National Inventory of Woodland and Trees

of Woodland and Trees

England

County Report for

Hereford & Worcester

Forestry Commission

Printed in the United Kingdom

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ACKNOWLEDGEMENTS

INTRODUCTION

This report presents the results for Hereford and Worcester from the Forestry Commission National Inventory of Woodland and Trees (NIWT).

The Inventory consists of two separate surveys -

- The Main Woodland Survey (MWS) covering woodlands of 2 hectares and over

- The Survey of Small Woodland and Trees (SSWT) covering Small Woods, Groups of Trees, Linear Features and Individual Trees.

BACKGROUND

Since 1924 the Forestry Commission has carried out a number of national woodland surveys at intervals of between 15 and 20 years. The previous survey was carried out between 1979 and 1982. With the statistics becoming increasingly out of date the Forestry Commission decided to undertake a new survey: the *National Inventory of Woodland and Trees*.

The survey fieldwork for Great Britain was completed in July 2000. Work began in Scotland in 1994, followed by Southern England, Wales and Northern England.

SURVEY METHODS

Main Woodland Survey

In England, Woodland Surveys derived a digital map of all woodland showing Interpreted Forest Types from 1:25 000 scale aerial photography. This provided the basis for the sampling.

The digital map gives the extent of all woodland over 2 hectares and this was updated as survey work progressed. The maps on pages 4-6 show: overall woodland cover; woodland by ownership; and woodland by Interpreted Forest Type, respectively. The total area of woodland was obtained from the digital map with ground sampling undertaken to evaluate a wide range of woodland information such as species, age and stocking.

From the digital map the area of each woodland was recorded and this information was used to determine the intensity at which any selected woodland would be sampled. The overall sampling scheme was as follows:

- 2.0ha - <100ha : every fifth wood
- 100ha - <500ha : two woods in five
- 500ha and larger : all woods

1 hectare square plots were used to sample the selected woodlands on the ground. This was a change of practice from all previous Census surveys, where whole woods have been selected for survey. For each of the three bands of woodland area a different sampling grid was used with the density of the squares being reduced as the woodlands increase in size. The overall aim was to sample 1% of the woodland in each size class.

Survey of Small Woodland and Trees_

The land area of England was stratified into coastal and inland 1 km x 1 km squares and a random sample of 1 km² plots were then selected, representing around 1% of the land area. 1:25 000 scale aerial photos were then used to identify features in each sample square. Each 1 km² was then divided into 16 parts, and two of these were selected at random for field data collection. Data was collected on Small Woodlands (0.10 - <2.00 ha), Linear Features, Groups and Individual Trees. The survey did not collect information from areas of developed land of 2 hectares or more.

MAIN POINTS FROM THE SURVEY RESULTS

- The total area of woodland of 0.1 hectares and over in Hereford and Worcester is 35,668 hectares. This represents 9.1 % of the land area. (Table 1)

- Broadleaved woodland is the dominant forest type representing 63.6 % of all woodland. Conifer woodland represents 16.8 %, Mixed woodland 11.1 % and Open Space within woodlands 4.7 %. (Table 2)

- The main conifer species is larch covering 2,021 hectares or 24.9 % of all conifer species. The main broadleaved species is oak covering 7,788 hectares or 31.8 % of all broadleaved species. (Table 3)

- 4,632 hectares or 15 % of woodland over 2 hectares is owned by or leased to the Forestry Commission, and 25,624 hectares or 85 % of woodland is in Other ownership. (Table 6)

- There are a total of 1,718 woods over 2 ha within Hereford and Worcester with a mean wood area of 18.1 hectares. (Table 7a) There are a total of 13,895 woods from 0.1 - <2.0 hectares with a mean wood area of 0.39 hectares. (Table 14)

- There are 5.6 million live trees outside woodland in Hereford and Worcester. (Table 15)

- Woodland land cover increased by over 5,900 hectares from 7.3 % to 8.8 % of the land area between 1980 and 1997. (Table 19)

- The area of broadleaves increased by 41 % between 1980 and 1997, with the relative proportion of broadleaves to conifers increasing from 64 % to 74 %. (Table 20)

INVENTORY REPORTS

As well as this report for Hereford and Worcester, reports are available for the other counties in the region as shown on the map opposite. Also available are region and county reports for England as well as a report for the country as a whole. Wales and Scotland are also covered by reports.

Map 1 Regional and county boundaries

North West
Region

Staffordshire

Shropshire

East Midlands
Region

**West Midlands
Region**

West Midlands

Warwickshire

Hereford & Worcester

**South West
Region**

**South East
Region**

0   10   20   30   40   Kilometres

Based on Ordnance Survey mapping with the permission of the
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Map 2 Distribution of woodland over 2 hectares

Staffordshire

West Midlands

Shropshire

Warwickshire

5   10   15   20 Kilometres

Reference Date 31 March 1997

Map 3 Distribution of woodland over 2 hectares by ownership

Forestry Commission woodland

Other woodland

Staffordshire

West Midlands

Shropshire

Warwickshire

5　10　15　20 Kilometres

Reference Date 31 March 1997

Map 4 Distribution of woodland over 2 hectares by Interpreted Forest Type

Broadleaves
Conifer
Mixed
Felled
Young trees & shrubs
Ground prepared for planting (none present)
Coppice

Staffordshire

West Midlands

Shropshire

Warwickshire

5   10   15   20 Kilometres

Reference Date 31 March 1997

SUMMARY RESULTS FROM THE NATIONAL INVENTORY OF WOODLAND AND TREES (NIWT)

Both the Main Woodland Survey and the Survey of Small Woodland and Trees contributed to the estimate of woodland area for Hereford and Worcester.

Tables 1-3 show the combined woodland area from the Main Woodland Survey and the Survey of Small Woodland and Trees.

Tables 4 and 5 summarise the numbers of live trees outside woodland, and the lengths of Linear Features from the Survey of Small Woodland and Trees.

Table 1:   Woodland area by woodland size class
Table 2:   Woodland area by forest type and woodland size
Table 3:   Woodland area by principal species and woodland size
Table 4:   Numbers of live trees outside woodland by feature type
Table 5:   Lengths of Linear Features

Note: *The figures in many of the tables may not add due to rounding*

Table 1   Woodland area by woodland size class

Woodland size (ha)	Woodland area (ha)	% of Woodland area
2.00 and over	30,256	84.8
0.25 - < 2.00	4,417	12.4
0.10 - < 0.25	994	2.8
Total area of woodland	**35,668**	**100.0**
% Woodland land cover	**9.1**	

1.   Area of Hereford and Worcester, including inland water, 392,316 ha based on digital boundaries used in the 1991 Census of Population

Table 2 Woodland area by forest type and woodland size

| Forest type | Woodland size (ha) | | Total area | Percentage of |
	2.0 and over	0.1 - <2.0	(ha)	total area
Coniter	5,896	113	6,009	16.8
Broadleaved	17,550	5,138	22,688	63.6
Mixed	3,904	55	3,959	11.1
Coppiced	598	0	598	1.7
Copp-w-standards	391	0	391	1.1
Windblow	0	0	0	0.0
Felled	352	0	352	1.0
Open Space	1,566	105	1,671	4.7
Total	**30,256**	**5,412**	**35,668**	**100**

1.   See Glossary for definitions of forest types.

Table 3 Woodland area by principal species and woodland size

Species/Groups	Woodland size (ha)		Total area	Percentage of total area	
	2.0 and over	0.1 -<2.0	(ha)	Category*	Species**
Pine	1,622	42	1,664	20.5	5.1
Sitka spruce	329	0	329	4.0	1.0
Larch	2,021	0	2,021	24.9	6.2
Other conifers	3,942	87	4,029	49.6	12.3
Mixed conifers	87	0	87	1.1	0.3
Total conifers	**8,001**	**129**	**8,130**	**100.0**	**24.9**
Oak	7,098	690	7,788	31.8	23.8
Beech	1,167	723	1,890	7.7	5.8
Sycamore	580	360	940	3.8	2.9
Ash	5,774	702	6,476	26.4	19.8
Birch	755	80	835	3.4	2.6
Elm	90	32	122	0.5	0.4
Other broadleaves	2,634	1,839	4,473	18.2	13.7
Mixed broadleaves	1,251	750	2,001	8.2	6.1
Total broadleaves	**19,348**	**5,176**	**24,524**	**100.0**	**75.1**
Total all species*	**27,349**	**5,307**	**32,656**		**100.0**

*Category - species/group percentage of conifer or broadleaved category
**Species/group percentage of all species

***Excludes the 3,012 ha of Coppice, Felled and Open space areas which were included in Table 2

1.	The standard errors of the area estimates for woodland of 2 ha and over
	for the most common species or species groups are as follows

Conifers	7%
Broadleaves	3%
Other conifers	10%
Oak	7%
Ash	8%

2.	Where the standard errors of these summary measures are 10% or less, the
	confidence intervals will be approximately symmetrical; the true value is
	expected to be within +/- one standard error for about 68% (or about two-thirds)
	of all cases, and within +/- two standard errors for about 95% of all cases.
	Where percentage standard errors are larger , e.g. for less common species or
	more variable species composition, the confidence intervals will be less
	symmetrical (and wider).

Table 4 Numbers of live trees outside woodland by feature type

Feature type	Total number of features	Total number of live trees	Mean number of trees per feature	Tree density (per sq km)
Groups	200,400	1,464,000	7	373
Narrow Linear Features	115,700	3,860,700	33	984
Individual Trees	252,800	252,800	1	64
Total		5,577,500		1,422

1.	Land area used to calculate tree density 392,346 ha based on digital boundaries used in 1991 Census of Population

2.	The standard errors of the live tree number estimates for these feature types are:

Groups	29%
Narrow Linear Features	20%
Individual Trees	12%

3.	Where the standard errors of these summary measures are 10% or less, the confidence intervals will be approximately symmetrical; the true value is expected to be within +/- one standard error for about 68% (or about two-thirds) of all cases, and within +/- two standard errors for about 95% of all cases. Where percentage standard errors are larger , e.g. for less common species or more variable species composition, the confidence intervals will be less symmetrical (and wider).

4.	See Glossary for definitions of feature types .

Table 5 Lengths of Linear Features

Feature type	Total number of features	Total length of features (km)	Density of features (m per sq km)
Wide Linear Features	4,821	619	158
Narrow Linear Features	115,700	8,033	2,047
Total		8,653	2,205

1.	Land area used to calculate feature density 392,346 ha based on digital boundaries used in 1991 Census of Population

2.	The standard errors of the length estimates for these feature types are:

Wide Linear Features	48%
Narrow Linear Features	18%

3.	Where the standard errors of these summary measures are 10% or less, the confidence intervals will be approximately symmetrical; the true value is expected to be within +/- one standard error for about 68% (or about two-thirds) of all cases, and within +/- two standard errors for about 95% of all cases. Where percentage standard errors are larger , e.g. for less common species or more variable species composition, the confidence intervals will be less symmetrical (and wider).

4.	See Glossary for definitions of feature type .

RESULTS FROM THE MAIN WOODLAND SURVEY (MWS)

Survey Method

Woods were selected from the digital map of woodland of 2 hectares and over, then sampled using a random grid of 1 hectare sample plots. The density of sample plots was reduced as the sampled woodland increase in size, the general aim being to sample 1% of the woodland area. The ground sampling evaluated a wide range of data such as species, age and stocking.

Table 6:	Summary of woodland area by ownership
Chart:	Woodland area by ownership
Table 7a:	Size class distribution of woodland
Table 7b:	Size class distribution of woodland by ownership units
Table 8:	Area of woodland by forest type and ownership
Chart:	Area of woodland by forest type
Table 9a:	Area of High Forest by principal species and ownership
Graph:	Area of High Forest by principal species and ownership
Table 9b:	Area of High Forest by principal species, ownership and category
Graph:	High Forest Category 1 Area by principal species and ownership
Graph:	High Forest Category 2 Area by principal species and ownership
Table 10a:	High Forest Category 1 Area by principal species and planting year class
Graph:	High Forest Category 1 Area by planting year class
Table 10b:	High Forest Category 1 Forestry Commission: area by principal species and planting year class
Graph:	High Forest Category 1 Forestry Commission - area by planting year class
Table 10c:	High Forest Category 1 Other ownership: area by principal species and planting year class
Graph:	High Forest Category 1 Other ownership: area by planting year class
Table 11:	High Forest: principal species by planting year class
Table 12:	Ownership type by area and percentage
Chart:	Ownership type by area

Note: The figures in many of the tables may not add due to rounding

Table 6 Summary of woodland area by ownership

Ownership	ha	% woodland
Forestry Commission	4,632	15
Other	25,624	85
Total area of woodland	**30,256**	**100**

1.   Woodland area from aerial photographic interpretation map updated to 31 March 1997

2.   See Glossary for definitions of ownership types

Woodland area by ownership

■ Forestry Commission
■ Other ownership
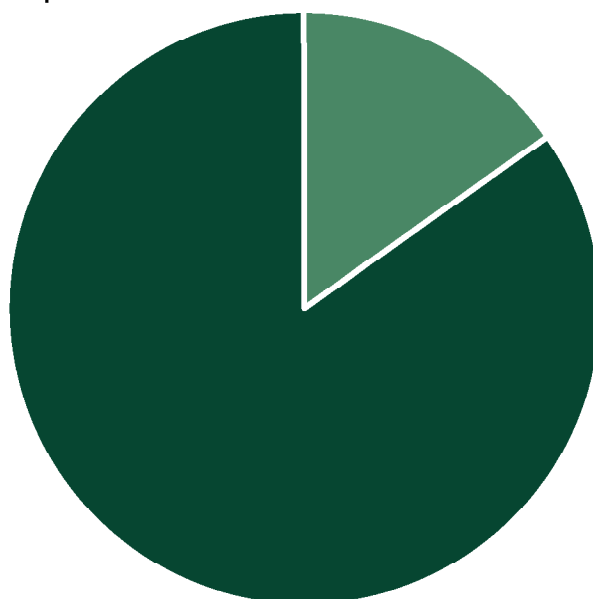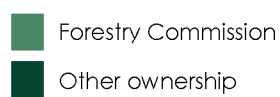
Table 7a Size class distribution of woodland

Size class (ha)	Number of woods	Total area (ha)	Percent of total area	Mean wood area (ha)
<10	1,199	5,315	17	4.4
10 - <20	244	3,400	11	13.9
20 - <50	149	4,604	15	30.9
50 - <100	73	5,112	16	70.0
<100	**1,665**	**18,431**	**59**	**11.1**
100 - <500	**49**	**9,987**	**32**	**203.8**
500 and >	**4**	**2,633**	**8**	**658.2**
All woods	**1,718**	**31,051**	**100**	**18.1**

Table 7b Size class distribution of woodland by ownership units

Size class (ha)	FC or Other	Number of woods	Total area (ha)	Percent of total area	Mean wood area (ha)
<10	FC	14	71	0	5.1
	O	1,295	5,545	18	4.3
10 - <20	FC	6	83	0	13.8
	O	253	3,525	11	13.9
20 - <50	FC	9	307	1	34.1
	O	157	4,832	16	30.8
50 - <100	FC	11	826	3	75.1
	O	76	5,363	17	70.6
<100	FC	40	1,287	4	32.2
	O	1,781	19,265	62	10.8
100 - <500	FC	14	2,607	8	186.2
	O	34	6,103	20	179.5
500 and >	FC	1	739	2	739.0
	O	2	1,052	3	525.9
Total	**FC**	**55**	**4,633**	**15**	**84.2**
	O	**1,817**	**26,419**	**85**	**14.5**

1. Table 7a and 7b are based solely on the digital woodland map. The other MWS tables are derived from the field sample data

2. The total area in Tables 7a and 7b is 795 hectares more than recorded in Table 6. This is mainly due to the field samples recording some land in other land uses not differentiated from woodland in the digital map

3. The data available from the digital map enable the identification of woodlands according to their ownerships, Forestry Commission or Other. The entries in table 7b cannot be added to derive table 7c as some woods may consist of both Forestry Commission and Other ownership(s)

    For example, the Forestry Commission may own most of a large wood with some parts in Other ownership(s). In Table 7a the whole area would be treated as one wood and the area allocated to one size category. In Table 7b each of the ownership units would be allocated to the size category for that unit. Dividing woods by ownership can occasionaly generate part woods of less than 2 hectares

Table 8 Area of woodland by forest type and ownership

Forest type	Forestry Commission		Other		All ownerships	
	ha	%	ha	%	ha	%
Conifer	1,895	40.9	4,001	15.6	5,896	19.5
Broadleaved	1,624	35.1	15,925	62.1	17,550	58.0
Mixed	643	13.9	3,261	12.7	3,904	12.9
Coppice	75	1.6	523	2.0	598	2.0
Copp-w-Stds	0	0.0	391	1.5	391	1.3
Windblow	0	0.0	0	0.0	0	0.0
Felled	164	3.5	188	0.7	352	1.2
Open Space	231	5.0	1,335	5.2	1,566	5.2
Total	4,632	100.0	25,624	100.0	30,256	100.0

Area of woodland by forest type

- Conifer
- Broadleaves
- Mixed
- Coppice
- Coppice-w-standards
- Felled
- Open Space
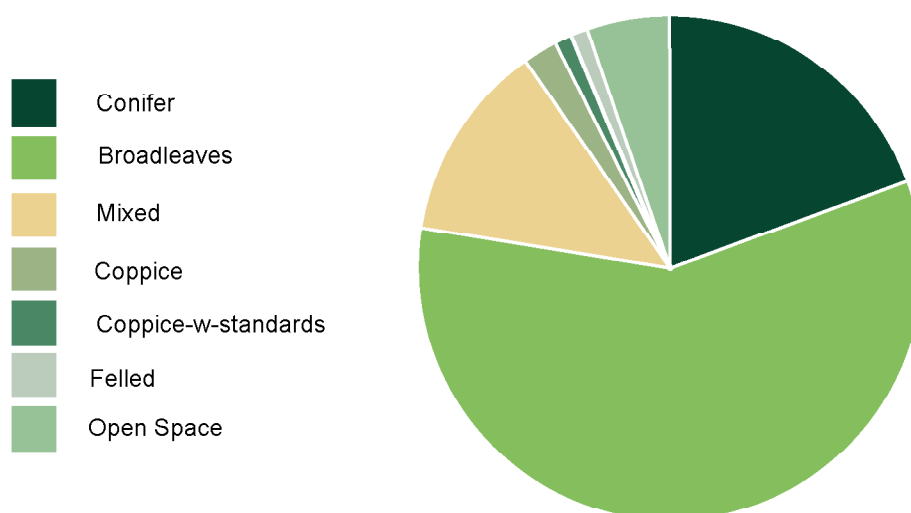
Table 9a Area of high forest by principal species and ownership

Species	Forestry Commission			Other			All ownerships		
	area (ha)	cat* %	spp** %	area (ha)	cat* %	spp** %	area (ha)	cat* %	spp** %
Scots pine	197	9	5	932	16	4	1,129	14	4
Corsican pine	129	6	3	353	6	2	482	6	2
Lodgepole pine	0	0	0	11	0	0	11	0	0
Sitka spruce	0	0	0	329	6	1	329	4	1
Norway spruce	271	12	7	1,225	21	5	1,495	19	5
European larch	80	4	2	656	11	3	735	9	3
Jap/Hybrid larch	401	18	10	886	15	4	1,286	16	5
Douglas fir	968	43	23	749	13	3	1,717	21	6
Other conifers	211	9	5	518	9	2	730	9	3
Mixed conifers	0	0	0	87	2	0	87	1	0
Total conifers	**2,257**	**100**	**54**	**5,745**	**100**	**25**	**8,001**	**100**	**29**
Oak	925	49	22	6,173	35	27	7,098	37	26
Beech	312	16	7	854	5	4	1,167	6	4
Sycamore	24	1	1	555	3	2	580	3	2
Ash	256	13	6	5,517	32	24	5,774	30	21
Birch	116	6	3	639	4	3	755	4	3
Poplar	4	0	0	631	4	3	635	3	2
Sweet chestnut	84	4	2	246	1	1	330	2	1
Elm	0	0	0	90	1	0	90	0	0
Other broadleaves	71	4	2	1,599	9	7	1,669	9	6
Mixed broadleaves	113	6	3	1,138	7	5	1,251	6	5
Total broadleaves	**1,906**	**100**	**46**	**17,442**	**100**	**75**	**19,348**	**100**	**71**
Total - all species	**4,163**		**100**	**23,187**		**100**	**27,349**		**100**
Felled	**164**			**188**			**352**		
Total High Forest	**4,327**			**23,375**			**27,701**		

*cat : species percentage of Conifer or Broadleaved in the ownership category
**spp : percentage of all species in the ownership category

1.   In addition to the areas shown there are 1,566ha of other areas integral to
the woodland not stocked with tree species.

2.   The standard errors of the all ownerships area estimates for the most common species or species groups are as follows;

Conifers	7%
Broadleaves	3%
Douglas fir	15%
Oak	7%
Ash	8%

3.   Mixtures: where possible the species in mixtures have been separately recorded. Where this
has not been possible they were described as 'Mixed conifers' or 'Mixed broadleaves'.

4.   Confidence Intervals: where the standard errors of these summary measures are 10% or less, the
confidence Intervals will be approximately symmetrical; the true value is expected
to be within +/- one standard error for about 68% (or about two-thirds) of all cases,
and within +/- two standard errors for about 95% of all cases. Where percentage
standard errors are larger , e.g. for less common species or more variable species
composition, the confidence intervals will be less symmetrical (and wider).

Area of High Forest by principal species and ownership
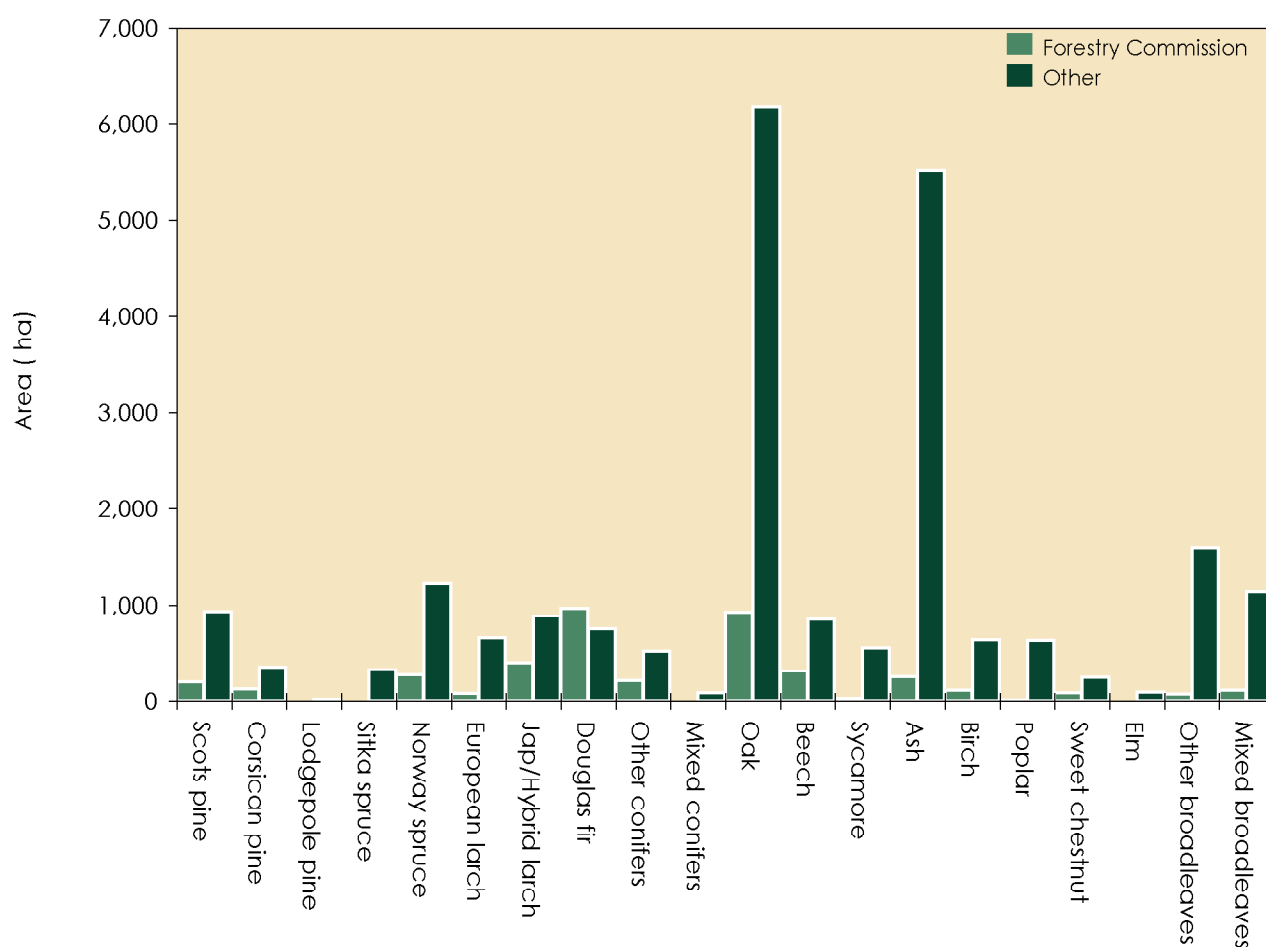
Table 9b Area of High Forest by principal species, ownership and category

Species	Forestry Commission			Other			All ownerships		
	cat. 1	cat. 2	Total (ha)	cat. 1	cat. 2	Total (ha)	cat. 1	cat. 2	Total (ha)
Scots pine	197	0	197	916	16	932	1,113	16	1,129
Corsican pine	129	0	129	353	0	353	482	0	482
Lodgepole pine	0	0	0	11	0	11	11	0	11
Sitka spruce	0	0	0	329	0	329	329	0	329
Norway spruce	271	0	271	1,225	0	1,225	1,495	0	1,495
European larch	80	0	80	656	0	656	735	0	735
Jap/Hybrid larch	401	0	401	886	0	886	1,286	0	1,286
Douglas fir	968	0	968	738	11	749	1,706	11	1,717
Other conifers	211	0	211	395	123	518	607	123	730
Mixed conifers	0	0	0	83	3	87	83	3	87
Total conifers	**2,257**	**0**	**2,257**	**5,592**	**153**	**5,745**	**7,848**	**153**	**8,001**
Oak	740	185	925	5,574	599	6,173	6,313	784	7,098
Beech	308	4	312	731	123	854	1,040	127	1,167
Sycamore	0	24	24	415	141	555	415	165	580
Ash	176	80	256	4,832	685	5,517	5,008	765	5,774
Birch	24	92	116	232	407	639	256	499	755
Poplar	4	0	4	566	65	631	570	65	635
Sweet chestnut	84	0	84	158	88	246	242	88	330
Elm	0	0	0	0	90	90	0	90	90
Other broadleaves	22	48	71	196	1,403	1,599	219	1,451	1,669
Mixed broadleaves	80	34	113	758	380	1,138	838	413	1,251
Total broadleaves	**1,439**	**468**	**1,906**	**13,461**	**3,980**	**17,442**	**14,900**	**4,448**	**19,348**
Total - all species	**3,695**	**468**	**4,163**	**19,053**	**4,134**	**23,187**	**22,748**	**4,601**	**27,349**

1. The standard errors of the all ownerships area estimates for the most common species or species groups (in all woodland types) are as follows

	Category 1*	Category 2*	Total High Forest	
Conifers	7%	38%	7%	
Broadleaves	4%	6%	3%	
Douglas fir	15%	-	15%	
Oak	8%	15%	7%	*See Glossary for category 1
Ash	9%	22%	8%	and Category 2 descriptions

2. Where the standard errors of these summary measures are 10% or less, the confidence intervals will be approximately symmetrical; the the true value is expected to be within +/- one standard error for about 68% (or about two-thirds) of all cases, and within +/- two standard errors for about 95% of all cases. Where percentage standard errors are larger , e.g. for less common species or more variable species composition, the confidence intervals will be less symmetrical (and wider).

3. Where possible the species in mixtures have been separately recorded. Where this has not been possible they were described as 'Mixed conifers' or 'Mixed broadleaves'.

High Forest Category 1 - Area by principal species and ownership
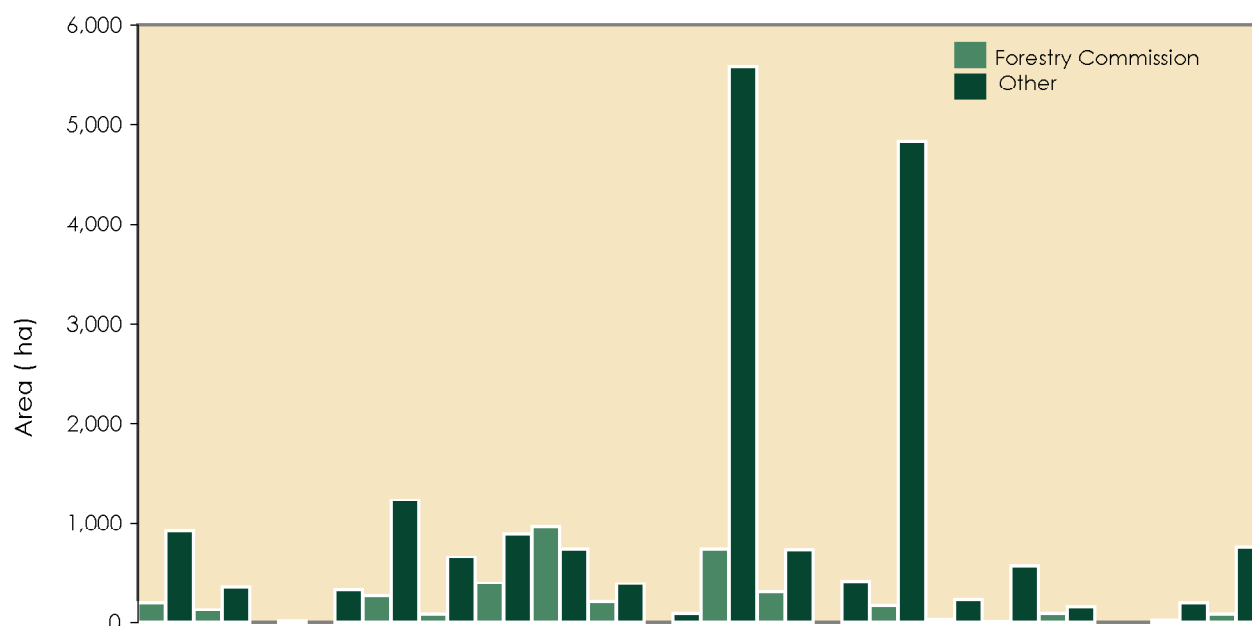
High Forest Category 2 - Area by principal species and ownership
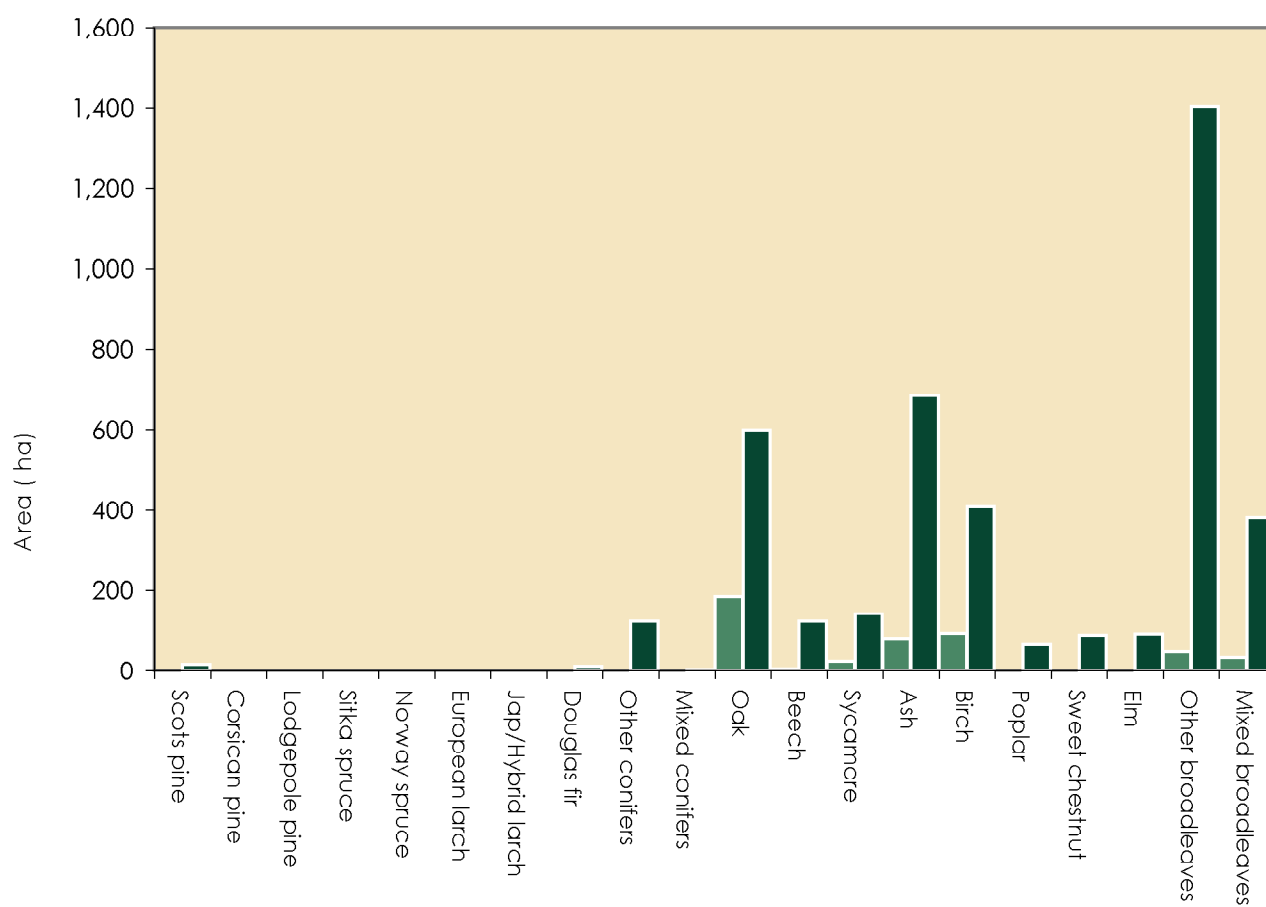
Table 10a High Forest Category 1 - Area by principal species and planting year class

Species	Planting year class*												Total (ha)
	1991-1997	1981-1990	1971-1980	1961-1970	1951-1960	1941-1950	1931-1940	1921-1930	1911-1920	1901-1910	1861-1900	Pre-1861	
Scots pine	27	45	166	111	147	415	190	0	0	12	0	0	1,113
Corsican pine	0	0	52	233	100	0	55	25	17	0	0	0	482
Lodgepole pine	0	0	0	11	0	0	0	0	0	0	0	0	11
Sitka spruce	0	0	0	216	113	0	0	0	0	0	0	0	329
Norway spruce	60	43	137	836	384	8	16	11	0	0	0	0	1,495
European larch	0	0	129	104	86	241	149	4	0	0	23	0	735
Jap/Hybrid larch	97	126	42	238	436	211	84	23	0	0	28	0	1,286
Douglas fir	75	152	213	847	333	43	32	0	5	0	8	0	1,706
Other conifers	0	0	123	242	160	77	0	0	5	0	0	0	607
Mixed conifers	6	0	20	43	0	0	0	7	0	0	8	0	83
Total conifers	**264**	**366**	**883**	**2,880**	**1,760**	**995**	**525**	**69**	**26**	**12**	**66**	**0**	**7,848**
Oak	119	66	68	95	403	210	151	412	296	57	3,355	1,081	6,313
Beech	0	0	12	119	289	123	21	0	21	81	340	34	1,040
Sycamore	0	30	15	91	60	11	96	100	11	0	0	0	415
Ash	142	94	312	592	627	510	310	307	597	112	1,394	12	5,008
Birch	16	8	0	89	96	6	23	0	0	0	19	0	256
Poplar	95	104	48	83	225	5	0	0	0	0	11	0	570
Sweet chestnut	0	36	8	55	79	0	17	7	0	0	39	0	242
Elm	0	0	0	0	0	0	0	0	0	0	0	0	0
Other broadleaves	12	0	16	19	12	0	8	18	6	0	124	5	219
Mixed broadleaves	170	30	38	54	33	28	6	146	11	0	314	8	838
Total broadleaves	**553**	**367**	**515**	**1,197**	**1,826**	**893**	**630**	**991**	**942**	**250**	**5,596**	**1,140**	**14,900**
Total - all species	**818**	**733**	**1,398**	**4,077**	**3,586**	**1,888**	**1,156**	**1,060**	**968**	**262**	**5,663**	**1,140**	**22,748**

*Age determined from records where these were available. Where records were not available or were clearly inaccurate age-class was assigned by reference to similar crops of known age in the locality.

High Forest Category 1 - Area by planting year class

Legend: Broadleaves, Conifers
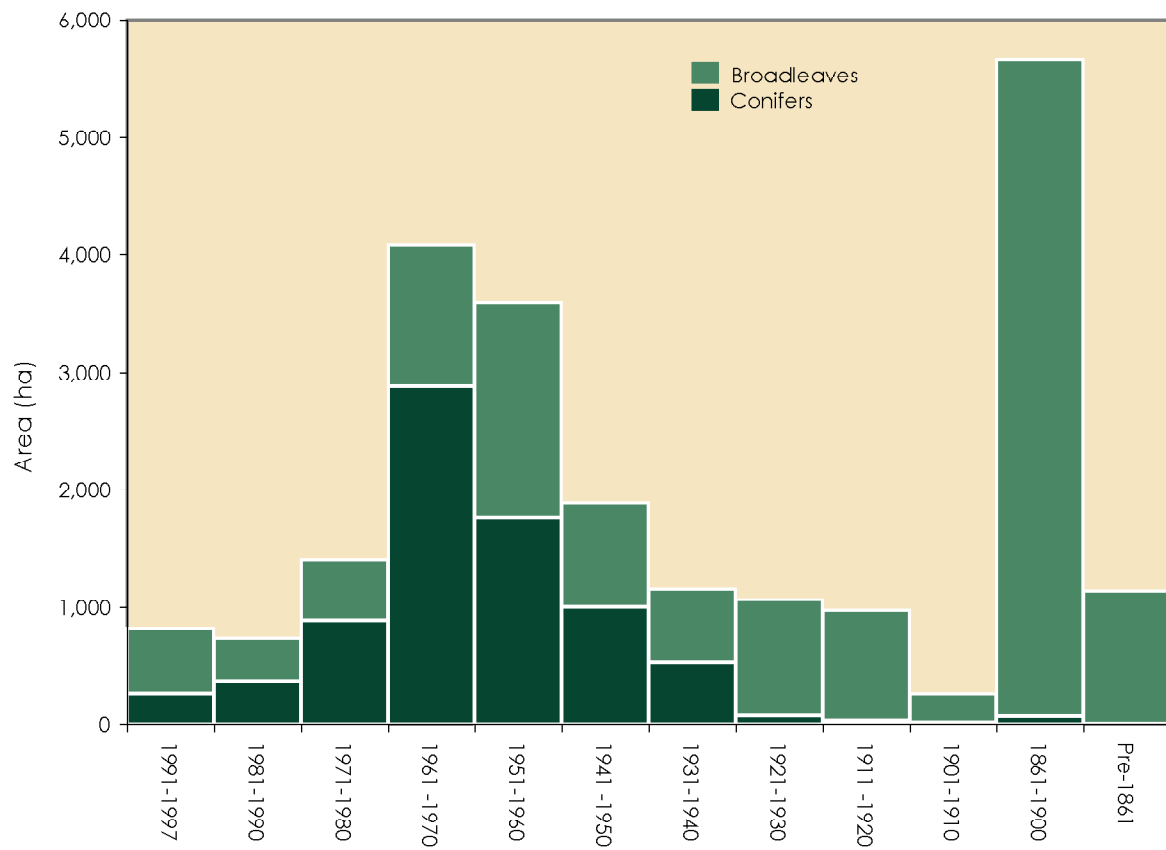
1. Most of the planting year classes cover 10 years, 1991-1997 is 7 years, and the classes prior to 1901 are 40 years or more.

Table 10b High Forest Category 1 - Forestry Commission : area by principal species and planting year classes

Species	Planting year class*												Total (ha)
	1991-1997	1981-1990	1971-1980	1961-1970	1951-1960	1941-1950	1931-1940	1921-1930	1911-1920	1901-1910	1861-1900	Pre-1861	
Scots pine	0	0	61	89	43	0	4	0	0	0	0	0	197
Corsican pine	0	0	52	57	0	0	0	20	0	0	0	0	129
Lodgepole pine	0	0	0	0	0	0	0	0	0	0	0	0	0
Sitka spruce	0	0	0	0	0	0	0	0	0	0	0	0	0
Norway spruce	0	0	64	182	16	8	0	0	0	0	0	0	271
European larch	0	0	12	16	27	0	20	4	0	0	0	0	80
Jap/Hybrid larch	64	8	16	71	129	112	0	0	0	0	0	0	401
Douglas fir	40	51	143	590	144	0	0	0	0	0	0	0	968
Other conifers	0	0	107	43	60	0	0	0	0	0	0	0	211
Mixed conifers	0	0	0	0	0	0	0	0	0	0	0	0	0
Total conifers	**104**	**59**	**456**	**1,049**	**419**	**120**	**24**	**24**	**0**	**0**	**0**	**0**	**2,257**
Oak	0	16	8	8	57	20	75	233	40	4	255	24	740
Beech	0	0	0	55	82	101	16	0	0	0	21	34	308
Sycamore	0	0	0	0	0	0	0	0	0	0	0	0	0
Ash	0	0	4	13	96	36	0	12	15	0	0	0	176
Birch	0	8	0	12	4	0	0	0	0	0	0	0	24
Poplar	0	0	0	4	0	0	0	0	0	0	0	0	4
Sweet chestnut	0	0	0	0	77	0	0	7	0	0	0	0	84
Elm	0	0	0	0	0	0	0	0	0	0	0	0	0
Other broadleaves	0	0	0	0	4	0	0	18	0	0	0	0	22
Mixed broadleaves	0	16	7	8	4	0	0	24	0	0	12	8	80
Total broadleaves	**0**	**40**	**19**	**100**	**324**	**157**	**91**	**295**	**55**	**4**	**288**	**66**	**1,439**
Total - all species	**104**	**100**	**476**	**1,149**	**742**	**278**	**115**	**319**	**55**	**4**	**288**	**66**	**3,695**

*Age determined from records where these were available. Where records were not available or were clearly inaccurate age-class was assigned by reference to similar crops of known age in the locality.

High Forest Category 1 - Forestry Commission: area by planting year class
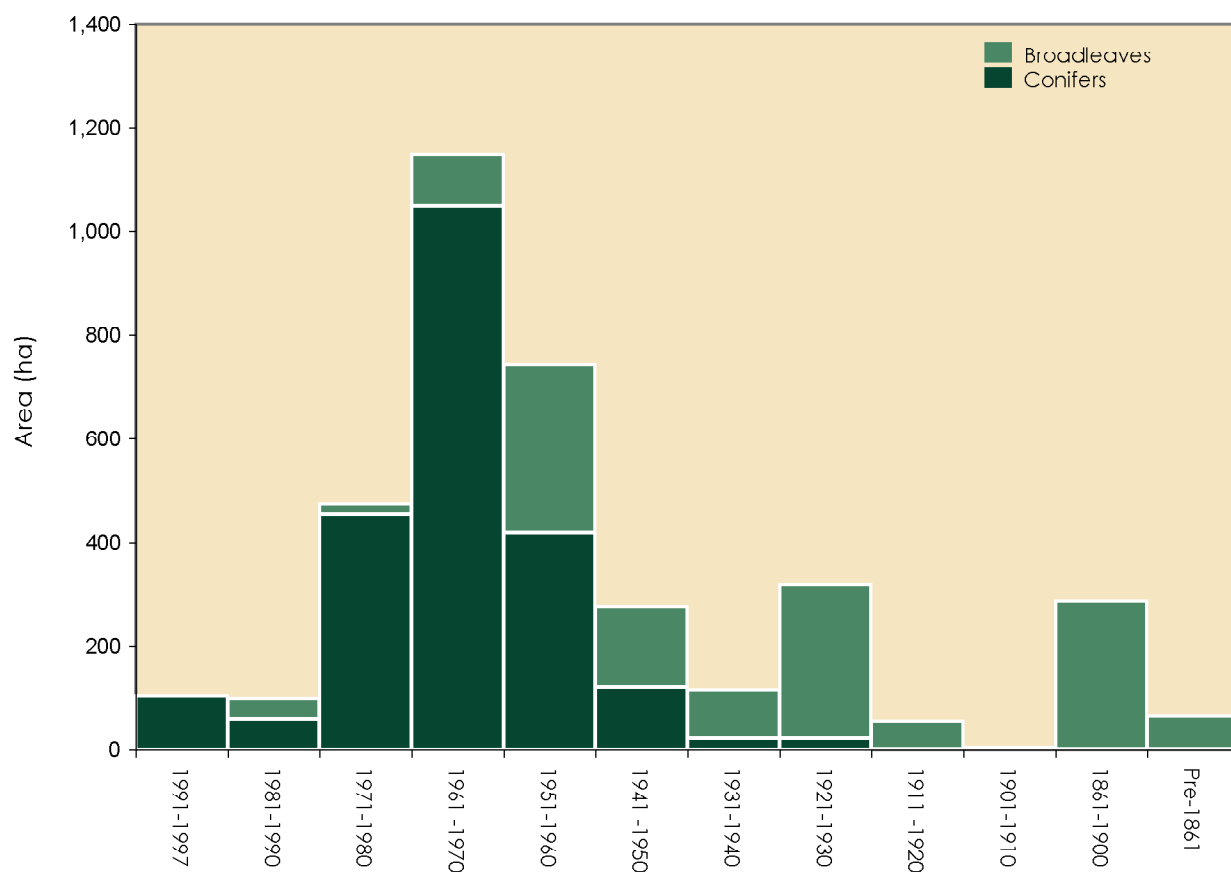

1. Most of the planting year classes cover 10 years, 1991-1997 is 7 years, and the classes prior to 1901 are 40 years or more.

Table 10c High Forest Category 1 - Other ownership: area by principal species and planting year classes

Species	Planting year class*												Total (ha)
	1991-1997	1981-1990	1971-1980	1961-1970	1951-1960	1941-1950	1931-1940	1921-1930	1911-1920	1901-1910	1861-1900	Pre-1861	
Scots pine	27	45	105	21	105	415	186	0	0	12	0	0	916
Corsican pine	0	0	0	176	100	0	55	5	17	0	0	0	353
Lodgepole pine	0	0	0	11	0	0	0	0	0	0	0	0	11
Sitka spruce	0	0	0	216	113	0	0	0	0	0	0	0	329
Norway spruce	60	43	73	653	368	0	16	11	0	0	0	0	1,225
European larch	0	0	117	88	59	241	128	0	0	0	23	0	656
Jap/Hybrid larch	33	118	26	166	307	99	84	23	0	0	28	0	886
Douglas fir	35	100	70	257	189	43	32	0	5	0	8	0	738
Other conifers	0	0	16	199	100	77	0	0	5	0	0	0	395
Mixed conifers	6	0	20	43	0	0	0	7	0	0	8	0	83
Total conifers	**160**	**306**	**427**	**1,831**	**1,342**	**874**	**501**	**45**	**26**	**12**	**66**	**0**	**5,592**
Oak	119	50	60	87	346	190	77	179	256	53	3,101	1,057	5,574
Beech	0	0	12	64	207	21	5	0	21	81	319	0	731
Sycamore	0	30	15	91	60	11	96	100	11	0	0	0	415
Ash	142	94	308	579	532	474	310	295	581	112	1,394	12	4,832
Birch	16	0	0	77	92	6	23	0	0	0	19	0	232
Poplar	95	104	48	79	225	5	0	0	0	0	11	0	566
Sweet chestnut	0	36	8	55	2	0	17	0	0	0	39	0	158
Elm	0	0	0	0	0	0	0	0	0	0	0	0	0
Other broadleaves	12	0	16	19	8	0	8	0	6	0	124	5	196
Mixed broadleaves	170	14	30	46	29	28	6	122	11	0	302	0	758
Total broadleaves	**553**	**327**	**496**	**1,097**	**1,502**	**736**	**540**	**696**	**887**	**246**	**5,309**	**1,074**	**13,461**
Total - all species	**713**	**633**	**923**	**2,928**	**2,844**	**1,610**	**1,041**	**741**	**913**	**258**	**5,375**	**1,074**	**19,053**

*Age determined from records where these were available. Where records were not available or were clearly inaccurate age-class was assigned by reference to similar crops of known age in the locality.

High Forest Category 1 - Other Ownership: area by planting year class

1. Most of the planting year classes cover 10 years, 1991-1997 is 7 years, and the classes prior to 1901 are 40 years or more.
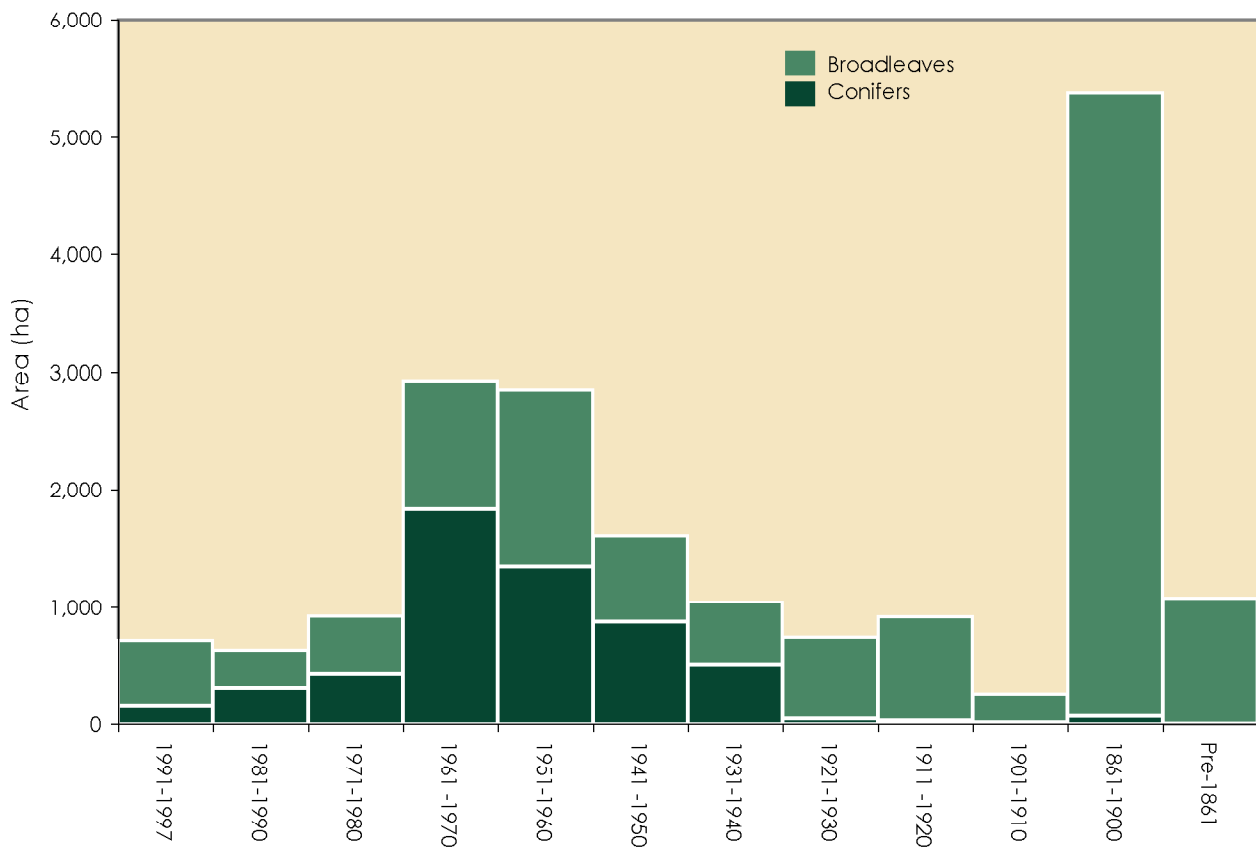
Table 11 High Forest : principal species by planting year class

Planting year class	First	%	Second	%	Third	%
1991-97	Mixed broadleaves	20	Ash	16	Oak	14
1981-90	Douglas fir	16	Jap/Hybrid larch	13	Poplars	11
1971-80	Ash	22	Douglas fir	12	Scots pine	10
1961-70	Douglas fir	17	Norway spruce	17	Ash	13
1951-60	Ash	17	Jap/Hybrid larch	11	Oak	10
1941-50	Ash	23	Scots pine	17	Other broadleaves	13
1931-40	Ash	24	Scots pine	14	Oak	12
1921-30	Oak	35	Ash	29	Mixed broadleaves	14
1911-20	Ash	47	Oak	30	Other broadleaves	12
1901-10	Ash	38	Oak	35	Beech	23
1861-1900	Oak	55	Ash	26	Mixed broadleaves	6
Pre 1861	Oak	86	Beech	3	Mixed broadleaves	3
All years	**Oak**	**26**	**Ash**	**21**	**Douglas fir**	**6**

1.   Principal species as a percentage of area in the planting year class.

Table 12 Ownership type* by area and percentage

Ownership type	Area (ha)	%
Personal	15,698	51.9
Business	7,274	24.0
Forestry or timber business	41	0.1
Charity	1,299	4.3
Local Authority	622	2.1
Other public (not FC)	366	1.2
Forestry Commission	4,632	15.3
Community ownership or common land	0	0.0
Unidentified	324	1.1
Total	**30,256**	**100.0**

* This table is produced from data contributed on a voluntary basis by owners or their representatives.

Ownership type by area

- Personal
- Businesss
- Forestry or timber business
- Charity
- Local Authority
- Other public
- Forestry Commission
- Community ownership
- Unidentified

31
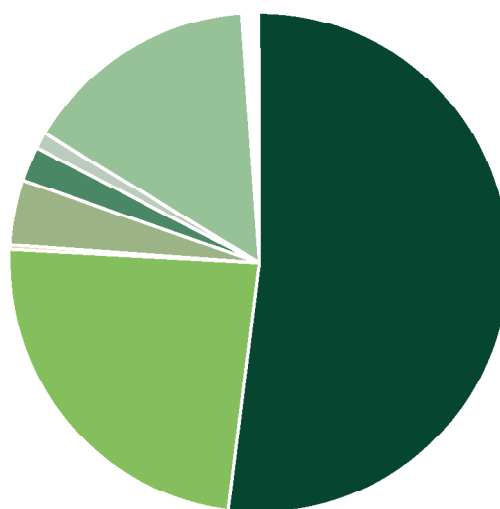
RESULTS FROM THE SURVEY OF SMALL WOODLAND AND TREES (SSWT)

Survey Method

The land area of England was stratified into coastal and inland 1 km x 1 km squares and a random sample of 1 km^2 plots were then selected, representing around 1% of the land area. 1:25 000 scale aerial photos were then used to identify features in each sample square. Each 1 km^2 was then divided into 16 parts, and two of these were selected at random for field data collection. Data was collected on Small Woodlands (0.10 - <2.00 ha), Linear Features, Groups and Individual Trees. The survey did not collect information from areas of developed land of 2 hectares or more.

Table 13:   Summary of information from the Survey of Small Woodland and Trees
Table 14:   Woodland area by feature type and woodland size
Table 15:   Numbers of live trees outside woodland by species and feature type
Table 16 :   Numbers of dead trees outside woodland by species and feature type
Table 17:   Numbers of live trees outside woodland by species and height band
Table 18:   Numbers of Groups by group size

Note: The figures in many of the tables may not add due to rounding

Table 13 Summary of information from the Survey of Small Woodlands and Trees

Feature type	Number of features	Total	Unit
Small Woods	9,074	3,484	Area (ha)
Wide Linear Features	4,821	1,928	Area (ha)
Wide Linear Features	4,821	619	Length (Km)
Narrow Linear Features	115,700	8,033	Length (Km)
Narrow Linear Features	115,700	3,860,700	Number of live trees
Groups	200,400	1,464,000	Number of live trees
Individual Trees	252,800	252,800	Number of live trees

1.   See Glossary for definitions of feature types.

Table 14 Woodland area by feature type and woodland size

Feature type	Woodland size (ha)		Total area (ha)	Number of features	Mean size (ha)
	0.1 - <0.25	0.25 - <2.0			
Small Woods	609	2,874	3,483	9,074	0.38
Wide Linear Features	385	1,543	1,928	4,821	0.40
Total	994	4,417	5,412	13,895	0.39

1.   See Glossary for definitions of feature types.

Table 15 Numbers of live trees outside woodland by species and feature type (000's trees)

Species	Feature type				Total live trees	Percent of total trees	
	Boundary Trees	Middle Trees	Groups	Narrow Linear Features		Category	Species
Pine	0.0	0.8	6.4	16.1	23.3	5.1	0.4
Spruce	0.0	0.0	290.5	0.0	290.5	63.5	5.2
Larch	0.0	0.0	0.8	3.2	4.0	0.9	0.1
Cypress	1.6	0.0	23.3	76.3	101.2	22.1	1.8
Other conifers	0.0	0.0	19.3	19.3	38.6	8.4	0.7
Total conifers	**1.6**	**0.8**	**340.4**	**114.9**	**457.6**	**100.0**	**8.2**
Oak	40.7	27.7	69.2	174.4	312.0	6.1	5.6
Beech	0.0	1.6	12.1	12.1	25.8	0.5	0.5
Sycamore	3.0	1.0	24.1	61.9	90.0	1.8	1.6
Ash	33.8	6.4	121.5	332.6	494.3	9.7	8.9
Birch	0.8	0.0	9.7	12.1	22.6	0.4	0.4
Poplar	0.0	0.0	3.2	19.3	22.5	0.4	0.4
Sweet chestnut	0.0	0.0	0.8	0.8	1.6	0.0	0.0
Horse chestnut	1.1	2.1	13.7	14.5	31.4	0.6	0.6
Alder	4.8	0.0	34.6	241.8	281.2	5.5	5.0
Lime	9.7	0.8	4.0	41.8	56.3	1.1	1.0
Elm	7.7	4.3	83.7	229.8	325.5	6.4	5.8
Willow	21.6	1.7	105.4	178.4	307.1	6.0	5.5
Other broadleaves	59.8	21.4	641.4	2,426.5	3,149.1	61.5	56.5
Total broadleaves	**183.0**	**67.0**	**1,123.5**	**3,745.8**	**5,119.4**	**100.0**	**91.8**
Total - all species	**184.6**	**67.8**	**1,463.9**	**3,860.7**	**5,577.5**		**100.0**

1.   Percentages

        Category : species percentage of conifer or broadleaved.
        Species : percentage of all species.

2.   The standard errors of the total tree number estimates for these feature types are:

        Individual Trees   12%
        Groups   29%
        Narrow Linear Features   20%

3.   See Glossary for definitions of feature types.

Table 16 Numbers of dead trees outside woodland by species and feature type (000's trees)

Species	Feature type				Total dead trees	Percent of total trees	
	Boundary Trees	Middle Trees	Groups	Narrow Linear Features		Category	Species
Pine	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spruce	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Larch	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cypress	0.0	0.0	0.8	0.0	0.8	100.0	0.4
Other conifers	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mixed Conifers	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total conifers	**0.0**	**0.0**	**0.8**	**0.0**	**0.8**	**100.0**	**0.4**
Oak	0.0	0.0	0.0	1.6	1.6	0.8	0.8
Beech	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sycamore	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ash	0.8	0.0	0.0	0.8	1.6	0.8	0.8
Birch	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Poplar	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sweet chestnut	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Horse chestnut	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alder	0.0	0.0	0.8	4.0	4.8	2.4	2.4
Lime	5.6	0.0	0.0	0.0	5.6	2.9	2.8
Elm	3.2	0.8	33.8	134.2	172.0	87.8	87.4
Willow	0.0	0.0	0.8	0.0	0.8	0.4	0.4
Other broadleaves	0.0	0.0	3.2	6.4	9.6	4.9	4.9
Total broadleaves	**9.6**	**0.8**	**38.6**	**147.0**	**196.0**	**100.0**	**99.6**
Total - all species	**9.6**	**0.8**	**39.4**	**147.0**	**196.8**		**100.0**

1.   See Glossary for definitions of feature types.

Table 17 Numbers of live trees outside woodland by species and height band (000's trees)

Species	Height band (m)				Total live trees
	2-5	**5-15**	**15-20**	**>20**	
Pine	5.6	16.9	0.8	0.0	23.3
Spruce	281.7	8.0	0.8	0.0	290.5
Larch	0.8	2.4	0.8	0.0	4.0
Cypress	25.7	71.5	4.0	0.0	101.2
Other conifers	4.0	17.7	16.1	0.8	38.6
Total conifers	**317.8**	**116.5**	**22.5**	**0.8**	**457.6**
Oak	46.6	225.1	40.2	0.0	311.9
Beech	18.5	7.2	0.0	0.0	25.7
Sycamore	27.3	60.3	2.4	0.0	90.0
Ash	135.9	309.5	48.2	0.8	494.4
Birch	4.0	16.9	1.6	0.0	22.5
Poplar	0.0	10.4	11.3	0.8	22.5
Sweet chestnut	0.0	1.6	0.0	0.0	1.6
Horse chestnut	13.7	8.0	8.8	0.8	31.3
Alder	24.9	256.3	0.0	0.0	281.2
Lime	50.6	5.6	0.0	0.0	56.2
Elm	164.8	160.8	0.0	0.0	325.6
Willow	82.8	210.6	13.7	0.0	307.1
Other broadleaves	2,129.9	1,012.1	3.2	4.0	3,149.2
Total broadleaves	**2,699.0**	**2,284.4**	**129.4**	**6.4**	**5,119.2**
Total - all species	**3,017.0**	**2,401.2**	**152.0**	**7.2**	**5,577.5**

Table 18 Number of Groups by group size

Number of trees per Group*	Number of Groups (000's)
2	31
3-5	85
6-10	37
11-20	31
21-50	11
51-100	3
>100	2
Total	**200**

*The size of the group is determined by the total number of trees, live plus dead.

COMPARISON OF RESULTS WITH THE 1980 CENSUS AND PREVIOUS SURVEYS

Survey Method

The 1980 Census and 1997 Inventory were undertaken using very different sampling methods.

Inventory practice and technology have moved on since the 1980 Census; this has led to changes in sampling methodology, scope and woodland definitions were required. For example, the Main Woodland Survey used the digital woodland map, created from aerial photos as a basis for sampling whereas the 1980 Census relied only on the woodland shown on the 1:50,000 Ordnance Survey map. Also in contrast to the 1980 Census, the Survey of Small Woodland and Trees did not record information within developed land e.g. residential or industrial areas of 2 or more hectares.

Where possible adjustments have been made to both the 1980 Census and the Inventory to achieve the nearest available comparison. The apparent changes indicated in the following tables and charts should therefore be treated with caution, particularly where areas are small.

Table 19:	Comparison of woodland area between 1980 Census and 1997 Inventory
Table 20:	Comparison of High Forest area by species between 1980 Census and 1997 Inventory
Chart:	Comparison of High Forest area by species between 1980 Census and 1997 Inventory
Table 21:	Comparison of High Forest Category 1 area by planting year class between 1980 Census and 1997 Inventory
Chart:	Comparison of High Forest Category 1 area by planting year class between 1980 Census and 1997 Inventory
Table 22:	Comparison of numbers of live trees outside woodland between 1980 Census and 1997 Inventory
Table 23:	Comparison of density of non-woodland features between 1980 Census and 1997 Inventory

Woodland cover

Chart	Change in woodland cover through time (1890 – 2000)
Maps:	Woodland by county through time (1895 – 1998)

Note: The figures in many of the tables may not add due to rounding

Table 19 Comparison of woodland area between 1980 Census and 1997 Inventory

Woodland size (ha)	1980 Census woodland area		1997 Inventory woodland area		Change
	(ha)	(%)	(ha)	(%)	(%)
2.0 or more	26,374	91.7	30,256	87.3	15
0.25 - <2.0	2,383	8.3	4,417	12.7	85
Total	28,757		34,673		21
% Woodland land cover	7.3		8.8		

1.   Differences in sampling methodology may account for some of the apparent differences.

2.   The above figures from the 1997 Inventory exclude
      woodland between 0.1 and <0.25 ha, thereby matching the scope of the 1980 Census.
      The 1997 figures above will therefore not match those in the previous sections of the report.

3.   Land area used to calculate woodland cover percent (1997), 392,346 ha,
      was based on the 1991 Census of Population digital boundaries.

4.   Land area used to calculate woodland cover percent (1980), 392,648 ha,
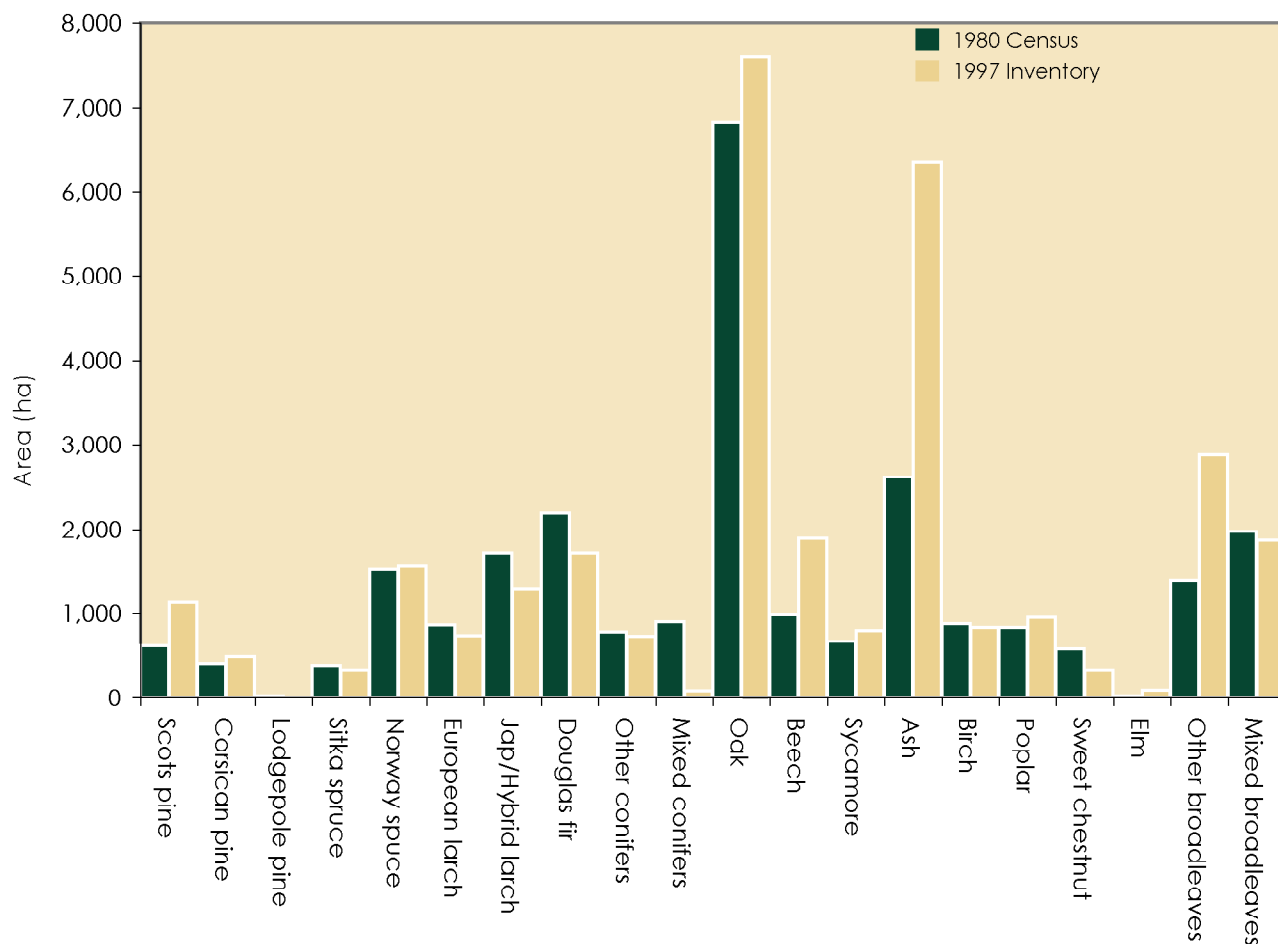   (Ordnance Survey data)

Table 20 Comparison of High Forest area by species between 1980 Census and 1997 Inventory

Species	1980 Census woodland area (ha)	1997 Inventory woodland area (ha)	Change (%)
Scots pine	618	1,129	83
Corsican pine	402	482	20
Lodgepole pine	23	11	-52
Sitka spruce	377	329	-13
Norway spuce	1,523	1,566	3
European larch	866	735	-15
Jap/Hybrid larch	1,718	1,286	-25
Douglas fir	2,191	1,717	-22
Other conifers	781	730	-7
Mixed conifers	905	87	-90
Total conifers	**9,405**	**8,072**	**-14**
Oak	6,815	7,607	12
Beech	990	1,890	91
Sycamore	666	797	20
Ash	2,615	6,355	143
Birch	880	835	-5
Poplar	833	959	15
Sweet chestnut	575	330	-43
Elm	20	90	350
Other broadleaves	1,394	2,875	106
Mixed broadleaves	1,971	1,867	-5
Total broadleaves	**16,759**	**23,605**	**41**
Total all species	**26,164**	**31,677**	**21**
Felled	**573**	**352**	**-39**
Total High Forest	**26,736**	**32,029**	**20**

1.   Differences in sampling methodology may account for some of the apparent differences.

2.   In the 1980 Census the areas assigned to species included any associated open space such as roads and rides. In the Inventory open spaces are separately identified and the overall proportion is 4.7% (Table 2). To obtain meaningful comparisons between the two datasets the 1980 Census data have therefore been reduced by 4.7%.

3.   The above figures from the 1997 Inventory exclude woodland between 0.1 and <0.25 ha, thereby matching the scope of the 1980 Census.
         The 1997 figures above will therefore not match those in the previous sections of the report.

4.   The 1980 figures include scrub to enable comparison

**Comparison of High Forest area by species between 1980 Census and 1997 Inventory**

Table 21 Comparison of High Forest Category 1 area by planting year class
between 1980 Census and 1997 Inventory

Planting year class	1980 Census woodland area (ha)	1997 Inventory woodland area (ha)	Change (%)
1991-1997	0	1,498	see note
1981-1990	0	846	see note
1971-1980	1,602	1,469	-8
1961-1970	3,919	4,077	4
1951-1960	4,587	4,040	-12
1941-1950	2,193	1,888	-14
1931-1940	2,342	1,255	-46
1921-1930	3,913	1,060	-73
1911-1920	1,737	987	-43
1901-1910	2,390	262	-89
1861-1900	2,320	6,797	193
Pre 1861	481	1,140	137
Total all years	**25,483**	**25,319**	**-1**

1.   The first two classes, 1991-1997 and 1981-1990, cover the period since the 1980 Census and no comparison is therefore available.

2.   The definition of High Forest Category 1 in the Inventory does not fully coincide with High Forest as defined in the 1980 Census.

Comparison of High Forest Category 1 area by planting year class between 1980 Census and 1997 Inventory
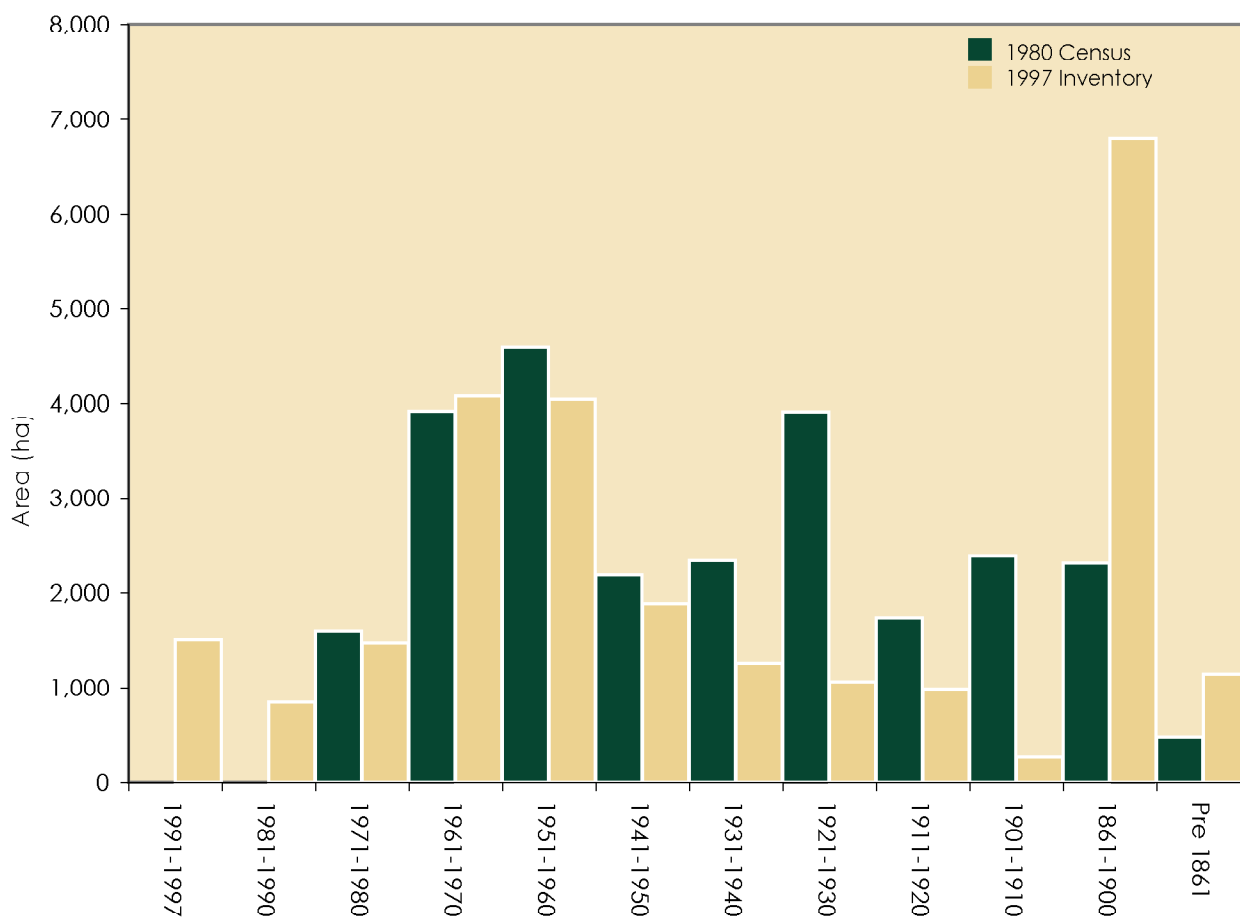
Table 22 Comparison of numbers of live trees outside woodland
between 1980 Census and 1997 Inventory (000's)

Feature type	1980 Census	1997 Inventory	Change (%)
Boundary Tree	341	176	-48
Middle Tree	269	61	-77
Total Individual Trees	610	237	-61
Groups	581	1,017	75
Linear Features	889	2,140	141
Total	2,080	3,394	63

1.	The Survey of Small Woodland and Trees did not record information referring to tree features (I.e. Individual trees, Groups and Narrow Linear Features) within developed land.

2.	In the 1980 Census hazel, hawthorn, blackthorn and goat willow were excluded, the 1997 Inventory figures have been adjusted accordingly.
The 1997 figures above will therefore not match those in the previous sections of the report.

3.	Changes stated in this table are indicative only. Even with adjustments to the 1997 Inventory, the two surveys are not directly comparable - 1980 used 7cm diameter at breast height, and 1997 used 2m height, as minimum criteria for inclusion.

4.	See Glossary for definitions of feature type.

Table 23 Comparison of density of non-woodland features between 1980
Census and 1997 Inventory

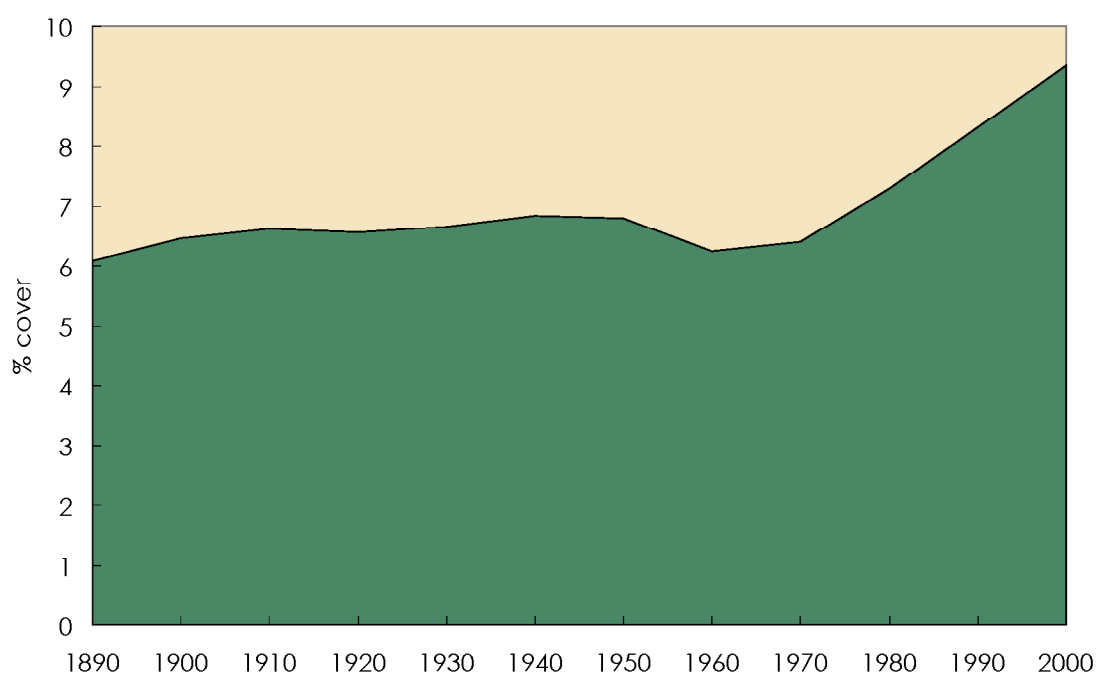| Feature type	1980 Census	1997 Inventory	Change (%)
Individual Trees (per sq km)	155.4	60.5	-61
Groups (per sq km)	45.2	35.7	-21
Linear Features (m per sq km)	598.5	2,022.5	238

1.	The Survey of Small Woodland and Trees did not record information referring to tree features (I.e. Individual trees, Groups and Narrow Linear Features) within developed land.

2.	In the 1980 Census hazel, hawthorn, blackthorn and goat willow were excluded, the 1997 Inventory figures have been adjusted accordingly.
The 1997 figures above will therefore not match those in the previous sections of the report.

3.	Changes stated in this table are indicative only. Even with adjustments to the 1997 Inventory, the two surveys are not directly comparable - 1980 used 7cm diameter at breast height, and 1997 used 2m height, as minimum criteria for inclusion.

4.	See Glossary for definitions of feature type.
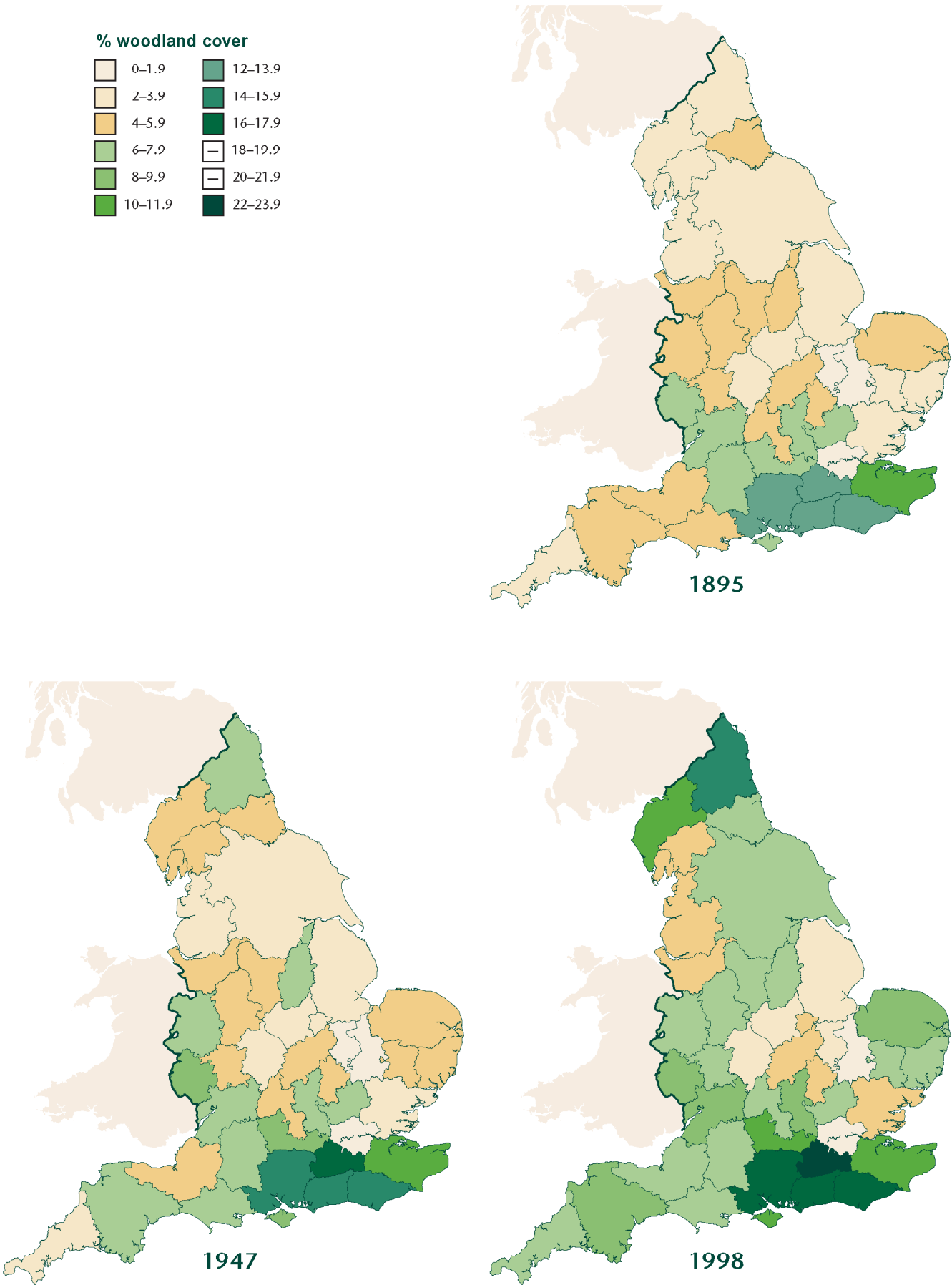
WOODLAND COVER

Woodland area data is available from Ministry of Agriculture surveys since 1871, and from Forestry Commission national woodland inventories since 1924. The following chart and maps show the changes in woodland area through time.

The maps use the old County structure data of England, as reported on in 1895 and 1947. The data from these counties could not be re-worked for different geographic areas. In contrast, the digital woodland map, which forms the basis of the current inventory, can be analysed for any geographic area.

Change in county woodland cover through time (1890 – 2000)

Map 5 Woodland Cover in England by County through time (1895–1998)

% woodland cover

- 0–1.9
- 2–3.9
- 4–5.9
- 6–7.9
- 8–9.9
- 10–11.9
- 12–13.9
- 14–15.9
- 16–17.9
- 18–19.9
- 20–21.9
- 22–23.9

1895

1947

1998

GLOSSARY

Woodland

In the United Kingdom woodland is defined as land with a minimum area of 0.1 ha
under stands of trees with, or the potential to achieve, tree crown cover of more than 20%.
Areas of open space integral to the woodland are also included. Orchards and urban
woodland between 0.1 and 2 ha are excluded. Intervening land-classes such as roads,
rivers or pipelines are disregarded if less than 50m in extent. 'Scrubby' vegetation is not
Included as a separate category but as Conifer, Broadleaved or Mixed tree types.
There is additional information on the quality of woodland within the inventory database.

Woodland of 2 ha and over, and with a minimum width of 50m, is included in the Main
Woodland Survey; other woodland and trees are assessed in the Survey of Small Woodland
and Trees.

Interpreted Forest Types

The woodland map derived from aerial photographs is differentiated into Interpreted Forest
Types (IFTs) which are: Conifer, Broadleaved, Mixed, Coppice, Coppice-with-Standards,
Shrubs, Young Trees, Ground Prepared for Planting and Felled. Note that forest types
(see below) based on ground survey data are used for reporting purposes because they
are more reliable.

High Forest

All woodland except stands managed as Coppice or Coppice-with-Standards with, or with
the potential to achieve a tree cover of more than 20%. Two categories of High Forest are
recognised:

- **High Forest Category 1**
  Stands which are, or could become, capable of producing wood of a size and quality
  suitable for sawlogs.

- **High Forest Category 2**
  Stands of lower quality than High Forest Category 1.

Mixtures

Where possible the species in mixtures have been separately recorded. Where this has not been
possible they were described as 'Mixed conifers' or 'Mixed broadleaves'.

Forest Types

- **Conifer**

  Woodland containing more than 80% by area of coniferous species.

- **Broadleaved**

  Woodland containing more than 80% by area of broadleaved species.

- **Mixed**

  A combination of broadleaved and coniferous species where each category
  occupies at least 20% of the canopy (see note on mixtures above.)

- **Coppice**

  Crops of marketable broadleaved species that have at least 2 stems per stool and are either being worked or are capable of being worked on rotation. With the exception of hazel coppice more than half the stems should be capable of producing 1m timber lengths of good form.

- **Coppice with Standards**

  Two-storey stands where the overstorey consists of at least 25 stems per ha that are older than the understorey of worked coppice by at least one coppice rotation.

- **Felled**

  Woodland areas that have been felled or stands where the stocking has been reduced to less than 20% and where it is expected that these areas will be replanted.

- **Windblow**

  Areas of blown woodland which remain uncleared and not regenerated.

- **Open Space**

  Areas within a woodland that are not covered by trees but are integral to the woodland such as open areas, streamsides, deer glades, rides and forest roads.

Ownership types

- **Other Ownership**

  Woodland other than that owned by, or leased to, the Forestry Commission

  ### - Personal

  types of private occupation, e.g. individuals, private family trusts and family partnerships.

  ### - Private forestry or timber business

  owned by wood processing industry. This category does not include forest management companies.

  ### - Other private business

  occupiers, e.g. companies, partnerships, syndicates and pension funds.

  ### - Local Authority

  Region, County, District or other Council

  ### - Other public bodies (not FC)

  Government department/agency, nationalised industry, etc.

  ### - Charitable organisations

  organisations funded by voluntary public subscription, e.g. National Trust, churches and colleges.

- Community ownership or common land

the common property of all members of the community.

- **Forestry Commission**

  Land owned by or land leased to the Forestry Commission

Feature types

- **Small Wood**

  A woodland with an area of 0.1 ha or over but less than 2 ha.

- **Group**

  A group containing two or more trees with an area less than 0.1ha.

- **Individual Tree**

  A tree the crown of which has no contact with any other tree crown and which is at least 2m tall. Two types of individual tree are recognised:

  - Boundary Tree   (an Individual Tree on any boundary)

  - Middle Tree (an Individual Tree not on a boundary)

- **Linear Feature**

  A feature with a length of 25 m or more, and one which is at least four times as long as it is broad. It can be up to 50m wide or as narrow as a single line of trees. Two types of Linear Features are recognised:

  - Narrow Linear Features (with a width of 16 m or less)
  - Wide Linear Features (with a width greater than 16 m)

NOTES

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