



Forestry Commission

INVENTORY REPORT

National Inventory of Woodland and Trees



**Scotland -
Highland Region**

Part 1 - Woodlands of 2 hectares and over



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Woodland Surveys, Forest Research



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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 Peter Walling and David Kennedy (Survey Foresters) and Andrew Kennedy and Fiona Lilley (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 GIS Officer and Woodland GIS Assistants Chris Brown, Robert Beck and Esther Whitton.

The authors of this Report are Steve Smith, Head of Woodland Surveys and Justin Gilbert, Woodland Data Officer.

INTRODUCTION

The following report presents the results of the main woodland survey for Highland 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.

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 With the statistics becoming increasingly out of date the Forestry Commission decided to undertake a new survey called the National Inventory of Woodland and Trees.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 Highland Region ceased to exist as a local authority on 31 March 1996 its boundaries are the same as the Highland 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 Highland 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 Highland 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.

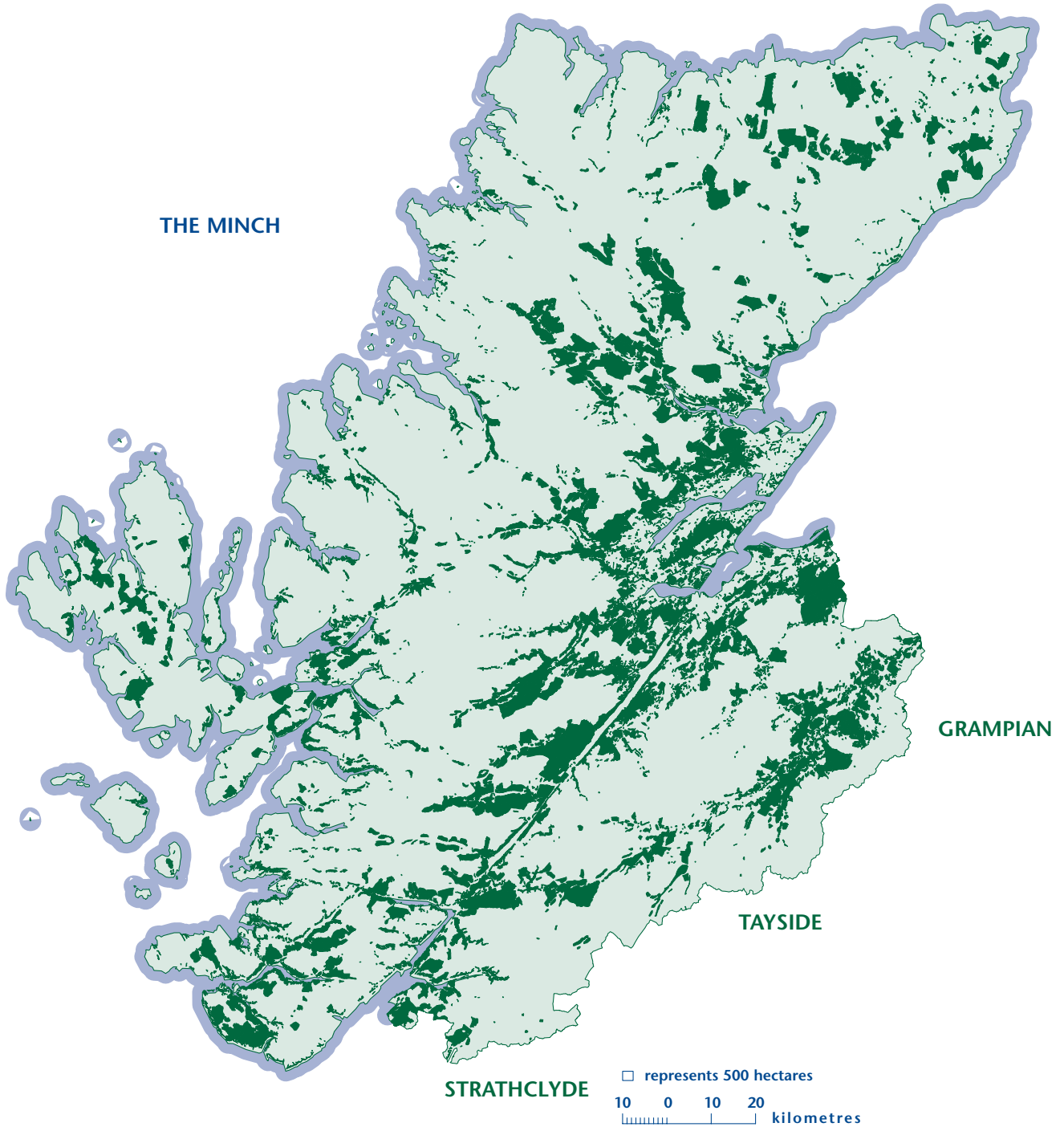
The main difference from the 1980 Census is the change in the minimum woodland area from 0.25 to 2.0 hectares. This means at this stage that the results of the main survey in the Inventory can only be compared approximately with the 1980 Census. However, when part 2 of the Inventory is completed data 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 HIGHLAND RESULTS

- The total area of woodland in Highland Region is 348 507 hectares. This represents 13.5% of the land area. (Table 1)
- 152 623 hectares or 44% of woodland is owned by or leased to the Forestry Commission and 195 884 hectares or 56% of woodland is in Other ownerships. (Table 1)
- There are a total of 3241 woods over 2 hectares within Highland Region with a mean wood area of 108 hectares. (Table 2a)
- Conifer woodland is the dominant forest type representing 70% of all woodland. Broadleaved woodland represents 14%, mixed woodland 3% and open space within woodlands 11%. (Table 3)
- The main conifer species is Sitka spruce covering 83 703 hectares or 33% of all conifer species. 50% of all conifers are within Other ownerships. (Table 4a)
- The main broadleaved species is Birch covering 34 280 hectares or 62% of all broadleaved species. 84% of all broadleaves are within Other ownerships. (Table 4a)
- Woodland land cover has increased by 108 823 hectares from 9.2% to 13.5% of the land area since 1980. (Table 8)

MAP 1 - DISTRIBUTION OF WOODLAND WITHIN HIGHLAND REGION

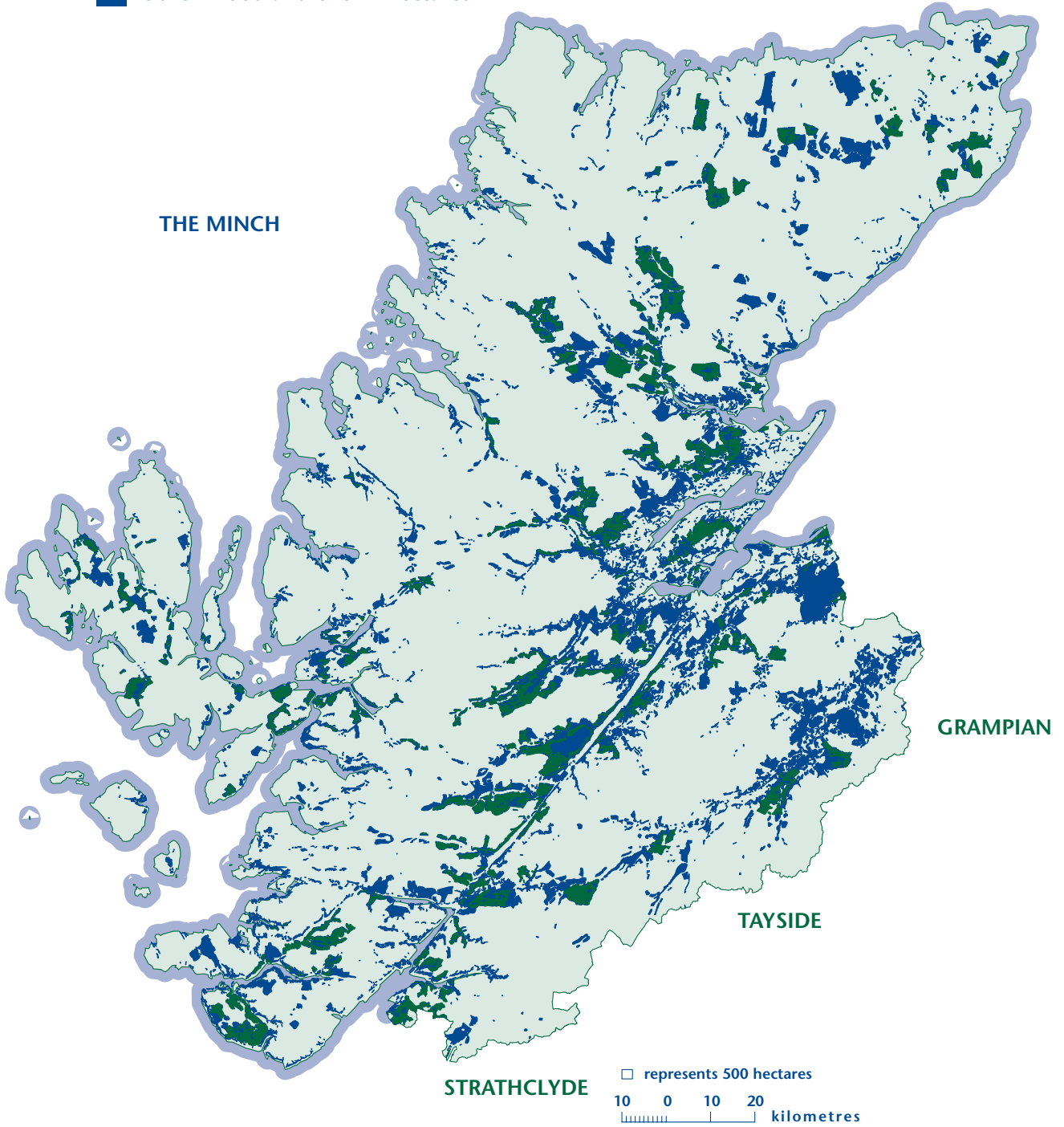
 Woodland over 2 hectares



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MAP 2 - DISTRIBUTION OF WOODLAND BY OWNERSHIP WITHIN HIGHLAND 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)	2578377 ha	
Ownership	ha	% woodland
Forestry Commission	152623	44
Other	195884	56
Total Area of Woodland	348507	100
% Woodland Land Cover	13.5	

NOTE (Table 1)

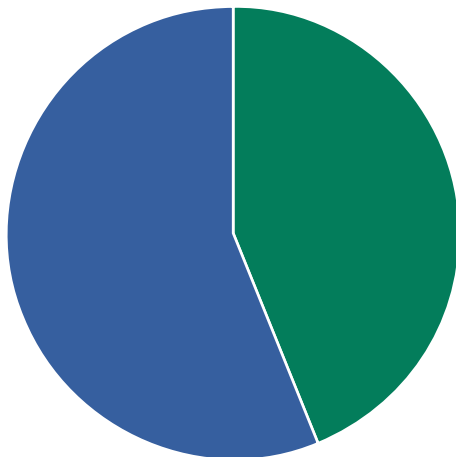
Area of Local Authority Unit based on digital boundaries used for 1991 Census of Population.

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



- FC 44%
- Other 56%

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	28	6	0	0.2
2 - < 10	1739	8066	2	4.6
10 - < 20	456	6475	2	14.2
20 - < 50	400	12708	4	31.8
50 - < 100	211	14646	4	69.4
2 - < 100	2806	41895	12	14.9
100 - < 500	275	58221	17	211.7
500 - and >	132	248948	71	1886.0
All Woods	3241	349071	100	107.7

NOTE (Table 2a)

The total area is 564ha 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.

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	143	58	0	0.4
	Other	662	459	0	0.7
2 - < 10	FC	110	526	0	4.8
	Other	2009	9307	3	4.6
10 - < 20	FC	54	819	0	15.2
	Other	507	7162	2	14.1
20 - < 50	FC	58	1902	1	32.8
	Other	442	14071	4	31.8
50 - < 100	FC	69	4934	1	71.5
	Other	217	14931	4	68.8
2 - < 100	FC	291	8181	2	28.1
	Other	3175	45472	13	14.3
100 - < 500	FC	136	31955	9	235.0
	Other	269	55927	16	207.9
500 - and >	FC	76	112747	32	1483.5
	Other	76	94272	27	1240.4
Total	FC	646	152941	44	236.8
	Other	4182	196130	56	46.9
Grand Total		3241	349071	100	107.7

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

NOTE (Table 2b)

The total area is 564ha 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.

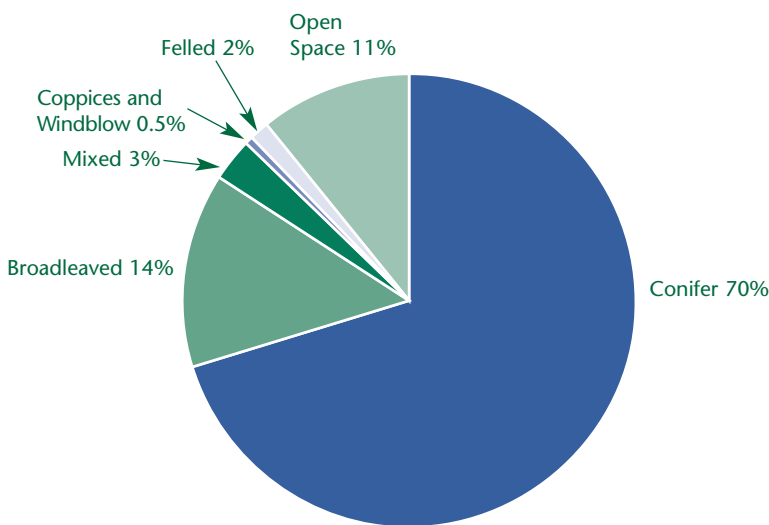
The data available from the digital map enable the identification of woodlands according to their ownerships, Forestry Commission or Other. The entries in the table cannot be added, to derive Table 2a, as some woods may consist of both FC and Other ownerships. For example, the Forestry Commission may 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	123773	81.1	121112	61.8	244885	70.3
Broadleaved	6734	4.4	41217	21.0	47951	13.8
Mixed	3126	2.0	8145	4.2	11271	3.2
Coppice	26	0.0	89	0.0	115	0.0
Copp-w-Stds	20	0.0	20	0.0	40	0.0
Windblow	967	0.6	482	0.2	1449	0.4
Felled	2377	1.6	2978	1.5	5355	1.5
Open space	15599	10.2	21842	11.2	37441	10.7
Total	152623	100.0	195884	100.0	348507	100.0

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 Ownerships		
	Area (ha)	cat %	spp %	Area (ha)	cat %	spp %	Area (ha)	cat %	spp %
Scots pine	24147	19	18	42763	34	25	66910	27	22
Corsican pine	97	0	0	94	0	0	191	0	0
Lodgepole pine	44931	36	33	30906	25	18	75837	30	25
Sitka spruce	43519	35	32	40184	32	24	83703	33	27
Norway spruce	3329	3	2	1332	1	1	4662	2	2
European larch	1092	1	1	1111	1	1	2202	1	1
Jap/Hybrid larch	6238	5	5	4474	4	3	10712	4	4
Douglas fir	1688	1	1	1505	1	1	3193	1	1
Other conifers	252	0	0	772	1	0	1023	0	0
Mixed conifers	254	0	0	1365	1	1	1619	1	1
Total conifers	125547	100	93	124506	100	73	250052	100	82
Oak	558	6	0	4939	11	3	5497	10	2
Beech	8	0	0	670	1	0	678	1	0
Sycamore	39	0	0	455	1	0	494	1	0
Ash	20	0	0	487	1	0	507	1	0
Birch	6444	71	5	27836	60	16	34280	62	11
Poplar	12	0	0	236	1	0	248	0	0
Sweet chestnut	0	0	0	0	0	0	0	0	0
Elm	0	0	0	92	0	0	92	0	0
Other broadleaves	361	4	0	3657	8	2	4018	7	1
Mixed broadleaves	1611	18	1	8079	17	5	9690	17	3
Total broadleaves	9053	100	7	46450	100	27	55503	100	18
Total - all species	134600		100	170956		100	305556		100
Felled	2377			2978			5355		
Total High Forest	136977			173934			310911		

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 37441 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 or species group are as follows:

Conifers	1%
Broadleaves	3%
Sitka spruce	2%
Lodgepole pine	3%
Birch	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).

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

AREAS OF HIGH FOREST BY PRINCIPAL SPECIES AND OWNERSHIP

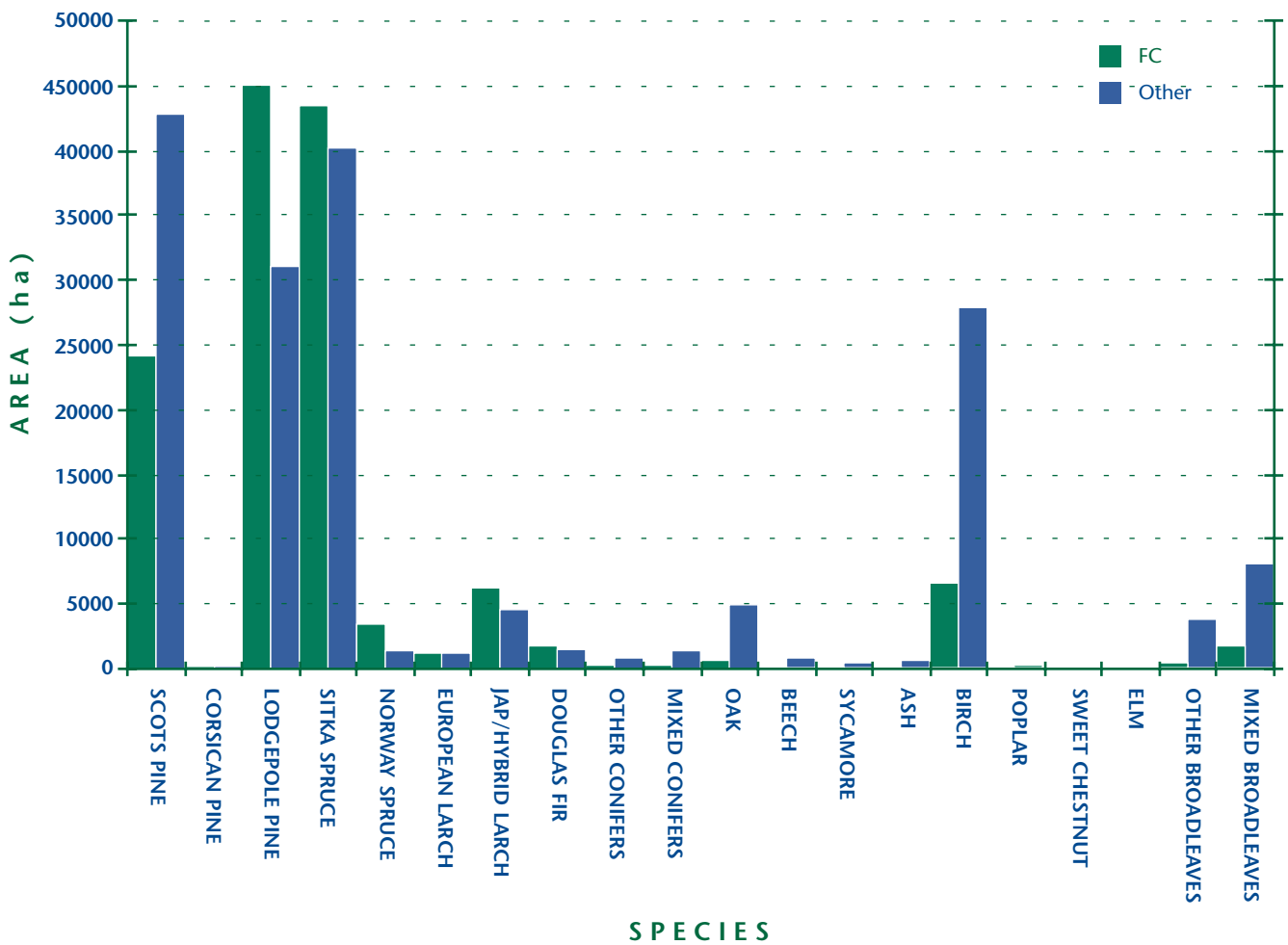


TABLE 4b AREAS OF HIGH FOREST BY PRINCIPAL SPECIES, OWNERSHIP AND CATEGORY

Species	FC			Other			All Ownerships		
	Cat 1	Cat 2	Total HF	Cat 1	Cat 2	Total HF	Cat 1	Cat 2	Total HF
Scots pine	22663	1485	24147	38955	3808	42763	61617	5293	66910
Corsican pine	97	0	97	94	0	94	191	0	191
Lodgepole pine	38098	6833	44931	25423	5483	30906	63521	12316	75837
Sitka spruce	42671	848	43519	38187	1997	40184	80858	2845	83703
Norway spruce	3329	0	3329	1295	37	1332	4625	37	4662
European larch	1092	0	1092	1035	76	1111	2126	76	2202
Jap/Hybrid larch	6168	70	6238	4468	6	4474	10636	76	10712
Douglas fir	1673	15	1688	1489	15	1505	3162	31	3193
Other conifers	229	23	252	533	239	772	761	262	1023
Mixed conifers	218	36	254	808	557	1365	1026	593	1619
Total conifers	116238	9309	125547	112286	12220	124506	228524	21529	250052
Oak	173	385	558	806	4133	4939	979	4519	5497
Beech	8	0	8	266	405	670	273	405	678
Sycamore	30	9	39	284	171	455	314	180	494
Ash	20	0	20	158	329	487	178	329	507
Birch	1240	5204	6444	2623	25213	27836	3863	30417	34280
Poplar	0	12	12	148	88	236	148	100	248
Sweet chestnut	0	0	0	0	0	0	0	0	0
Elm	0	0	0	45	46	92	45	46	92
Other broadleaves	27	334	361	455	3201	3657	482	3535	4018
Mixed broadleaves	325	1287	1611	1921	6158	8079	2245	7445	9690
Total broadleaves	1823	7231	9053	6705	39745	46450	8527	46976	55503
Total - all species	118060	16540	134600	118990	51965	170956	237051	68505	305556

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

NOTE (Table 4b)

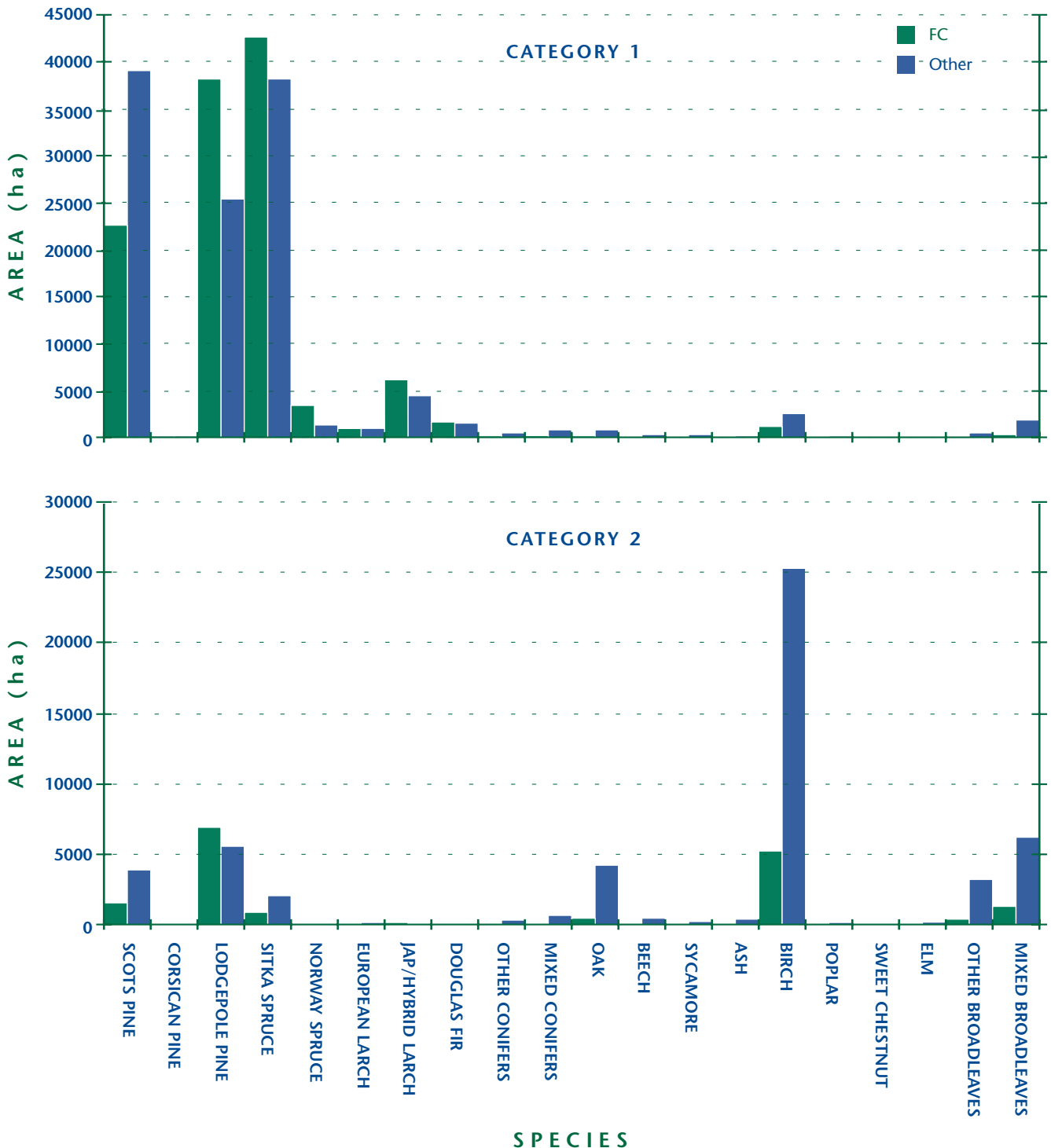
The standard errors of the area estimates for the most common species or species groups are as follows:

	Cat 1	Cat 2	Total HF
Conifers	1%	5%	1%
Broadleaves	8%	3%	3%
Lodgepole pine	3%	7%	3%
Sitka spruce	2%	12%	2%
Mixed broadleaves	15%	8%	8%
Birch	10%	4%	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).

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**

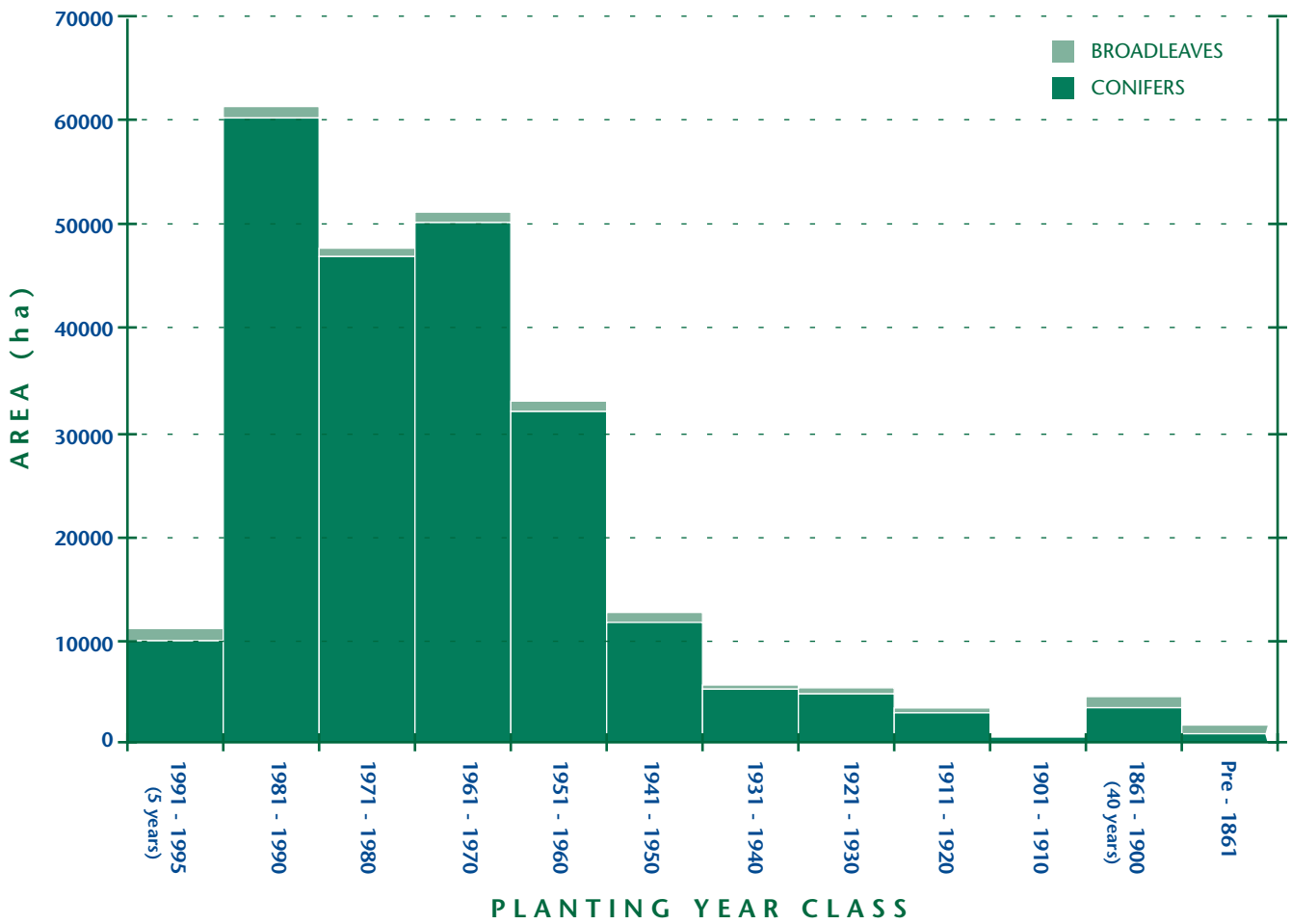
Species	PLANTING YEAR CLASS												TOTAL
	1991 -1995	1981 -1990	1971 -1980	1961 -1970	1951 -1960	1941 -1950	1931 -1940	1921 -1930	1911 -1920	1901 -1910	1861 -1900	pre - 1861	
Scots pine	2218	4910	4765	15627	16648	6336	2356	2446	2681	200	2930	499	61617
Corsican pine	0	0	0	35	82	51	14	5	0	5	0	0	191
Lodgepole pine	1847	21197	24604	12783	2824	129	0	28	0	0	6	104	63521
Sitka spruce	5772	29953	15194	17901	7268	2904	1052	805	0	10	0	0	80858
Norway spruce	0	197	9	724	1049	1110	575	845	90	0	26	0	4625
European larch	0	37	50	219	303	308	435	299	153	19	285	21	2126
Jap/Hybrid larch	57	3168	1798	1914	2540	647	396	37	80	0	0	0	10636
Douglas fir	81	755	192	598	880	219	124	281	21	11	0	0	3162
Other conifers	5	10	43	271	21	45	148	191	13	0	15	0	761
Mixed conifers	0	58	180	204	225	10	128	31	0	37	145	8	1026
Total conifers	9980	60285	46835	50275	31840	11758	5227	4967	3039	281	3406	631	228524
Oak	128	13	0	0	32	0	0	0	41	36	189	540	979
Beech	0	0	0	27	0	0	0	0	33	0	214	0	273
Sycamore	239	0	0	0	30	0	0	0	0	0	45	0	314
Ash	144	13	0	0	20	0	0	0	0	0	0	0	178
Birch	185	600	543	664	679	455	249	104	51	73	258	0	3863
Poplar	0	0	53	0	0	81	14	0	0	0	0	0	148
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	45	0	45
Other blvs	9	99	7	120	27	128	64	9	18	0	0	0	482
Mixed blvs	390	375	30	98	262	79	135	165	135	15	320	243	2245
Total broadleaves	1094	1101	632	910	1051	743	462	278	278	124	1071	783	8527
Total - all species	11074	61386	47467	51185	32891	12501	5689	5246	3317	405	4477	1414	237051

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**

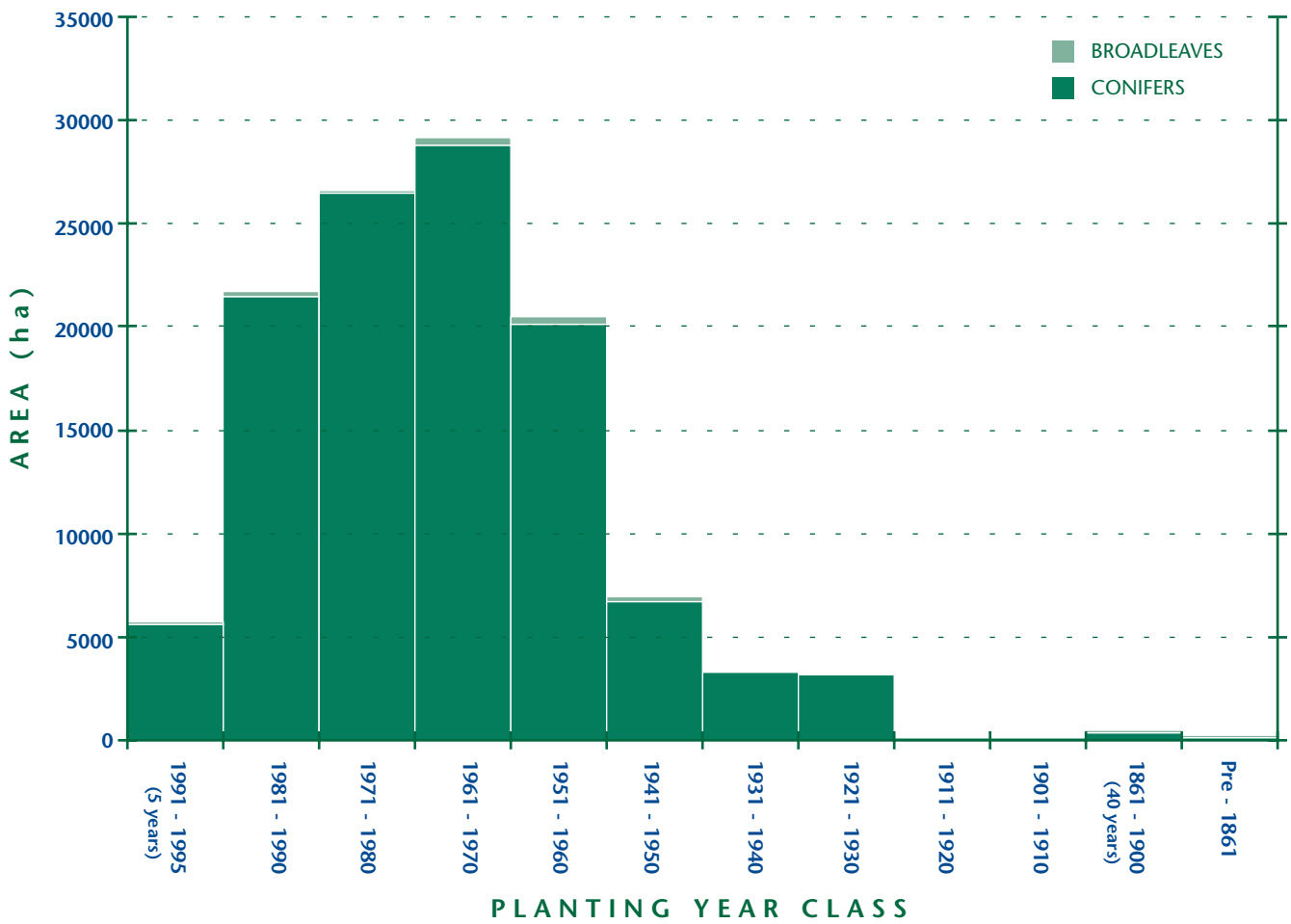
Species	PLANTING YEAR CLASS												TOTAL
	1991 -1995	1981 -1990	1971 -1980	1961 -1970	1951 -1960	1941 -1950	1931 -1940	1921 -1930	1911 -1920	1901 -1910	1861 -1900	pre - 1861	
Scots pine	728	1086	944	5580	9029	2746	912	1192	102	10	271	61	22663
Corsican pine	0	0	0	35	53	0	9	0	0	0	0	0	97
Lodgepole pine	1143	8665	17537	8355	2138	129	0	28	0	0	0	104	38098
Sitka spruce	3640	9681	6897	13020	5582	2164	943	743	0	0	0	0	42671
Norway spruce	0	173	9	254	617	992	529	747	0	0	8	0	3329
European larch	0	37	50	183	241	122	343	69	10	0	36	0	1092
Jap/Hybrid larch	47	1227	968	1028	1982	539	353	23	0	0	0	0	6168
Douglas fir	81	572	41	249	360	0	117	253	0	0	0	0	1673
Other conifers	0	0	0	98	14	18	18	81	0	0	0	0	229
Mixed conifers	0	20	0	13	109	0	77	0	0	0	0	0	218
Total conifers	5639	21461	26446	28815	20125	6709	3302	3137	112	10	316	165	116238
Oak	0	0	0	0	32	0	0	0	0	36	46	59	173
Beech	0	0	0	0	0	0	0	0	0	0	8	0	8
Sycamore	0	0	0	0	30	0	0	0	0	0	0	0	30
Ash	0	0	0	0	20	0	0	0	0	0	0	0	20
Birch	24	206	181	327	148	189	24	15	5	0	122	0	1240
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	9	9	0	0	0	0	0	9	0	0	0	0	27
Mixed blvs	0	43	10	27	176	0	0	69	0	0	0	0	325
Total broadleaves	33	257	191	354	405	189	24	93	5	36	175	59	1823
Total - all species	5672	21719	26637	29170	20530	6899	3326	3230	117	46	491	224	118060

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	1490	3823	3822	10046	7619	3590	1444	1254	2579	190	2659	438	38955
Corsican pine	0	0	0	0	29	51	5	5	0	5	0	0	94
Lodgepole pine	704	12532	7068	4428	686	0	0	0	0	0	6	0	25423
Sitka spruce	2132	20272	8297	4881	1686	740	109	61	0	10	0	0	38187
Norway spruce	0	24	0	470	433	117	46	98	90	0	18	0	1295
European larch	0	0	0	36	62	187	91	229	143	19	248	21	1035
Jap/Hybrid larch	10	1941	829	886	558	108	43	14	80	0	0	0	4468
Douglas fir	0	183	151	349	519	219	7	29	21	11	0	0	1489
Other conifers	5	10	43	173	7	27	130	110	13	0	15	0	533
Mixed conifers	0	38	180	192	116	10	51	31	0	37	145	8	808
Total conifers	4341	38823	20389	21460	11715	5049	1925	1830	2927	271	3090	466	112286
Oak	128	13	0	0	0	0	0	0	41	0	143	480	806
Beech	0	0	0	27	0	0	0	0	33	0	206	0	266
Sycamore	239	0	0	0	0	0	0	0	0	0	45	0	284
Ash	144	13	0	0	0	0	0	0	0	0	0	0	158
Birch	161	395	362	337	532	266	225	89	47	73	136	0	2623
Poplar	0	0	53	0	0	81	14	0	0	0	0	0	148
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	45	0	45
Other blvs	0	90	7	120	27	128	64	0	18	0	0	0	455
Mixed blvs	390	332	20	71	87	79	135	96	135	15	320	243	1921
Total broadleaves	1062	844	441	555	646	554	437	185	273	88	896	724	6705
Total - all species	5402	39667	20830	22015	12361	5603	2363	2015	3200	358	3986	1190	118990

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**

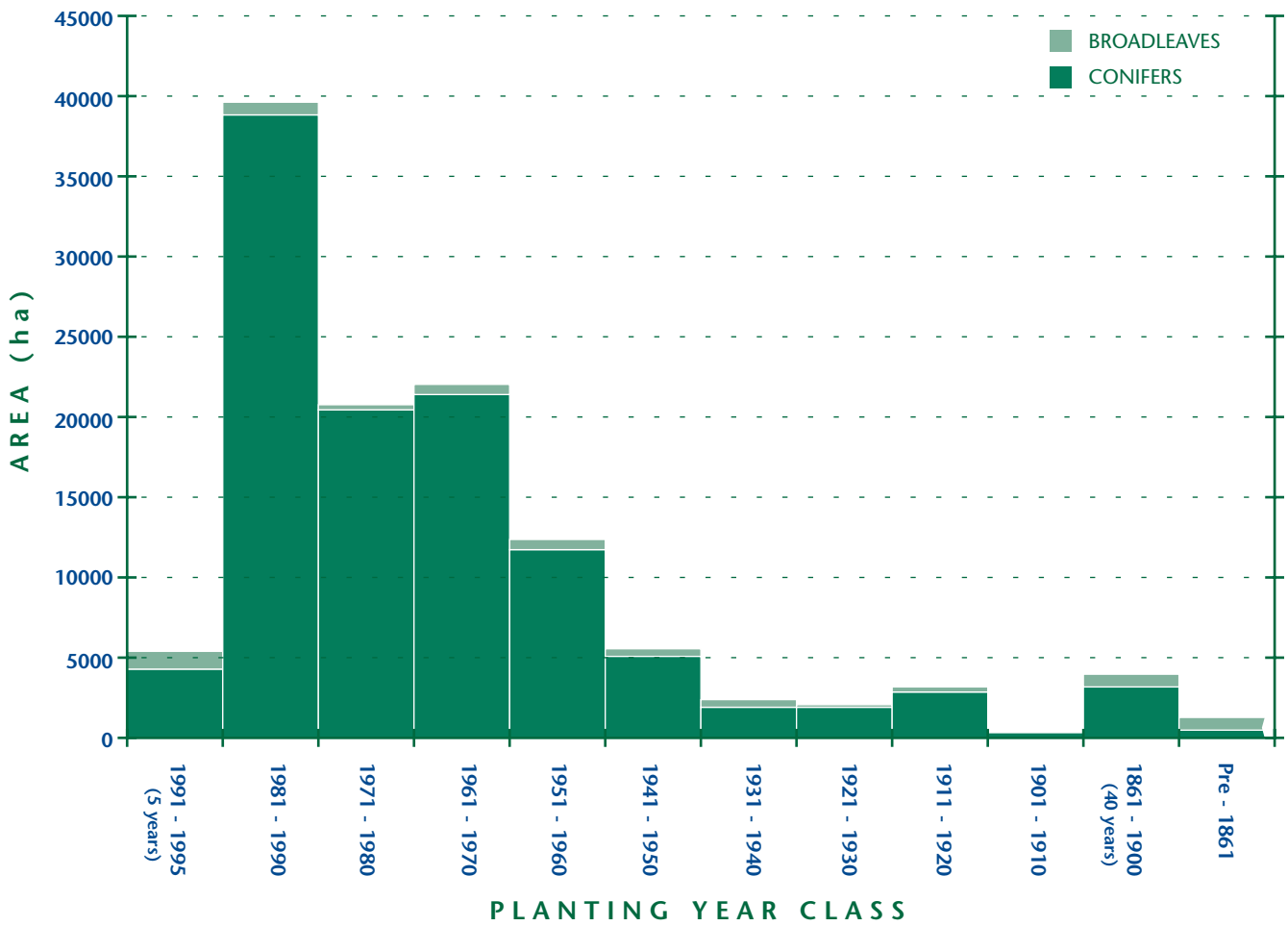


TABLE 6 HIGH FOREST - PRINCIPAL SPECIES BY PLANTING YEAR CLASSES

Planting Year Class	First	%	Second	%	Third	%
1991-95	Sitka spruce	46	Scots pine	18	Lodgepole pine	14
1981-90	Sitka spruce	47	Lodgepole pine	34	Scots pine	8
1971-80	Lodgepole pine	54	Sitka spruce	28	Scots pine	9
1961-70	Sitka spruce	31	Lodgepole pine	28	Scots pine	27
1951-60	Scots pine	44	Sitka spruce	20	Lodgepole pine	10
1941-50	Scots pine	31	Birch	31	Sitka spruce	14
1931-40	Birch	37	Scots pine	23	Sitka spruce	11
1921-30	Birch	44	Scots pine	22	Mixed broadleaves	10
1911-20	Birch	45	Scots pine	36	Other broadleaves	6
1901-10	Birch	68	Scots pine	13	Other broadleaves	5
1861-1900	Scots pine	32	Birch	25	Mixed broadleaves	13
Pre 1861	Oak	49	Scots pine	39	Mixed broadleaves	6
All years	Sitka spruce	27	Lodgepole pine	25	Scots pine	22

TABLE 7 OWNERSHIP TYPE BY AREA AND PERCENTAGE

Ownership Type	Area (ha)	%
Personal	159337	45.7
Private Forestry or Timber Business	5132	1.5
Other Private Business	21007	6.0
Local Authority	290	0.1
Other Public Body (not FC)	3926	1.1
Forestry Commission	152623	43.8
Charity	4670	1.3
Community Ownership or Common Land	281	0.1
Unclassified	1242	0.4
Total	348507	100.0

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 ownership 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.

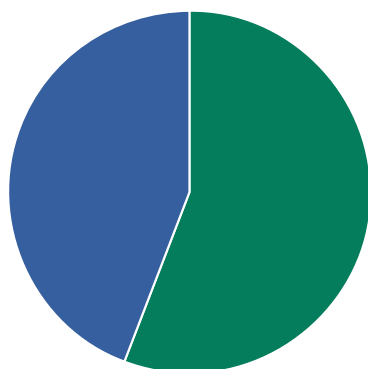
The apparent differences shown in the following tables should therefore be treated with caution, particularly where areas are small.

TABLE 8 WOODLAND AREAS AND OWNERSHIP			
	CENSUS 31/3/80	INVENTORY 31/3/95	CHANGE (%)
Area (inc. inland water)	2613639	2578377	-1.3
Forestry Commission	133742	152623	14.1
Other ownerships	105942	195884	84.9
Total Area of Woodland	239684	348507	45.4
% Woodland Cover	9.2	13.5	47.4

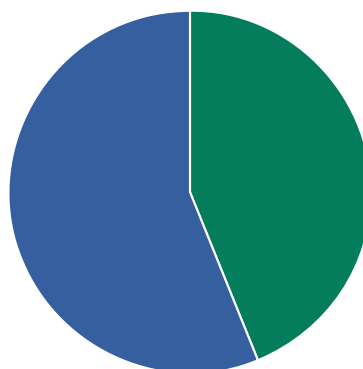
NOTE (Table 8)

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



FC 56%

Other ownerships 44%

FC 44%

Other ownerships 56%

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

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

SPECIES	1980 CENSUS	1995 INVENTORY
Scots pine	55080	66910
Corsican pine	182	191
Lodgepole pine	48416	75837
Sitka spruce	46191	83703
Norway spruce	7639	4662
European larch	3339	2202
Jap/Hybrid larch	7464	10712
Douglas fir	3935	3193
Other conifers	908	1023
Mixed conifers	1708	1619
Total conifers	174031	250052
Oak	4103	5497
Beech	1168	678
Sycamore	472	494
Ash	571	507
Birch	23853	34280
Poplar	26	248
Sweet chestnut	7	0
Elm	347	92
Other broadleaves	3750	4018
Mixed broadleaves	951	9690
Total broadleaves	35248	55503
TOTAL - all species	210110	305556
Felled	3927	5355
Total - High Forest	214038	310911

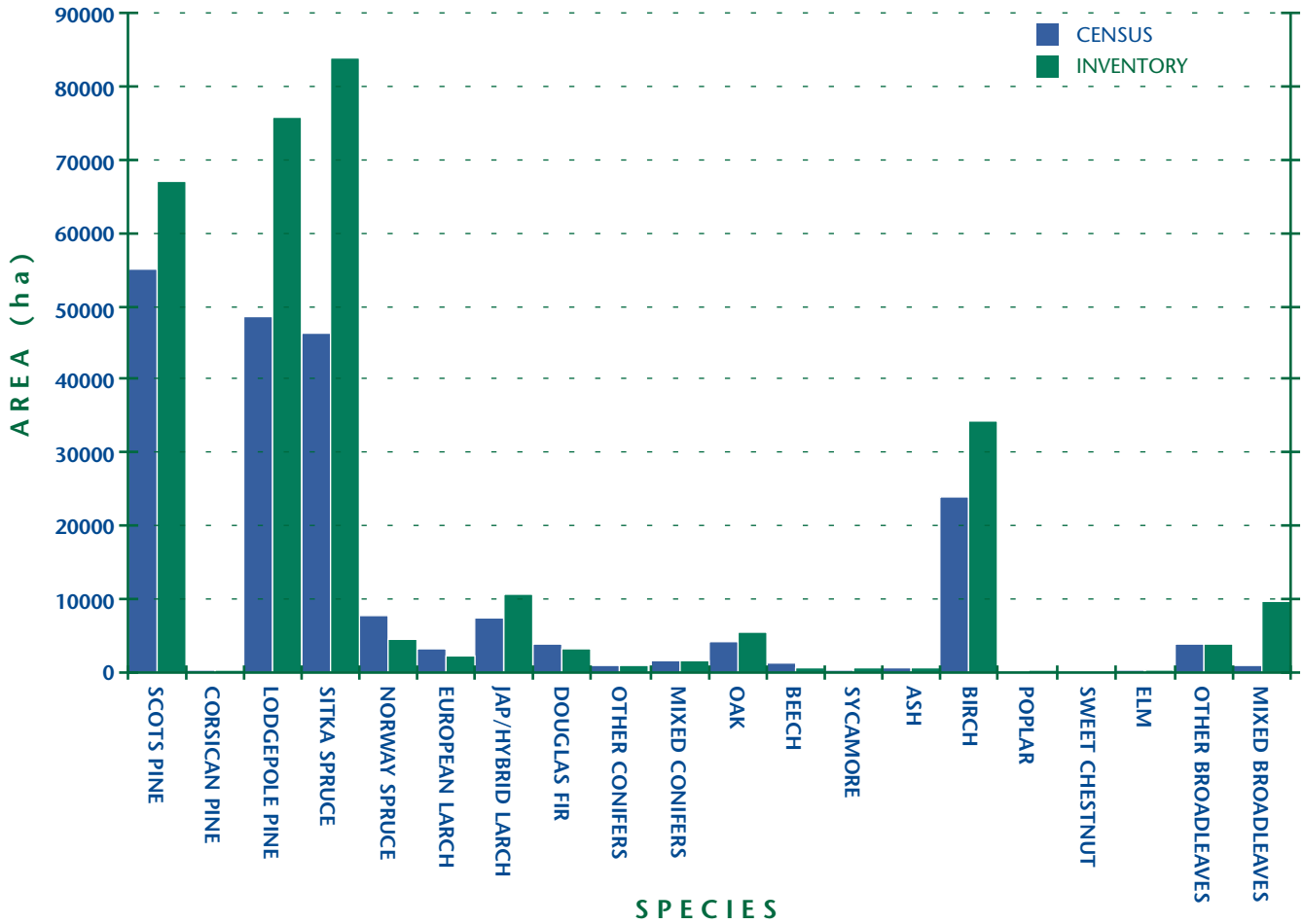
NOTE (Table 9)

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 10.7% (Table 3). To obtain meaningful comparisons between the two datasets the 1980 Census data have therefore been reduced by 10.7%. Area allocated to scrub has also been included in the 1980 Census data to make it comparable with the 1995 Inventory data.

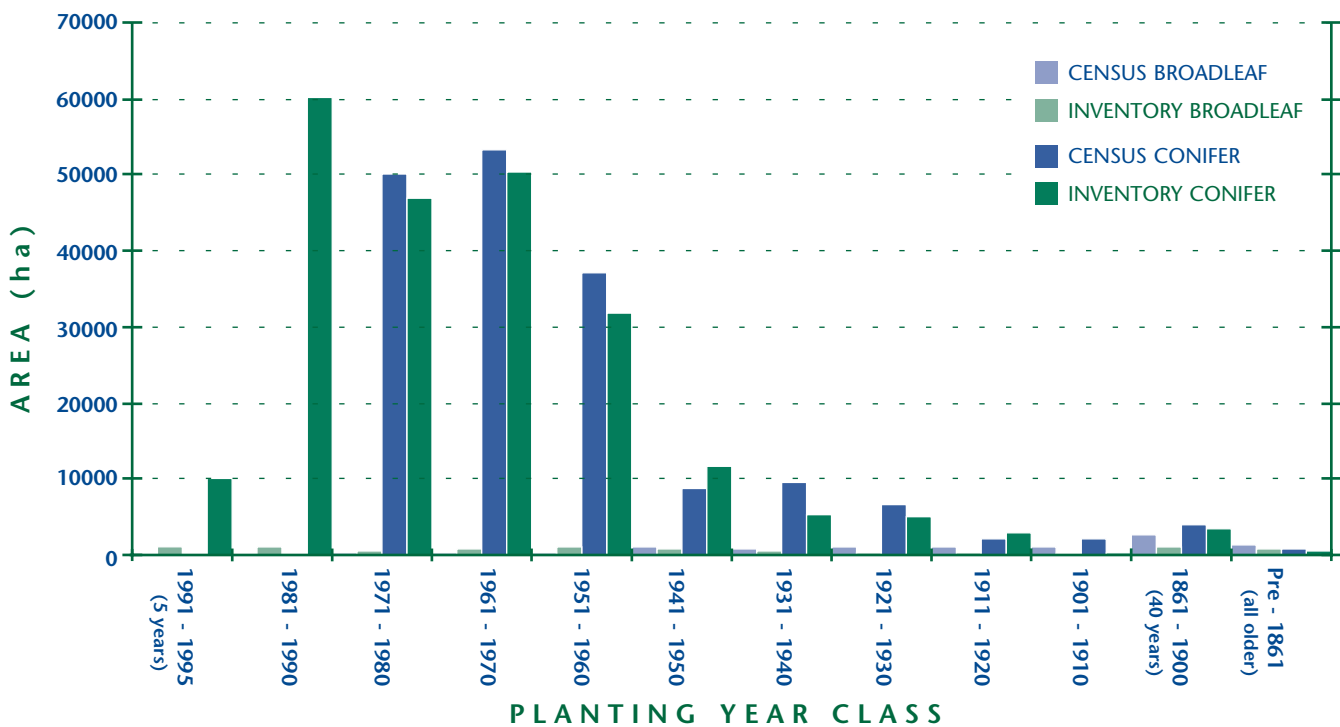
N.B. Woodlands between 0.25 and 2.0 hectares are not yet included in the 1995 Inventory figures (above). These are expected to contain a high proportion of broadleaved species.

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

Woodland

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.

High Forest

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:

High Forest Category 1

Stands which are, or could become, capable of producing wood of a size and quality suitable for sawlogs and small roundwood.

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 hectare 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 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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£5 net

<http://www.forestry.gov.uk>