	69

## Part 3 - how our woodlands might change

**Table 41** 50-year forecast of standing volume in broadleaves by principal species; average annual volume within period

Principal species	2013–16			2017–21		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
All broadleaves	237	5,870	9	263	6,184	9
Oak	20	1,759	20	22	1,824	19
Beech	52	344	51	59	367	50
Sycamore	23	808	20	24	801	21
Ash	14	1,201	24	15	1,179	25
Birch	32	551	18	36	567	19
Sweet Chestnut	10	327	41	11	348	40
Hazel	< 1	66	32	< 1	81	31
Hawthorn	0	117	25	0	150	25
Alder	1	83	36	1	124	34
Willow	< 1	191	34	< 1	223	33
Other broadleaves	84	423	21	95	520	21

**Table 41 (cont'd)** 50-year forecast of standing volume in broadleaves by principal species; average annual volume within period

Principal species	2022–26			2027–31		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
All broadleaves	286	6,687	9	311	7,214	9
Oak	24	1,908	18	25	1,815	19
Beech	64	396	49	68	426	48
Sycamore	25	829	22	27	932	22
Ash	16	1,220	25	18	1,341	23
Birch	39	618	21	43	719	21
Sweet Chestnut	12	345	38	13	322	41
Hazel	< 1	88	30	< 1	92	28
Hawthorn	0	195	24	0	250	23
Alder	1	170	32	1	213	31
Willow	< 1	267	31	< 1	314	30
Other broadleaves	105	650	19	117	788	19



## Part 3 - how our woodlands might change

**Table 41 (cont'd)** 50-year forecast of standing volume in broadleaves by principal species; average annual volume within period

Principal species	2032–36			2037–41		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
All broadleaves	322	7,859	8	342	8,592	8
Oak	26	1,798	19	29	1,906	19
Beech	69	457	47	70	486	46
Sycamore	27	1,036	21	28	1,133	21
Ash	18	1,458	22	20	1,566	21
Birch	45	820	20	49	917	20
Sweet Chestnut	13	353	41	13	382	41
Hazel	< 1	88	29	< 1	83	32
Hawthorn	0	308	22	0	369	22
Alder	1	251	30	1	283	30
Willow	< 1	362	30	< 1	410	29
Other broadleaves	123	927	18	132	1,058	17

**Table 41 (cont'd)** 50-year forecast of standing volume in broadleaves by principal species; average annual volume within period

Principal species	2042–46			2047–51		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
All broadleaves	349	9,271	7	357	9,797	7
Oak	30	2,046	18	32	2,188	18
Beech	71	515	46	74	542	45
Sycamore	26	1,197	21	23	1,252	20
Ash	19	1,656	20	17	1,727	20
Birch	51	1,002	19	51	1,072	19
Sweet Chestnut	13	410	40	14	323	38
Hazel	< 1	94	30	< 1	108	29
Hawthorn	0	428	22	0	483	22
Alder	1	305	30	1	322	30
Willow	< 1	456	29	< 1	500	29
Other broadleaves	138	1,161	17	145	1,279	17

## Part 3 - how our woodlands might change

**Table 41 (cont'd)** 50-year forecast of standing volume in broadleaves by principal species; average annual volume within period

Principal species	2052–56			2057–61		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
All broadleaves	363	10,381	7	370	10,860	7
Oak	33	2,316	17	34	2,448	17
Beech	74	568	44	77	589	44
Sycamore	24	1,307	20	26	1,347	20
Ash	18	1,776	20	19	1,794	20
Birch	51	1,138	18	51	1,188	18
Sweet Chestnut	14	344	38	13	330	40
Hazel	< 1	122	28	< 1	137	27
Hawthorn	0	530	22	0	581	22
Alder	1	338	30	1	353	30
Willow	< 1	540	29	< 1	577	29
Other broadleaves	148	1,402	17	149	1,517	17

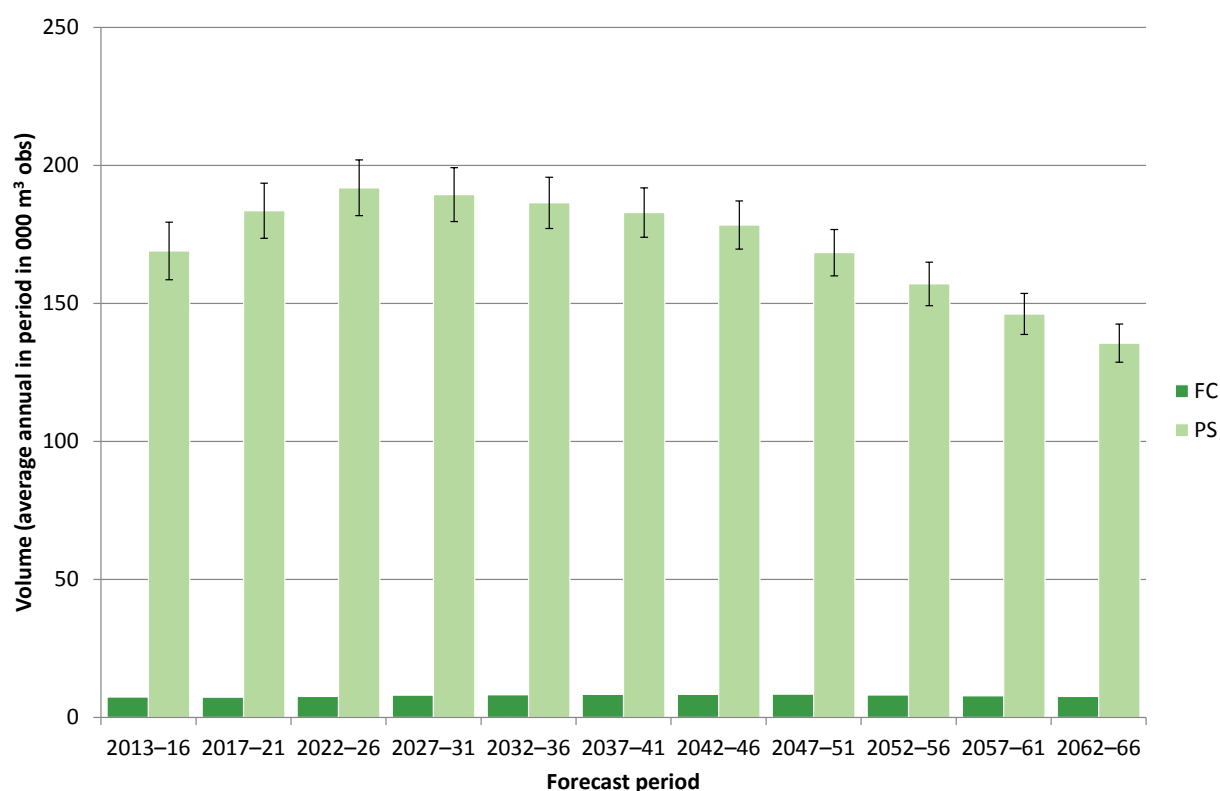
**Table 41 (cont'd)** 50-year forecast of standing volume in broadleaves by principal species; average annual volume within period

Principal species	2062–66		
	FC	Private sector	
	volume (000 m <sup>3</sup> obs)		SE%
East Midlands			
All broadleaves	381	11,237	7
Oak	35	2,575	16
Beech	80	610	44
Sycamore	27	1,364	20
Ash	19	1,809	20
Birch	52	1,174	19
Sweet Chestnut	14	328	41
Hazel	< 1	151	26
Hawthorn	0	622	22
Alder	1	367	30
Willow	< 1	612	29
Other broadleaves	152	1,625	16

## Part 3 - how our woodlands might change

### 50-year forecast of net increment in broadleaves

**Figure 47** 50-year forecast of net increment in broadleaves; average annual volume within period



**Table 42** 50-year forecast of net increment in broadleaves; average annual volume within period

Forecast period	FC	Private sector		Total
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)
East Midlands				
2013-16	7	169	6	176
2017-21	7	184	5	191
2022-26	8	192	5	199
2027-31	8	189	5	197
2032-36	8	186	5	195
2037-41	8	183	5	191
2042-46	8	178	5	187
2047-51	8	168	5	177
2052-56	8	157	5	165
2057-61	8	146	5	154
2062-66	8	136	5	143

## Part 3 - how our woodlands might change

**Table 43** 50–year forecast of net increment in broadleaves by principal species; average annual volume within period

Principal species	2013–16			2017–21		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
All broadleaves	7	169	6	7	184	5
Oak	< 1	36	14	< 1	36	13
Beech	2	5	38	2	6	38
Sycamore	< 1	24	19	< 1	24	18
Ash	< 1	23	18	< 1	25	17
Birch	< 1	22	21	< 1	23	21
Sweet Chestnut	< 1	7	63	< 1	9	47
Hazel	< 1	5	29	< 1	4	28
Hawthorn	0	8	22	0	10	22
Alder	< 1	8	34	< 1	9	30
Willow	< 1	6	42	< 1	8	32
Other broadleaves	3	25	19	3	30	16

**Table 43 (cont'd)** 50–year forecast of net increment in broadleaves by principal species; average annual volume within period

Principal species	2022–26			2027–31		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
All broadleaves	8	192	5	8	189	5
Oak	< 1	37	13	< 1	35	13
Beech	2	6	38	2	6	37
Sycamore	< 1	25	20	< 1	25	20
Ash	< 1	25	16	< 1	26	16
Birch	< 1	23	20	1	22	19
Sweet Chestnut	< 1	10	43	< 1	9	45
Hazel	< 1	4	27	< 1	3	27
Hawthorn	0	12	21	0	13	21
Alder	< 1	9	28	< 1	8	28
Willow	< 1	9	30	< 1	10	30
Other broadleaves	3	32	15	3	33	15

## Part 3 - how our woodlands might change

**Table 43 (cont'd)** 50-year forecast of net increment in broadleaves by principal species; average annual volume within period

Principal species	2032–36			2037–41		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
All broadleaves	8	186	5	8	183	5
Oak	< 1	33	13	< 1	32	13
Beech	1	6	36	1	6	34
Sycamore	1	24	19	1	25	19
Ash	< 1	26	16	< 1	25	17
Birch	1	22	17	1	23	17
Sweet Chestnut	< 1	9	46	< 1	8	46
Hazel	< 1	3	27	< 1	2	33
Hawthorn	0	14	21	0	14	21
Alder	< 1	7	28	< 1	6	28
Willow	< 1	10	31	< 1	10	31
Other broadleaves	3	33	15	3	32	15

**Table 43 (cont'd)** 50-year forecast of net increment in broadleaves by principal species; average annual volume within period

Principal species	2042–46			2047–51		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
All broadleaves	8	178	5	8	168	5
Oak	< 1	34	13	< 1	35	13
Beech	1	6	33	2	6	32
Sycamore	1	23	19	1	22	21
Ash	< 1	23	18	< 1	20	19
Birch	1	23	18	1	21	18
Sweet Chestnut	< 1	8	44	< 1	6	37
Hazel	< 1	3	46	< 1	4	46
Hawthorn	0	14	21	0	13	21
Alder	< 1	5	28	< 1	4	28
Willow	< 1	9	32	< 1	9	32
Other broadleaves	3	31	15	3	29	15

## Part 3 - how our woodlands might change

**Table 43 (cont'd)** 50-year forecast of net increment in broadleaves by principal species; average annual volume within period

Principal species	2052–56			2057–61		
	FC	Private sector		FC	Private sector	
	volume (000 m³ obs)		SE%	volume (000 m³ obs)		SE%
East Midlands						
All broadleaves	8	157	5	8	146	5
Oak	< 1	35	13	< 1	34	14
Beech	2	6	31	2	5	30
Sycamore	1	21	20	< 1	18	21
Ash	< 1	17	19	< 1	13	18
Birch	< 1	18	18	< 1	16	17
Sweet Chestnut	< 1	5	36	< 1	5	37
Hazel	< 1	4	42	< 1	5	39
Hawthorn	0	13	21	0	12	21
Alder	< 1	3	29	< 1	3	28
Willow	< 1	8	32	< 1	8	32
Other broadleaves	3	27	16	2	27	16

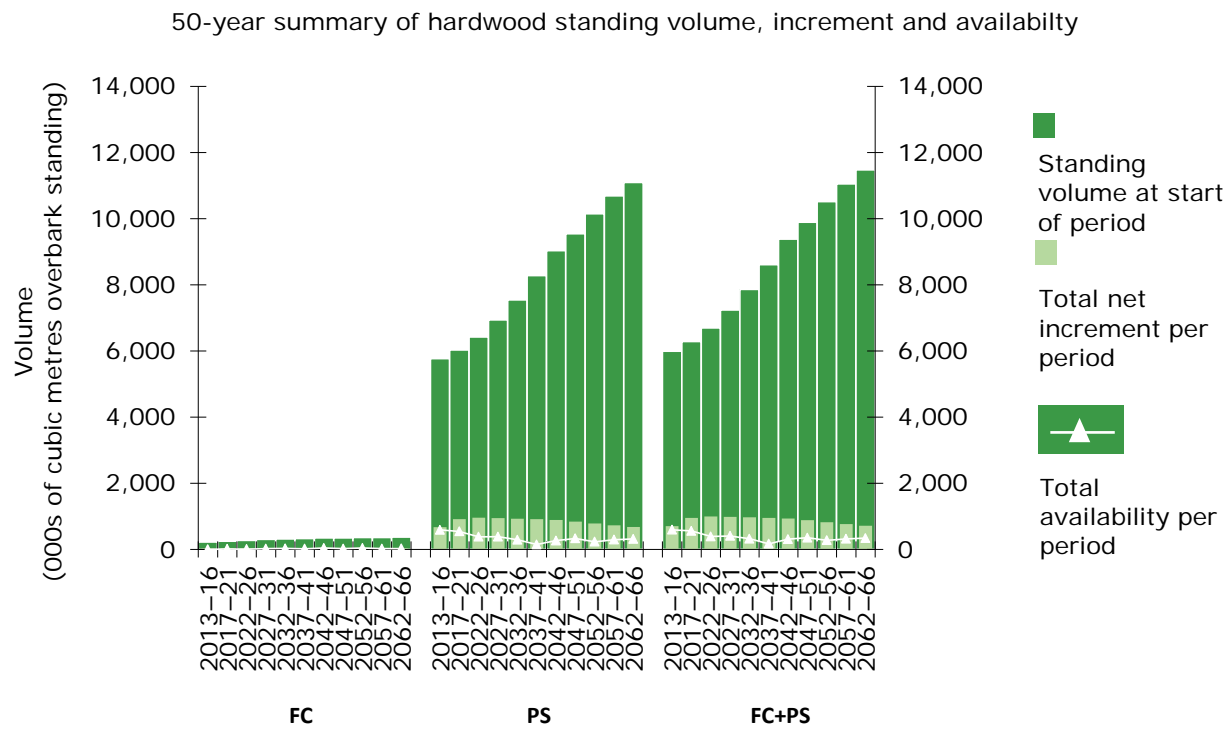
**Table 43 (cont'd)** 50-year forecast of net increment in broadleaves by principal species; average annual volume within period

Principal species	2062–66		
	FC	Private sector	
	volume (000 m <sup>3</sup> obs)		SE%
East Midlands			
All broadleaves	8	136	5
Oak	< 1	34	15
Beech	2	5	30
Sycamore	< 1	17	20
Ash	< 1	11	16
Birch	< 1	13	15
Sweet Chestnut	< 1	5	41
Hazel	< 1	4	38
Hawthorn	0	12	21
Alder	< 1	3	28
Willow	< 1	7	32
Other broadleaves	2	25	16

# Part 3 - how our woodlands might change

## Combined standing volume, net increment and availability

**Figure 48** combined hardwood standing volume, net increment and availability



Part 4 – Tree health

Ash..... 97

Oak..... 106

Sweet chestnut ..... 115

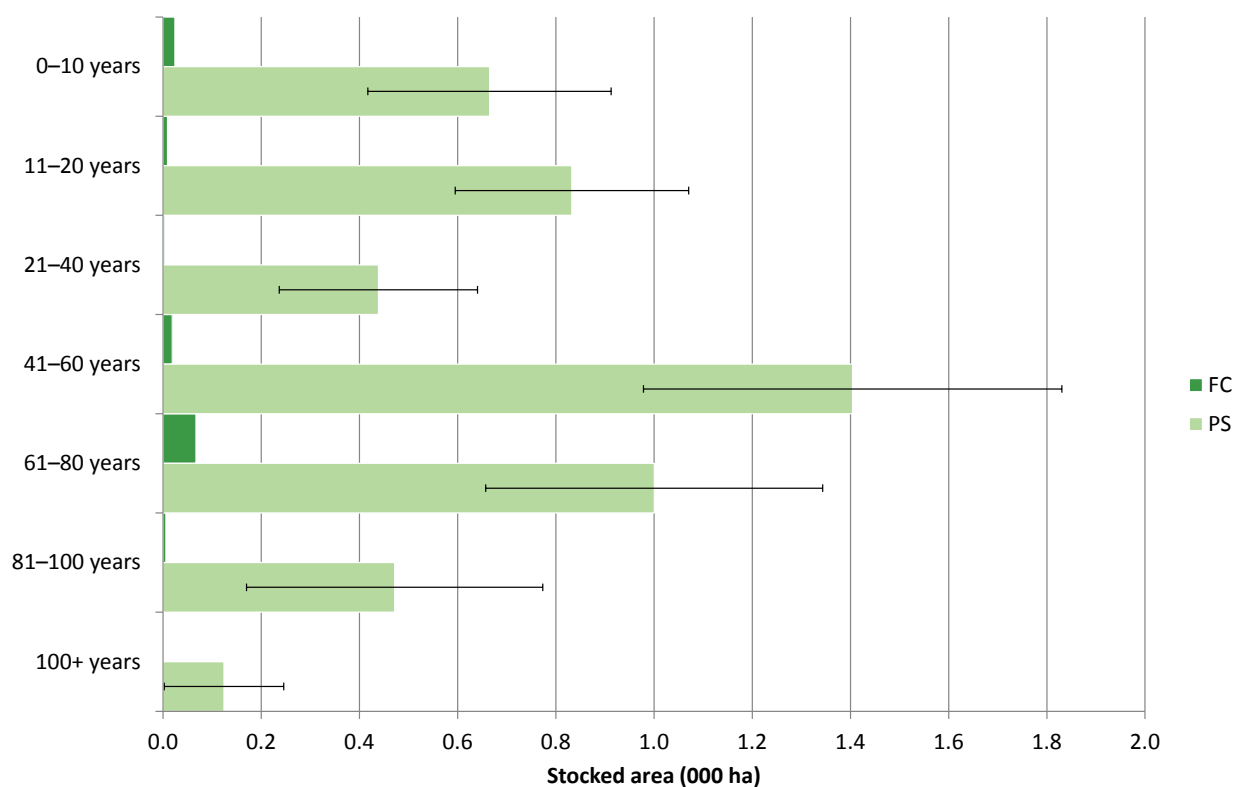
Larch ..... 124



## Part 4 – Tree health

### Ash

**Figure 49** Stocked area of ash by age class

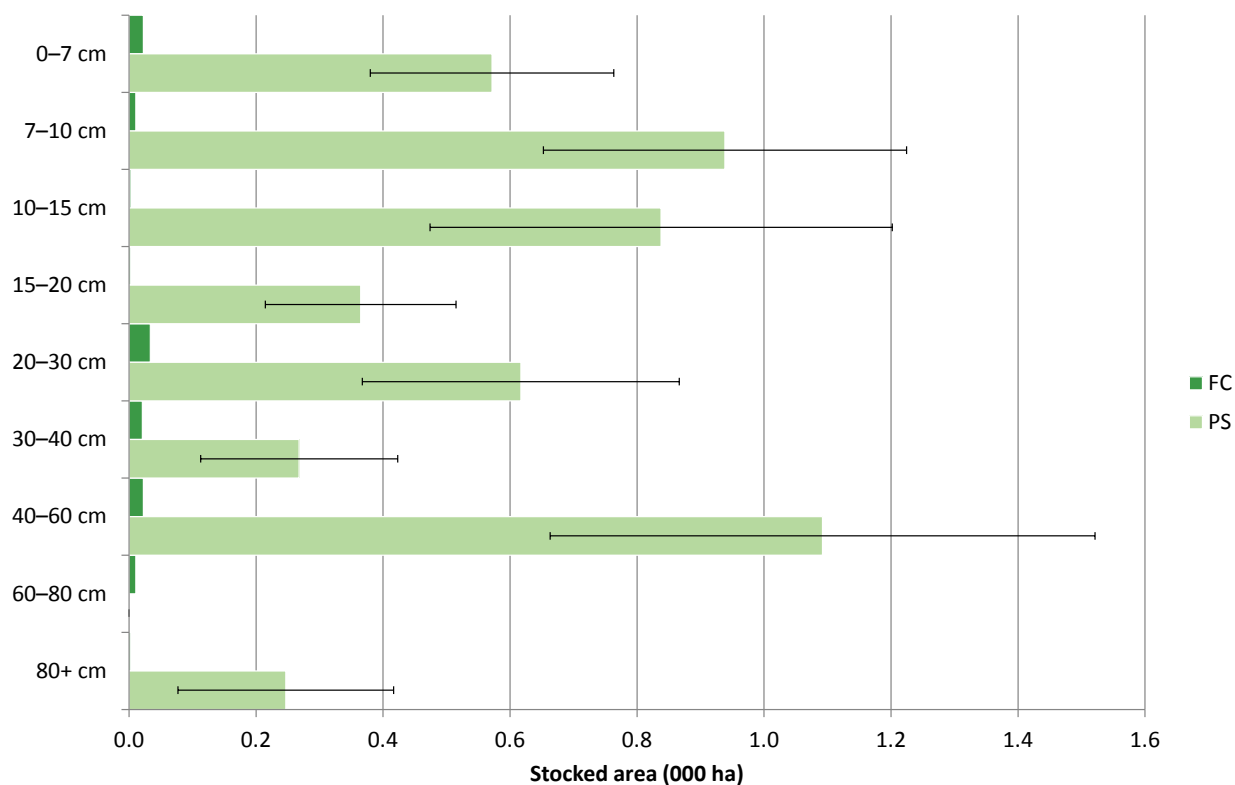


**Table 44** Stocked area of ash by age class

Age class (years)	FC	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
East Midlands				
0–10	< 0.1	0.7	37	0.7
11–20	< 0.1	0.8	29	0.8
21–40	< 0.1	0.4	46	0.4
41–60	< 0.1	1.4	30	1.4
61–80	< 0.1	1.0	34	1.1
81–100	< 0.1	0.5	64	0.5
100+	0.0	0.1	98	0.1
<b>Total</b>	<b>0.1</b>	<b>4.9</b>	<b>14</b>	<b>5.1</b>

## Part 4 – Tree health

**Figure 50** Stocked area of ash by mean stand dbh class

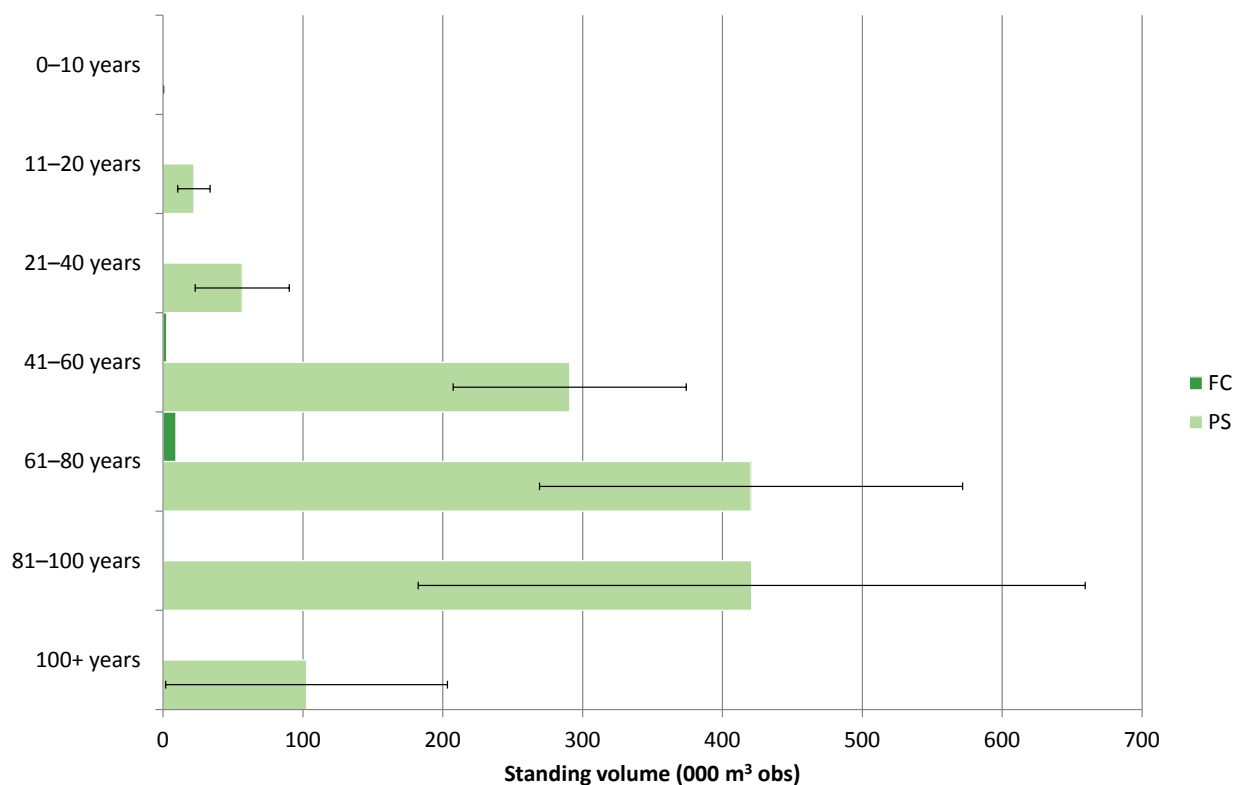


**Table 45** Stocked area of ash by mean stand dbh class

Mean stand DBH (cm)	FC	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
East Midlands				
0-7	< 0.1	0.6	34	0.6
7-10	< 0.1	0.9	30	0.9
10-15	< 0.1	0.8	43	0.8
15-20	< 0.1	0.4	41	0.4
20-30	< 0.1	0.6	40	0.7
30-40	< 0.1	0.3	58	0.3
40-60	< 0.1	1.1	39	1.1
60-80	< 0.1	0.0	-	< 0.1
80+	< 0.1	0.2	69	0.2
<b>Total</b>	<b>0.1</b>	<b>4.9</b>	<b>14</b>	<b>5.1</b>

## Part 4 – Tree health

**Figure 51** Standing volume of ash by age class

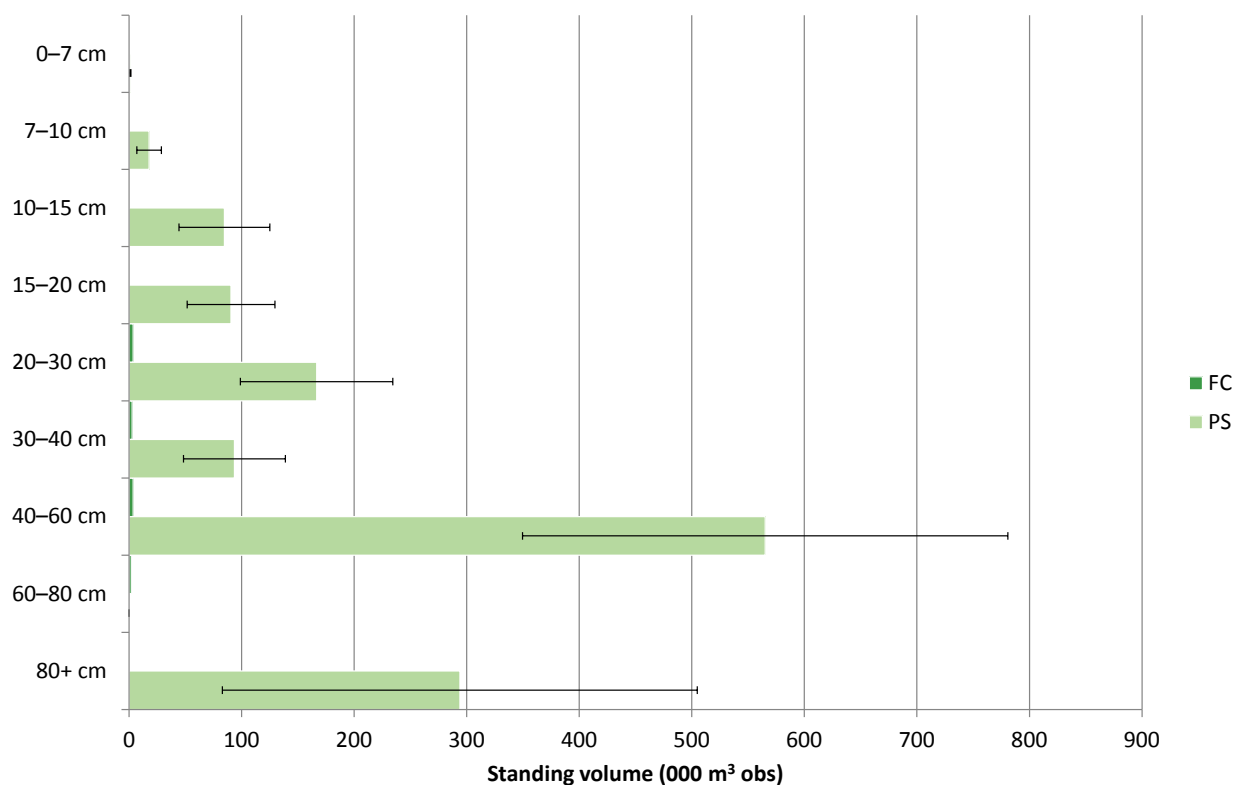


**Table 46** Standing volume of ash by age class

Age class (years)	FC	Private sector		Total
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)
East Midlands				
0-10	< 1	< 1	77	< 1
11-20	< 1	22	53	22
21-40	< 1	57	59	57
41-60	3	291	29	293
61-80	9	420	36	430
81-100	< 1	421	57	422
100+	0	103	98	103
<b>Total</b>	<b>13</b>	<b>1,314</b>	<b>23</b>	<b>1,327</b>

## Part 4 – Tree health

**Figure 52** Standing volume of ash by mean stand dbh class

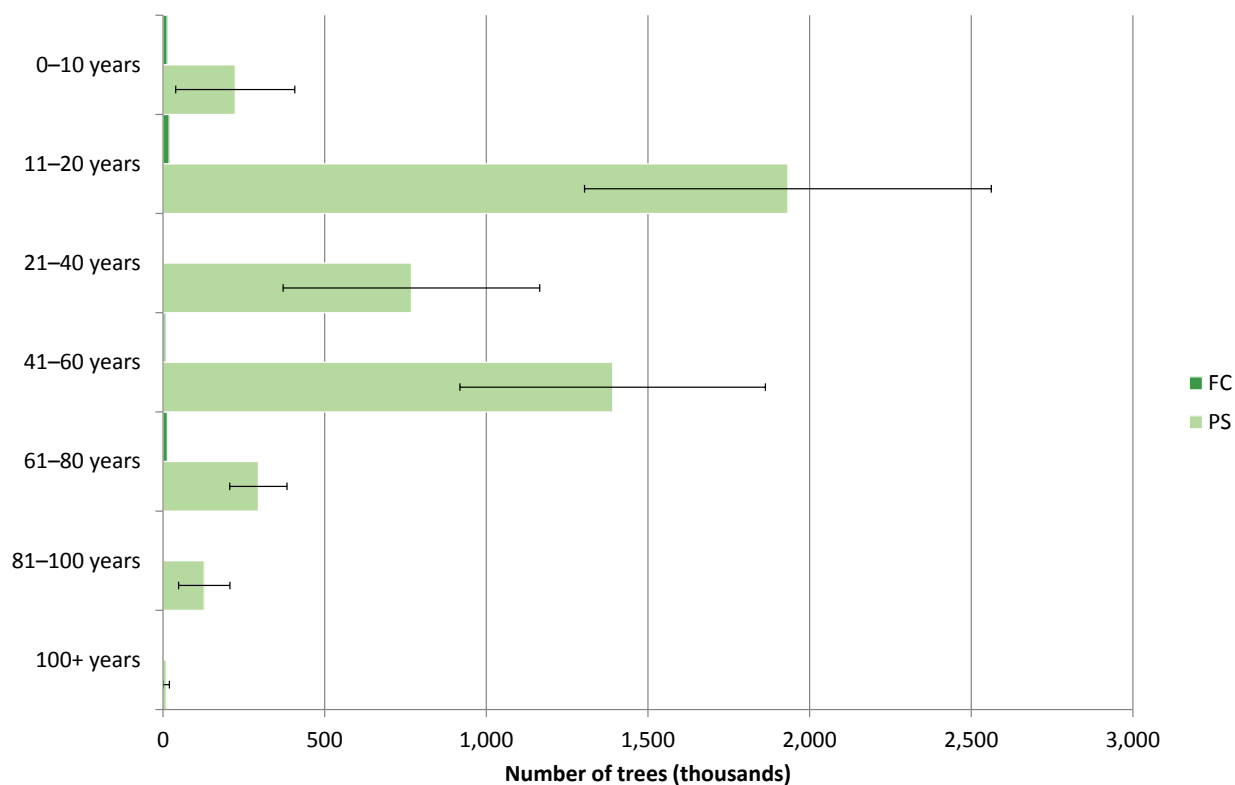


**Table 47** Standing volume of ash by mean stand dbh class

Mean stand DBH (cm)	FC	Private sector		Total
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)
East Midlands				
0-7	< 1	1	55	1
7-10	< 1	18	61	18
10-15	< 1	85	48	85
15-20	< 1	91	43	91
20-30	4	167	41	170
30-40	3	94	48	96
40-60	4	565	38	569
60-80	2	0	-	2
80+	< 1	294	72	294
<b>Total</b>	<b>13</b>	<b>1,314</b>	<b>23</b>	<b>1,327</b>

## Part 4 – Tree health

**Figure 53** Number of ash trees by age class

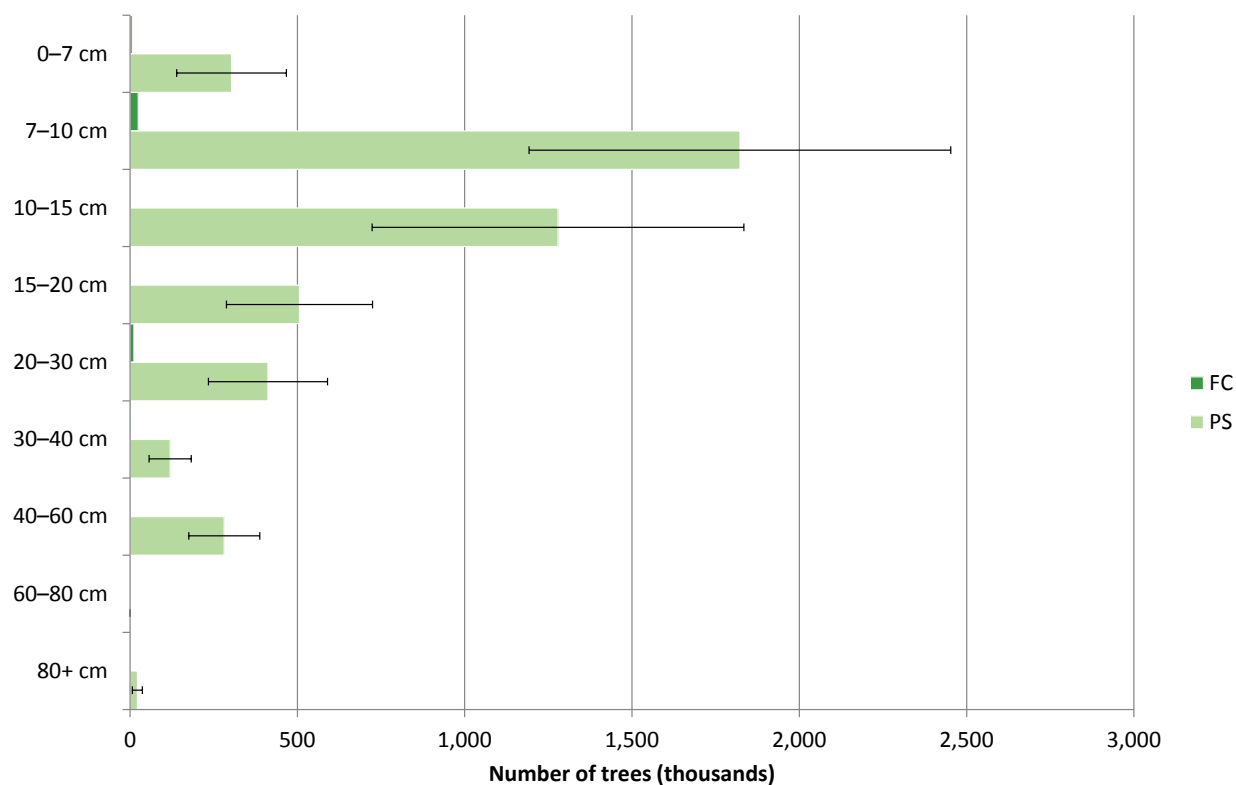


**Table 48** Number of ash trees by age class

Age class (years)	FC	Private sector		Total
	number of trees (thousands)	number of trees (thousands)	SE%	number of trees (thousands)
East Midlands				
0-10	13	223	82	236
11-20	19	1,933	33	1,951
21-40	1	768	52	770
41-60	6	1,391	34	1,397
61-80	13	295	30	308
81-100	< 1	127	62	128
100+	0	10	98	10
<b>Total</b>	<b>53</b>	<b>4,747</b>	<b>19</b>	<b>4,800</b>

## Part 4 – Tree health

**Figure 54** Number of ash trees by mean stand dbh class

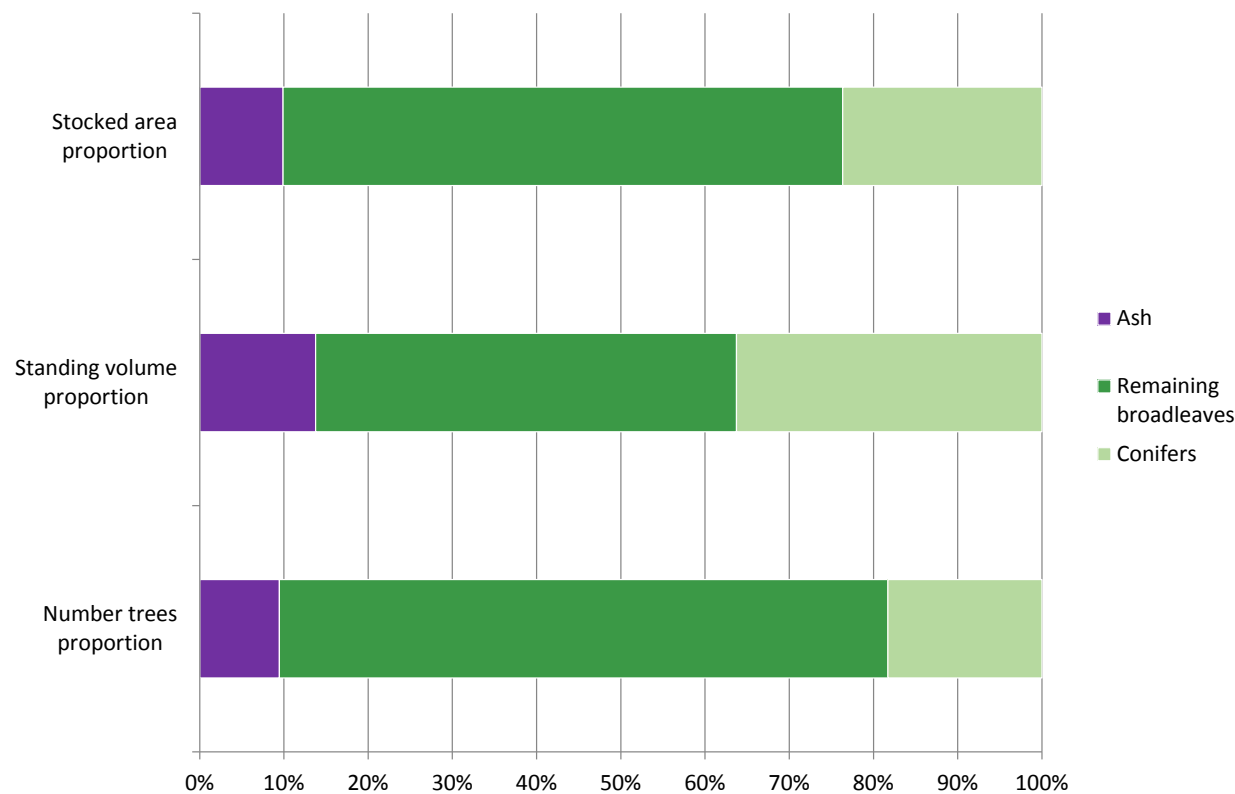


**Table 49** Number of ash trees by mean stand dbh class

Mean stand DBH (cm)	FC	Private sector		Total
	number of trees (thousands)	number of trees (thousands)	SE%	number of trees (thousands)
East Midlands				
0-7	7	303	54	310
7-10	24	1,822	35	1,847
10-15	2	1,279	43	1,281
15-20	1	506	43	507
20-30	12	412	43	424
30-40	4	120	53	124
40-60	2	282	38	284
60-80	< 1	0	-	< 1
80+	< 1	22	69	22
<b>Total</b>	<b>53</b>	<b>4,747</b>	<b>19</b>	<b>4,800</b>

# Part 4 – Tree health

**Figure 55** Ash as a proportion of woodland



## Part 4 – Tree health

**Table 50** Stocked area of ash as a proportion of woodland

Aligned area	Stocked area of ash			
	FC	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
East Midlands	0.1	4.9	14	5.1

**Table 50 (cont'd)** Stocked area of ash as a proportion of woodland

Aligned area	Stocked area of all broadleaves and all species			
	Total of all broadleaves	Total of all species	Percentage of ash in all broadleaves	Percentage of ash in all species
	area (000 ha)	area (000 ha)	(percent)	(percent)
East Midlands	39.1	51.2	13	10

**Table 51** Standing volume of ash as a proportion of woodland

Aligned area	Standing volume of ash			
	FC	Private sector		Total
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)
East Midlands	13	1,314	23	1,327

**Table 51 (cont'd)** Standing volume of ash as a proportion of woodland

Aligned area	Standing volume of all broadleaves and all species			
	Total of all broadleaves	Total of all species	Percentage of ash in all broadleaves	Percentage of ash in all species
	volume (000 m³ obs)	volume (000 m³ obs)	(percent)	(percent)
East Midlands	6,149	9,648	22	14



## Part 4 – Tree health

**Table 52** Number of ash trees as a proportion of woodland

Aligned Area	Numbers of trees of ash			
	FC	Private sector		Total
	number of trees (thousands)	number of trees (thousands)	SE%	number of trees (thousands)
East Midlands	53	4,747	19	<b>4,800</b>

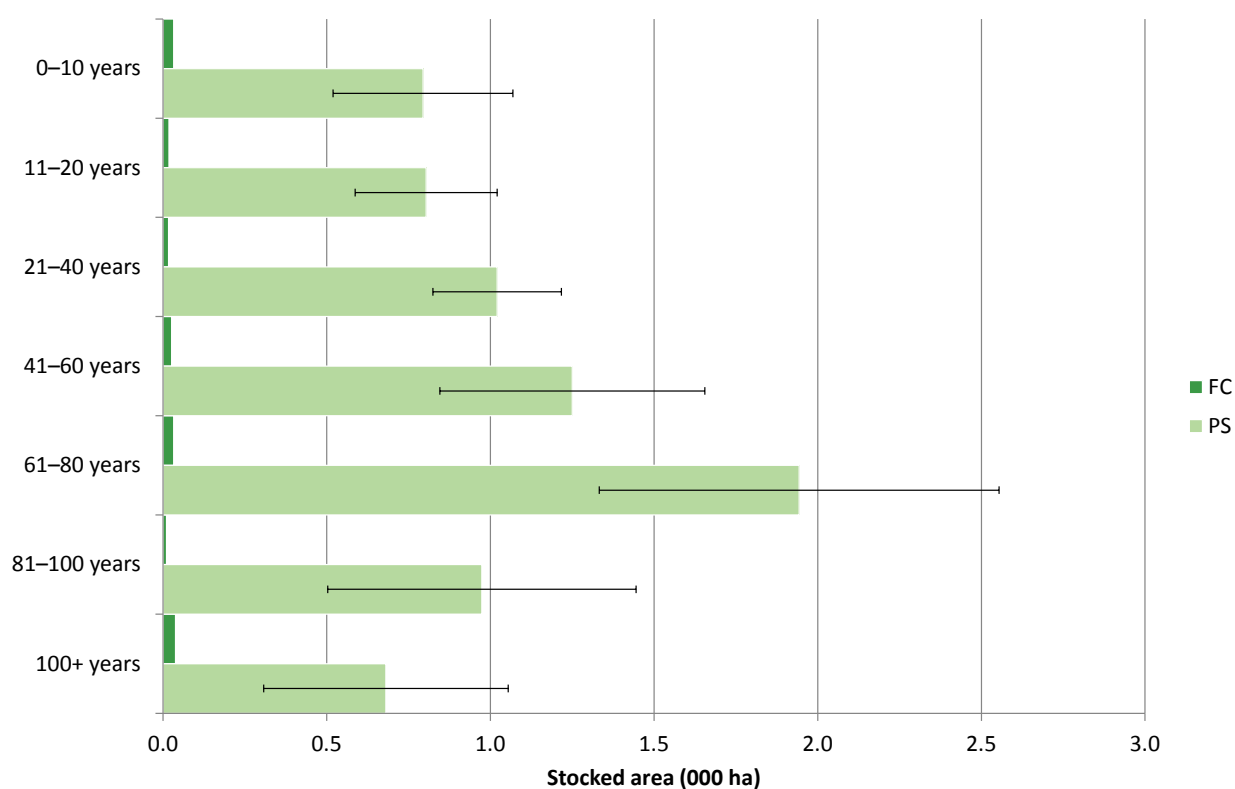
**Table 52 (cont'd)** Number of ash trees as a proportion of woodland

Aligned Area	Number of trees of all broadleaves and all species			
	Total of all broadleaves	Total of all species	Percentage of ash in all broadleaves	Percentage of ash in all species
	number of trees (thousands)	number of trees (thousands)	(percent)	(percent)
East Midlands	41,422	50,700	12	9

## Part 4 – Tree health

### Oak

**Figure 56** Stocked area of oak by age class

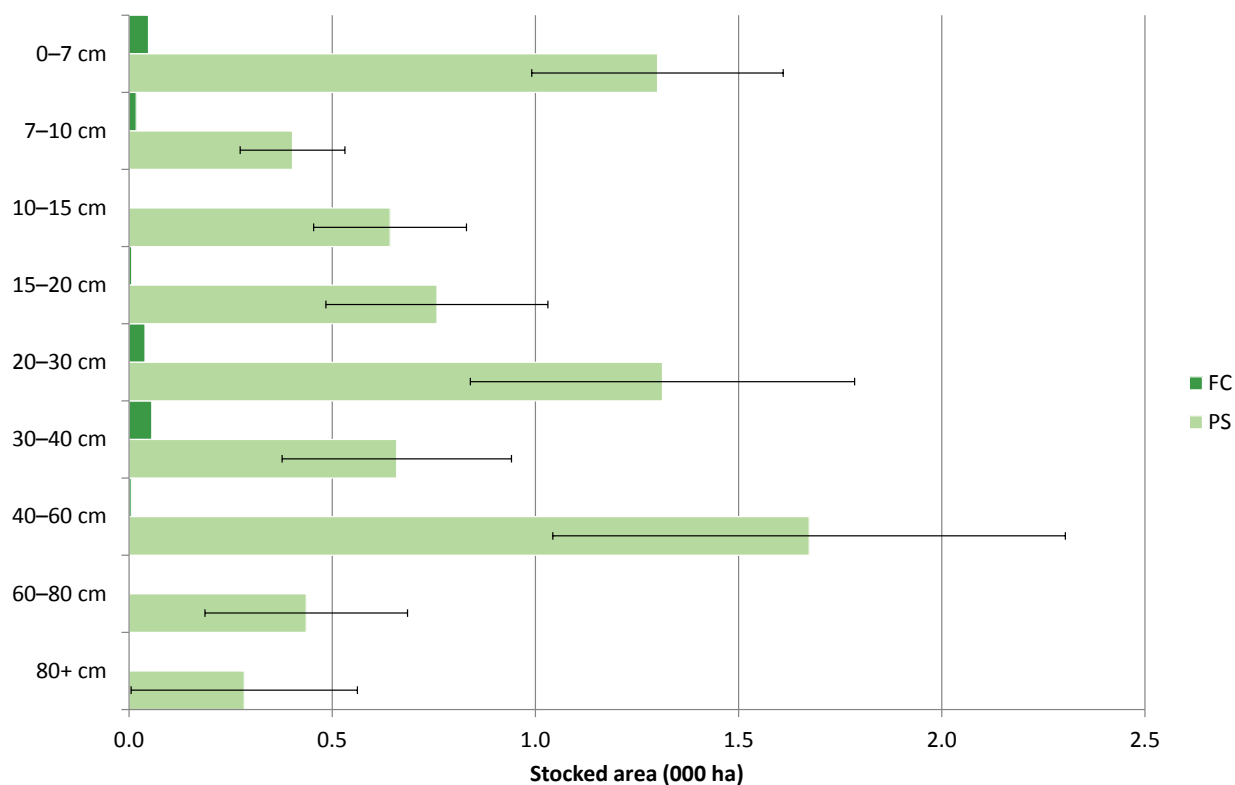


**Table 53** Stocked area of oak by age class

Age class (years)	FC	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
East Midlands				
0–10	< 0.1	0.8	35	0.8
11–20	< 0.1	0.8	27	0.8
21–40	< 0.1	1.0	19	1.0
41–60	< 0.1	1.3	32	1.3
61–80	< 0.1	1.9	31	2.0
81–100	< 0.1	1.0	48	1.0
100+	< 0.1	0.7	55	0.7
Total	0.2	7.5	13	7.6

## Part 4 – Tree health

**Figure 57** Stocked area of oak by mean stand dbh class

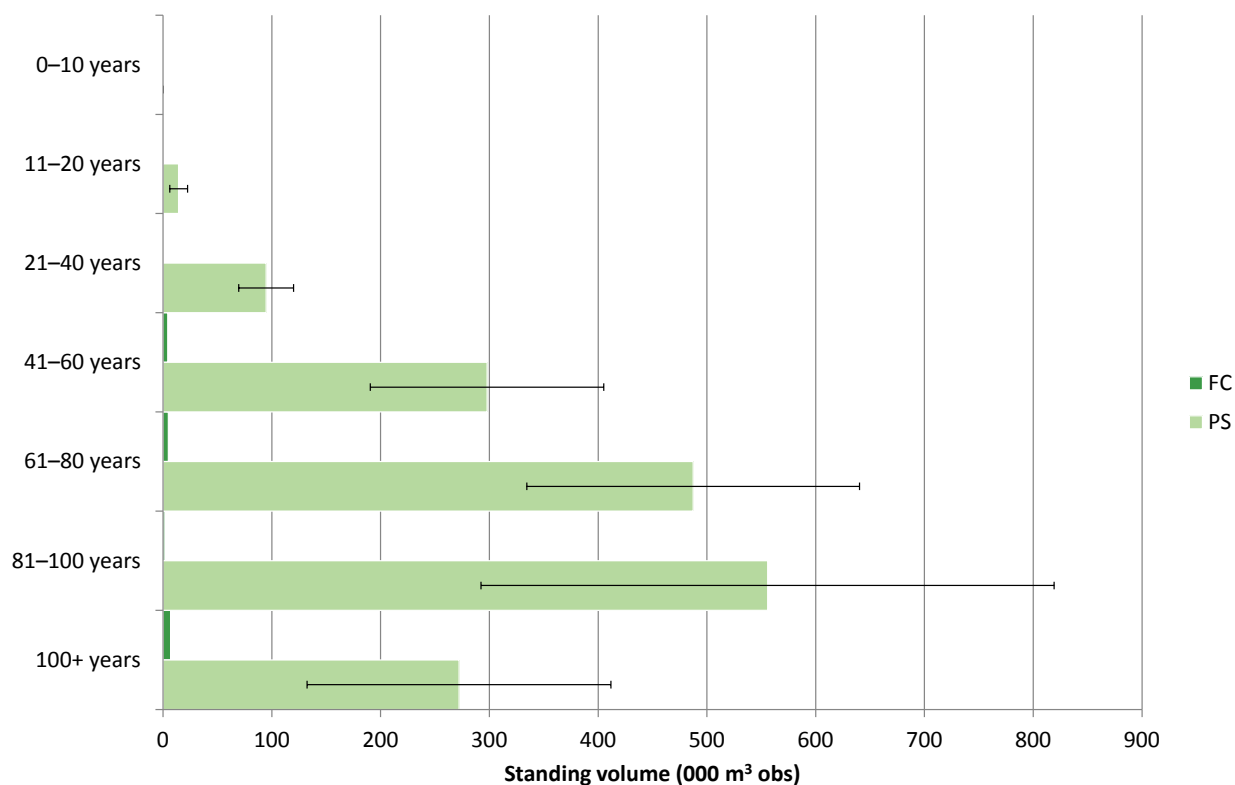


**Table 54** Stocked area of oak by mean stand dbh class

Mean stand DBH (cm)	FC	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
East Midlands				
0-7	< 0.1	1.3	24	<b>1.3</b>
7-10	< 0.1	0.4	32	<b>0.4</b>
10-15	< 0.1	0.6	29	<b>0.6</b>
15-20	< 0.1	0.8	36	<b>0.8</b>
20-30	< 0.1	1.3	36	<b>1.4</b>
30-40	< 0.1	0.7	43	<b>0.7</b>
40-60	< 0.1	1.7	38	<b>1.7</b>
60-80	0.0	0.4	57	<b>0.4</b>
80+	0.0	0.3	98	<b>0.3</b>
<b>Total</b>	<b>0.2</b>	<b>7.5</b>	<b>13</b>	<b>7.6</b>

## Part 4 – Tree health

**Figure 58** Standing volume of oak by age class

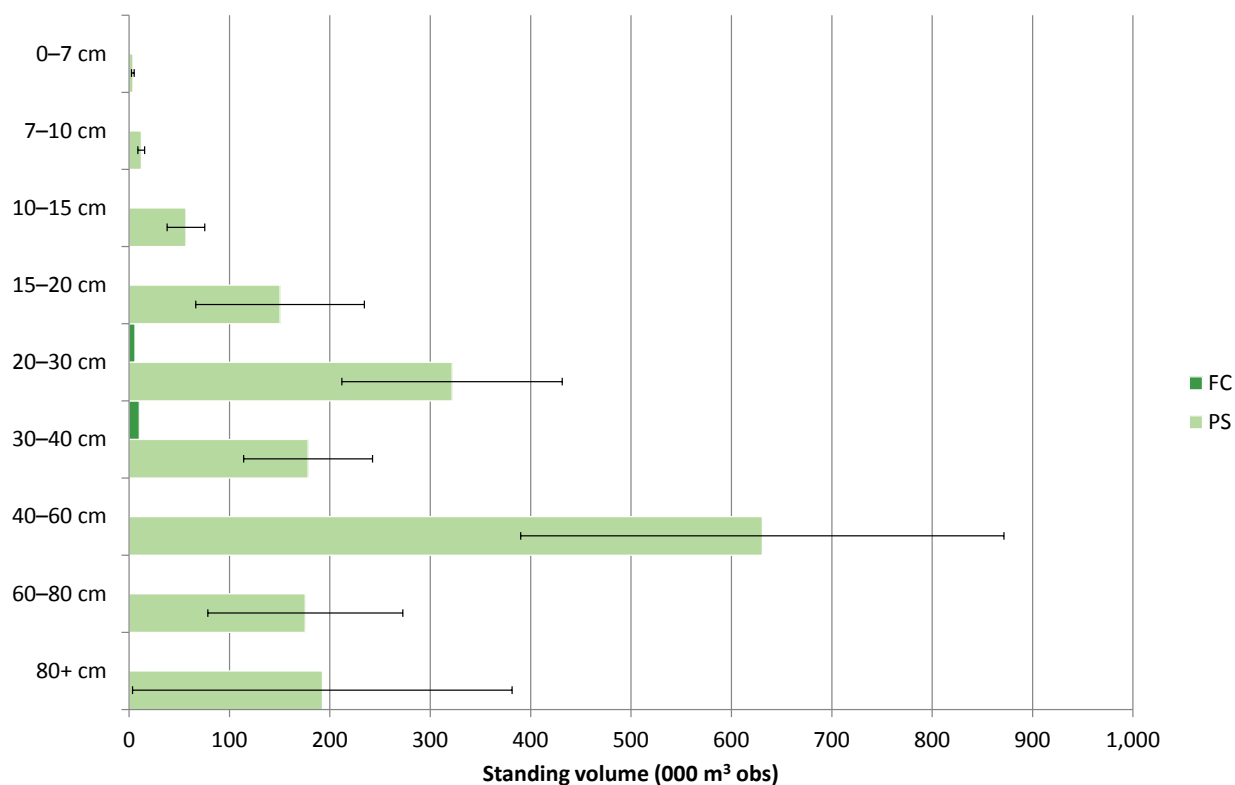


**Table 55** Standing volume of oak by age class

Age class (years)	FC	Private sector		Total
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)
East Midlands				
0-10	0	0	-	0
11-20	< 1	14	57	14
21-40	< 1	95	27	96
41-60	4	298	36	302
61-80	5	487	31	492
81-100	2	556	47	558
100+	7	272	51	279
<b>Total</b>	<b>19</b>	<b>1,722</b>	<b>20</b>	<b>1,741</b>

## Part 4 – Tree health

**Figure 59** Standing volume of oak by mean stand dbh class

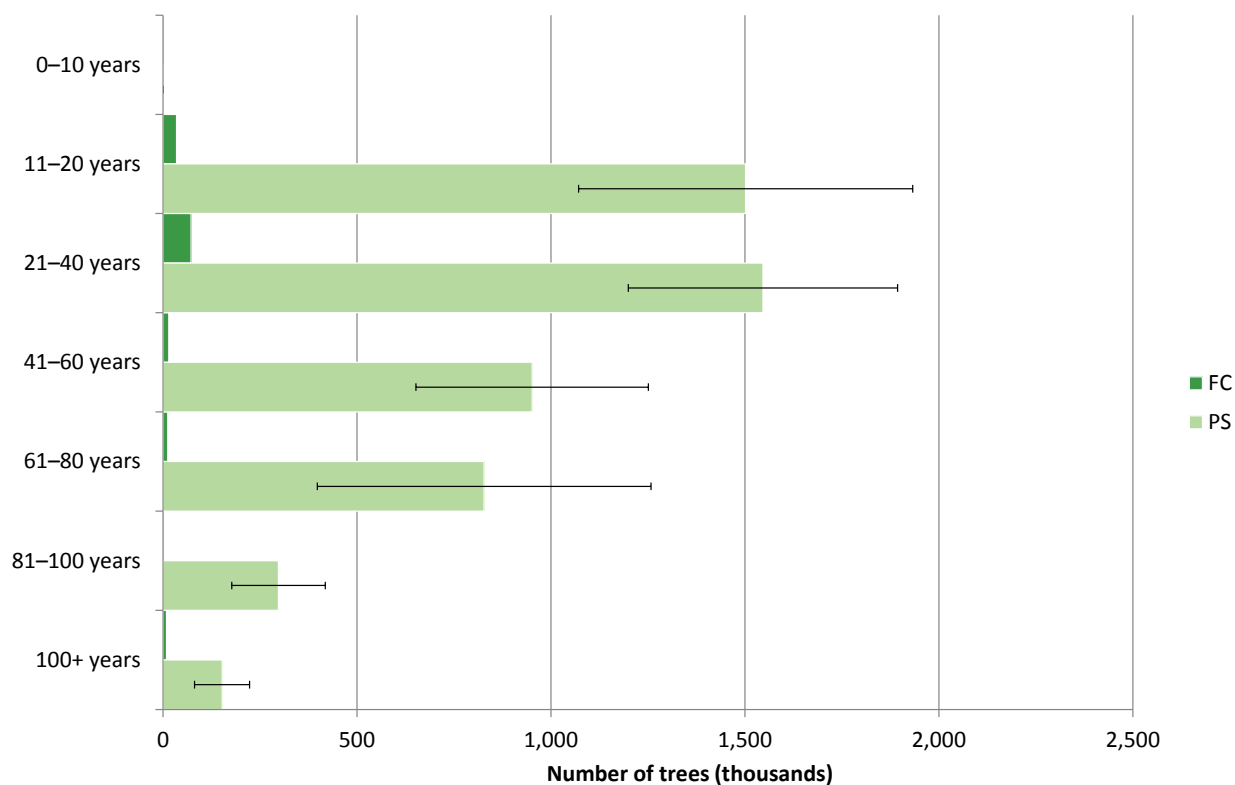


**Table 56** Standing volume of oak by mean stand dbh class

Mean stand DBH (cm)	FC	Private sector		Total
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)
East Midlands				
0-7	< 1	4	35	4
7-10	< 1	12	28	13
10-15	< 1	57	33	57
15-20	< 1	150	56	151
20-30	6	322	34	328
30-40	10	178	36	189
40-60	< 1	631	38	632
60-80	0	176	55	176
80+	0	193	98	193
<b>Total</b>	<b>19</b>	<b>1,722</b>	<b>20</b>	<b>1,741</b>

## Part 4 – Tree health

**Figure 60** Number of oak trees by age class

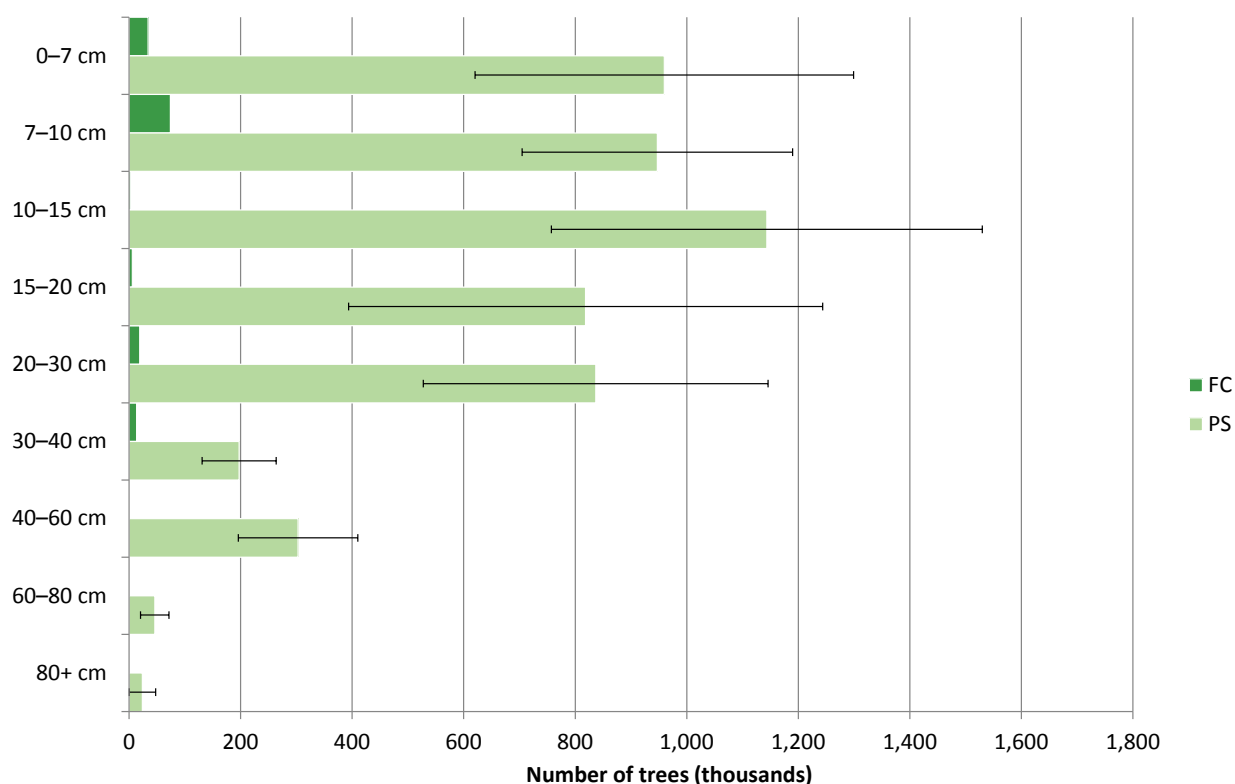


**Table 57** Number of oak trees by age class

Age class (years)	FC	Private sector		Total
	number of trees (thousands)	number of trees (thousands)	SE%	number of trees (thousands)
East Midlands				
0–10	3	0	-	<b>3</b>
11–20	35	1,501	29	<b>1,536</b>
21–40	72	1,546	22	<b>1,618</b>
41–60	15	951	31	<b>966</b>
61–80	12	827	52	<b>840</b>
81–100	4	298	41	<b>301</b>
100+	9	152	47	<b>161</b>
<b>Total</b>	<b>150</b>	<b>5,276</b>	<b>16</b>	<b>5,426</b>

## Part 4 – Tree health

**Figure 61** Number of oak trees by mean stand dbh class

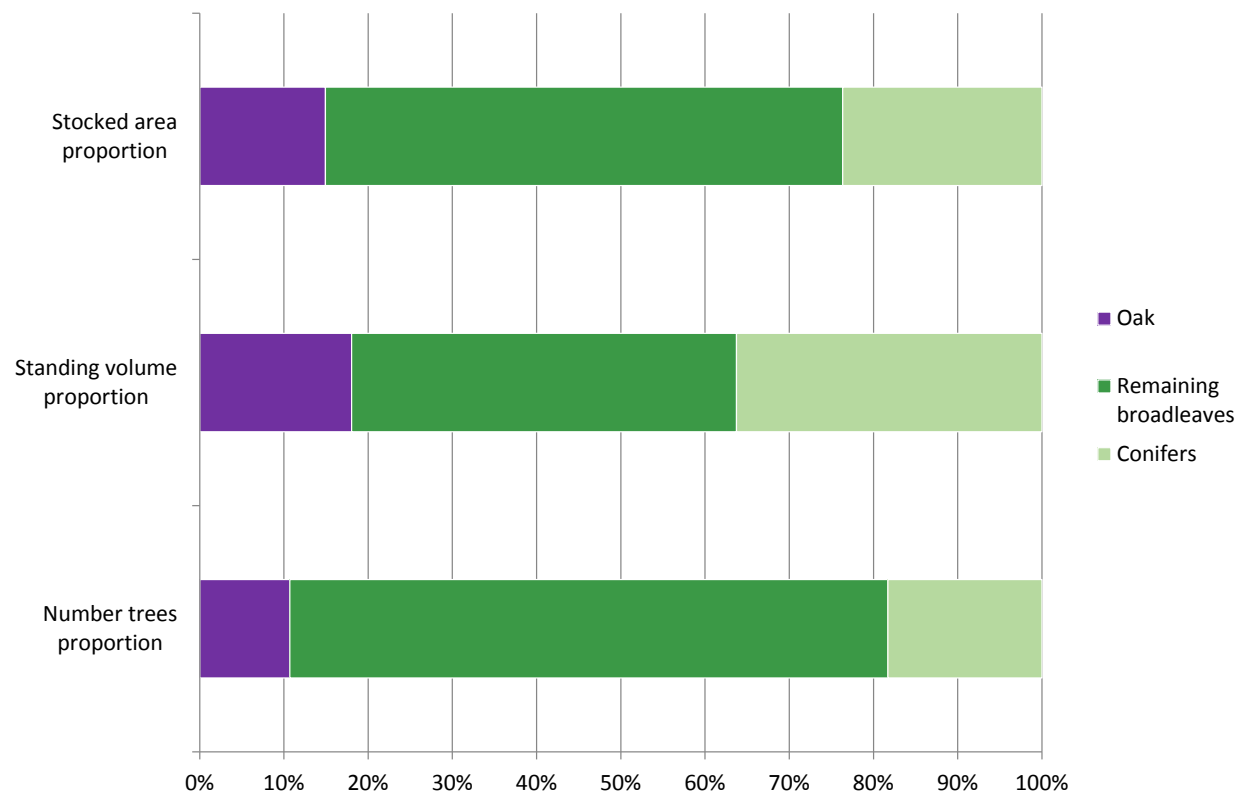


**Table 58** Number of oak trees by mean stand dbh class

Mean stand DBH (cm)	FC	Private sector		Total
	number of trees (thousands)	number of trees (thousands)	SE%	number of trees (thousands)
<b>East Midlands</b>				
0-7	34	960	35	994
7-10	74	947	26	1,021
10-15	3	1,144	34	1,147
15-20	6	819	52	824
20-30	19	837	37	856
30-40	13	197	34	211
40-60	< 1	303	35	304
60-80	0	46	55	46
80+	0	24	98	24
<b>Total</b>	<b>150</b>	<b>5,276</b>	<b>16</b>	<b>5,426</b>

# Part 4 – Tree health

**Figure 62** Oak as a proportion of woodland





## Part 4 – Tree health

**Table 59** Stocked area of oak as a proportion of woodland

Aligned area	Stocked area of oak			
	FC	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
East Midlands	0.2	7.5	13	<b>7.6</b>

**Table 59 (cont'd)** Stocked area of oak as a proportion of woodland

Aligned area	Stocked area of all broadleaves and all species			
	Total of all broadleaves	Total of all species	Percentage of oak in all broadleaves	Percentage of oak in all species
	area (000 ha)	area (000 ha)	(percent)	(percent)
East Midlands	39.1	51.2	20	15

**Table 60** Standing volume of oak as a proportion of woodland

Aligned area	Standing volume of oak			
	FC	Private sector		Total
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)
East Midlands	19	1,722	20	<b>1,741</b>

**Table 60 (cont'd)** Standing volume of oak as a proportion of woodland

Aligned area	Standing volume of all broadleaves and all species			
	Total of all broadleaves	Total of all species	Percentage of oak in all broadleaves	Percentage of oak in all species
	volume (000 m³ obs)	volume (000 m³ obs)	(percent)	(percent)
East Midlands	6,149	9,648	28	18

## Part 4 – Tree health

**Table 61** Number of oak trees as a proportion of woodland

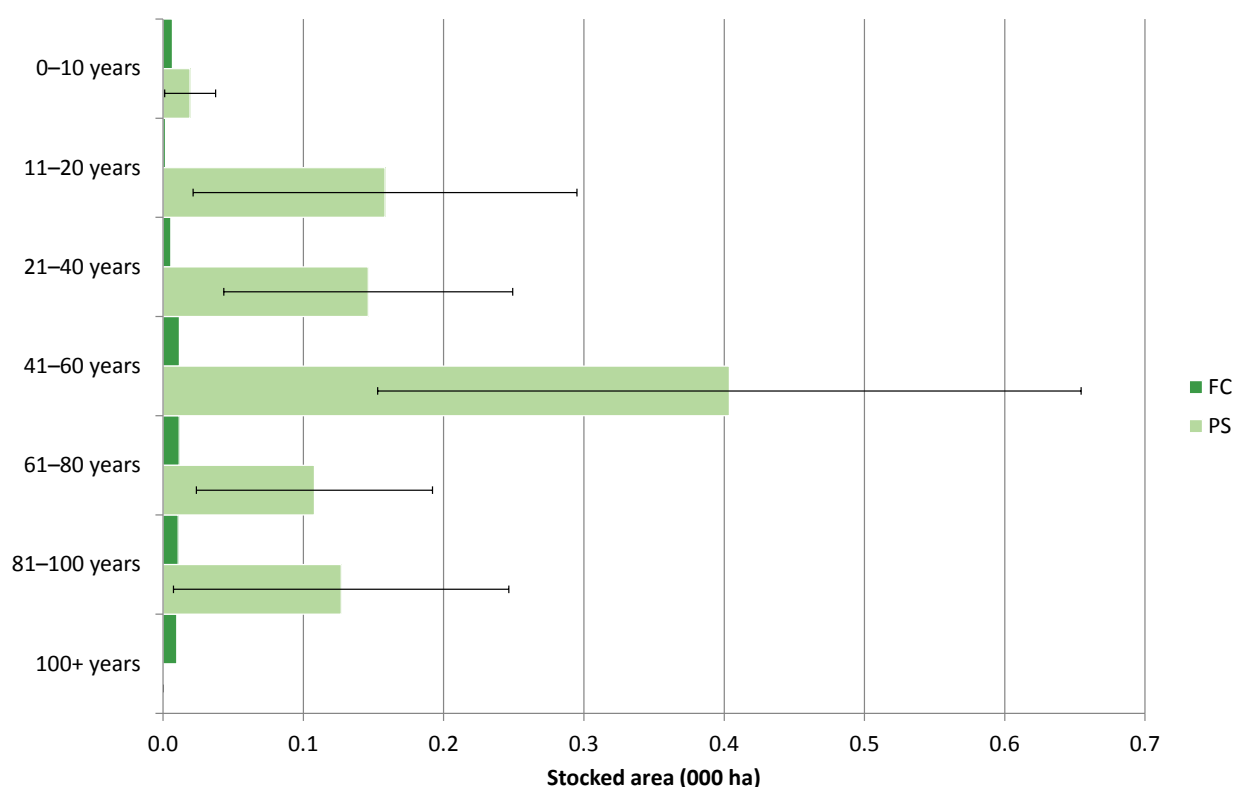
Aligned Area	Numbers of trees of oak			
	FC	Private sector		Total
	number of trees (thousands)	number of trees (thousands)	SE%	number of trees (thousands)
East Midlands	150	5,276	16	<b>5,426</b>

**Table 61 (cont'd)** Number of oak trees as a proportion of woodland

Aligned Area	Number of trees of all broadleaves and all species			
	Total of all broadleaves	Total of all species	Percentage of oak in all broadleaves	Percentage of oak in all species
	number of trees (thousands)	number of trees (thousands)	(percent)	(percent)
East Midlands	41,422	50,700	13	11

## Sweet chestnut

**Figure 63** Stocked area of sweet chestnut by age class

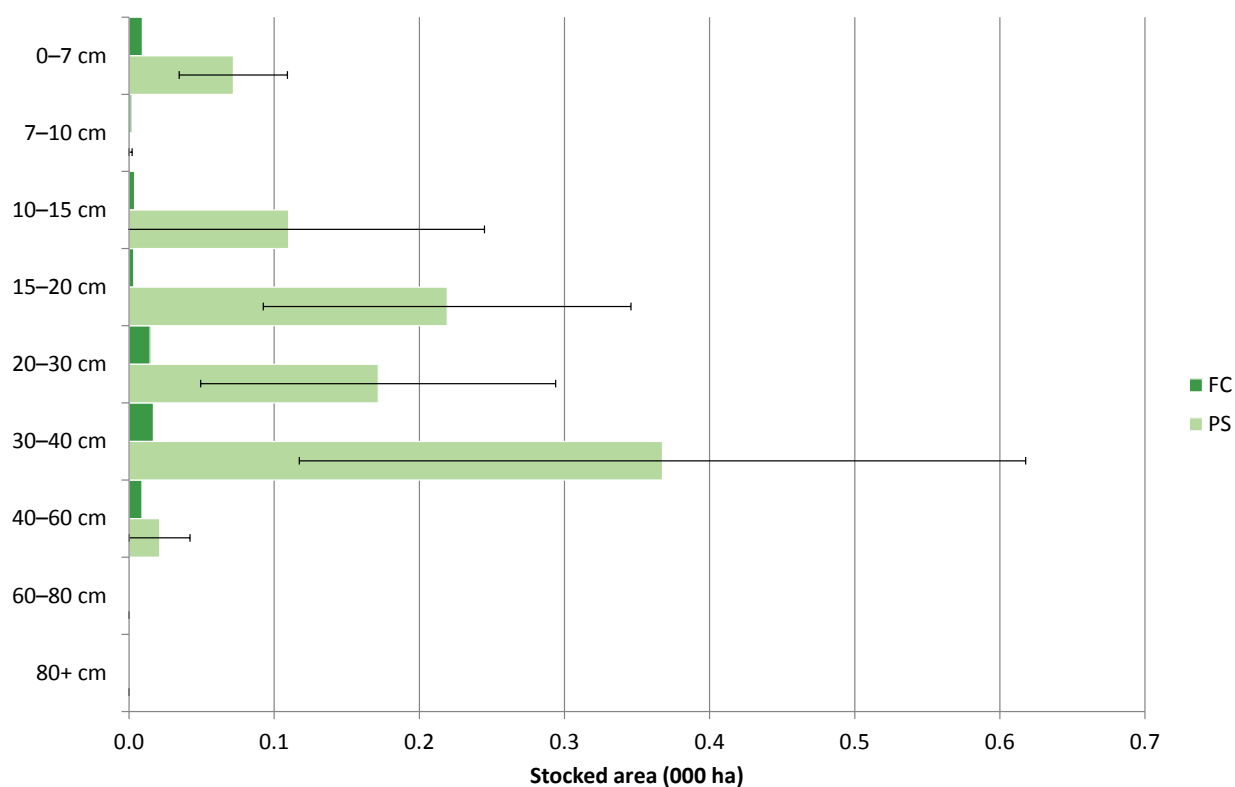


**Table 62** Stocked area of sweet chestnut by age class

Age class (years)	FC	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
East Midlands				
0-10	< 0.1	< 0.1	94	< 0.1
11-20	< 0.1	0.2	86	0.2
21-40	< 0.1	0.1	70	0.2
41-60	< 0.1	0.4	62	0.4
61-80	< 0.1	0.1	78	0.1
81-100	< 0.1	0.1	94	0.1
100+	< 0.1	0.0	-	< 0.1
<b>Total</b>	<b>&lt; 0.1</b>	<b>1.0</b>	<b>37</b>	<b>1.0</b>

## Part 4 – Tree health

**Figure 64** Stocked area of sweet chestnut by mean stand dbh class

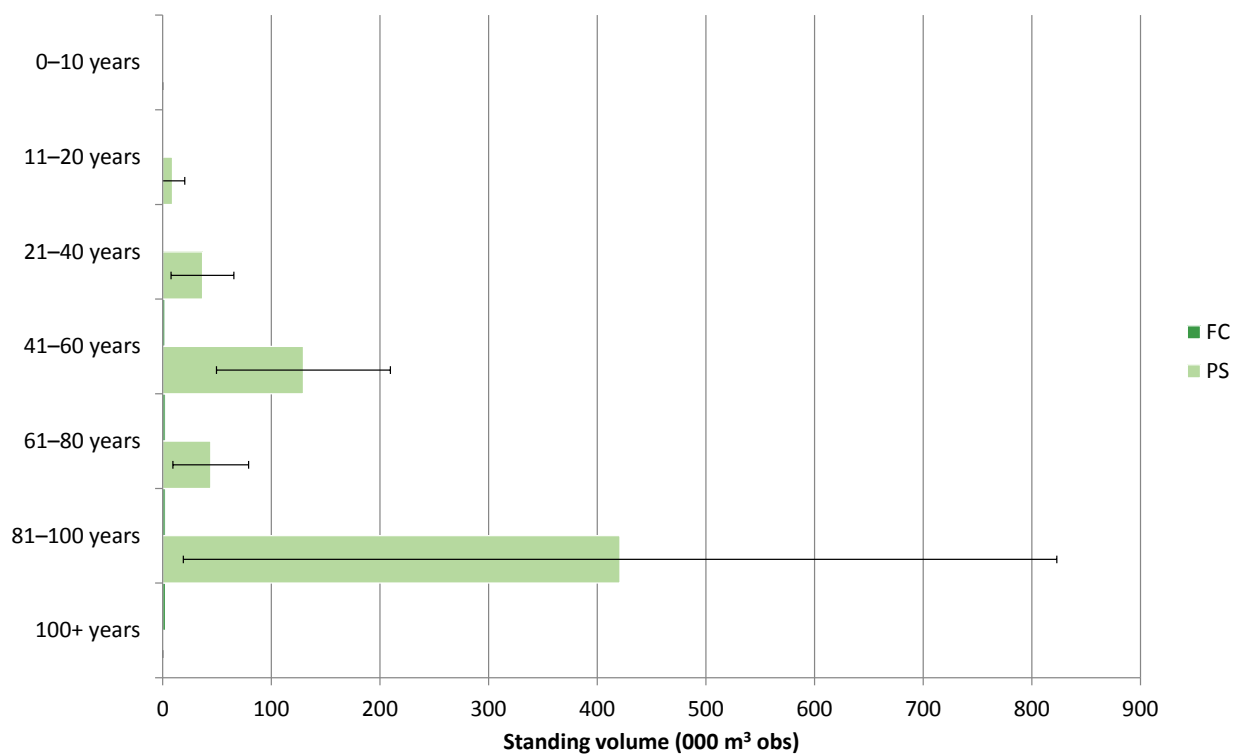


**Table 63** Stocked area of sweet chestnut by mean stand dbh class

Mean stand DBH (cm)	FC	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
East Midlands				
0-7	< 0.1	< 0.1	52	< 0.1
7-10	< 0.1	< 0.1	99	< 0.1
10-15	< 0.1	0.1	123	0.1
15-20	< 0.1	0.2	58	0.2
20-30	< 0.1	0.2	71	0.2
30-40	< 0.1	0.4	68	0.4
40-60	< 0.1	< 0.1	99	< 0.1
60-80	0.0	0.0	-	0.0
80+	0.0	0.0	-	0.0
<b>Total</b>	<b>&lt; 0.1</b>	<b>1.0</b>	<b>37</b>	<b>1.0</b>

## Part 4 – Tree health

**Figure 65** Standing volume of sweet chestnut by age class

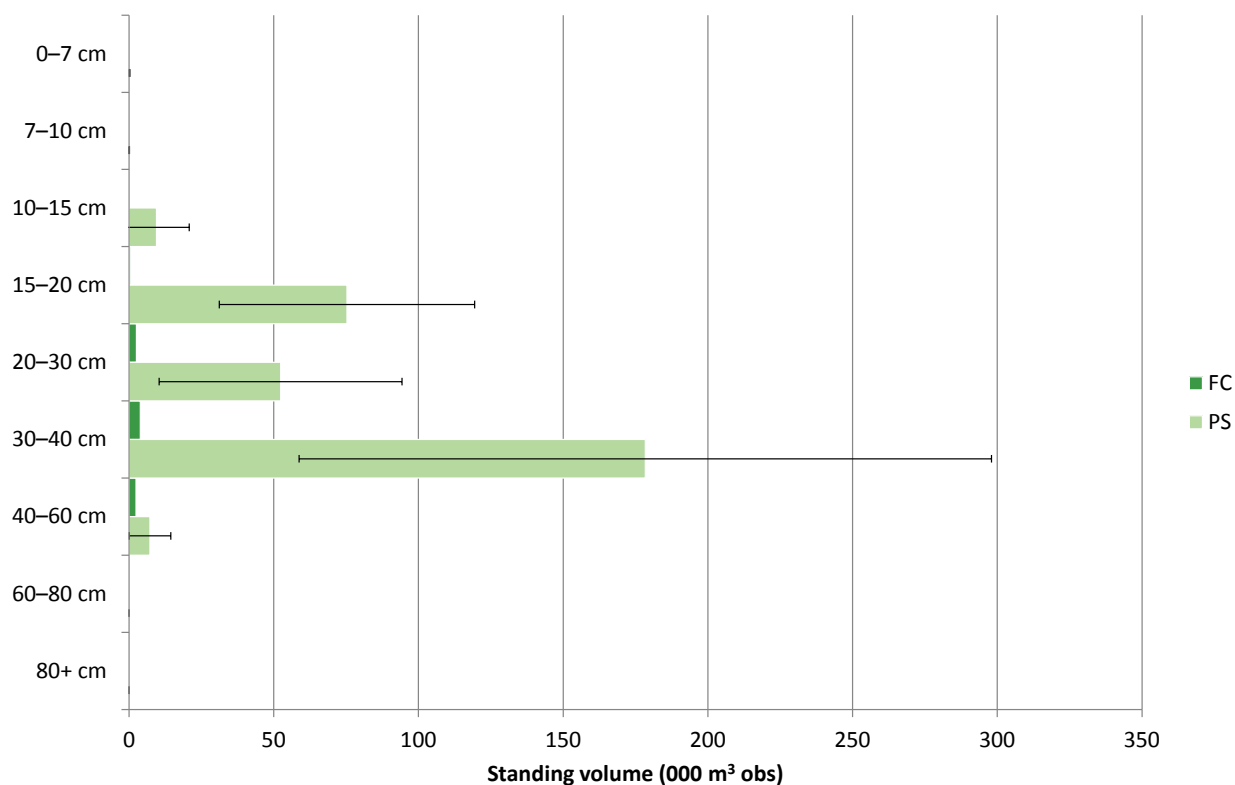


**Table 64** Standing volume of sweet chestnut by age class

Age class (years)	FC	Private sector		Total
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)
East Midlands				
0–10	0	0	-	0
11–20	< 1	9	125	9
21–40	< 1	37	79	37
41–60	2	129	62	132
61–80	2	44	79	47
81–100	2	421	96	423
100+	3	0	-	3
<b>Total</b>	<b>10</b>	<b>323</b>	<b>42</b>	<b>333</b>

## Part 4 – Tree health

**Figure 66** Standing volume of sweet chestnut by mean stand dbh class

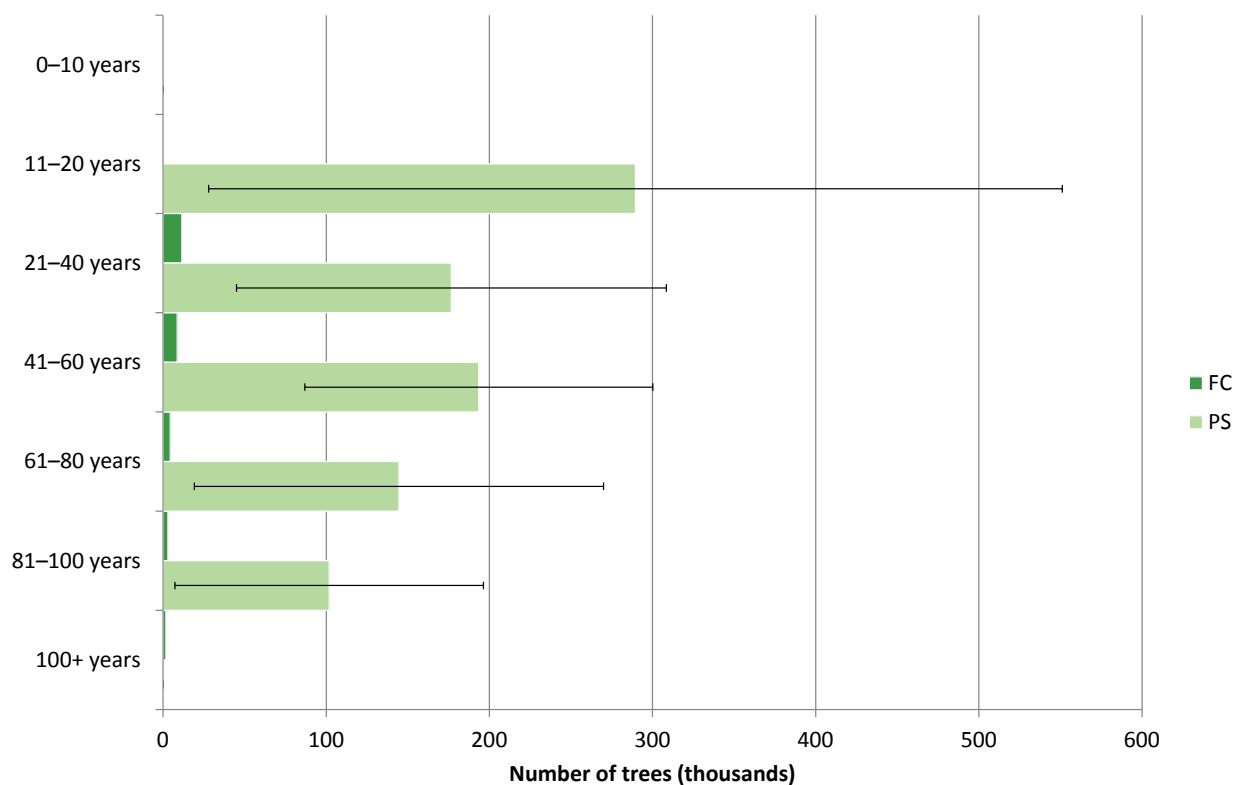


**Table 65** Standing volume of sweet chestnut by mean stand dbh class

Mean stand DBH (cm)	FC	Private sector		Total
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)
East Midlands				
0-7	< 1	< 1	61	< 1
7-10	< 1	< 1	99	< 1
10-15	< 1	9	119	10
15-20	< 1	75	59	76
20-30	3	52	80	55
30-40	4	178	67	182
40-60	2	7	99	10
60-80	0	0	-	0
80+	0	0	-	0
<b>Total</b>	<b>10</b>	<b>323</b>	<b>42</b>	<b>333</b>

## Part 4 – Tree health

**Figure 67** Number of sweet chestnut trees by age class

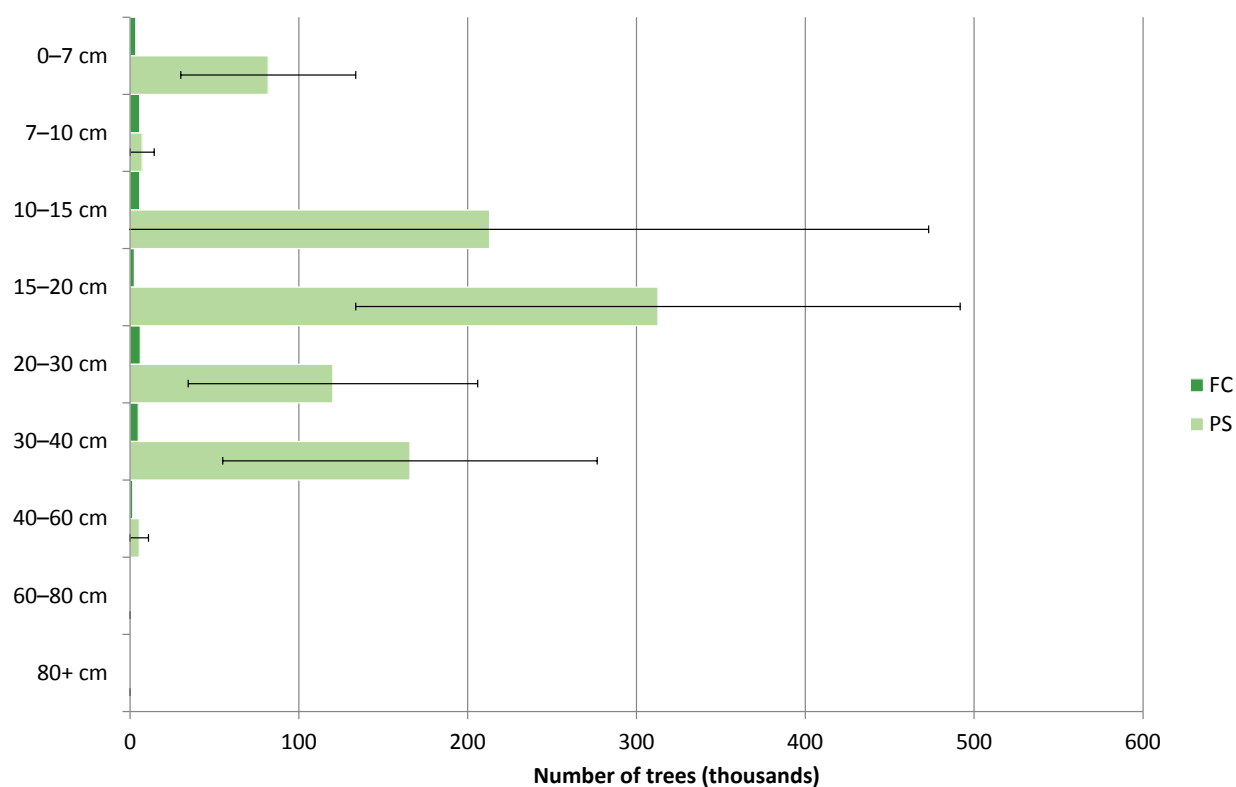


**Table 66** Number of sweet chestnut trees by age class

Age class (years)	FC	Private sector		Total
	number of trees (thousands)	number of trees (thousands)	SE%	number of trees (thousands)
East Midlands				
0-10	0	0	-	0
11-20	< 1	290	90	290
21-40	11	177	75	188
41-60	9	194	55	202
61-80	4	145	87	149
81-100	3	102	93	105
100+	2	0	-	2
<b>Total</b>	<b>30</b>	<b>906</b>	<b>39</b>	<b>936</b>

## Part 4 – Tree health

**Figure 68** Number of sweet chestnut trees by mean stand dbh class



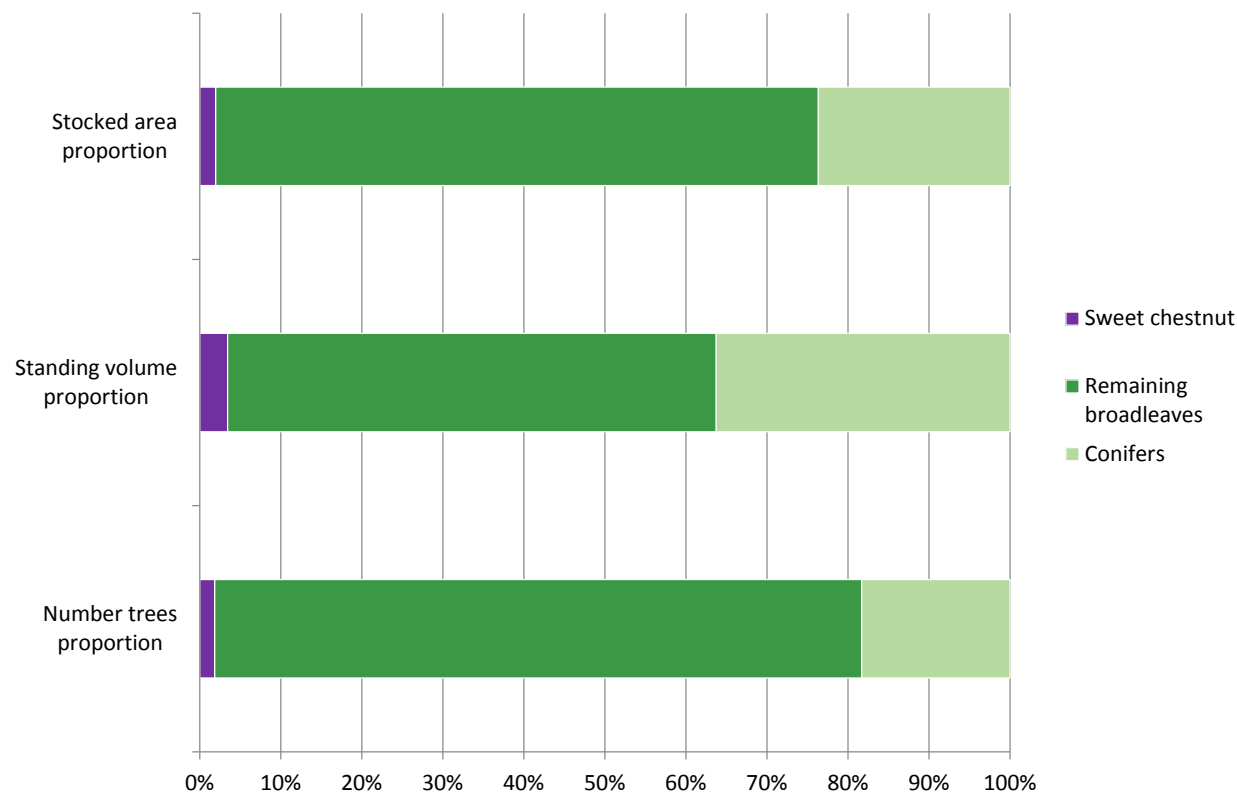
**Table 67** Number of sweet chestnut trees by mean stand dbh class

Mean stand DBH (cm)	FC	Private sector		Total
	number of trees (thousands)	number of trees (thousands)	SE%	number of trees (thousands)
East Midlands				
0-7	3	82	63	85
7-10	6	7	99	13
10-15	6	213	122	219
15-20	3	313	57	315
20-30	6	120	71	126
30-40	5	166	67	171
40-60	2	5	99	7
60-80	0	0	-	0
80+	0	0	-	0
<b>Total</b>	<b>30</b>	<b>906</b>	<b>39</b>	<b>936</b>



# Part 4 – Tree health

**Figure 69** Sweet chestnut as a proportion of woodland



## Part 4 – Tree health

**Table 68** Stocked area of sweet chestnut as a proportion of woodland

Aligned area	Stocked area of sweet chestnut			
	FC	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
East Midlands	< 0.1	1.0	37	<b>1.0</b>

**Table 68 (cont'd)** Stocked area of sweet chestnut as a proportion of woodland

Aligned area	Stocked area of all broadleaves and all species			
	Total of all broadleaves	Total of all species	Percentage of sweet chestnut in all broadleaves	Percentage of sweet chestnut in all species
	area (000 ha)	area (000 ha)	(percent)	(percent)
East Midlands	39.1	51.2	3	2

**Table 69** Standing volume of sweet chestnut as a proportion of woodland

Aligned area	Standing volume of sweet chestnut			
	FC	Private sector		Total
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)
East Midlands	10	323	42	<b>333</b>

**Table 69 (cont'd)** Standing volume of sweet chestnut as a proportion of woodland

Aligned area	Standing volume of all broadleaves and all species			
	Total of all broadleaves	Total of all species	Percentage of sweet chestnut in all broadleaves	Percentage of sweet chestnut in all species
	volume (000 m³ obs)	volume (000 m³ obs)	(percent)	(percent)
East Midlands	6,149	9,648	5	3

## Part 4 – Tree health

**Table 70** Number of sweet chestnut trees as a proportion of woodland

Aligned Area	Numbers of trees of sweet chestnut			
	FC	Private sector		Total
	number of trees (thousands)	number of trees (thousands)	SE%	number of trees (thousands)
East Midlands	30	906	39	936

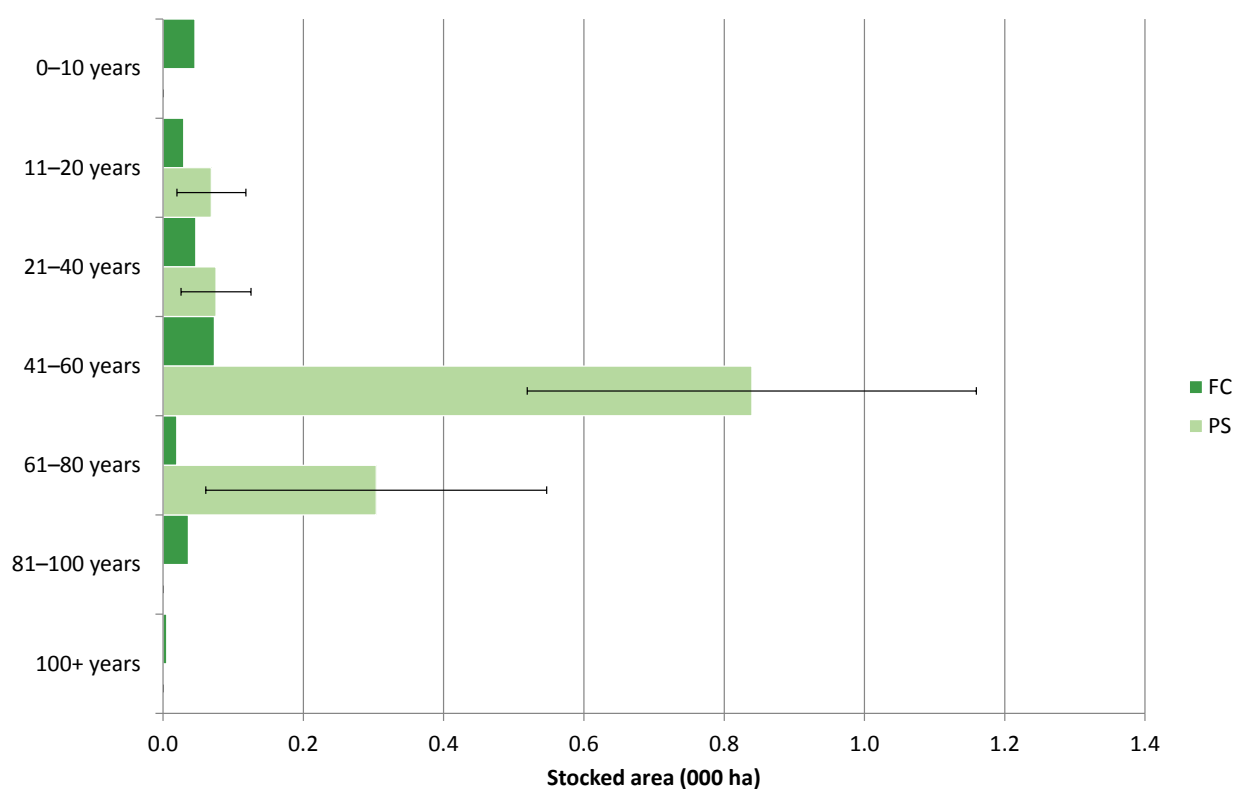
**Table 70 (cont'd)** Number of sweet chestnut trees as a proportion of woodland

Aligned Area	Number of trees of all broadleaves and all species			
	Total of all broadleaves	Total of all species	Percentage of sweet chestnut in all broadleaves	Percentage of sweet chestnut in all species
	number of trees (thousands)	number of trees (thousands)	(percent)	(percent)
East Midlands	41,422	50,700	2	2

## Part 4 – Tree health

### Larch

**Figure 70** Stocked area of larch by age class

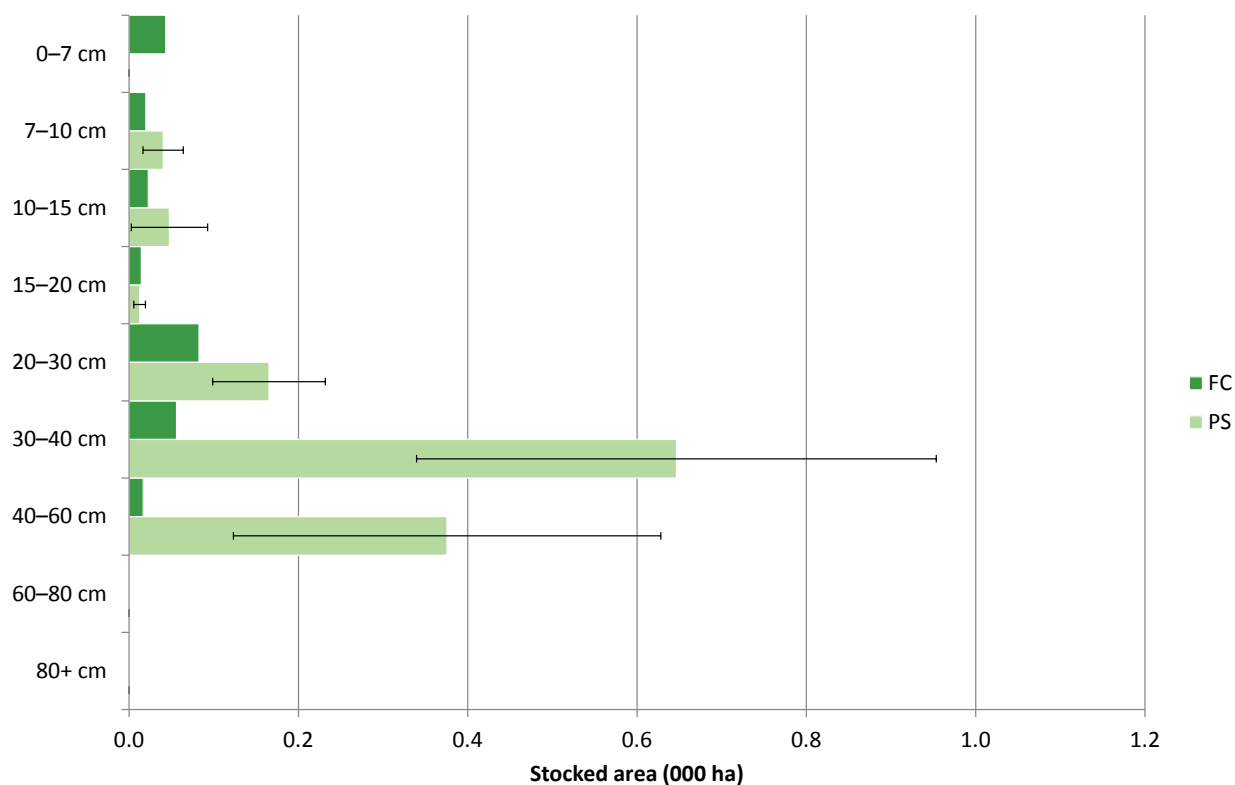


**Table 71** Stocked area of larch by age class

Age class (years)	FC	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
East Midlands				
0–10	< 0.1	0.0	-	< 0.1
11–20	< 0.1	< 0.1	71	< 0.1
21–40	< 0.1	< 0.1	66	0.1
41–60	< 0.1	0.8	38	0.9
61–80	< 0.1	0.3	80	0.3
81–100	< 0.1	0.0	-	< 0.1
100+	< 0.1	0.0	-	< 0.1
<b>Total</b>	<b>0.3</b>	<b>1.3</b>	<b>30</b>	<b>1.5</b>

## Part 4 – Tree health

**Figure 71** Stocked area of larch by mean stand dbh class

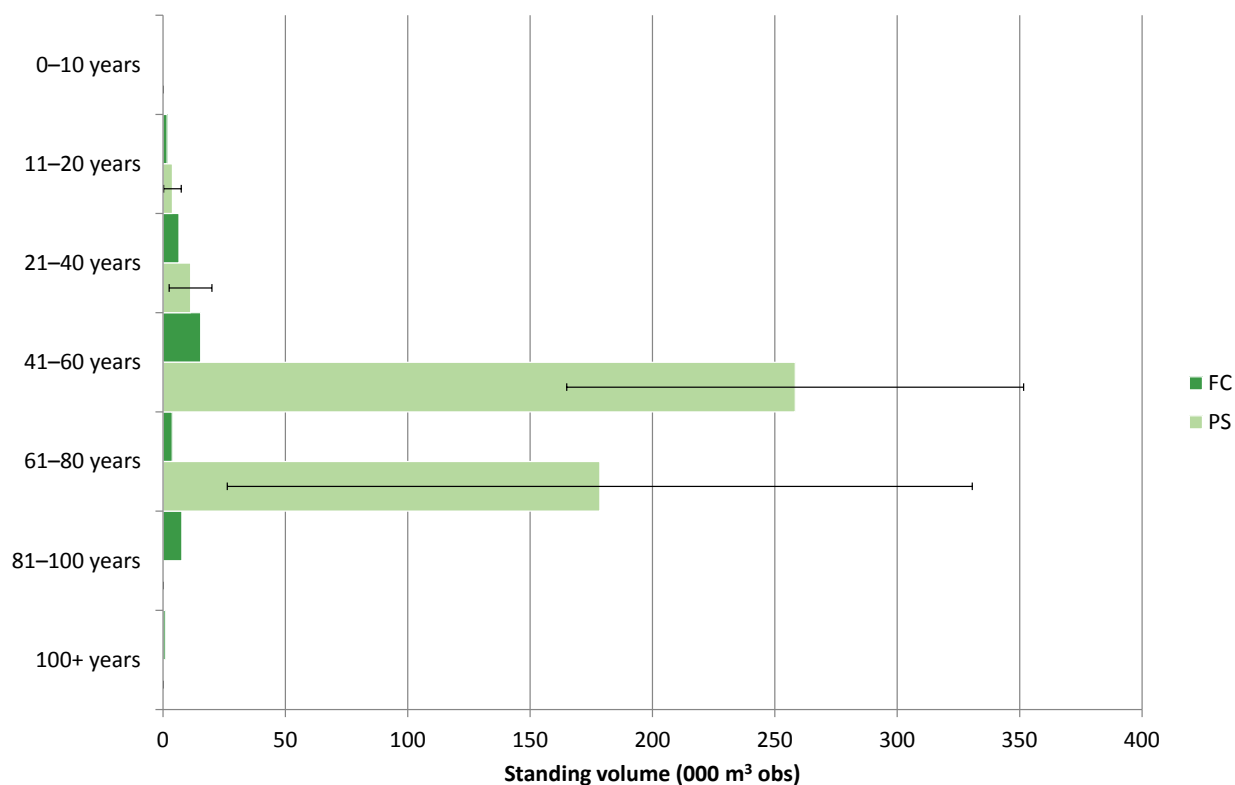


**Table 72** Stocked area of larch by mean stand dbh class

Mean stand DBH (cm)	FC	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
East Midlands				
0-7	< 0.1	0.0	-	< 0.1
7-10	< 0.1	< 0.1	59	< 0.1
10-15	< 0.1	< 0.1	95	< 0.1
15-20	< 0.1	< 0.1	55	< 0.1
20-30	< 0.1	0.2	40	0.2
30-40	< 0.1	0.6	47	0.7
40-60	< 0.1	0.4	67	0.4
60-80	0.0	0.0	-	0.0
80+	0.0	0.0	-	0.0
<b>Total</b>	<b>0.3</b>	<b>1.3</b>	<b>30</b>	<b>1.5</b>

## Part 4 – Tree health

**Figure 72** Standing volume of larch by age class

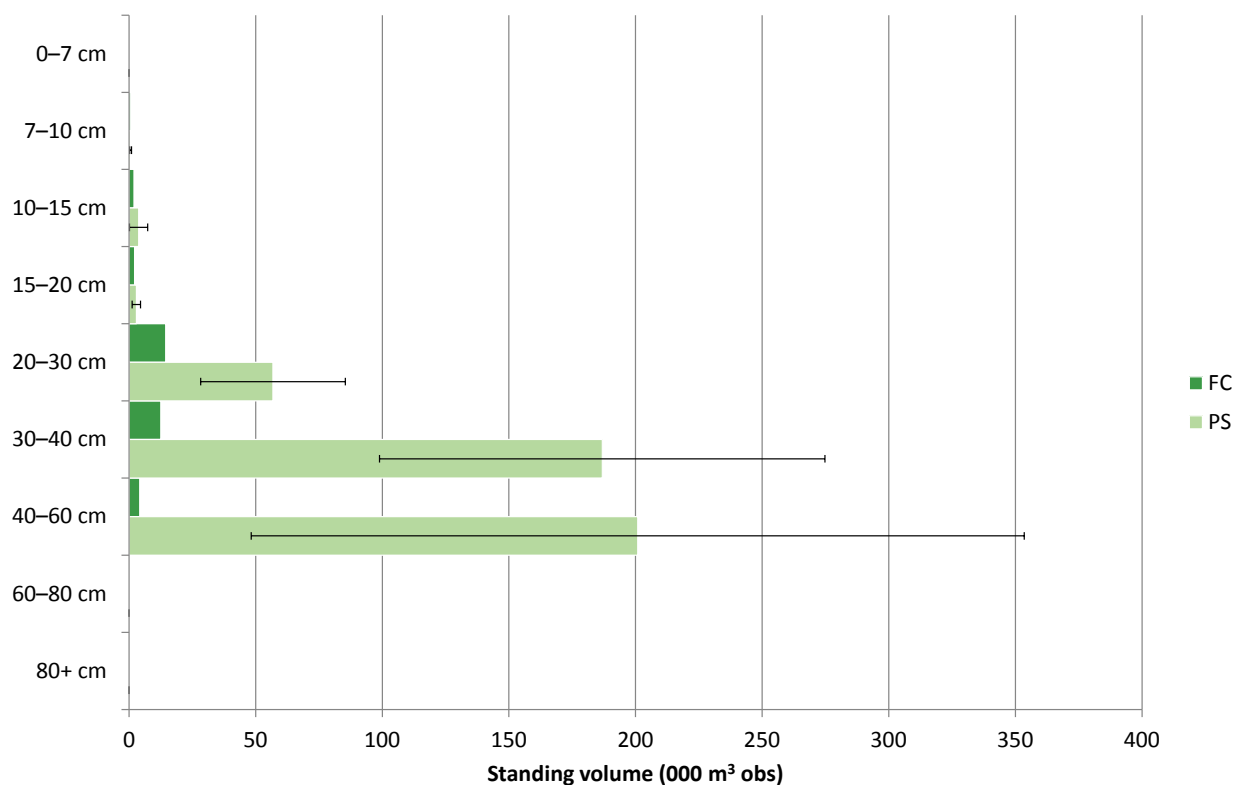


**Table 73** Standing volume of larch by age class

Age class (years)	FC	Private sector		Total
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)
East Midlands				
0–10	< 1	0	-	< 1
11–20	2	4	93	6
21–40	7	11	78	18
41–60	15	258	36	274
61–80	4	178	85	182
81–100	8	0	-	8
100+	< 1	0	-	< 1
<b>Total</b>	<b>36</b>	<b>452</b>	<b>37</b>	<b>488</b>

## Part 4 – Tree health

**Figure 73** Standing volume of larch by mean stand dbh class

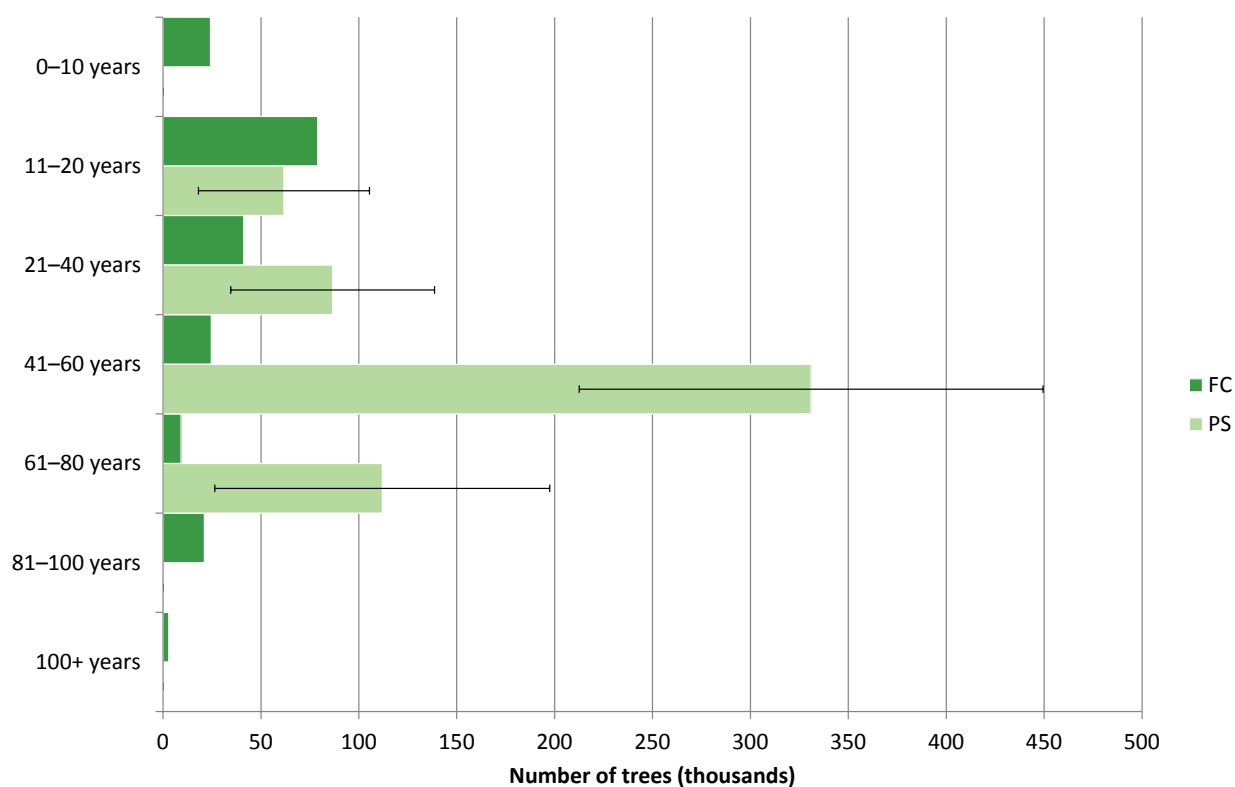


**Table 74** Standing volume of larch by mean stand dbh class

Mean stand DBH (cm)	FC	Private sector		Total
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)
East Midlands				
0-7	< 1	0	-	< 1
7-10	< 1	< 1	65	1
10-15	2	4	95	6
15-20	2	3	58	5
20-30	14	57	50	71
30-40	13	187	47	199
40-60	4	201	76	205
60-80	0	0	-	0
80+	0	0	-	0
<b>Total</b>	<b>36</b>	<b>452</b>	<b>37</b>	<b>488</b>

## Part 4 – Tree health

**Figure 74** Number of larch trees by age class



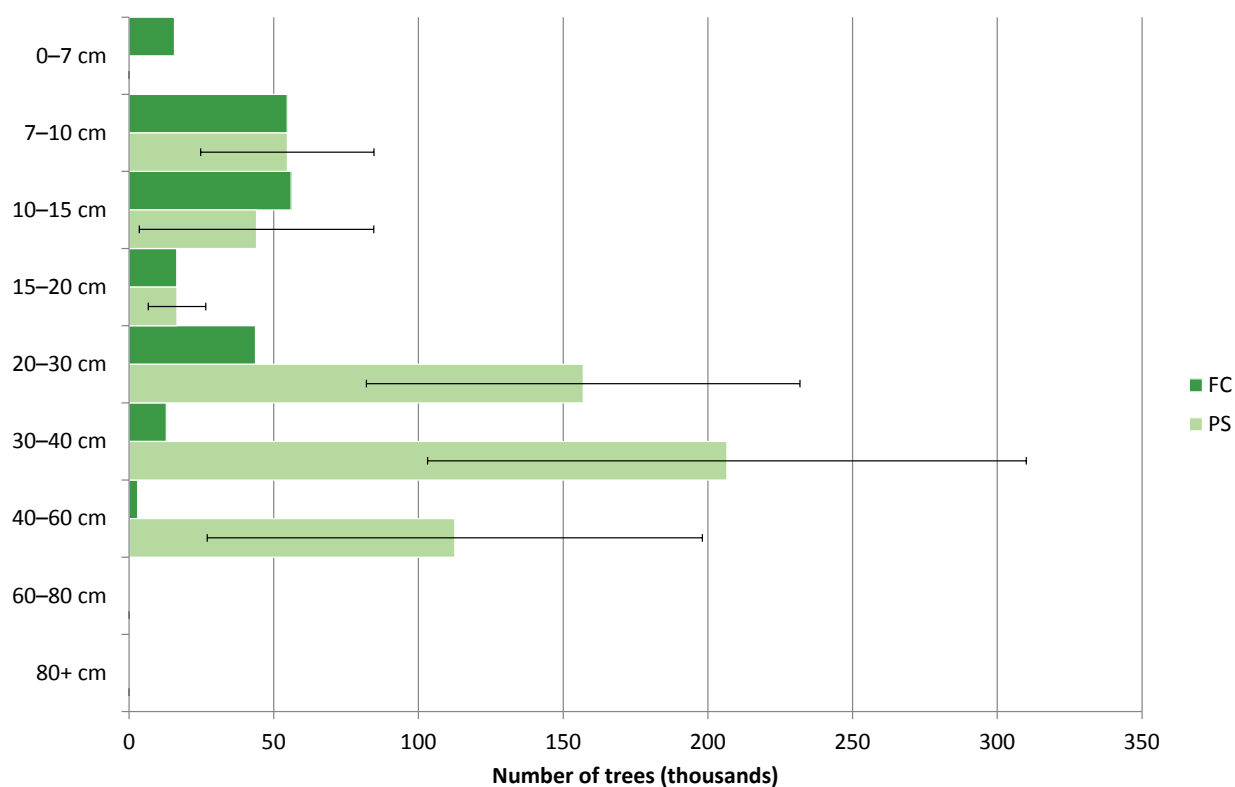
**Table 75** Number of larch trees by age class

Age class (years)	FC	Private sector		Total
	number of trees (thousands)	number of trees (thousands)	SE%	number of trees (thousands)
East Midlands				
0–10	24	0	-	<b>24</b>
11–20	79	62	71	<b>141</b>
21–40	41	87	60	<b>128</b>
41–60	25	331	36	<b>356</b>
61–80	9	112	76	<b>121</b>
81–100	21	0	-	<b>21</b>
100+	3	0	-	<b>3</b>
<b>Total</b>	<b>202</b>	<b>591</b>	<b>25</b>	<b>794</b>



## Part 4 – Tree health

**Figure 75** Number of larch trees by mean stand dbh class

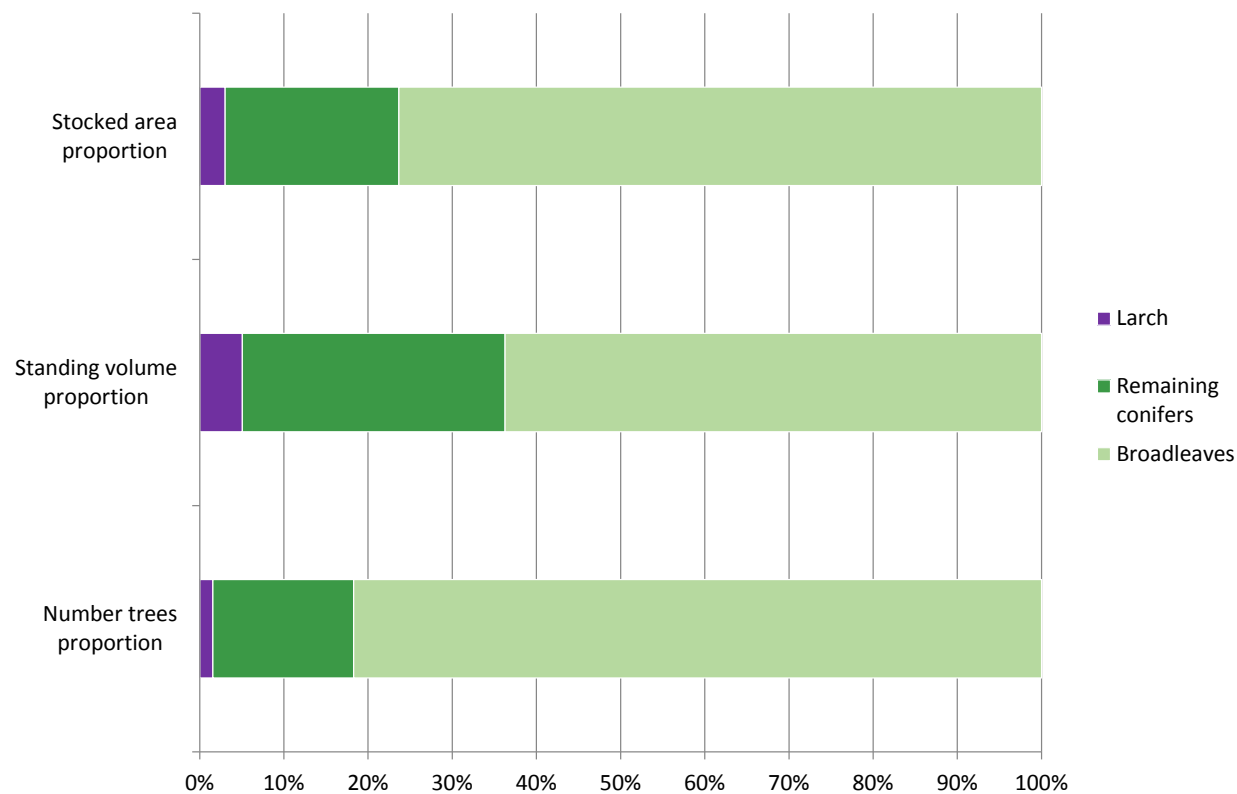


**Table 76** Number of larch trees by mean stand dbh class

Mean stand DBH (cm)	FC	Private sector		Total
	number of trees (thousands)	number of trees (thousands)	SE%	number of trees (thousands)
East Midlands				
0-7	16	0	-	<b>16</b>
7-10	55	55	55	<b>109</b>
10-15	56	44	92	<b>100</b>
15-20	16	17	60	<b>33</b>
20-30	44	157	48	<b>201</b>
30-40	13	207	50	<b>219</b>
40-60	3	113	76	<b>116</b>
60-80	0	0	-	<b>0</b>
80+	0	0	-	<b>0</b>
<b>Total</b>	<b>202</b>	<b>591</b>	<b>25</b>	<b>794</b>

# Part 4 – Tree health

**Figure 76** Larch as a proportion of woodland



## Part 4 – Tree health

**Table 77** Stocked area of larch as a proportion of woodland

Aligned area	Stocked area of larch			
	FC	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
East Midlands	0.3	1.3	30	1.5

**Table 77 (cont'd)** Stocked area of larch as a proportion of woodland

Aligned area	Stocked area of all conifers and all species			
	Total of all conifers	Total of all species	Percentage of larch in all conifers	Percentage of larch in all species
	area (000 ha)	area (000 ha)	(percent)	(percent)
East Midlands	12.1	51.2	13	3

**Table 78** Standing volume of larch as a proportion of woodland

Aligned area	Standing volume of larch			
	FC	Private sector		Total
	volume (000 m <sup>3</sup> obs)	volume (000 m <sup>3</sup> obs)	SE%	volume (000 m <sup>3</sup> obs)
East Midlands	36	452	37	488

**Table 78 (cont'd)** Standing volume of larch as a proportion of woodland

Aligned area	Standing volume of all conifers and all species			
	Total of all conifers	Total of all species	Percentage of larch in all conifers	Percentage of larch in all species
	volume (000 m <sup>3</sup> obs)	volume (000 m <sup>3</sup> obs)	(percent)	(percent)
East Midlands	3,500	9,648	14	5

## Part 4 – Tree health

**Table 79** Number of larch trees as a proportion of woodland

Aligned Area	Numbers of trees of larch			
	FC	Private sector		Total
	number of trees (thousands)	number of trees (thousands)	SE%	number of trees (thousands)
East Midlands	202	591	25	794

**Table 79 (cont'd)** Number of larch trees as a proportion of woodland

Aligned Area	Number of trees of all conifers and all species			
	Total of all conifers	Total of all species	Percentage of larch in all conifers	Percentage of larch in all species
	number of trees (thousands)	number of trees (thousands)	(percent)	(percent)
East Midlands	9,278	50,700	9	2

## Appendix A – Aligned area nomenclature

**Table 80** Aligned area long and short names

Long name	Short name	Abbreviation
Cumbria and Lancashire	Cumbria and Lancashire	CLA
Devon Cornwall and the Isles of Scilly	Devon and Cornwall	DCS
East Anglia	East Anglia	EAN
East Midlands	East Midlands	EMD
Greater Manchester Merseyside and Cheshire	Gtr Mancs Mersey and Ches	GMC
Hertfordshire and North London	Herts and North London	HNL
Kent South London and East Sussex	Kent S London and E Sussex	KSL
Lincolnshire and Northamptonshire	Lincs and Northants	LNA
North East	North East	NEA
Solent and South Downs	Solent and South Downs	SSD
Thames	Thames	THS
Wessex	Wessex	WSX
West Midlands	West Midlands	WMD
Yorkshire	Yorkshire	YOR

## Glossary

Actual production	Timber reported as having been felled and removed from the forest. The Forestry Commission keeps records of actual production for its estate, while estimates for the Private sector come from surveys of harvesting companies and timber processors. These figures are available from Forestry Commission Statistics.
Aerial photograph	Photograph of the ground taken from an elevated/direct-down position, with a camera that is not supported by a ground-based structure.
Age class	A grouping of trees into specific age ranges for classification purposes.
Area (forest/woodland)	Forest and woodland area can be defined in net or gross terms. Net area is the land actually covered by trees (in the National Forest Inventory that is to the drip line of the canopy). Gross area includes both the area covered by trees and the open spaces (<0.5 hectare) within (e.g. rides, glades, ponds).
Availability	A term to describe what timber could potentially be available for harvesting within a forest area.
Biological potential	A term applied to forecast scenarios with the objective of maximising timber production. It typically involves felling stands in the year of maximum MAI and management table thinning. It may not take account of factors that constrain thinning and felling (e.g. wind risk or pest attack). The forecast results set out in this report involve constraints on thinning and times of felling to take account of wind risk.
Broadleaves	Trees and shrubs that belong to the angiosperm division of the plant kingdom (as distinct from the gymnosperm division that includes conifers). Most in the UK have laminar leaves and are deciduous. Sometimes referred to as 'hardwoods'.
Canopy cover	Area covered by a mass of foliage and branches formed collectively by the crowns of trees.
Clearfell area	Area here all the trees have been felled at once. In non-clearfell areas, only some of the trees are felled at any one time.
Clearfelling	Cutting down of an area of woodland (if it is within a larger area of woodland it is typically a felling greater than 0.25 hectare). Sometimes a scatter or small clumps of trees may be left standing within the felled area.
Conifers	Trees and shrubs that belong to the gymnosperm division of the plant kingdom (as distinct from the angiosperm division that includes broadleaves). Conifers mostly have needles or scale-like leaves and are usually evergreen. Sometimes referred to as 'softwoods'.
Cumulative volume production	The total volume of timber that is forecast to be produced over the entire forecast period, including any overdue timber.
DAMS (Detailed Aspect Methodology Score)	A measure of exposure at a particular location. Can be used as a proxy indicator of the risk of catastrophic wind damage to a stand of trees. May be used to influence decisions on thinning and timing of clearfelling where wind is a risk factor.
DBH (diameter at breast height)	The diameter on the stem of a tree at 'breast height', defined as 1.3 m from ground level.
Dothistroma needle blight	A disease of conifers (especially pine) which causes defoliation, losses in yield and, in severe cases, tree death. Also known as red band needle blight.

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Felling plan	A spatial and temporal plan of harvesting activities within a forest or woodland.
Forest (or woodland)	Land predominately covered in trees (defined as land under stands of trees with a canopy cover of at least 20%, or the ability to achieve this, and with a minimum area of 0.5 hectare and minimum width of 20 m), whether in large tracts (generally called forests) or smaller areas known by a variety of terms (including woods, copses, spinneys or shelterbelts).
Forest management plan	A holistic spatial and temporal plan stating the objectives of management together with details of forestry proposals over a period of five years and outlining intentions over a minimum total of 10 years. Such plans allow managers to communicate proposals and demonstrate sustainable forest management. They can be used to authorise thinning, felling and other management operations.
Forest Service	An agency within the Department of Agriculture and Rural Development (DARD) in Northern Ireland responsible for the regulation of forestry and the management of state forests in Northern Ireland.
Forestry Commission	The government department responsible for regulating forestry, implementing forestry policy and managing state forests in England and Scotland. Forestry policy is devolved, with the exception of common issues addressed on a GB or UK basis, such as international forestry, plant health and forestry standards.
Forestry Commission (FC) estate	Forests, woodlands, open land and other property managed by the Forestry Commission.
Great Britain (GB)	England, Scotland and Wales.
Hardwood	The wood of broadleaved trees or the broadleaves themselves.
High forest	Woodland which is not managed as coppice or pollards and which may or may not be managed for timber.
Increment	The increase in volume of a tree or a stand over a year or annualised over a specified period measured either in m <sup>3</sup> per year or in m <sup>3</sup> per hectare per year. See also Mean Annual Increment (MAI).
Interpreted forest type (IFT)	Interpreted forest type is a classification of woodland into woodland types as identified from aerial photography and satellite imagery.
Interpreted open area (IOA)	Interpreted open area is a classification of open spaces within woodlands as identified from aerial photography and satellite imagery.
Like-for-like (restocking)	The restocking of areas of felled trees with trees of the same species and yield class.
Maximising productivity	The management of woodland to maximise volume production by thinning at the MTI.
Mean annual increment (MAI)	The average annual rate of volume production from year of planting to a given year, expressed in m <sup>3</sup> obs per hectare per year. In even-aged stands it is calculated by dividing cumulative volume production by age.
MTT (management table thinning)	A sequence of thinnings prescribed by Forestry Commission yield tables over the life of a forest stand. Management table thinning refers to the pattern of thinning recommended in these yield tables. In standard yield tables the thinnings are set to an intensity which aims to maximise diameter increment whilst also maintaining maximum cumulative volume production
MTI (marginal thinning intensity)	The maximum sustainable intensity of thinning defined as 70% of yield class per hectare per year (m <sup>3</sup> obs/ha/year).

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Maximum MAI (maximum mean annual increment) (MMAI)	The age at which a stand reaches the maximum average rate of volume increment which it can achieve. Felling the stand at this age will ensure that the stand reaches its highest average production per annum for its lifespan, thus optimising the stand in terms of volume production over the long term.
Mean annual increment (MAI)	The average rate of volume production up to a given year, expressed in m <sup>3</sup> per hectare per year. In even-aged stands it is calculated by dividing cumulative volume production by age.
Mensuration	The study of the measurement of lengths, areas, volumes and related quantities. Forest mensuration is concerned with the measurement of trees, woodlands and forests, including standing and felled timber.
National Forest Inventory (NFI)	An inventory run by the Forestry Commission, set up in 2009, to provide a record of key information about GB forests and woodlands.
National Inventory of Woodland and Trees (NIWT)	An inventory run by the Forestry Commission, set up in 1995 and completed in 2002, to provide a record of key information about GB forests and woodlands.
Natural Resources Wales (NRW)	Natural Resources Wales is the largest Welsh Government Sponsored Body - employing 1,900 staff across Wales with a budget of £180 million. NRW was formed in April 2013, largely taking over the functions of the Countryside Council for Wales, Forestry Commission Wales and the Environment Agency in Wales, as well as certain Welsh Government functions.
Overbark	Used as a qualification when the diameter or volume of wood includes the bark.
Overbark standing (OBS)	Timber is defined in this report as the volume of stemwood to 7 cm top diameter in m <sup>3</sup> overbark standing (obs), including stump (above ground) and usable branchwood (of minimum 3 m in length and 7 cm top diameter).
Overdue	Timber contained in stands that are beyond the felling age prescribed by the harvesting scenario at the start of the forecast.
Phytophthora	Fungus-like pathogens that can cause extensive damage and mortality to trees and other plants.
Planned production	The volumes and assortments published in the removals forecast, reflecting the cumulative impact of managing the FC estate (as of 31 March 2012) in accordance with approved forest design and thinning plans.
Potential production	A forecast which will not necessarily transpire. As the private sector estate forecast makes assumptions about future levels of harvest, and the assumptions may not transpire, this forecast is one of potential production.
Private sector estate	Forests and woodlands in the UK not managed by the Forestry Commission, Natural Resources Wales or Forest Service. In the context of the National Forest Inventory, 'Private sector' is used for convenience although it includes land owned or managed by bodies such as local authorities and charities.
Production forecast	A forecast of softwood volume production based on a firm plan of harvesting.
Restocking plan	A spatial and temporal plan describing how felled areas are to be replanted or regenerated.
Satellite imagery	Imagery of the earth taken from space from a satellite.
Softwood	The wood of coniferous trees or the conifers themselves.



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Stand	A distinct area of woodland, generally composed of a uniform group of trees in terms of species composition and spatial distribution, and age and size class distribution.
Standard error (SE)	The measure of the margin of error associated with an estimate as a result of sampling from a population with statistical variability. Larger standard errors indicate less precision in the estimate. Standard errors in this report are quoted in relative terms (i.e. as percentages of the value of the estimate).
Standing volume	The live stemwood and usable branchwood of trees (up to 7 cm top diameter). It excludes roots, below ground stump material, small branches, foliage and deadwood. For Private sector woodland only, it also excludes trees in woodlands of less than 0.5 hectare. Usually expressed as m <sup>3</sup> overbark standing (m <sup>3</sup> obs).
Stemwood	The woody material forming the above ground main growing shoot(s) of a tree or stand of trees. The stem includes all woody volume above ground with a diameter greater than 7 cm overbark. Stemwood includes wood in major branches where there is at least 3 m of straight length to 7 cm top diameter.
Stocked area	The area stocked with living trees. The stocked areas in this report are quoted in gross terms for the FC/NRW estate and in net terms for the private sector estate (see the definition of area above).
Sub-compartment database (SCDB)	A database owned and maintained by the Forestry Commission that holds an inventory of all stands of trees managed by the Forestry Commission (including that formerly managed by Forestry Commission Wales which is now managed by Natural Resources Wales).
Sustainable forest management	The stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity and vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions at local, national and global levels, and that does not cause damage to other ecosystems.
Terminal height	The top height of a stand at which wind damage is expected to reach a level necessitating clearfelling.
Thinning	The periodic harvesting of trees in a woodland, involving the removal of some trees for commercial use and the retention of others for future production or long-term retention.
Thinning plan	A spatial and temporal plan of harvesting activities within a forest or woodland.
Top diameter	The diameter of the smaller (top) end of a length of stemwood, branchwood or log, often used to define different categories of wood products (e.g. sawlogs, roundwood, pulp) and merchantable timber.
Top height	The mean total height of the 100 largest dbh trees per hectare.
UK (United Kingdom)	Great Britain and Northern Ireland.
Windthrow	Uprooting of trees by the wind. Windthrow can be endemic – i.e. that caused by frequently recurring peak winds – or catastrophic – an infrequent occurrence associated with exceptionally strong winds where large areas/numbers of trees are blown down.
Woodland	see Forest.
Yield class (YC)	An index used in the UK of the potential productivity of even-aged stands of trees based on maximum MAI. It reflects the potential productivity of the site for the tree species growing on it.

## Aligned area reports in this series

This report is one in a series of reports describing the current stocks in woodland, the economic viability data, timber availability forecasts and estimates of the current stocks within woodland of four species currently at risk from pests and diseases.

Reports are available for:

- England
- Cumbria and Lancashire
- Devon Cornwall and the Isles of Scilly
- East Anglia
- **East Midlands**
- Greater Manchester Merseyside and Cheshire
- Hertfordshire and North London
- Kent South London and East Sussex
- Lincolnshire and Northamptonshire
- North East
- Solent and South Downs
- Thames
- Wessex
- West Midlands
- Yorkshire

The methodology, data sources and assumptions are described in the England report. It is important that the estimates presented in this report are interpreted in the light of the information provided in the England report.

## NFI national reports and papers

This series of reports is part of the wider suite of publications from the National Forest Inventory (NFI). NFI reports that contain information relating to this series of reports are:

- NFI woodland area statistics, Great Britain, England, Scotland, Wales (2011)
- Standing timber volume for coniferous trees in Britain (2012)
- 25-year forecast of softwood availability (2012)
- 25-year forecast of standing coniferous volume and increment (2012)
- Preliminary estimates of broadleaved species in British woodlands, with special focus on ash (2012)
- Biomass in live woodland trees in Britain (2014)
- Carbon in live woodland trees in Britain (2014)
- 50-year forecast of softwood availability (2014)
- 50-year forecast of hardwood availability (2014)
- 25-year forecast of softwood availability (2016)

Each theme has a series of associated reports, papers and data, tailored for different audiences and uses.

This report is a supporting document for the Official Statistics report *National Forest Inventory statistics for England and aligned areas* (2017) and provides more detailed results for East Midlands.

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