



NATIONAL INVENTORY OF WOODLAND AND TREES



ENGLAND

County Report for

NORTH YORKSHIRE



Forestry Commission

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Woodland Surveys Branch of Forest Research was responsible for carrying out the survey and analysing the data. A large number of Forestry Commission and contract staff were involved in the survey from its inception.

Preparation of the digital cartography for North Yorkshire was carried out by Graham Bull, Woodland Survey Officer, and Woodland GIS Officers Chris Brown, Robert Beck and Esther Whitton. Data processing and analysis was carried out by Woodland Data Officers Justin Gilbert and Shona Cameron.

The authors of this Report are Steve Smith (Head of Woodland Surveys) and Justin Gilbert (Woodland Data Officer) of Forest Research.

INTRODUCTION

This report presents the results for North Yorkshire 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 With the statistics becoming increasingly out of date the Forestry Commission decided to undertake a new survey: the *National Inventory of Woodland and Trees*.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 North Yorkshire is 60,843 hectares. This represents 7.3% of the land area. (Table 1)
- Broadleaved woodland is the dominant forest type representing 41.2 % of all woodland. Conifer woodland represents 32.3 %, Mixed woodland 13.7 % and Open Space within woodlands 11.2 %. (Table 2)
- The main conifer species is pine covering 10,565 hectares or 37.3 % of all conifer species. The main broadleaved species is oak covering 5,237 hectares or 21.1 % of all broadleaved species. (Table 3)
- 18,913 hectares or 32 % of woodland over 2 hectares is owned by or leased to the Forestry Commission, and 40,659 hectares or 68 % of woodland is in Other ownership. (Table 6)
- There are a total of 3,055 woods over 2 ha within North Yorkshire with a mean wood area of 19.5 hectares. (Table 7a) There are a total of 3,414 woods from 0.1 - <2.0 hectares with a mean wood area of 0.37 hectares. (Table 14)
- There are 1.1 million live trees outside woodland in North Yorkshire. (Table 15)
- Woodland land cover increased by over 4,800 hectares from 6.7 % to 7.3 % of the land area between 1980 and 1999. (Table 19)
- The area of broadleaves increased by 30% between 1980 and 1999, with the relative proportion of broadleaves to conifers increasing from 39 % to 47 %. (Table 20)

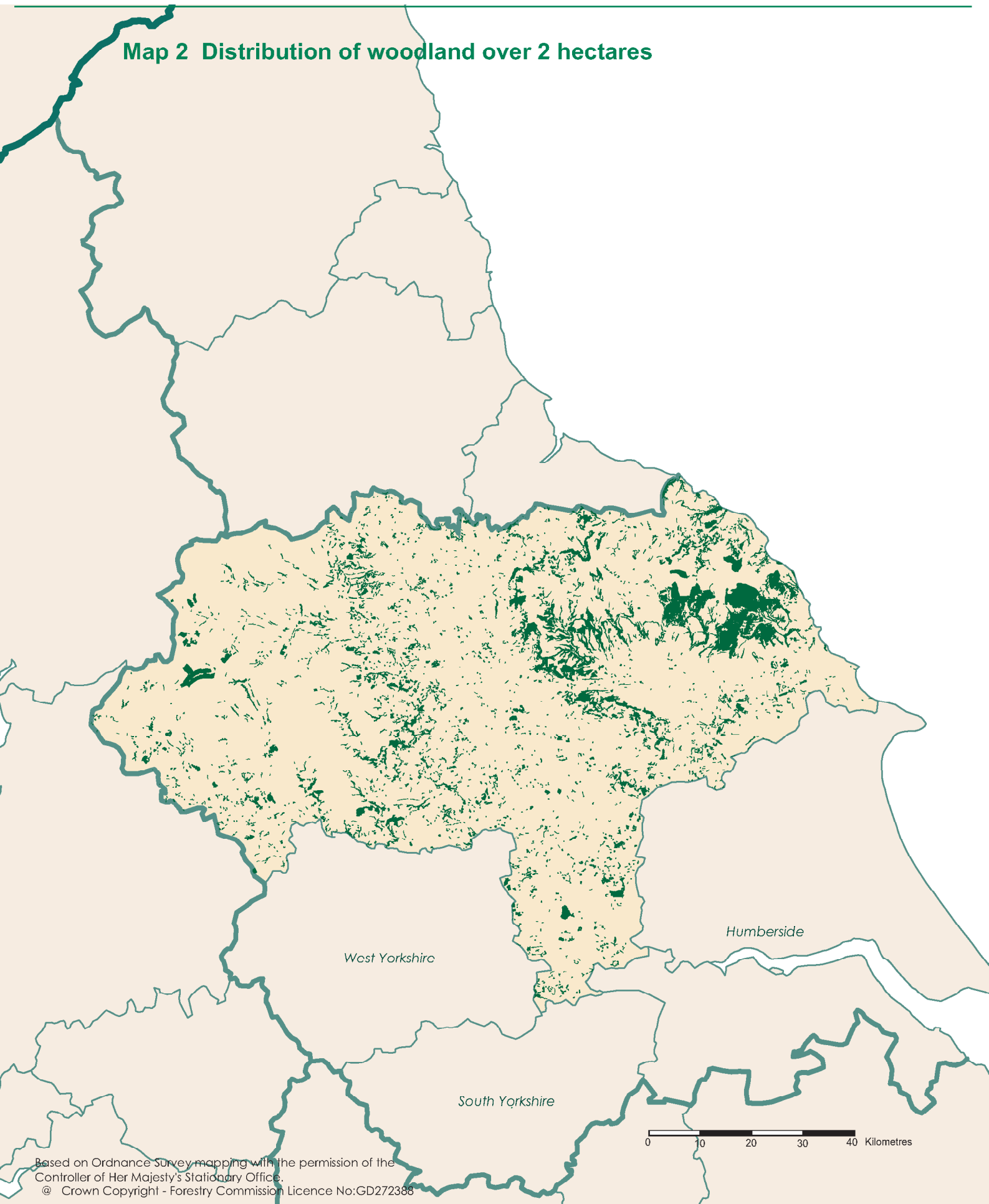
INVENTORY REPORTS

As well as this report for North Yorkshire, 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.

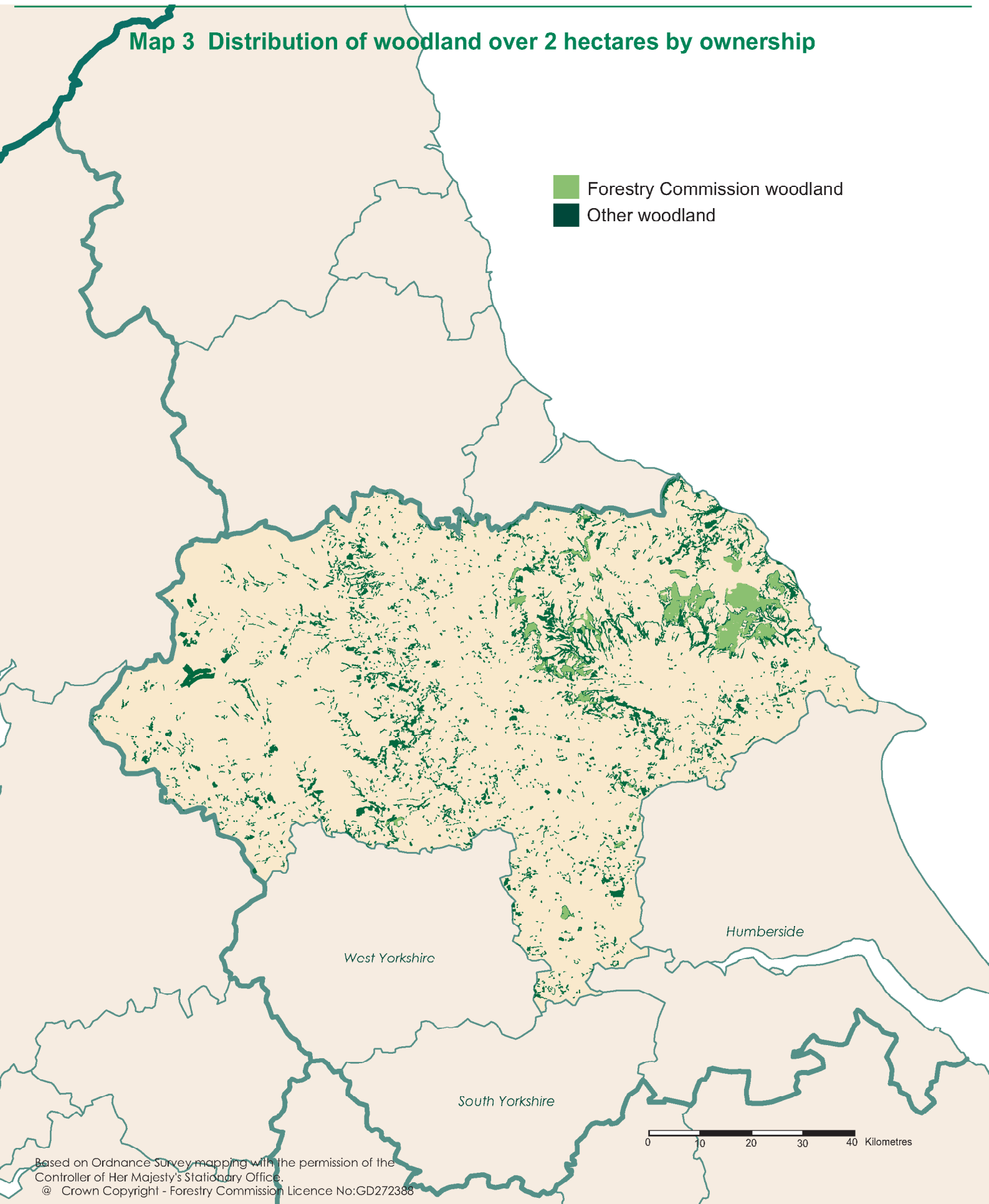
Map 1 Regional and county boundaries



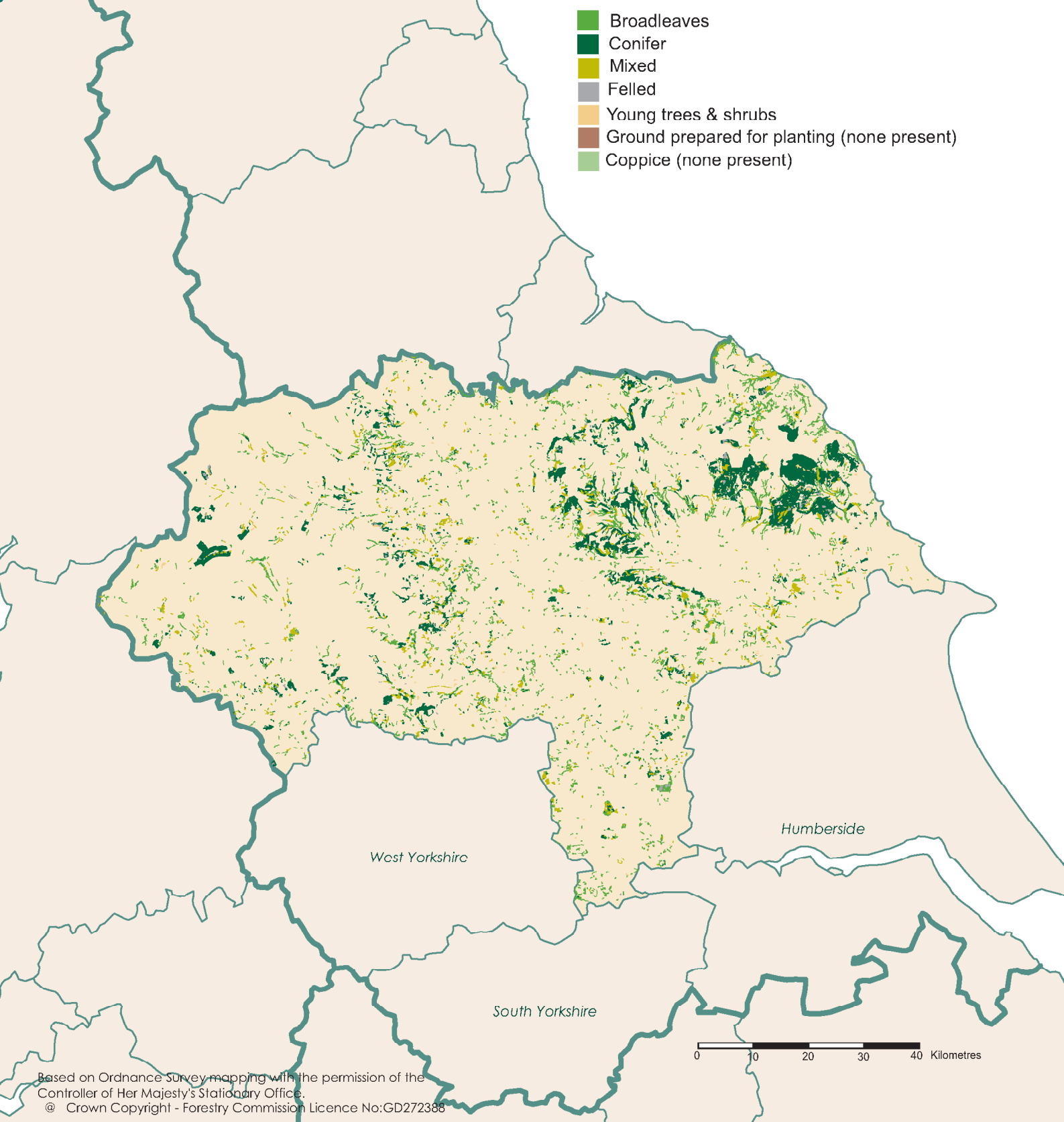
Map 2 Distribution of woodland over 2 hectares



Map 3 Distribution of woodland over 2 hectares by ownership



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



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 North Yorkshire.

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	59,572	97.9
0.25 - < 2.00	1,138	1.9
0.10 - < 0.25	134	0.2
Total area of woodland	60,843	100.0
% Woodland land cover	7.3	

1. Area of North Yorkshire, including inland water, 830,949 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 (ha)	Percentage of total area
	2.0 and over	0.1 - <2.0		
Conifer	19,637	0	19,637	32.3
Broadleaved	24,468	595	25,063	41.2
Mixed	7,706	645	8,351	13.7
Coppiced	7	0	7	0.0
Copp-w-standards	57	0	57	0.1
Windblow	56	0	56	0.1
Felled	872	0	872	1.4
Open Space	6,770	31	6,801	11.2
Total	59,572	1,271	60,843	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	10,416	149	10,565	37.3	19.9
Sitka spruce	7,388	0	7,388	26.1	13.9
Larch	7,040	149	7,189	25.4	13.5
Other conifers	2,551	61	2,612	9.2	4.9
Mixed conifers	567	0	567		
Total conifers	27,962	359	28,321	100.0	53.3
Oak	5,167	70	5,237	21.1	9.9
Beech	1,992	61	2,053	8.3	3.9
Sycamore	3,516	46	3,562	14.4	6.7
Ash	4,699	76	4,775	19.3	9.0
Birch	3,835	183	4,018	16.2	7.6
Elm	3,658	0	3,658	14.8	6.9
Other broadleaves	35	366	401	1.6	0.8
Mixed broadleaves	1,002	79	1,081	4.4	2.0
Total broadleaves	23,904	881	24,785	100.0	46.7
Total all species***	51,866	1,240	53,106		100.0

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

**Species/group percentage of all species

***Excludes the 7.737ha 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%
Pine	7%
Sitka spruce	8%
Oak	7%
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	63,400	313,000	5	38
Narrow Linear Features	14,200	503,400	35	61
Individual Trees	330,200	330,200	1	40
Total		1,146,600		138

1. Land area used to calculate tree density 830,949ha 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	27%
Narrow Linear Features	16%
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	1,583	103	12
Narrow Linear Features	14,200	1,028	124
Total		1,130	136

1. Land area used to calculate tree density 830,949ha 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	99%
Narrow Linear Features	38%
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	18,913	32
Other	40,659	68
Total area of woodland	59,572	100

1. Woodland area from aerial photographic interpretation map updated to 31 March 1999
2. See Glossary for definitions of ownership types

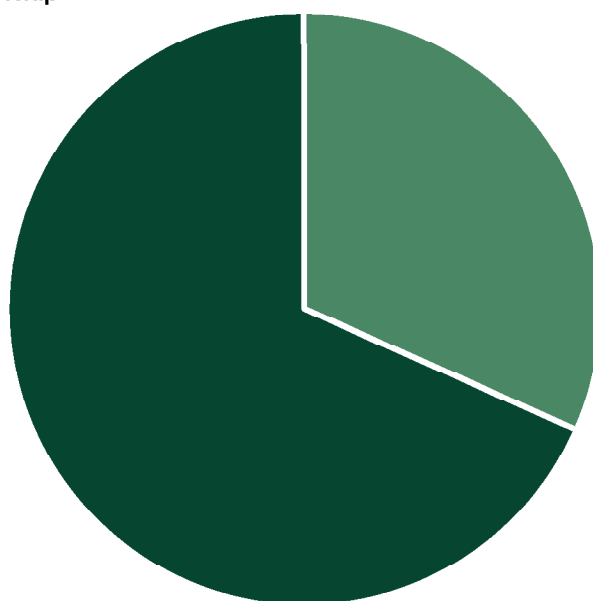
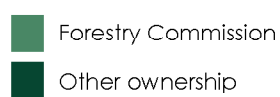
Woodland area by ownership

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	2,351	9,890	17	4.2
10 - <20	317	4,358	7	13.7
20 - <50	236	7,363	12	31.2
50 - <100	84	5,798	10	69.0
<100	2,988	27,410	46	9.2
100 - <500	55	10,247	17	186.3
500 and >	12	22,005	37	1833.8
All woods	3,055	59,662	100	19.5

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	24	105	0	4.4
	O	2,405	10,381	17	4.0
10 - <20	FC	13	197	0	15.2
	O	333	4,564	8	13.7
20 - <50	FC	16	561	1	35.0
	O	255	7,957	13	31.2
50 - <100	FC	11	708	1	64.4
	O	93	6,455	11	69.4
<100	FC	64	1,570	3	24.5
	O	3,086	29,356	49	9.0
100 - <500	FC	17	4,259	7	250.5
	O	53	10,214	17	192.7
500 and >	FC	7	13,083	22	1869.0
	O	1	1,178	2	1178.4
Total	FC	88	18,913	32	214.9
	O	3,299	40,749	68	13.0

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 90 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 occasionally 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	12,969	68.6	11,499	28.3	19,637	33.0
Broadleaved	2,334	12.3	17,302	42.6	24,468	41.1
Mixed	1,639	8.7	6,067	14.9	7,706	12.9
Coppice	0	0.0	7	0.0	7	0.0
Copp-w-Stds	0	0.0	57	0.1	57	0.1
Windblow	0	0.0	56	0.1	56	0.1
Felled	650	3.4	223	0.5	872	1.5
Open Space	1,321	7.0	5,448	13.4	6,770	11.4
Total	18,913	100.0	40,659	100.0	59,572	100.0

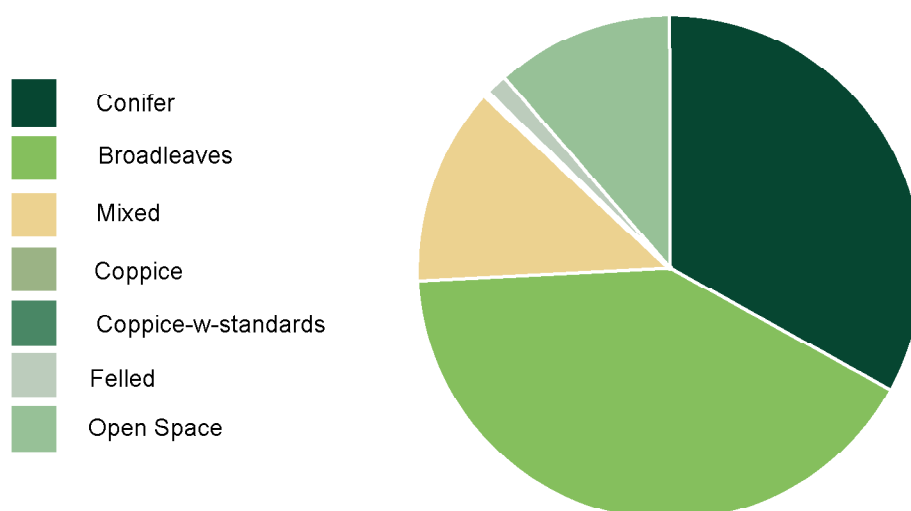
Area of woodland by forest type

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	3,863	28	23	4,171	29	12	8,034	29	15
Corsican pine	333	2	2	453	3	1	785	3	2
Lodgepole pine	1,385	10	8	211	1	1	1,597	6	3
Sitka spruce	3,801	28	22	3,587	25	10	7,388	26	14
Norway spruce	291	2	2	1,033	7	3	1,324	5	3
European larch	873	6	5	1,165	8	3	2,039	7	4
Jap/Hybrid larch	2,508	18	15	2,493	17	7	5,001	18	10
Douglas fir	306	2	2	273	2	1	579	2	1
Other conifers	158	1	1	490	3	1	648	2	1
Mixed conifers	134	1	1	434	3	1	567	2	1
Total conifers	13,652	100	81	14,310	100	41	27,962	100	54
Oak	677	21	4	4,489	22	13	5,167	22	10
Beech	639	19	4	1,352	7	4	1,992	8	4
Sycamore	272	8	2	3,244	16	3,516	3,516	15	7
Ash	277	8	2	4,422	21	13	4,699	20	9
Birch	975	30	6	2,861	14	8	3,835	16	7
Poplar	62	2	0	99	0	0	161	1	0
Sweet chestnut	0	0	0	32	0	0	32	0	0
Elm	10	0	0	26	0	0	35	0	0
Other broadleaves	234	7	1	3,231	16	9	3,465	14	7
Mixed broadleaves	143	4	1	859	4	2	1,002	4	2
Total broadleaves	3,290	100	19	20,615	100	59	23,904	100	46
Total - all species	16,942		100	34,925		100	51,866		100
Felled	650			223			872		
Total High Forest	17,592			35,148			52,738		

*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 6,770ha 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%
Scots pine	7%
Sitka spruce	8%
Oak	7%
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

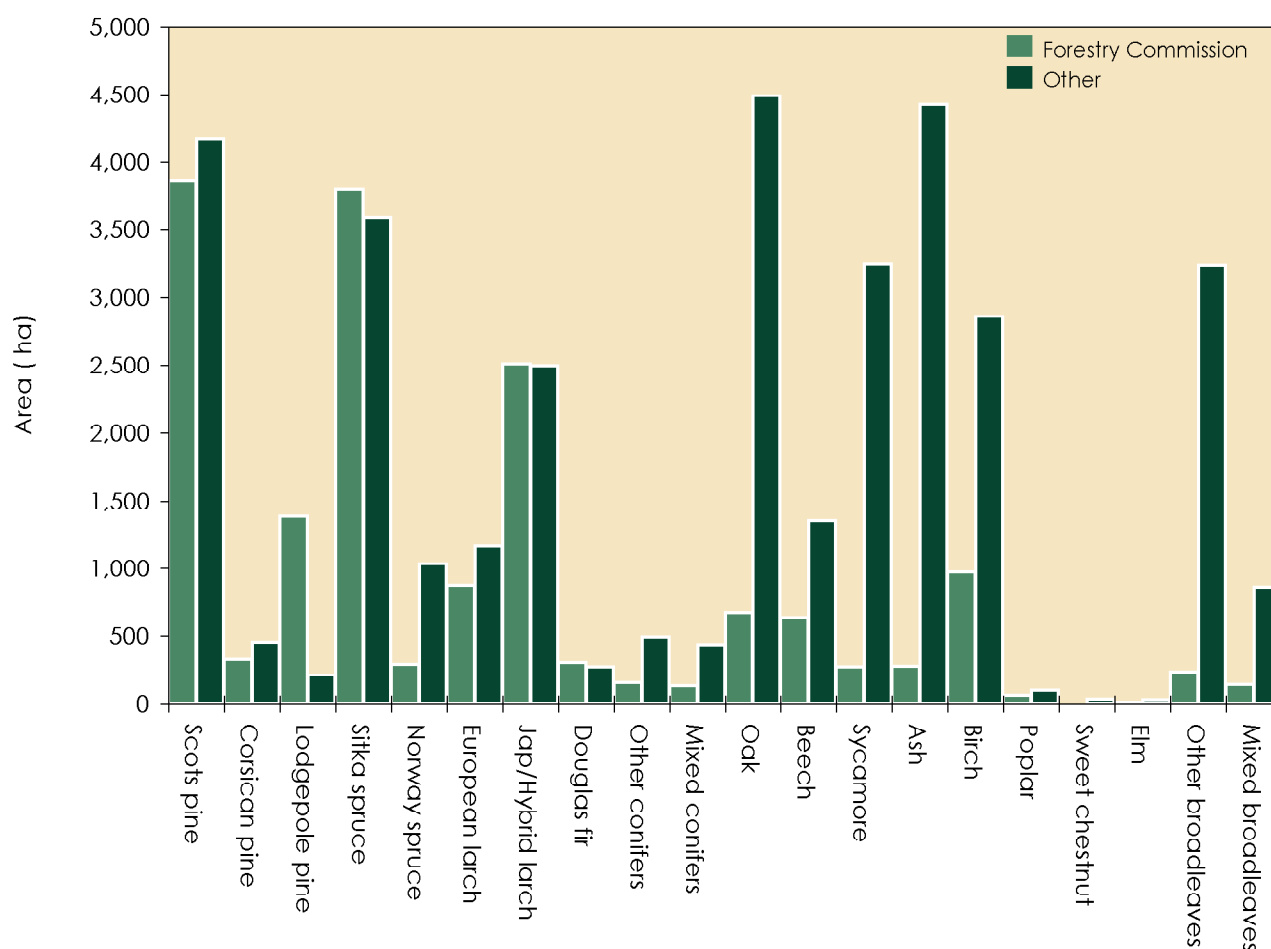


Table 9b Area of High Forest by principal species,ownership and category

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	3,863	0	3,863	4,133	38	4,171	7,996	38	8,034
Corsican pine	333	0	333	453	0	453	785	0	785
Lodgepole pine	1,362	24	1,385	143	68	211	1,505	92	1,597
Sitka spruce	3,801	0	3,801	3,583	5	3,587	7,384	5	7,388
Norway spruce	291	0	291	1,033	0	1,033	1,324	0	1,324
European larch	873	0	873	1,141	24	1,165	2,015	24	2,039
Jap/Hybrid larch	2,508	0	2,508	2,493	0	2,493	5,001	0	5,001
Douglas fir	306	0	306	273	0	273	579	0	579
Other conifers	158	0	158	431	59	490	588	59	648
Mixed conifers	134	0	134	424	10	434	558	10	567
Total conifers	13,628	24	13,652	14,106	203	14,310	27,735	227	27,962
Oak	677	0	677	4,425	64	4,489	5,103	64	5,167
Beech	639	0	639	1,229	123	1,352	1,868	123	1,992
Sycamore	272	0	272	3,021	223	3,244	3,293	223	3,516
Ash	277	0	277	3,747	675	4,024	4,024	675	4,699
Birch	951	24	975	2,631	229	2,861	3,582	253	3,835
Poplar	62	0	62	99	0	99	161	0	161
Sweet chestnut	0	0	0	32	0	32	32	0	32
Elm	10	0	10	21	5	26	31	5	35
Other broadleaves	196	38	234	1,751	1,480	3,231	1,947	1,519	3,465
Mixed broadleaves	100	43	143	655	203	859	756	246	1,002
Total broadleaves	3,185	105	3,290	17,612	3,003	20,615	20,796	3,108	23,904
Total - all species	16,813	129	16,942	31,718	3,206	34,925	48,531	3,335	51,866

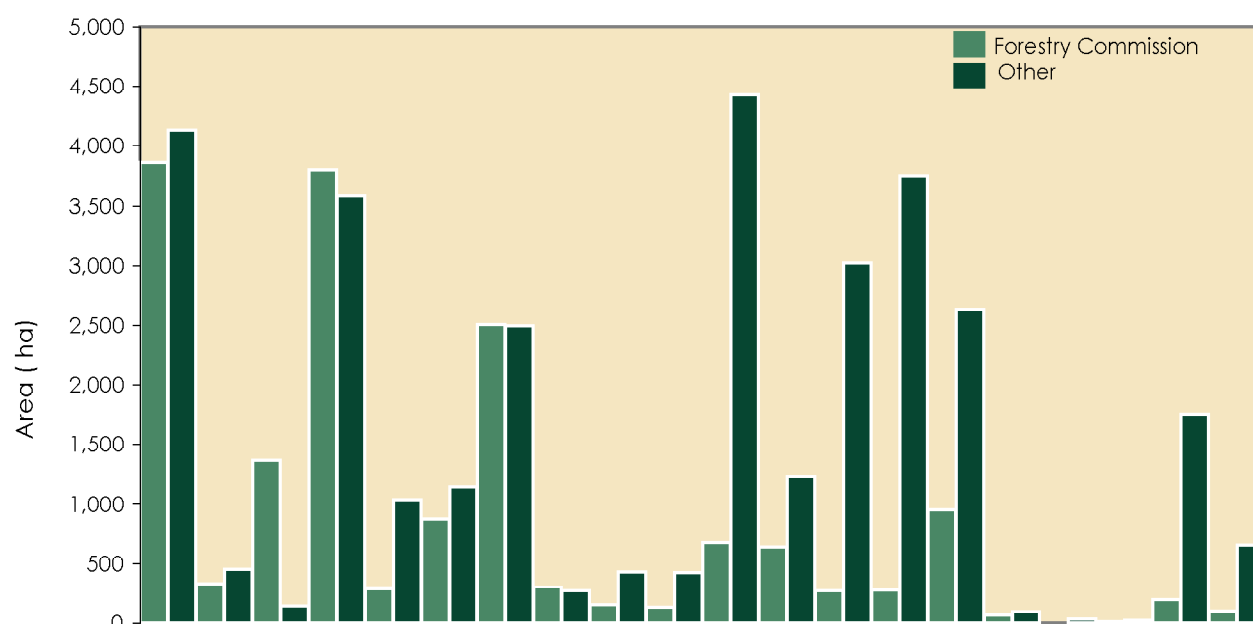
1. The standard errors of the all ownerships area estimates for the most common species or species groups (in all woodland types) are as follows

	Category 1*	Category 2*	Total High Forest	
Conifers	3%	27%	3%	
Broadleaves	3%	7%	3%	
Scots pine	7%	47%	7%	
Sitka spruce	8%	-	8%	*See Glossary for Category 1 and Category 2 descriptions
Oak	7%	32%	7%	

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).

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

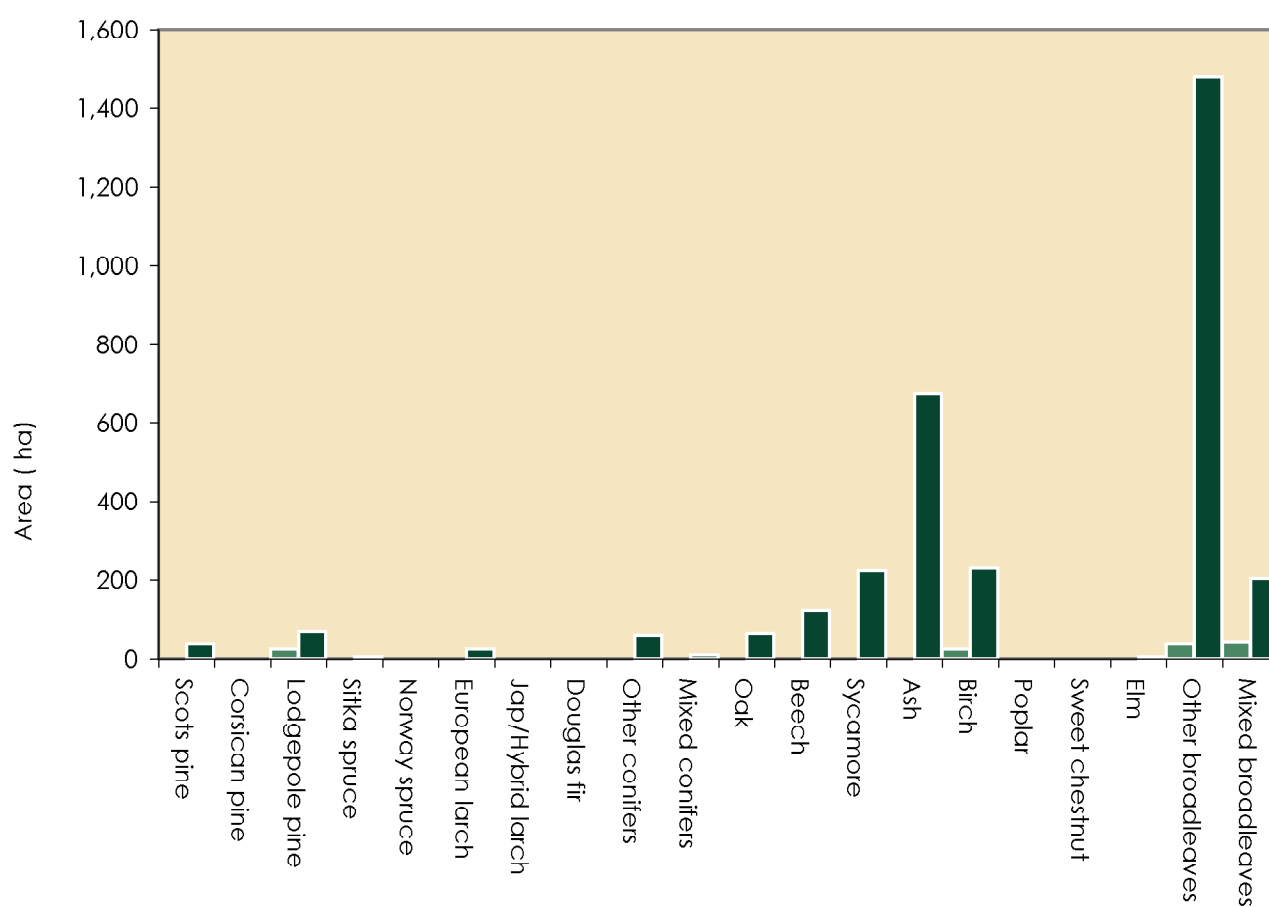
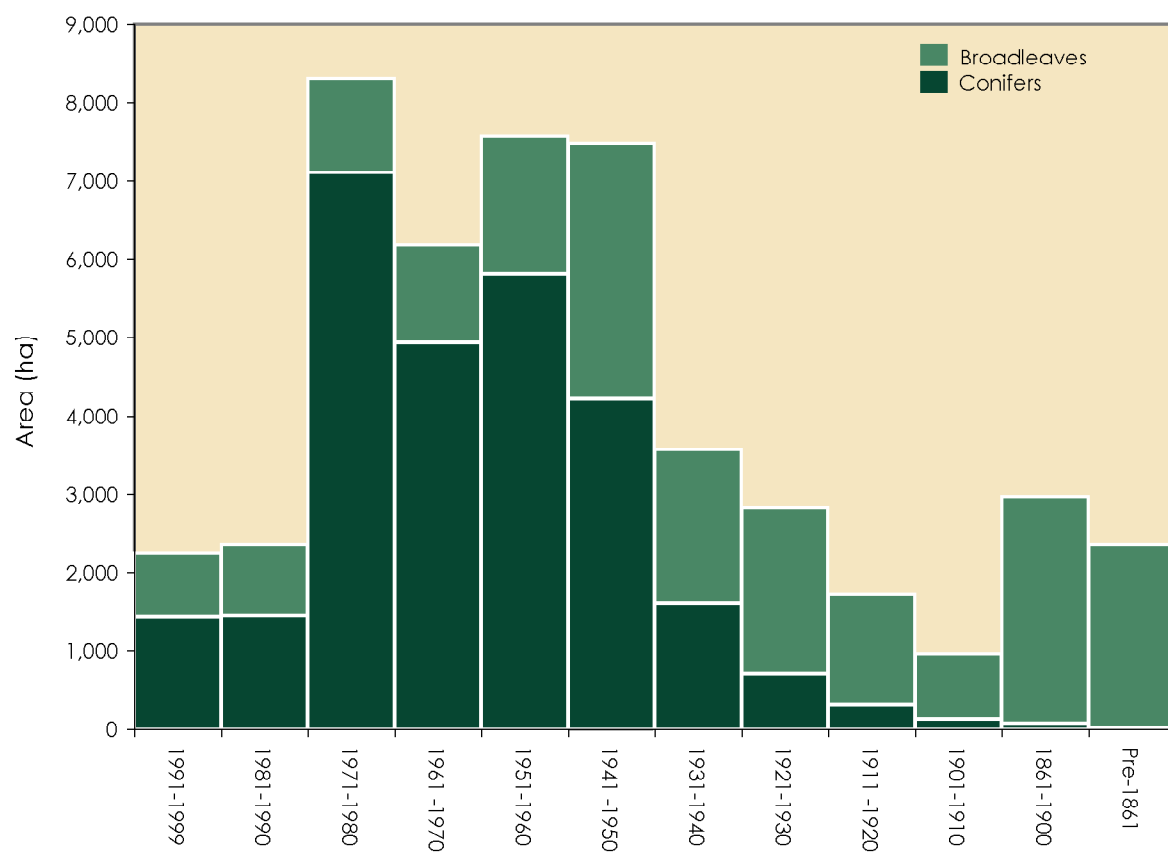


Table 10a High Forest Category 1 - Area by principal species and planting year class

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	320	270	655	1,976	2,380	1,499	311	377	80	69	58	0	7,996
Corsican pine	0	11	54	56	330	158	127	48	0	0	0	0	785
Lodgepole pine	5	76	1,123	217	57	27	0	0	0	0	0	0	1,505
Sitka spruce	544	672	3,600	1,187	968	189	181	19	24	0	0	0	7,384
Norway spruce	9	4	243	375	331	300	44	5	14	0	0	0	1,324
European larch	74	155	312	342	433	582	77	21	0	19	0	0	2,015
Jap/Hybrid larch	214	174	740	633	1,115	1,045	781	196	67	36	0	0	5,001
Douglas fir	33	28	177	83	95	143	20	0	0	0	0	0	579
Other conifers	0	18	167	55	93	94	48	35	69	0	5	5	588
Mixed conifers	234	37	33	9	11	173	10	0	52	0	0	0	558
Total conifers	1,432	1,445	7,106	4,933	5,811	4,209	1,599	701	306	124	63	5	27,735
Oak	151	38	120	83	134	374	509	719	302	249	909	1,513	5,103
Beech	28	75	55	96	94	311	131	96	242	41	382	319	1,868
Sycamore	39	51	318	231	266	398	385	506	395	186	453	65	3,293
Ash	78	124	236	139	472	671	498	498	317	211	586	216	4,024
Birch	360	329	353	434	235	1,078	284	145	72	18	250	24	3,582
Poplar	0	0	0	0	62	65	18	7	10	0	0	0	161
Sweet chestnut	0	0	0	0	0	0	14	0	0	0	13	4	32
Elm	5	5	0	5	0	0	2	5	0	10	0	0	31
Other broadleaves	28	125	82	226	433	294	143	89	64	80	219	168	1,947
Mixed broadleaves	129	161	37	35	67	83	7	62	9	38	90	37	756
Total broadleaves	817	907	1,203	1,248	1,761	3,273	1,967	2,127	1,410	834	2,903	2,346	20,796
Total - all species	2,249	2,353	8,308	6,182	7,573	7,483	3,566	2,828	1,716	958	2,966	2,351	48,531

*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



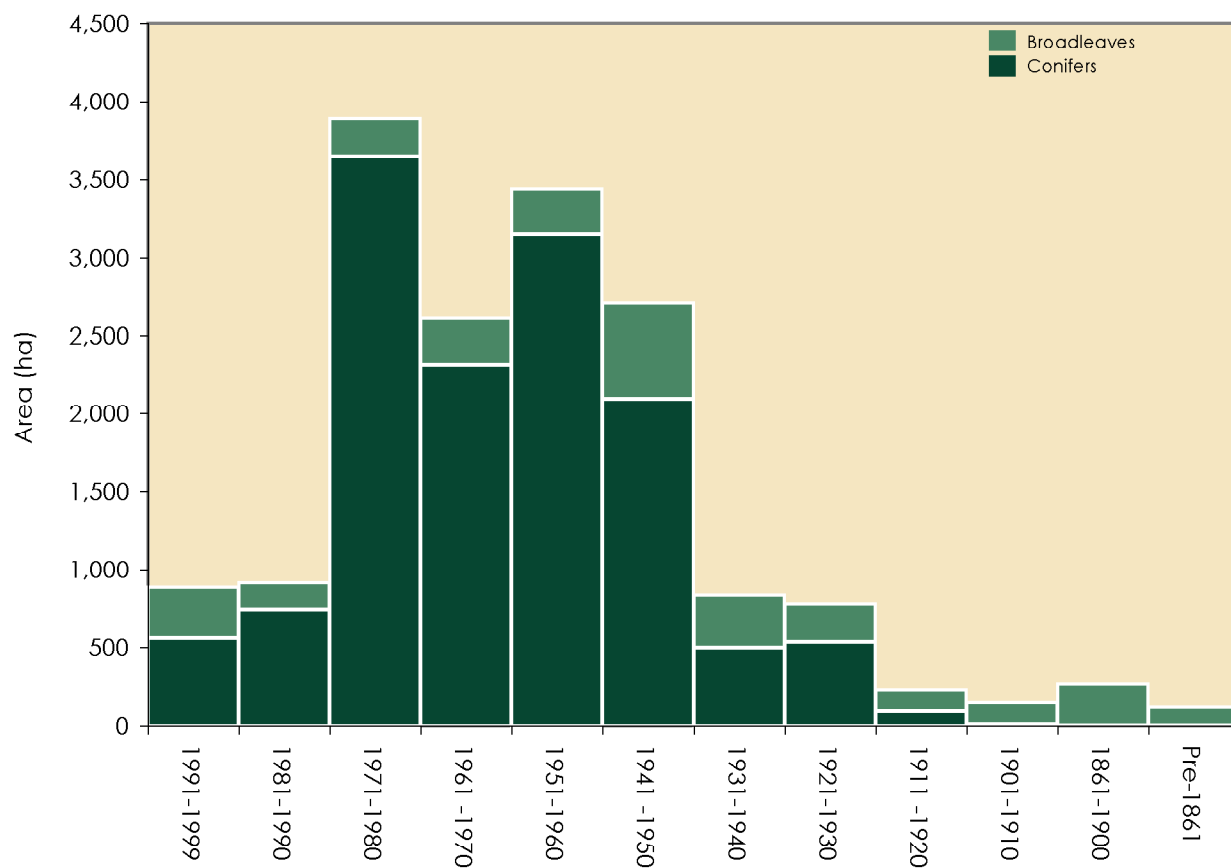
1. Most of the planting year classes cover 10 years, 1991-1999 is 9 years, and the classes prior to 1901 are 40 years or more.

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	114	76	310	869	1,271	779	105	291	48	0	0	0	3,863
Corsican pine	0	0	24	10	19	138	118	24	0	0	0	0	333
Lodgepole pine	5	76	1,084	139	57	0	0	0	0	0	0	0	1,362
Sitka spruce	354	468	1,585	658	645	72	0	19	0	0	0	0	3,801
Norway spruce	0	0	0	124	96	67	5	0	0	0	0	0	291
European larch	0	62	134	185	186	296	0	0	0	10	0	0	873
Jap/Hybrid larch	67	43	315	296	750	578	239	177	43	0	0	0	2,508
Douglas fir	19	10	177	0	86	5	10	0	0	0	0	0	306
Other conifers	0	0	0	28	39	48	20	24	0	0	0	0	158
Mixed conifers	0	5	19	0	0	110	0	0	0	0	0	0	134
Total conifers	558	741	3,648	2,310	3,148	2,092	496	535	91	10	0	0	13,628
Oak	5	0	24	29	53	57	19	100	96	48	190	57	677
Beech	19	33	38	19	53	228	72	43	0	0	72	62	639
Sycamore	0	0	38	91	14	48	81	0	0	0	0	0	272
Ash	0	5	24	14	14	57	81	5	38	38	0	0	277
Birch	277	134	86	76	86	167	38	38	0	0	0	0	951
Poplar	0	0	0	0	62	0	0	0	0	0	0	0	62
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	10	0	0	10
Other broadleaves	0	0	20	73	0	24	0	38	0	43	0	0	196
Mixed broadleaves	29	0	10	0	10	33	0	19	0	0	0	0	100
Total broadleaves	330	172	239	301	291	615	339	244	134	139	262	119	3,185
Total - all species	888	912	3,887	2,611	3,440	2,707	835	779	225	148	262	119	16,813

*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



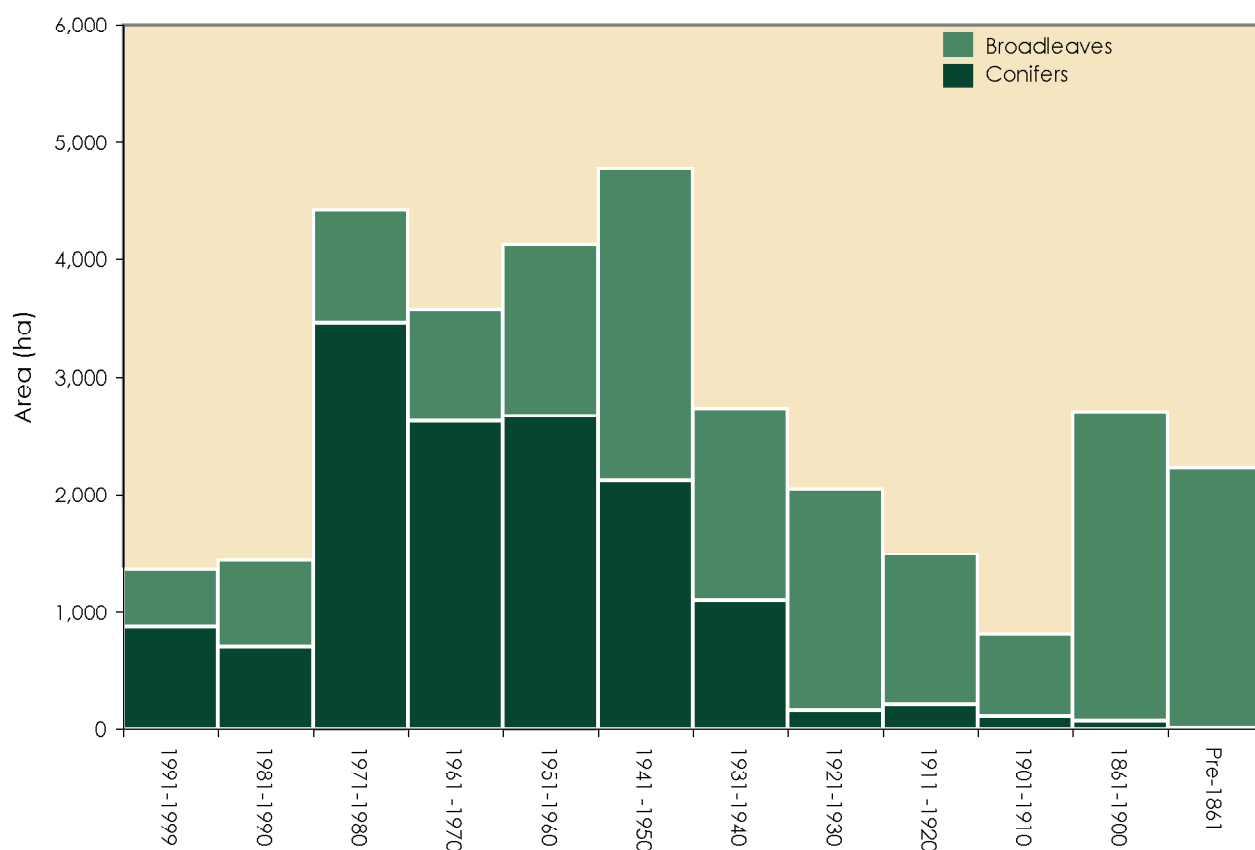
1. Most of the planting year classes cover 10 years, 1991-1999 is 9 years, and the classes prior to 1901 are 40 years or more.

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	206	194	346	1,106	1,109	720	206	86	32	69	58	0	4,133
Corsican pine	0	11	31	47	311	20	9	24	0	0	0	0	453
Lodgepole pine	0	0	38	78	0	27	0	0	0	0	0	0	143
Sitka spruce	190	203	2,015	529	323	117	181	0	24	0	0	0	3,583
Norway spruce	9	4	243	251	235	233	39	5	14	0	0	0	1,033
European larch	74	93	179	157	246	286	77	21	0	10	0	0	1,141
Jap/Hybrid larch	147	131	425	336	365	467	543	19	24	36	0	0	2,493
Douglas fir	14	18	0	83	9	138	11	0	0	0	0	0	273
Other conifers	0	18	167	27	55	45	29	11	69	0	5	5	431
Mixed conifers	234	32	14	9	11	63	10	0	52	0	0	0	424
Total conifers	874	705	3,458	2,623	2,663	2,118	1,103	166	215	115	63	5	14,106
Oak	146	38	96	54	81	317	490	619	206	202	719	1,456	4,425
Beech	9	41	17	77	41	82	59	53	242	41	310	257	1,229
Sycamore	39	51	280	140	251	351	304	506	395	186	453	65	3,021
Ash	78	119	212	125	458	614	394	493	279	173	586	216	3,747
Birch	83	195	267	357	149	911	107	107	72	18	250	24	2,631
Poplar	0	0	0	0	0	65	18	7	10	0	0	0	99
Sweet chestnut	0	0	0	0	0	0	14	0	0	0	13	4	32
Elm	5	5	0	5	0	0	2	5	0	0	0	0	21
Other broadleaves	28	125	63	153	433	270	143	51	64	37	219	168	1,751
Mixed broadleaves	100	161	28	35	57	50	7	43	9	38	90	37	655
Total broadleaves	487	735	964	947	1,470	2,658	1,628	1,884	1,276	695	2,641	2,226	17,612
Total - all species	1,361	1,440	4,421	3,570	4,133	4,776	2,731	2,050	1,491	810	2,704	2,231	31,718

*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	24	Birch	16	Scots pine	14
1981-90	Sitka spruce	28	Birch	14	Scots pine	11
1971-80	Sitka spruce	42	Lodgepole pine	13	Jap/Hybrid larch	9
1961-70	Scots pine	30	Sitka spruce	18	Jap/Hybrid larch	10
1951-60	Scots pine	29	Jap/Hybrid larch	14	Sitka spruce	12
1941-50	Scots pine	18	Birch	15	Jap/Hybrid larch	13
1931-40	Jap/Hybrid larch	20	Oak	13	Ash	13
1921-30	Oak	24	Sycamore	19	Ash	17
1911-20	Ash	22	Sycamore	21	Oak	15
1901-10	Oak	25	Ash	21	Sycamore	19
1861-1900	Oak	27	Ash	25	Sycamore	15
Pre 1861	Oak	61	Beech	16	Other broadleaves	9
All years	Scots pine	15	Sitka spruce	14	Oak	10

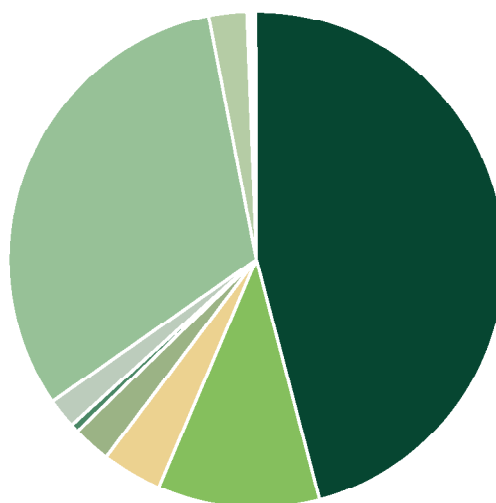
1. Principal species as a percentage of area in the planting year class.

Table 12 Ownership type* by area and percentage

Ownership type	Area (ha)	%
Personal	27,292	45.8
Business	6,281	10.5
Forestry or timber business	2,340	3.9
Charity	1,448	2.4
Local Authority	389	0.7
Other public (not FC)	1,142	1.9
Forestry Commission	18,913	31.7
Community ownership or common land	1,378	2.3
Unidentified	389	0.7
Total	59,572	100.0

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

Ownership type by area



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	1,831	931	Area (ha)
Wide Linear Features	1,583	340	Area (ha)
Wide Linear Features	1,583	103	Length (Km)
Narrow Linear Features	14,200	1,028	Length (Km)
Narrow Linear Features	14,200	503,400	Number of live trees
Groups	63,400	313,000	Number of live trees
Individual Trees	330,200	330,200	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	15	916	931	1,831	0.51
Wide Linear Features	119	222	340	1,583	0.21
Total	134	1,138	1,271	3,414	0.37

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	3.1	2.3	19.8	25.2	51.4	2.2
Spruce	0.0	0.8	0.0	0.0	0.8	1.6	0.1
Larch	0.8	0.0	0.0	20.6	21.4	43.7	1.9
Cypress	0.8	0.0	0.0	0.0	0.8	1.6	0.1
Other conifers	0.0	0.0	0.8	0.0	0.8	1.6	0.1
Total conifers	1.6	3.9	3.1	40.4	49.0	100.0	4.3
Oak	54.0	18.8	27.4	15.0	115.2	10.5	10.0
Beech	0.8	0.8	0.8	8.7	11.1	1.0	1.0
Sycamore	31.3	3.1	29.7	31.7	95.8	8.7	8.4
Ash	95.5	18.0	58.7	92.6	264.8	24.1	23.1
Birch	1.6	7.0	14.9	18.2	41.7	3.8	3.6
Poplar	0.8	0.0	0.0	0.0	0.8	0.1	0.1
Sweet chestnut	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Horse chestnut	0.8	0.0	0.8	8.7	10.3	0.9	0.9
Alder	2.3	0.8	9.4	67.3	79.8	7.3	7.0
Lime	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Elm	0.0	1.6	7.0	6.3	14.9	1.4	1.3
Willow	6.3	1.6	23.5	1.6	33.0	3.0	2.9
Other broadleaves	55.1	24.8	137.7	212.9	430.5	39.2	37.5
Total broadleaves	248.5	76.5	309.9	463.1	1097.9	100.0	95.7
Total - all species	250.1	80.4	313.0	503.4	1146.6		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 27%
 Narrow Linear Features 46%

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	0.8	0.8	33.3	6.0
Spruce	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Larch	0.0	0.8	0.0	0.8	1.6	66.7	11.9
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	0.8	0.0	1.6	2.4	100.0	17.9
Oak	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	1.6	2.3	0.0	0.0	3.9	35.5	29.1
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	0.0	0.0	0.0	0.0	0.0
Lime	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Elm	0.0	0.0	3.9	0.0	3.9	35.5	29.1
Willow	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other broadleaves	0.0	2.4	0.0	0.8	3.2	29.1	23.9
Total broadleaves	1.6	4.7	3.9	0.8	11.0	100.0	82.1
Total - all species	1.6	5.5	3.9	2.4	13.4		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	0.8	23.7	0.8	0.0	25.3
Spruce	0.0	0.8	0.0	0.0	5.5
Larch	4.7	16.6	0.0	0.0	16.6
Cypress	0.0	0.8	0.0	0.0	0.8
Other conifers	0.0	0.8	0.0	0.0	0.8
Total conifers	5.5	42.7	0.8	0.0	49.0
Oak	11.8	89.3	13.3	0.8	115.2
Beech	0.0	3.1	7.9	0.0	11.0
Sycamore	10.2	66.8	18.9	0.0	95.7
Ash	18.0	207.5	37.7	1.6	264.8
Birch	5.5	35.4	0.8	0.0	41.7
Poplar	0.0	0.8	0.0	0.0	0.8
Sweet chestnut	0.0	0.0	0.0	0.0	0.0
Horse chestnut	8.7	0.8	0.8	0.0	10.3
Alder	0.8	59.2	19.8	0.0	79.8
Lime	0.0	0.0	0.0	0.0	0.0
Elm	3.1	11.8	0.0	0.0	14.9
Willow	11.7	21.1	0.0	0.0	32.8
Other broadleaves	392.0	38.4	0.0	0.0	430.4
Total broadleaves	461.8	534.0	99.2	2.3	1,097.4
Total - all species	467.4	577.0	99.9	2.3	1,146.6

Table 18 Number of Groups by group size

Number of trees per Group*	Number of Groups (000's)
2	15
3-5	22
6-10	12
11-20	8
21-50	6
51-100	0
>100	0
Total	63

*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	52,102	93.3	59,572	98.1	14
0.25 - <2.0	3,750	6.7	1,138	1.9	-70
Total	55,852		60,709		9
% Woodland land cover	6.7		7.3		

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), 830,949 ha, was based on the 1991 Census of Population digital boundaries.
4. Land area used to calculate woodland cover percent (1980), 830869ha, (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	8,572	8,144	-5
Corsican pine	991	785	-21
Lodgepole pine	2,765	1,597	-42
Sitka spruce	5,892	7,388	25
Norway spruce	2,097	1,324	-37
European larch	2,912	2,039	-30
Jap/Hybrid larch	4,144	5,110	23
Douglas fir	455	579	27
Other conifers	723	648	-10
Mixed conifers	1,545	628	-59
Total conifers	30,095	28,242	-6
Oak	3,158	5,198	65
Beech	1,268	2,053	62
Sycamore	2,782	3,547	27
Ash	2,169	4,775	120
Birch	3,236	4,018	24
Poplar	435	161	-63
Sweet chestnut	4	32	801
Elm	1,044	35	-97
Other broadleaves	2,834	3,831	35
Mixed broadleaves	2,158	1,081	-50
Total broadleaves	19,088	24,731	30
Total all species	49,183	52,973	8
Felled	408	872	113
Total High Forest	49,591	53,845	9

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 11.2% (Table 2). To obtain meaningful comparisons between the two datasets the 1980 Census data have therefore been reduced by 11.2%.
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

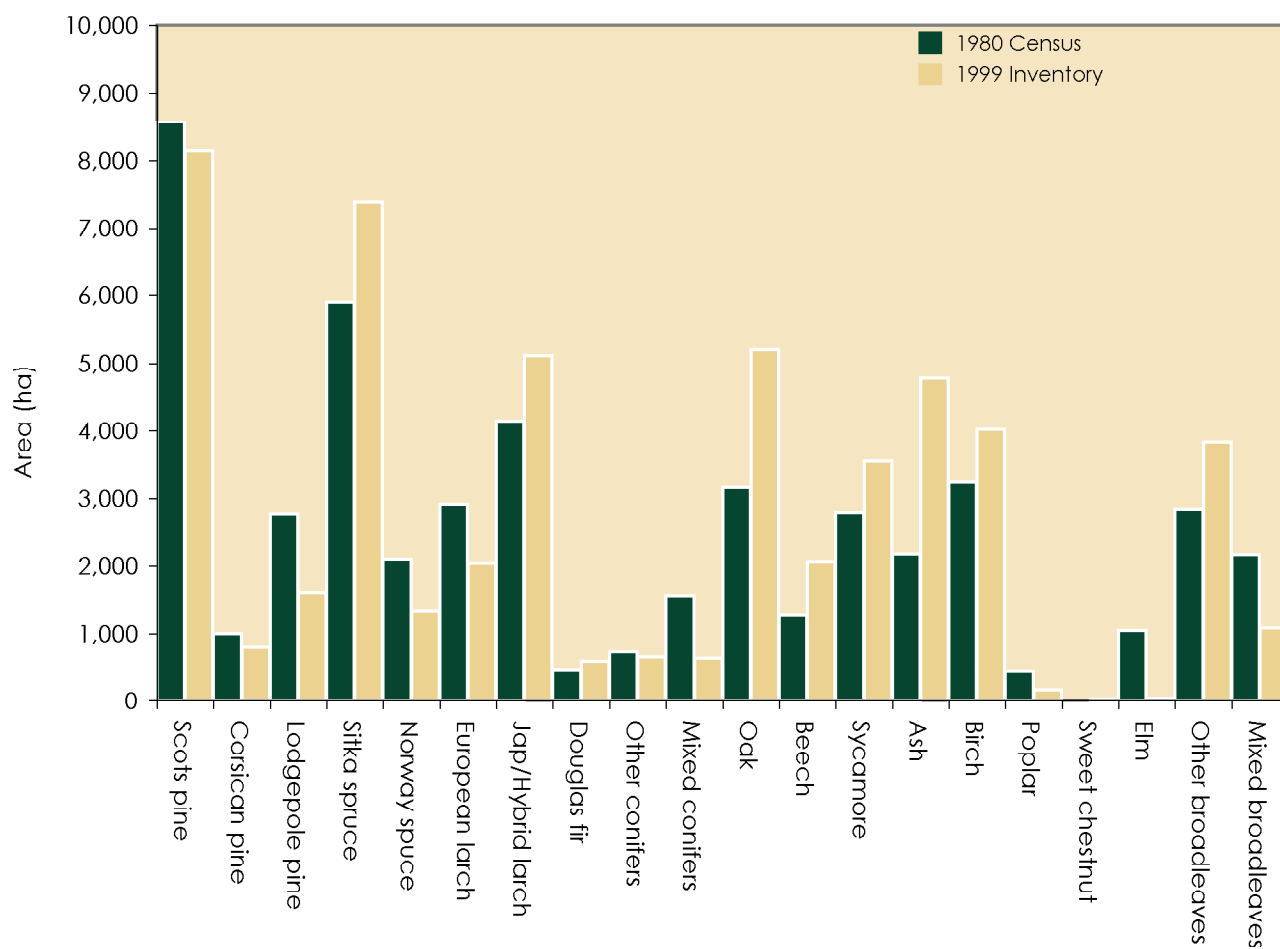


Table 21 Comparison of High Forest Category 1 area by planting year class
between 1980 Census and 1999 Inventory

Planting year class	1980 Census woodland area (ha)	1999 Inventory woodland area (ha)	Change (%)
1991-1999	0	2,417	see note
1981-1990	0	2,474	see note
1971-1980	5,471	8,309	52
1961-1970	10,334	6,403	-38
1951-1960	10,190	7,572	-26
1941-1950	5,106	7,665	50
1931-1940	4,459	3,566	-20
1921-1930	4,474	2,828	-37
1911-1920	1,619	1,716	6
1901-1910	1,193	958	-20
1861-1900	3,326	2,966	-11
Pre 1861	782	2,351	201
Total all years	52,777	49,225	-7

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.

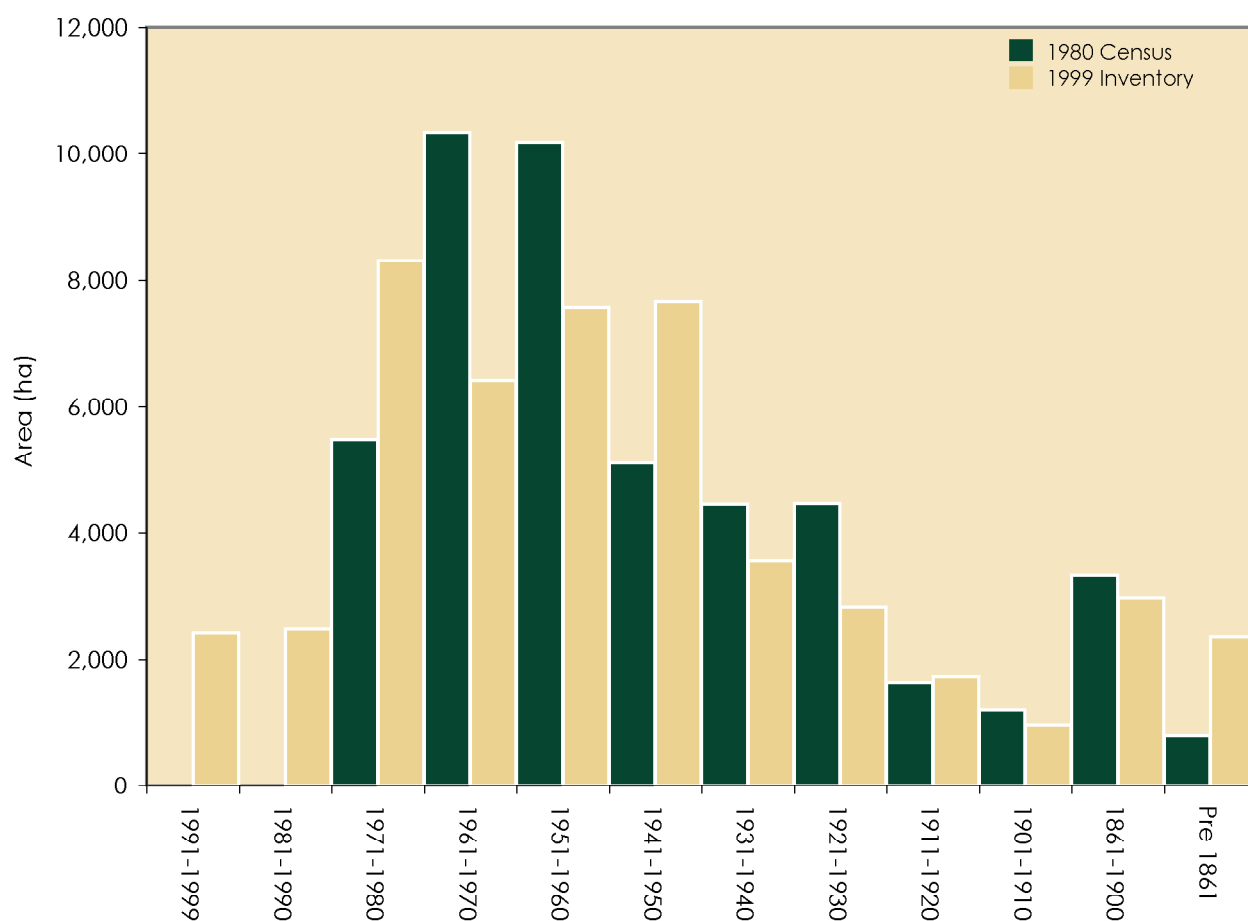
Comparison of High Forest Category 1 area by planting year class between 1980 Census and 1999 Inventory

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	259	226	-13
Middle Tree	133	58	-56
Total Individual Trees	391	284	-27
Groups	1,283	179	-86
Linear Features	1,396	344	-75
Total	3,070	807	-74

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)	47.1	34.2	-27
Groups (per sq km)	22.8	4.8	-79
Linear Features (m per sq km)	511.5	121.3	-76

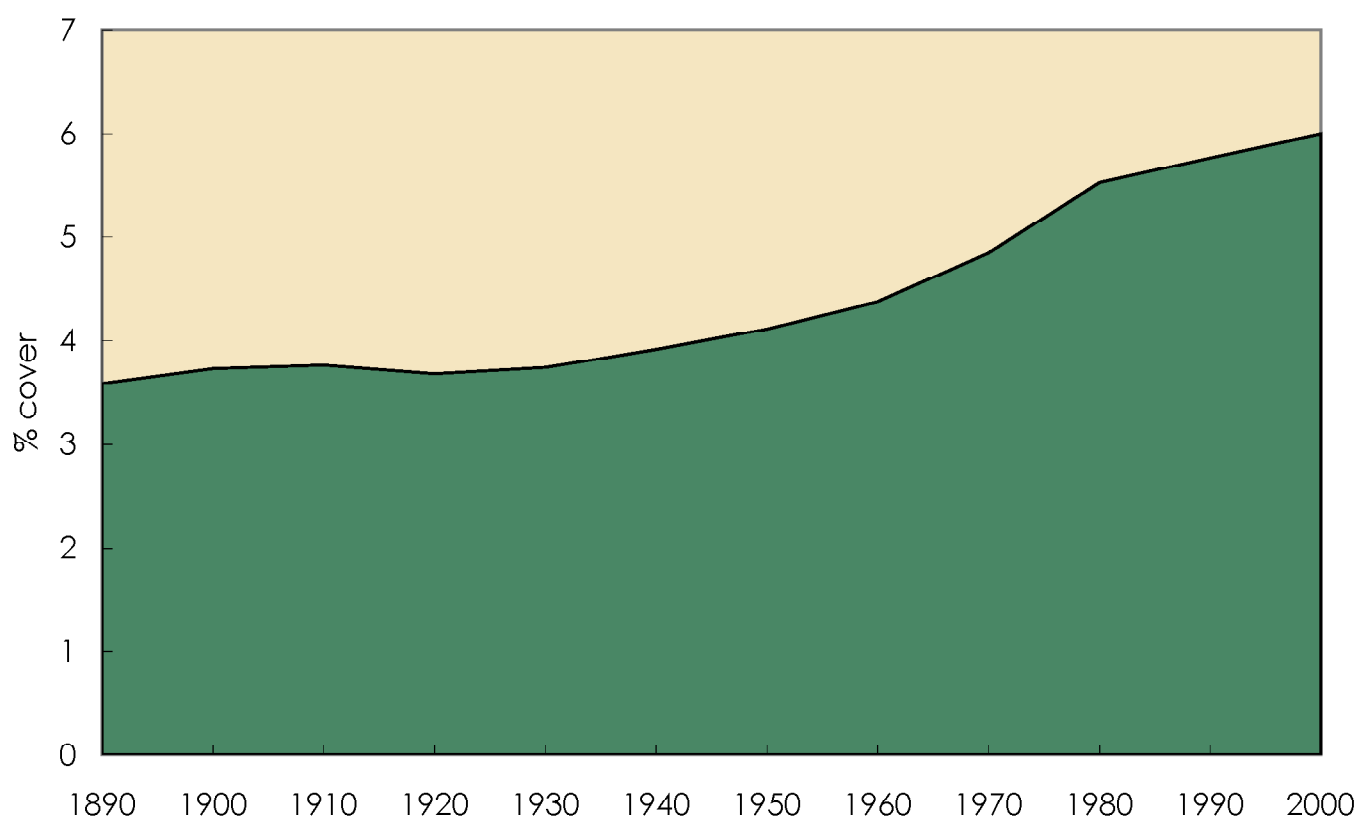
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The 1999 figures above will therefore not match those in the previous sections of the report.
3. Changes stated in this table are indicative only. Even with adjustments to the 1999 Inventory, the two surveys are not directly comparable - 1980 used 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.

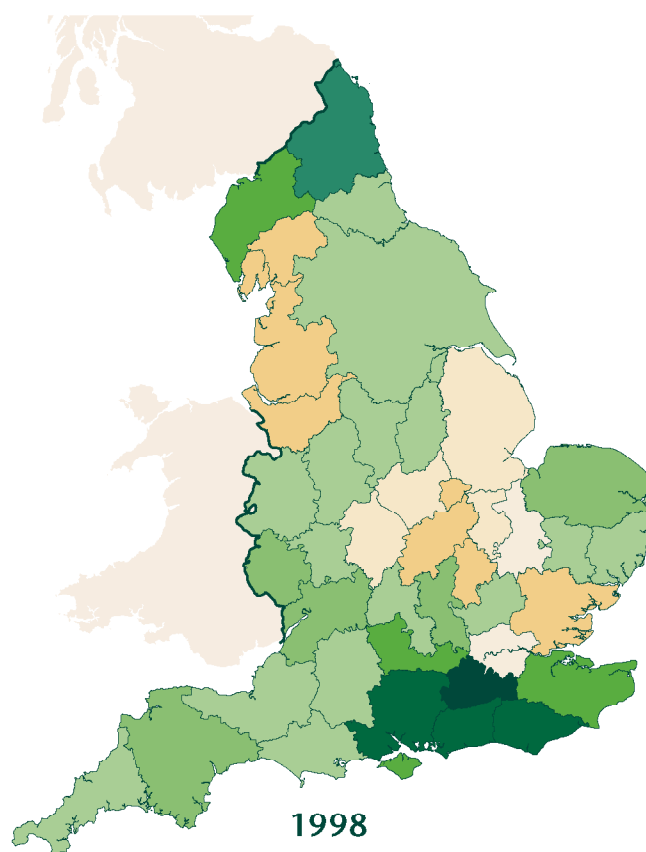
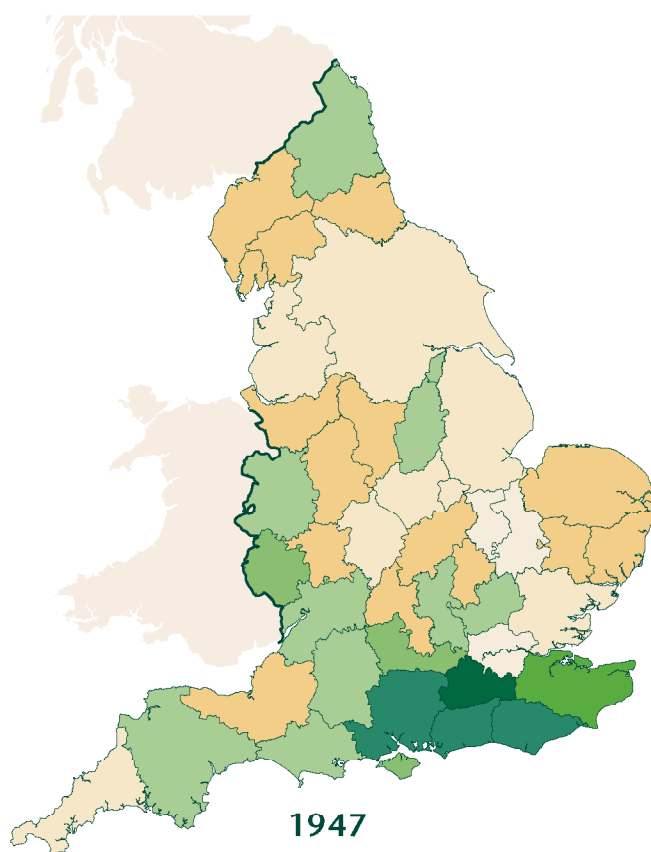
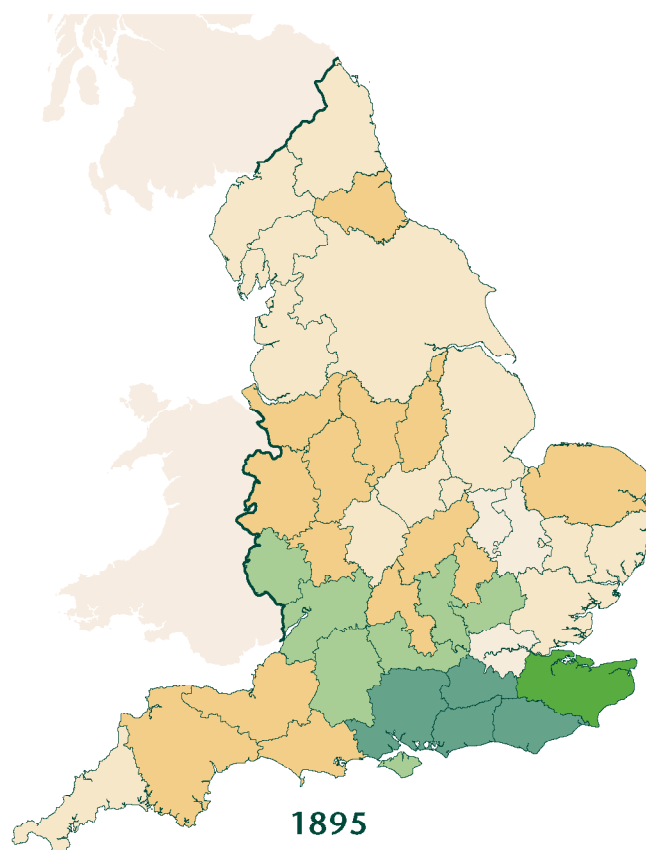
Change in county woodland cover through time (1890 – 2000)



1. Following local government reorganisation the boundaries of the county of the report have changed significantly since 1890 and therefore data from a wider geographic area have been used.

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



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 0.1 ha.

- **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 1.6 m or less)
- Wide Linear Features (with a width greater than 1.6 m)

NOTES



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