Forestry Commission

National Forest Inventory statistics for Yorkshire

Yorkshire

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**.

North East

Cumbria and Lancashire

Yorkshire

Gtr Mancs

Mersey and Ches

East Midlands

Lincs and Northants

West Midlands

East Anglia

Herts & Nth London

Thames

Kent S London & E Sussex

Wessex

Solent & South Downs

Devon and Cornwall

0 20 40   80 Kilometres

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Key findings for Yorkshire

Yorkshire (YOR) has a land area of 1,437,100 hectares making it 3rd largest out of the 14 aligned areas by land area. With 7.7% of this land covered by woodland, YOR ranks 12th out of 14 in terms of percentage woodland cover. Some 17% of this woodland is under Forestry Commission ownership or management.

Sitka spruce is the most commonly occurring of the conifer species whether assessed by stocked area (29%), standing volume (29%) or number of trees (35%).

Sycamore is the most commonly occurring of the broadleaved species when assessed by stocked area (18%) and standing volume (24%). Birch is the most commonly occurring of the broadleaved species when assessed by number of trees (17%).

Some 21% 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 51% of conifer and mixed broadleaf/conifer sections (PS only) show evidence of thinning.

Overall 51% 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 YOR:
- Ash is estimated as 8% of total stocked area (12% of broadleaved stocked area), 8% of standing volume (13% of broadleaved standing volume) and 8% of the number of trees (11% of the number of broadleaved trees).
- Oak is estimated as 11% of total stocked area (16% of broadleaved stocked area), 14% of standing volume (24% of broadleaved standing volume) and 8% of the number of trees (11% of the number of broadleaved trees).
- Sweet chestnut is estimated as <1% of total stocked area (<1% of broadleaved stocked area), <1% of standing volume (<1% of broadleaved trees).
- Larch is estimated as 8% of total stocked area (25% of conifer stocked area), 10% of standing volume (25% of conifer standing volume) and 6% of the number of trees (22% of the number of conifer trees).

NFI summary report

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Part 1 – introduction and methodology

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

Part 1 – introduction and methodology

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 ± 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.

Part 2 – What our woodlands are like today

Part 2 - what our woodlands are like today

Part 2 - what our woodlands are like today

Woodland area statistics

Woodland area by woodland type

Figure 1 Woodland area by woodland type

- Woodland land cover
- Non-woodland land cover
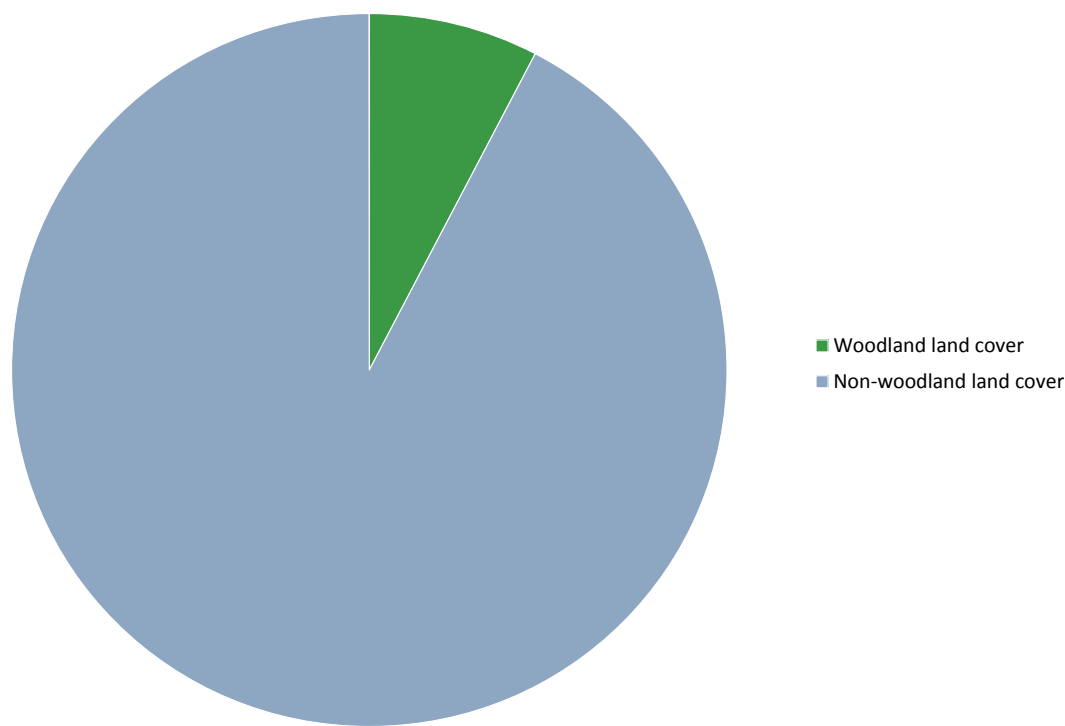
Table 1 Woodland area by woodland type

Woodland Type	Area (ha)	%
Yorkshire		
Woodland	106,750	97%
Assumed woodland	3,420	3%
Low density	142	0%
Total mapped woodland	**110,313**	**100%**
Non-woodland area	1,326,787	
Land area	1,437,100	
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

- Forestry Commission
- Other ownership
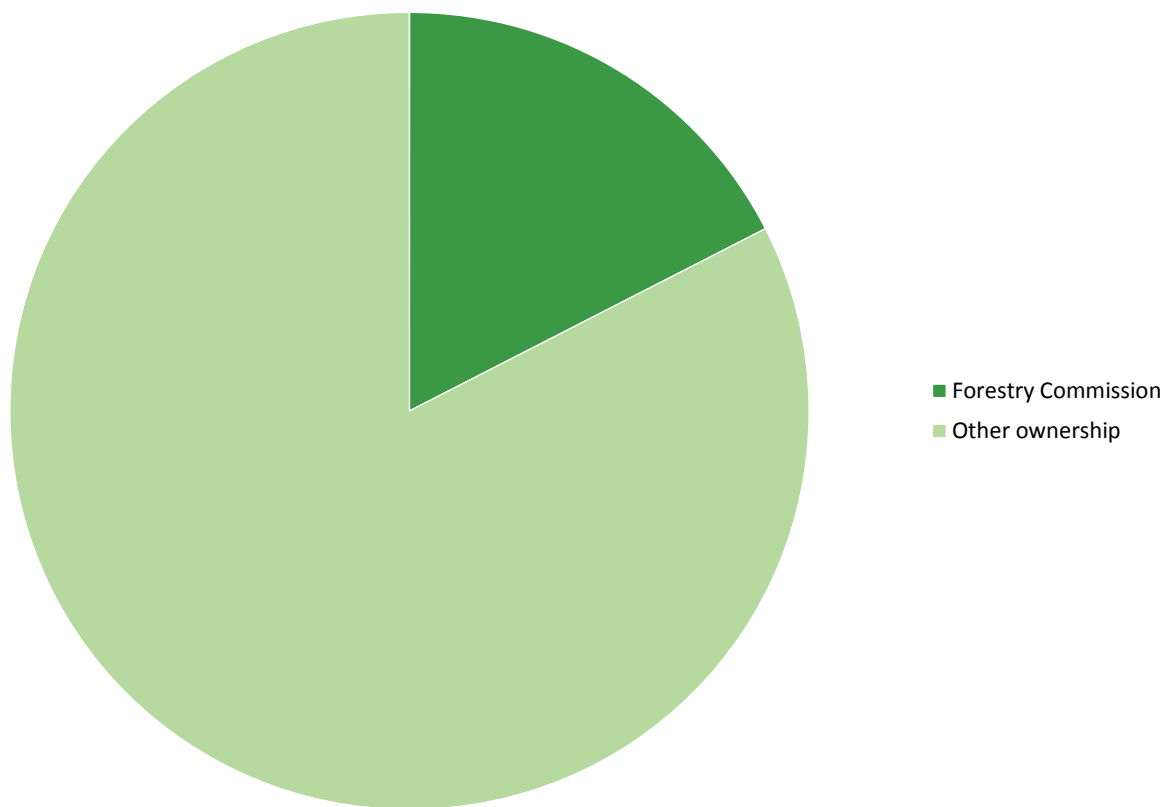
Table 2 Woodland area by ownership

Ownership	Area (ha)	% Woodland
Yorkshire		
Forestry Commission	19,256	17%
Other ownership	91,057	83%
Total area of woodland	**110,313**	**100%**

Part 2 - what our woodlands are like today

Woodland area by interpreted forest type

Figure 3 Woodland area by interpreted forest type

- Broadleaved
- Conifer
- Felled
- Ground prep
- Mixed mainly broadleaved
- Mixed mainly conifer
- Young trees
- Coppice
- Coppice with standards
- Shrub
- Assumed woodland
- Low density
- Failed
- Windthrow
- Cloud/shadow/uncertain
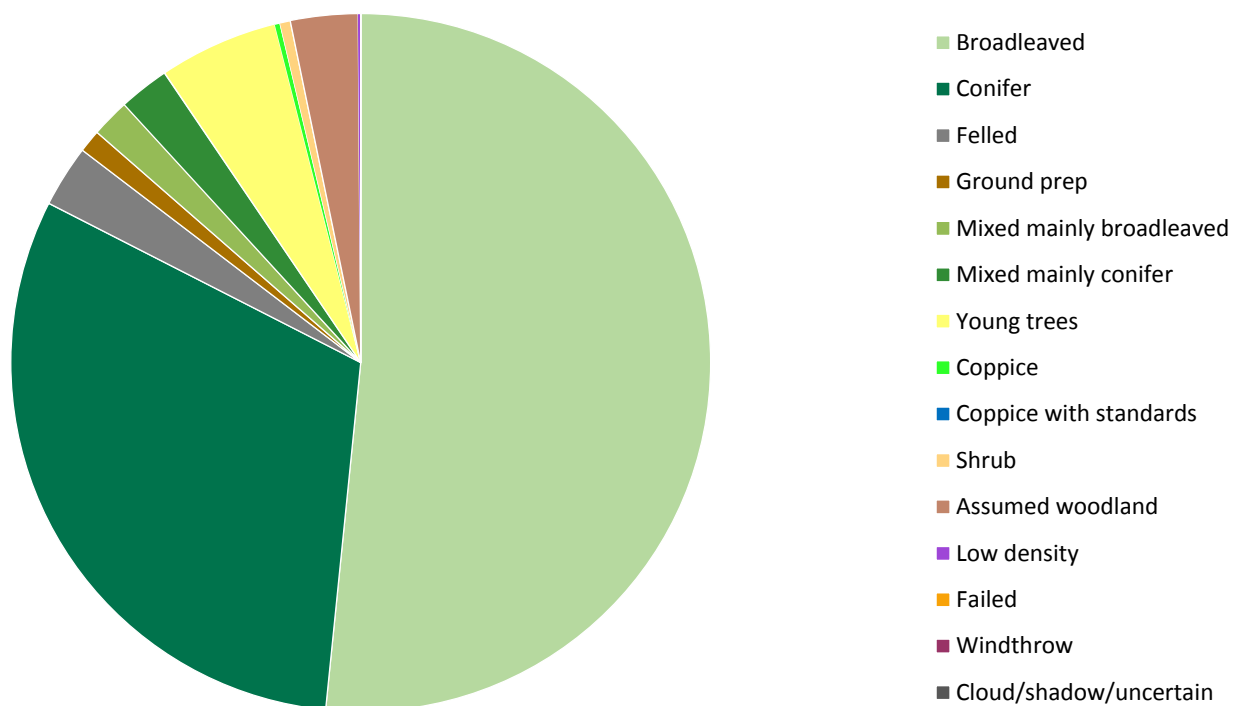
Table 3 Woodland area by interpreted forest type

Forest type	Total area (ha)	% of total area
Yorkshire		
Broadleaved	56,910	52%
Conifer	34,130	31%
Felled	3,159	3%
Ground prep	1,163	1%
Mixed mainly broadleaved	1,950	2%
Mixed mainly conifer	2,566	2%
Young trees	6,072	6%
Coppice	274	0%
Coppice with standards	0	0%
Shrub	527	0%
Assumed woodland	3,420	3%
Low density	142	0%
Failed	0	0%
Windthrow	0	0%
Cloud/shadow/uncertain	0	0%
TOTALS	**110,313**	**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
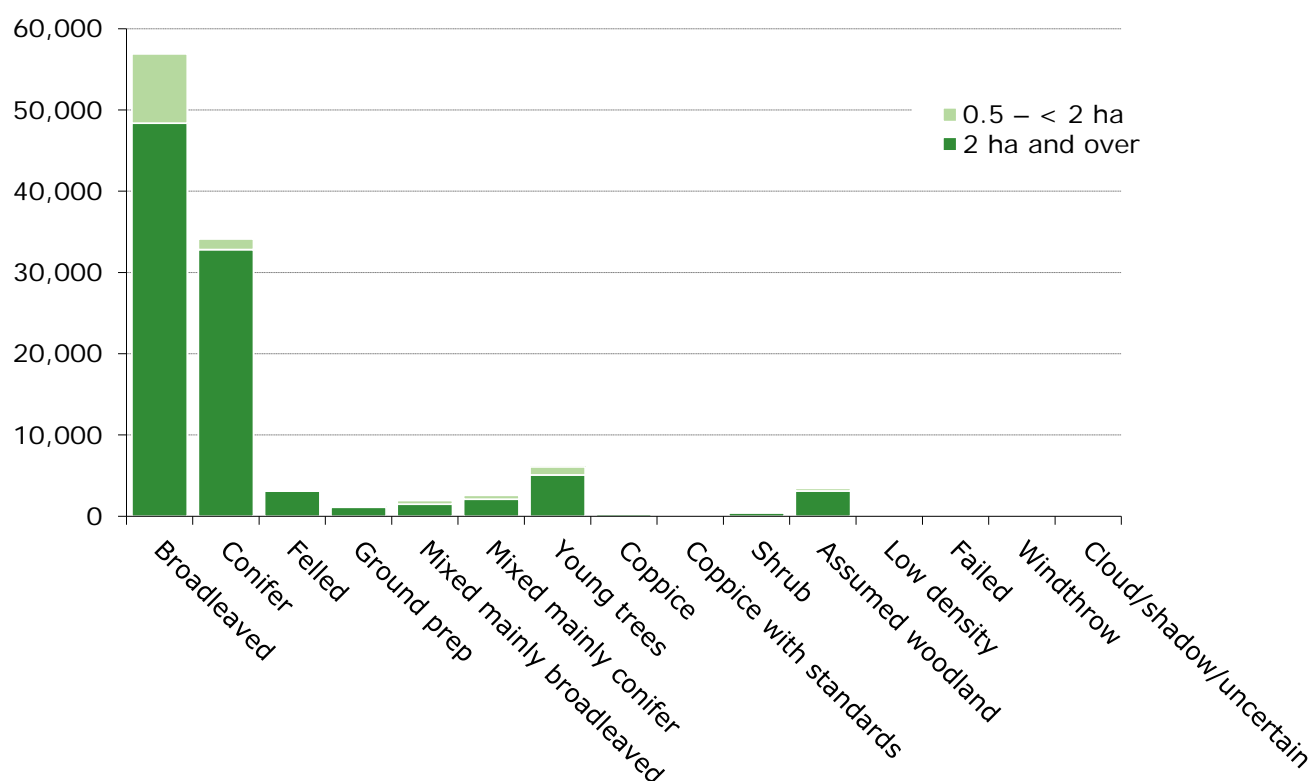
Table 4 Woodland area by interpreted woodland type and woodland size

Forest type	Woodland size		Total area (ha)
	2 ha and over	0.5 – < 2 ha	
Yorkshire			
Broadleaved	48,384	8,525	56,910
Conifer	32,812	1,319	34,130
Felled	3,129	29	3,159
Ground prep	1,116	47	1,163
Mixed mainly broadleaved	1,485	464	1,950
Mixed mainly conifer	2,083	482	2,566
Young trees	5,088	984	6,072
Coppice	271	3	274
Coppice with standards	0	0	0
Shrub	431	96	527
Assumed woodland	3,098	322	3,420
Low density	126	16	142
Failed	0	0	0
Windthrow	0	0	0
Cloud/shadow/uncertain	0	0	0
TOTALS	**98,024**	**12,289**	**110,313**

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

Legend:
- Broadleaved
- Conifer
- Felled
- Ground prep
- Mixed mainly broadleaved
- Mixed mainly conifer
- Young trees
- Coppice
- Coppice with standards
- Shrub
- Assumed Woodland
- Low Density
- Failed
- Windthrow
- Cloud/shadow/uncertain
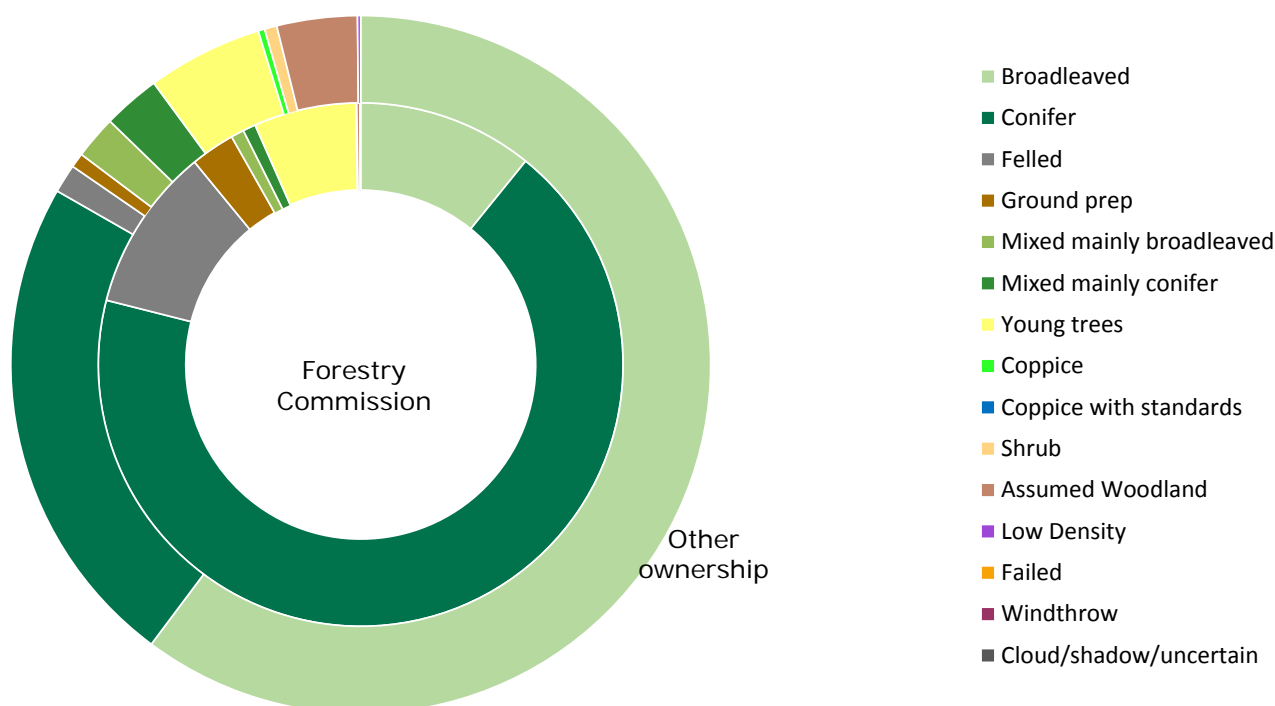
Table 5 Woodland area by interpreted forest type and ownership

Forest type	Forestry Commission		Other ownership	
	Area (ha)	% of total area	Area (ha)	% of total area
Yorkshire				
Broadleaved	2,084	11%	54,825	60%
Conifer	13,119	68%	21,011	23%
Felled	1,950	10%	1,208	1%
Ground prep	525	3%	615	1%
Mixed mainly broadleaved	155	1%	1,817	2%
Mixed mainly conifer	152	1%	2,414	3%
Young trees	1,213	6%	4,859	5%
Coppice	0	0%	274	0%
Coppice with standards	0	0%	0	0%
Shrub	10	0%	517	1%
Assumed Woodland	37	0%	3,383	4%
Low Density	9	0%	133	0%
Failed	0	0%	0	0%
Windthrow	0	0%	0	0%
Cloud/shadow/uncertain	0	0%	0	0%
TOTALS	**19,256**	**100%**	**91,057**	**100%**

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	
Yorkshire					
Broadleaved	2,077	46,306	7	8,518	56,909
Conifer	13,118	19,694	1	1,317	34,130
Felled	1,950	1,179	0	29	3,159
Ground prep	543	573	5	42	1,163
Mixed mainly broadleaved	132	1,354	1	463	1,950
Mixed mainly conifer	152	1,931	0	482	2,566
Young trees	1,212	3,877	2	983	6,072
Coppice	0	271	0	3	274
Coppice with standards	0	0	0	0	0
Shrub	10	421	0	96	527
Assumed woodland	36	3,062	1	321	3,420
Low Density	9	117	0	16	142
Failed	0	0	0	0	0
Windthrow	0	0	0	0	0
Cloud/shadow/uncertain	0	0	0	0	0
Totals	**19,238**	**78,785**	**18**	**12,271**	**110,312**

Part 2 - what our woodlands are like today

Woodland area by size class distribution

Figure 6 Woodland area by size class distribution
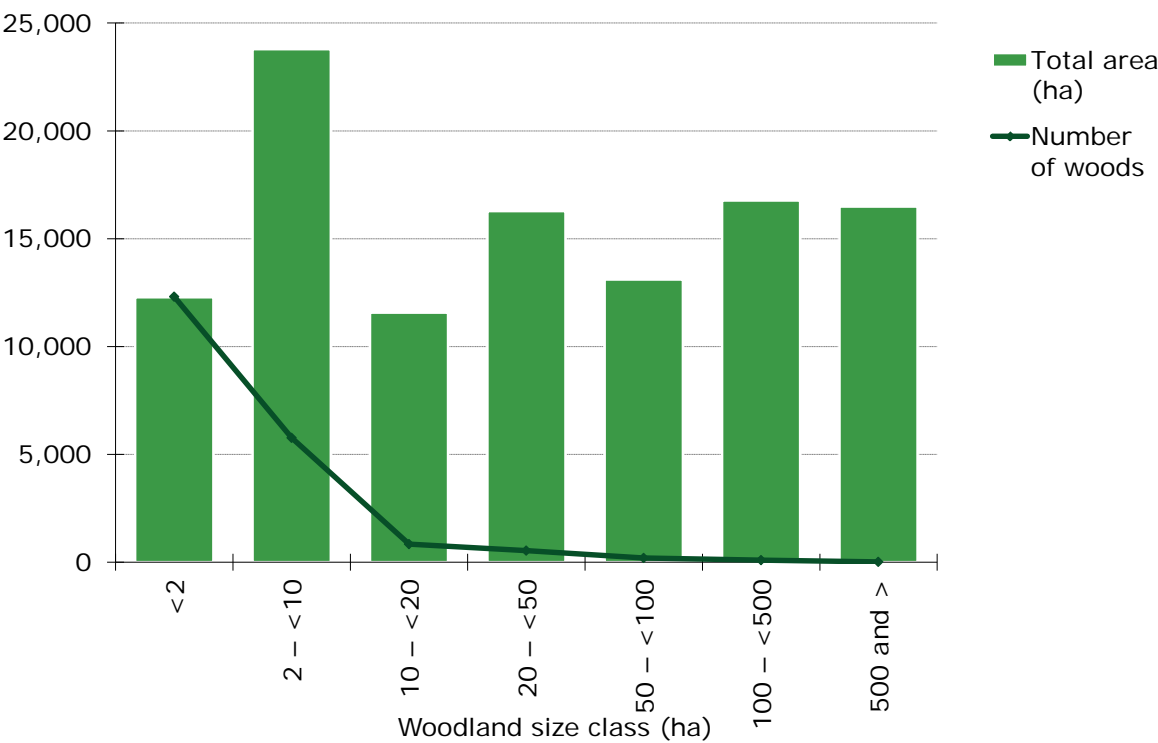
Table 7 Woodland area by size class distribution

Size class (ha)	Total area (ha)	Number of woods	% of total area	Mean wood area (ha)
Yorkshire				
<2	12,289	12,307	11%	< 1
2 – <10	23,786	5,764	22%	4
10 – <20	11,577	833	10%	14
20 – <50	16,283	537	15%	30
50 – <100	13,104	193	12%	68
100 – <500	16,778	95	15%	177
500 and >	16,496	15	15%	1,100
All woods	**110,313**	**19,744**	**100%**	**6**

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

Legend:
- Agricultural
- Bare area
- Grass
- Power line
- Quarry
- River
- Road
- Urban
- Other vegetation
- Open water
- Wind farm
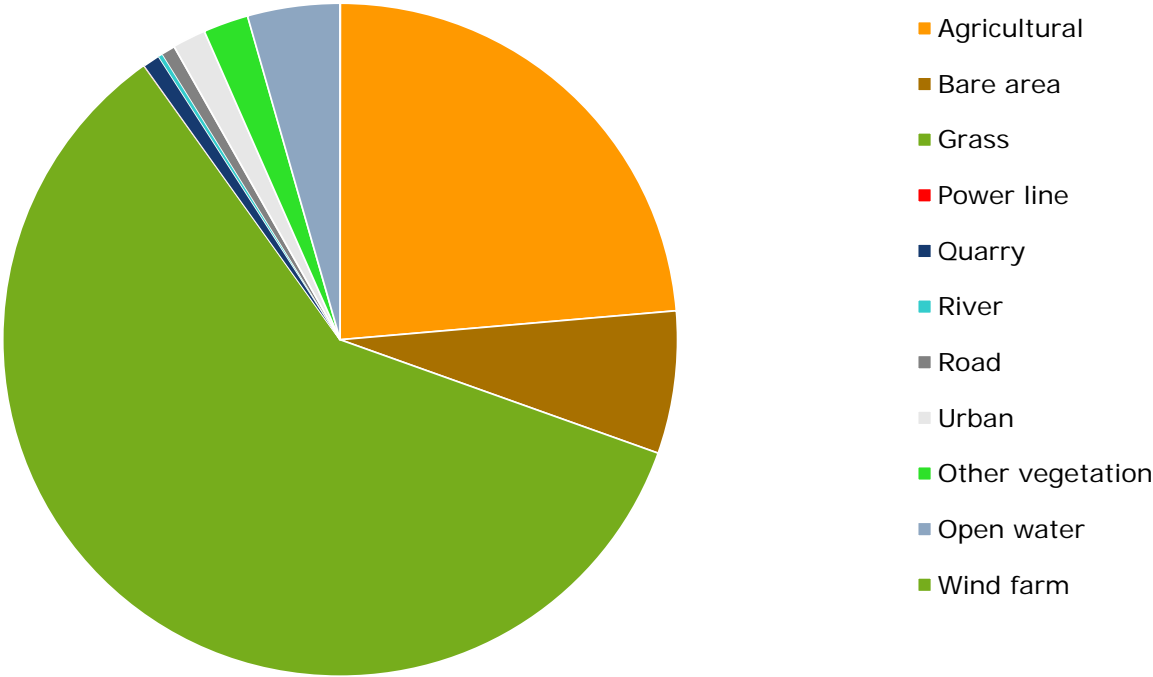
Table 8 Open areas in woodland by land use type

Interpreted open area	Total area (ha)	% of total area
Yorkshire		
Agricultural	465	24%
Bare area	134	7%
Grass	1,174	60%
Power line	< 1	0%
Quarry	16	1%
River	4	0%
Road	13	1%
Urban	31	2%
Other vegetation	43	2%
Open water	87	4%
Wind farm	0	0%
TOTALS	**1,967**	**100%**

Net area under canopy

Stocked area by species

Figure 8 Stocked area by principal tree species
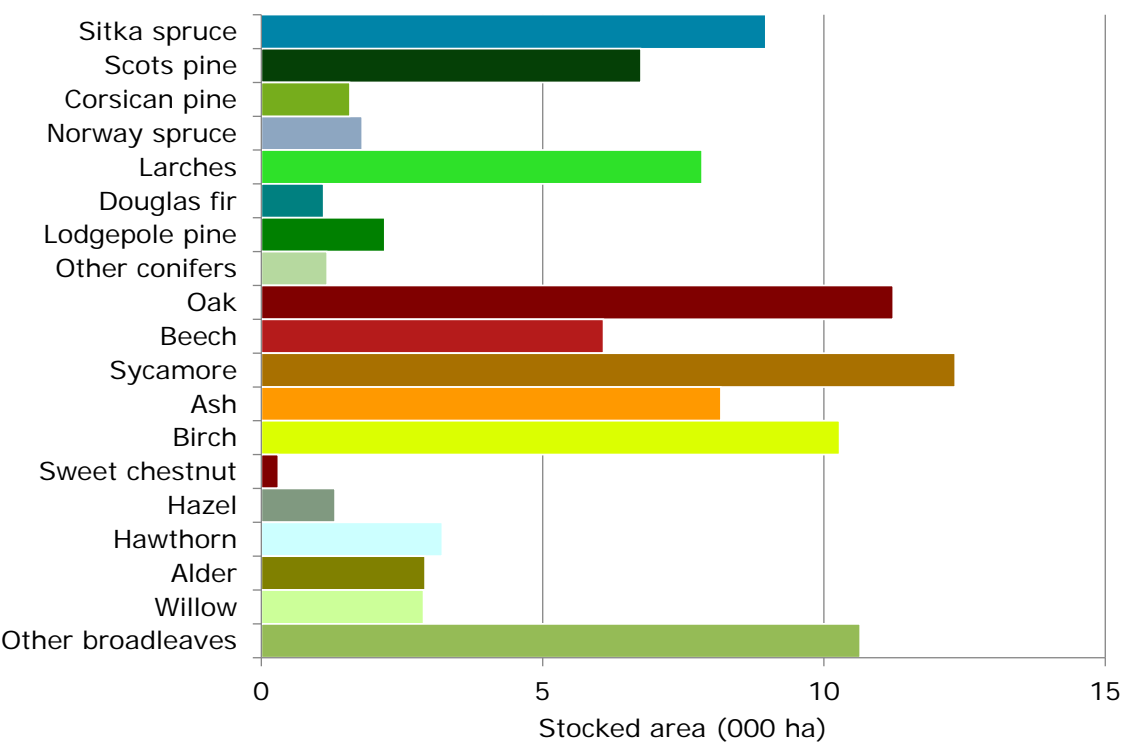
Part 2 - what our woodlands are like today

Table 9 Stocked area by principal tree species

Principal species	FC area (000 ha)	Private sector area (000 ha)	SE%	Total area (000 ha)
Conifers				
Sitka spruce	4.2	4.7	14	**9.0**
Scots pine	3.3	3.5	13	**6.8**
Corsican pine	0.5	1.1	25	**1.6**
Norway spruce	0.4	1.4	18	**1.8**
Larches	2.9	4.9	10	**7.8**
Douglas fir	0.5	0.6	26	**1.1**
Lodgepole pine	1.0	1.2	25	**2.2**
Other conifers	0.4	0.7	27	**1.2**
All conifers	**13.2**	**18.3**	**4**	**31.4**
Broadleaves				
Oak	0.4	10.8	9	**11.2**
Beech	0.4	5.7	12	**6.1**
Sycamore	0.3	12.1	7	**12.3**
Ash	0.2	8.0	8	**8.2**
Birch	0.8	9.5	10	**10.3**
Sweet chestnut	< 0.1	0.3	39	**0.3**
Hazel	0.0	1.3	18	**1.3**
Hawthorn	0.0	3.2	13	**3.2**
Alder	< 0.1	2.9	14	**2.9**
Willow	< 0.1	2.9	18	**2.9**
Other broadleaves	0.8	9.8	7	**10.6**
All broadleaves	**2.9**	**66.4**	**2**	**69.4**
All species				
All species	**16.1**	**84.8**	**2**	**100.9**

Figure 9 Stocked area by principal conifer species

Legend:
- Sitka spruce
- Scots pine
- Corsican pine
- Norway spruce
- Larches
- Douglas fir
- Lodgepole pine
- Other conifers

29% — 22% — 5% — 6% — 25% — 4% — 7% — 4%
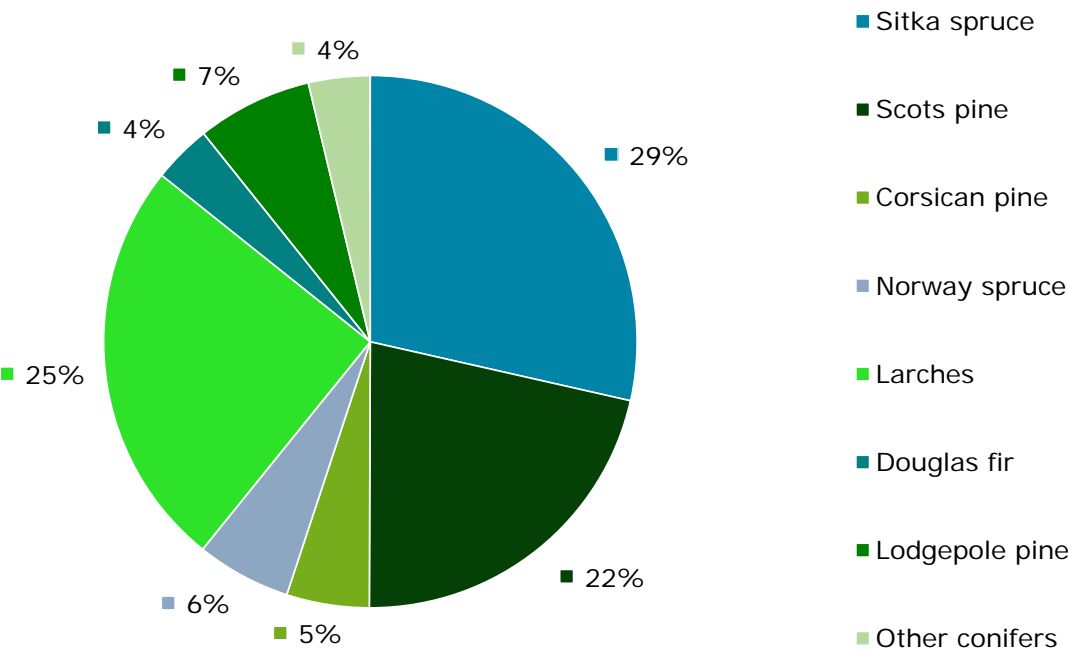
Figure 10 Stocked area by principal broadleaved species

Legend:
- Oak
- Beech
- Sycamore
- Ash
- Birch
- Sweet chestnut
- Hazel
- Hawthorn
- Alder
- Willow
- Other broadleaves

16% — 9% — 18% — 12% — 15% — 0% — 2% — 5% — 4% — 4% — 15%
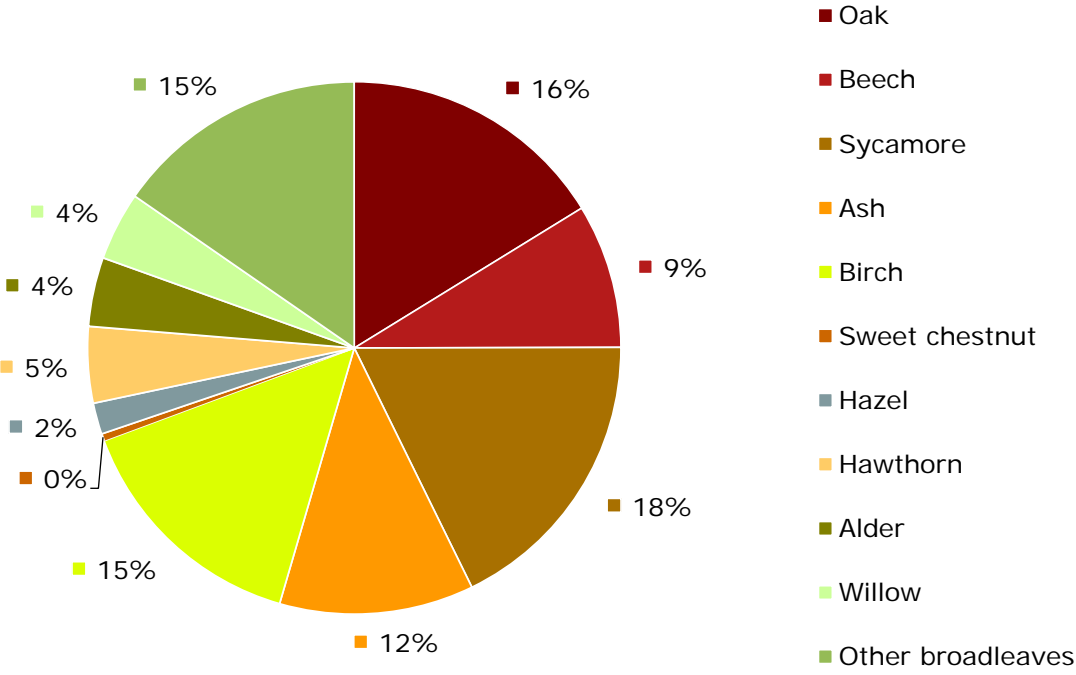
Part 2 - what our woodlands are like today

Stocked area by age class

Figure 11 Stocked area by age class
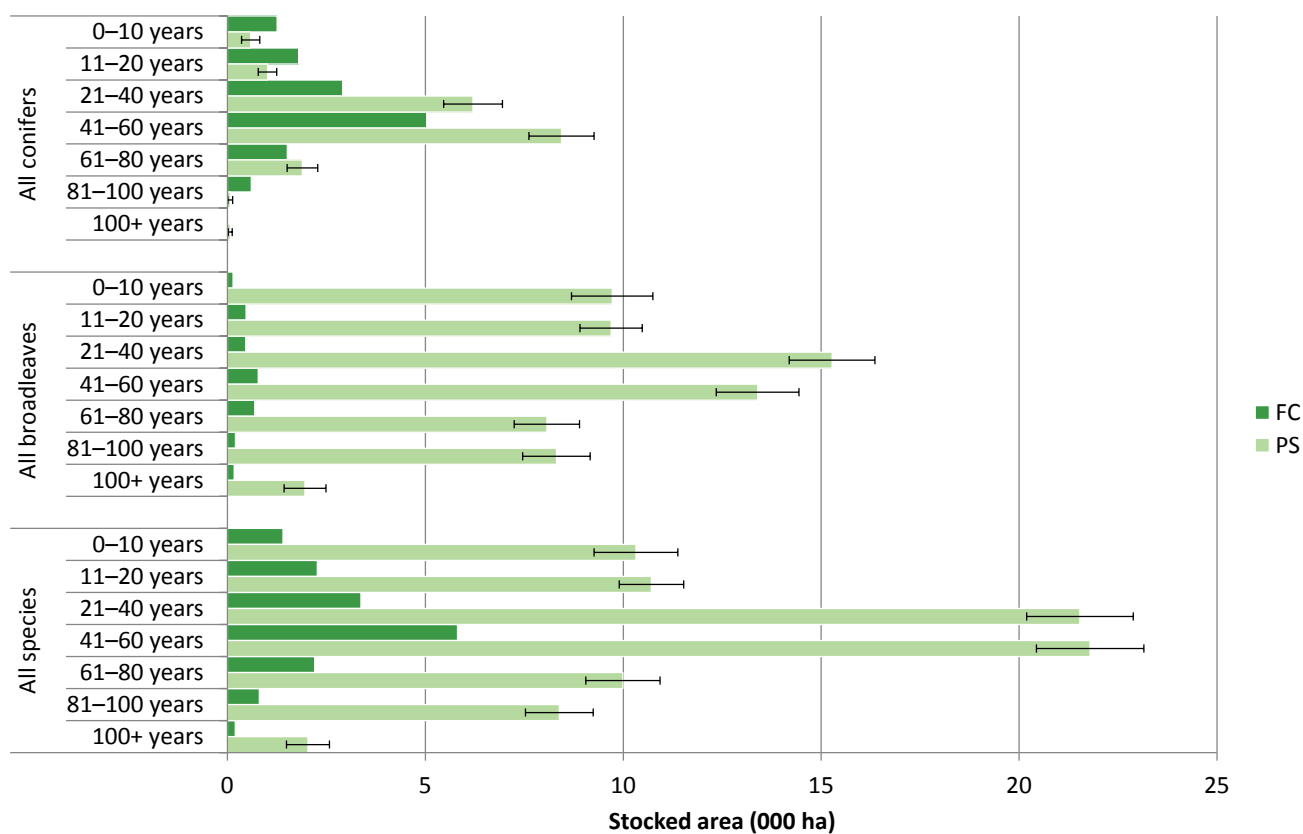
Part 2 - what our woodlands are like today

Table 10 Stocked area by age class

Age class (years)	FC	Private sector		Total
	area (000 ha)	area (000 ha)	SE%	area (000 ha)
All conifers				
0–10	1.3	0.6	39	1.8
11–20	1.8	1.0	23	2.8
21–40	2.9	6.2	12	9.1
41–60	5.0	8.4	10	13.5
61–80	1.5	1.9	20	3.4
81–100	0.6	< 0.1	83	0.7
100+	< 0.1	< 0.1	69	< 0.1
Total	**13.2**	**18.3**	**4**	**31.4**
All broadleaves				
0–10	0.1	9.7	11	9.9
11–20	0.5	9.7	8	10.2
21–40	0.5	15.3	7	15.7
41–60	0.8	13.4	8	14.2
61–80	0.7	8.1	10	8.8
81–100	0.2	8.3	10	8.5
100+	0.2	2.0	27	2.1
Total	**2.9**	**66.4**	**2**	**69.4**
All species				
0–10	1.4	10.3	10	11.7
11–20	2.3	10.7	8	13.0
21–40	3.4	21.5	6	24.9
41–60	5.8	21.8	6	27.6
61–80	2.2	10.0	9	12.2
81–100	0.8	8.4	10	9.2
100+	0.2	2.0	27	2.2
Total	**16.1**	**84.8**	**2**	**100.9**

Part 2 - what our woodlands are like today

Stocked area by mean stand dbh class

Figure 12 Stocked area by mean stand dbh class
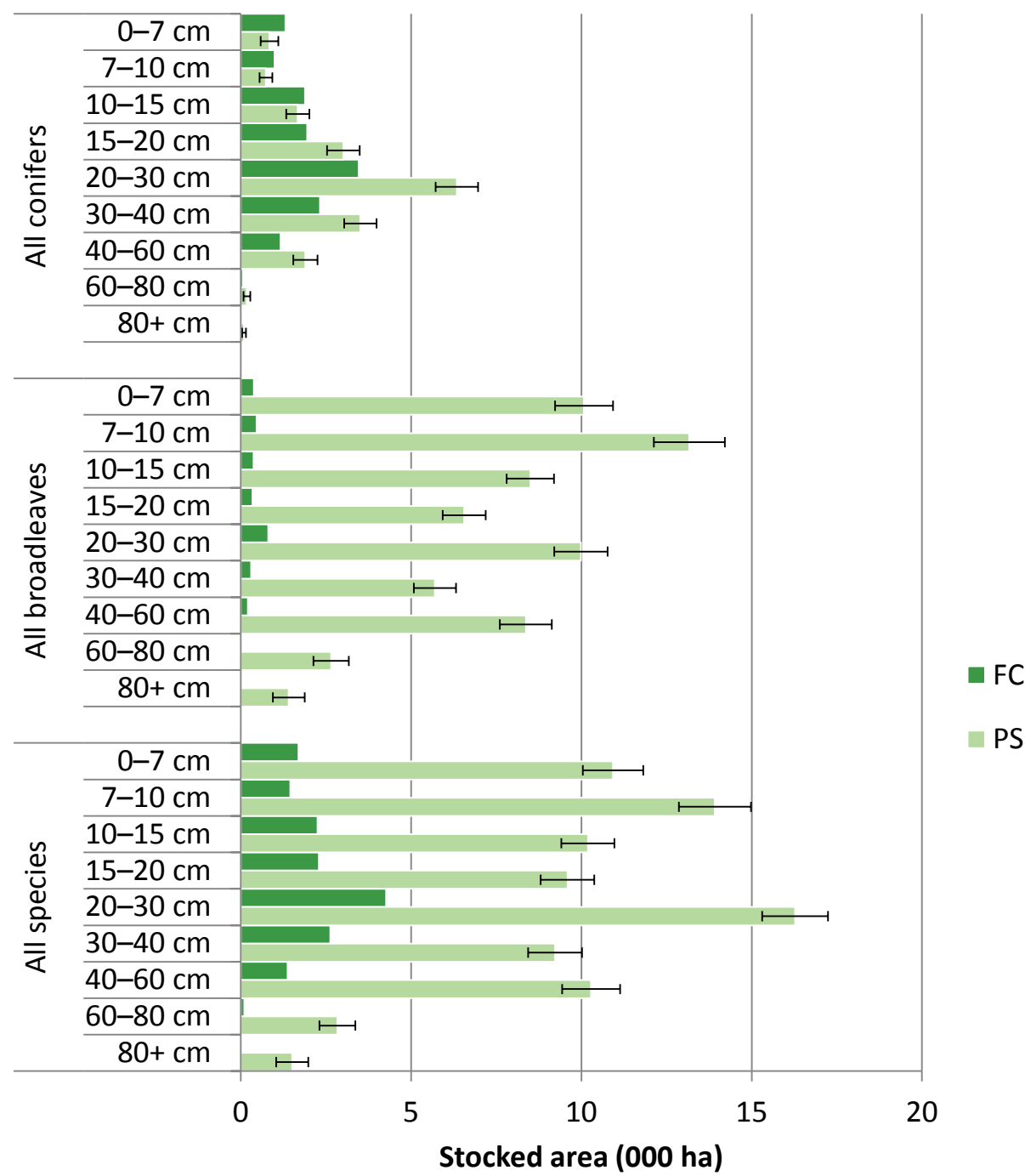
Part 2 - what our woodlands are like today

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)
All conifers				
0–7	1.3	0.8	31	2.2
7–10	1.0	0.7	25	1.7
10–15	1.9	1.7	20	3.6
15–20	1.9	3.0	16	5.0
20–30	3.5	6.3	10	9.8
30–40	2.3	3.5	14	5.8
40–60	1.2	1.9	19	3.1
60–80	< 0.1	0.2	55	0.2
80+	< 0.1	< 0.1	58	0.1
Total	**13.2**	**18.3**	**4**	**31.4**
All broadleaves				
0–7	0.4	10.1	8	10.5
7–10	0.5	13.2	8	13.6
10–15	0.4	8.5	8	8.9
15–20	0.3	6.6	10	6.9
20–30	0.8	10.0	8	10.8
30–40	0.3	5.7	11	6.0
40–60	0.2	8.4	9	8.6
60–80	< 0.1	2.7	20	2.7
80+	< 0.1	1.4	33	1.4
Total	**2.9**	**66.4**	**2**	**69.4**
All species				
0–7	1.7	10.9	8	12.6
7–10	1.5	13.9	8	15.4
10–15	2.3	10.2	8	12.4
15–20	2.3	9.6	8	11.9
20–30	4.3	16.3	6	20.5
30–40	2.6	9.2	9	11.9
40–60	1.4	10.3	8	11.7
60–80	0.1	2.8	19	2.9
80+	< 0.1	1.5	31	1.5
Total	**16.1**	**84.8**	**2**	**100.9**

Part 2 - what our woodlands are like today

Clearfelled area

Table 12 Clearfelled area

Clearfelled area	FC area (000 ha)	Private sector area (000 ha)	Private sector SE%	Total area (000 ha)
Yorkshire	1.2	1.7	25	**2.9**

Comparison of mapped area estimates and stocked area estimates

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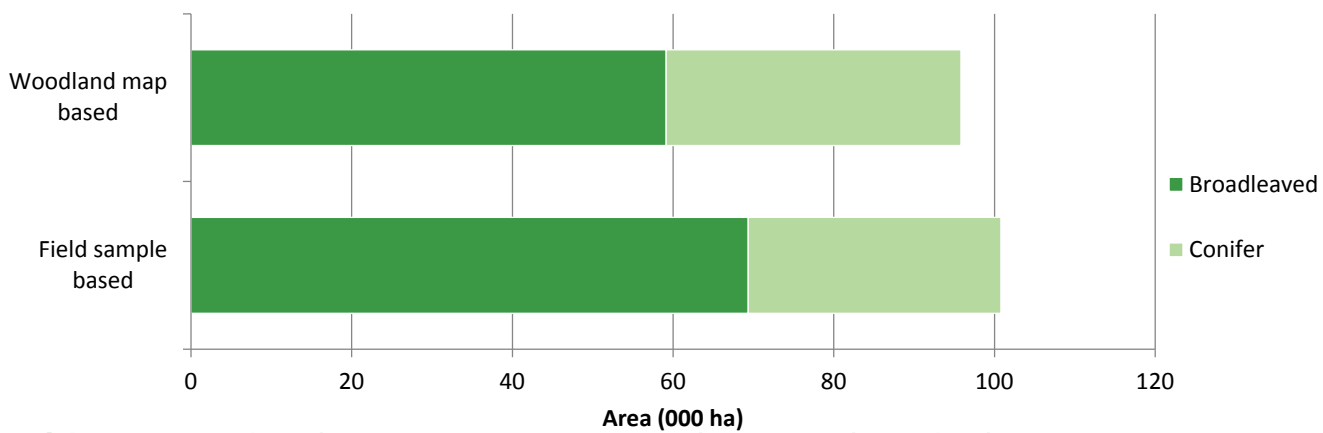
Table 13 Simplified comparison of mapped area and stocked area

	Woodland map based	Field sample based
	area (000 ha)	
Yorkshire		
Broadleaved	59.1	69.4
Conifer	36.7	31.4

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

Table 14 Standing volume by principal tree species

Principal species	FC volume (000 m³ obs)	Private sector volume (000 m³ obs)	SE%	Total volume (000 m³ obs)
Conifers				
Sitka spruce	705	1,708	18	2,412
Scots pine	666	1,045	14	1,711
Corsican pine	118	391	36	509
Norway spruce	98	462	20	561
Larches	466	1,592	11	2,058
Douglas fir	88	212	39	300
Lodgepole pine	172	349	30	521
Other conifers	94	205	25	299
All conifers	**2,406**	**5,978**	**6**	**8,384**
Broadleaves				
Oak	64	2,672	12	2,736
Beech	56	1,590	15	1,645
Sycamore	41	2,780	11	2,821
Ash	31	1,518	11	1,549
Birch	63	983	12	1,046
Sweet chestnut	2	75	56	77
Hazel	0	80	27	80
Hawthorn	0	170	14	170
Alder	4	476	20	480
Willow	< 1	179	18	179
Other broadleaves	69	735	13	804
All broadleaves	**331**	**11,257**	**5**	**11,588**
All species				
All species	**2,737**	**17,224**	**3**	**19,962**

Figure 15 Standing volume by principal conifer species

- Sitka spruce
- Scots pine
- Corsican pine
- Norway spruce
- Larches
- Douglas fir
- Lodgepole pine
- Other conifers
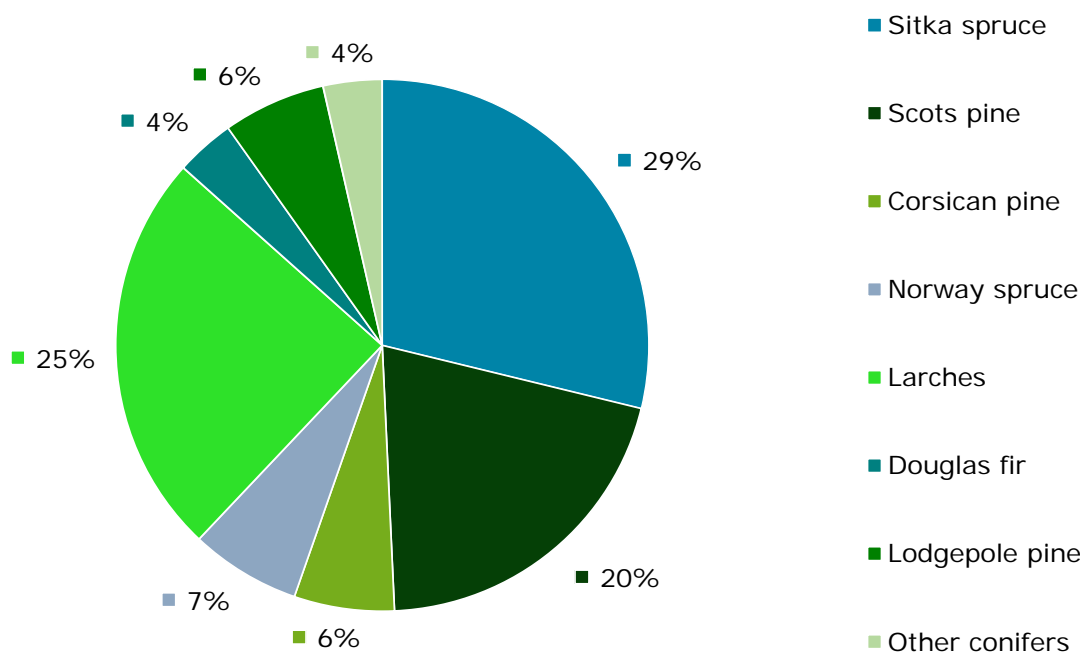
Figure 16 Standing volume by principal broadleaved species

- Oak
- Beech
- Sycamore
- Ash
- Birch
- Sweet chestnut
- Hazel
- Hawthorn
- Alder
- Willow
- Other broadleaves
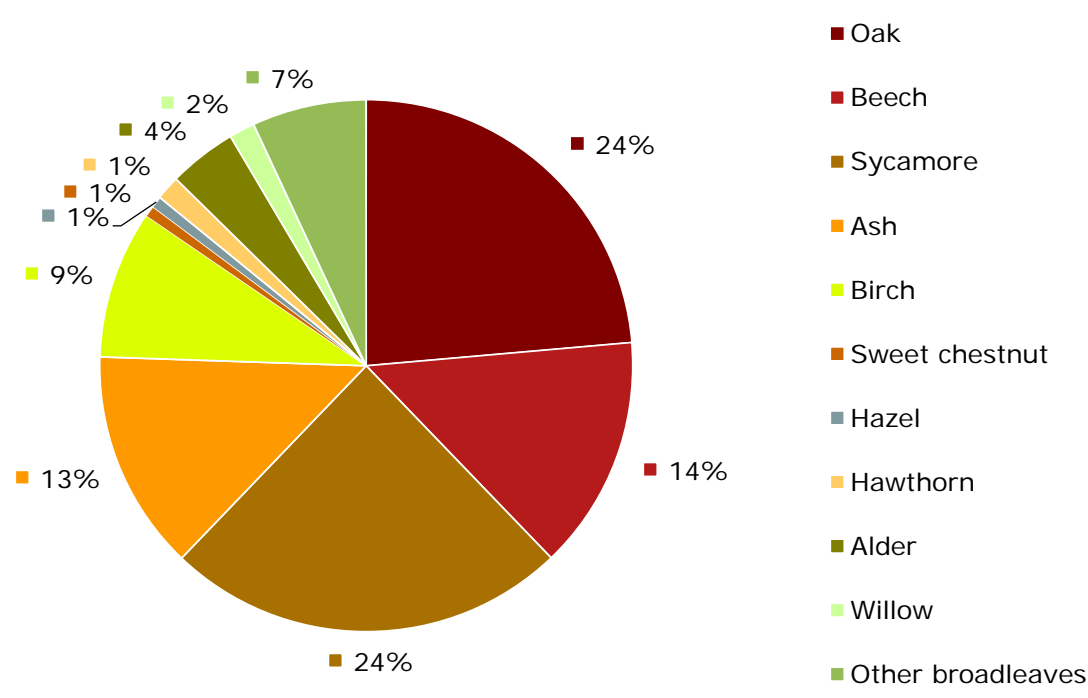
Part 2 - what our woodlands are like today

Standing volume by age class

Figure 17 Standing volume by age class
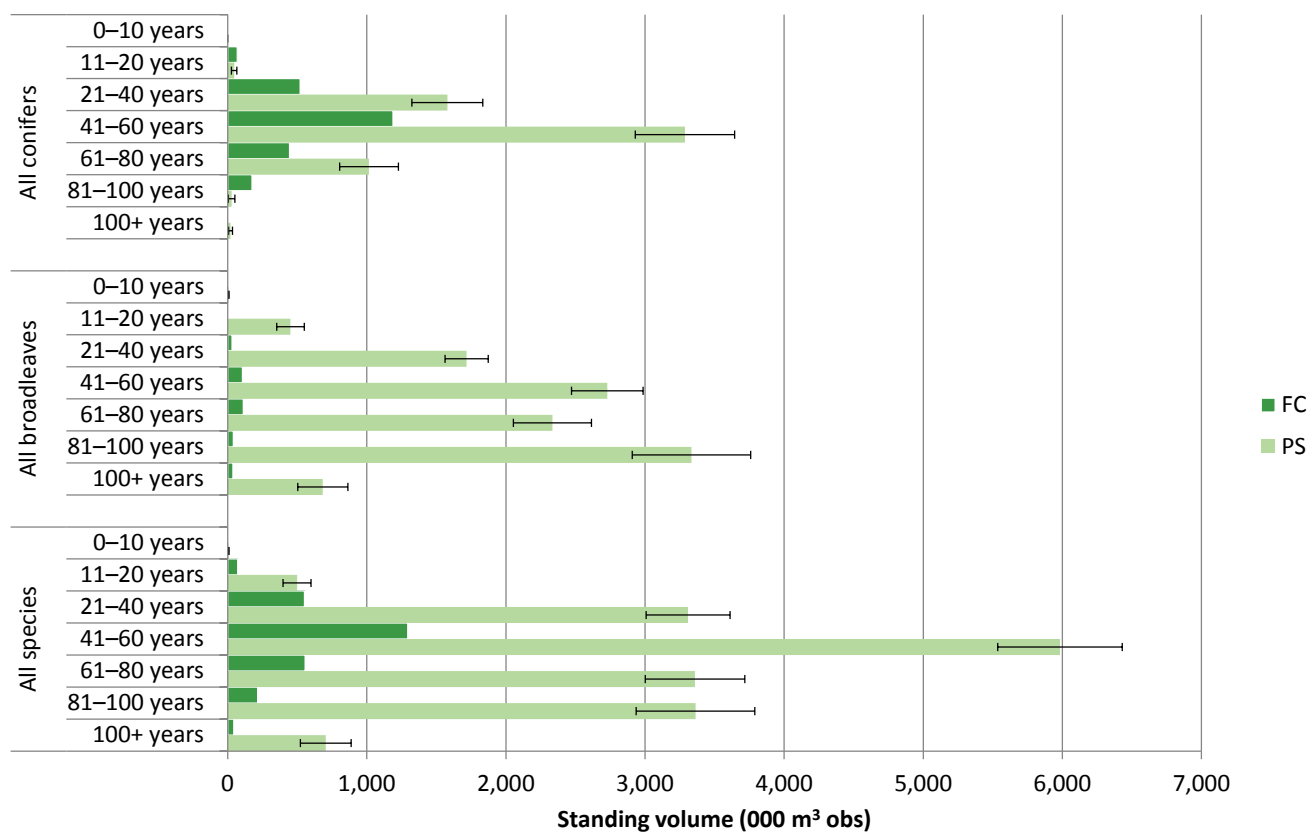
Part 2 - what our woodlands are like today

Table 15 Standing volume by age class

Age class (years)	FC	Private sector		Total
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)
All conifers				
0–10	1	0	-	1
11–20	69	47	41	116
21–40	521	1,579	16	2,100
41–60	1,188	3,288	11	4,476
61–80	445	1,015	21	1,460
81–100	175	29	84	203
100+	7	21	69	27
Total	**2,406**	**5,978**	**6**	**8,384**
All broadleaves				
0–10	< 1	7	28	7
11–20	3	452	22	454
21–40	32	1,718	9	1,749
41–60	106	2,729	9	2,835
61–80	112	2,334	12	2,446
81–100	41	3,334	13	3,375
100+	37	684	26	721
Total	**331**	**11,257**	**5**	**11,588**
All species				
0–10	1	7	28	8
11–20	72	499	20	571
21–40	553	3,309	9	3,862
41–60	1,294	5,982	7	7,276
61–80	557	3,359	11	3,916
81–100	216	3,363	13	3,579
100+	44	705	26	749
Total	**2,737**	**17,224**	**3**	**19,962**

Part 2 - what our woodlands are like today

Standing volume by mean stand dbh class

Figure 18 Standing volume by stand mean dbh class

Standing volume (000 m³ obs)

Table 16 Standing volume by mean stand dbh class

Mean stand DBH (cm)	FC volume (000 m³ obs)	Private sector volume (000 m³ obs)	SE%	Total volume (000 m³ obs)
All conifers				
0–7	< 1	< 1	57	< 1
7–10	18	22	29	40
10–15	185	223	23	408
15–20	365	649	17	1,015
20–30	796	2,464	13	3,260
30–40	635	1,529	15	2,165
40–60	378	945	19	1,324
60–80	25	59	44	84
80+	3	86	60	89
Total	**2,406**	**5,978**	**6**	**8,384**
All broadleaves				
0–7	< 1	21	16	22
7–10	12	406	8	418
10–15	46	980	12	1,026
15–20	53	1,142	11	1,195
20–30	112	2,274	9	2,386
30–40	56	1,583	12	1,639
40–60	42	2,759	10	2,801
60–80	9	1,389	23	1,398
80+	1	703	29	704
Total	**331**	**11,257**	**5**	**11,588**
All species				
0–7	< 1	22	16	22
7–10	30	428	7	458
10–15	231	1,205	11	1,436
15–20	418	1,796	9	2,214
20–30	908	4,701	8	5,609
30–40	691	3,120	9	3,811
40–60	421	3,713	9	4,134
60–80	34	1,449	22	1,483
80+	4	790	27	795
Total	**2,737**	**17,224**	**3**	**19,962**

Number of measureable trees

Number of measureable trees by species

Figure 19 Number of trees by principal tree species
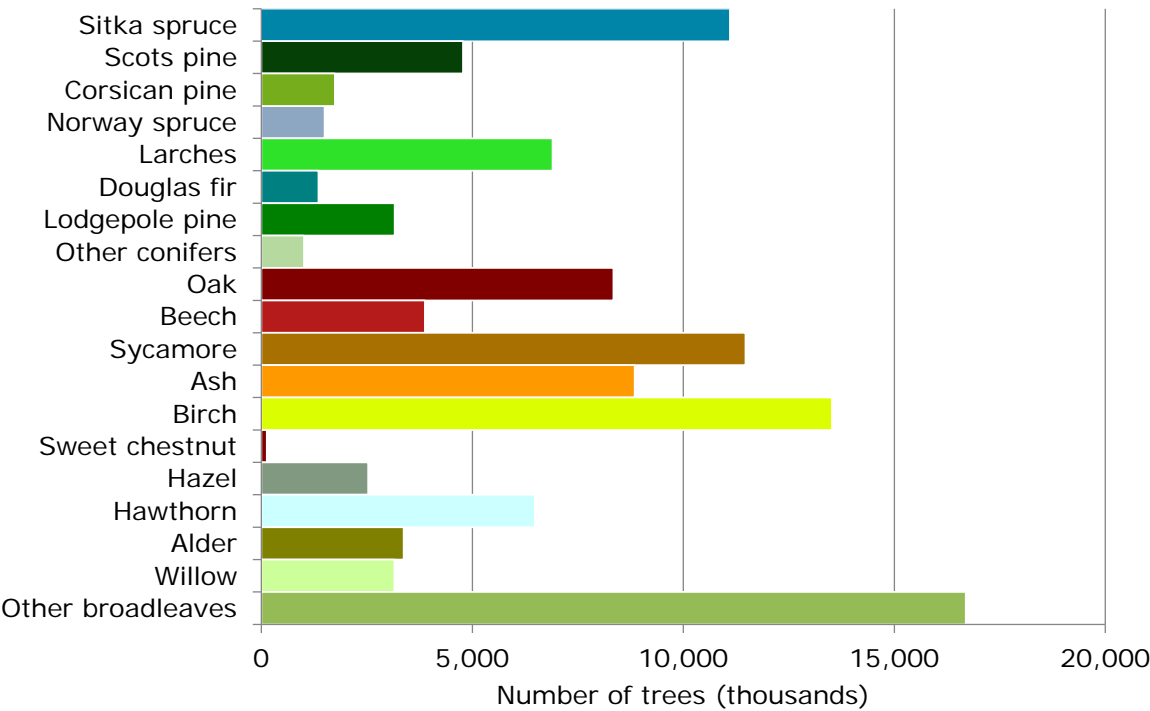
Part 2 - what our woodlands are like today

Table 17 Number of trees by principal tree species

Principal species	FC number of trees (thousands)	Private sector number of trees (thousands)	SE%	Total number of trees (thousands)
Conifers				
Sitka spruce	5,164	5,934	16	**11,098**
Scots pine	1,941	2,838	13	**4,779**
Corsican pine	359	1,386	30	**1,745**
Norway spruce	213	1,285	24	**1,498**
Larches	2,909	3,994	12	**6,903**
Douglas fir	748	606	24	**1,353**
Lodgepole pine	1,291	1,871	29	**3,162**
Other conifers	485	527	34	**1,011**
All conifers	**13,109**	**18,485**	**7**	**31,594**
Broadleaves				
Oak	438	7,909	12	**8,347**
Beech	354	3,524	18	**3,878**
Sycamore	174	11,301	9	**11,475**
Ash	138	8,708	11	**8,846**
Birch	967	12,555	11	**13,522**
Sweet chestnut	9	122	53	**131**
Hazel	0	2,534	20	**2,534**
Hawthorn	0	6,479	14	**6,479**
Alder	18	3,355	17	**3,372**
Willow	< 1	3,152	18	**3,153**
Other broadleaves	790	15,907	8	**16,697**
All broadleaves	**2,889**	**75,484**	**4**	**78,373**
All species				
All species	**15,997**	**94,048**	**3**	**110,045**

Part 2 - what our woodlands are like today

Number of measureable trees by age class

Figure 20 Number of trees by age class
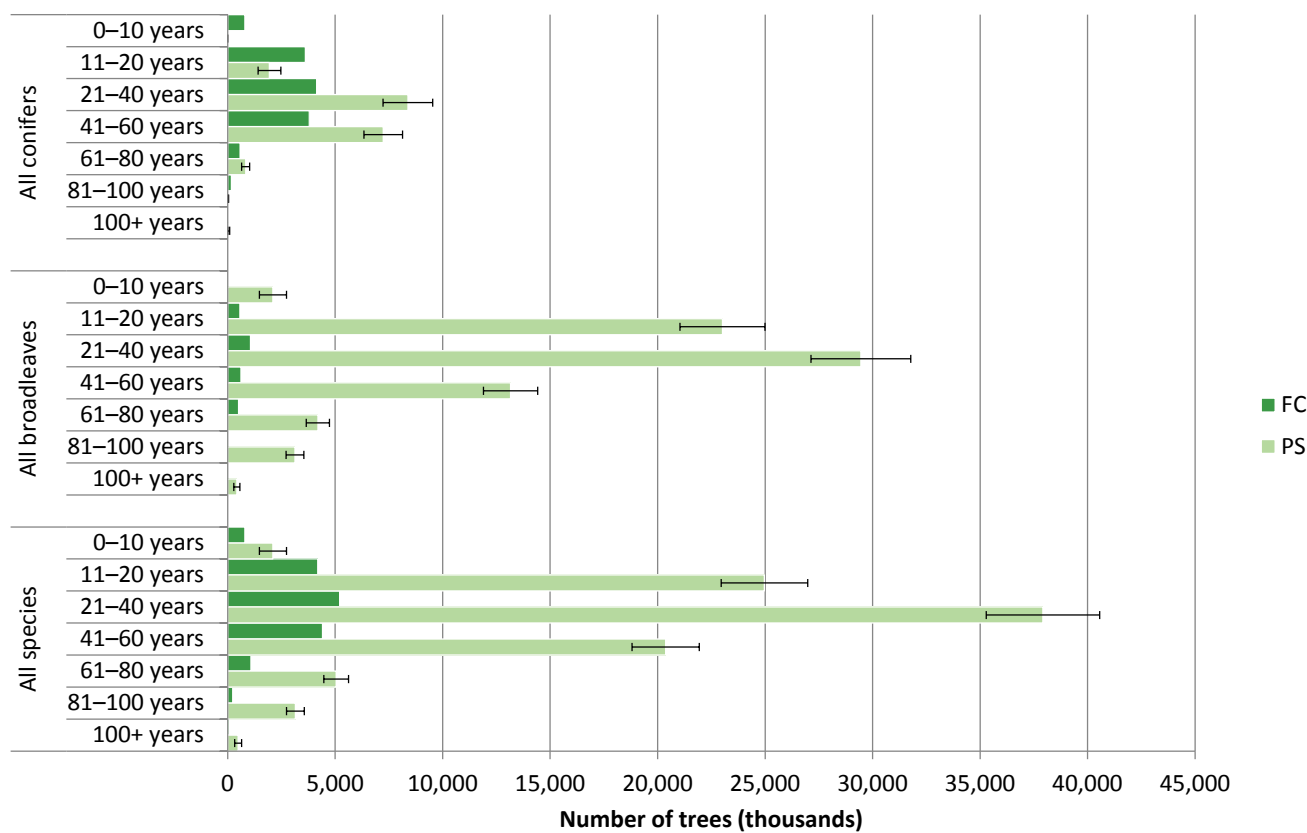
Part 2 - what our woodlands are like today

Table 18 Number of trees by age class

Age class (years)	FC number of trees (thousands)	Private sector number of trees (thousands)	SE%	Total number of trees (thousands)
All conifers				
0–10	796	0	-	796
11–20	3,617	1,943	27	5,560
21–40	4,143	8,384	14	12,527
41–60	3,797	7,241	12	11,038
61–80	573	835	22	1,408
81–100	169	26	69	196
100+	13	57	69	69
Total	**13,109**	**18,485**	**7**	**31,594**
All broadleaves				
0–10	3	2,104	30	2,107
11–20	569	23,017	9	23,586
21–40	1,065	29,451	8	30,516
41–60	615	13,159	10	13,773
61–80	512	4,199	13	4,711
81–100	68	3,126	13	3,193
100+	57	428	33	486
Total	**2,889**	**75,484**	**4**	**78,373**
All species				
0–10	800	2,105	30	2,904
11–20	4,186	24,968	8	29,154
21–40	5,208	37,922	7	43,130
41–60	4,412	20,373	8	24,784
61–80	1,085	5,045	11	6,130
81–100	237	3,151	13	3,388
100+	70	485	33	555
Total	**15,997**	**94,048**	**3**	**110,045**

Number of measureable trees by mean stand dbh class

Figure 21 Number of trees by mean stand dbh class
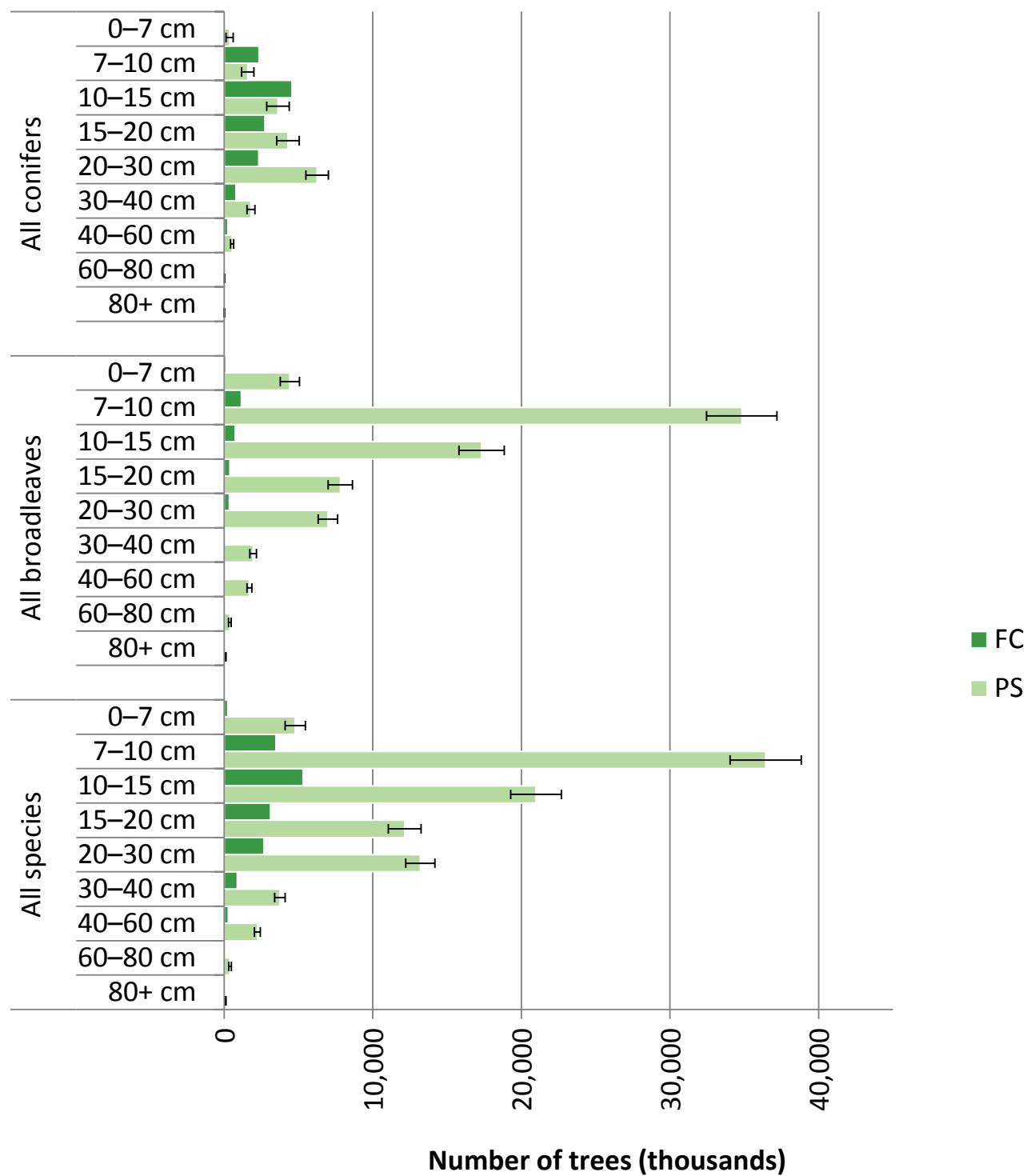
Table 19 Number of trees by mean stand dbh class

Mean stand DBH	FC number of trees (thousands)	Private sector number of trees (thousands)	SE%	Total number of trees (thousands)
All conifers				
0–7 cm	103	364	65	467
7–10 cm	2,338	1,584	26	3,922
10–15 cm	4,562	3,622	21	8,184
15–20 cm	2,741	4,298	18	7,038
20–30 cm	2,319	6,252	12	8,572
30–40 cm	794	1,798	15	2,592
40–60 cm	244	535	19	779
60–80 cm	7	20	44	28
80+ cm	< 1	11	54	12
Total	**13,109**	**18,485**	**7**	**31,594**
All broadleaves				
0–7 cm	148	4,416	15	4,564
7–10 cm	1,151	34,832	7	35,983
10–15 cm	745	17,322	9	18,067
15–20 cm	381	7,816	11	8,197
20–30 cm	350	6,986	9	7,336
30–40 cm	82	1,949	11	2,031
40–60 cm	29	1,692	10	1,721
60–80 cm	3	383	22	387
80+ cm	< 1	88	28	88
Total	**2,889**	**75,484**	**4**	**78,373**
All species				
0–7 cm	251	4,775	14	5,025
7–10 cm	3,489	36,447	7	39,936
10–15 cm	5,307	20,986	8	26,293
15–20 cm	3,121	12,147	9	15,268
20–30 cm	2,669	13,201	7	15,871
30–40 cm	876	3,756	9	4,632
40–60 cm	273	2,233	9	2,505
60–80 cm	11	404	21	415
80+ cm	< 1	99	26	100
Total	**15,997**	**94,048**	**3**	**110,045**

Biomass stocks in live woodland trees

Biomass stocks by species

Figure 22 Biomass stocks by principal tree species
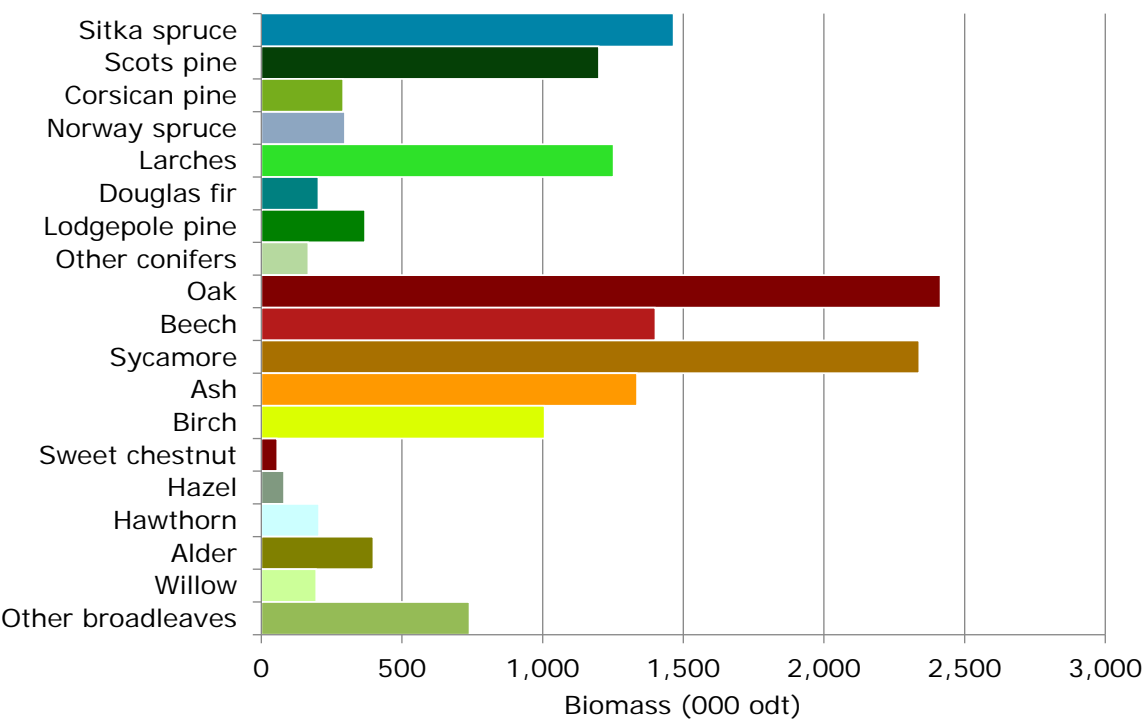
Part 2 - what our woodlands are like today

Table 20 Biomass stocks by principal tree species

Principal species	FC biomass (000 odt)	Private sector biomass (000 odt)	SE%	Total biomass (000 odt)
Conifers				
Sitka spruce	462	1,002	17	**1,465**
Scots pine	481	719	14	**1,200**
Corsican pine	70	222	35	291
Norway spruce	54	244	20	**297**
Larches	306	946	11	**1,253**
Douglas fir	65	138	38	203
Lodgepole pine	123	246	30	369
Other conifers	54	114	25	**167**
All conifers	**1,614**	**3,640**	**6**	**5,254**
Broadleaves				
Oak	60	2,355	12	**2,415**
Beech	53	1,348	14	**1,401**
Sycamore	37	2,302	11	**2,339**
Ash	29	1,307	11	**1,336**
Birch	62	945	11	**1,007**
Sweet chestnut	2	55	54	57
Hazel	0	81	25	**81**
Hawthorn	0	205	13	**205**
Alder	3	395	19	**398**
Willow	< 1	196	17	**196**
Other broadleaves	65	676	10	**740**
All broadleaves	**311**	**9,862**	**4**	**10,174**
All species				
All species	**1,926**	**13,500**	**3**	**15,426**

Carbon stocks in live woodland trees

Carbon stocks by species

Figure 23 Carbon stocks by principal tree species
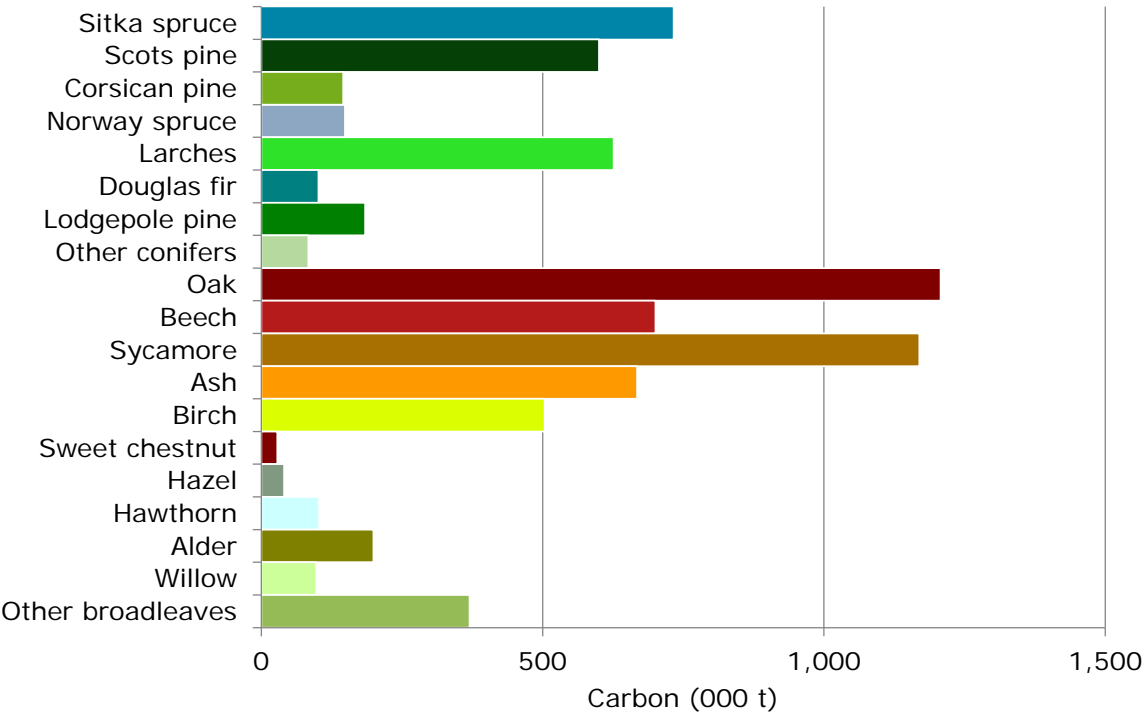
Table 21 Carbon stocks by principal tree species

Principal species	FC carbon (000 t)	Private sector carbon (000 t)	SE%	Total carbon (000 t)
Conifers				
Sitka spruce	231	501	17	732
Scots pine	240	360	14	600
Corsican pine	35	111	35	146
Norway spruce	27	122	20	149
Larches	153	473	11	626
Douglas fir	33	69	38	101
Lodgepole pine	61	123	30	185
Other conifers	27	57	25	84
All conifers	**807**	**1,820**	**6**	**2,627**
Broadleaves				
Oak	30	1,177	12	1,207
Beech	26	674	14	701
Sycamore	19	1,151	11	1,170
Ash	15	653	11	668
Birch	31	473	11	504
Sweet chestnut	< 1	28	54	28
Hazel	0	40	25	40
Hawthorn	0	103	13	103
Alder	2	197	19	199
Willow	< 1	98	17	98
Other broadleaves	32	338	10	370
All broadleaves	**156**	**4,931**	**4**	**5,087**
All species				
All species	**963**	**6,750**	**3**	**7,713**

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
Yorkshire	518	513	289	457

Evidence of management

Figure 24 Evidence of management in PS broadleaf sections

* Brash Removal / Mulched / Burned
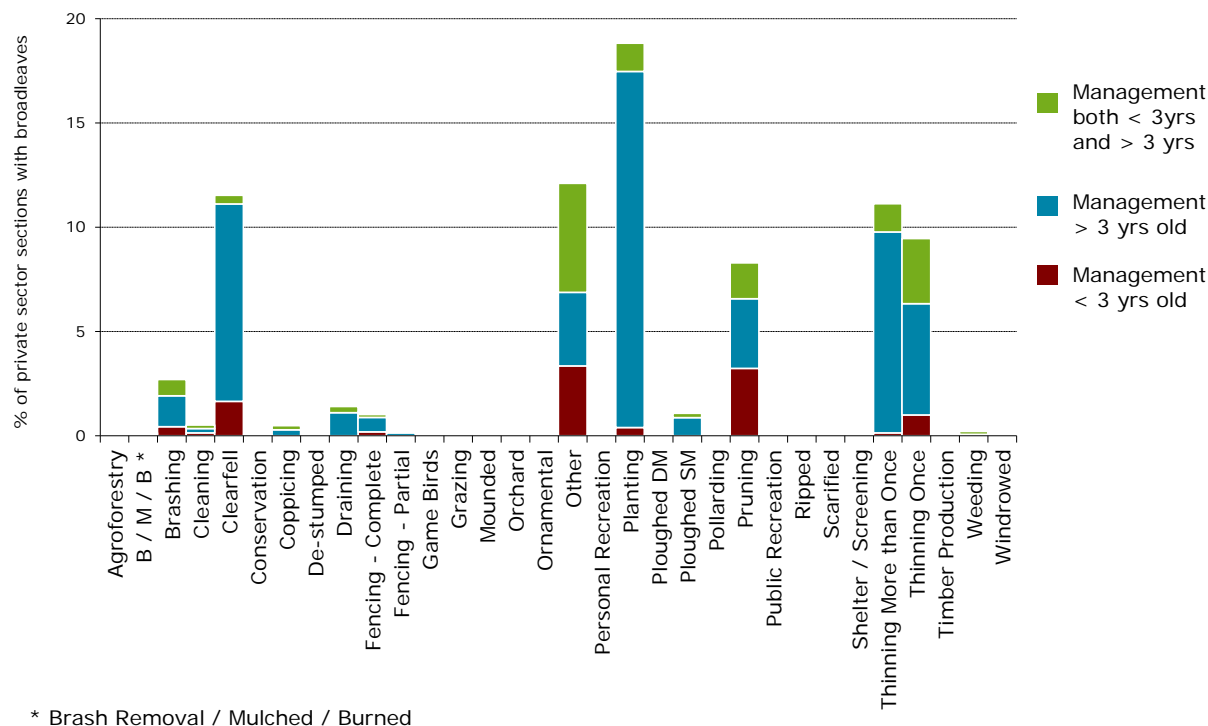
Figure 25 Evidence of management in PS conifer sections

* Brash Removal / Mulched / Burned
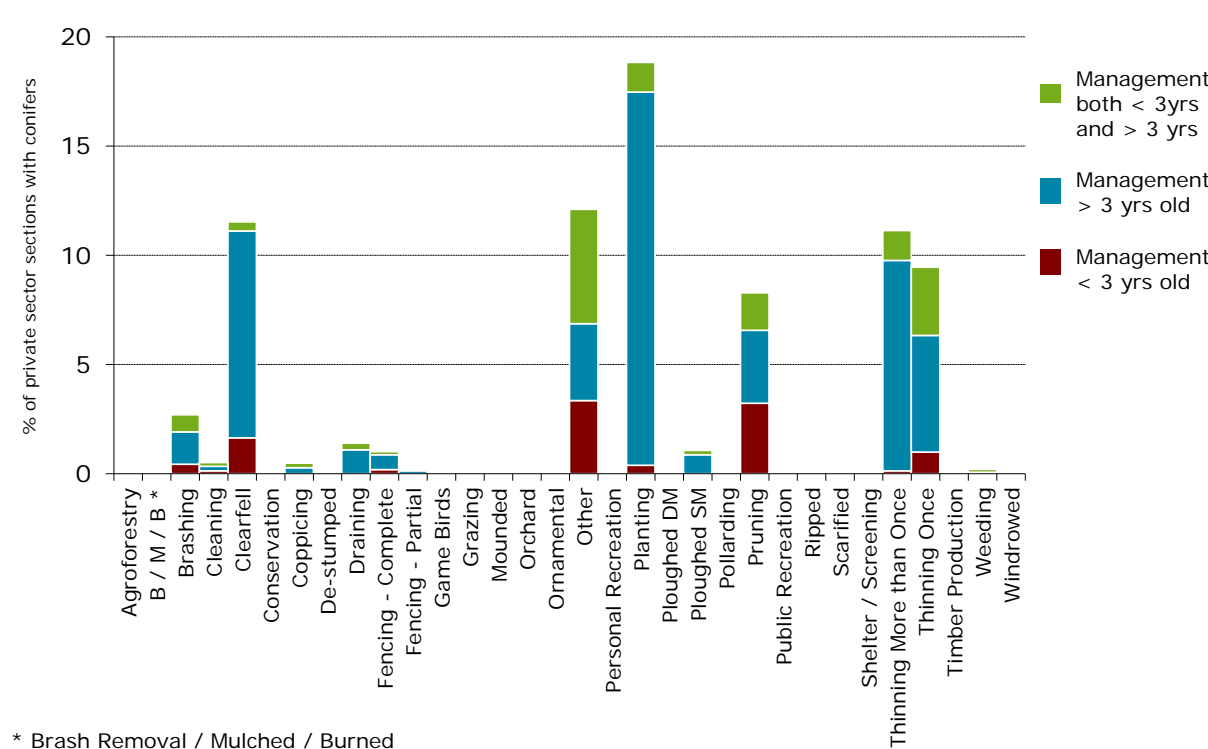
Part 2 - what our woodlands are like today

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

* Brash Removal / Mulched / Burned
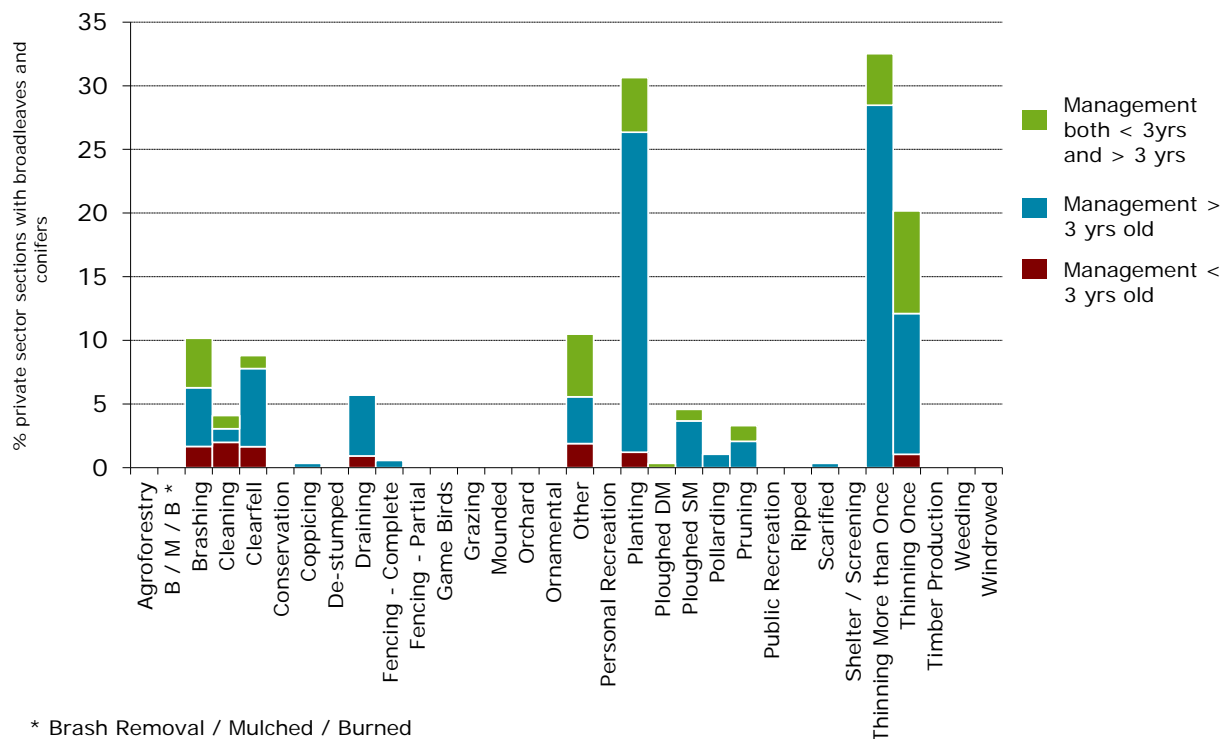
Figure 27 Evidence of management in PS sections with no broadleaf or conifer

* Brash Removal / Mulched / Burned
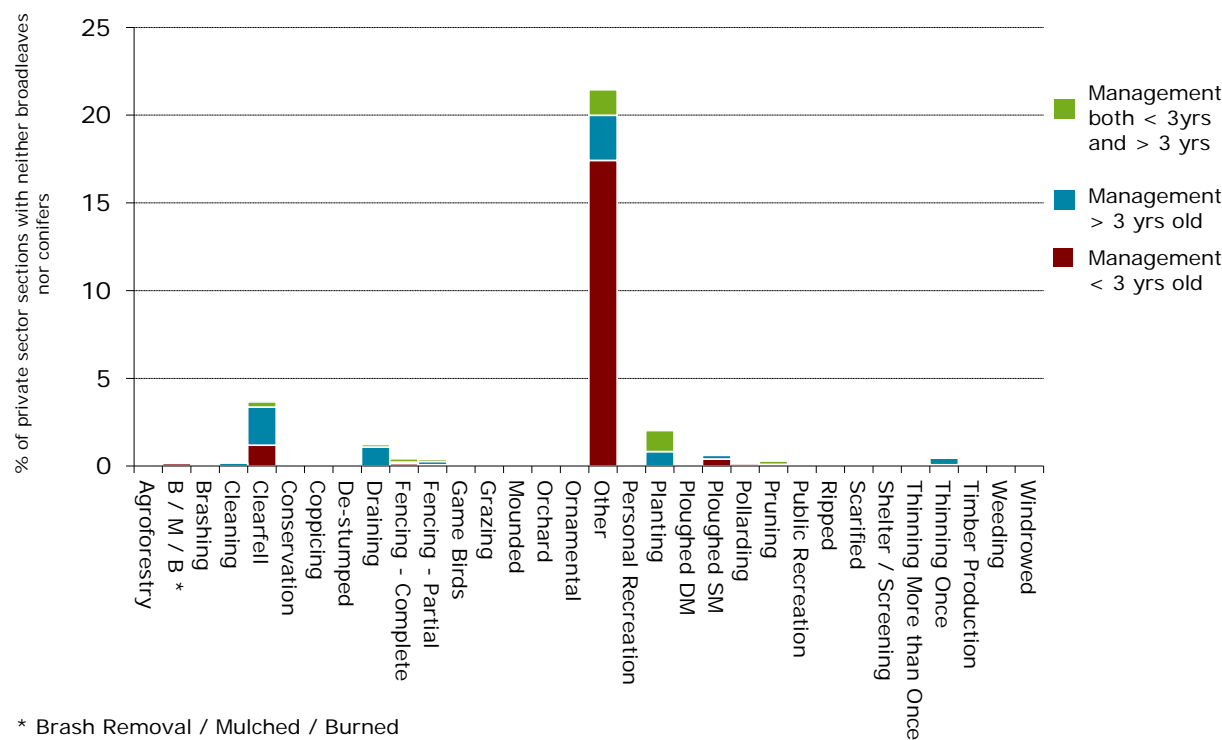
Evidence of thinning

Figure 28 Evidence of thinning
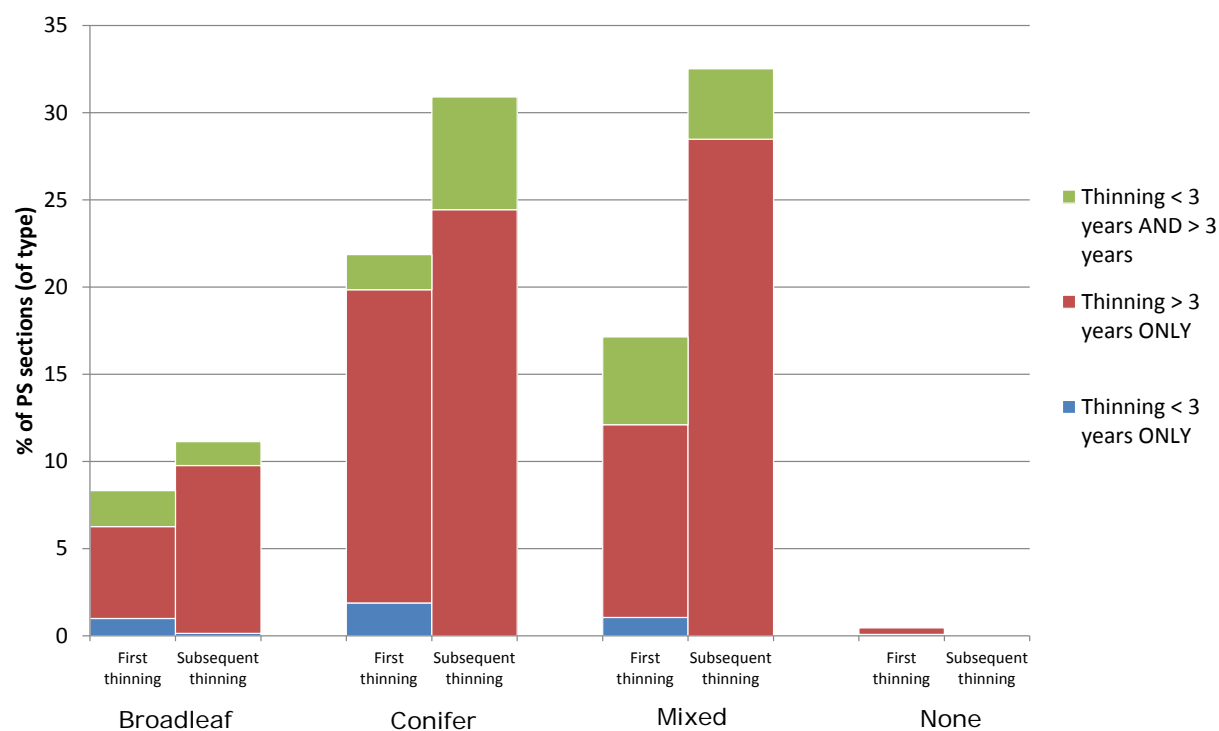
Part 2 - what our woodlands are like today

Suitability for harvesting

Figure 29 Suitability for harvesting
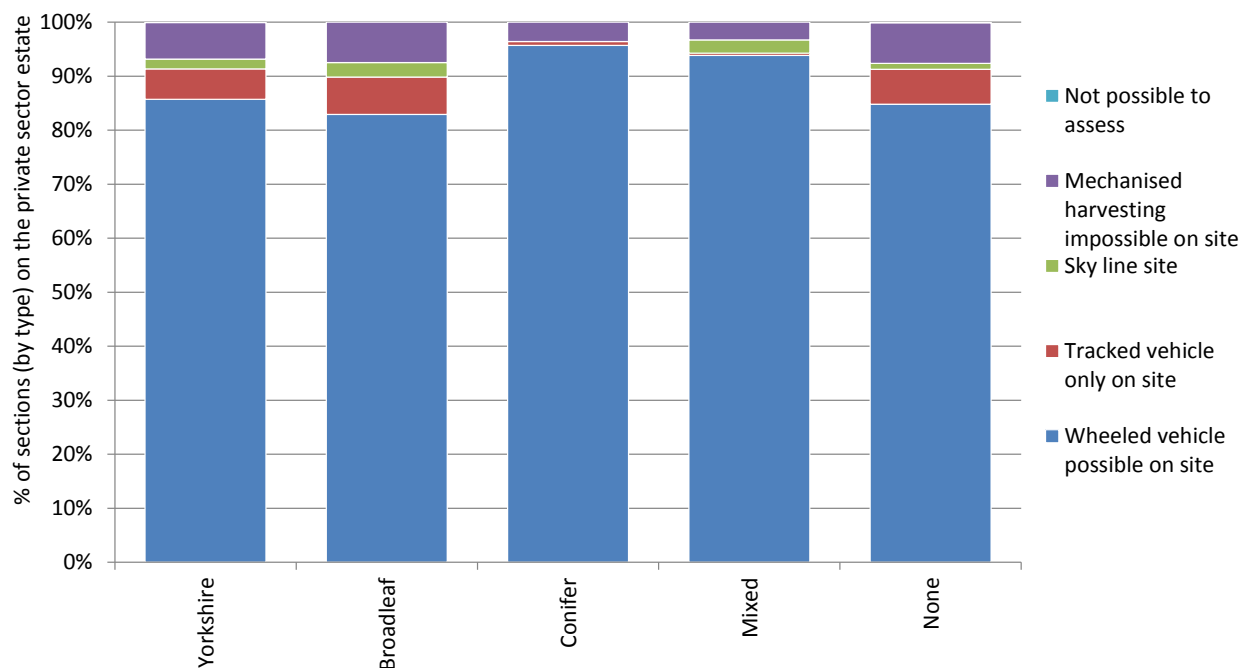
Part 2 - what our woodlands are like today

Distance to road

Figure 30 Distance to road
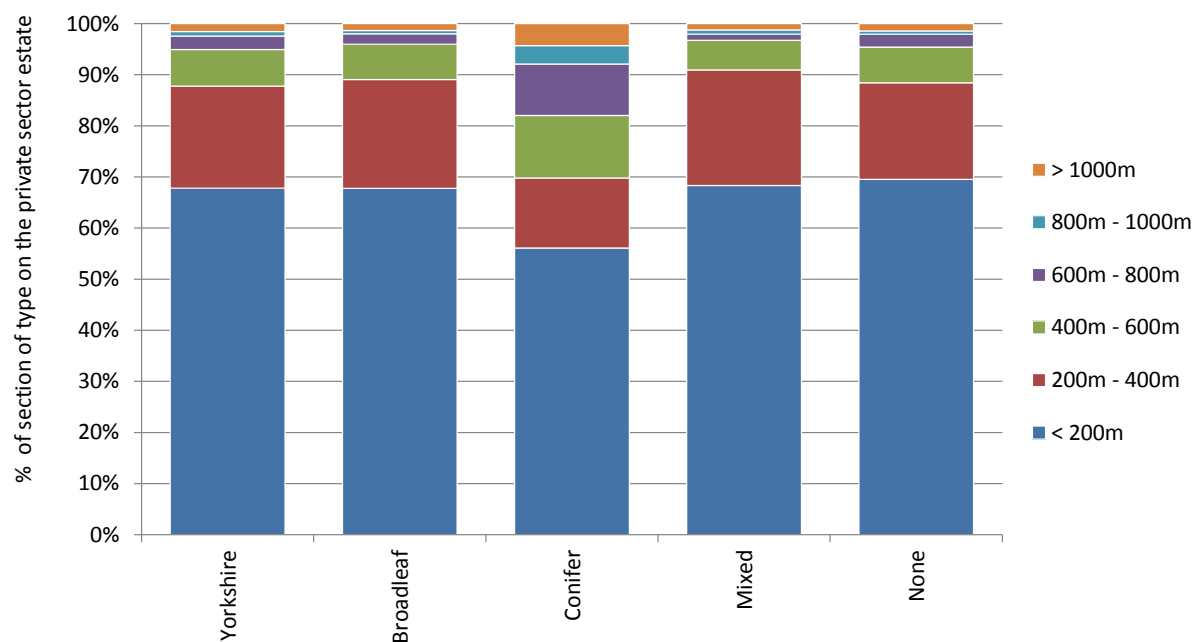
Part 2 - what our woodlands are like today

Type of road or ride

Figure 31 Road or ride in survey square
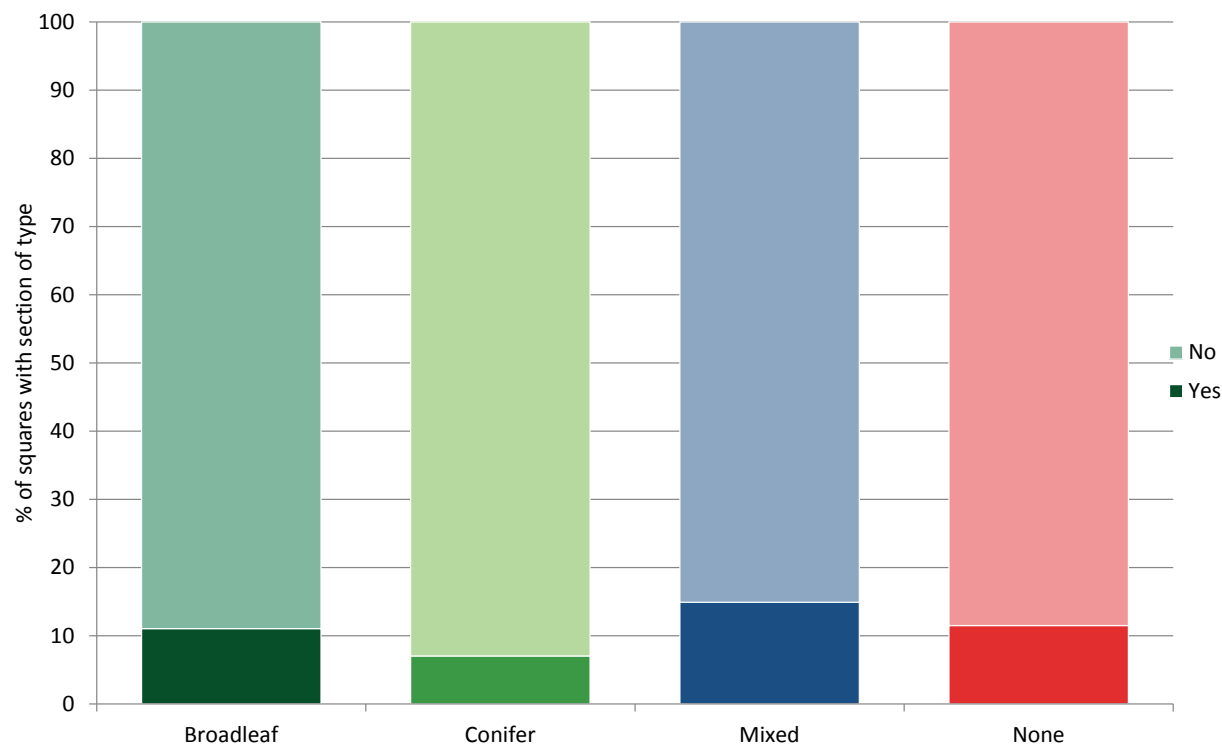
Figure 32 Type of road or ride in survey square
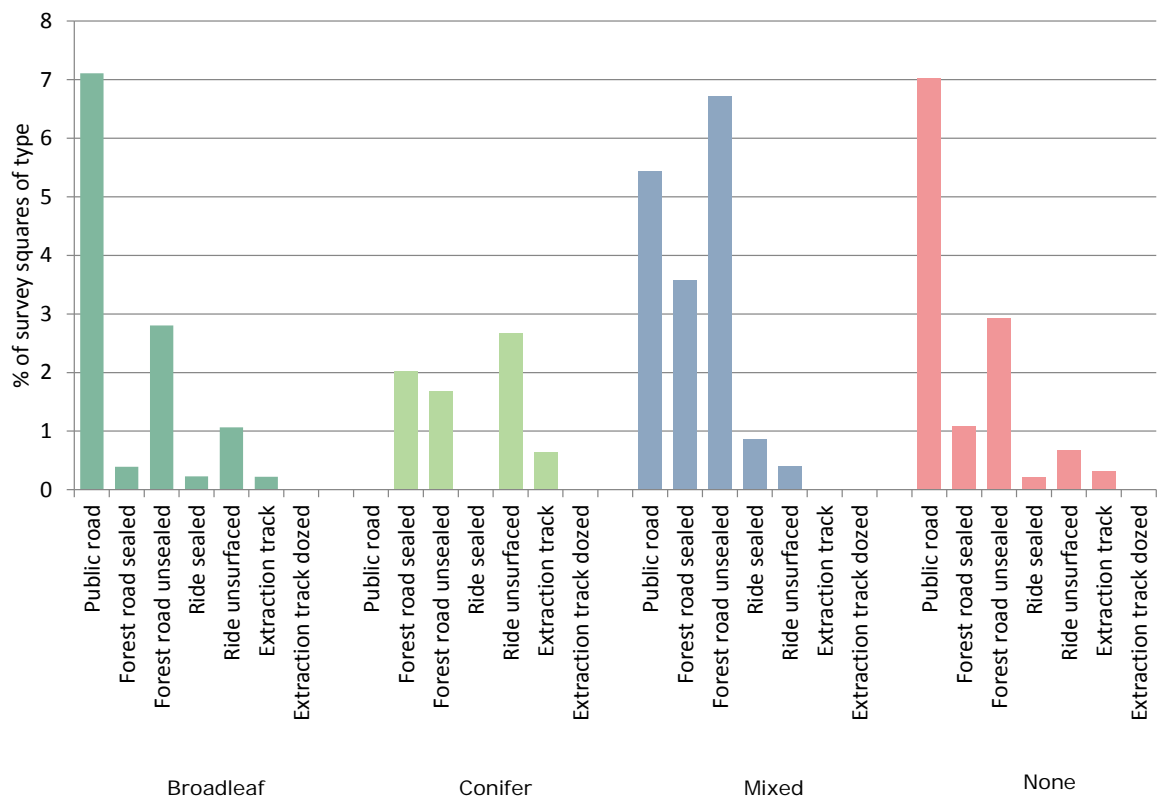
Mean yield class

Figure 33 Mean yield class by principal tree species (FC and PS)
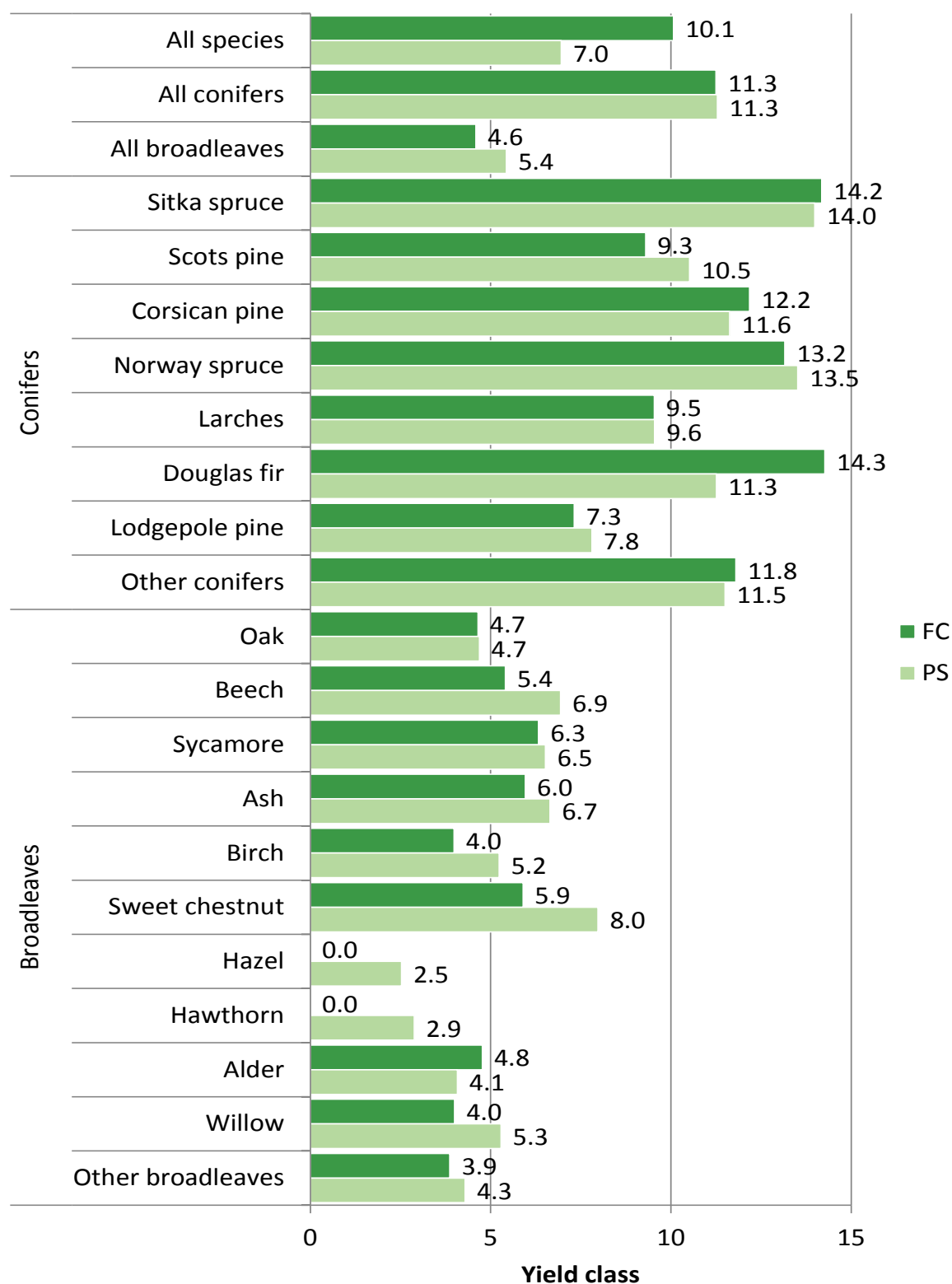
Table 23 Mean yield class by principal tree species (FC and PS)

Principal species	FC	Private sector
	mean yield class weighted by area	
Conifers		
Sitka spruce	14.2	14.0
Scots pine	9.3	10.5
Corsican pine	12.2	11.6
Norway spruce	13.2	13.5
Larches	9.5	9.6
Douglas fir	14.3	11.3
Lodgepole pine	7.3	7.8
Other conifers	11.8	11.5
All conifers	**11.3**	**11.3**
Broadleaves		
Oak	4.7	4.7
Beech	5.4	6.9
Sycamore	6.3	6.5
Ash	6.0	6.7
Birch	4.0	5.2
Sweet chestnut	5.9	8.0
Hazel	0.0	2.5
Hawthorn	0.0	2.9
Alder	4.8	4.1
Willow	4.0	5.3
Other broadleaves	3.9	4.3
All broadleaves	**4.6**	**5.4**
All species		
All species	**10.1**	**7.0**

Part 2 - what our woodlands are like today

Overdue timber stocks

Overdue volume and area

Table 24 Standing volume in overdue timber stocks

	FC	Private sector	
	volume (000 m³ obs)	volume (000 m³ obs)	SE %
Yorkshire			
All conifers	108	1,661	14
All broadleaves	2	5,930	7
All species	**110**	**7,555**	**6**

Table 25 Stocked area of overdue timber stocks

	FC	Private sector	
	area (000 ha)	area (000 ha)	SE %
Yorkshire			
All conifers	0.4	3.4	13
All broadleaves	< 0.1	18.5	6
All species	**0.5**	**21.9**	**5**

Part 3 – How our woodlands might change over time

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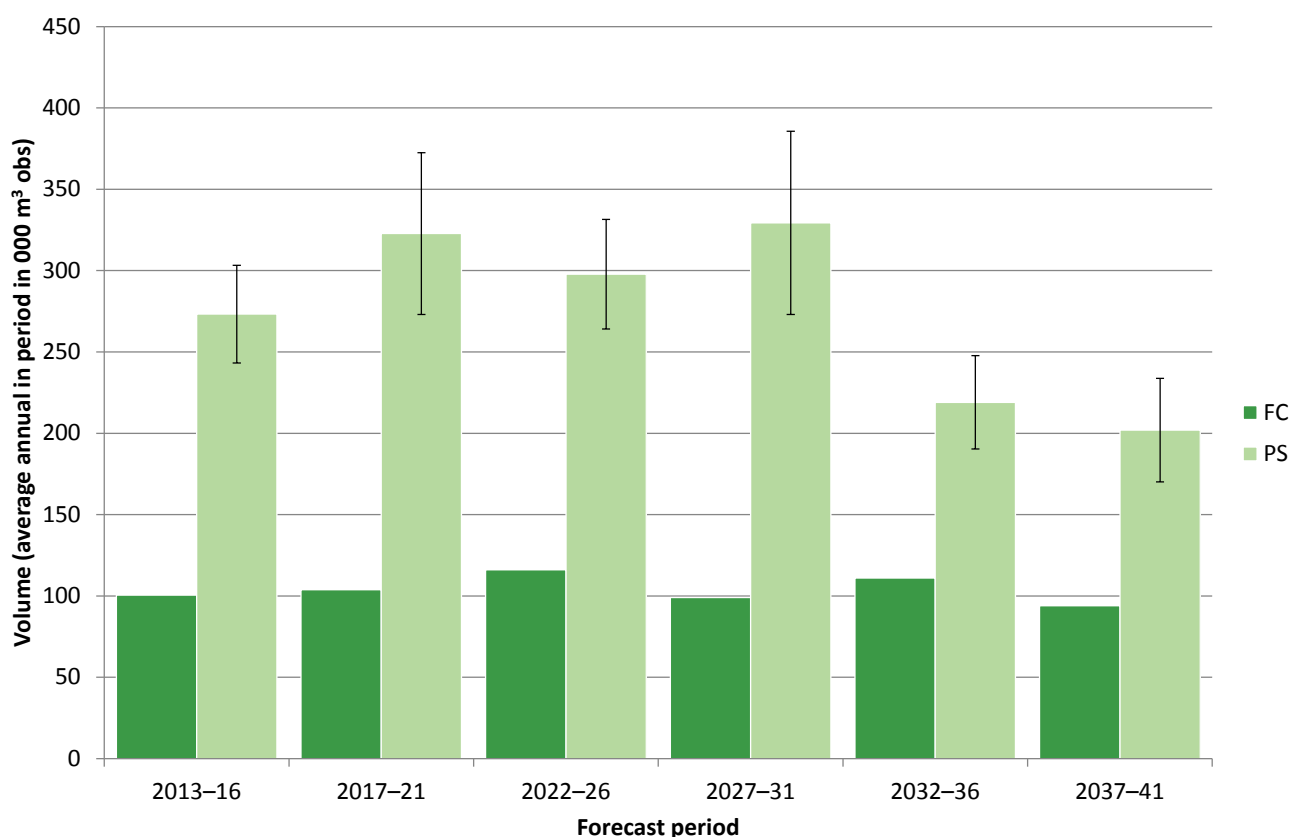
Table 26 25–year forecast of softwood availability; average annual volume within period

Forecast period	FC volume (000 m³ obs)	Private sector volume (000 m³ obs)	SE%	Total volume (000 m³ obs)
Yorkshire				
2013–16	100	273	11	**374**
2017–21	104	323	15	**427**
2022–26	116	298	11	**414**
2027–31	99	329	17	**428**
2032–36	111	219	13	**330**
2037–41	94	202	16	**296**

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%
Yorkshire						
All conifers	**100**	**273**	**11**	**104**	**323**	**15**
Sitka spruce	33	60	25	36	112	35
Scots pine	29	33	25	25	53	33
Corsican pine	5	11	32	6	52	50
Norway spruce	3	34	37	2	12	23
Larches	19	84	15	20	74	17
Douglas fir	3	8	41	4	8	37
Lodgepole pine	6	34	56	10	3	33
Other conifers	2	10	35	2	6	26

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%
Yorkshire						
All conifers	**116**	**298**	**11**	**99**	**329**	**17**
Sitka spruce	39	86	29	42	172	31
Scots pine	32	60	27	23	66	25
Corsican pine	5	10	40	3	8	34
Norway spruce	4	30	36	3	11	24
Larches	18	79	17	14	47	15
Douglas fir	3	15	52	5	9	41
Lodgepole pine	13	8	65	8	8	46
Other conifers	2	11	53	2	11	47

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)	volume (000 m³ obs)	SE%	volume (000 m³ obs)	volume (000 m³ obs)	SE%
Yorkshire						
All conifers	**111**	**219**	**13**	**94**	**202**	**16**
Sitka spruce	45	48	37	48	68	32
Scots pine	26	49	34	14	47	39
Corsican pine	2	14	64	4	5	32
Norway spruce	2	19	28	3	24	30
Larches	17	49	15	14	23	15
Douglas fir	5	8	35	8	6	16
Lodgepole pine	10	17	64	2	22	59
Other conifers	3	15	49	3	6	38

25-year forecast of softwood timber availability % spruce

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

Yorkshire		Top diameter class (cm)								
		7–14	14–16	16–18	18–24	24–34	34–44	44–54	54+	Total
2013–16	FC (%)	44	45	43	39	31	27	24	18	**36**
	PS (%)	43	38	36	33	30	32	38	32	**34**
2017–21	FC (%)	40	41	41	39	36	34	31	20	**37**
	PS (%)	42	42	42	42	41	30	13	18	**39**
2022–26	FC (%)	39	39	40	39	38	35	33	21	**37**
	PS (%)	40	44	43	43	36	32	33	46	**39**
2027–31	FC (%)	43	45	45	45	47	45	46	31	**45**
	PS (%)	58	62	62	61	58	53	48	9	**55**
2032–36	FC (%)	43	42	42	42	45	43	40	23	**42**
	PS (%)	43	41	37	38	28	21	22	16	**30**
2037–41	FC (%)	52	56	57	59	57	48	41	26	**54**
	PS (%)	54	63	63	57	44	32	27	14	**46**

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%
Yorkshire						
7–14	16	44	11	14	30	11
14–16	7	18	12	7	16	12
16–18	8	21	13	8	19	13
18–24	24	69	14	26	81	15
24–34	26	75	13	30	117	21
34–44	11	27	17	12	40	21
44–54	5	11	22	5	11	15
54+	3	8	32	3	8	21
Total	**100**	**273**	**11**	**104**	**323**	**15**

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%
Yorkshire						
7–14	16	26	13	13	23	15
14–16	7	14	15	6	12	17
16–18	8	18	16	7	16	18
18–24	27	78	15	23	74	18
24–34	34	97	12	28	118	21
34–44	14	36	15	13	51	21
44–54	6	16	20	6	20	20
54+	3	14	27	4	16	27
Total	**116**	**298**	**11**	**99**	**329**	**17**

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%
Yorkshire						
7–14	15	22	16	18	29	15
14–16	6	9	20	6	10	23
16–18	7	10	19	6	12	26
18–24	25	46	19	21	43	24
24–34	33	73	16	25	55	19
34–44	14	32	15	10	25	19
44–54	6	13	16	4	12	24
54+	4	14	26	3	15	30
Total	**111**	**219**	**13**	**94**	**202**	**16**

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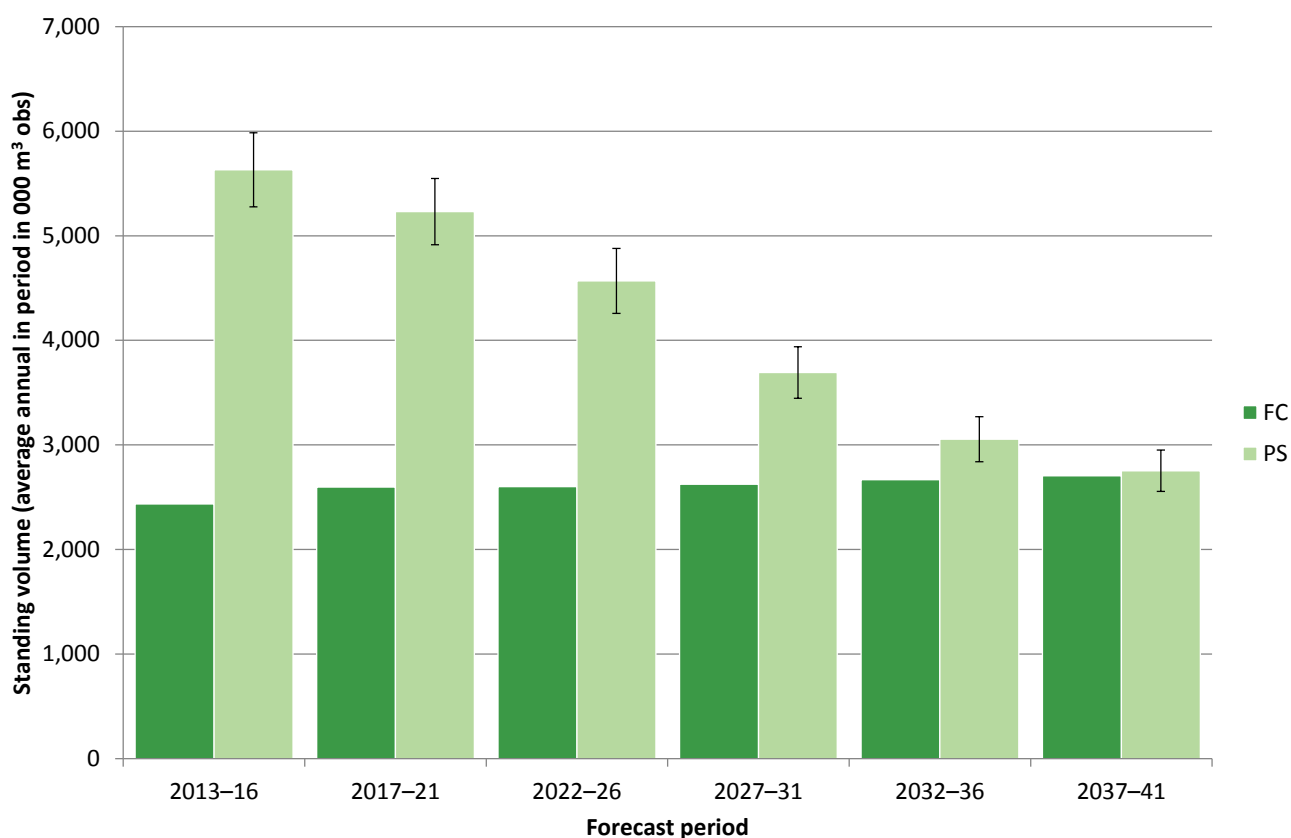
Table 30 25-year forecast of standing volume in conifers; average annual volume within period

Forecast period	FC	Private sector		Total
	volume (000 m³ obs)	volume (000 m³ obs)	*SE%*	volume (000 m³ obs)
Yorkshire				
2013–16	2,435	5,631	6	**8,066**
2017–21	2,597	5,231	6	**7,828**
2022–26	2,601	4,568	7	**7,169**
2027–31	2,624	3,692	7	**6,317**
2032–36	2,667	3,054	7	**5,721**
2037–41	2,705	2,752	7	**5,457**

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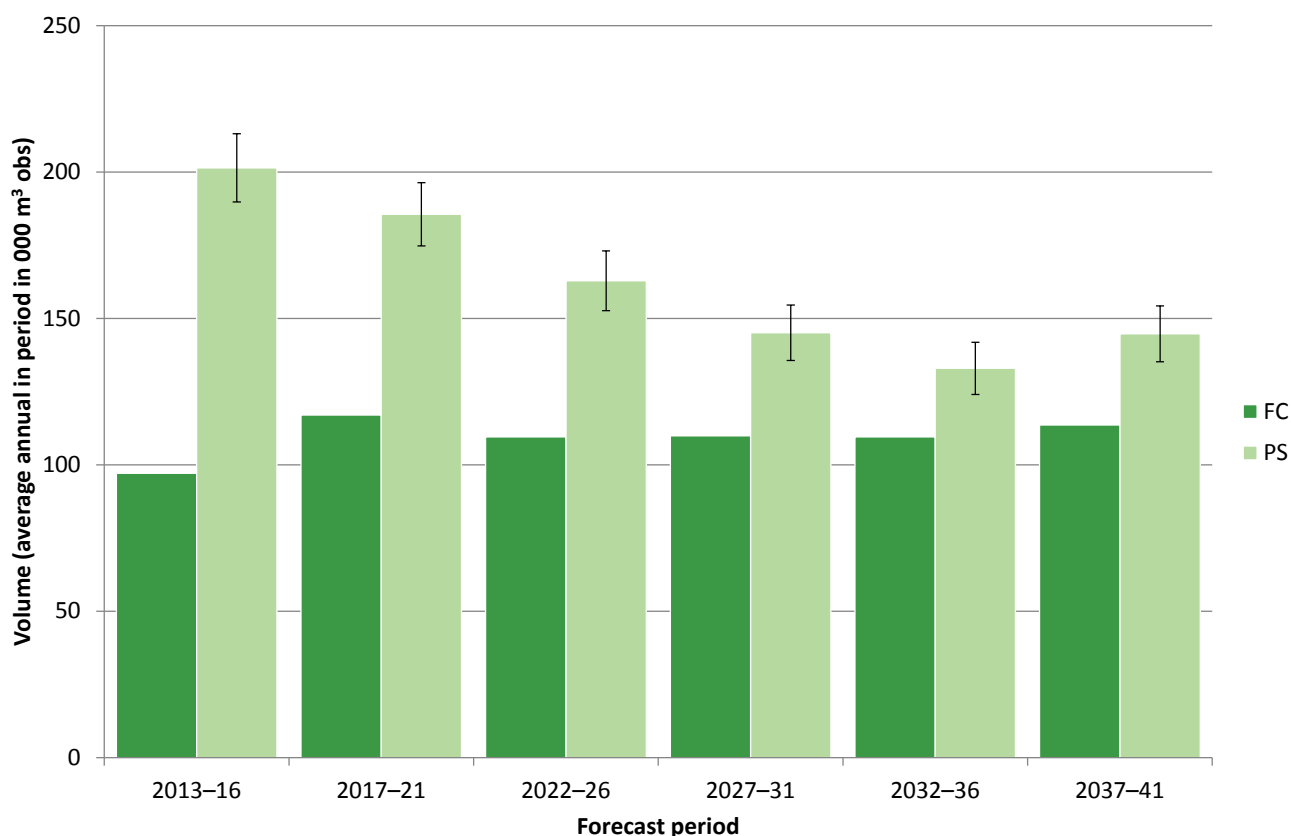
Table 31 25-year forecast of net increment in conifers; average annual volume within period

Forecast period	FC volume (000 m³ obs)	Private sector volume (000 m³ obs)	SE%	Total volume (000 m³ obs)
Yorkshire				
2013–16	97	201	6	**299**
2017–21	117	186	6	**303**
2022–26	110	163	6	**272**
2027–31	110	145	7	**255**
2032–36	110	133	7	**242**
2037–41	114	145	7	**258**

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

Part 3 - how our woodlands might change
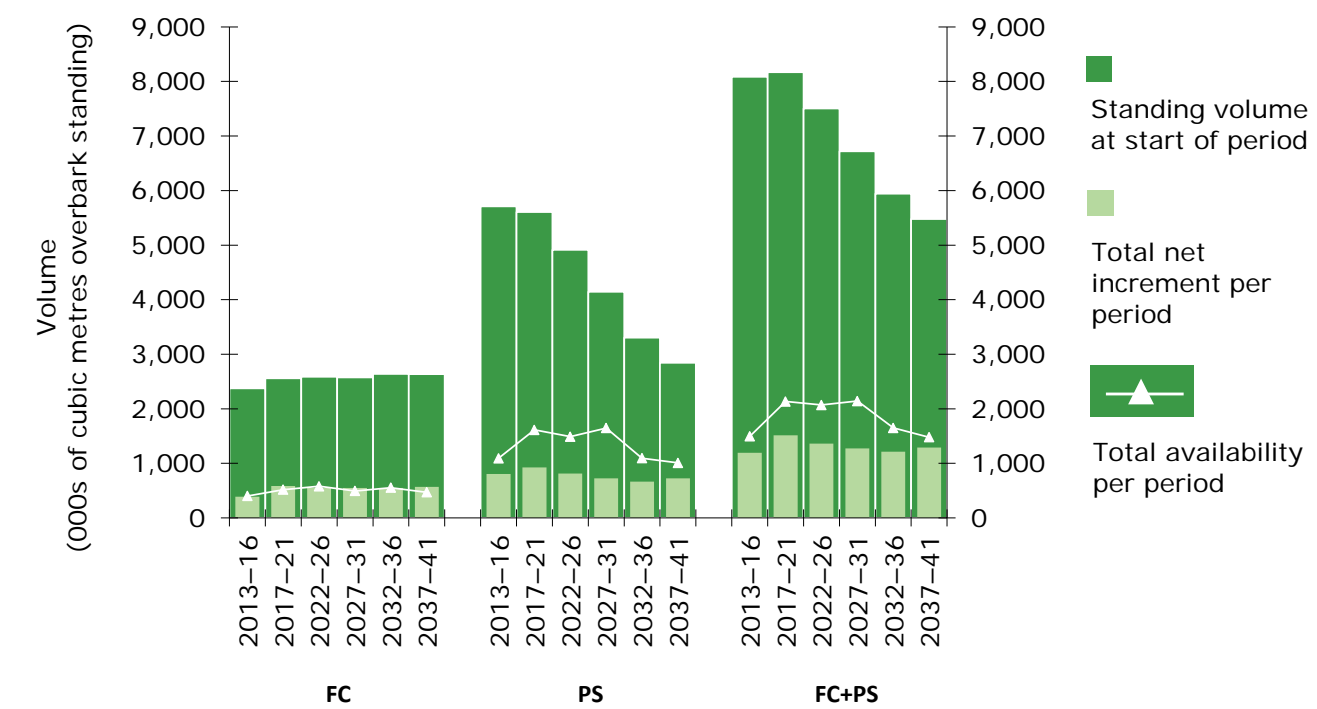
50-year softwood forecast

50-year forecast of softwood timber availability

Figure 39 Summary of 50-year forecast of softwood timber availability; average annual volume within period
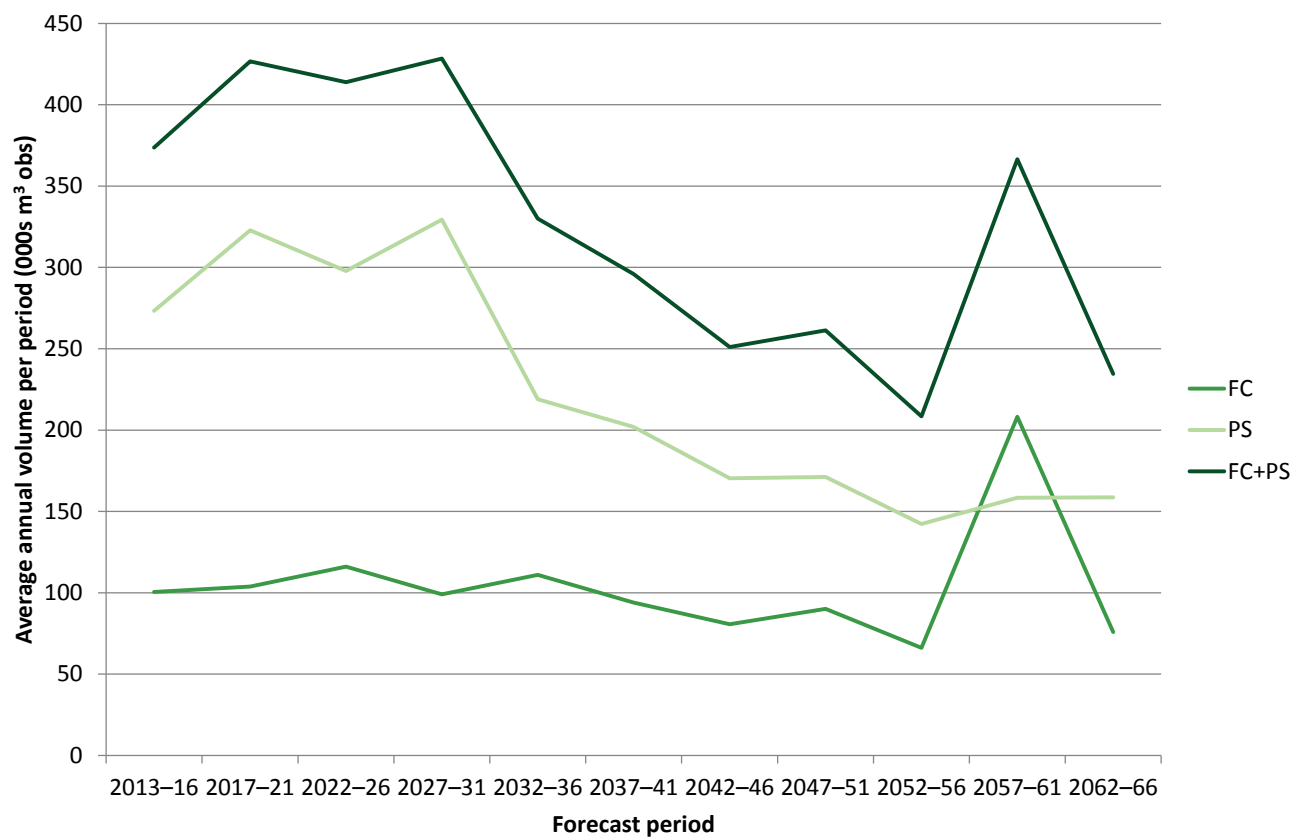
Part 3 - how our woodlands might change

Figure 40 50–year forecast of softwood timber availability; average annual volume within period
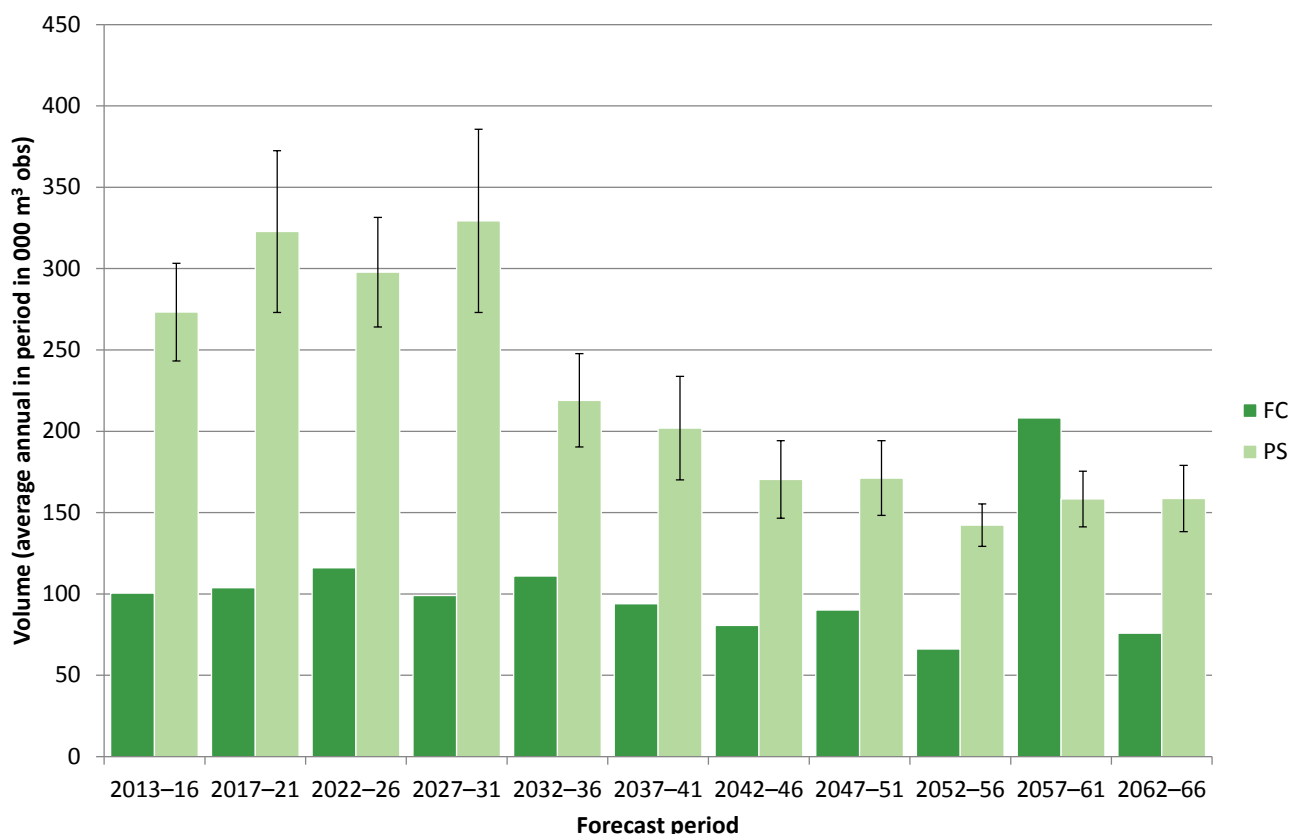
Table 32 Summary of 50–year forecast of softwood timber availability; average annual volume within period

| Forecast period | FC | Private sector | | Total |
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)
Yorkshire				
2013–16	100	273	11	**374**
2017–21	104	323	15	**427**
2022–26	116	298	11	**414**
2027–31	99	329	17	**428**
2032–36	111	219	13	**330**
2037–41	94	202	16	**296**
2042–46	81	170	14	**251**
2047–51	90	171	13	**261**
2052–56	66	142	9	**208**
2057–61	208	158	11	**367**
2062–66	76	159	13	**235**

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%
Yorkshire						
All conifers	**100**	**273**	*11*	**104**	**323**	*15*
Sitka spruce	33	60	*25*	36	112	*35*
Scots pine	29	33	*25*	25	53	*33*
Corsican pine	5	11	*32*	6	52	*50*
Norway spruce	3	34	*37*	2	12	*23*
Larches	19	84	*15*	20	74	*17*
Douglas fir	3	8	*41*	4	8	*37*
Lodgepole pine	6	34	*56*	10	3	*33*
Other conifers	2	10	*35*	2	6	*26*

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%
Yorkshire						
All conifers	**116**	**298**	*11*	**99**	**329**	*17*
Sitka spruce	39	86	*29*	42	172	*31*
Scots pine	32	60	*27*	23	66	*25*
Corsican pine	5	10	*40*	3	8	*34*
Norway spruce	4	30	*36*	3	11	*24*
Larches	18	79	*17*	14	47	*15*
Douglas fir	3	15	*52*	5	9	*41*
Lodgepole pine	13	8	*65*	8	8	*46*
Other conifers	2	11	*53*	2	11	*47*

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%
Yorkshire						
All conifers	**111**	**219**	*13*	**94**	**202**	*16*
Sitka spruce	45	48	*37*	48	68	*32*
Scots pine	26	49	*34*	14	47	*39*
Corsican pine	2	14	*64*	4	5	*32*
Norway spruce	2	19	*28*	3	24	*30*
Larches	17	49	*15*	14	23	*15*
Douglas fir	5	8	*35*	8	6	*16*
Lodgepole pine	10	17	*64*	2	22	*59*
Other conifers	3	15	*49*	3	6	*38*

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%
Yorkshire						
All conifers	**81**	**170**	*14*	**90**	**171**	*13*
Sitka spruce	42	34	*26*	45	32	*16*
Scots pine	12	42	*33*	15	41	*32*
Corsican pine	2	4	*37*	2	10	*73*
Norway spruce	2	23	*37*	3	36	*42*
Larches	12	21	*15*	12	21	*16*
Douglas fir	5	8	*12*	7	18	*26*
Lodgepole pine	< 1	27	*59*	1	< 1	*41*
Other conifers	4	10	*30*	5	12	*21*

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)	volume (000 m³ obs)	SE%	volume (000 m³ obs)	volume (000 m³ obs)	SE%
Yorkshire						
All conifers	**66**	**142**	*9*	**208**	**158**	*11*
Sitka spruce	26	41	*14*	106	46	*16*
Scots pine	15	22	*24*	28	31	*32*
Corsican pine	2	9	*62*	2	4	*50*
Norway spruce	3	22	*38*	7	20	*55*
Larches	9	20	*14*	42	22	*14*
Douglas fir	5	13	*10*	14	18	*17*
Lodgepole pine	1	1	*63*	1	< 1	*34*
Other conifers	5	13	*11*	7	16	*10*

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 m³ obs)	volume (000 m³ obs)	SE%
Yorkshire			
All conifers	**76**	**159**	*13*
Sitka spruce	32	77	*24*
Scots pine	15	17	*11*
Corsican pine	2	< 1	*37*
Norway spruce	3	13	*23*
Larches	7	10	*13*
Douglas fir	7	19	*16*
Lodgepole pine	2	2	*59*
Other conifers	8	21	*11*

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

Yorkshire		Top diameter class (cm)								
		7–14	14–16	16–18	18–24	24–34	34–44	44–54	54+	Total
2013–16	FC (%)	44	45	43	39	31	27	24	18	**36**
	PS (%)	43	38	36	33	30	32	38	32	**34**
2017–21	FC (%)	40	41	41	39	36	34	31	20	**37**
	PS (%)	42	42	42	42	41	30	13	18	**39**
2022–26	FC (%)	39	39	40	39	38	35	33	21	**37**
	PS (%)	40	44	43	43	36	32	33	46	**39**
2027–31	FC (%)	43	45	45	45	47	45	46	31	**45**
	PS (%)	58	62	62	61	58	53	48	9	**55**
2032–36	FC (%)	43	42	42	42	45	43	40	23	**42**
	PS (%)	43	41	37	38	28	21	22	16	**30**
2037–41	FC (%)	52	56	57	59	57	48	41	26	**54**
	PS (%)	54	63	63	57	44	32	27	14	**46**
2042–46	FC (%)	55	57	58	61	57	45	35	29	**55**
	PS (%)	38	33	29	25	32	38	39	38	**34**
2047–51	FC (%)	52	54	55	58	58	50	40	32	**54**
	PS (%)	44	45	46	48	45	36	23	7	**40**
2052–56	FC (%)	49	51	49	48	40	29	28	23	**44**
	PS (%)	46	46	41	38	45	49	49	36	**44**
2057–61	FC (%)	51	52	52	54	58	59	49	37	**54**
	PS (%)	44	49	46	40	39	40	40	33	**41**
2062–66	FC (%)	47	50	50	48	47	41	37	30	**47**
	PS (%)	47	55	55	56	64	78	80	17	**56**

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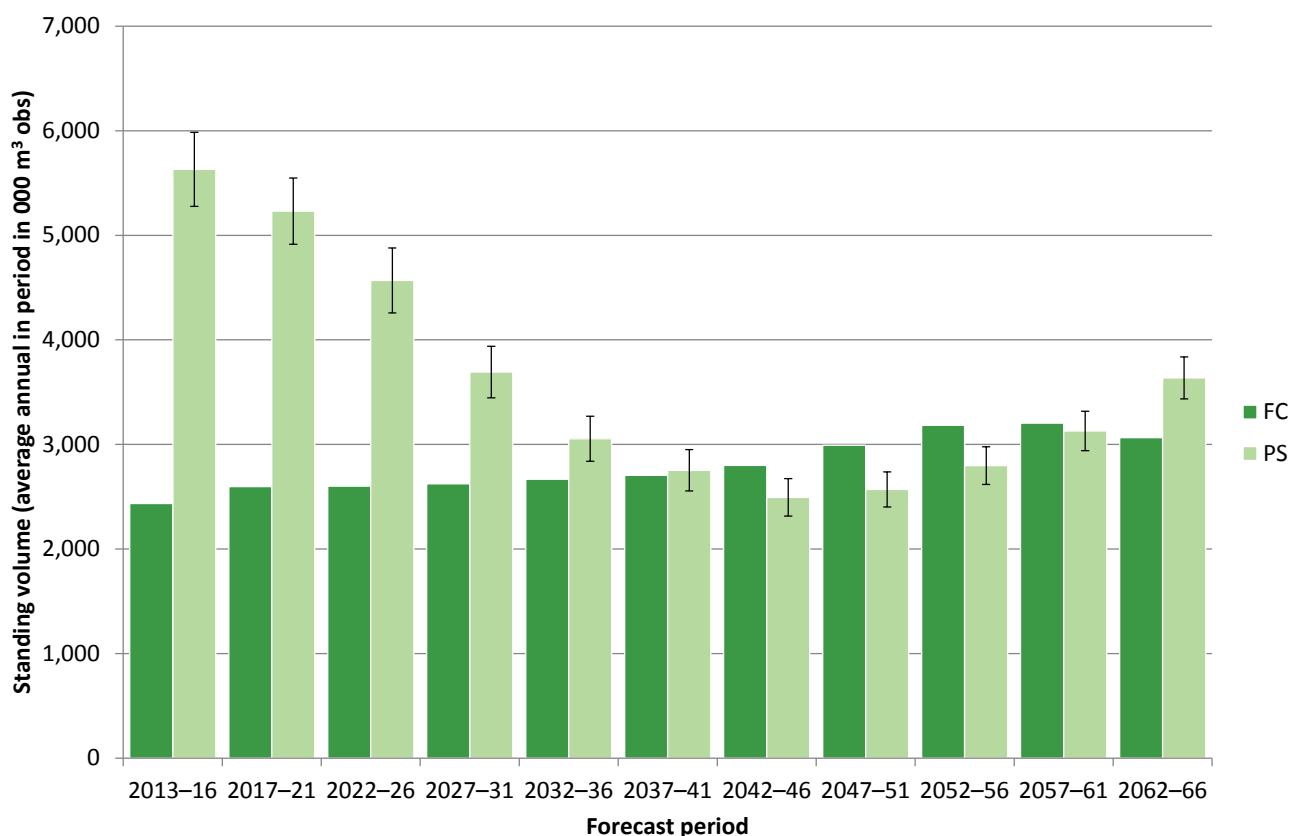
Table 35 50–year forecast of standing volume in conifers; average annual volume within period

Forecast period	FC	Private sector		Total
	volume (000 m³ obs)	volume (000 m³ obs)	*SE%*	volume (000 m³ obs)
Yorkshire				
2013–16	2,435	5,631	6	**8,066**
2017–21	2,597	5,231	6	**7,828**
2022–26	2,601	4,568	7	**7,169**
2027–31	2,624	3,692	7	**6,317**
2032–36	2,667	3,054	7	**5,721**
2037–41	2,705	2,752	7	**5,457**
2042–46	2,799	2,494	7	**5,293**
2047–51	2,993	2,570	7	**5,563**
2052–56	3,183	2,797	6	**5,981**
2057–61	3,204	3,128	6	**6,332**
2062–66	3,064	3,636	6	**6,700**

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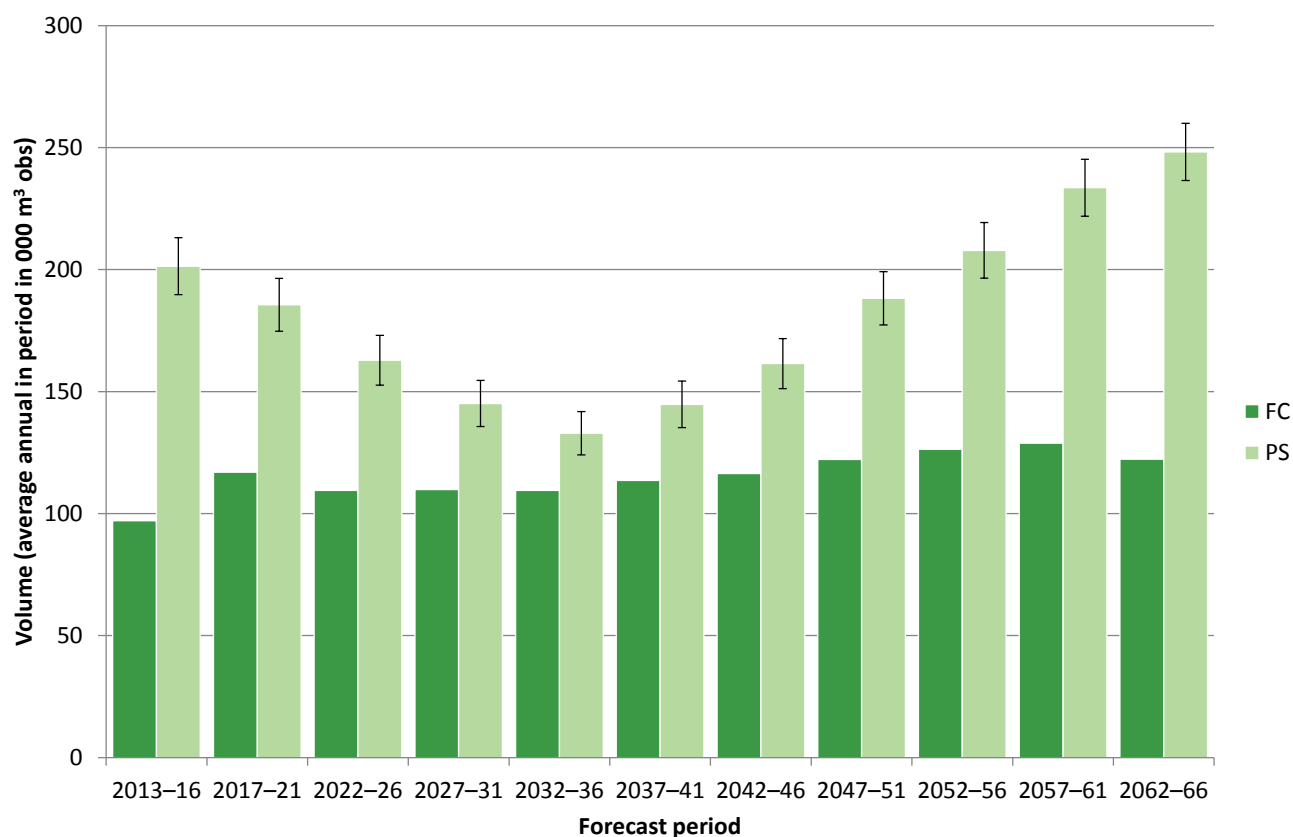
Table 36 50-year forecast of net increment in conifers; average annual volume within period

Forecast period	FC volume (000 m³ obs)	Private sector volume (000 m³ obs)	SE%	Total volume (000m³ obs)
Yorkshire				
2013–16	97	201	6	**299**
2017–21	117	186	6	**303**
2022–26	110	163	6	**272**
2027–31	110	145	7	**255**
2032–36	110	133	7	**242**
3037–41	114	145	7	**258**
2042–46	116	161	6	**278**
2047–51	122	188	6	**310**
2052–56	126	208	6	**334**
2057–61	129	234	5	**362**
2062–66	122	248	5	**370**

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
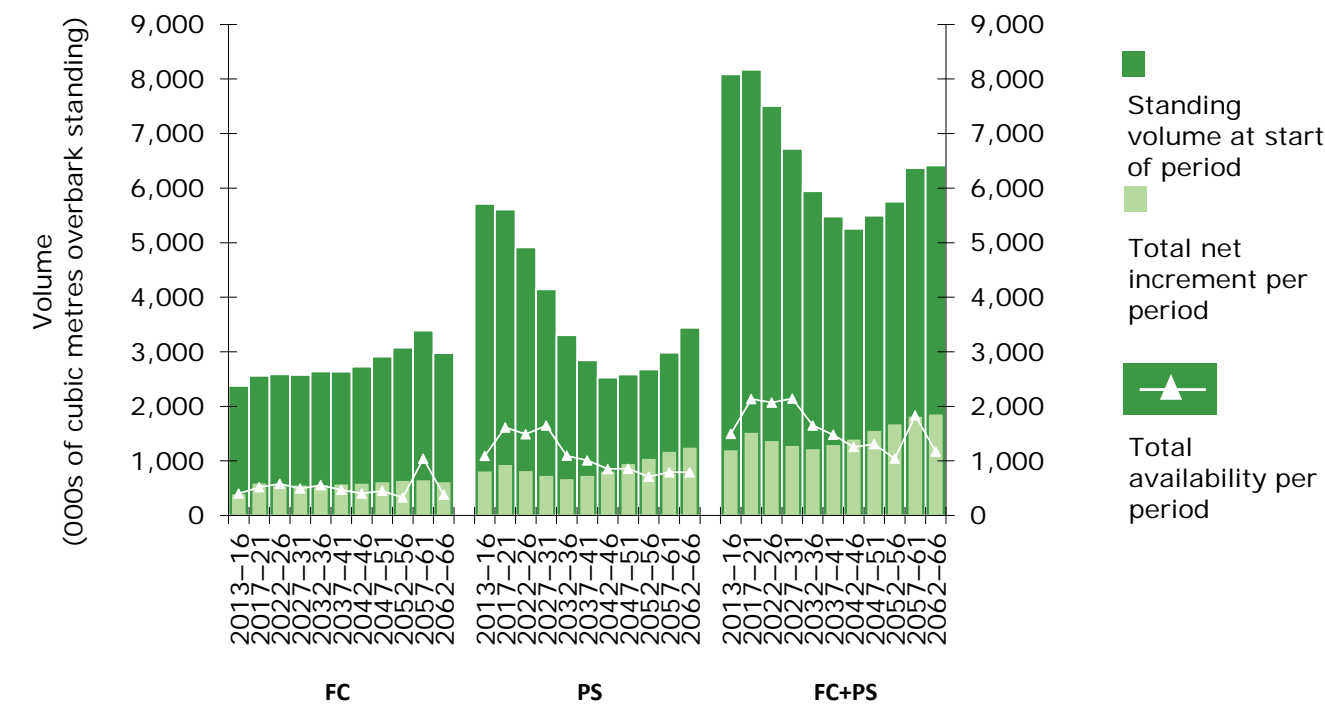
50-year hardwood forecast

50-year forecast of hardwood timber availability

Figure 44 Summary of 50-year forecast of hardwood timber availability; average annual volume within period
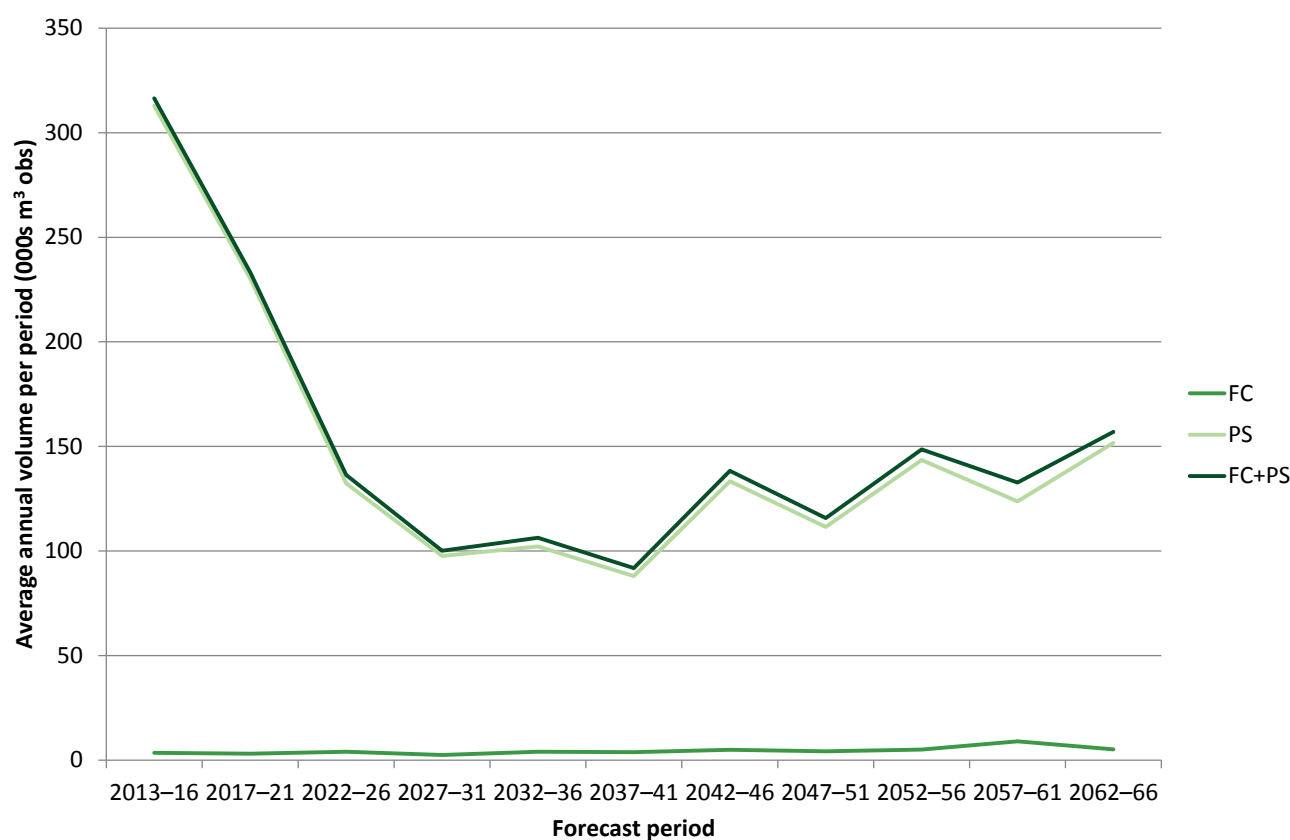
Part 3 - how our woodlands might change

Figure 45 50–year forecast of hardwood timber availability; average annual volume within period
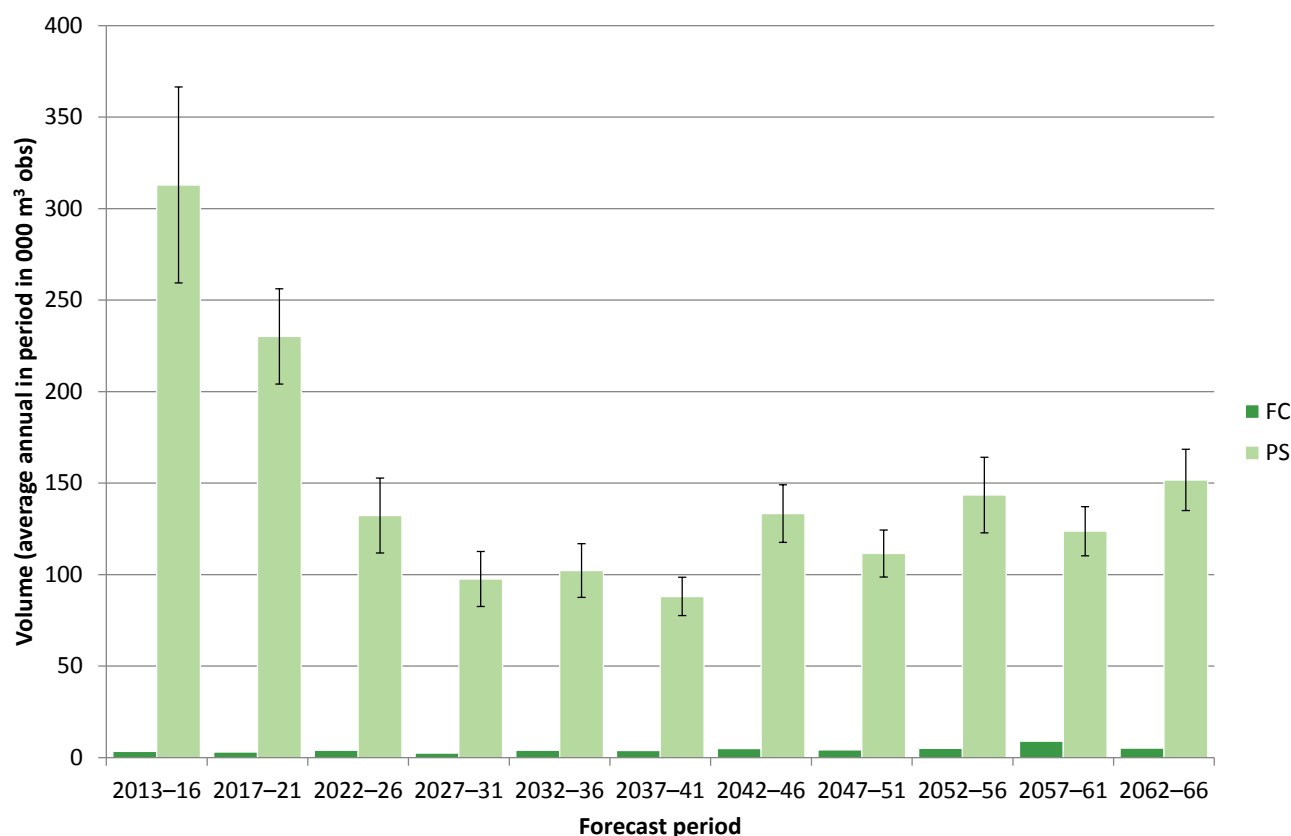
Table 37 50–year forecast of hardwood timber availability; average annual volume within period

| Forecast period | FC | Private sector | | Total |
	volume (000 m³ obs)	volume (000 m³ obs)	*SE%*	volume (000 m³ obs)
Yorkshire				
2013–16	3	313	*17*	**316**
2017–21	3	230	*11*	**233**
2022–26	4	132	*15*	**136**
2027–31	2	98	*15*	**100**
2032–36	4	102	*14*	**106**
2037–41	4	88	*12*	**92**
2042–46	5	133	*12*	**138**
2047–51	4	112	*12*	**116**
2052–56	5	144	*14*	**149**
2057–61	9	124	*11*	**133**
2062–66	5	152	*11*	**157**

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%
Yorkshire						
All broadleaves	**3**	**313**	**17**	**3**	**230**	**11**
Oak	< 1	23	27	< 1	33	31
Beech	< 1	40	64	< 1	11	22
Sycamore	< 1	53	29	< 1	43	17
Ash	< 1	53	20	< 1	43	18
Birch	< 1	27	26	< 1	20	24
Sweet chestnut	< 1	< 1	84	< 1	< 1	78
Hazel	0	< 1	44	0	< 1	41
Hawthorn	0	< 1	35	0	1	28
Alder	< 1	5	50	< 1	3	49
Willow	0	< 1	53	0	< 1	44
Other broadleaves	< 1	12	42	< 1	8	24

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%
Yorkshire						
All broadleaves	**4**	**132**	**15**	**2**	**98**	**15**
Oak	< 1	19	29	< 1	21	30
Beech	< 1	32	42	< 1	12	23
Sycamore	< 1	13	28	< 1	9	31
Ash	< 1	13	16	< 1	9	26
Birch	< 1	17	30	< 1	16	48
Sweet chestnut	< 1	< 1	77	< 1	10	89
Hazel	0	< 1	52	0	< 1	30
Hawthorn	0	1	28	0	1	25
Alder	< 1	5	76	< 1	2	52
Willow	0	< 1	42	0	< 1	29
Other broadleaves	< 1	8	18	< 1	6	15

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%
Yorkshire						
All broadleaves	**4**	**102**	**14**	**4**	**88**	**12**
Oak	< 1	30	38	< 1	9	22
Beech	< 1	16	33	< 1	20	34
Sycamore	< 1	9	20	< 1	11	23
Ash	< 1	9	22	< 1	11	19
Birch	< 1	9	40	1	7	18
Sweet chestnut	< 1	< 1	57	< 1	< 1	57
Hazel	0	< 1	58	0	< 1	46
Hawthorn	0	1	21	0	1	20
Alder	< 1	3	78	< 1	1	35
Willow	< 1	1	24	< 1	1	27
Other broadleaves	< 1	10	21	< 1	10	16

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%
Yorkshire						
All broadleaves	**5**	**133**	**12**	**4**	**112**	**12**
Oak	< 1	11	28	< 1	22	46
Beech	< 1	36	35	< 1	9	28
Sycamore	< 1	19	13	< 1	18	13
Ash	< 1	19	20	< 1	18	22
Birch	2	16	17	1	17	23
Sweet chestnut	< 1	< 1	57	< 1	< 1	57
Hazel	0	< 1	57	0	< 1	36
Hawthorn	0	1	19	0	2	19
Alder	< 1	2	28	< 1	3	26
Willow	< 1	1	27	< 1	1	27
Other broadleaves	< 1	17	16	< 1	11	17

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%
Yorkshire						
All broadleaves	**5**	**144**	**14**	**9**	**124**	**11**
Oak	< 1	10	18	1	16	27
Beech	< 1	43	38	2	9	26
Sycamore	< 1	18	20	< 1	27	19
Ash	< 1	18	21	< 1	27	24
Birch	1	11	26	3	13	27
Sweet chestnut	< 1	< 1	57	0	< 1	74
Hazel	0	1	38	0	< 1	37
Hawthorn	0	2	29	0	2	40
Alder	< 1	1	54	< 1	2	63
Willow	< 1	1	27	< 1	3	64
Other broadleaves	< 1	15	36	2	7	18

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%
Yorkshire			
All broadleaves	**5**	**152**	**11**
Oak	< 1	20	41
Beech	1	6	21
Sycamore	< 1	25	18
Ash	< 1	25	24
Birch	1	20	21
Sweet chestnut	< 1	< 1	77
Hazel	0	< 1	64
Hawthorn	0	2	44
Alder	< 1	3	43
Willow	< 1	1	31
Other broadleaves	< 1	14	22

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%
Yorkshire						
7–14	1	31	11	< 1	26	10
14–16	< 1	12	13	< 1	8	15
16–18	< 1	14	15	< 1	10	17
18–24	< 1	55	15	< 1	42	14
24–34	< 1	80	15	< 1	68	12
34–44	< 1	46	23	< 1	36	15
44–54	< 1	25	27	< 1	18	17
54+	< 1	50	43	< 1	22	21
Total	**3**	**313**	**17**	**3**	**230**	**11**

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%
Yorkshire						
7–14	1	27	10	< 1	27	10
14–16	< 1	6	18	< 1	5	21
16–18	< 1	6	21	< 1	5	26
18–24	< 1	22	21	< 1	17	26
24–34	< 1	32	20	< 1	16	15
34–44	< 1	16	23	< 1	9	23
44–54	< 1	8	28	< 1	4	26
54+	< 1	14	36	< 1	14	44
Total	**4**	**132**	**15**	**2**	**98**	**15**

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%
Yorkshire						
7–14	1	34	9	1	39	9
14–16	< 1	5	15	< 1	5	9
16–18	< 1	5	19	< 1	4	11
18–24	< 1	14	20	< 1	10	17
24–34	< 1	19	22	< 1	13	28
34–44	< 1	11	30	< 1	8	28
44–54	< 1	6	35	< 1	4	30
54+	< 1	9	29	< 1	5	30
Total	**4**	**102**	**14**	**4**	**88**	**12**

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%
Yorkshire						
7–14	2	43	8	2	37	8
14–16	< 1	9	9	< 1	8	9
16–18	< 1	10	10	< 1	9	11
18–24	< 1	25	11	< 1	26	12
24–34	1	17	19	< 1	17	25
34–44	< 1	11	30	< 1	7	39
44–54	< 1	7	31	< 1	4	42
54+	< 1	12	38	< 1	4	32
Total	**5**	**133**	**12**	**4**	**112**	**12**

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%
Yorkshire						
7–14	2	32	9	3	28	9
14–16	< 1	7	10	< 1	7	10
16–18	< 1	7	12	< 1	7	10
18–24	< 1	21	13	2	23	12
24–34	< 1	27	18	1	31	15
34–44	< 1	18	25	< 1	15	17
44–54	< 1	11	29	< 1	6	21
54+	< 1	21	33	< 1	7	22
Total	**5**	**144**	**14**	**9**	**124**	**11**

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%
Yorkshire			
7–14	2	31	8
14–16	< 1	9	11
16–18	< 1	11	12
18–24	< 1	36	13
24–34	< 1	37	16
34–44	< 1	16	19
44–54	< 1	6	24
54+	< 1	6	20
Total	**5**	**152**	**11**

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)
Yorkshire				
2013–16	345	11,159	4	**11,504**
2017–21	380	11,407	4	**11,787**
2022–26	414	12,210	4	**12,624**
2027–31	453	13,417	4	**13,870**
2032–36	488	14,617	4	**15,105**
2037–41	521	15,861	4	**16,382**
2042–46	546	16,917	4	**17,463**
2047–51	573	17,924	3	**18,497**
2052–56	594	18,783	3	**19,377**
2057–61	606	19,411	3	**20,016**
2062–66	611	19,886	4	**20,497**

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%
Yorkshire						
All broadleaves	**345**	**11,159**	*4*	**380**	**11,407**	*4*
Oak	66	2,729	*12*	72	2,798	*12*
Beech	59	1,621	*14*	66	1,657	*14*
Sycamore	41	2,444	*9*	43	2,183	*9*
Ash	31	1,491	*11*	33	1,442	*12*
Birch	67	1,038	*11*	76	1,154	*11*
Sweet Chestnut	2	81	*54*	2	92	*52*
Hazel	0	90	*25*	0	111	*24*
Hawthorn	0	188	*13*	0	226	*13*
Alder	4	490	*19*	5	531	*19*
Willow	< 1	204	*18*	< 1	261	*17*
Other broadleaves	73	787	*12*	83	959	*11*

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%
Yorkshire						
All broadleaves	**414**	**12,210**	*4*	**453**	**13,417**	*4*
Oak	77	2,938	*12*	83	3,086	*11*
Beech	73	1,750	*14*	80	1,826	*14*
Sycamore	42	2,040	*10*	42	2,197	*9*
Ash	34	1,490	*12*	35	1,652	*12*
Birch	87	1,351	*11*	99	1,544	*11*
Sweet Chestnut	2	104	*50*	2	107	*47*
Hazel	0	134	*23*	0	158	*21*
Hawthorn	0	276	*13*	0	331	*13*
Alder	5	586	*18*	5	632	*17*
Willow	< 1	341	*17*	< 1	431	*17*
Other broadleaves	95	1,185	*10*	106	1,429	*9*

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%
Yorkshire						
All broadleaves	**488**	**14,617**	**4**	**521**	**15,861**	**4**
Oak	88	3,210	11	94	3,372	11
Beech	87	1,945	14	94	2,056	14
Sycamore	41	2,380	9	41	2,576	9
Ash	36	1,819	11	37	1,978	11
Birch	111	1,721	11	121	1,909	11
Sweet Chestnut	3	81	52	3	91	51
Hazel	0	179	21	0	195	20
Hawthorn	0	389	13	0	448	13
Alder	6	681	17	6	719	16
Willow	< 1	522	17	< 1	615	17
Other broadleaves	116	1,668	9	125	1,880	9

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%
Yorkshire						
All broadleaves	**546**	**16,917**	**4**	**573**	**17,924**	**3**
Oak	99	3,560	11	105	3,714	11
Beech	100	2,083	15	107	2,161	15
Sycamore	40	2,764	8	40	2,958	8
Ash	37	2,100	10	38	2,213	10
Birch	128	2,050	11	135	2,159	11
Sweet Chestnut	3	102	50	3	113	49
Hazel	0	210	20	0	222	20
Hawthorn	0	504	12	0	558	12
Alder	6	758	16	6	785	16
Willow	< 1	707	17	< 1	794	17
Other broadleaves	132	2,061	8	138	2,230	8

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%
Yorkshire						
All broadleaves	**594**	**18,783**	**3**	**606**	**19,411**	**3**
Oak	111	3,874	10	116	4,029	10
Beech	114	2,198	15	119	2,229	15
Sycamore	40	3,094	8	39	3,139	8
Ash	38	2,295	10	38	2,308	10
Birch	141	2,270	11	141	2,365	11
Sweet Chestnut	3	124	48	3	136	47
Hazel	0	230	20	0	238	20
Hawthorn	0	607	13	0	651	13
Alder	6	812	16	6	835	16
Willow	< 1	877	17	< 1	947	18
Other broadleaves	142	2,390	8	143	2,527	8

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 m³ obs)		SE%
Yorkshire			
All broadleaves	**611**	**19,886**	**4**
Oak	120	4,165	10
Beech	123	2,353	15
Sycamore	38	3,037	8
Ash	38	2,284	10
Birch	140	2,420	11
Sweet Chestnut	3	146	46
Hazel	0	247	20
Hawthorn	0	694	13
Alder	6	853	15
Willow	< 1	1,015	18
Other broadleaves	143	2,665	8

Part 3 - how our woodlands might change

50-year forecast of net increment in broadleaves

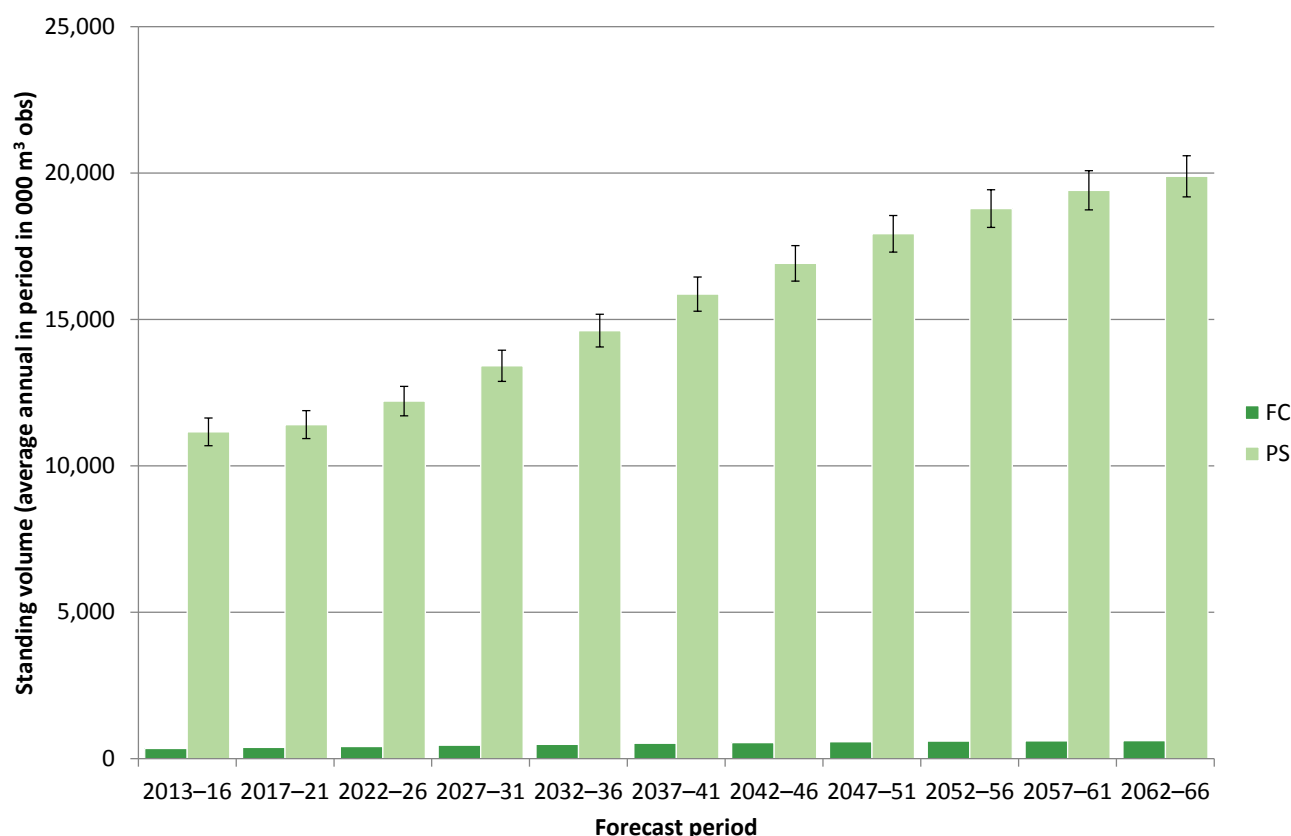**Figure 47** 50-year forecast of net increment in broadleaves; average annual volume within period
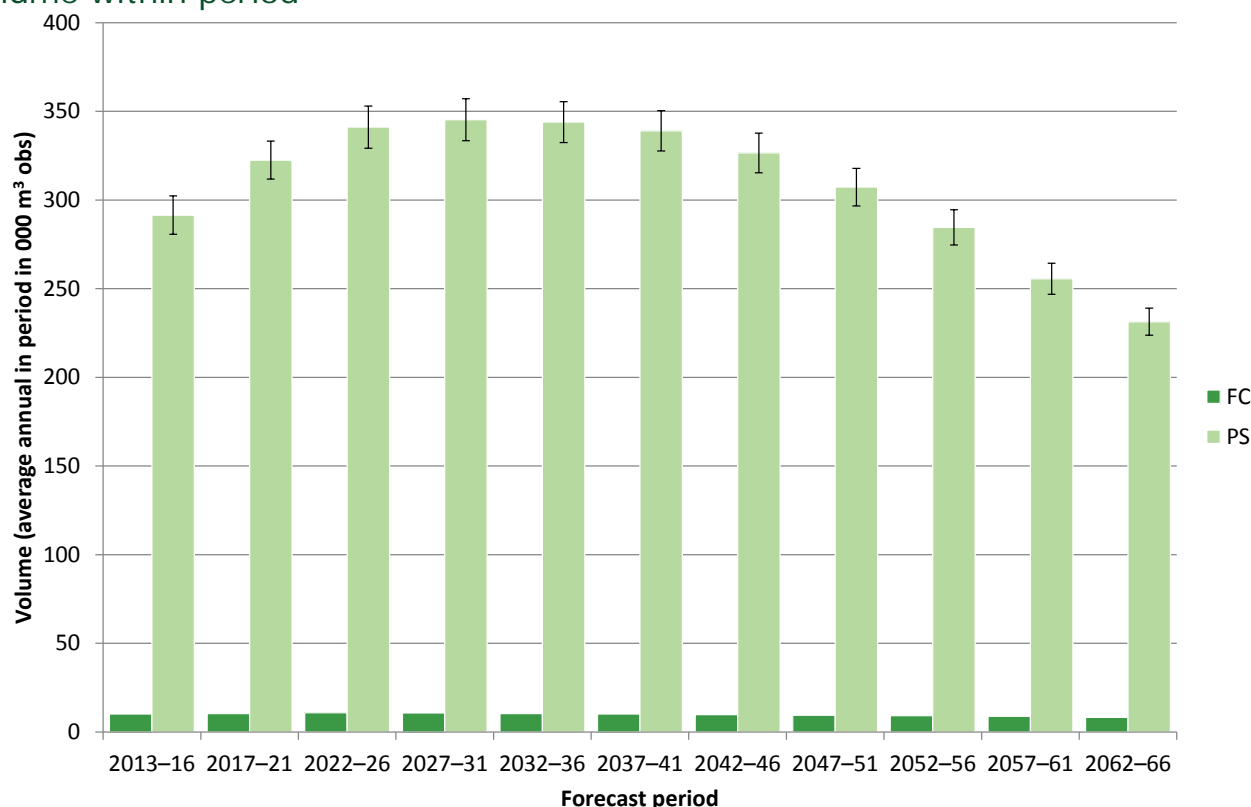
Table 42 50–year forecast of net increment in broadleaves; average annual volume within period

| Forecast period | FC | Private sector | | Total |
	volume (000 m³ obs)	volume (000 m³ obs)	*SE%*	volume (000 m³ obs)
Yorkshire				
2013–16	10	291	*4*	**302**
2017–21	10	322	*3*	**333**
2022–26	11	341	*3*	**352**
2027–31	11	345	*3*	**356**
2032–36	10	344	*3*	**354**
3037–41	10	339	*3*	**349**
2042–46	10	327	*3*	**336**
2047–51	9	307	*3*	**317**
2052–56	9	285	*3*	**294**
2057–61	9	256	*3*	**264**
2062–66	8	231	*3*	**240**

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 FC	2013–16 Private sector		2017–21 FC	2017–21 Private sector	
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)	volume (000 m³ obs)	SE%
Yorkshire						
All broadleaves	**10**	**291**	**4**	**10**	**322**	**3**
Oak	2	48	9	2	50	9
Beech	2	37	14	2	39	13
Sycamore	< 1	47	12	< 1	49	8
Ash	< 1	39	11	< 1	37	10
Birch	2	46	11	3	54	12
Sweet Chestnut	< 1	3	44	< 1	3	42
Hazel	0	5	23	0	5	21
Hawthorn	0	8	14	0	10	13
Alder	< 1	11	17	< 1	13	14
Willow	< 1	11	20	< 1	15	18
Other broadleaves	2	38	9	3	49	8

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

Principal species	2022–26 FC	2022–26 Private sector		2027–31 FC	2027–31 Private sector	
	volume (000 m³ obs)	volume (000 m³ obs)	SE%	volume (000 m³ obs)	volume (000 m³ obs)	SE%
Yorkshire						
All broadleaves	**11**	**341**	**3**	**11**	**345**	**3**
Oak	2	51	9	2	50	9
Beech	2	39	12	2	40	12
Sycamore	< 1	49	8	< 1	52	8
Ash	< 1	39	10	< 1	41	10
Birch	3	56	13	3	53	14
Sweet Chestnut	< 1	3	41	< 1	3	41
Hazel	0	5	20	0	5	18
Hawthorn	0	12	13	0	12	13
Alder	< 1	14	14	< 1	13	15
Willow	< 1	18	18	< 1	19	18
Other broadleaves	3	55	8	3	56	8

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%
Yorkshire						
All broadleaves	**10**	**344**	*3*	**10**	**339**	*3*
Oak	2	50	9	2	49	9
Beech	2	39	12	2	38	12
Sycamore	< 1	59	9	< 1	65	10
Ash	< 1	42	10	< 1	42	11
Birch	3	48	14	3	44	12
Sweet Chestnut	< 1	2	45	< 1	2	45
Hazel	0	5	18	0	4	18
Hawthorn	0	13	13	0	13	12
Alder	< 1	12	15	< 1	10	15
Willow	< 1	19	19	< 1	20	19
Other broadleaves	3	55	8	2	53	8

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%
Yorkshire						
All broadleaves	**10**	**327**	*3*	**9**	**307**	*3*
Oak	2	48	9	2	48	9
Beech	2	36	12	2	34	13
Sycamore	< 1	67	10	< 1	63	10
Ash	< 1	40	11	< 1	37	12
Birch	3	41	12	3	37	12
Sweet Chestnut	< 1	2	41	< 1	2	40
Hazel	0	3	18	0	3	18
Hawthorn	0	13	12	0	12	12
Alder	< 1	9	15	< 1	8	16
Willow	< 1	19	20	< 1	18	20
Other broadleaves	2	49	8	2	46	8

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%
Yorkshire						
All broadleaves	**9**	**285**	**3**	**9**	**256**	**3**
Oak	2	46	9	2	44	9
Beech	2	34	12	2	31	12
Sycamore	< 1	58	10	< 1	48	10
Ash	< 1	32	12	< 1	26	11
Birch	2	33	11	2	30	11
Sweet Chestnut	< 1	3	41	< 1	3	42
Hazel	0	2	18	0	2	19
Hawthorn	0	12	13	0	11	13
Alder	< 1	7	17	< 1	6	16
Willow	< 1	17	20	< 1	16	20
Other broadleaves	1	42	8	1	39	8

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 m³ obs)		SE%
Yorkshire			
All broadleaves	**8**	**231**	**3**
Oak	2	43	9
Beech	2	32	12
Sycamore	< 1	36	10
Ash	< 1	20	11
Birch	2	28	11
Sweet Chestnut	< 1	3	44
Hazel	0	2	19
Hawthorn	0	10	13
Alder	< 1	6	17
Willow	< 1	15	21
Other broadleaves	1	37	8

Part 3 - how our woodlands might change

Combined standing volume, net increment and availability

Figure 48 combined hardwood standing volume, net increment and availability
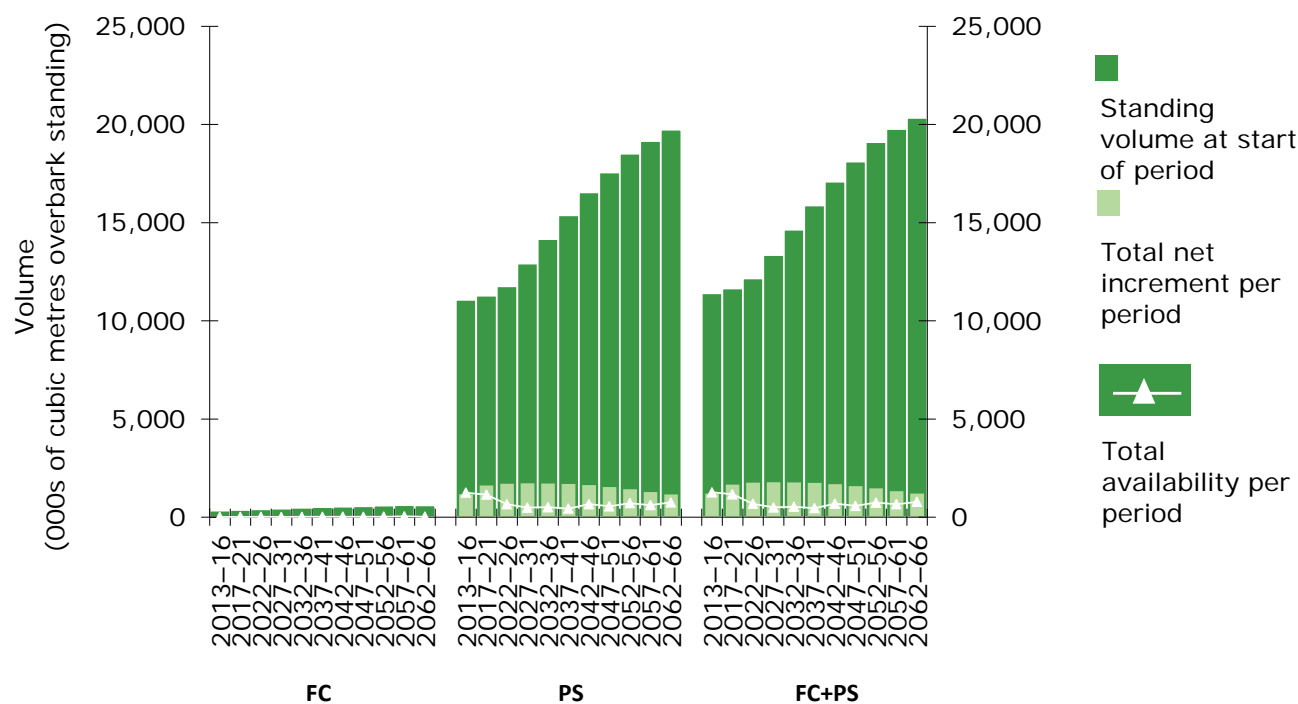
Part 4 – Tree health

Part 4 – Tree health

Ash

Figure 49 Stocked area of ash by age class
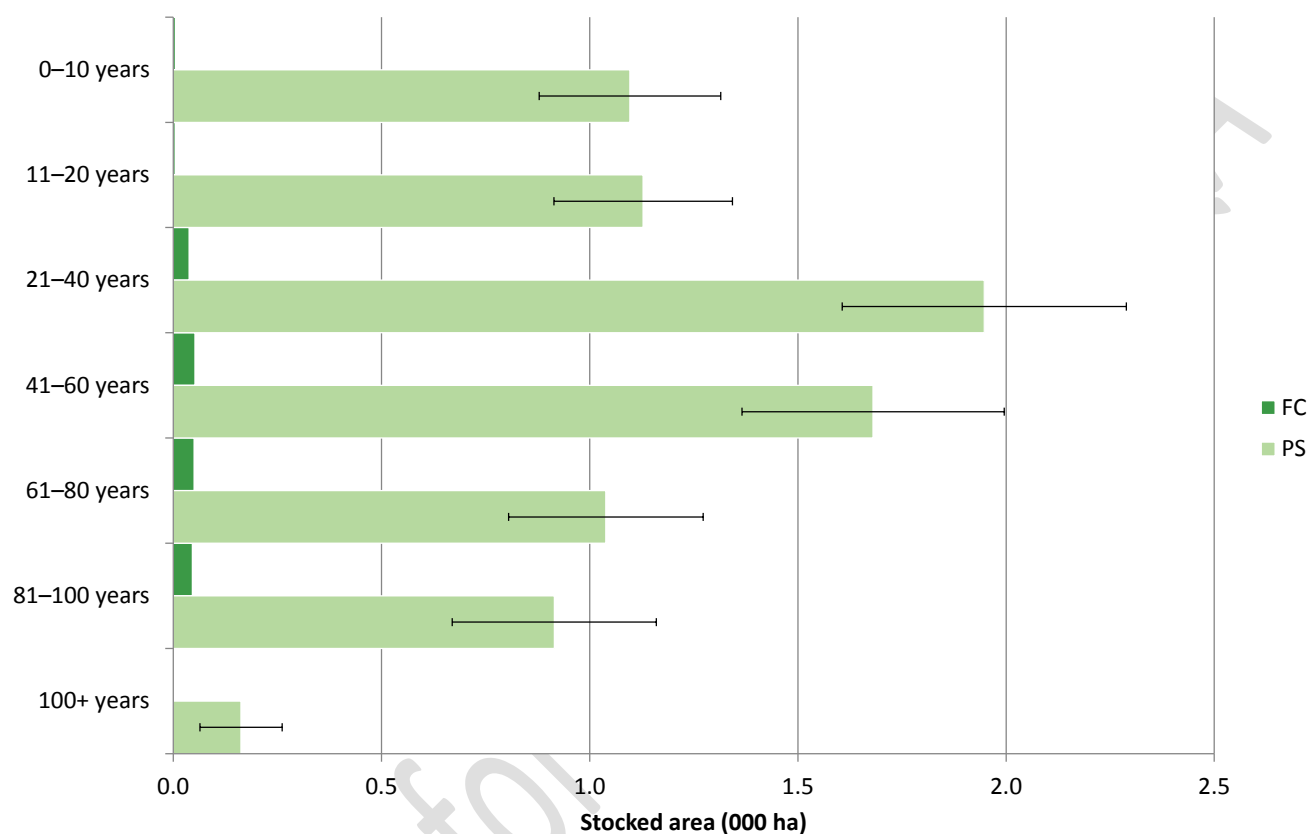
Table 44 Stocked area of ash by age class

| Age class (years) | FC | Private sector | | Total |
	area (000 ha)	area (000 ha)	*SE%*	area (000 ha)
Yorkshire				
0–10	< 0.1	1.1	*20*	**1.1**
11–20	< 0.1	1.1	*19*	**1.1**
21–40	< 0.1	1.9	*18*	**2.0**
41–60	< 0.1	1.7	*19*	**1.7**
61–80	< 0.1	1.0	*22*	**1.1**
81–100	< 0.1	0.9	*27*	**1.0**
100+	< 0.1	0.2	*61*	**0.2**
Total	**0.2**	**8.0**	*8*	**8.2**

Part 4 – Tree health

Figure 50 Stocked area of ash by mean stand dbh class
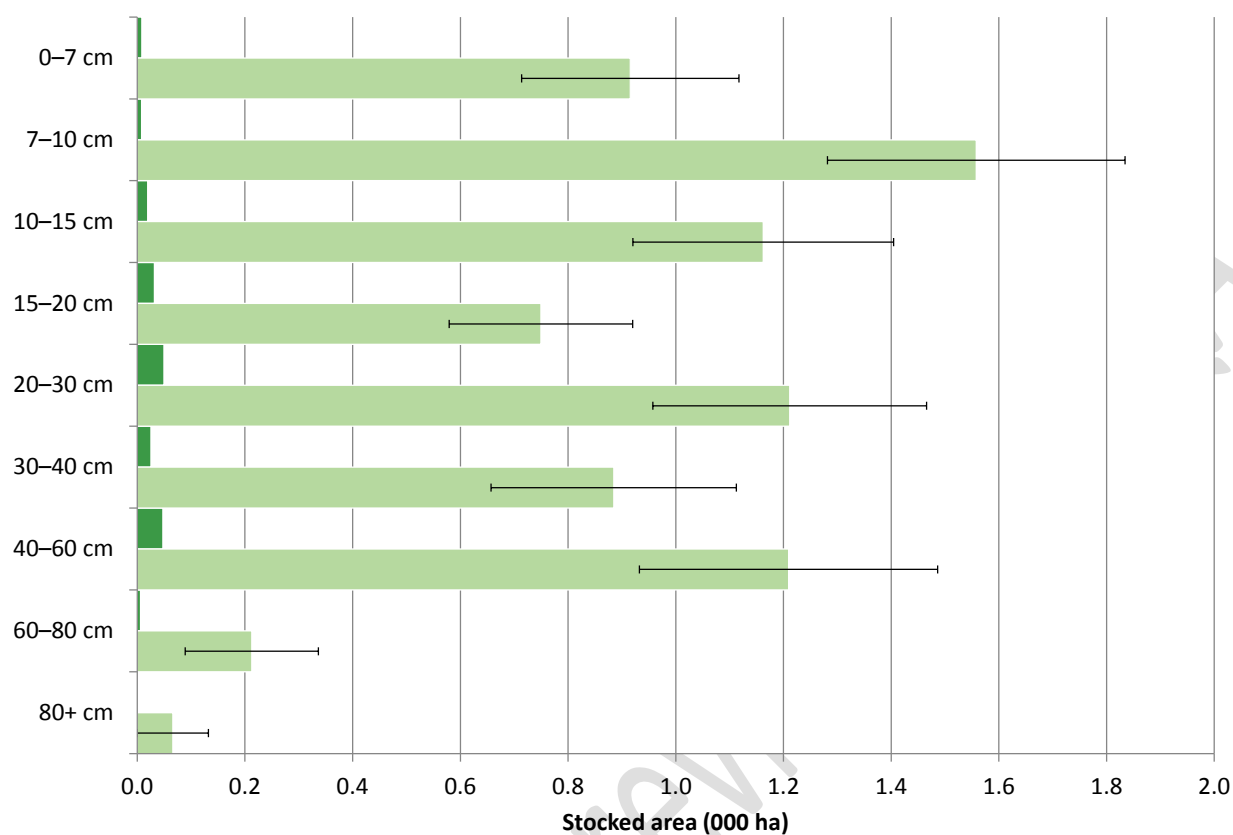
Table 45 Stocked area of ash by mean stand dbh class

Mean stand DBH (cm)	FC area (000 ha)	Private sector area (000 ha)	SE%	Total area (000 ha)
Yorkshire				
0–7	< 0.1	0.9	22	0.9
7–10	< 0.1	1.6	18	1.6
10–15	< 0.1	1.2	21	1.2
15–20	< 0.1	0.7	23	0.8
20–30	< 0.1	1.2	21	1.3
30–40	< 0.1	0.9	26	0.9
40–60	< 0.1	1.2	23	1.3
60–80	< 0.1	0.2	58	0.2
80+	< 0.1	< 0.1	101	< 0.1
Total	**0.2**	**8.0**	**8**	**8.2**

Part 4 – Tree health

Figure 51 Standing volume of ash by age class
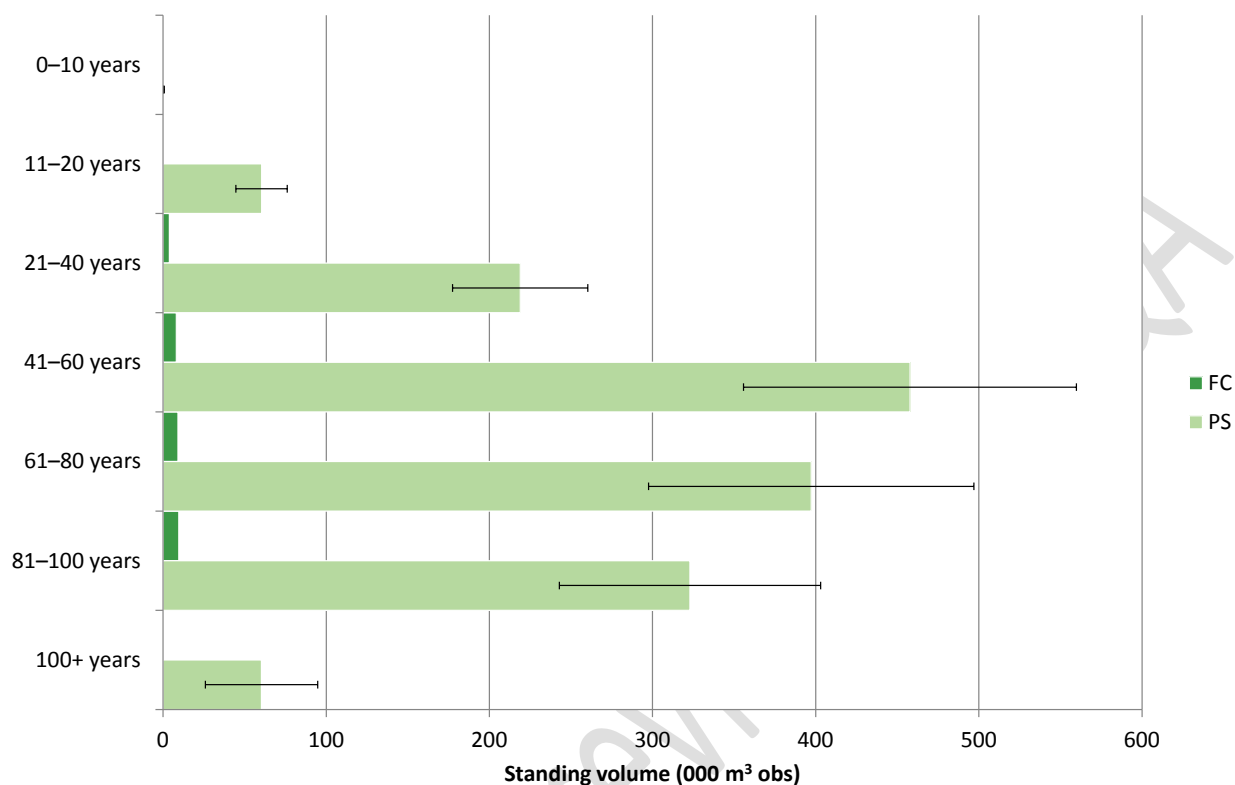
Table 46 Standing volume of ash by age class

Age class (years)	FC volume (000 m³ obs)	Private sector volume (000 m³ obs)	SE%	Total volume (000 m³ obs)
Yorkshire				
0–10	0	< 1	34	< 1
11–20	< 1	60	26	60
21–40	4	219	19	223
41–60	8	458	22	466
61–80	9	397	25	406
81–100	10	323	25	333
100+	< 1	60	57	61
Total	**31**	**1,518**	**11**	**1,549**

Part 4 – Tree health

Figure 52 Standing volume of ash by mean stand dbh class
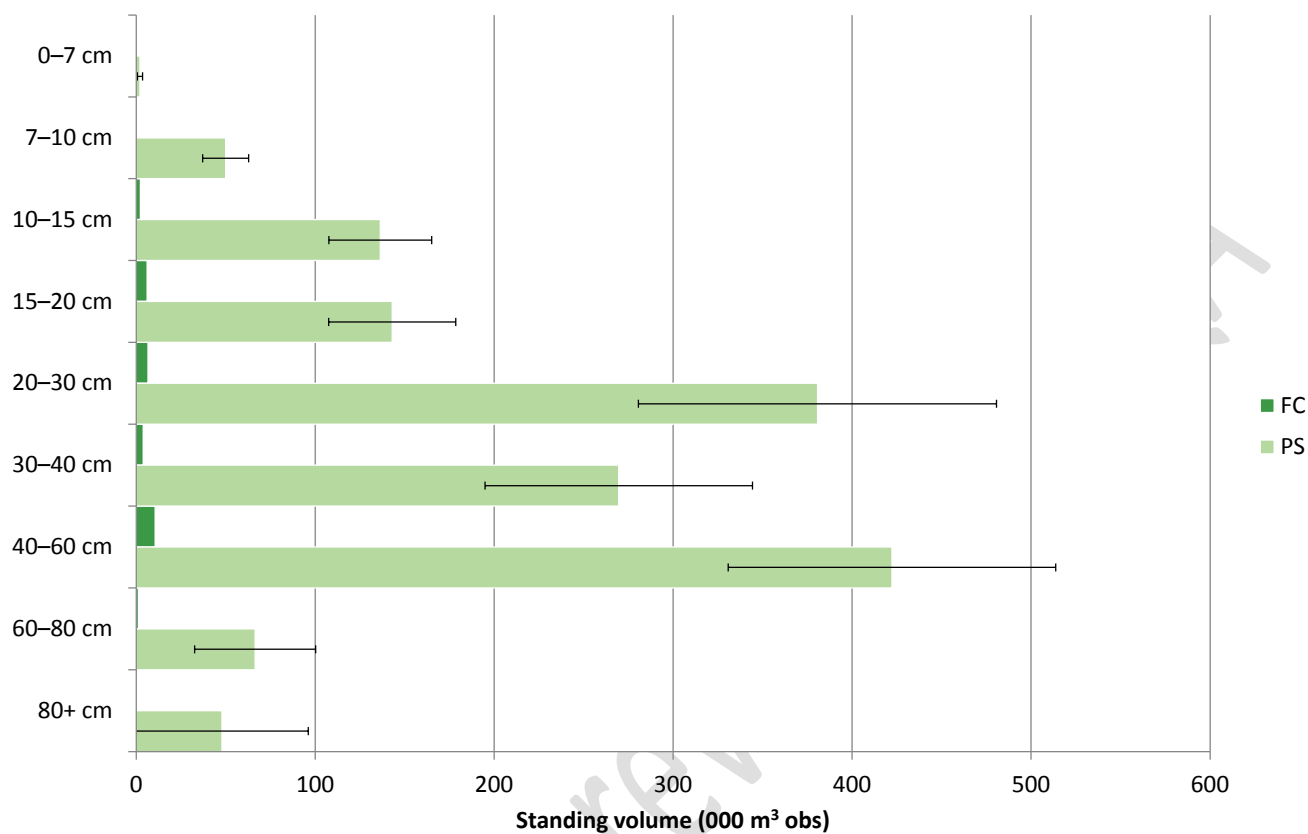
Table 47 Standing volume of ash by mean stand dbh class

Mean stand DBH (cm)	FC volume (000 m³ obs)	Private sector volume (000 m³ obs)	SE%	Total volume (000 m³ obs)
Yorkshire				
0–7	0	2	68	2
7–10	< 1	50	26	50
10–15	2	136	21	139
15–20	6	143	25	149
20–30	7	381	26	387
30–40	4	270	28	273
40–60	11	422	22	433
60–80	1	66	51	68
80+	< 1	48	101	48
Total	**31**	**1,518**	**11**	**1,549**

Part 4 – Tree health

Figure 53 Number of ash trees by age class
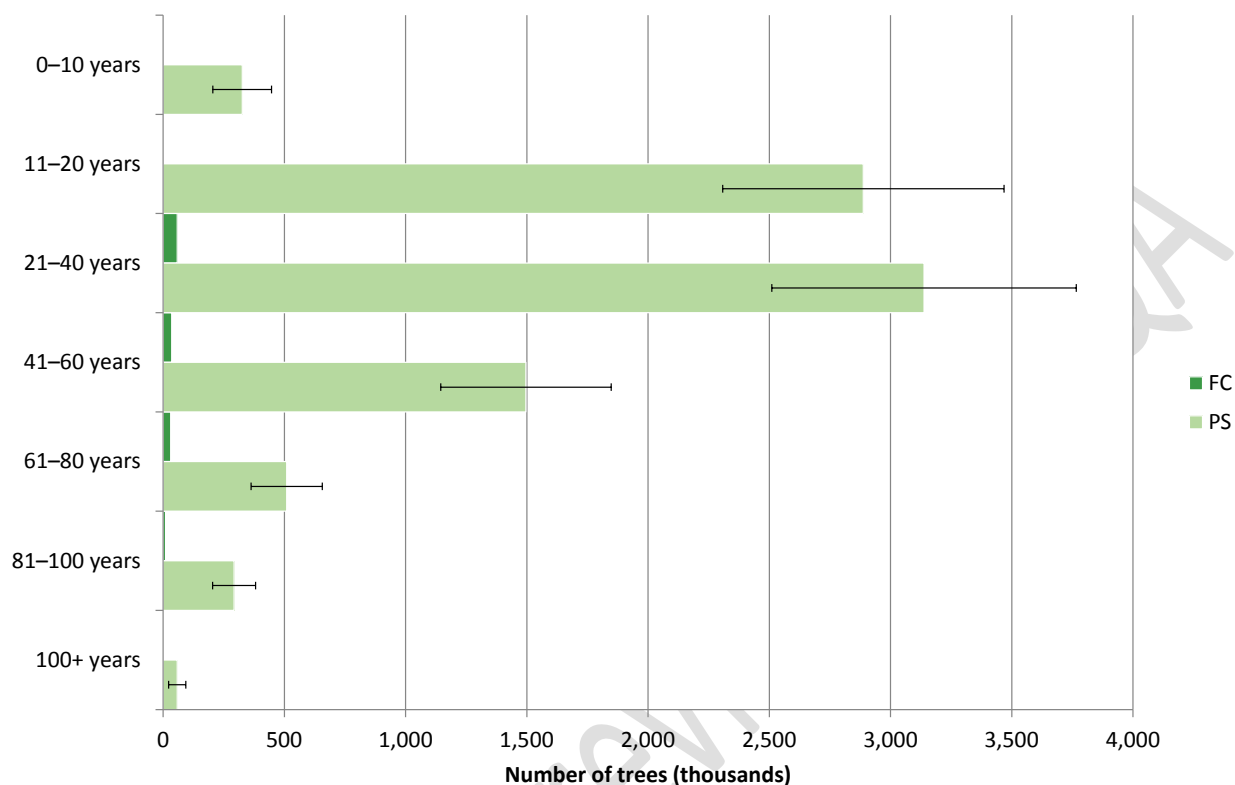
Table 48 Number of ash trees by age class

Age class (years)	FC number of trees (thousands)	Private sector number of trees (thousands)	SE%	Total number of trees (thousands)
Yorkshire				
0–10	0	326	37	326
11–20	2	2,888	20	2,890
21–40	58	3,138	20	3,196
41–60	36	1,496	23	1,532
61–80	31	509	29	540
81–100	10	293	30	303
100+	< 1	58	61	59
Total	**138**	**8,708**	**11**	**8,846**

Part 4 – Tree health

Figure 54 Number of ash trees by mean stand dbh class
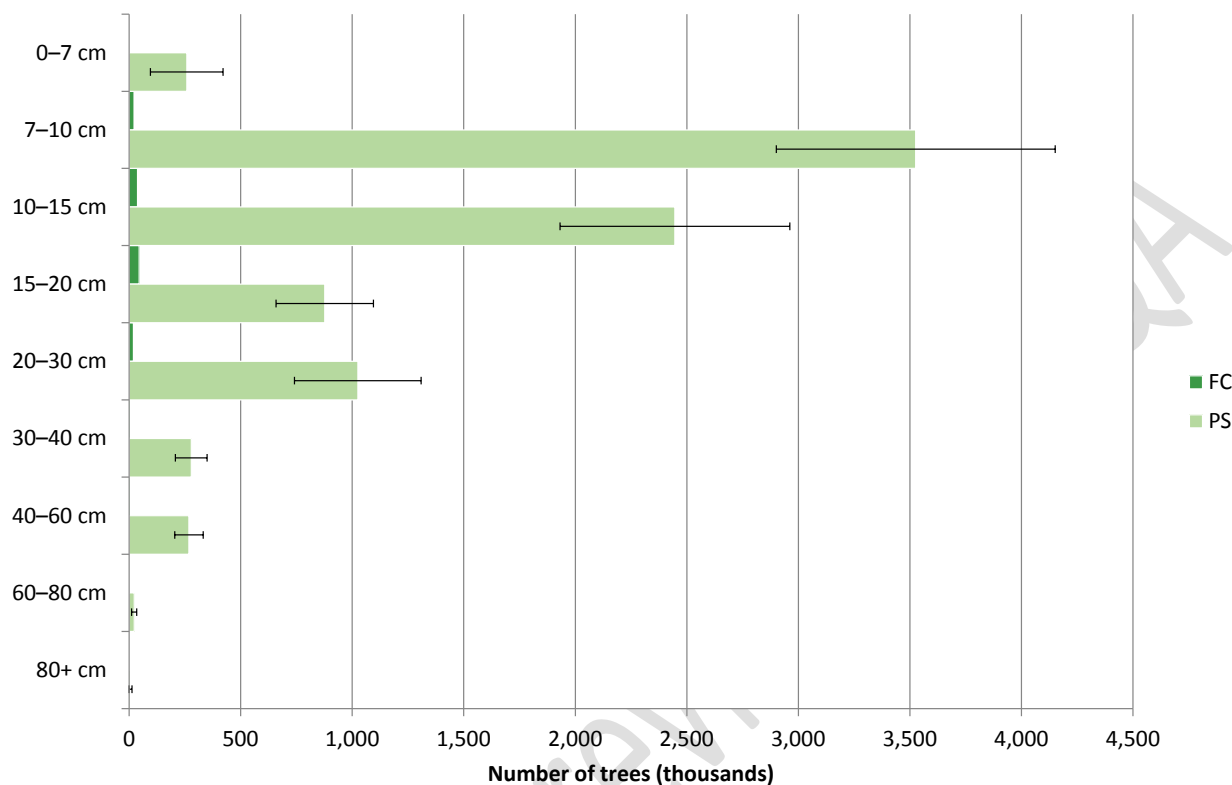
Table 49 Number of ash trees by mean stand dbh class

Mean stand DBH (cm)	FC	Private sector		Total
	number of trees (thousands)	number of trees (thousands)	SE%	number of trees (thousands)
Yorkshire				
0–7	0	259	63	259
7–10	22	3,526	18	3,548
10–15	37	2,446	21	2,484
15–20	45	877	25	922
20–30	20	1,025	28	1,045
30–40	6	279	25	285
40–60	7	268	24	275
60–80	< 1	23	50	23
80+	< 1	6	101	6
Total	**138**	**8,708**	**11**	**8,846**

Figure 55 Ash as a proportion of woodland
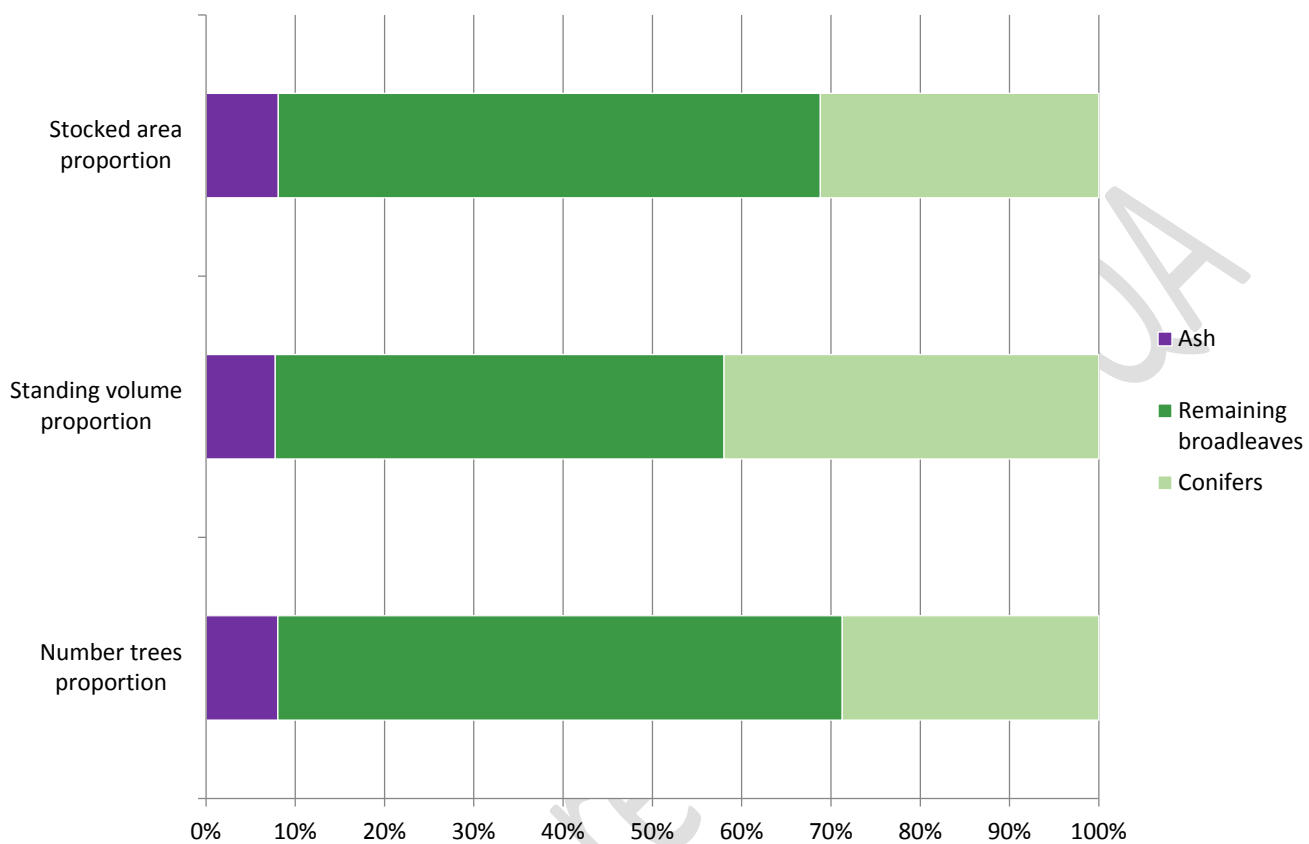
Part 4 – Tree health

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)
Yorkshire	0.2	8.0	*8*	**8.2**

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)
Yorkshire	69.4	100.9	12	8

Table 51 Standing volume of ash as a proportion of woodland

Aligned area	Standing volume of ash			
	FC	Private sector		Total
	volume (000 m^3 obs)	volume (000 m^3 obs)	*SE%*	volume (000 m^3 obs)
Yorkshire	31	1,518	*11*	**1,549**

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 m^3 obs)	volume (000 m^3 obs)	(percent)	(percent)
Yorkshire	11,588	19,962	13	8

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)
Yorkshire	138	8,708	11	**8,846**

Table 52 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)
Yorkshire	78,373	110,045	11	8

Oak

Figure 56 Stocked area of oak by age class
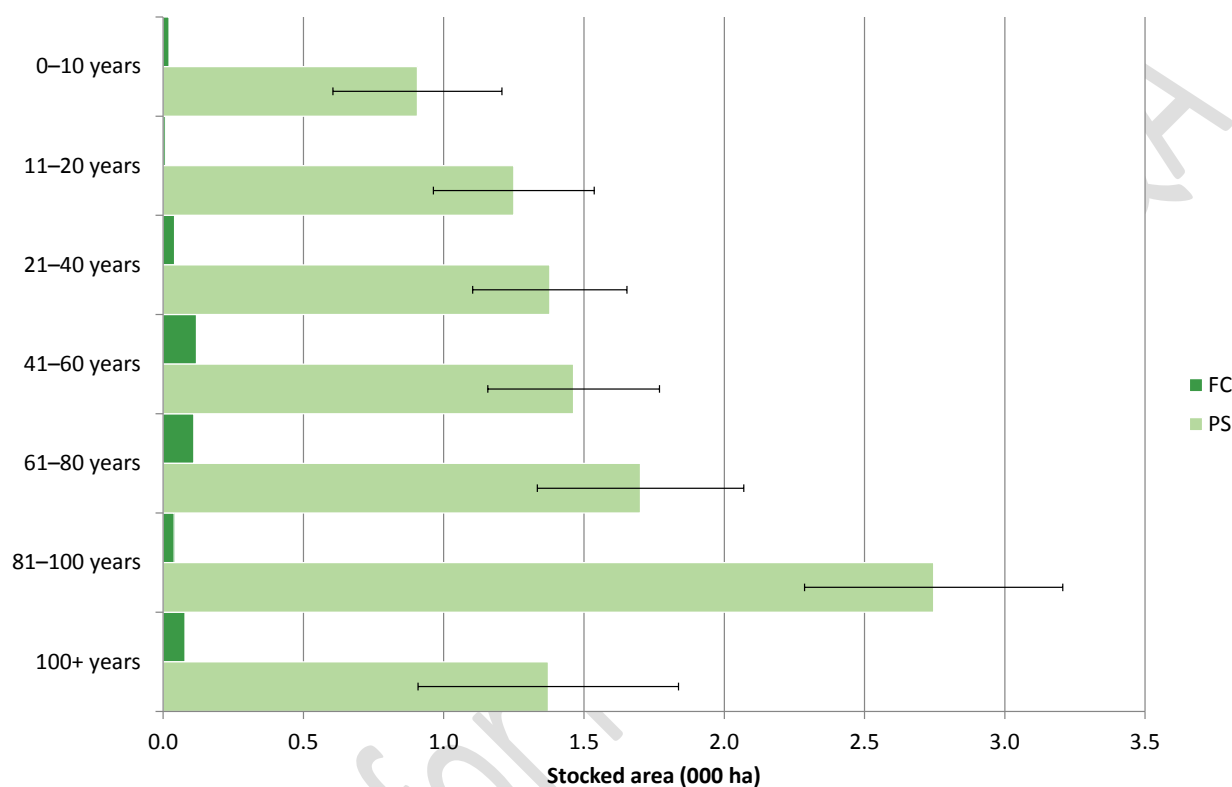
Table 53 Stocked area of oak by age class

Age class (years)	FC area (000 ha)	Private sector area (000 ha)	Private sector SE%	Total area (000 ha)
Yorkshire				
0–10	< 0.1	0.9	33	0.9
11–20	< 0.1	1.3	23	1.3
21–40	< 0.1	1.4	20	1.4
41–60	0.1	1.5	21	1.6
61–80	0.1	1.7	22	1.8
81–100	< 0.1	2.7	17	2.8
100+	< 0.1	1.4	34	1.5
Total	**0.4**	**10.8**	**9**	**11.2**

Part 4 – Tree health

Figure 57 Stocked area of oak by mean stand dbh class
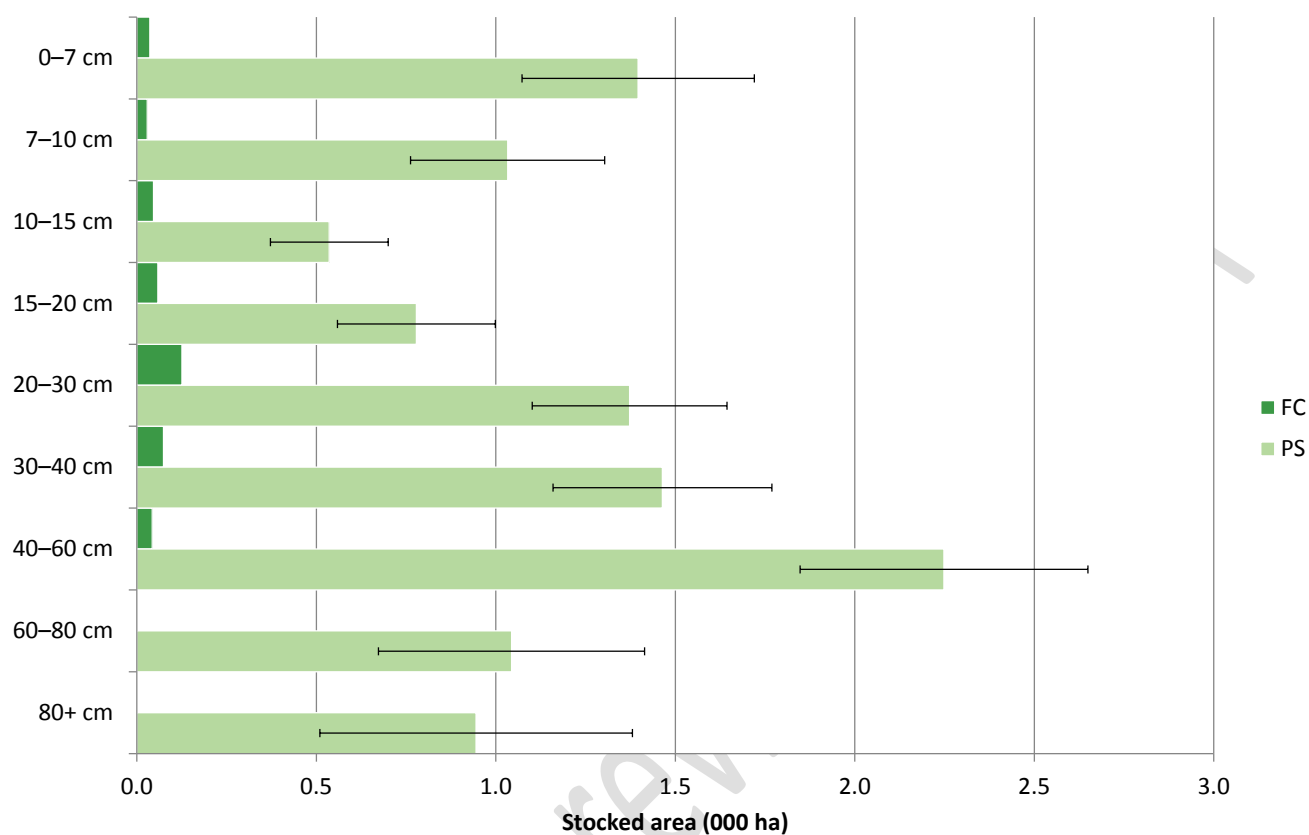
Table 54 Stocked area of oak by mean stand dbh class

Mean stand DBH (cm)	FC area (000 ha)	Private sector area (000 ha)	SE%	Total area (000 ha)
Yorkshire				
0–7	< 0.1	1.4	23	1.4
7–10	< 0.1	1.0	26	1.1
10–15	< 0.1	0.5	31	0.6
15–20	< 0.1	0.8	28	0.8
20–30	0.1	1.4	20	1.5
30–40	< 0.1	1.5	21	1.5
40–60	< 0.1	2.2	18	2.3
60–80	< 0.1	1.0	36	1.0
80+	0.0	0.9	46	0.9
Total	**0.4**	**10.8**	**9**	**11.2**

Part 4 – Tree health

Figure 58 Standing volume of oak by age class
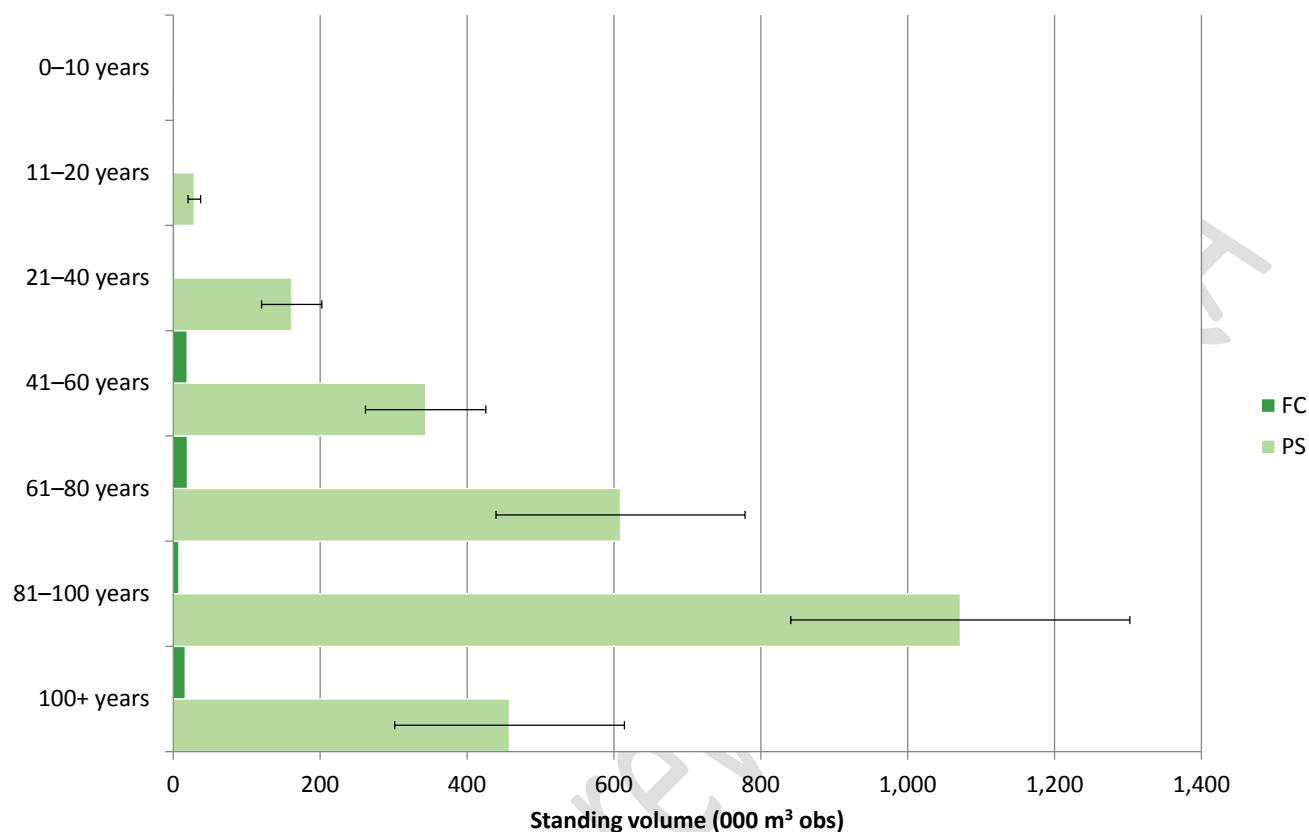
Table 55 Standing volume of oak by age class

Age class (years)	FC volume (000 m³ obs)	Private sector volume (000 m³ obs)	SE%	Total volume (000 m³ obs)
Yorkshire				
0–10	0	0	-	0
11–20	< 1	29	30	29
21–40	2	161	26	163
41–60	19	344	24	363
61–80	19	609	28	628
81–100	8	1,072	22	1,079
100+	16	458	34	474
Total	**64**	**2,672**	**12**	**2,736**

Part 4 – Tree health

Figure 59 Standing volume of oak by mean stand dbh class
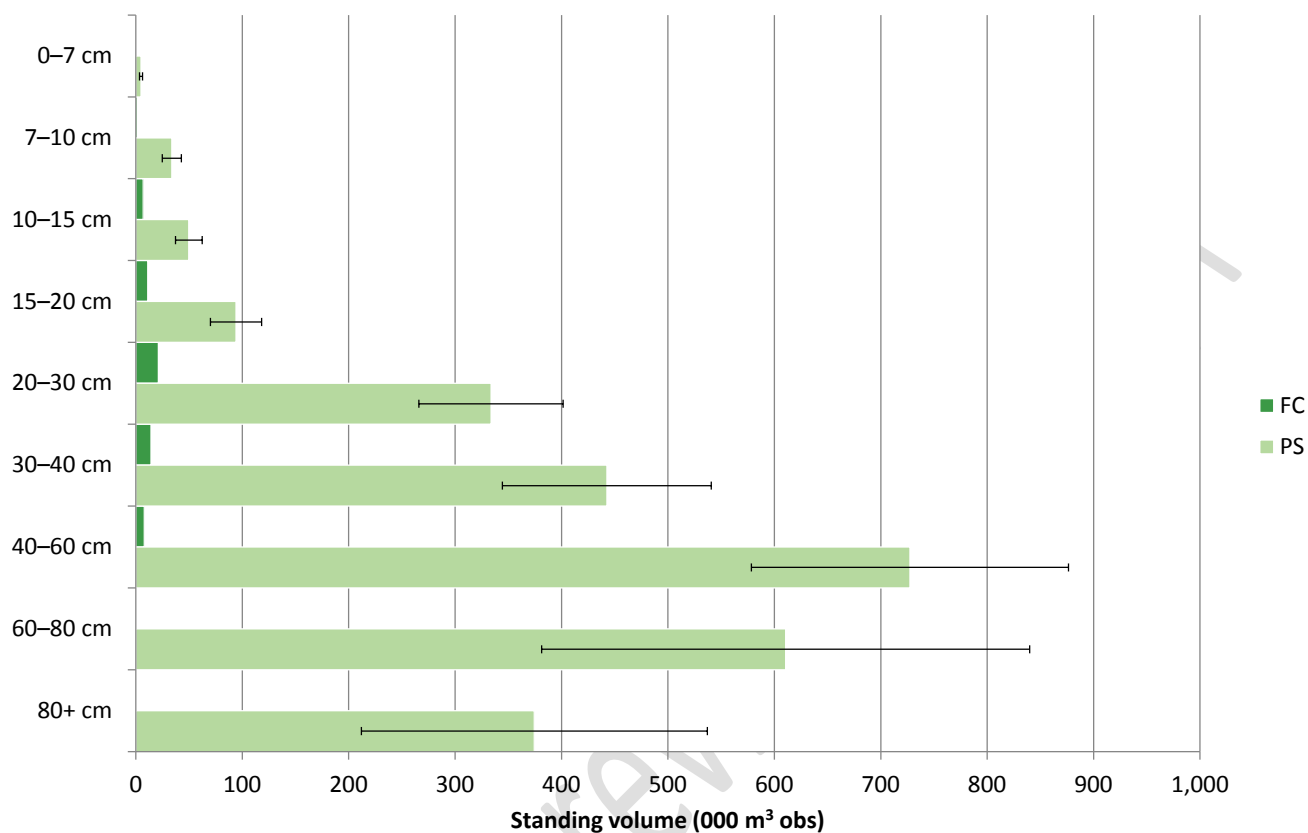
Table 56 Standing volume of oak by mean stand dbh class

Mean stand DBH (cm)	FC volume (000 m³ obs)	Private sector volume (000 m³ obs)	SE%	Total volume (000 m³ obs)
Yorkshire				
0–7	< 1	5	27	5
7–10	2	34	26	36
10–15	7	50	25	57
15–20	11	94	26	105
20–30	21	334	20	355
30–40	14	443	22	457
40–60	8	727	20	735
60–80	< 1	611	38	611
80+	0	374	43	374
Total	**64**	**2,672**	**12**	**2,736**

Part 4 – Tree health

Figure 60 Number of oak trees by age class
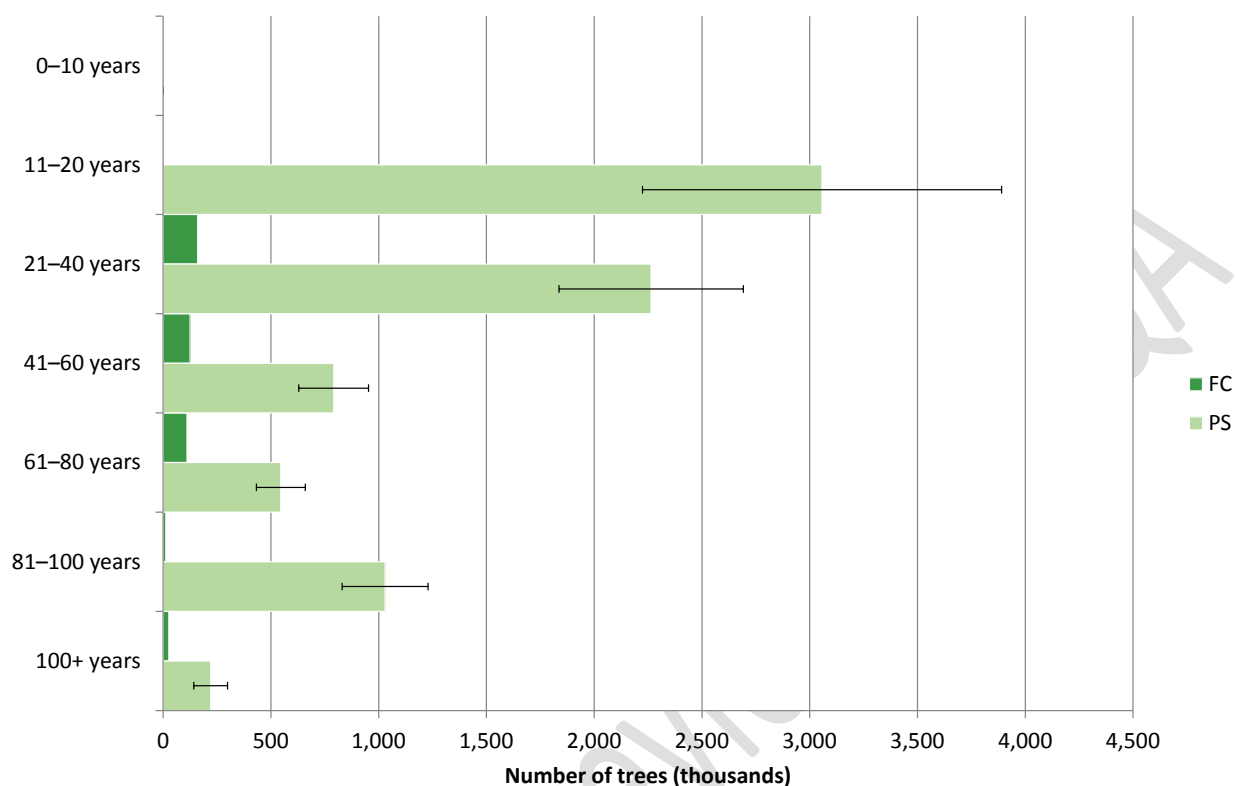
Table 57 Number of oak trees by age class

Age class (years)	FC number of trees (thousands)	Private sector number of trees (thousands)	SE%	Total number of trees (thousands)
Yorkshire				
0–10	0	0	-	**0**
11–20	2	3,057	27	**3,059**
21–40	160	2,264	19	**2,424**
41–60	125	791	21	**917**
61–80	111	546	21	**657**
81–100	13	1,030	19	**1,043**
100+	27	221	35	**247**
Total	**438**	**7,909**	**12**	**8,347**

Part 4 – Tree health

Figure 61 Number of oak trees by mean stand dbh class
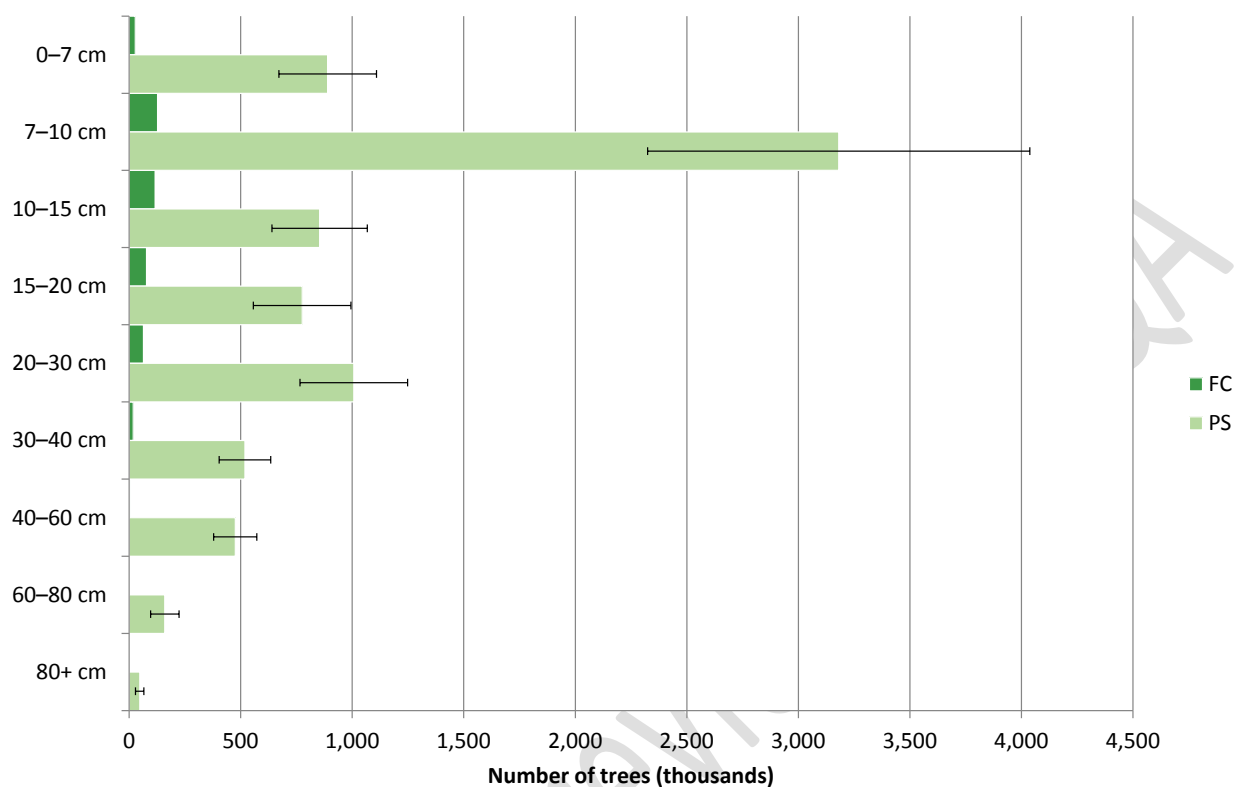
Table 58 Number of oak trees by mean stand dbh class

Mean stand DBH (cm)	FC	Private sector		Total
	number of trees (thousands)	number of trees (thousands)	*SE%*	number of trees (thousands)
Yorkshire				
0–7	27	890	25	**917**
7–10	128	3,181	27	**3,309**
10–15	117	854	25	**970**
15–20	78	776	28	**853**
20–30	64	1,007	24	**1,071**
30–40	18	519	22	**538**
40–60	6	476	20	**481**
60–80	< 1	160	40	**160**
80+	0	47	39	**47**
Total	**438**	**7,909**	*12*	**8,347**

Part 4 – Tree health

Figure 62 Oak as a proportion of woodland
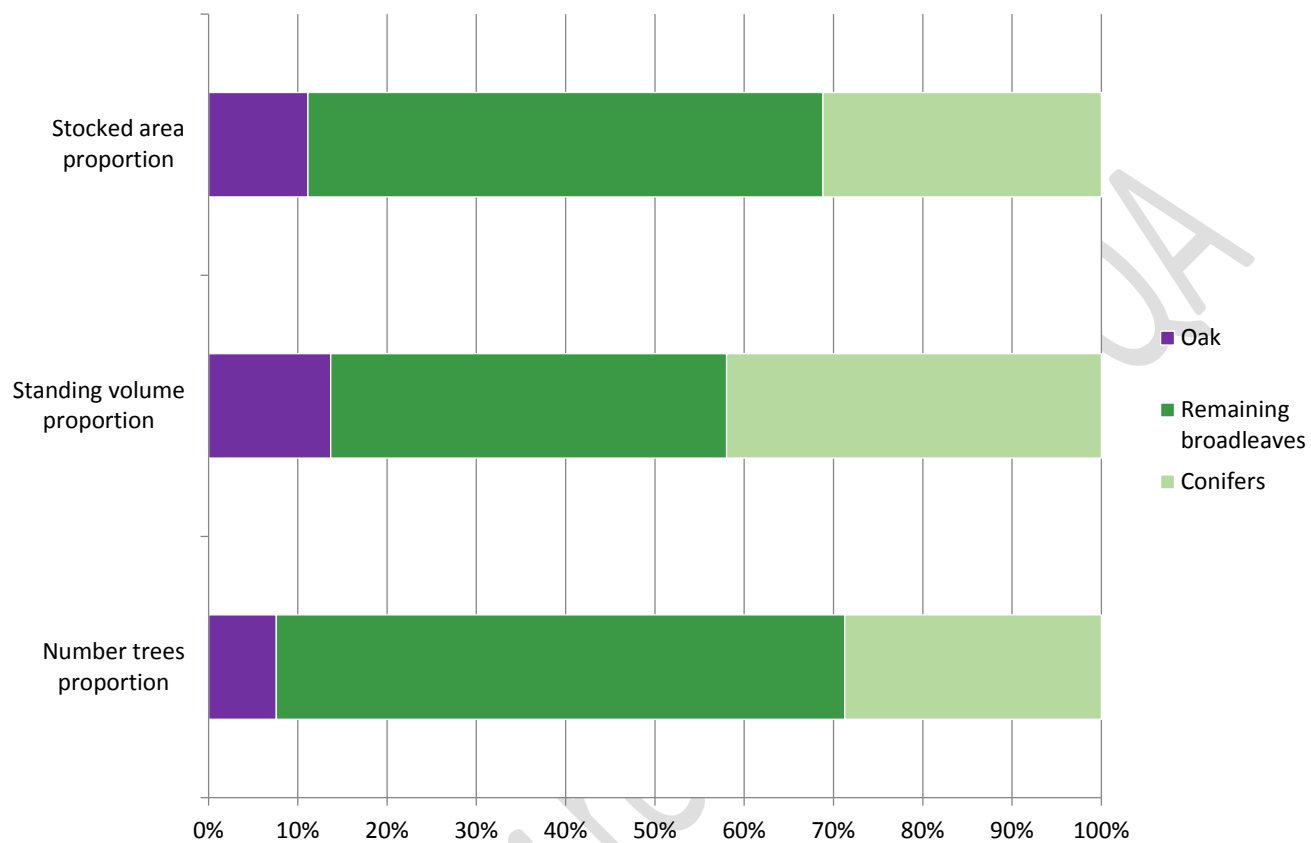
Part 4 – Tree health

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)
Yorkshire	0.4	10.8	9	**11.2**

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)
Yorkshire	69.4	100.9	16	11

Table 60 Standing volume of oak as a proportion of woodland

Aligned area	Standing volume of oak			
	FC	Private sector		Total
	volume (000 m^3 obs)	volume (000 m^3 obs)	*SE%*	volume (000 m^3 obs)
Yorkshire	64	2,672	12	**2,736**

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 m^3 obs)	volume (000 m^3 obs)	(percent)	(percent)
Yorkshire	11,588	19,962	24	14

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)
Yorkshire	438	7,909	12	**8,347**

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)
Yorkshire	78,373	110,045	11	8

Sweet chestnut

Figure 63 Stocked area of sweet chestnut by age class
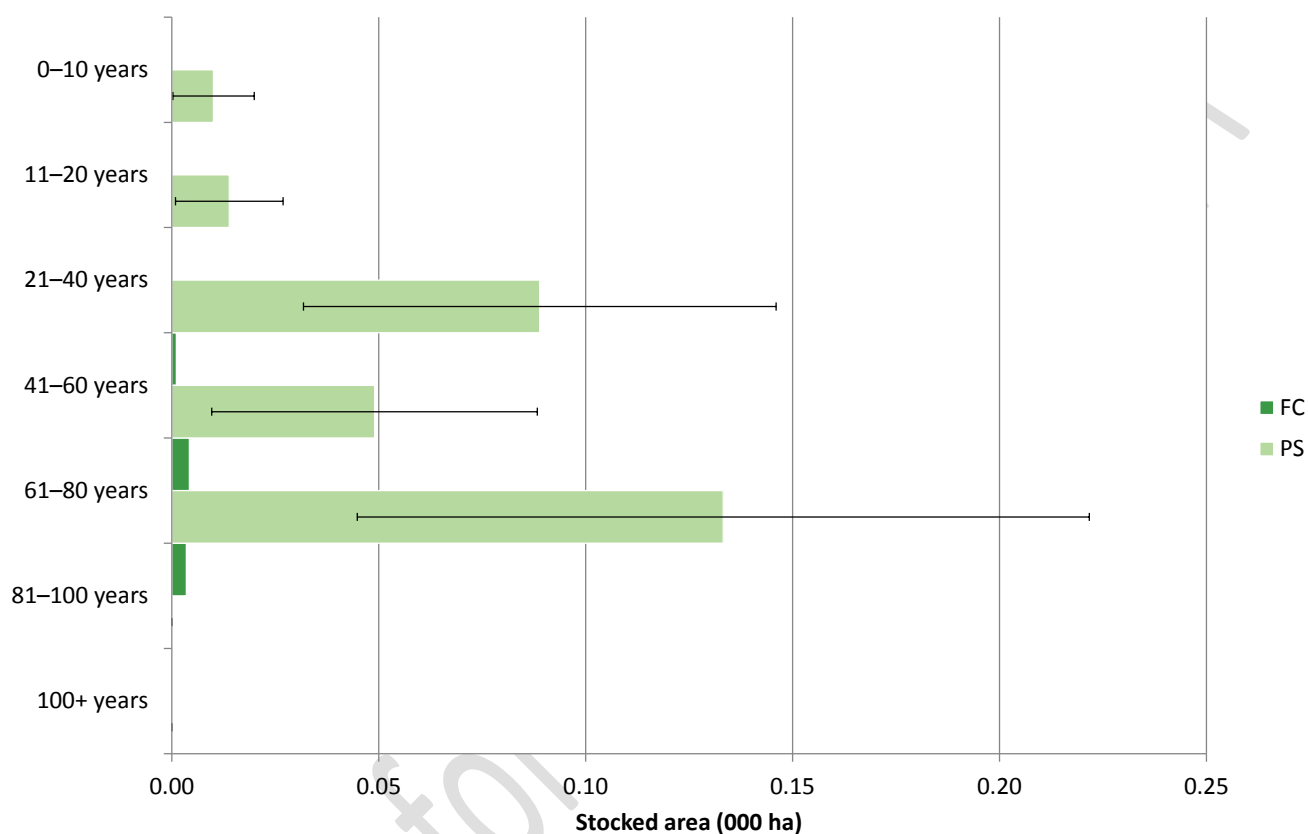
Table 62 Stocked area of sweet chestnut by age class

Age class (years)	FC area (000 ha)	Private sector area (000 ha)	SE%	Total area (000 ha)
Yorkshire				
0–10	0.0	< 0.1	98	< 0.1
11–20	0.0	< 0.1	94	< 0.1
21–40	0.0	< 0.1	64	< 0.1
41–60	< 0.1	< 0.1	80	< 0.1
61–80	< 0.1	0.1	66	0.1
81–100	< 0.1	0.0	-	< 0.1
100+	0.0	0.0	-	0.0
Total	**< 0.1**	0.3	39	0.3

Part 4 – Tree health

Figure 64 Stocked area of sweet chestnut by mean stand dbh class
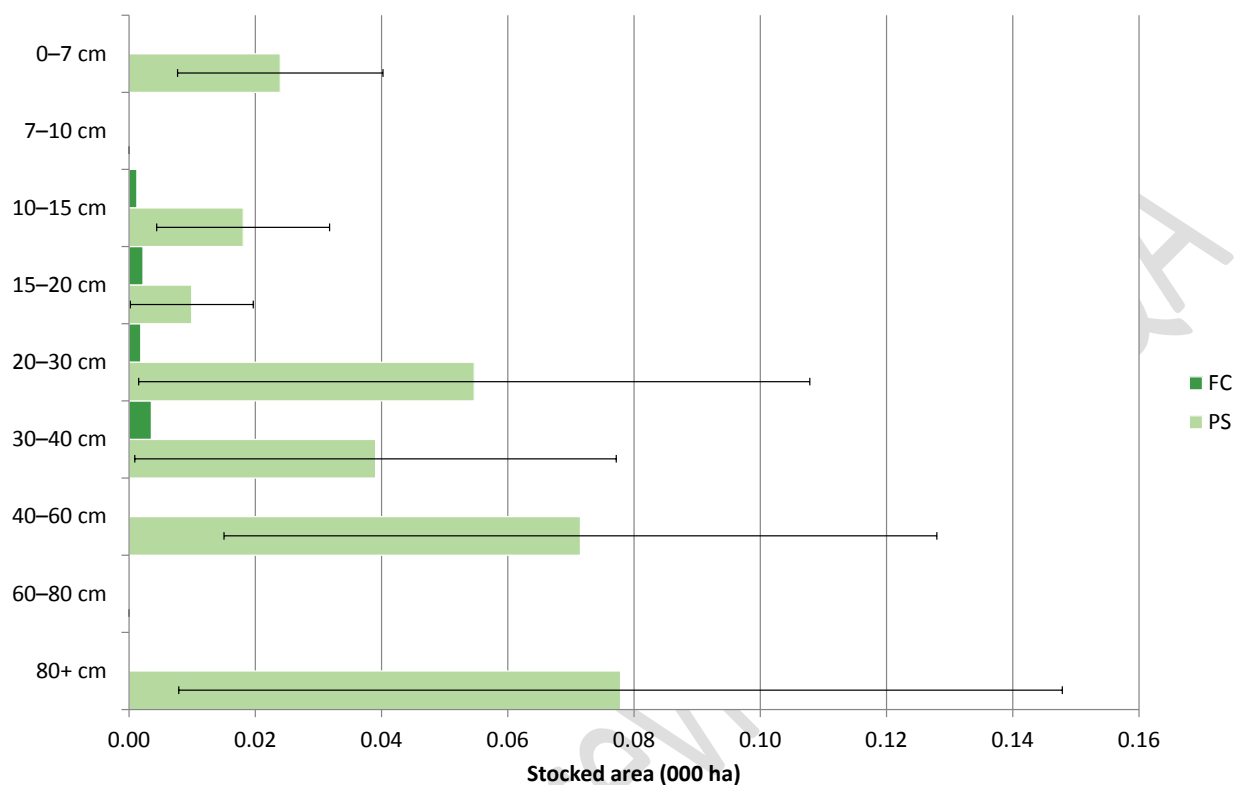
Table 63 Stocked area of sweet chestnut by mean stand dbh class

Mean stand DBH (cm)	FC area (000 ha)	Private sector area (000 ha)	SE%	Total area (000 ha)
Yorkshire				
0–7	0.0	< 0.1	68	< 0.1
7–10	0.0	0.0	-	0.0
10–15	< 0.1	< 0.1	76	< 0.1
15–20	< 0.1	< 0.1	98	< 0.1
20–30	< 0.1	< 0.1	97	< 0.1
30–40	< 0.1	< 0.1	98	< 0.1
40–60	0.0	< 0.1	79	< 0.1
60–80	0.0	0.0	-	0.0
80+	0.0	< 0.1	90	< 0.1
Total	**< 0.1**	0.3	39	0.3

Part 4 – Tree health

Figure 65 Standing volume of sweet chestnut by age class
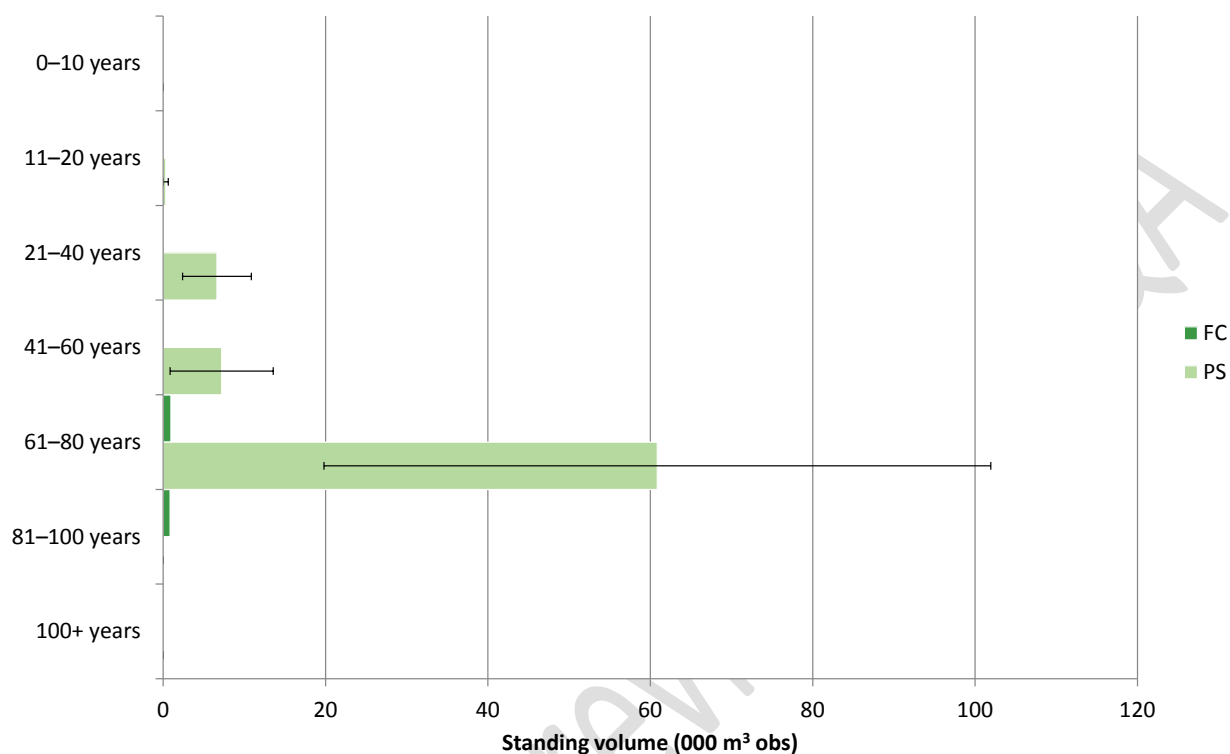
Table 64 Standing volume of sweet chestnut by age class

Age class (years)	FC volume (000 m³ obs)	Private sector volume (000 m³ obs)	SE%	Total volume (000 m³ obs)
Yorkshire				
0–10	0	0	-	**0**
11–20	0	< 1	98	**< 1**
21–40	0	7	64	**7**
41–60	< 1	7	88	**7**
61–80	< 1	61	67	**62**
81–100	< 1	0	-	**< 1**
100+	0	0	-	**0**
Total	**2**	**75**	**56**	**77**

Part 4 – Tree health

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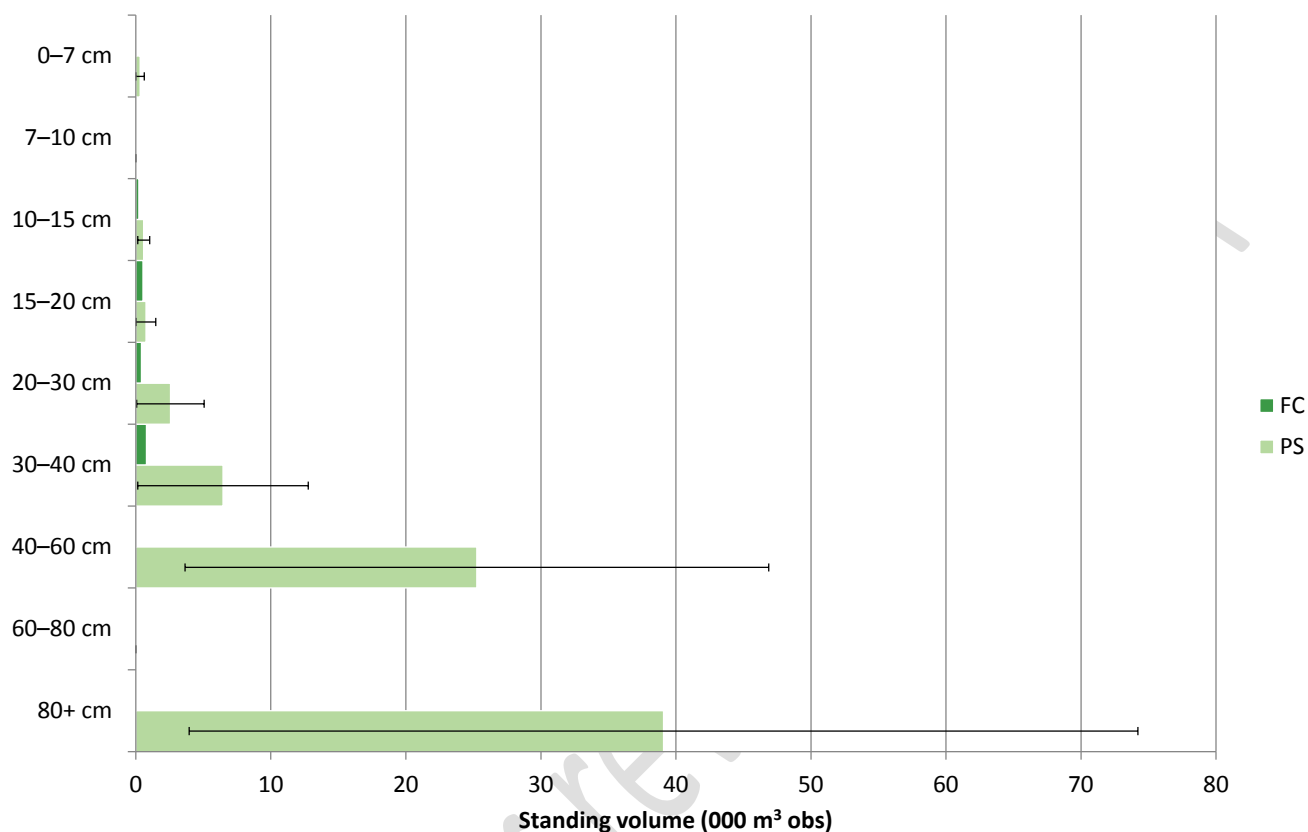
Table 65 Standing volume of sweet chestnut by mean stand dbh class

Mean stand DBH (cm)	FC volume (000 m³ obs)	Private sector volume (000 m³ obs)	SE%	Total volume (000 m³ obs)
Yorkshire				
0–7	0	< 1	98	< 1
7–10	0	0	-	0
10–15	< 1	< 1	76	< 1
15–20	< 1	< 1	98	1
20–30	< 1	3	97	3
30–40	< 1	6	98	7
40–60	0	25	86	25
60–80	0	0	-	0
80+	0	39	90	39
Total	**2**	**75**	**56**	**77**

Part 4 – Tree health

Figure 66 Number of sweet chestnut trees by age class

Table 66 Number of sweet chestnut trees by age class

Age class (years)	FC number of trees (thousands)	Private sector number of trees (thousands)	SE%	Total number of trees (thousands)
Yorkshire				
0–10	0	0	-	**0**
11–20	0	63	96	**63**
21–40	0	27	58	**27**
41–60	2	12	69	**14**
61–80	6	20	72	**26**
81–100	2	0	-	**2**
100+	0	0	-	**0**
Total	**9**	**122**	**53**	**131**

Part 4 – Tree health

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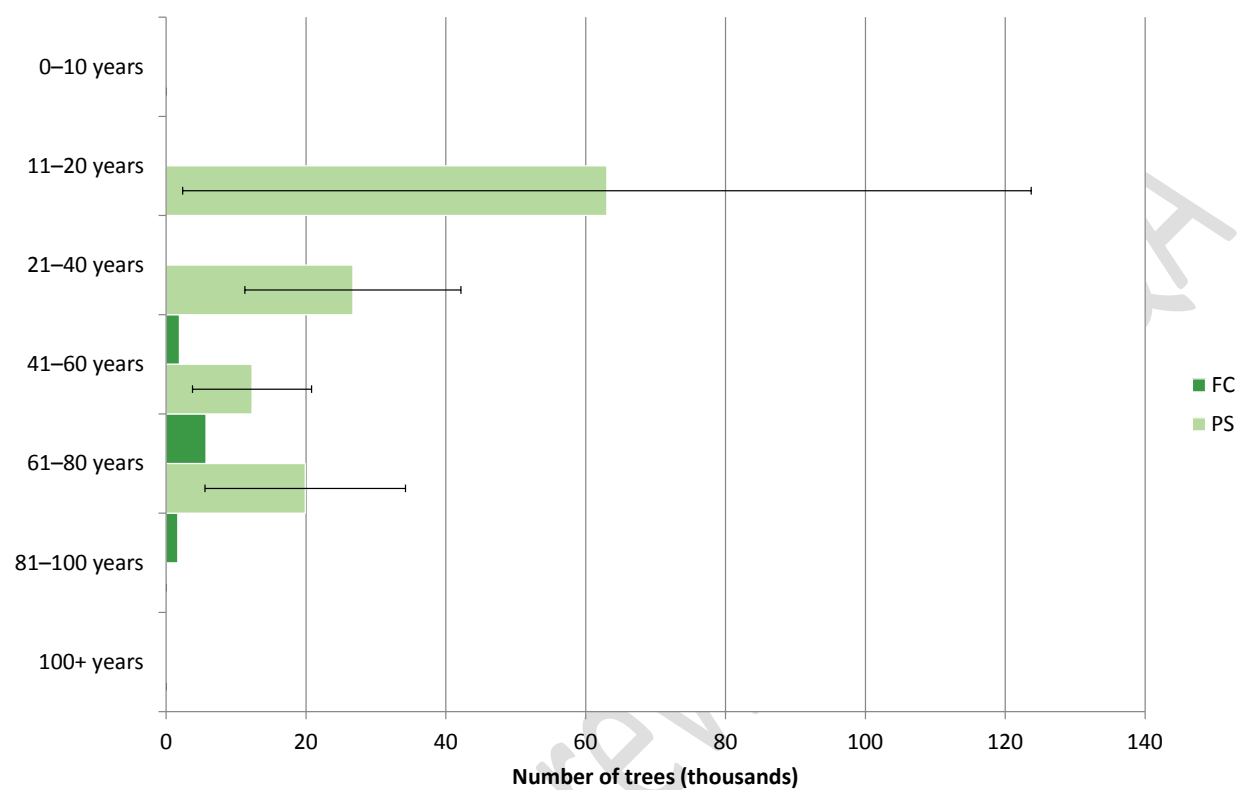
Table 67 Number of sweet chestnut trees by mean stand dbh class

Mean stand DBH (cm)	FC number of trees (thousands)	Private sector number of trees (thousands)	SE%	Total number of trees (thousands)
Yorkshire				
0–7	0	63	96	63
7–10	0	0	-	0
10–15	3	11	76	14
15–20	3	6	98	9
20–30	2	13	97	15
30–40	1	7	98	8
40–60	0	16	83	16
60–80	0	0	-	0
80+	0	7	90	7
Total	**9**	**122**	**53**	**131**

Part 4 – Tree health

Figure 68 Sweet chestnut as a proportion of woodland
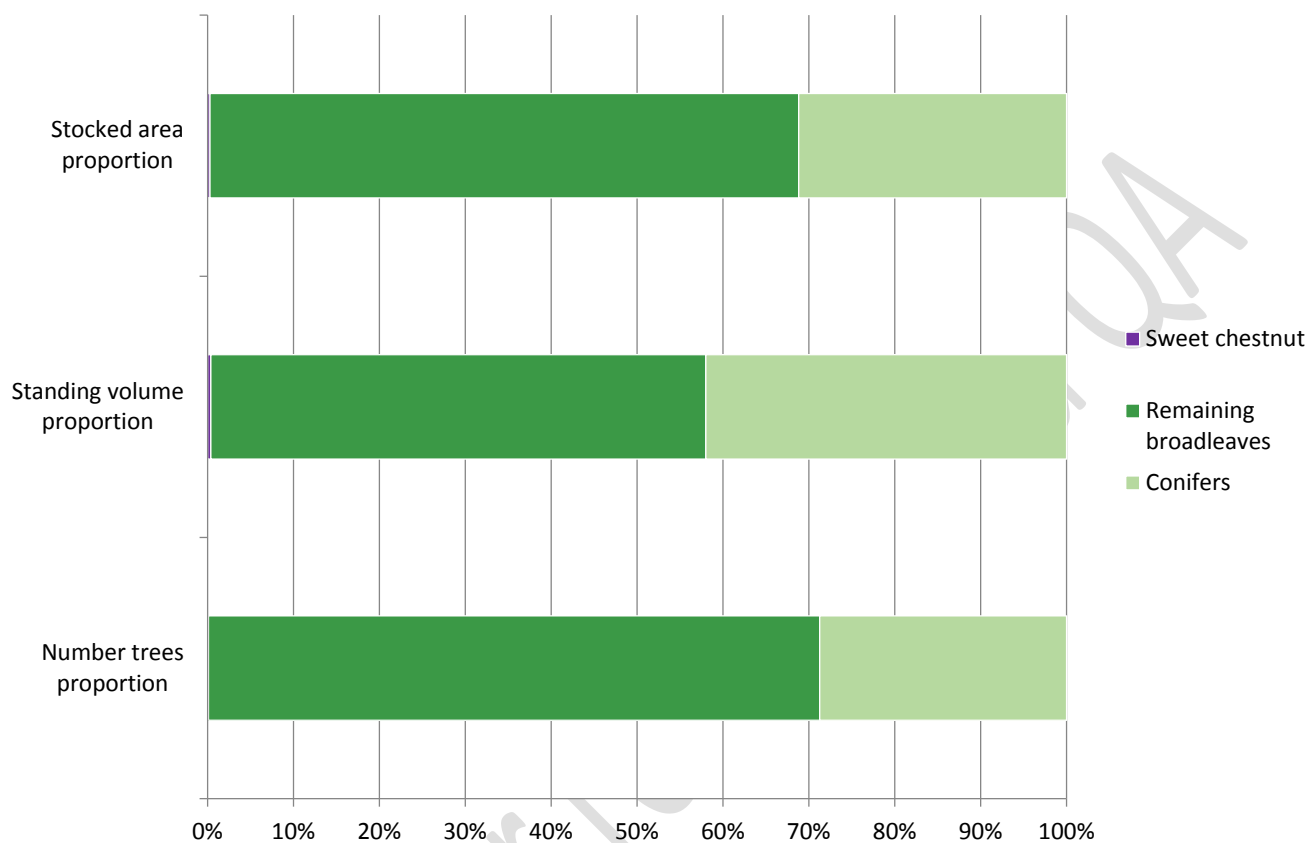
Part 4 – Tree health

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)
Yorkshire	< 0.1	0.3	*39*	**0.3**

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)
Yorkshire	69.4	100.9	0	0

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 m^3 obs)	volume (000 m^3 obs)	*SE%*	volume (000 m^3 obs)
Yorkshire	2	75	56	**77**

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 m^3 obs)	volume (000 m^3 obs)	(percent)	(percent)
Yorkshire	11,588	19,962	1	0

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)
Yorkshire	9	122	53	131

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)
Yorkshire	78,373	110,045	0	0

Larch

Figure 69 Stocked area of larch by age class
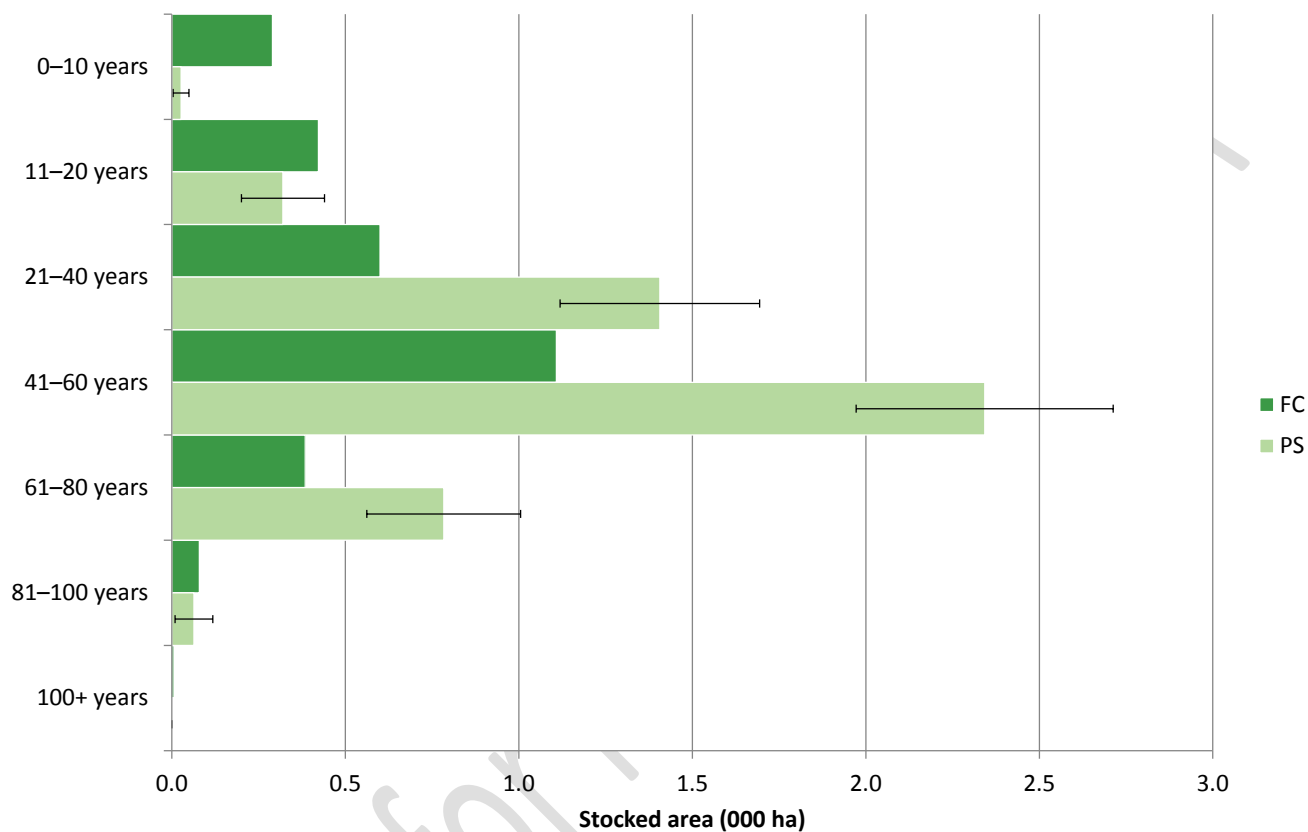
Table 71 Stocked area of larch by age class

Age class (years)	FC area (000 ha)	Private sector area (000 ha)	SE%	Total area (000 ha)
Yorkshire				
0–10	0.3	< 0.1	87	0.3
11–20	0.4	0.3	37	0.7
21–40	0.6	1.4	20	2.0
41–60	1.1	2.3	16	3.5
61–80	0.4	0.8	28	1.2
81–100	< 0.1	< 0.1	85	0.1
100+	< 0.1	0.0	-	< 0.1
Total	**2.9**	**4.9**	**10**	**7.8**

Part 4 – Tree health

Figure 70 Stocked area of larch by mean stand dbh class
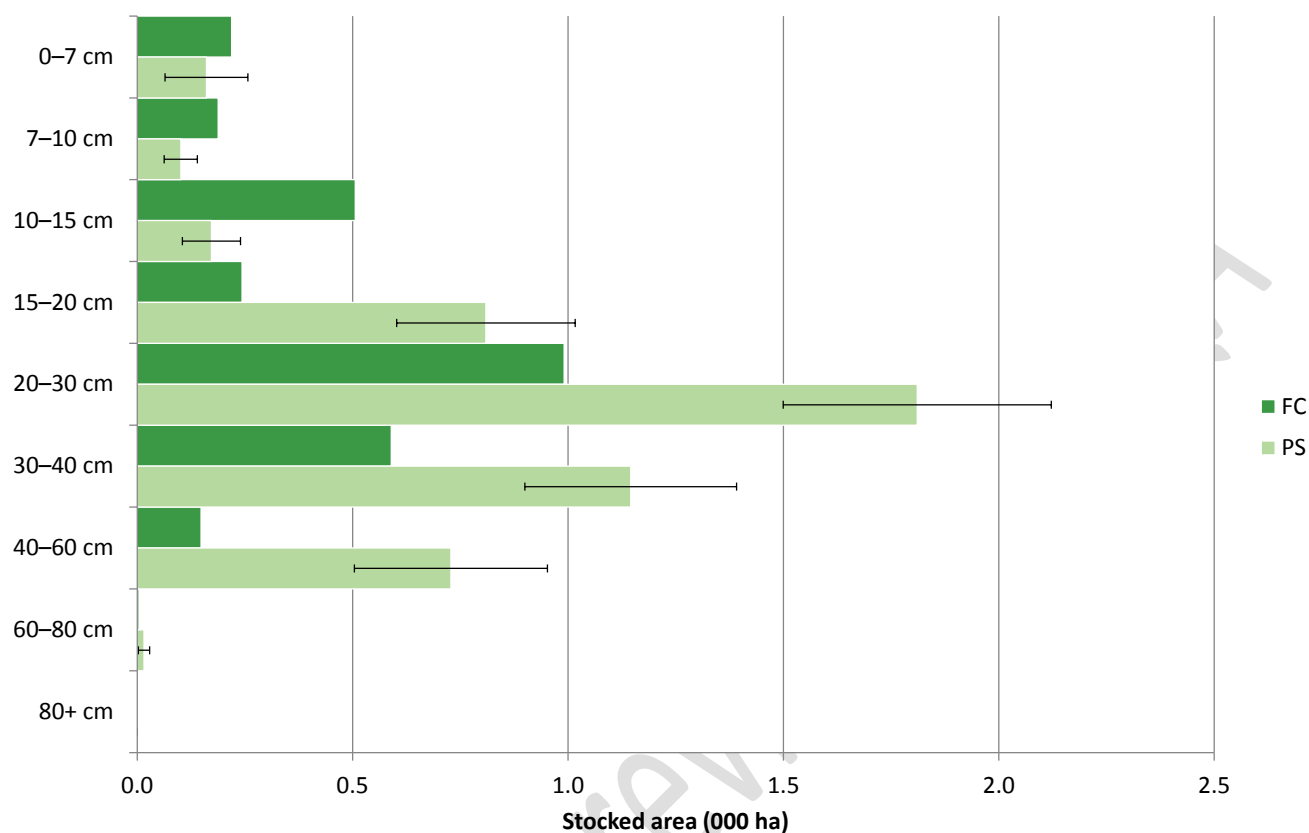
Table 72 Stocked area of larch by mean stand dbh class

Mean stand DBH (cm)	FC area (000 ha)	Private sector area (000 ha)	SE%	Total area (000 ha)
Yorkshire				
0–7	0.2	0.2	60	0.4
7–10	0.2	0.1	38	0.3
10–15	0.5	0.2	39	0.7
15–20	0.2	0.8	26	1.1
20–30	1.0	1.8	17	2.8
30–40	0.6	1.1	21	1.7
40–60	0.1	0.7	31	0.9
60–80	< 0.1	< 0.1	83	< 0.1
80+	< 0.1	0.0	-	< 0.1
Total	**2.9**	**4.9**	*10*	**7.8**

Part 4 – Tree health

Figure 71 Standing volume of larch by age class
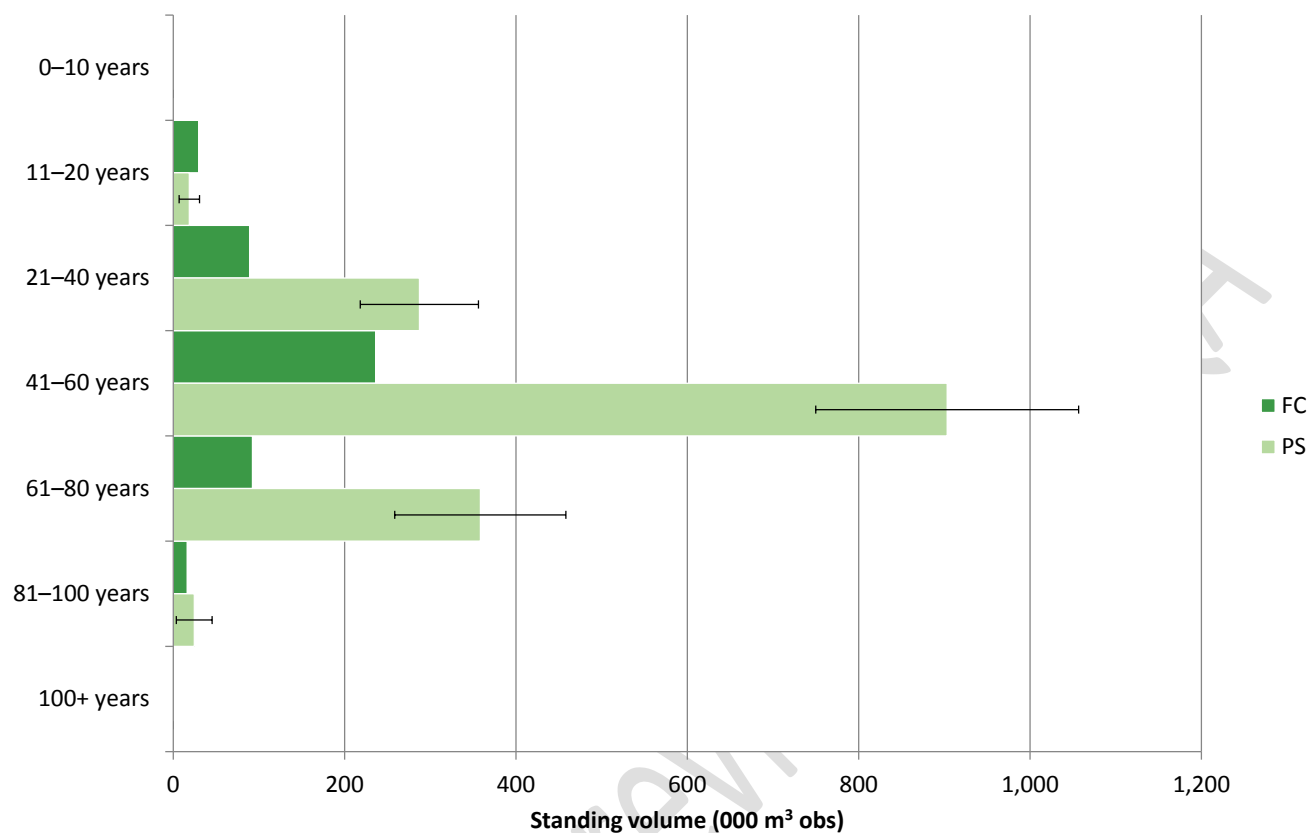
Table 73 Standing volume of larch by age class

Age class (years)	FC volume (000 m³ obs)	Private sector volume (000 m³ obs)	SE%	Total volume (000 m³ obs)
Yorkshire				
0–10	1	0	-	1
11–20	30	19	64	48
21–40	89	287	24	376
41–60	236	903	17	1,139
61–80	92	358	28	451
81–100	16	24	85	41
100+	1	0	-	1
Total	**466**	**1,592**	**11**	**2,058**

Part 4 – Tree health

Figure 72 Standing volume of larch by mean stand dbh class
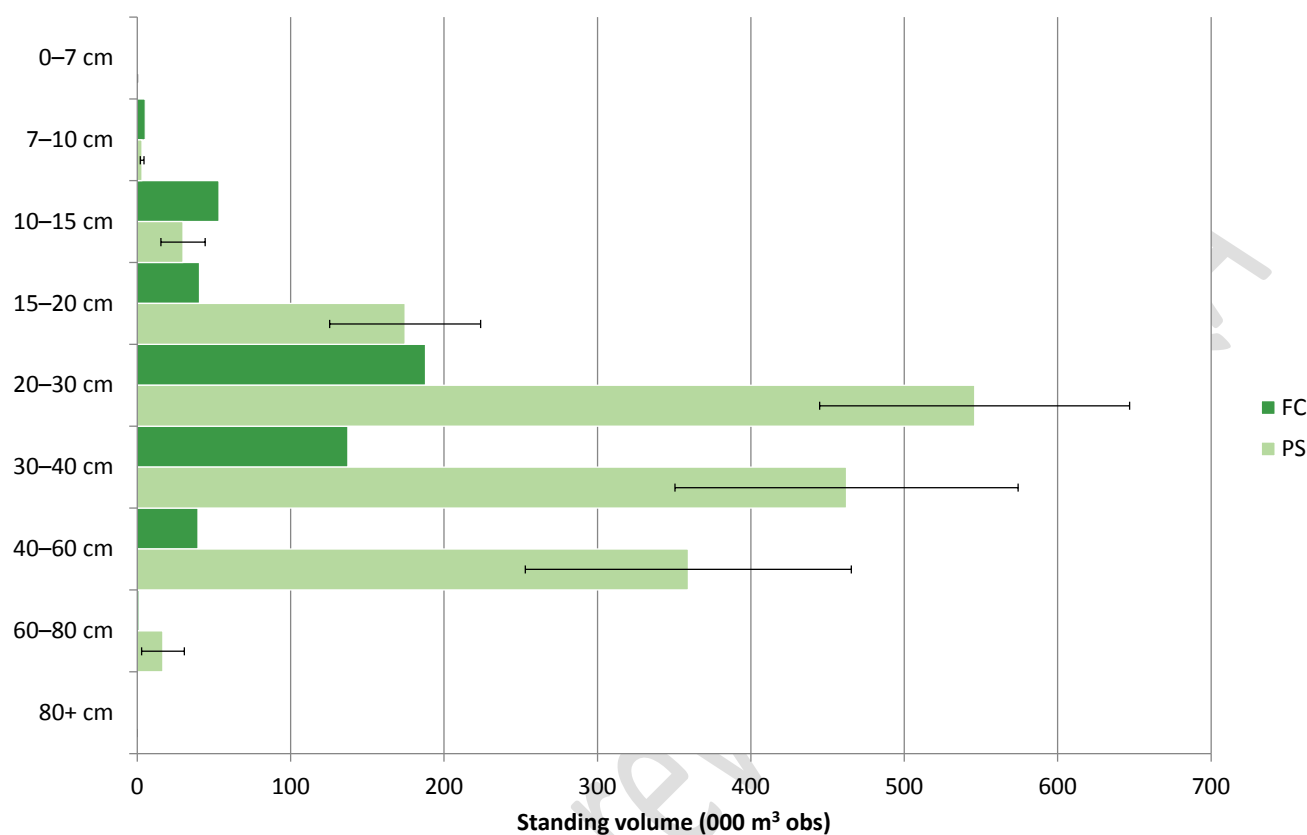
Table 74 Standing volume of larch by mean stand dbh class

Mean stand DBH (cm)	FC volume (000 m³ obs)	Private sector volume (000 m³ obs)	SE%	Total volume (000 m³ obs)
Yorkshire				
0–7	< 1	< 1	54	< 1
7–10	< 1	< 1	38	< 1
10–15	< 1	< 1	48	< 1
15–20	< 1	< 1	28	< 1
20–30	188	546	19	734
30–40	137	462	24	600
40–60	< 1	< 1	30	< 1
60–80	< 1	< 1	83	< 1
80+	0	0	-	0
Total	**466**	**1,592**	*11*	**2,058**

Part 4 – Tree health

Figure 73 Number of larch trees by age class
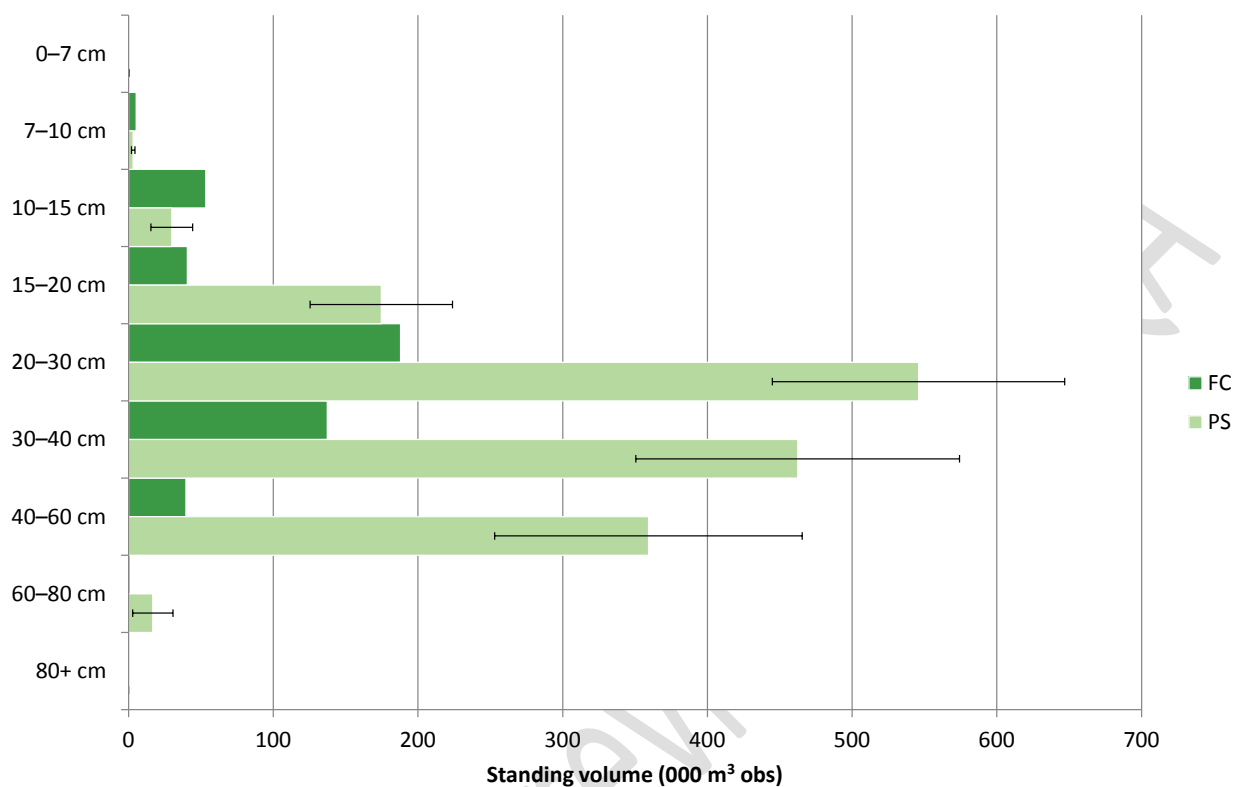
Table 75 Number of larch trees by age class

Age class (years)	FC number of trees (thousands)	Private sector number of trees (thousands)	SE%	Total number of trees (thousands)
Yorkshire				
0–10	253	0	-	**253**
11–20	1,182	606	45	**1,787**
21–40	782	1,463	22	**2,245**
41–60	536	1,609	19	**2,145**
61–80	124	296	24	**419**
81–100	25	21	80	**46**
100+	7	0	-	**7**
Total	**2,909**	**3,994**	**12**	**6,903**

Part 4 – Tree health

Figure 74 Number of larch trees by mean stand dbh class
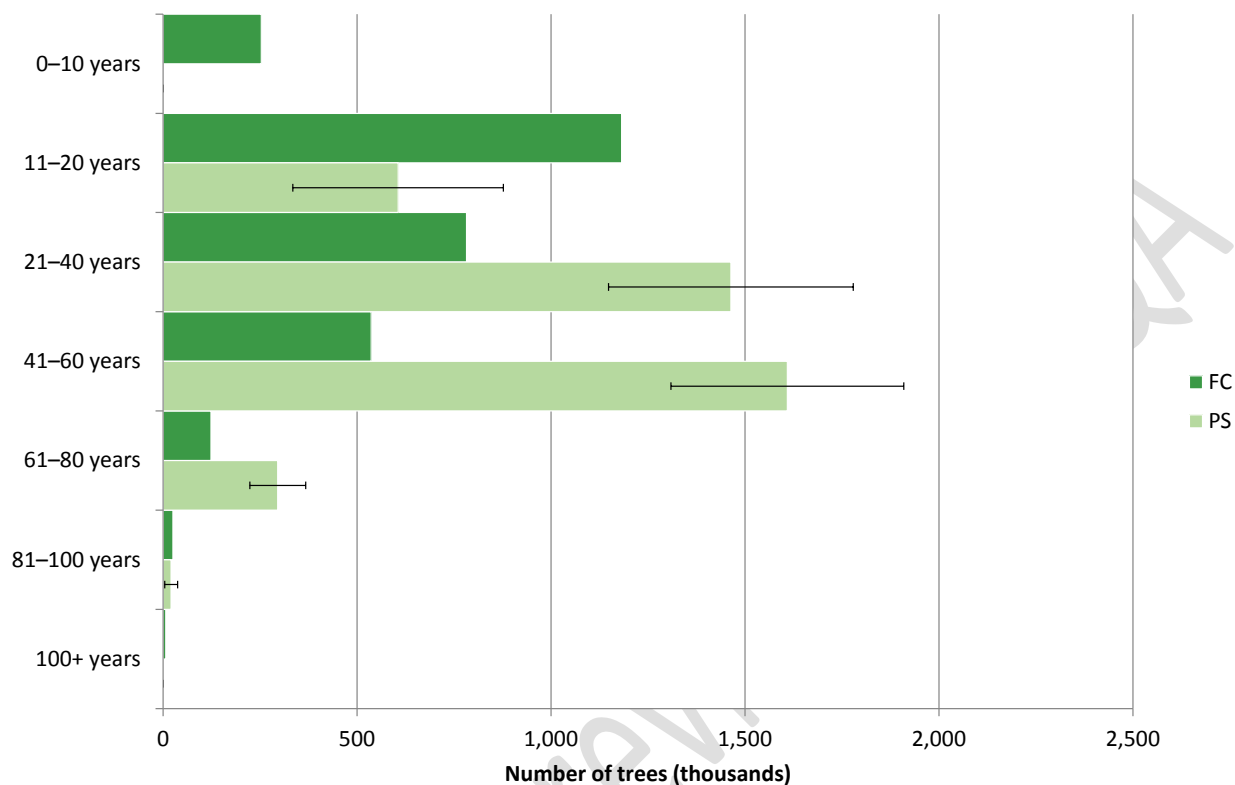
Table 76 Number of larch trees by mean stand dbh class

Mean stand DBH (cm)	FC	Private sector		Total
	number of trees (thousands)	number of trees (thousands)	SE%	number of trees (thousands)
Yorkshire				
0–7	59	331	72	390
7–10	519	202	33	721
10–15	1,361	388	43	1,749
15–20	287	1,007	27	1,294
20–30	502	1,341	18	1,843
30–40	156	514	24	670
40–60	25	206	30	231
60–80	< 1	5	83	6
80+	< 1	0	-	< 1
Total	**2,909**	**3,994**	**12**	**6,903**

Figure 75 Larch as a proportion of woodland
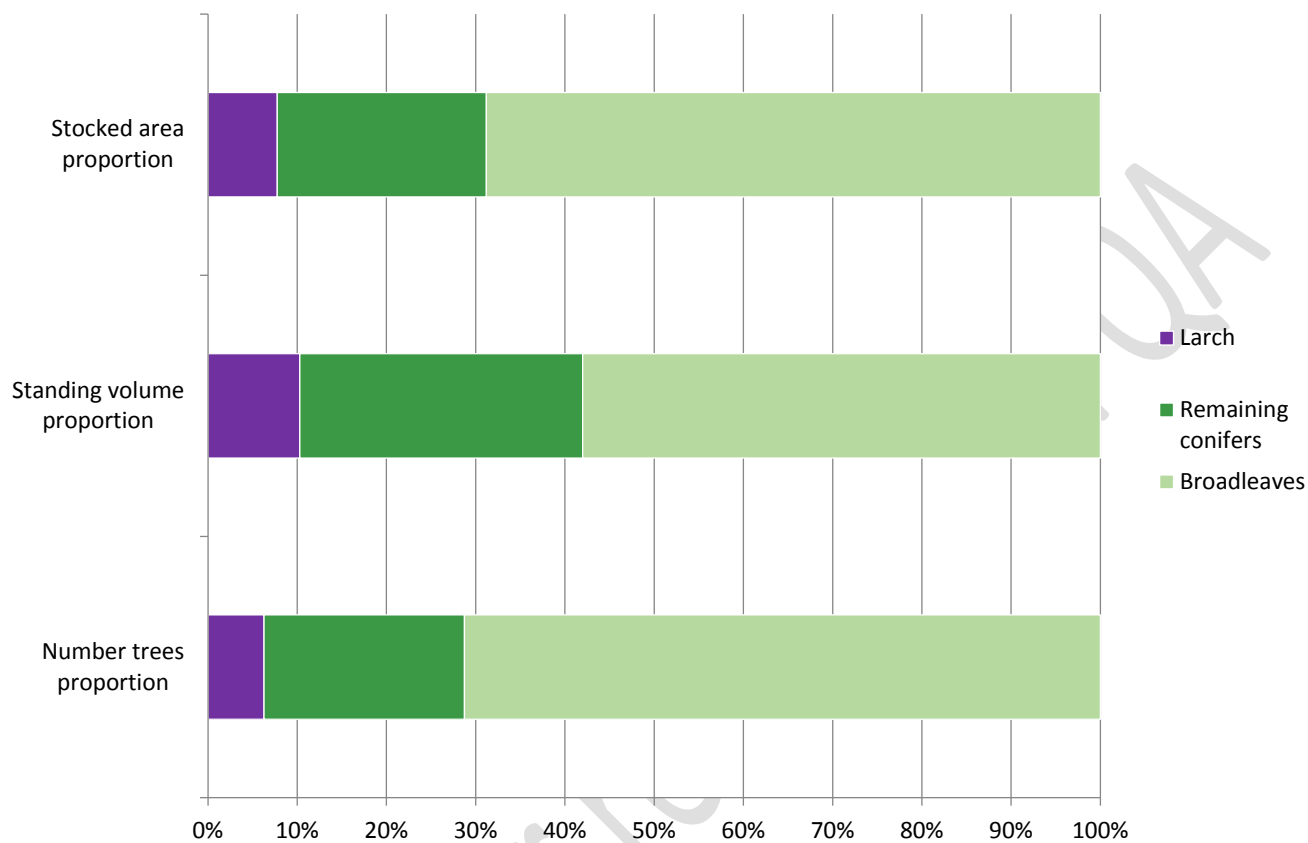
Part 4 – Tree health

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)
Yorkshire	2.9	4.9	*10*	**7.8**

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)
Yorkshire	31.4	100.9	25	8

Table 78 Standing volume of larch as a proportion of woodland

Aligned area	Standing volume of larch			
	FC	Private sector		Total
	volume (000 m^3 obs)	volume (000 m^3 obs)	*SE%*	volume (000 m^3 obs)
Yorkshire	466	1,592	*11*	**2,058**

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^3 obs)	volume (000 m^3 obs)	(percent)	(percent)
Yorkshire	8,384	19,962	*25*	**10**

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)
Yorkshire	2,909	3,994	*12*	**6,903**

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)
Yorkshire	31,594	110,045	22	6

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.

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^3 per year or in m^3 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 are 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^3 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^3 obs/ha/year).

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^3 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^3 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.

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^3 overbark standing (m^3 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 abve).
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 Yorkshire.

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