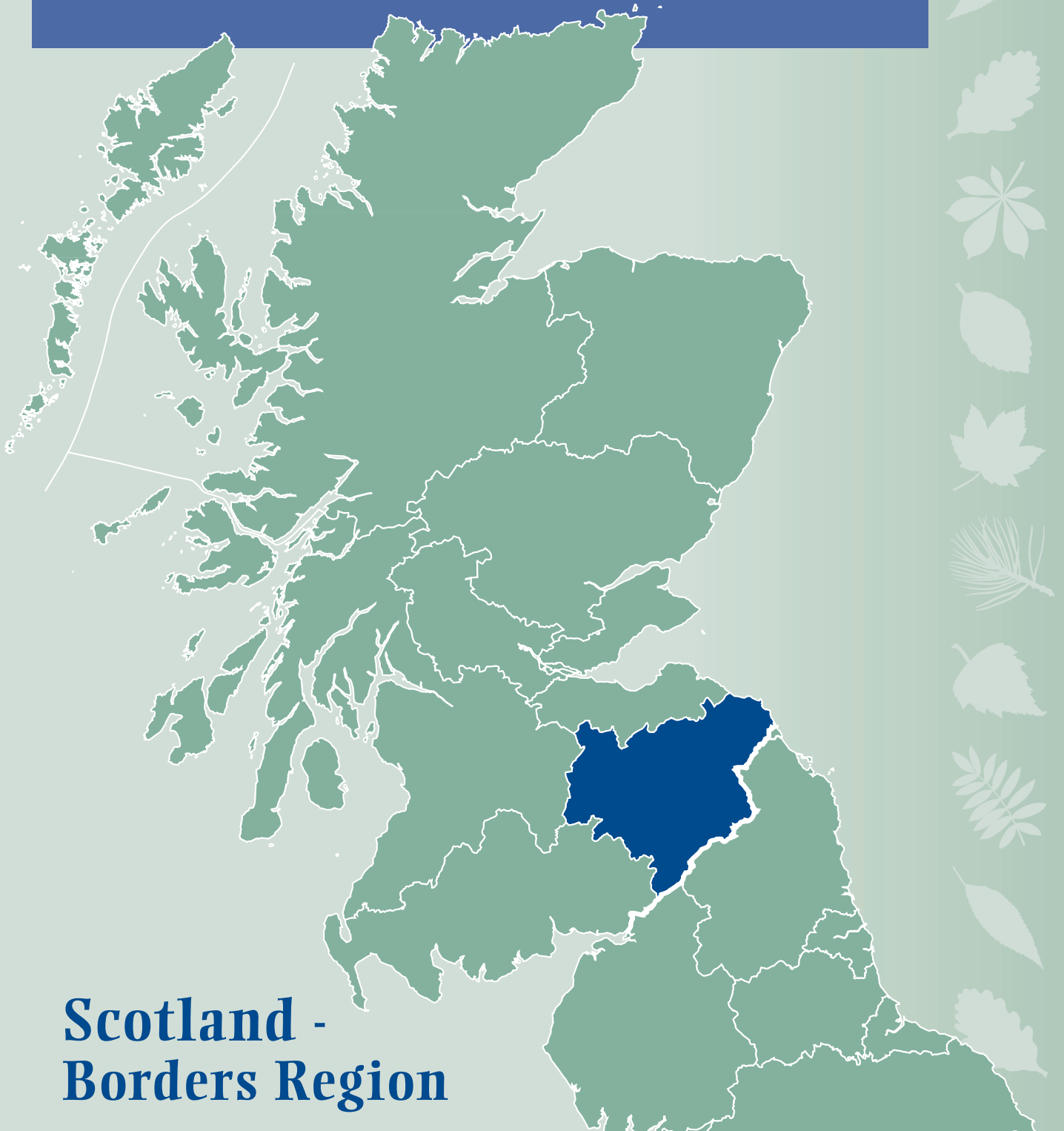




Forestry Commission

INVENTORY REPORT

# National Inventory of Woodland and Trees



**Scotland -  
Borders Region**

Part 1 - Woodlands of 2 hectares and over



Forestry Commission

INVENTORY REPORT

# National Inventory of Woodland and Trees

## Scotland - Borders Region

### Part 1 - Woodlands of 2 hectares and over

Woodland Surveys, Forest Research



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# CONTENTS

<b>Acknowledgements</b>	<b>iv</b>
<b>Introduction</b>	<b>1</b>
Background	1
Survey Method	1
Main Points from the Borders Results	2
Map 1 Distribution of Woodland within Borders Region	3
Map 2 Distribution of Woodland by Ownership within Borders Region	4
<b>Results</b>	<b>5</b>
Table 1 Summary of Areas by Ownership	5
Chart Woodland Area by Ownership	5
Table 2a Size Class Distribution of Woodland	6
Table 2b Size Class Distribution of Woodland by Ownership Units	6
Table 3 Areas of Woodland by Forest Type and Ownership	7
Chart Percentage Forest Type by Area - All Woodland	7
Table 4a Areas of High Forest by Principal Species and Ownership	8
Graph Areas of High Forest by Principal Species and Ownership	9
Table 4b High Forest - Areas by Principal Species, Ownership and Category	10
Graph High Forest Category 1 - Areas by Principal Species and Ownership	11
Graph High Forest Category 2 - Areas by Principal Species and Ownership	11
Table 5a High Forest Category 1- Areas by Principal Species and Planting Year Classes	12
Graph High Forest Category 1- Areas by Planting Year Class	13
Table 5b High Forest Category 1 - Forestry Commission - Areas by Principal Species and Planting Year Classes	14
Graph High Forest Category 1 - Forestry Commission - Areas by Planting Year Class	15
Table 5c High Forest Category 1 - Other Ownerships - Areas by Principal Species and Planting Year Classes	16
Graph High Forest Category 1 - Other Ownerships - Areas by Planting Year Class	17
Table 6 High Forest - Principal Species by Planting Year Classes	18
Table 7 Ownership Type by Area and Percentage	18
<b>Comparison of Results with the 1980 Census</b>	<b>19</b>
Table 8 Woodland Areas and Ownership	19
Table 9 Comparison between 1995 Inventory and 1980 Census High Forest - Areas by Principal Species	20
Graph Comparison between 1995 Inventory and 1980 Census High Forest - Areas by Principal Species	21
Graph Comparison between 1995 Inventory and 1980 Census High Forest Category 1 - Areas by Planting Year Class	21
<b>Glossary</b>	<b>22</b>

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Staff concerned with the survey work were: Douglas Wright, Head of Woodland Surveys Branch (to Dec.1997), who was in overall charge. Alex Herd (Survey Officer) supervised the fieldwork which was undertaken by Ken Thomson (Survey Forester) and Chris Skelton, Tony Furlong and Mark Thurston (Survey Assistants). Simon Gillam (Head of Statistics) provided valuable statistical advice.

Preparation of the digital cartography for the Region was carried out by Graham Bull, Woodland Survey Officer, and Woodland GIS Officers Chris Brown, Esther Whitton and Robert Beck.

The authors of this Report are Justin Gilbert, Woodland Data Officer and Douglas Wright, Head of Woodland Surveys (to Dec.1997).

# INTRODUCTION

The following report presents the results of the main woodland survey for Borders Region from the Forestry Commission National Inventory of Woodlands and Trees.

The Inventory consists of two parts:

- Part 1: the main woodland survey covering woodlands of 2 or more hectares and**
- Part 2: the small woodland and trees survey covering small woodlands, groups of trees and individual trees.**

The results which follow are for Part 1, the main woodland survey, with a reference date of 31 March 1995. Woodland Surveys Branch of Forest Research was responsible for carrying out the survey and for compiling the report.

Part 2 of the Inventory will be published separately in 1999.

## BACKGROUND

The Forestry Commission has carried out a number of national woodland surveys since 1924 with the interval between surveys being 15-20 years. The most recent of these surveys was in 1979-82. With the statistics becoming increasingly out of date the Forestry Commission decided to undertake a new survey called the National Inventory of Woodland and Trees.

The aim is to complete the survey for Great Britain by March 2001. Priority is being given to Scotland followed by Southern England, Wales and Northern England.

Although Borders Region ceased to exist as a local authority on 31 March 1996 its boundaries are the same as those of the Scottish Borders Council.

## SURVEY METHOD

In Scotland the main survey has been able to use the digital map from the Land Cover of Scotland (LCS) 1988 project.

For Borders Region, this digital map has been updated to 31 March 1995 and gives the extent of all woodland over 2 hectares. The total area of woodland in Borders 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:



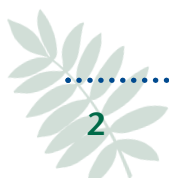
- a) 2.0 ha - <100 ha : every fifth wood
- b) 100 ha - <500 ha : two woods in five
- c) 500 ha and larger : all woods

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.

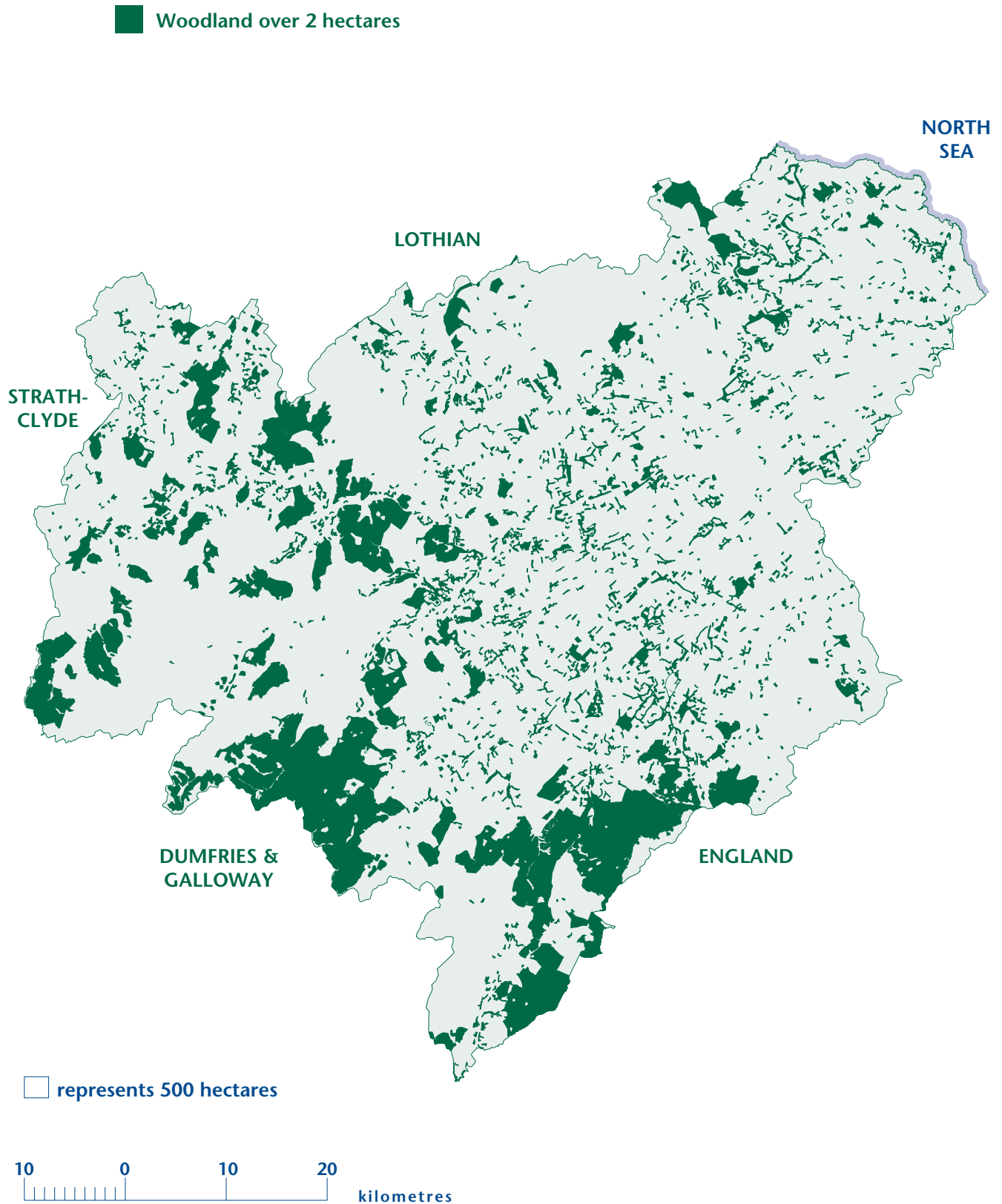
The main difference from the 1980 Census is the change in the minimum woodland area from 0.25 to 2.0 hectares. This means at this stage that the results of the main survey in the Inventory can only be compared approximately with the 1980 Census. However, when the next part of the Inventory is completed data will be available for Small Woodland between 0.25 and 2.0 hectares. This will make an analysis of change possible using comparable sets of information.

## MAIN POINTS FROM THE BORDERS RESULTS

- The total area of woodland in Borders Region is 81 139 hectares. This represents 17.1% of the land area (Table 1).
- 25 788 hectares or 32% of woodland is owned by or leased to the Forestry Commission and 55 350 hectares or 68% of woodland is in Other ownerships (Table 1).
- Conifer woodland is the dominant forest type representing 78% of all woodland. Broadleaved woodland represents 7%, mixed woodland 3% and open space within woodlands 9% (Table 3).
- The main conifer species is Sitka spruce covering 49 419 hectares or 76% of all conifer species. 66% of all conifers are within Other ownerships (Table 4a).
- The main broadleaved species, outside the 'mixed broadleaves' category, is birch covering 925 hectares or 14% of all broadleaved species. 93% of all broadleaves are within Other ownerships (Table 4a).
- High Forest covers 73 768 hectares or 91% of woodland (Table 4a).
- Woodland land cover has increased by 13 208 hectares from 14.5% to 17.1% of the land area since 1980 (Table 8).



## MAP 1 - DISTRIBUTION OF WOODLAND WITHIN BORDERS REGION

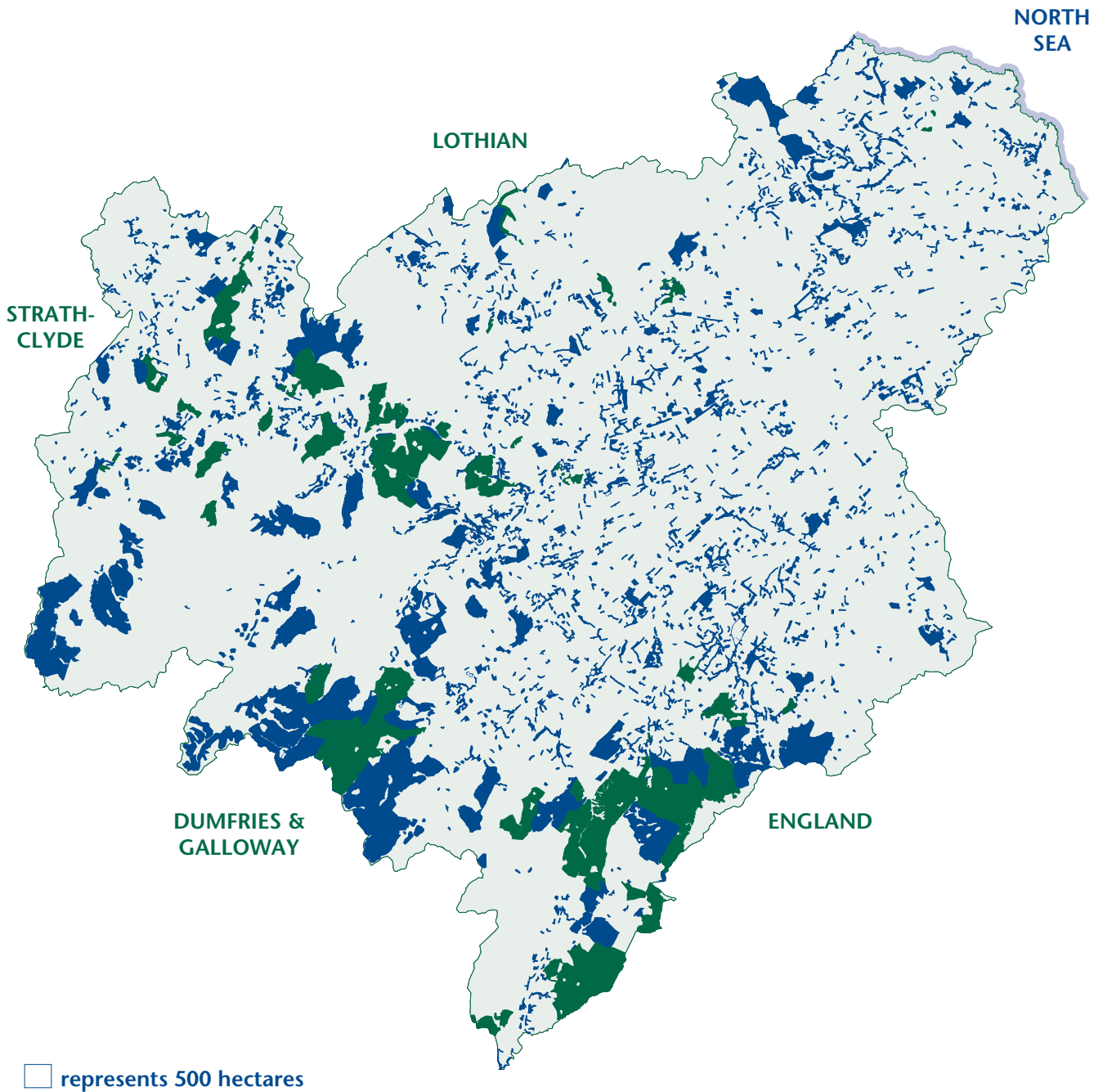


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## MAP 2 - DISTRIBUTION OF WOODLAND BY OWNERSHIP WITHIN BORDERS REGION

- Forestry Commission Woodland over 2 hectares
- Other Woodland over 2 hectares



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# RESULTS

TABLE 1 SUMMARY OF AREAS BY OWNERSHIP		
Area (including inland water)	473379 ha	
Ownership	ha	% woodland
Forestry Commission	25788	32
Other	55350	68
<b>Total Area of Woodland</b>	<b>81139</b>	<b>100</b>
<b>% Woodland Land Cover</b>	<b>17.1</b>	

**NOTE (Table 1)**

Area of Local Authority Unit based on digital boundaries used for 1991 Census of Population.

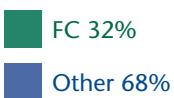
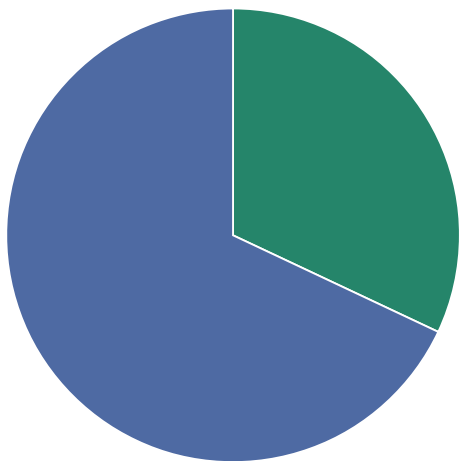
Woodland Area from LCS map updated to 31 March 1995.

**Ownership Categories:**

Forestry Commission (FC) All woodland owned by, or leased to, the Forestry Commission.

Other (O) Woodland other than FC woodland. Includes woodland owned by private individuals, partnerships trusts, business interests, local authorities, other government departments and agencies.

## WOODLAND AREA BY OWNERSHIP



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

**TABLE 2a SIZE CLASS DISTRIBUTION OF WOODLAND**

Size Class (ha)	Number of Woods	Total Area (ha)	Percent of Total Area	Mean Wood Area (ha)
0 - < 2	13	6	0	0.5
2 - < 10	1335	5713	7	4.3
10 - < 20	230	3176	4	13.8
20 - < 50	138	4332	5	31.4
50 - < 100	45	3211	4	71.4
2 - < 100	1748	16432	20	9.4
100 - < 500	62	13494	17	217.6
500 and >	21	51394	63	2447.3
<b>All Woods</b>	<b>1844</b>	<b>81326</b>	<b>100</b>	<b>44.1</b>

**NOTE (Table 2a)**

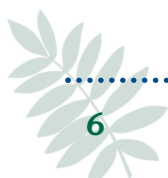
The total area is 187 hectares more than that recorded in tables based on sample data. This is mainly due to the field samples recording some land in other land uses not differentiated from woodland in the LCS map which was prepared from aerial photographs.

Some woods, over 2 hectares, are divided by the Regional boundary and only a part of their area falls within the Region. These part-woods are included above in the appropriate size category and are often less than 2 hectares.

**TABLE 2b 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)
0 - < 2	FC	0	0	0	0.0
	Other	41	43	0	1.0
2 - < 10	FC	11	65	0	5.9
	Other	1362	5832	7	4.3
10 - < 20	FC	2	26	0	13.2
	Other	239	3305	4	13.8
20 - < 50	FC	9	254	0	28.2
	Other	141	4419	5	31.3
50 - < 100	FC	4	260	0	65.1
	Other	44	3155	4	71.7
2 - < 100	FC	26	606	1	23.3
	Other	1786	16711	21	9.4
100 - < 500	FC	17	3724	5	219.1
	Other	60	13707	17	228.4
500 - and >	FC	11	21602	27	1963.8
	Other	17	24932	31	1466.6
<b>Total</b>	FC	<b>54</b>	<b>25932</b>	<b>32</b>	<b>480.2</b>
	Other	<b>1904</b>	<b>55393</b>	<b>68</b>	<b>29.1</b>
<b>Grand Total</b>		<b>1844</b>	<b>81326</b>	<b>100</b>	<b>44.1</b>

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



**NOTE (Table 2b)**

The total area is 187 hectares more than that recorded in tables based on the sample data. This is mainly due to the field samples recording some land in other land uses not differentiated from woodland in the LCS map which was prepared from aerial photographs.

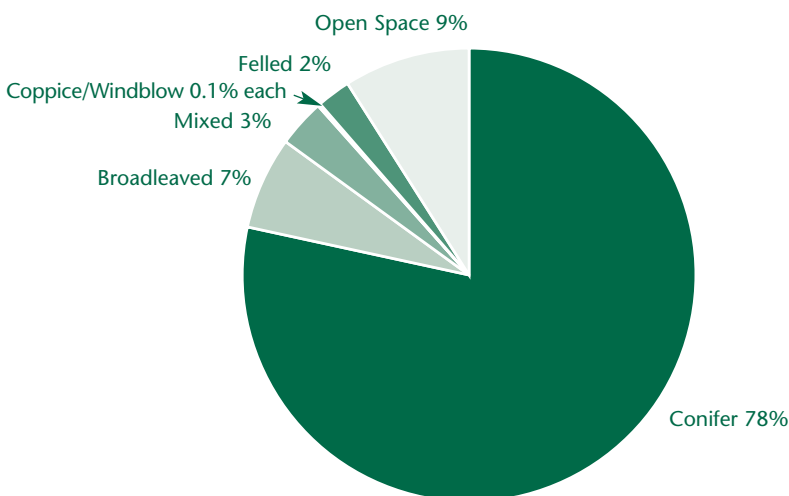
The data available from the digital map enable the identification of woodlands according to their ownerships, Forestry Commission or Other. The entries in the table cannot be added, to derive Table 2a, as some woods may consist of both FC and Other ownerships. For example, the Forestry Commission may own most of a large wood with some parts in Other ownership(s). In Table 2a the whole area would be treated as one wood and the area allocated to one size category. In Table 2b 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 3 AREAS OF WOODLAND BY FOREST TYPE AND OWNERSHIP						
Forest Type	FC		Other		All Woods	
	ha	%	ha	%	ha	%
Conifer	22100	85.7	41486	75.0	63586	78.4
Broadleaved	420	1.6	4950	8.9	5370	6.6
Mixed	82	0.3	2668	4.8	2749	3.4
Coppice	0	0.0	52	0.1	52	0.1
Copp-w-Stds	0	0.0	0	0.0	0	0.0
Windblow	84	0.3	32	0.1	116	0.1
Felled	583	2.3	1364	2.5	1947	2.4
Open space	2520	9.8	4798	8.7	7318	9.0
<b>Total</b>	<b>25788</b>	<b>100.0</b>	<b>55350</b>	<b>100.0</b>	<b>81139</b>	<b>100.0</b>

**NOTE (Table 3)**

Please refer to the Glossary on page 22 for definitions of forest types.

**% FOREST TYPE BY AREA - ALL WOODLAND**



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

TABLE 4a AREAS OF HIGH FOREST BY PRINCIPAL SPECIES AND OWNERSHIP

Species	FC			Other			All Woodland		
	Area (ha)	cat %	spp %	Area (ha)	cat %	spp %	Area (ha)	cat %	spp %
Scots pine	686	3	3	4506	10	9	5192	8	7
Corsican pine	0	0	0	0	0	0	0	0	0
Lodgepole pine	1076	5	5	1070	2	2	2146	3	3
Sitka spruce	17534	79	77	31885	74	65	49419	76	69
Norway spruce	1007	5	4	1908	4	4	2915	4	4
European larch	184	1	1	279	1	1	462	1	1
Jap/Hybrid larch	1302	6	6	2243	5	5	3545	5	5
Douglas fir	312	1	1	527	1	1	839	1	1
Other conifers	41	0	0	514	1	1	555	1	1
Mixed conifers	98	0	0	260	1	1	357	1	0
<b>Total conifers</b>	<b>22239</b>	<b>100</b>	<b>98</b>	<b>43193</b>	<b>100</b>	<b>88</b>	<b>65432</b>	<b>100</b>	<b>91</b>
Oak	8	2	0	320	5	1	328	5	0
Beech	0	0	0	493	8	1	493	8	1
Sycamore	36	8	0	463	8	1	498	8	1
Ash	0	0	0	298	5	1	298	5	0
Birch	16	4	0	909	15	2	925	14	1
Poplar	0	0	0	43	1	0	43	1	0
Sweet chestnut	0	0	0	0	0	0	0	0	0
Elm	0	0	0	0	0	0	0	0	0
Other broadleaves	18	4	0	512	9	1	530	8	1
Mixed broadleaves	368	83	2	2903	49	6	3271	51	5
<b>Total broadleaves</b>	<b>446</b>	<b>100</b>	<b>2</b>	<b>5943</b>	<b>100</b>	<b>12</b>	<b>6389</b>	<b>100</b>	<b>9</b>
<b>Total - all species</b>	<b>22685</b>		<b>100</b>	<b>49136</b>		<b>100</b>	<b>71821</b>		<b>100</b>
<b>Felled</b>	<b>583</b>			<b>1364</b>			<b>1947</b>		
<b>Total High Forest</b>	<b>23268</b>			<b>50500</b>			<b>73768</b>		

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



**NOTE (Table 4a)**

**cat:** species percentage of conifer or broadleaved in the ownership category.

**spp:** percentage of all species in the ownership category.

In addition to the areas shown there are 7318 hectares of other areas integral to the woodland not stocked with tree species.

The standard errors of the area estimates for the most common species are as follows:

Conifers	2%
Broadleaves	8%
Scots pine	10%
Sitka spruce	3%
Mixed broadleaves	10%

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).

These standard errors are for the species areas in all woodland types.

**AREAS OF HIGH FOREST BY PRINCIPAL SPECIES AND OWNERSHIP**

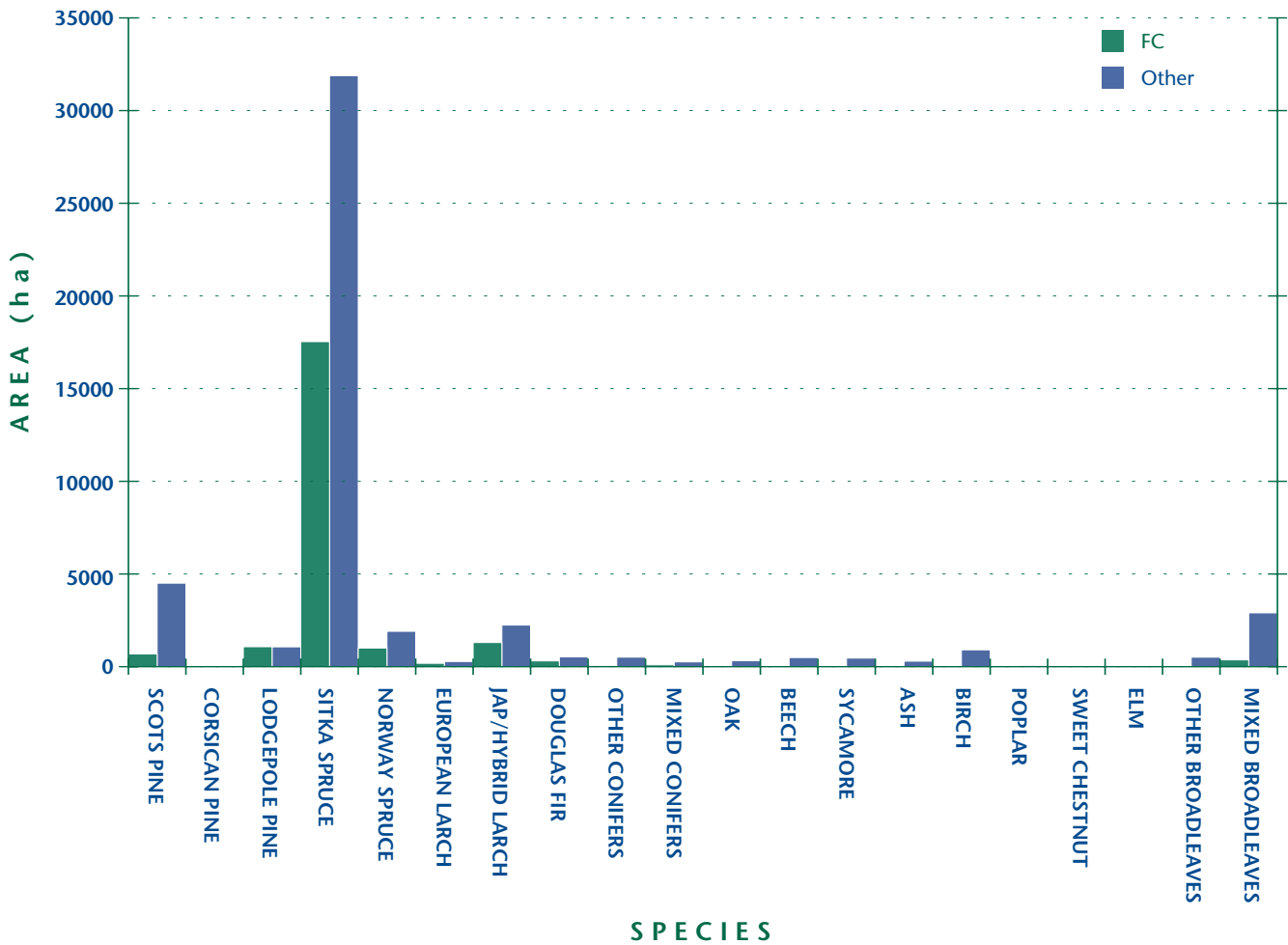


TABLE 4b AREAS OF HIGH FOREST BY PRINCIPAL SPECIES, OWNERSHIP AND CATEGORY

Species	FC			Other			All Ownerships		
	Cat 1	Cat 2	Tot HF	Cat 1	Cat 2	Tot HF	Cat 1	Cat 2	Tot HF
Scots pine	576	110	686	4218	288	4506	4794	398	5192
Corsican pine	0	0	0	0	0	0	0	0	0
Lodgepole pine	734	342	1076	1002	68	1070	1736	410	2146
Sitka spruce	17216	318	17534	31248	637	31885	48464	955	49419
Norway spruce	936	71	1007	1831	78	1908	2766	149	2915
European larch	143	41	184	175	103	279	318	144	462
Jap/Hybrid larch	1282	20	1302	2206	37	2243	3488	57	3545
Douglas fir	312	0	312	508	19	527	820	19	839
Other conifers	16	25	41	506	8	514	522	33	555
Mixed conifers	94	3	98	189	70	260	284	73	357
<b>Total conifers</b>	<b>21309</b>	<b>930</b>	<b>22239</b>	<b>41884</b>	<b>1309</b>	<b>43193</b>	<b>63193</b>	<b>2239</b>	<b>65432</b>
Oak	0	8	8	98	222	320	98	229	328
Beech	0	0	0	251	242	493	251	242	493
Sycamore	0	36	36	228	235	463	228	271	498
Ash	0	0	0	198	100	298	198	100	298
Birch	6	10	16	85	824	909	92	834	925
Poplar	0	0	0	43	0	43	43	0	43
Sweet chestnut	0	0	0	0	0	0	0	0	0
Elm	0	0	0	0	0	0	0	0	0
Other broadleaves	0	18	18	33	479	512	33	496	530
Mixed broadleaves	31	338	368	433	2470	2903	464	2807	3271
<b>Total broadleaves</b>	<b>37</b>	<b>409</b>	<b>446</b>	<b>1370</b>	<b>4574</b>	<b>5943</b>	<b>1407</b>	<b>4983</b>	<b>6389</b>
<b>Total - all species</b>	<b>21346</b>	<b>1339</b>	<b>22685</b>	<b>43254</b>	<b>5882</b>	<b>49136</b>	<b>64600</b>	<b>7222</b>	<b>71821</b>

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



NOTE (Table 4b)

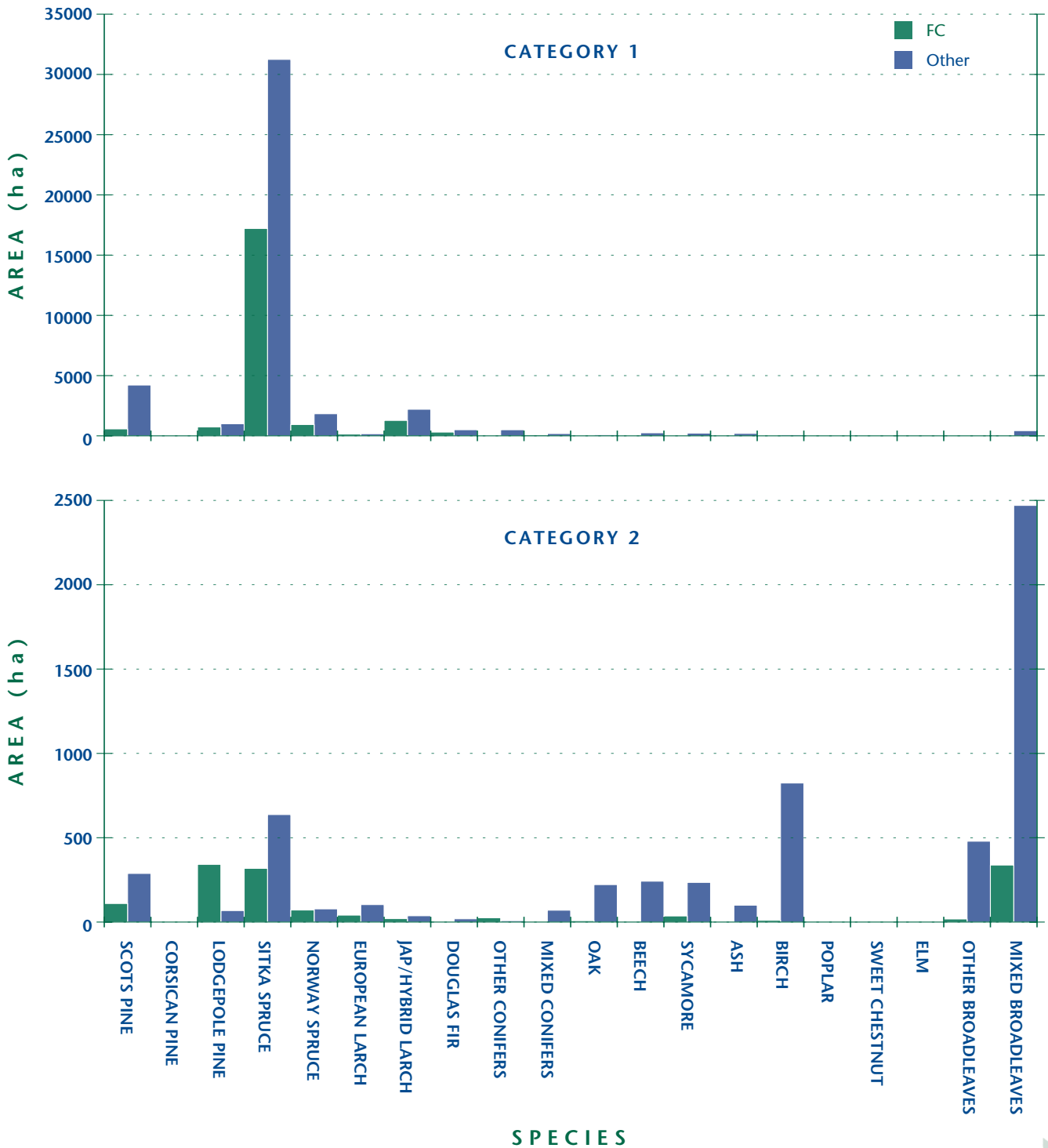
The standard errors of the area estimates for the most common species or species groups are as follows:

	Cat 1	Cat 2	Total HF
Conifers	2%	13%	2%
Broadleaves	18%	7%	8%
Scots pine	11%	21%	10%
Sitka spruce	2%	22%	3%
Mixed broadleaves	29%	10%	10%

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).

These standard errors are for the species areas in all woodland types.

AREAS OF HIGH FOREST BY PRINCIPAL SPECIES AND OWNERSHIP





**TABLE 5a HIGH FOREST CATEGORY 1 -  
AREAS BY PRINCIPAL SPECIES AND PLANTING YEAR CLASSES**

Species	PLANTING YEAR CLASS												TOTAL
	1991 -1995	1981 -1990	1971 -1980	1961 -1970	1951 -1960	1941 -1950	1931 -1940	1921 -1930	1911 -1920	1901 -1910	1861 -1900	pre - 1861	
Scots pine	122	179	465	1030	872	759	380	393	583	0	7	6	4794
Corsican pine	0	0	0	0	0	0	0	0	0	0	0	0	0
Lodgepole pine	0	294	377	707	357	3	0	0	0	0	0	0	1736
Sitka Spruce	2123	7514	22655	12379	2601	789	130	143	6	0	0	124	48464
Norway spruce	137	240	320	628	716	376	307	42	0	0	0	0	2766
European larch	0	42	0	0	96	27	148	5	0	0	0	0	318
Jap/Hybrid larch	70	383	796	487	1037	278	260	69	90	19	0	0	3488
Douglas fir	0	109	219	125	127	93	46	30	60	0	12	0	820
Other conifers	3	160	292	47	4	15	0	0	0	0	0	0	522
Mixed conifers	0	12	4	182	57	0	29	0	0	0	0	0	284
<b>Total conifers</b>	<b>2455</b>	<b>8932</b>	<b>25128</b>	<b>15584</b>	<b>5864</b>	<b>2339</b>	<b>1301</b>	<b>682</b>	<b>739</b>	<b>19</b>	<b>19</b>	<b>131</b>	<b>63193</b>
Oak	0	73	0	0	0	0	0	0	25	0	0	0	98
Beech	0	30	3	0	4	0	5	0	2	0	84	122	251
Sycamore	0	22	0	104	19	40	0	0	12	31	0	0	228
Ash	0	51	0	114	5	23	5	0	0	0	0	0	198
Birch	0	47	38	0	6	0	0	0	0	0	0	0	92
Poplar	0	7	22	0	13	0	0	0	0	0	0	0	43
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 blvs	0	17	13	4	0	0	0	0	0	0	0	0	33
Mixed blvs	57	7	86	111	106	9	16	6	0	3	63	0	464
<b>Total broadleaves</b>	<b>57</b>	<b>256</b>	<b>163</b>	<b>332</b>	<b>153</b>	<b>72</b>	<b>26</b>	<b>6</b>	<b>39</b>	<b>34</b>	<b>147</b>	<b>122</b>	<b>1407</b>
<b>Total - all species</b>	<b>2511</b>	<b>9188</b>	<b>25291</b>	<b>15916</b>	<b>6017</b>	<b>2411</b>	<b>1327</b>	<b>688</b>	<b>778</b>	<b>53</b>	<b>166</b>	<b>253</b>	<b>64600</b>

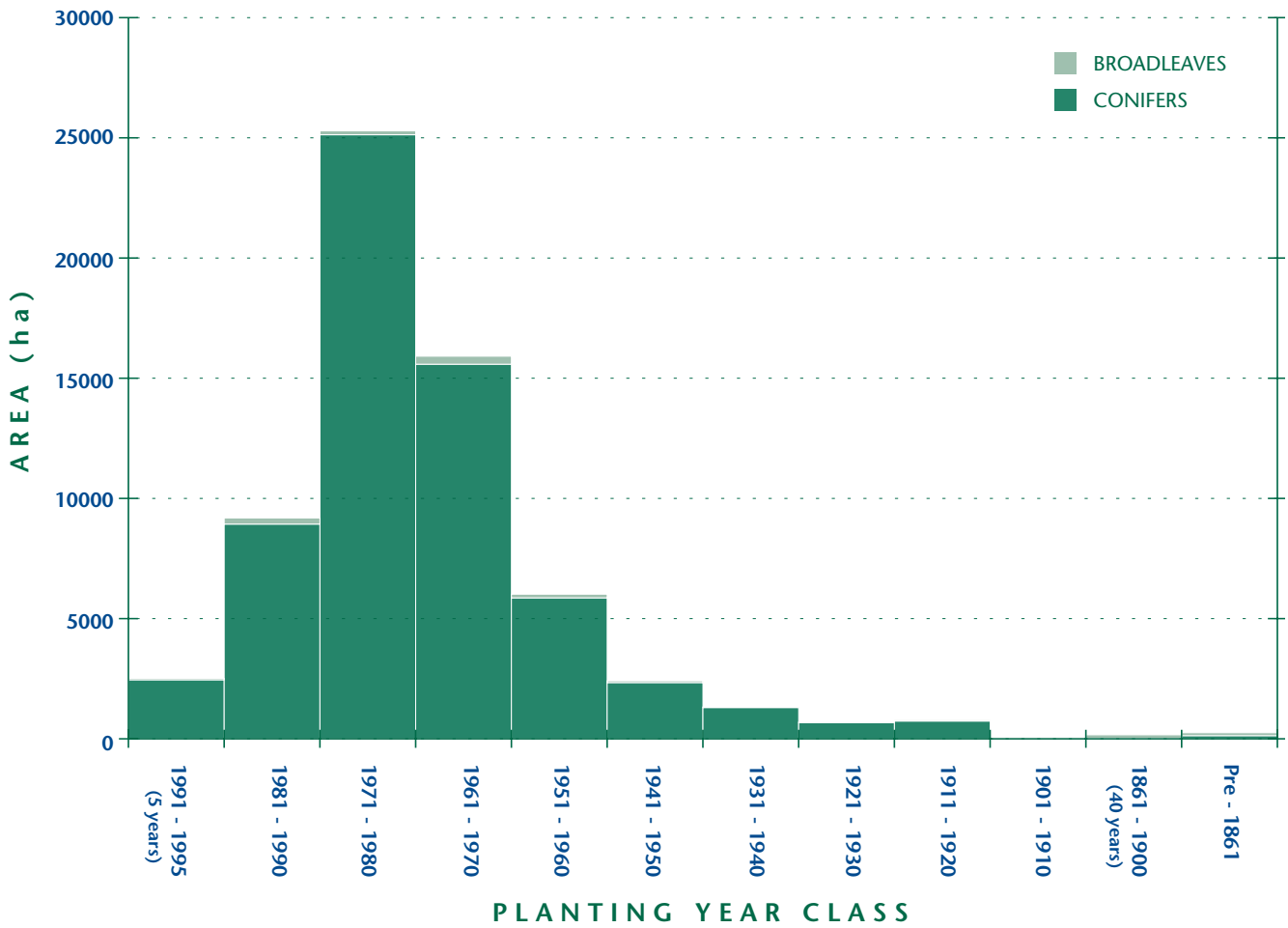
Note: The figures in many of the tables may not add due to rounding.



**NOTE (Table 5a)**

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 - AREAS BY PLANTING YEAR CLASS**



**TABLE 5b HIGH FOREST CATEGORY 1 - FORESTRY COMMISSION  
AREAS BY PRINCIPAL SPECIES AND PLANTING YEAR CLASSES**

Species	PLANTING YEAR CLASS												TOTAL
	1991 -1995	1981 -1990	1971 -1980	1961 -1970	1951 -1960	1941 -1950	1931 -1940	1921 -1930	1911 -1920	1901 -1910	1861 -1900	pre - 1861	
Scots pine	12	0	56	12	71	283	142	0	0	0	0	0	576
Corsican pine	0	0	0	0	0	0	0	0	0	0	0	0	0
Lodgepole pine	0	0	200	177	357	0	0	0	0	0	0	0	734
Sitka spruce	421	2367	8681	3194	1925	487	16	0	0	0	0	124	17216
Norway spruce	6	13	162	62	236	164	276	16	0	0	0	0	936
European larch	0	0	0	0	55	0	88	0	0	0	0	0	143
Jap/Hybrid larch	37	194	154	157	705	12	23	0	0	0	0	0	1282
Douglas fir	0	46	39	60	124	44	0	0	0	0	0	0	312
Other conifers	0	4	12	0	0	0	0	0	0	0	0	0	16
Mixed conifers	0	0	0	94	0	0	0	0	0	0	0	0	94
<b>Total conifers</b>	<b>477</b>	<b>2623</b>	<b>9305</b>	<b>3756</b>	<b>3473</b>	<b>990</b>	<b>545</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>124</b>	<b>21309</b>
Oak	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
Sycamore	0	0	0	0	0	0	0	0	0	0	0	0	0
Ash	0	0	0	0	0	0	0	0	0	0	0	0	0
Birch	0	0	6	0	0	0	0	0	0	0	0	0	6
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 blvs	0	0	0	0	0	0	0	0	0	0	0	0	0
Mixed blvs	8	0	0	17	6	0	0	0	0	0	0	0	31
<b>Total broadleaves</b>	<b>8</b>	<b>0</b>	<b>6</b>	<b>17</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>37</b>
<b>Total - all species</b>	<b>484</b>	<b>2623</b>	<b>9311</b>	<b>3773</b>	<b>3479</b>	<b>990</b>	<b>545</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>124</b>	<b>21346</b>

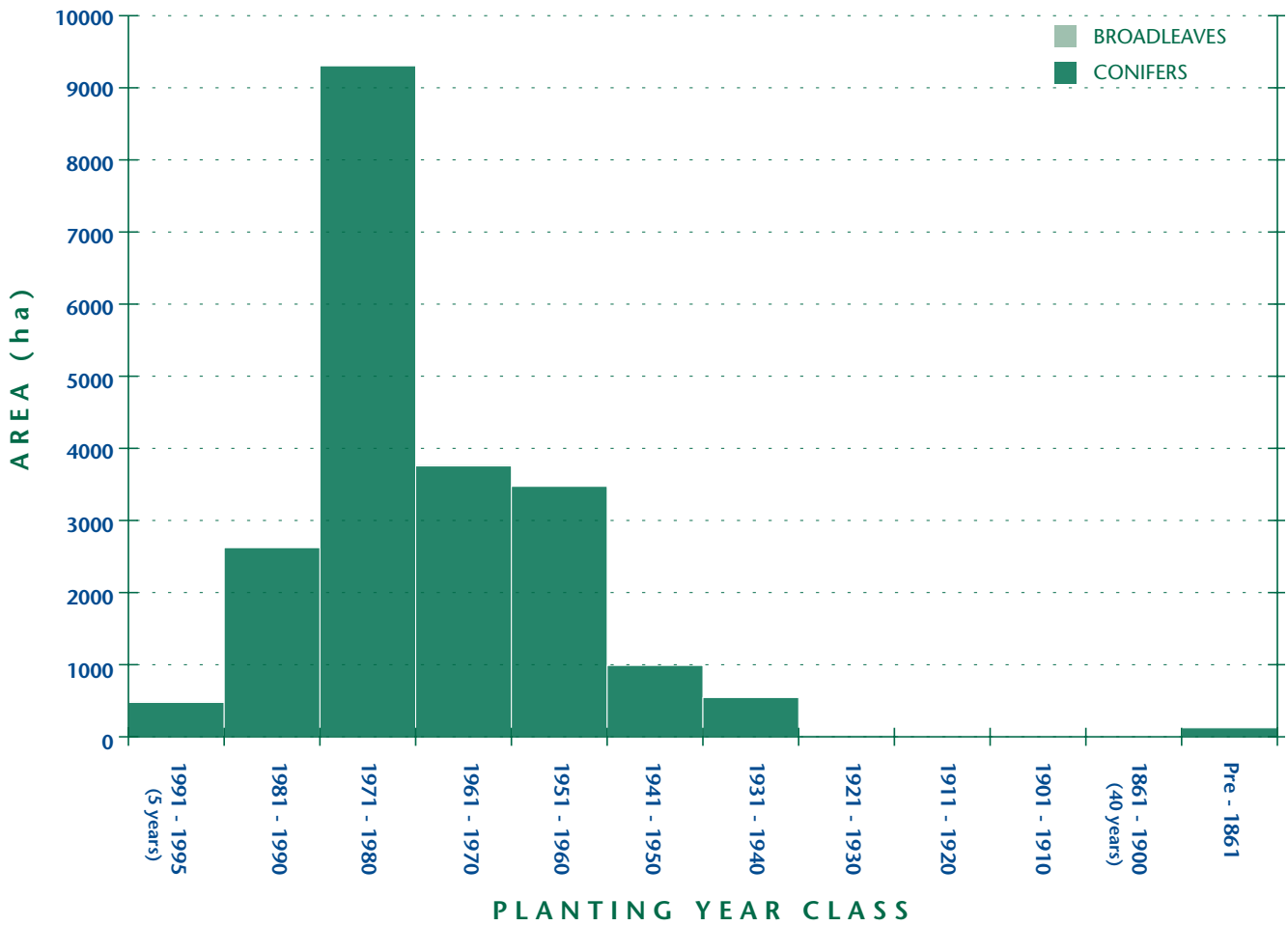
Note: The figures in many of the tables may not add due to rounding.



NOTE (Table 5b)

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 -  
AREAS BY PLANTING YEAR CLASS



**TABLE 5c HIGH FOREST CATEGORY 1 - OTHER OWNERSHIPS  
AREAS BY PRINCIPAL SPECIES AND PLANTING YEAR CLASSES**

Species	PLANTING YEAR CLASS												TOTAL
	1991 -1995	1981 -1990	1971 -1980	1961 -1970	1951 -1960	1941 -1950	1931 -1940	1921 -1930	1911 -1920	1901 -1910	1861 -1900	pre - 1861	
Scots pine	109	179	409	1018	801	476	237	393	583	0	7	6	4218
Corsican pine	0	0	0	0	0	0	0	0	0	0	0	0	0
Lodgepole pine	0	294	176	529	0	3	0	0	0	0	0	0	1002
Sitka spruce	1702	5147	13974	9185	675	302	114	143	6	0	0	0	31248
Norway spruce	131	227	158	566	479	212	31	26	0	0	0	0	1831
European larch	0	42	0	0	41	27	61	5	0	0	0	0	175
Jap/Hybrid larch	33	190	642	330	332	266	237	69	90	19	0	0	2206
Douglas fir	0	63	180	65	2	49	46	30	60	0	12	0	508
Other conifers	3	156	279	47	4	15	0	0	0	0	0	0	506
Mixed conifers	0	12	4	88	57	0	29	0	0	0	0	0	189
<b>Total conifers</b>	<b>1978</b>	<b>6309</b>	<b>15823</b>	<b>11828</b>	<b>2391</b>	<b>1348</b>	<b>756</b>	<b>666</b>	<b>739</b>	<b>19</b>	<b>19</b>	<b>6</b>	<b>41884</b>
Oak	0	73	0	0	0	0	0	0	25	0	0	0	98
Beech	0	30	3	0	4	0	5	0	2	0	84	122	251
Sycamore	0	22	0	104	19	40	0	0	12	31	0	0	228
Ash	0	51	0	114	5	23	5	0	0	0	0	0	198
Birch	0	47	32	0	6	0	0	0	0	0	0	0	85
Poplar	0	7	22	0	13	0	0	0	0	0	0	0	43
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 blvs	0	17	13	4	0	0	0	0	0	0	0	0	33
Mixed blvs	49	7	86	94	100	9	16	6	0	3	63	0	433
<b>Total broadleaves</b>	<b>49</b>	<b>256</b>	<b>157</b>	<b>316</b>	<b>147</b>	<b>72</b>	<b>26</b>	<b>6</b>	<b>39</b>	<b>34</b>	<b>147</b>	<b>122</b>	<b>1370</b>
<b>Total - all species</b>	<b>2027</b>	<b>6565</b>	<b>15979</b>	<b>12144</b>	<b>2538</b>	<b>1421</b>	<b>782</b>	<b>672</b>	<b>778</b>	<b>53</b>	<b>166</b>	<b>128</b>	<b>43254</b>

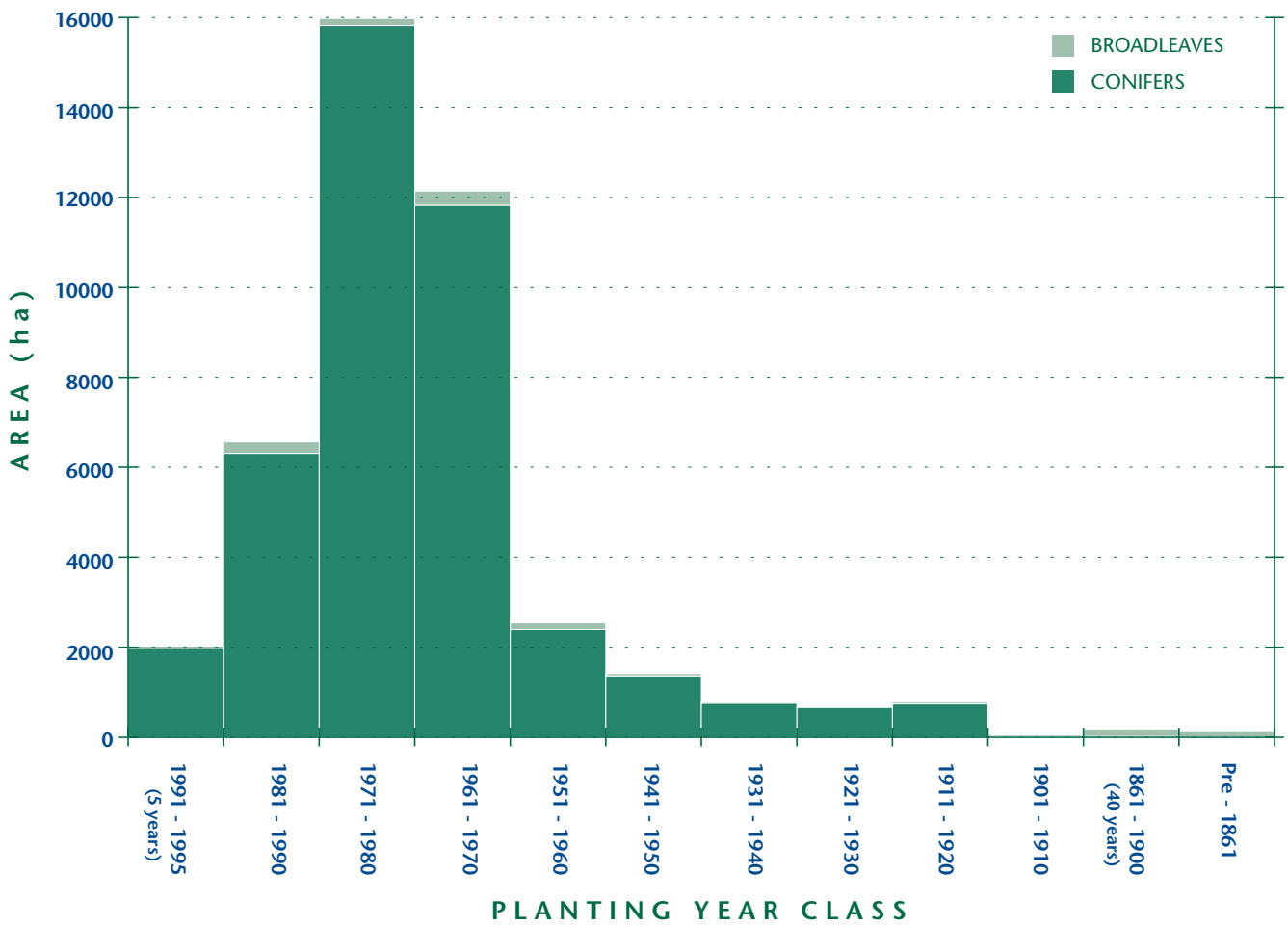
Note: The figures in many of the tables may not add due to rounding.



NOTE (Table 5c)

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 OWNERSHIPS -  
AREAS BY PLANTING YEAR CLASS



**TABLE 6 HIGH FOREST -  
PRINCIPAL SPECIES BY PLANTING YEAR CLASSES**

Planting Year Class	First	%	Second	%	Third	%
1991-1995	Sitka spruce	62	Mixed broadleaves	24	Norway spruce	4
1981-1990	Sitka spruce	75	Mixed broadleaves	5	Jap/Hybrid larch	4
1971-1980	Sitka spruce	87	Jap/Hybrid larch	3	Lodgepole pine	2
1961-1970	Sitka spruce	76	Scots pine	6	Lodgepole pine	4
1951-1960	Sitka spruce	40	Jap/Hybrid larch	17	Scots pine	15
1941-1950	Sitka spruce	28	Scots pine	28	Norway spruce	13
1931-1940	Scots pine	26	Norway spruce	19	Jap/Hybrid larch	16
1921-1930	Scots pine	49	Sitka spruce	18	European larch	8
1911-1920	Scots pine	59	Birch	11	Mixed broadleaves	10
1901-1910	Mixed broadleaves	47	Sycamore	25	Jap/Hybrid larch	11
1861-1900	Mixed broadleaves	49	Other broadleaves	20	Beech	14
Pre 1861	Beech	38	Sitka spruce	20	Mixed broadleaves	18
<b>All years</b>	<b>Sitka spruce</b>	<b>69</b>	<b>Scots pine</b>	<b>7</b>	<b>Jap/Hybrid larch</b>	<b>5</b>

**TABLE 7 OWNERSHIP TYPE BY AREA  
AND PERCENTAGE**

Ownership Type	Area (ha)	%
Personal	40450	49.9
Private forestry or timber business	4341	5.4
Other private business	8787	10.8
Local Authority	0	0.0
Other public body (not FC)	0	0.0
Forestry Commission	25788	31.8
Charity	131	0.2
Community ownership or common land	0	0.0
Unclassified	1642	2.0
<b>Total</b>	<b>81139</b>	<b>100.0</b>

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

NOTE (Table 7)

Please refer to the Glossary on page 22 for definitions of forest types.



## COMPARISON OF RESULTS WITH THE 1980 CENSUS

The 1980 Census and 1995 Inventory were undertaken by very different sampling methods. The comparison with the 1980 Census of Woodlands and Trees is not yet complete because of the difference in minimum area for woodland. Within the 1980 Census the minimum area of woodland was 0.25 hectares whilst in the National Inventory of Woodland it is 2 hectares. The total area of woodland within the Inventory will be revised to include an estimate of the area between 0.25 - 2.0 hectares once the Small Woodlands and Trees Survey is completed.

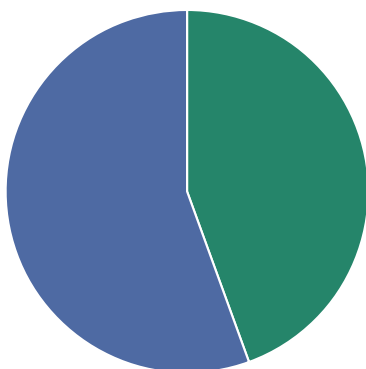
The apparent differences shown in the following tables should therefore be treated with caution, particularly where areas are small.

TABLE 8 WOODLAND AREAS AND OWNERSHIP			
	CENSUS 31/3/80	INVENTORY 31/3/95	CHANGE (%)
Area (inc. inland water)	469836	473379	0.8
FC Woodland area	30198	25788	-14.6
Other ownership area	37733	55350	46.7
<b>Total Area of Woodland</b>	<b>67931</b>	<b>81139</b>	<b>19.4</b>
<b>% Woodland Cover</b>	<b>14.5</b>	<b>17.1</b>	<b>18.5</b>

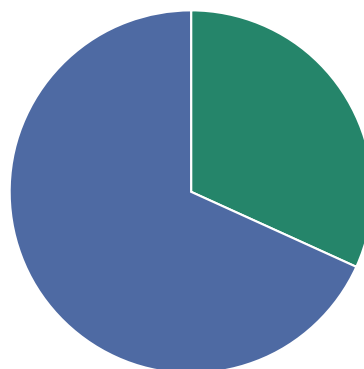
NOTE (Table 8)

Area (including inland water)-in the interval between the two surveys the Regional boundary was revised. The method of measurement has also undergone development.

CENSUS 1980



INVENTORY 1995



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

FC 44%

Other ownerships 56%

FC 32%

Other ownerships 68%



**TABLE 9 COMPARISON BETWEEN 1995 INVENTORY AND 1980 CENSUS HIGH FOREST - AREAS BY PRINCIPAL SPECIES**

SPECIES	1980 CENSUS	1995 INVENTORY
Scots pine	5538	5192
Corsican pine	65	0
Lodgepole pine	2310	2146
Sitka spruce	34861	49419
Norway spruce	3743	2915
European larch	1106	462
Jap/Hybrid larch	3764	3545
Douglas fir	952	839
Other conifers	535	555
Mixed conifers	640	357
<b>Total conifers</b>	<b>53513</b>	<b>65432</b>
Oak	1117	328
Beech	966	493
Sycamore	870	498
Ash	676	298
Birch	953	925
Poplar	71	43
Sweet chestnut	0	0
Elm	478	0
Other broadleaves	961	530
Mixed broadleaves	1322	3271
<b>Total broadleaves</b>	<b>7414</b>	<b>6389</b>
<b>TOTAL - all species</b>	<b>60926</b>	<b>71821</b>
Felled	891	1947
<b>Total - High Forest</b>	<b>61817</b>	<b>73768</b>

**NOTE (Table 9)**

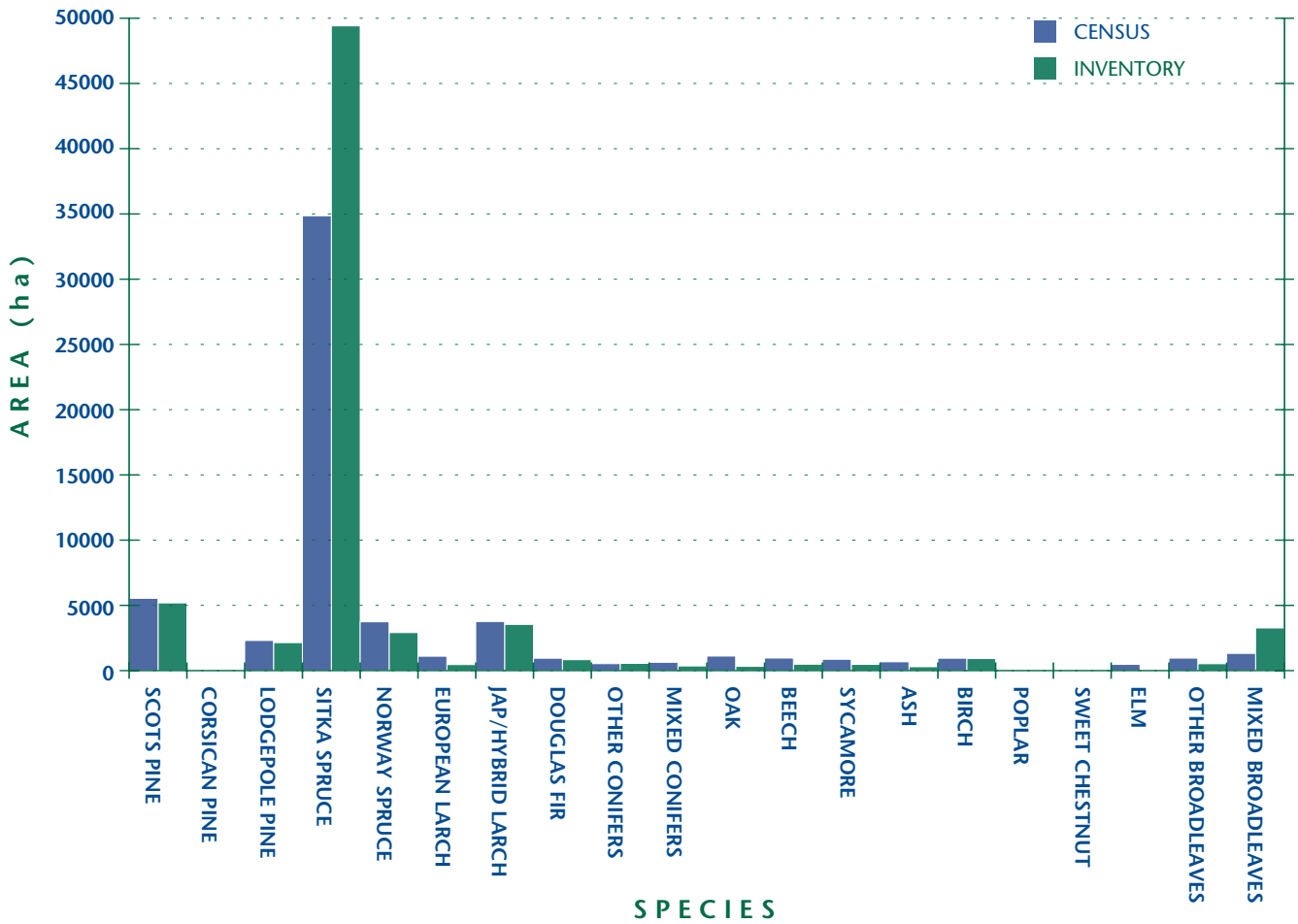
In the 1980 Census the areas assigned to species included any associated open space such as roads and rides. In the Inventory open spaces are separately identified and the overall proportion is 9.0% (Table 3). To obtain meaningful comparisons between the two datasets the 1980 Census data have therefore been reduced by 9.0%.

N.B. Woodlands between 0.25 and 2.0 hectares are not yet included in the 1995 Inventory figures (above). These are expected to contain a high proportion of broadleaved species.

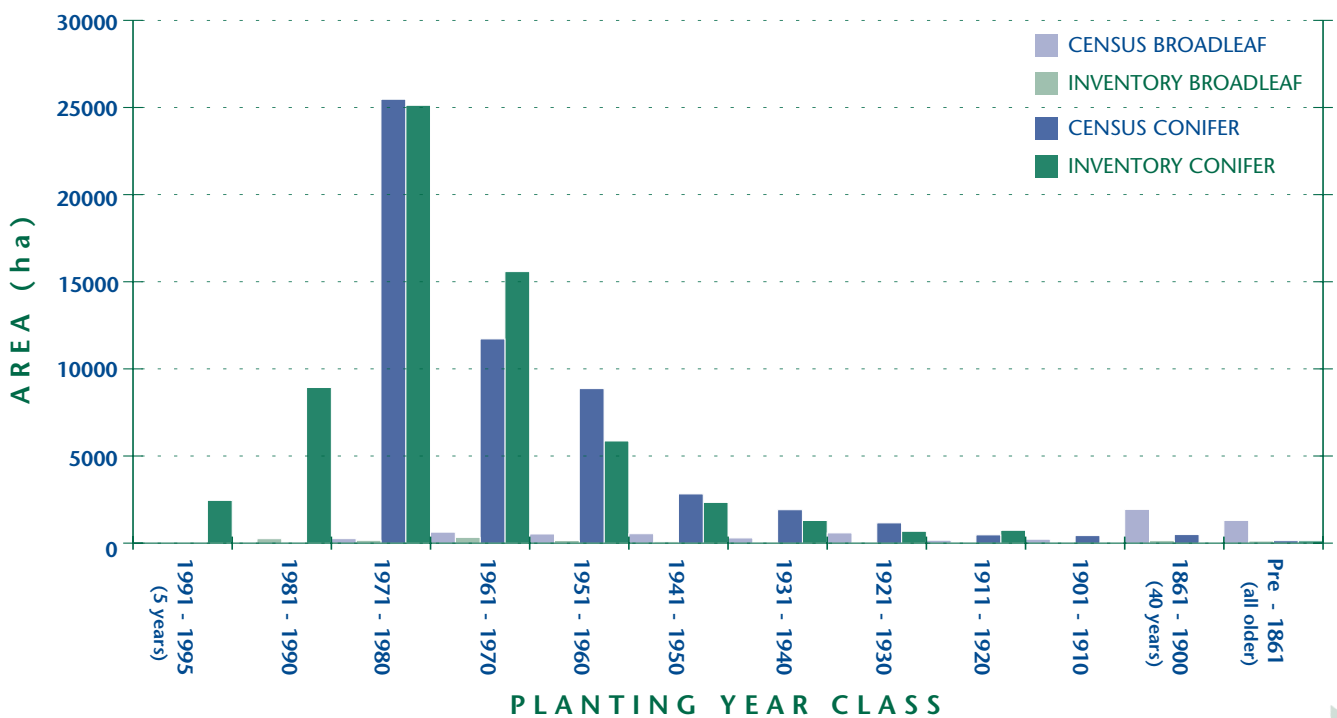
Note: The figures in many of the tables may not add due to rounding.



COMPARISON BETWEEN 1995 INVENTORY AND 1980 CENSUS - HIGH FOREST - AREAS BY PRINCIPAL SPECIES



COMPARISON BETWEEN 1995 INVENTORY AND 1980 CENSUS - HIGH FOREST CATEGORY 1 - AREAS BY PLANTING YEAR CLASS



## GLOSSARY

<b>Woodland</b>	In the United Kingdom woodland is defined as land 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. Intervening land-classes such as roads, rivers or pipelines are disregarded if less than 50 m 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 hectares and over, and with a minimum width of 50 m, is included in the main woodland survey, Part 1 of the Inventory; other woodland and trees are assessed in Part 2, the small woodland and trees survey.
<b>High Forest</b>	All woodland with the exception of stands managed as coppice or coppice with standards with, or the potential to achieve, a tree cover of more than 20%. Two categories of High Forest are recognised:
<i>High Forest Category 1</i>	Stands which are, or could become, capable of producing wood of a size and quality suitable for sawlogs and small roundwood.
<i>High Forest Category 2</i>	Stands of lower quality than High Forest Category 1.
<b>Mixtures</b>	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'.
<b>FOREST TYPES</b>	
<b>Conifer</b>	Woodland containing more than 80% by area of coniferous species.
<b>Broadleaved</b>	Woodland containing more than 80% by area of broadleaved species.
<b>Mixed</b>	A combination of broadleaved and coniferous species where each category occupies at least 20% of the canopy (see note on mixtures above).
<b>Coppice</b>	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.
<b>Coppice with Standards</b>	Two-storey stands where the overstorey consists of at least 25 stems per hectare that are older than the understorey of worked coppice by at least one coppice rotation.
<b>Felled</b>	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.
<b>Windblow</b>	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 Ownerships** 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 Body (not FC)* Government department/agency, nationalised industry, etc.

*Charitable* 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.

# NOTES





**Forestry Commission**

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