National Inventory of Woodland and Trees

of Woodland and Trees

England

County Report for

Cumbria

Forestry Commission

CONTENTS

Results from the Survey of Small Woodland and Trees (SSWT)   **31**

Tables 13 – 18

Comparison of results with the 1980 Census and previous surveys   **39**

Tables 19 - 23

Glossary   **49**

ACKNOWLEDGEMENTS

INTRODUCTION

This report presents the results for Cumbria 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 With the statistics becoming increasingly out of date the Forestry Commission decided to undertake a new survey: the *National Inventory of Woodland and Trees*.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 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.

MAIN POINTS FROM THE SURVEY RESULTS

- The total area of woodland of 0.1 hectares and over in Cumbria is 64,582 hectares. This represents 9.5% of the land area. (Table 1)

- Conifer woodland is the dominant forest type representing 45.5 % of all woodland. Broadleaved woodland represents 36.5 %, Mixed woodland 8.2 % and Open Space within woodlands 6.5 %. (Table 2)

- The main conifer species is Sitka spruce covering 17,228 hectares or 53.6 % of all conifer species. The main broadleaved species is oak covering 8,585 hectares or 32.5 % of all broadleaved species. (Table 3)

- 20,727 hectares or 34 % of woodland over 2 hectares is owned by or leased to the Forestry Commission, and 41,026 hectares or 66 % of woodland is in Other ownership. (Table 6)

- There are a total of 2,220 woods over 2 ha within Cumbria with a mean wood area of 27.9 hectares. (Table 7a) There are a total of 7,408 woods from 0.1 - <2.0 hectares with a mean wood area of 0.38 hectares. (Table 14)

- There are 4 million live trees outside woodland in Cumbria. (Table 15)

- Woodland land cover increased by over 9,700 hectares from 8.0 % to 9.4 % of the land area between 1980 and 1999. (Table 19)

- The area of broadleaves increased by 55% between 1980 and 1999, with the relative proportion of broadleaves to conifers increasing from 34 % to 45 %. (Table 20)

INVENTORY REPORTS

As well as this report for Cumbria, 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. Inventory reports can also be viewed or downloaded from the website at www.forestry.gov.uk/inventory.

Map 1 Regional and county boundaries
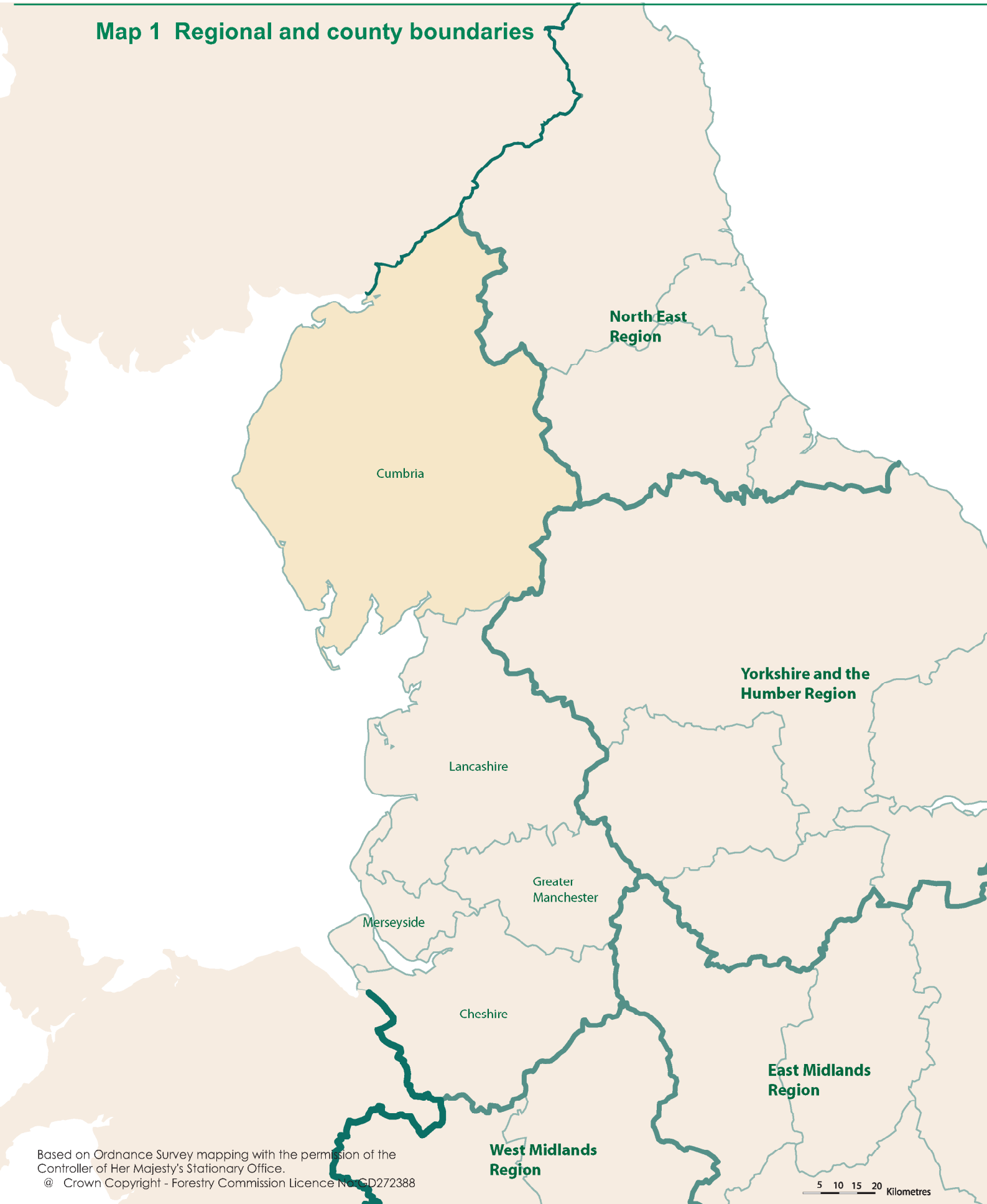
North East
Region

Cumbria

Yorkshire and the
Humber Region

Lancashire

Greater
Manchester

Merseyside

Cheshire

East Midlands
Region

West Midlands
Region

5   10   15   20   Kilometres

Map 2 Distribution of woodland over 2 hectares
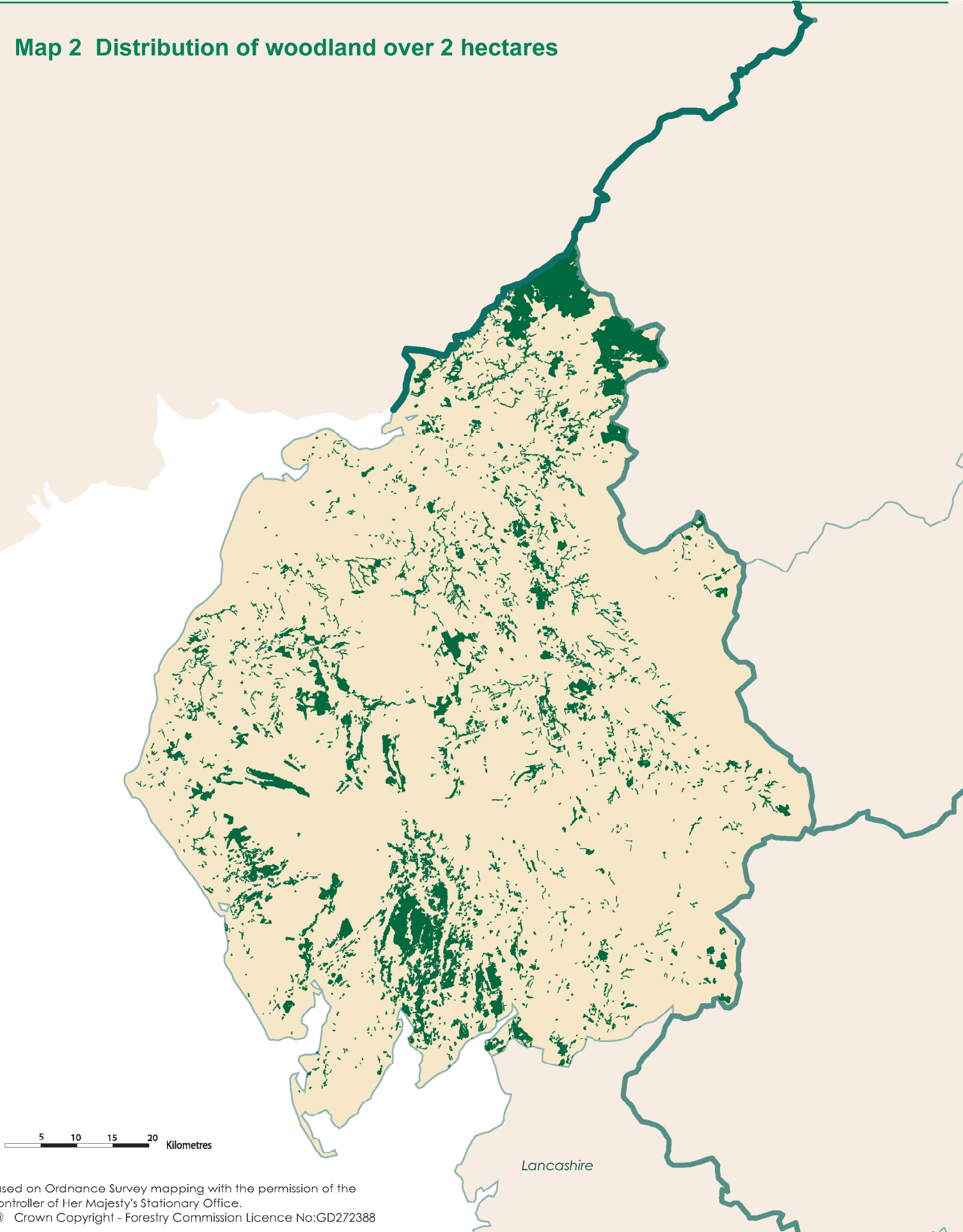
5   10   15   20   Kilometres

Lancashire

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Controller of Her Majesty's Stationary Office.
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Reference Date 31 March 1999

Map 3 Distribution of woodland over 2 hectares by ownership

Forestry Commission woodland
Other woodland
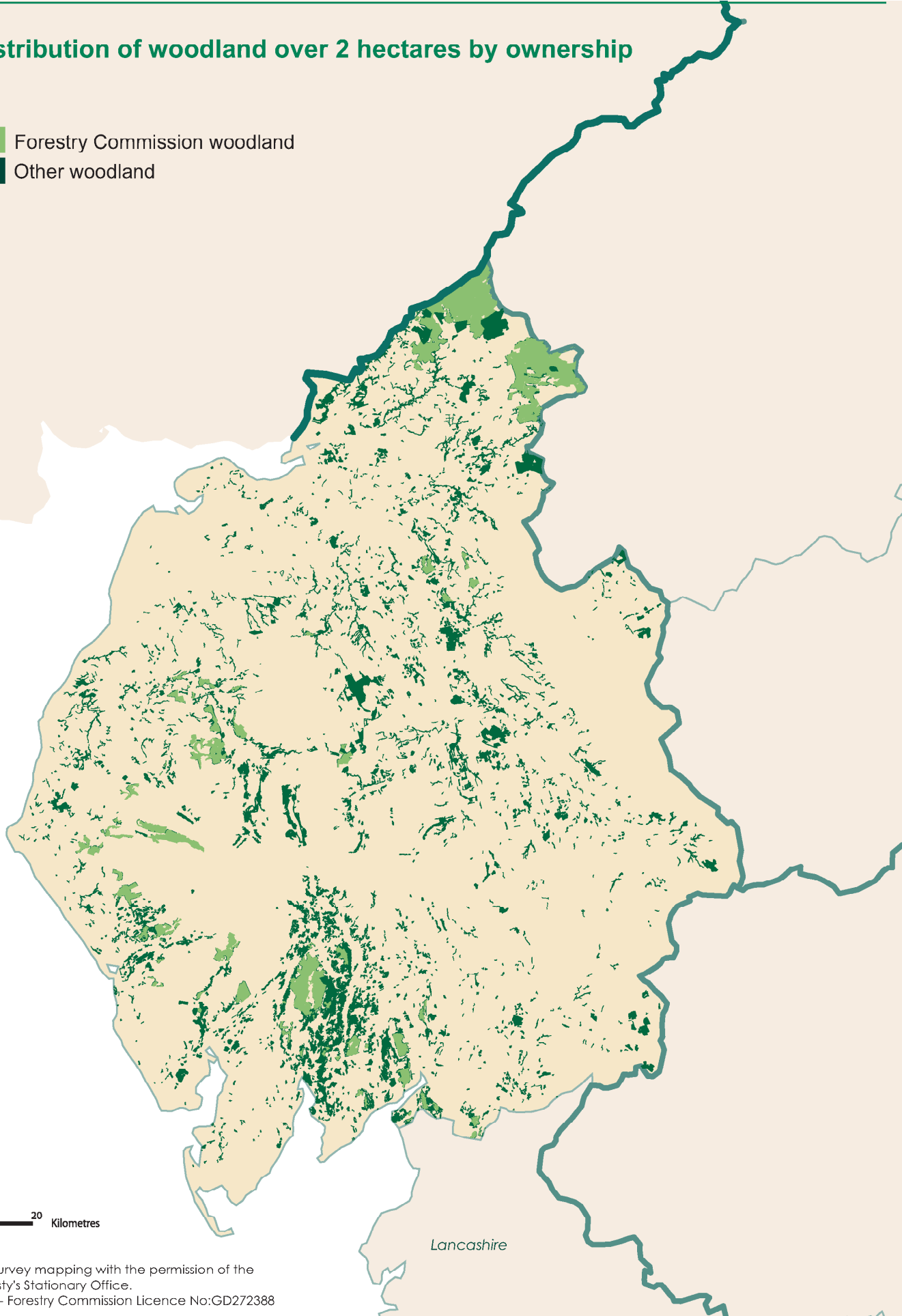
5 10 15 20 Kilometres

Lancashire

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

- Broadleaves
- Conifer
- Mixed
- Felled
- Young trees & shrubs
- Ground prepared for planting
- Coppice
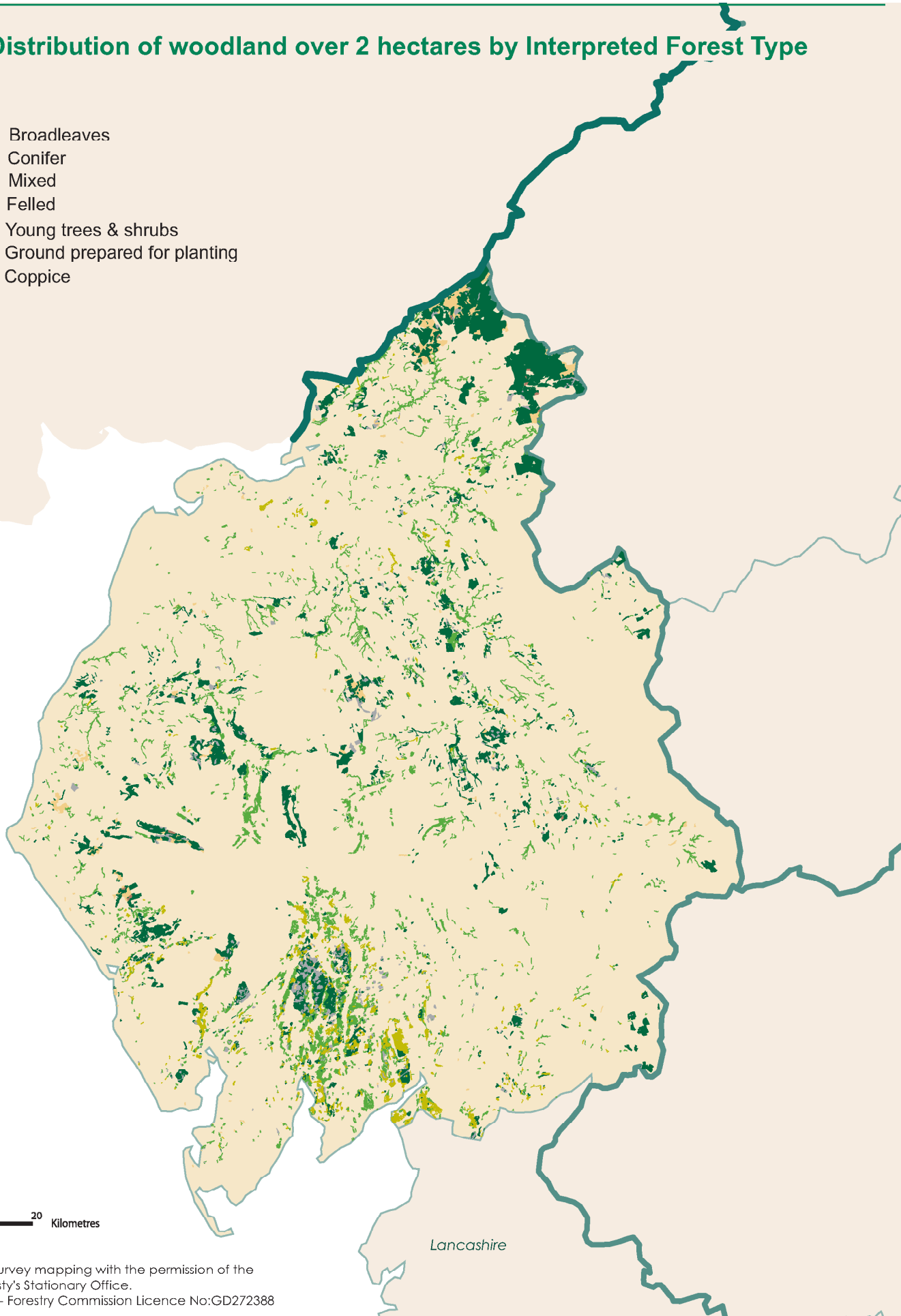
5   10   15   20   Kilometres

Lancashire

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Reference Date 31 March 1999

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 Cumbria.

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	61,753	95.6
0.25 - < 2.00	2,407	3.7
0.10 - < 0.25	422	0.7
Total area of woodland	**64,582**	**100.0**
% Woodland land cover	**9.5**	

1.   Area of Cumbria, including inland water, 682,333 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
Conifer	29,138	225	29,363	45.5
Broadleaved	21,472	2,130	23,602	36.5
Mixed	4,864	415	5,279	8.2
Coppiced	82	0	82	0.1
Copp-w-standards	0	0	0	0.0
Windblow	330	0	330	0.5
Felled	1,736	0	1,736	2.7
Open Space	4,130	59	4,189	6.5
Total	61,753	2,829	64,582	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 (ha)	Percentage of total area	
	2.0 and over	0.1 -<2.0		Category*	Species**
Pine	5,076	104	5,180	16.1	8.8
Sitka spruce	17,124	104	17,228	53.6	29.4
Larch	4,154	121	4,275	13.3	7.3
Other conifers	5,208	0	5,208	16.2	8.9
Mixed conifers	200	52	252	0.8	0.4
Total conifers	**31,763**	**381**	**32,144**	**100.0**	**54.9**
Oak	7,693	892	8,585	32.5	14.7
Beech	1,404	64	1,468	5.6	2.5
Sycamore	1,827	64	1,891	7.2	3.2
Ash	2,299	145	2,444	9.2	4.2
Birch	6,367	404	6,771	25.6	11.6
Elm	6	0	6	0.0	0.0
Other broadleaves	2,992	463	3,455	13.1	5.9
Mixed broadleaves	1,455	356	1,811	6.9	3.1
Total broadleaves	**24,042**	**2,388**	**26,430**	**100.0**	**45.1**
Total all species*	**55,805**	**2,770**	**58,575**		**100.0**

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

***Excludes the 6,007 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   3%
   Broadleaves   3%
   Sitka spruce 5%
   Oak   7%
   Birch   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	421,400	1,760,800	4	258
Narrow Linear Features	54,800	1,537,700	28	225
Individual Trees	726,100	726,100	1	106
Total		4,024,600		590

1. Land area used to calculate tree density 682,333 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	18%
Narrow Linear Features	23%
Individual Trees	13%

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	1,179	336	49
Narrow Linear Features	54,800	3,714	544
Total		4,050	594

1. Land area used to calculate tree density 682,333 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	70%
Narrow Linear Features	23%

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	20,727	34
Other	41,026	66
Total area of woodland	**61,753**	**100**

1.   Woodland area from aerial photographic interpretation map updated to 31 March 1999

2.   See Glossary for definitions of ownership types

Woodland area by ownership

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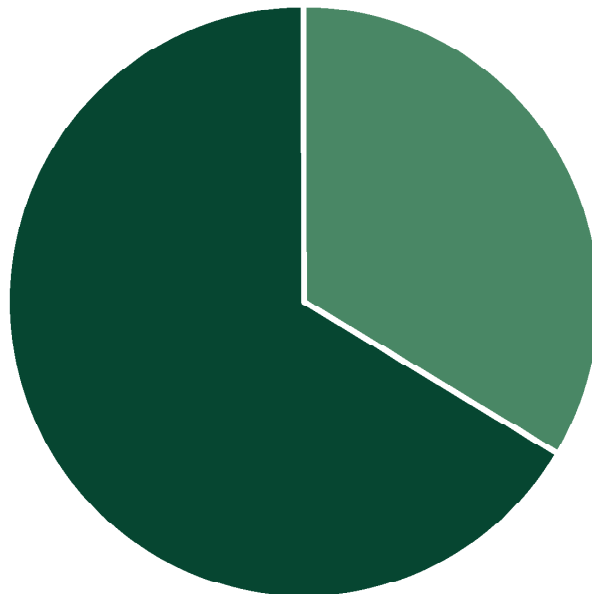
Table 7a Size class distribution of woodland

Size class (ha)	Number of woods	Total area (ha)	Percent of total area	Mean wood area (ha)
<10	1,553	6,939	11	4.5
10 - <20	288	3,973	6	13.8
20 - <50	201	6,182	10	30.8
50 - <100	87	5,881	9	67.6
<100	2,129	22,975	37	10.8
100 - <500	80	17,629	28	220.4
500 and >	11	21,429	35	1948.1
All woods	2,220	62,033	100	27.9

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	28	102	0	3.6
	O	1,728	7,372	12	4.3
10 - <20	FC	11	176	0	16.0
	O	297	4,075	7	13.7
20 - <50	FC	22	713	1	32.4
	O	210	6,492	10	30.9
50 - <100	FC	11	761	1	69.1
	O	97	6,631	11	68.4
<100	FC	72	1,751	3	24.3
	O	2,332	24,569	40	10.5
100 - <500	FC	25	5,491	9	219.6
	O	62	12,790	21	206.3
500 and >	FC	5	13,485	22	2696.9
	O	5	3,947	6	789.4
Total	FC	102	20,727	33	203.2
	O	2,399	41,306	67	17.2

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 280 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 7a
        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	14,847	71.6	14,291	34.8	29,138	47.2
Broadleaved	2,015	9.7	19,457	47.4	21,472	34.8
Mixed	837	4.0	4,027	9.8	4,864	7.9
Coppice	31	0.1	50	0.1	82	0.1
Copp-w-Stds	0	0.0	0	0.0	0	0.0
Windblow	217	1.0	113	0.3	330	0.5
Felled	1,287	6.2	449	1.1	1,736	2.8
Open Space	1,492	7.2	2,638	6.4	4,130	6.7
Total	20,727	100.0	41,026	100.0	61,753	100.0

Area of woodland by forest type

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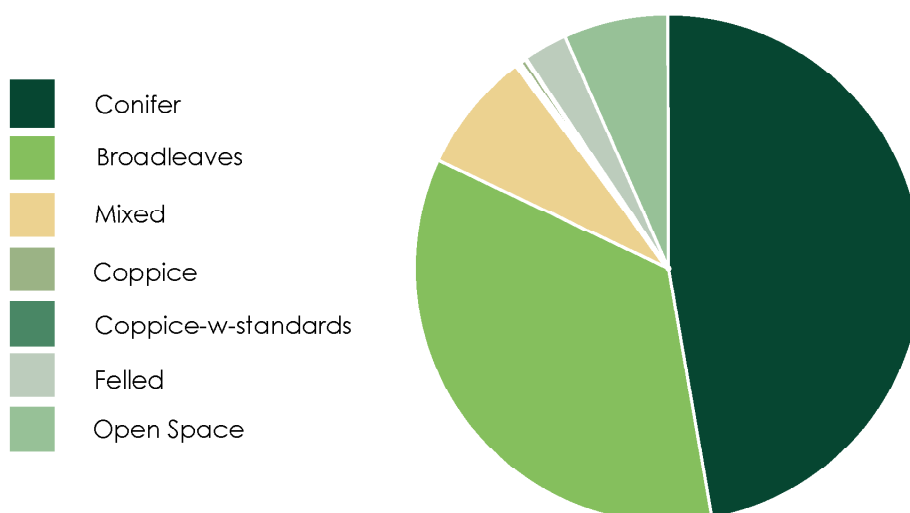
Table 9a Area of High Forest by principal species and ownership

Species	Forestry Commission			Other			All ownerships		
	area (ha)	cat* %	spp** %	area (ha)	cat* %	spp** %	area (ha)	cat* %	spp** %
Scots pine	679	4	4	3,136	19	8	3,815	12	7
Corsican pine	63	0	0	89	1	0	152	0	0
Lodgepole pine	670	4	4	439	3	1	1,109	3	2
Sitka spruce	10,600	69	59	6,524	40	17	17,124	54	31
Norway spruce	872	6	5	2,811	17	7	3,684	12	7
European larch	883	6	5	1,168	7	3	2,051	6	4
Jap/Hybrid larch	960	6	5	1,143	7	3	2,103	7	4
Douglas fir	67	0	0	212	1	1	280	1	1
Other conifers	651	4	4	593	4	2	1,244	4	2
Mixed conifers	9	0	0	191	1	1	200	1	0
Total conifers	**15,455**	**100**	**86**	**16,307**	**100**	**43**	**31,763**	**100**	**57**
Oak	649	26	4	7,043	33	19	7,693	32	14
Beech	422	17	2	982	5	3	1,404	6	3
Sycamore	52	2	0	1,775	8	5	1,827	8	3
Ash	150	6	1	2,149	10	6	2,299	10	4
Birch	682	28	4	5,685	26	15	6,367	26	11
Poplar	0	0	0	0	0	0	0	0	0
Sweet chestnut	0	0	0	0	0	0	0	0	0
Elm	0	0	0	6	0	0	6	0	0
Other broadleaves	182	7	1	2,810	13	7	2,992	12	5
Mixed broadleaves	324	13	2	1,131	5	3	1,455	6	3
Total broadleaves	**2,461**	**100**	**14**	**21,581**	**100**	**57**	**24,042**	**100**	**43**
Total - all species	**17,916**		**100**	**37,888**		**100**	**55,805**		**100**
Felled	**1,287**			**449**			**1,736**		
Total High Forest	**19,203**			**38,337**			**57,541**		

*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 4,130 ha 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   3%
        Broadleaves   3%
        Sitka spruce   5%
        Oak   7%
        Birch   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
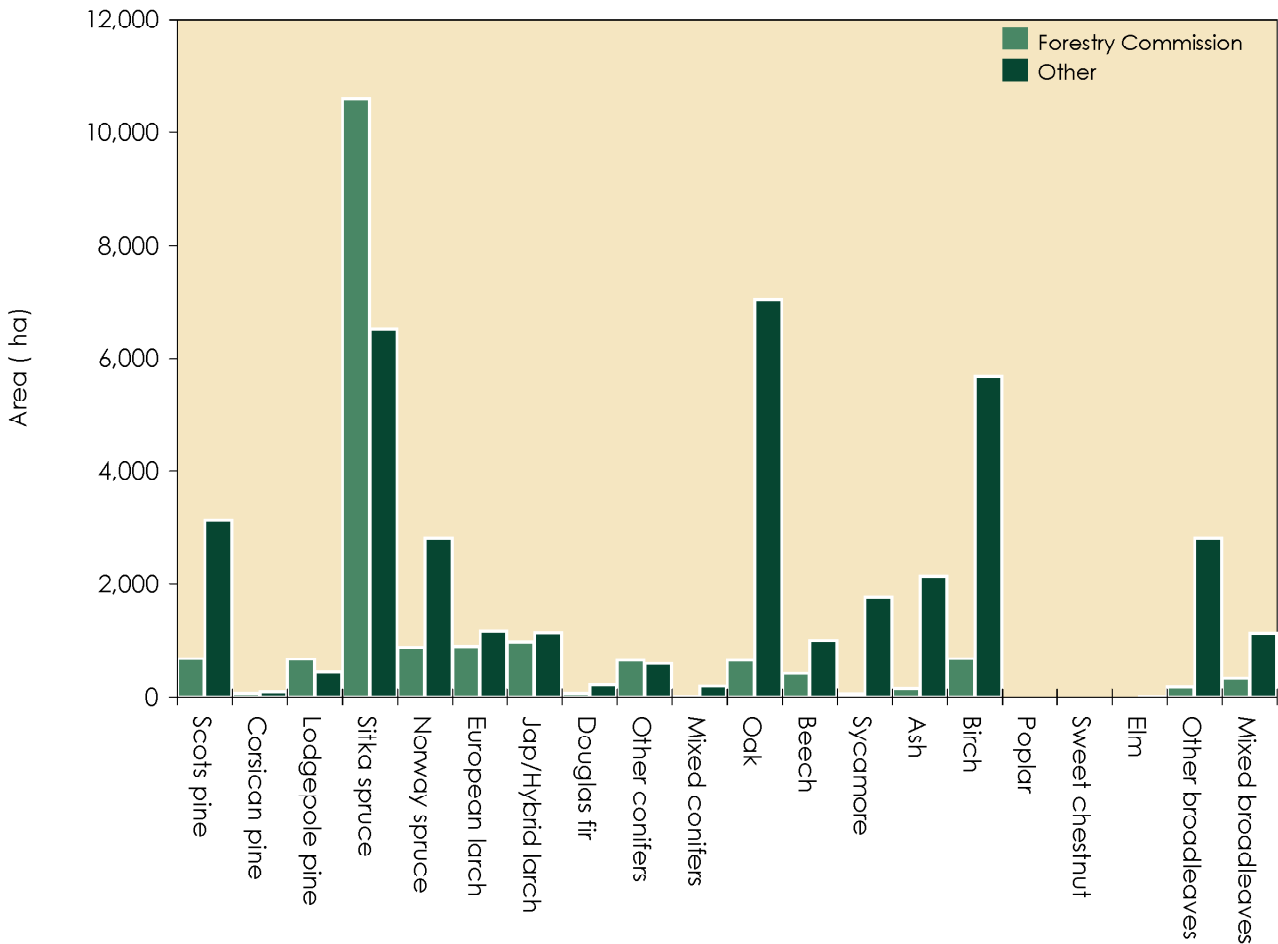
Table 9b Area of High Forest by principal species, ownership and category

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	643	36	679	3,114	22	3,136	3,757	58	3,815
Corsican pine	63	0	63	85	4	89	147	4	152
Lodgepole pine	580	90	670	387	52	439	967	142	1,109
Sitka spruce	10,422	178	10,600	6,414	110	6,524	16,836	288	17,124
Norway spruce	859	13	872	2,794	18	2,811	3,653	31	3,684
European larch	811	72	883	1,168	0	1,168	1,979	72	2,051
Jap/Hybrid larch	870	90	960	1,143	0	1,143	2,013	90	2,103
Douglas fir	67	0	67	212	0	212	280	0	280
Other conifers	408	243	651	221	371	593	630	614	1,244
Mixed conifers	4	4	9	128	63	191	132	68	200
Total conifers	**14,729**	**727**	**15,455**	**15,666**	**642**	**16,307**	**30,394**	**1,368**	**31,763**
Oak	495	155	649	5,334	1,709	7,043	5,829	1,864	7,693
Beech	413	9	422	805	177	982	1,218	186	1,404
Sycamore	43	9	52	1,533	242	1,775	1,576	251	1,827
Ash	123	27	150	1,458	691	2,149	1,581	718	2,299
Birch	428	254	682	2,598	3,087	5,685	3,026	3,341	6,367
Poplar	0	0	0	0	0	0	0	0	0
Sweet chestnut	0	0	0	0	0	0	0	0	0
Elm	0	0	0	6	0	6	6	0	6
Other broadleaves	9	173	182	794	2,016	2,810	803	2,189	2,992
Mixed broadleaves	129	195	324	465	666	1,131	593	861	1,455
Total broadleaves	**1,640**	**821**	**2,461**	**12,992**	**8,589**	**21,581**	**14,632**	**9,410**	**24,042**
Total - all species	**16,368**	**1,548**	**17,916**	**28,658**	**9,231**	**37,888**	**45,026**	**10,779**	**55,805**

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	3%	18%	3%	
Broadleaves	5%	5%	3%	
Sitka spruce	5%	49%	5%	
Oak	8%	14%	7%	*See Glossary for Category 1
Birch	11%	11%	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
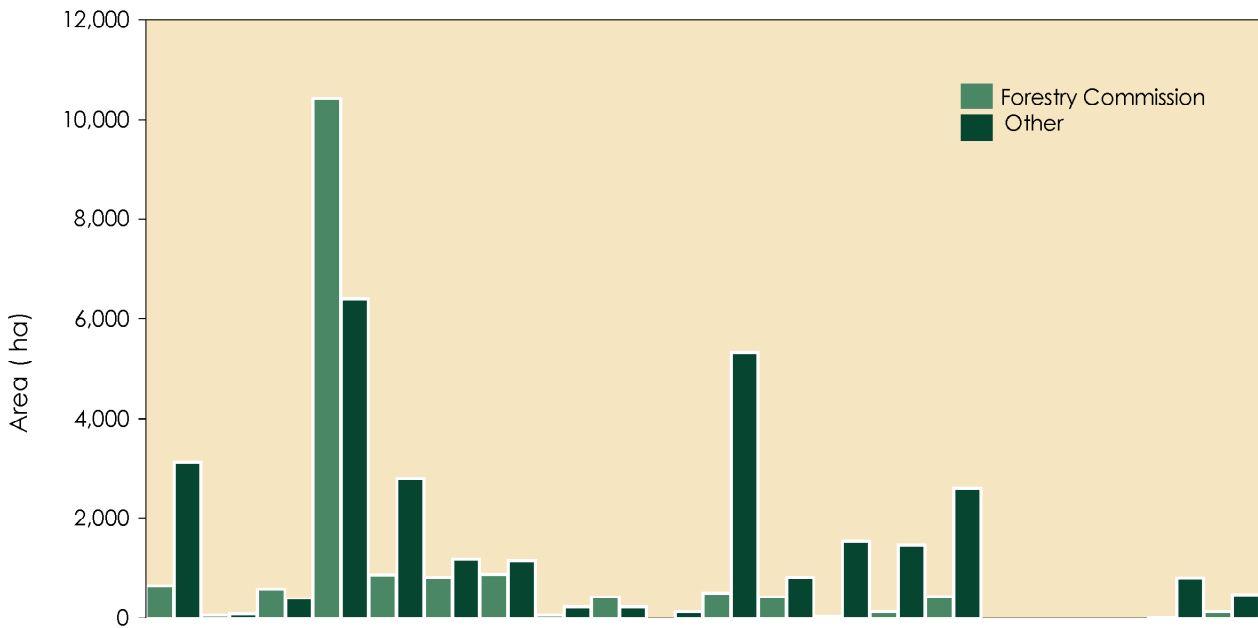
High Forest Category 2 - Area by principal species and ownership
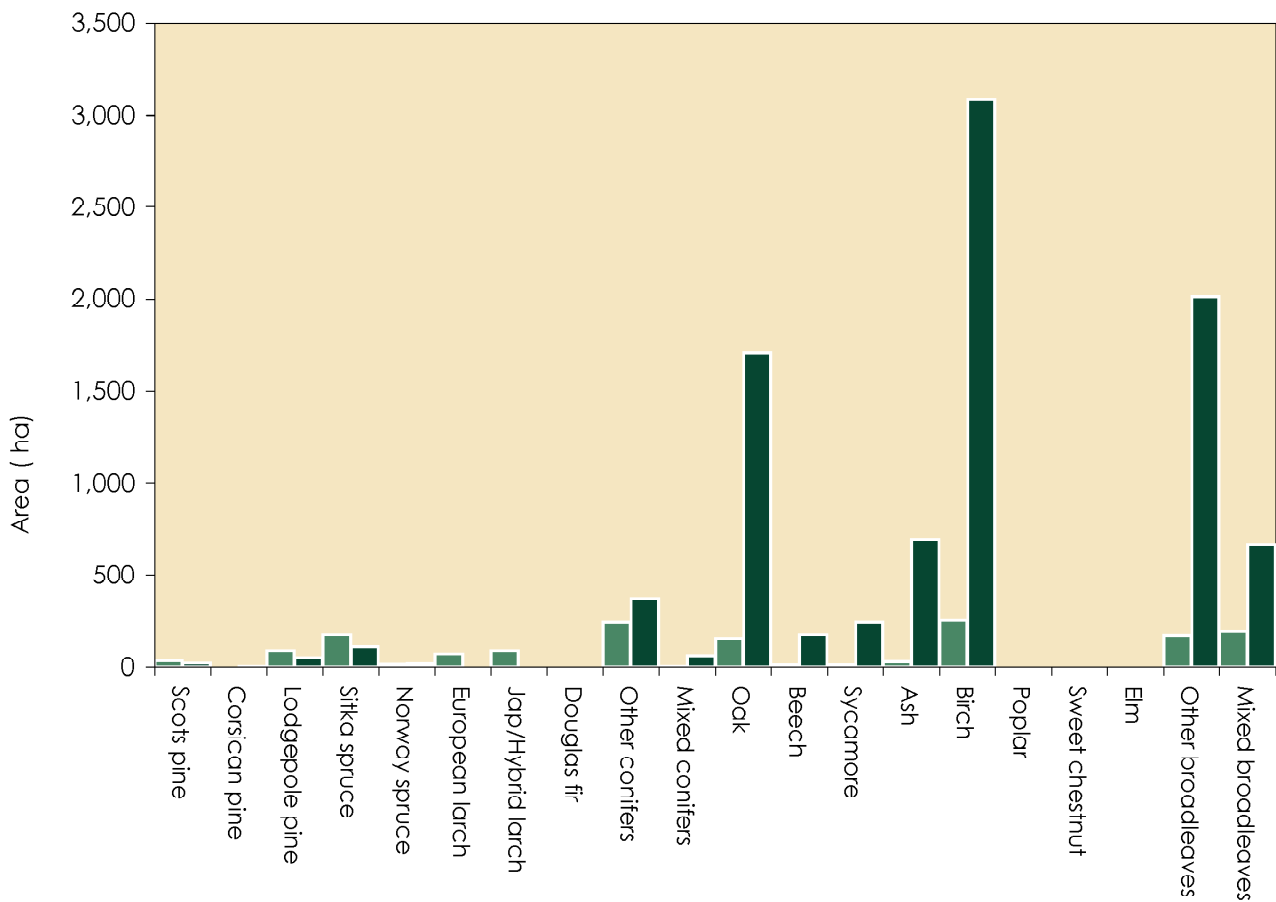
Table 10a High Forest Category 1 - Area by principal species and planting year class

Species	Planting year class*												Total (ha)
	1991-1999	1981-1990	1971-1980	1961-1970	1951-1960	1941-1950	1931-1940	1921-1930	1911-1920	1901-1910	1861-1900	Pre-1861	
Scots pine	360	370	552	144	600	809	417	134	217	88	67	0	3,757
Corsican pine	0	0	45	0	27	58	0	0	18	0	0	0	147
Lodgepole pine	0	0	331	443	193	0	0	0	0	0	0	0	967
Sitka spruce	2,364	2,249	5,054	3,799	2,086	995	270	19	0	0	0	0	16,836
Norway spruce	205	226	226	1,110	885	464	345	9	11	17	155	0	3,653
European larch	0	3	108	221	319	297	413	206	351	6	56	0	1,979
Jap/Hybrid larch	37	254	210	246	823	299	92	53	0	0	0	0	2,013
Douglas fir	16	0	107	47	49	20	0	0	20	0	21	0	280
Other conifers	6	9	75	138	92	60	100	9	90	21	30	0	630
Mixed conifers	6	0	11	20	16	22	9	0	28	0	21	0	132
Total conifers	**2,992**	**3,111**	**6,718**	**6,168**	**5,092**	**3,024**	**1,645**	**429**	**734**	**131**	**350**	**0**	**30,394**
Oak	156	116	60	47	215	476	574	570	733	281	2,577	24	5,829
Beech	7	0	26	84	274	101	167	10	83	31	435	0	1,218
Sycamore	0	16	146	160	170	211	256	404	42	0	171	0	1,576
Ash	10	20	61	42	306	189	261	383	85	0	225	0	1,581
Birch	30	255	270	242	708	653	545	251	52	0	19	0	3,026
Poplar	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
Elm	0	0	0	0	0	0	6	0	0	0	0	0	6
Other broadleaves	47	49	0	46	52	248	9	203	145	0	4	0	803
Mixed broadleaves	218	17	101	4	21	67	13	53	28	16	54	0	593
Total broadleaves	**467**	**472**	**665**	**625**	**1,746**	**1,946**	**1,831**	**1,873**	**1,168**	**328**	**3,486**	**24**	**14,632**
Total - all species	**3,460**	**3,584**	**7,383**	**6,792**	**6,838**	**4,970**	**3,476**	**2,302**	**1,903**	**459**	**3,836**	**24**	**45,026**

*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
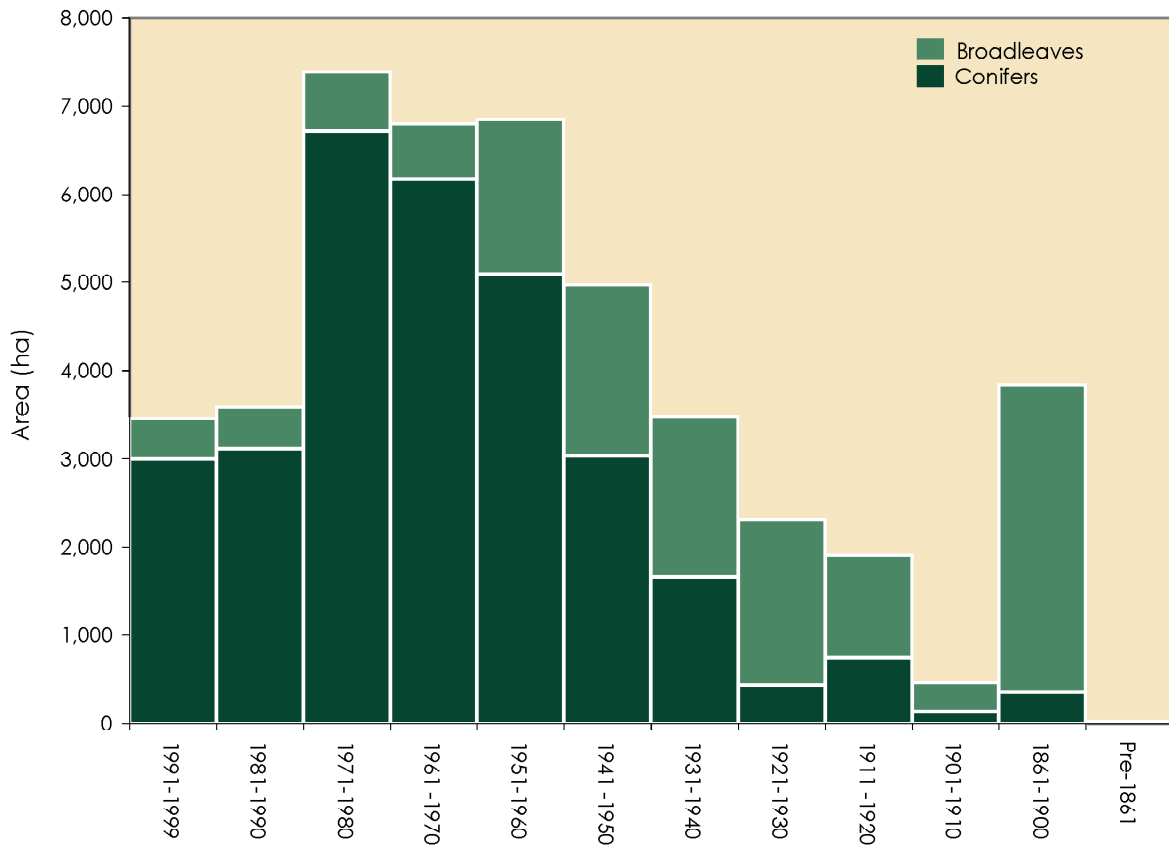
1. Most of the planting year classes cover 10 years, 1991-1999 is 9 years, and the classes prior to 1901 are 40 years or more.

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

Species	Planting year class*												Total (ha)
	1991-1999	1981-1990	1971-1980	1961-1970	1951-1960	1941-1950	1931-1940	1921-1930	1911-1920	1901-1910	1861-1900	Pre-1861	
Scots pine	117	54	72	67	243	18	58	13	0	0	0	0	643
Corsican pine	0	0	36	0	27	0	0	0	0	0	0	0	63
Lodgepole pine	0	0	90	297	193	0	0	0	0	0	0	0	580
Sitka spruce	2,007	1,521	2,714	1,751	1,671	574	175	9	0	0	0	0	10,422
Norway spruce	0	0	13	13	306	360	81	9	0	0	76	0	859
European larch	0	0	27	198	157	72	162	43	135	0	18	0	811
Jap/Hybrid larch	27	157	0	67	465	108	18	27	0	0	0	0	870
Douglas fir	0	0	18	0	49	0	0	0	0	0	0	0	67
Other conifers	0	9	75	100	62	54	0	9	90	0	9	0	408
Mixed conifers	0	0	0	0	4	0	0	0	0	0	0	0	4
Total conifers	**2,151**	**1,741**	**3,045**	**2,494**	**3,179**	**1,185**	**495**	**111**	**225**	**0**	**103**	**0**	**14,729**
Oak	0	0	0	0	36	22	9	13	67	0	346	0	495
Beech	0	0	26	51	247	4	75	0	0	0	9	0	413
Sycamore	0	0	13	0	12	13	0	0	4	0	0	0	43
Ash	0	0	42	0	67	14	0	0	0	0	0	0	123
Birch	9	67	0	26	249	18	4	13	40	0	0	0	428
Poplar	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
Elm	0	0	0	0	0	0	0	0	0	0	0	0	0
Other broadleaves	0	4	0	0	4	0	0	0	0	0	0	0	9
Mixed broadleaves	108	0	4	4	0	4	0	0	7	0	0	0	129
Total broadleaves	**117**	**72**	**86**	**82**	**615**	**77**	**88**	**27**	**120**	**0**	**355**	**0**	**1,640**
Total - all species	**2,268**	**1,813**	**3,131**	**2,576**	**3,794**	**1,263**	**583**	**138**	**344**	**0**	**459**	**0**	**16,368**

*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.

Reference Date: 31 March 1999

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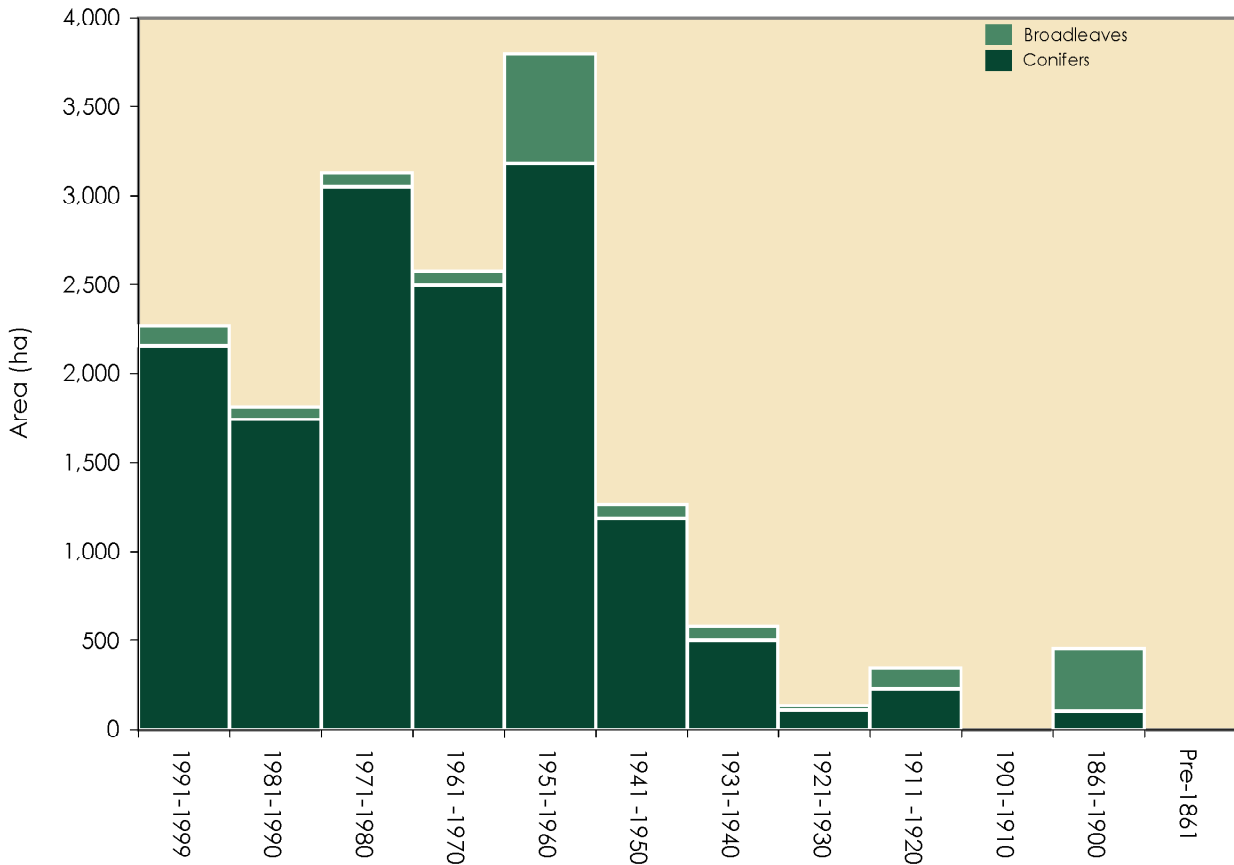

1. Most of the planting year classes cover 10 years, 1991-1999 is 9 years, and the classes prior to 1901 are 40 years or more.

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

Species	Planting year class*												Total (ha)
	1991-1999	1981-1990	1971-1980	1961-1970	1951-1960	1941-1950	1931-1940	1921-1930	1911-1920	1901-1910	1861-1900	Pre-1861	
Scots pine	244	316	480	77	357	791	358	120	217	88	67	0	3,114
Corsican pine	0	0	9	0	0	58	0	0	18	0	0	0	85
Lodgepole pine	0	0	241	146	0	0	0	0	0	0	0	0	387
Sitka spruce	357	728	2,340	2,047	415	422	95	10	0	0	0	0	6,414
Norway spruce	205	226	212	1,097	579	105	264	0	11	17	79	0	2,794
European larch	0	3	81	23	162	225	251	162	216	6	38	0	1,168
Jap/Hybrid larch	10	97	210	179	358	191	74	26	0	0	0	0	1,143
Douglas fir	16	0	89	47	0	20	0	0	20	0	21	0	212
Other conifers	6	0	0	38	30	6	100	0	0	21	21	0	221
Mixed conifers	6	0	11	20	11	22	9	0	28	0	21	0	128
Total conifers	**842**	**1,370**	**3,673**	**3,673**	**1,913**	**1,838**	**1,150**	**318**	**509**	**131**	**247**	**0**	**15,666**
Oak	156	116	60	47	179	454	565	556	665	281	2,231	24	5,334
Beech	7	0	0	32	27	97	92	10	83	31	426	0	805
Sycamore	0	16	132	160	158	198	256	404	38	0	171	0	1,533
Ash	10	20	19	42	239	175	261	383	85	0	225	0	1,458
Birch	21	188	270	216	459	635	541	238	11	0	19	0	2,598
Poplar	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
Elm	0	0	0	0	0	0	6	0	0	0	0	0	6
Other broadleaves	47	45	0	46	48	248	9	203	145	0	4	0	794
Mixed broadleaves	110	17	97	0	21	62	13	53	21	16	54	0	465
Total broadleaves	**350**	**400**	**578**	**543**	**1,131**	**1,868**	**1,743**	**1,846**	**1,049**	**328**	**3,131**	**24**	**12,992**
Total - all species	**1,192**	**1,771**	**4,252**	**4,216**	**3,044**	**3,707**	**2,893**	**2,164**	**1,558**	**459**	**3,378**	**24**	**28,658**

*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, 1991-1999 is 9 years, and the classes prior to 1901 are 40 years or more.
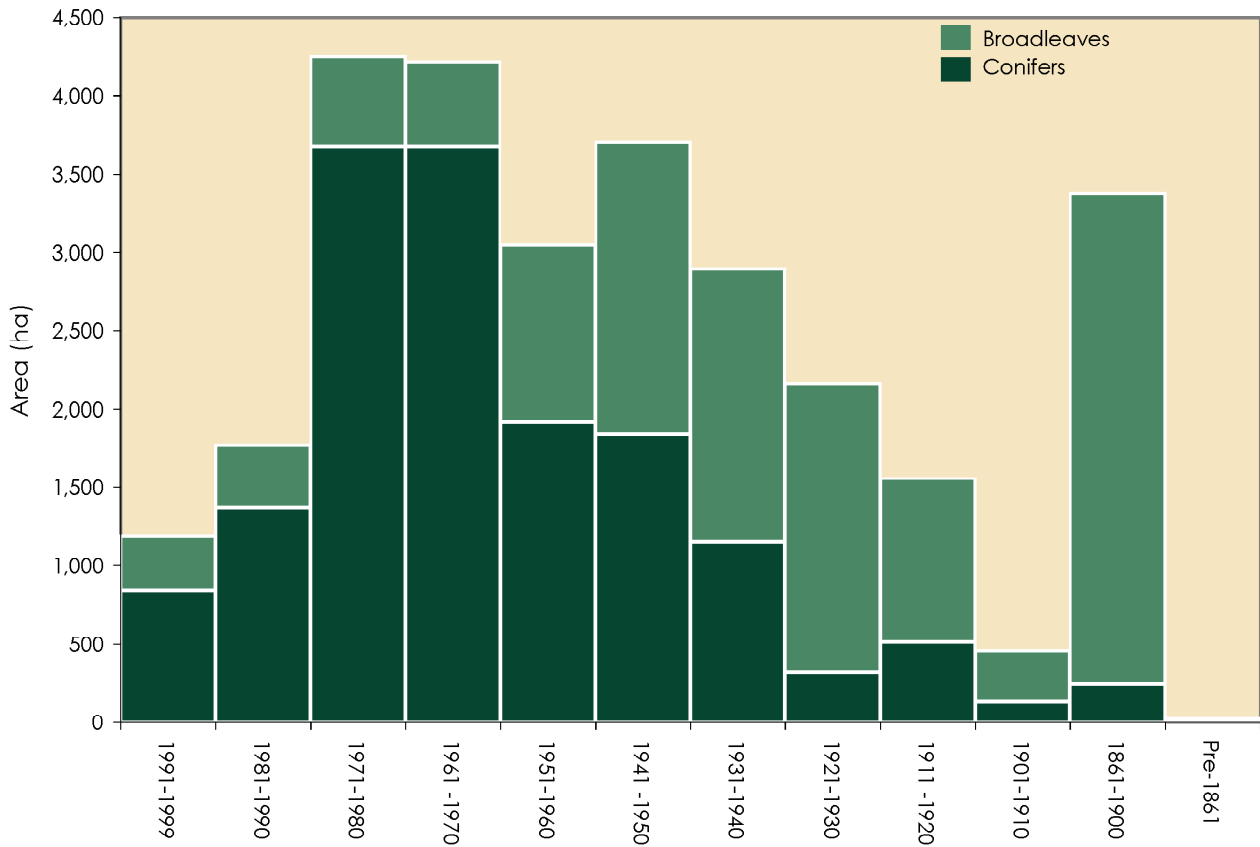
Table 11 High Forest : principal species by planting year class

Planting year class	First	%	Second	%	Third	%
1991-99	Sitka spruce	62	Scots pine	10	Mixed broadleaves	8
1981-90	Sitka spruce	59	Scots pine	10	Birch	10
1971-80	Sitka spruce	66	Scots pine	7	Birch	5
1961-70	Sitka spruce	46	Norway spruce	14	Birch	12
1951-60	Sitka spruce	25	Birch	14	Jap/Hybrid larch	10
1941-50	Birch	23	Sitka spruce	14	Other broadleaves	11
1931-40	Birch	20	Oak	15	Scots pine	10
1921-30	Oak	22	Birch	15	Ash	14
1911-20	Oak	43	European larch	15	Scots pine	9
1901-10	Oak	59	Scots pine	18	Beech	6
1861-1900	Oak	64	Beech	9	Ash	8
Pre 1861	Oak	66	Beech	34	-	
All years	**Sitka spruce**	**31**	**Oak**	**14**	**Birch**	**11**

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	24,182	39.2
Business	7,447	12.1
Forestry or timber business	1,837	3.0
Charity	5,167	8.4
Local Authority	746	1.2
Other public (not FC)	1,158	1.9
Forestry Commission	20,727	33.6
Community ownership or common land	391	0.6
Unidentified	97	0.2
Total	**61,753**	**100.0**

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

Ownership type by area

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

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 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.

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	6,229	1,685	Area (ha)
Wide Linear Features	1,179	1,144	Area (ha)
Wide Linear Features	1,179	336	Length (Km)
Narrow Linear Features	54,800	3,714	Length (Km)
Narrow Linear Features	54,800	1,537,700	Number of live trees
Groups	421,400	1,760,800	Number of live trees
Individual Trees	726,100	726,100	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	422	1,263	1,685	6,229	0.27
Wide Linear Features	0	1,144	1,144	1,179	0.97
Total	422	2,407	2,829	7,408	0.38

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	0.8	2.3	10.2	14.7	28.0	21.2	0.7
Spruce	1.6	2.3	9.4	8.8	22.1	16.7	0.5
Larch	0.0	0.8	5.5	8.8	15.1	11.4	0.4
Cypress	0.8	0.8	8.6	10.6	20.8	15.7	0.5
Other conifers	4.7	3.1	21.9	16.5	46.2	34.9	1.1
Total conifers	**7.9**	**9.3**	**55.6**	**59.6**	**132.2**	**100.0**	**3.3**
Oak	27.4	18.0	54.8	47.8	148.0	3.8	3.7
Beech	12.5	5.5	49.3	67.2	134.5	3.5	3.3
Sycamore	20.7	21.6	123.8	91.4	257.5	6.6	6.4
Ash	85.3	23.5	233.4	205.8	548.0	14.1	13.6
Birch	14.9	11.0	85.4	101.4	212.7	5.5	5.3
Poplar	1.6	0.0	11.7	54.2	67.5	1.7	1.7
Sweet chestnut	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Horse chestnut	5.5	0.0	0.8	0.0	6.3	0.2	0.2
Alder	9.2	16.7	104.2	152.1	282.2	7.3	7.0
Lime	0.8	1.6	0.0	2.4	4.8	0.1	0.1
Elm	0.8	0.0	1.6	3.5	5.9	0.2	0.1
Willow	17.4	21.7	184.9	145.0	369.0	9.5	9.2
Other broadleaves	162.8	230.4	855.3	607.3	1,855.8	47.7	46.1
Total broadleaves	**358.8**	**350.1**	**1,705.2**	**1,478.2**	**3,892.2**	**100.0**	**96.7**
Total - all species	**366.7**	**359.4**	**1,760.8**	**1,537.8**	**4,024.7**		**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   13%
Groups   18%
Narrow Linear Features   23%

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	0.8	0.0	0.8	100.0	1.8
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	0.0	0.0	0.0	0.0	0.0
Other 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**	**1.8**
Oak	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Beech	0.0	0.0	3.1	2.4	5.5	12.4	12.2
Sycamore	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ash	0.0	0.0	0.0	5.9	5.9	13.3	13.1
Birch	0.8	0.0	1.6	0.0	2.4	5.4	5.3
Poplar	0.0	0.0	0.8	0.0	0.8	1.8	1.8
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	3.1	0.0	3.1	7.0	6.9
Lime	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Elm	2.3	1.6	1.6	1.2	6.7	15.2	14.9
Willow	0.0	0.0	0.0	0.6	0.6	1.4	1.3
Other broadleaves	3.1	0.8	9.4	5.9	19.2	43.4	42.8
Total broadleaves	**6.2**	**2.4**	**19.6**	**15.9**	**44.2**	**100.0**	**98.4**
Total - all species	**6.2**	**2.4**	**20.4**	**15.9**	**44.9**		**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	0.0	14.5	13.6	0.0	28.1
Spruce	1.6	20.6	0.0	0.0	22.2
Larch	0.0	13.9	1.2	0.0	15.1
Cypress	3.9	10.6	6.3	0.0	20.8
Other conifers	19.8	26.5	0.0	0.0	46.3
Total conifers	**25.3**	**86.1**	**21.1**	**0.0**	**132.5**
Oak	28.8	85.7	30.4	3.1	148.0
Beech	37.1	82.6	13.5	1.4	134.6
Sycamore	63.9	182.0	11.6	0.0	257.5
Ash	125.1	398.8	21.9	2.2	548.0
Birch	38.0	171.5	3.1	0.0	212.6
Poplar	49.3	18.2	0.0	0.0	67.5
Sweet chestnut	0.0	0.0	0.0	0.0	0.0
Horse chestnut	3.1	3.1	0.0	0.0	6.2
Alder	52.5	229.0	0.6	0.0	282.1
Lime	2.3	0.0	0.0	2.4	4.7
Elm	2.2	3.7	0.0	0.0	5.9
Willow	228.9	140.2	0.0	0.0	369.1
Other broadleaves	1,438.4	417.5	0.0	0.0	1,855.9
Total broadleaves	**2,069.6**	**1,732.3**	**81.1**	**9.0**	**3,892.1**
Total - all species	**2,095.0**	**1,818.4**	**102.2**	**9.0**	**4,024.7**

Table 18 Number of Groups by group size

Number of trees per Group*	Number of Groups (000's)
2	102
3-5	175
6-10	88
11-20	45
21-50	9
51-100	2
>100	0
Total	**421**

*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 1999 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. 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 1999 Inventory
Table 20:	Comparison of High Forest area by species between 1980 Census and 1999 Inventory
Chart:	Comparison of High Forest area by species between 1980 Census and 1999 Inventory
Table 21:	Comparison of High Forest Category 1 area by planting year class between 1980 Census and 1999 Inventory
Chart:	Comparison of High Forest Category 1 area by planting year class between 1980 Census and 1999 Inventory
Table 22:	Comparison of numbers of live trees outside woodland between 1980 Census and 1999 Inventory
Table 23:	Comparison of density of non-woodland features between 1980 Census and 1999 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 1999 Inventory

Woodland size (ha)	1980 Census woodland area		1999 Inventory woodland area		Change (%)
	(ha)	(%)	(ha)	(%)	(%)
2.0 or more	51,400	94.4	61,753	96.2	20
0.25 - <2.0	3,050	5.6	2,407	3.8	-21
Total	54,450		64,160		18
% Woodland land cover	8.0		9.4		

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

2. The above figures from the 1999 Inventory exclude
woodland between 0.1 and <0.25 ha, thereby matching the scope of the 1980 Census.
The 1999 figures above will therefore not match those in the previous sections of the report.

3. Land area used to calculate woodland cover percent (1999), 682,333 ha,
was based on the 1991 Census of Population digital boundaries.

4. Land area used to calculate woodland cover percent (1980), 681,015 ha,
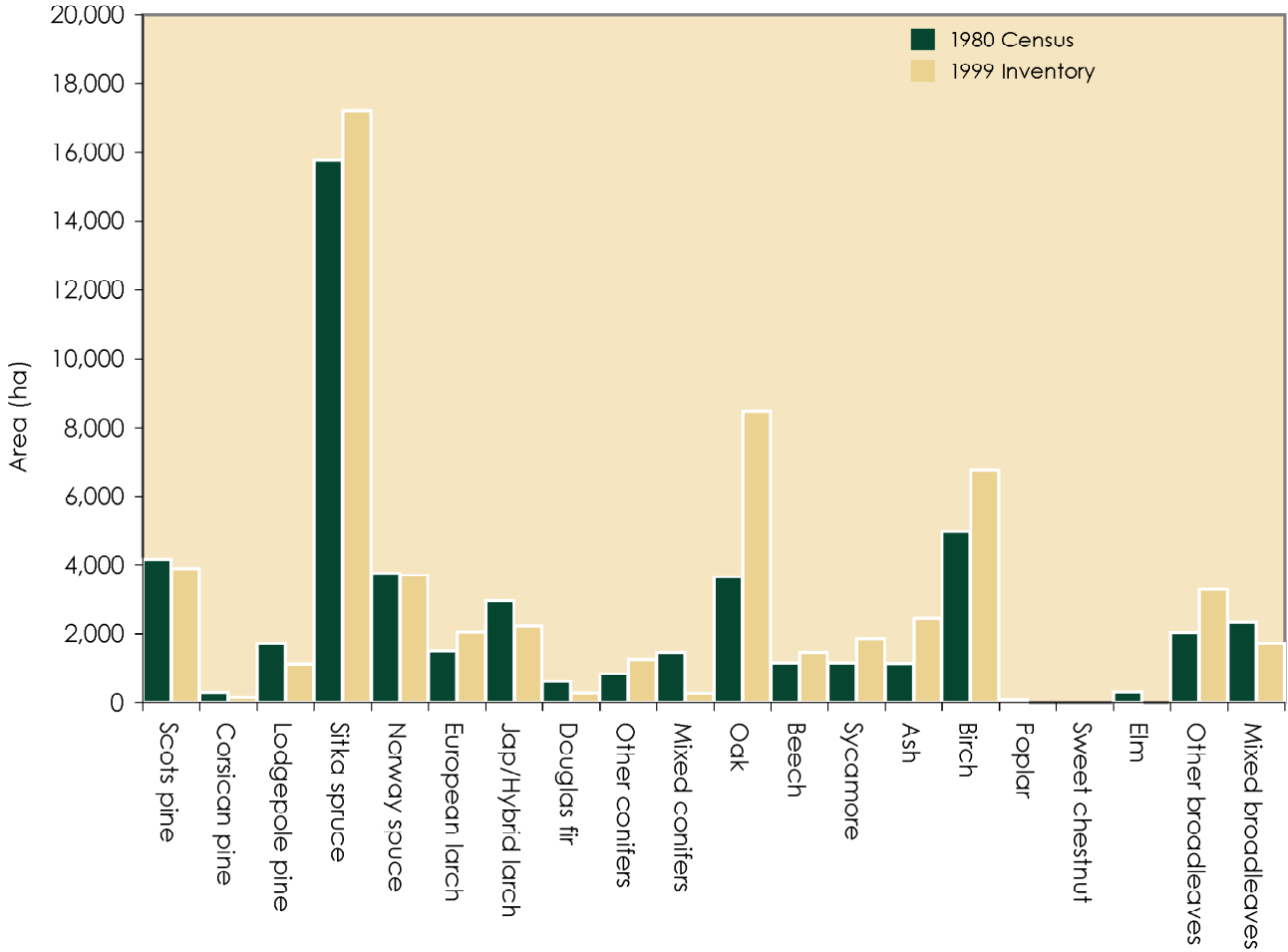
  (Ordnance Survey data)

Table 20 Comparison of High Forest area by species between 1980 Census
and 1999 Inventory

Species	1980 Census woodland area (ha)	1999 Inventory woodland area (ha)	Change (%)
Scots pine	4,163	3,902	-6
Corsican pine	295	152	-48
Lodgepole pine	1,718	1,109	-35
Sitka spruce	15,763	17,211	9
Norway spuce	3,759	3,684	-2
European larch	1,516	2,051	35
Jap/Hybrid larch	2,944	2,224	-24
Douglas fir	612	280	-54
Other conifers	831	1,244	50
Mixed conifers	1,460	252	-83
Total conifers	**33,060**	**32,109**	**-3**
Oak	3,649	8,485	133
Beech	1,142	1,468	29
Sycamore	1,155	1,856	61
Ash	1,136	2,444	115
Birch	4,965	6,754	36
Poplar	74	0	-100
Sweet chestnut	5	0	-100
Elm	308	6	-98
Other broadleaves	2,045	3,299	61
Mixed broadleaves	2,344	1,732	-26
Total broadleaves	**16,822**	**26,044**	**55**
Total all species	**49,882**	**58,153**	**17**
Felled	**828**	**1,736**	**110**
Total High Forest	**50,710**	**59,889**	**18**

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 6.5% (Table 2). To obtain meaningful comparisons between the two datasets the 1980 Census data have therefore been reduced by 6.5%.

3.   The above figures from the 1999 Inventory exclude woodland between 0.1 and <0.25 ha, thereby matching the scope of the 1980 Census.
The 1999 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 1999 Inventory**

Table 21 Comparison of High Forest Category 1 area by planting year class
between 1980 Census and 1999 Inventory

Planting year class	1980 Census woodland area (ha)	1999 Inventory woodland area (ha)	Change (%)
1991-1999	0	3,701	see note
1981-1990	0	3,583	see note
1971-1980	7,735	7,383	-5
1961-1970	9,191	6,897	-25
1951-1960	10,111	6,838	-32
1941-1950	5,441	5,074	-7
1931-1940	4,707	3,476	-26
1921-1930	2,241	2,703	21
1911-1920	886	1,902	115
1901-1910	1,594	459	-71
1861-1900	3,271	3,836	17
Pre 1861	782	111	-86
Total all years	**45,958**	**45,963**	**0**

1.   The first two classes, 1991-1999 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 1999 Inventory
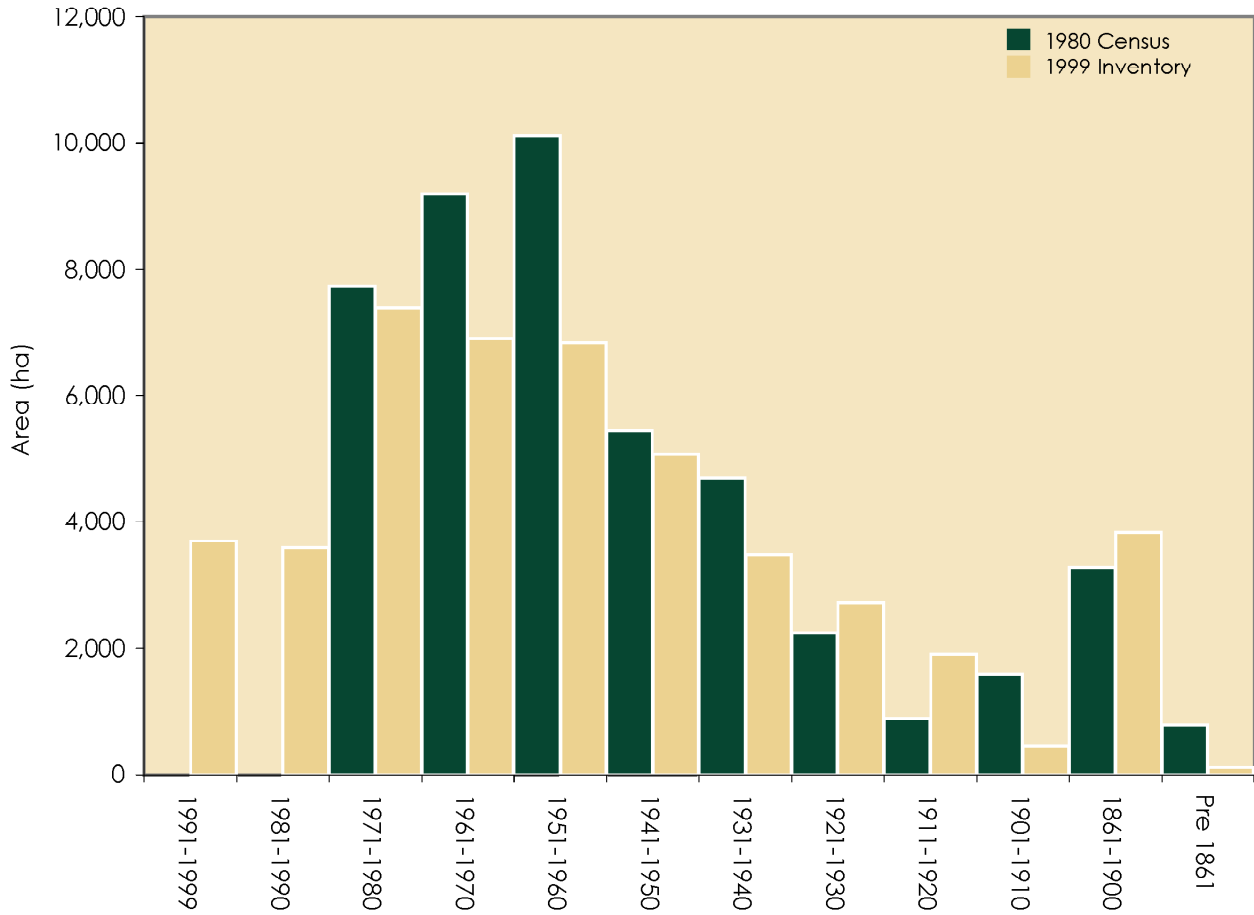
Table 22 Comparison of numbers of live trees outside woodland
between 1980 Census and 1999 Inventory   (000's)

Feature type	1980 Census	1999 Inventory	Change (%)
Boundary Tree	318	261	-18
Middle Tree	257	172	-33
Total Individual Trees	575	432	-25
Groups	1,569	928	-41
Linear Features	1,871	1,048	-44
Total	4,016	2,409	-40

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 1999 Inventory figures have been adjusted accordingly.
The 1999 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 1999 Inventory, the two surveys are not directly comparable - 1980 used 7cm diameter at breast height, and 1999 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 1999 Inventory

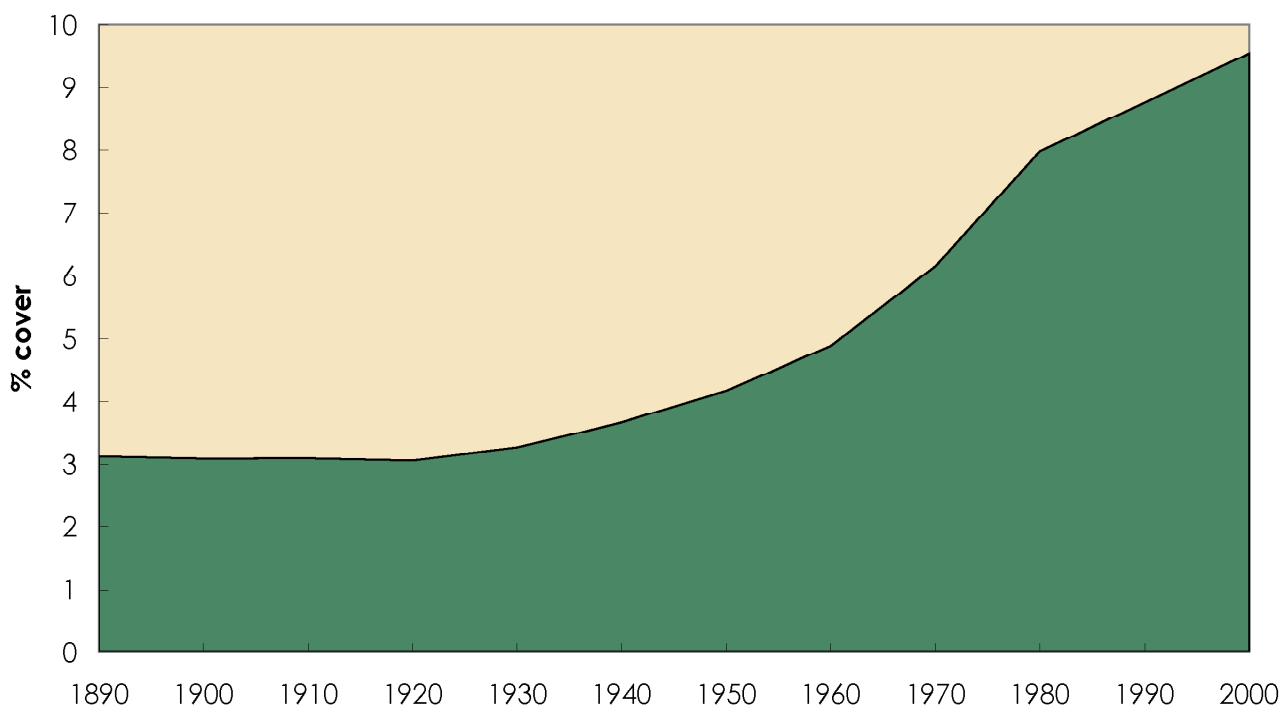| Feature type	1980 Census	1999 Inventory	Change (%)
Individual Trees (per sq km)	84.4	63.4	-25
Groups (per sq km)	22.8	33.8	48
Linear Features (m per sq km)	397.9	527.3	33

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 1999 Inventory figures have been adjusted accordingly.
The 1999 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 1999 Inventory, the two surveys are not directly comparable - 1980 used 7cm diameter at breast height, and 1999 used 2m height, as minimum criteria for inclusion.

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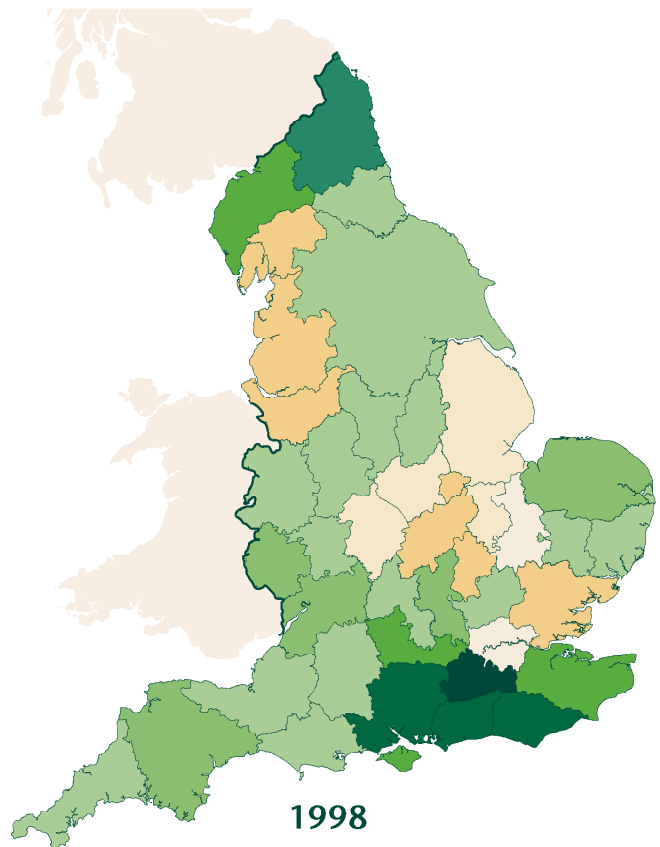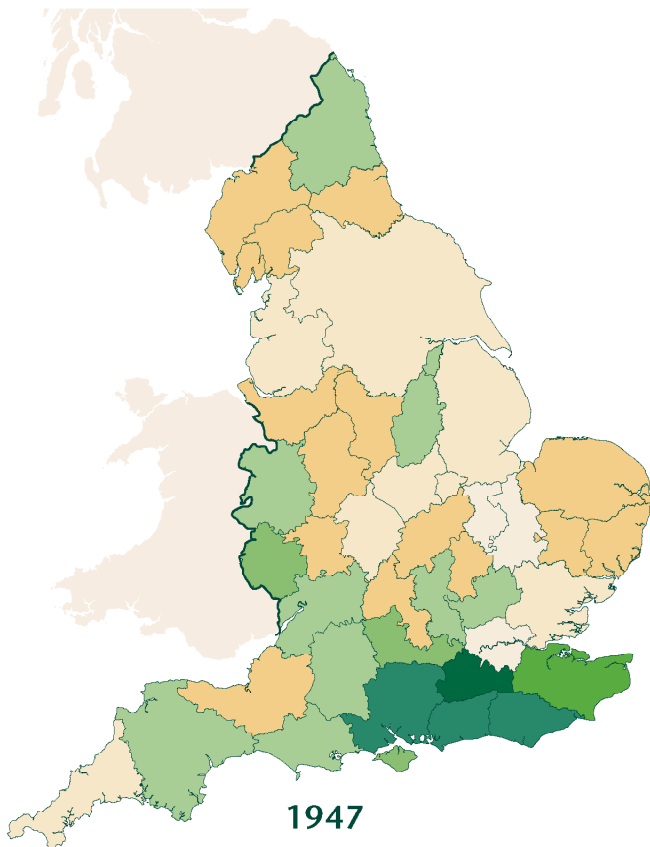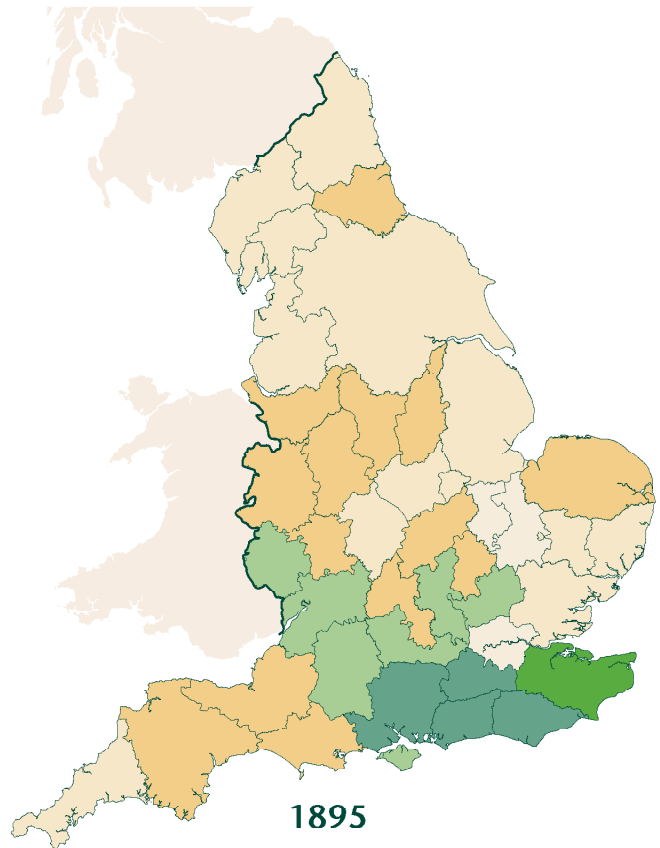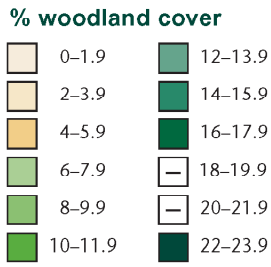
WOODLAND COVER

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