Forestry Statistics 2001

A compendium of statistics about woodland, forestry and primary wood processing in the UK

Economics and Statistics Unit, Forestry Commission
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Introduction

This is a compendium of statistical information about woodland, forestry and primary wood processing in the UK. Traditionally forestry statistics have focused on forests as a source of timber, and on the use of timber by wood processing industries. However, in recent years, it has been increasingly recognised that a wider range of environmental and social aspects of woodland should be reflected in the statistical information that is collected and published. This publication makes some progress in providing more information about environment and recreation, but it is still weighted towards the traditional topics that have the best quality data. A more balanced set of information will be provided by the UK Indicators of Sustainable Forestry, which are subject to consultation during 2001-02, with the aim of publishing in the summer of 2002.

As a National Statistics output, this publication concentrates on topics for which the data meet National Statistics quality standards. However a few topics outside the scope of National Statistics are included, to give a more rounded picture; any such tables are footnoted or headed as "not National Statistics". This means that they have not been subject to National Statistics quality assurance procedures, but does not necessarily imply that they are of poorer quality.

Where possible, statistical information in this publication covers the whole of the United Kingdom, and is broken down to give figures for England, Scotland, Wales and Northern Ireland. We would like to acknowledge the contribution of Northern Ireland's Forest Service in providing a wide range of statistics for this publication, which has made it possible to have a more comprehensive coverage of the UK. However, there are some topics for which data are currently only available for Great Britain (excluding Northern Ireland), and these tables are labelled as being GB only.

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Head of Statistics

Figures in the tables are individually rounded, so the constituent items may not sum to the totals given.

¨ denotes data not available

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Contents

1. Woodland area and planting

This section contains information about the extent of woodland in the UK and compares the UK with other countries. In this report "woodland" (defined in the glossary) refers to woods and forests of all sizes. In the UK there is no formal definition of "forest"; the term is often used for large areas (especially conifers) or for old royal hunting preserves such as the New Forest or the Forest of Dean.

Area of woodland 2001

Most public sector woodland is owned and managed by the Forestry Commission (FC) or, in Northern Ireland, the Forest Service (FS). There is also woodland owned by local authorities, the Ministry of Defence, and other public sector bodies but in the following table all non-FC/FS woodland is shown as 'private woodland'.

Table 1.1 Area of woodland by ownership and forest type, as at 31 March 2001

thousands of hectares

	Conifers	Broadleaves[1]	Total
England			
Forestry Commission	157	50	208
Private woodland[2]	215	678	893
Total	372	728	1,100
Scotland			
Forestry Commission	455	23	478
Private woodland[2]	598	241	839
Total	1,053	264	1,317
Wales			
Forestry Commission	105	10	115
Private woodland[2]	63	111	175
Total	168	121	289
Northern Ireland			
Forest Service	57	4	61
Private woodland	10	13	22
Total	67	17	83
United Kingdom			
FC / FS	774	87	861
Private woodland	886	1,043	1,929
Total	1,660	1,130	2,790

Notes:
[1] Broadleaves include coppice and coppice with standards.
[2] Private woodland figures for England, Scotland and Wales are based on the 1995-1999 National Inventory of Woodland and Trees (NIWT) and adjusted to reflect subsequent changes. The NIWT did not include Northern Ireland.

Area of woodland – Changes over time

The information for Great Britain in the following table is taken from woodland censuses from 1905 onwards (not National Statistics). Most censuses, however, used slightly different definitions of woodland, so some of the changes in area are due to changing definitions. The principal differences are:

1905	felled areas and scrub were not included
1924	undertaken by questionnaire; woods smaller than 2 acres (0.8ha) were not included
1947	woods smaller than 5 acres (2 ha) were not included
1965	woods smaller than 1 acre (0.4ha) were not included
1980	woods smaller than 0.25ha were not included
1995-1999	woods of 0.1 to 2ha were included on a sample basis; some woodland missing from earlier surveys was discovered

The information for Northern Ireland comes from a variety of sources. The province was not formed until 1920, so earlier estimates are based on statistics for all Ireland.

Table 1.2 Area of woodland and proportion of total area[1] covered by woodland in the UK

thousands of hectares & proportion of total area[1] (%)

Year	UK		England		Scotland		Wales		N Ireland	
	Area	%	Area	%	Area	%	Area	%	Area	%
1086[2]				≈15						
*c*1350				≈10						
late 17th C				≈8		≈4[3]				≈1.5[4]
1905	1,140	4.7	681	5.2	351	4.5	88	4.2	20	1.5[4]
1924	1,212	5.0	660	5.1	435	5.6	103	5.0	<14	<1
1947	1,420	5.8	755	5.8	513	6.6	128	6.2	24	1.8[5]
1965	1,784	7.3	886	6.8	656	8.4	201	9.7	42	3.1
1980	2,175	9.0	948	7.3	920	11.8	241	11.6	67	4.9
1995-99	2,751	11.3	1,097	8.4	1,282	16.4	287	13.8	81	6.0
2000[6]	2,793	11.5	1,103	8.5	1,318	16.9	289	13.9	83	6.1
2001[6,7]	2,790	11.5	1,100	8.4	1,317	16.9	289	13.9	83	6.1
Total surface area[1]	24,291	100	13,042	100	7,813	100	2,078	100	1,358	100

[1] the surface area including inland water 1998, from the Annual Abstract of Statistics 2001 (published by the Office for National Statistics)
[2] estimated from information in the Domesday Survey of England
[3] *c.*1750, from the Roy maps
[4] per cent is for all Ireland, 17th C and 1908
[5] 1939/40 Census
[6] GB estimates for 2000 and 2001 are projected forward from the 1995-99 National Inventory of Woodland and Trees
[7] the apparent fall in woodland cover in 2001 is due to a reclassification of Forestry Commission open land within the forest.

Table 1.3 Area of woodland in the UK, by ownership

The areas in this table for private woodland in GB have been projected forward from the final results of the 1995-99 National Inventory of Woodland and Trees, so differ from figures previously published.

thousands of hectares

Year	UK	England	Scotland	Wales	N Ireland
Forestry Commission / Forest Service					
1998	895	219	497	118	61
1999	891	217	496	117	61
2000	886	216	493	116	61
2001	861[1]	208[1]	478[1]	115[1]	61
Private and non-FC / FS public woodland					
1998	1,863	874	801	168	20
1999	1,884	880	812	171	21
2000	1,907	886	826	173	22
2001	1,929	893	839	175	22
Total woodland					
1998	2,758	1,093	1,298	286	81
1999	2,775	1,097	1,308	288	82
2000	2,793	1,103	1,318	289	83
2001	2,790	1,100	1,317	289	83

[1] the apparent fall in woodland cover in 2001 is due to a reclassification of Forestry Commission open land within the forest.

Main tree species in GB

Table 1.4 Area of woodland by main tree species, from NIWT 1995-1999

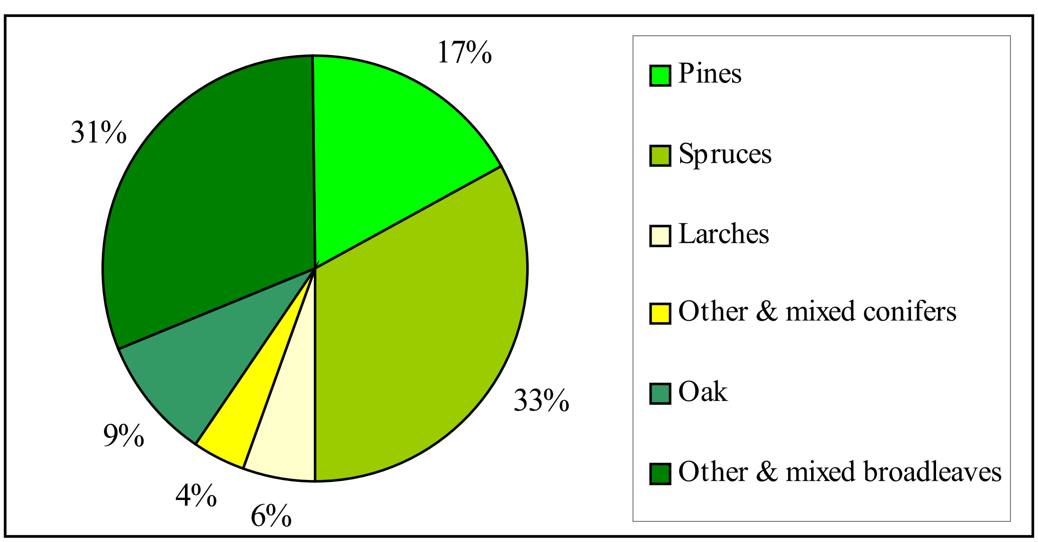
thousands of hectares

species	GB Total	England	Scotland	Wales
Scots pine	227	82	140	5
Corsican pine	47	41	2	3
Lodgepole pine	135	7	122	6
Sitka spruce	692	80	528	84
Norway spruce	79	32	35	11
European larch	23	14	9	1
Jap/Hybrid larch	111	33	56	22
Douglas fir	45	24	10	11
Other conifer	30	19	5	6
Mixed conifer	18	9	8	0
Total conifers	**1406**	**340**	**916**	**149**
Oak	223	159	21	43
Beech	83	64	10	9
Sycamore	67	49	11	7
Ash	129	105	5	19
Birch	160	70	78	13
Poplar	12	11	0	1
Sweet chestnut	12	12	0	1
Elm	5	4	1	0
Other broadleaves	120	84	18	18
Mixed broadleaves	160	91	62	8
Total broadleaves	**971**	**648**	**206**	**118**
Total - all species	**2,377**	**988**	**1,123**	**266**
Felled	47	15	23	9
Coppice[1]	24	22	1	0
Open space[2]	217	72	134	11
Total woodland	**2,665**	**1,097**	**1,281**	**287**

[1] coppice includes coppice with standards

[2] areas of integral open space, each less than 1 hectare

Figure 1.1 Main tree species in GB



Age profile of woodland in GB

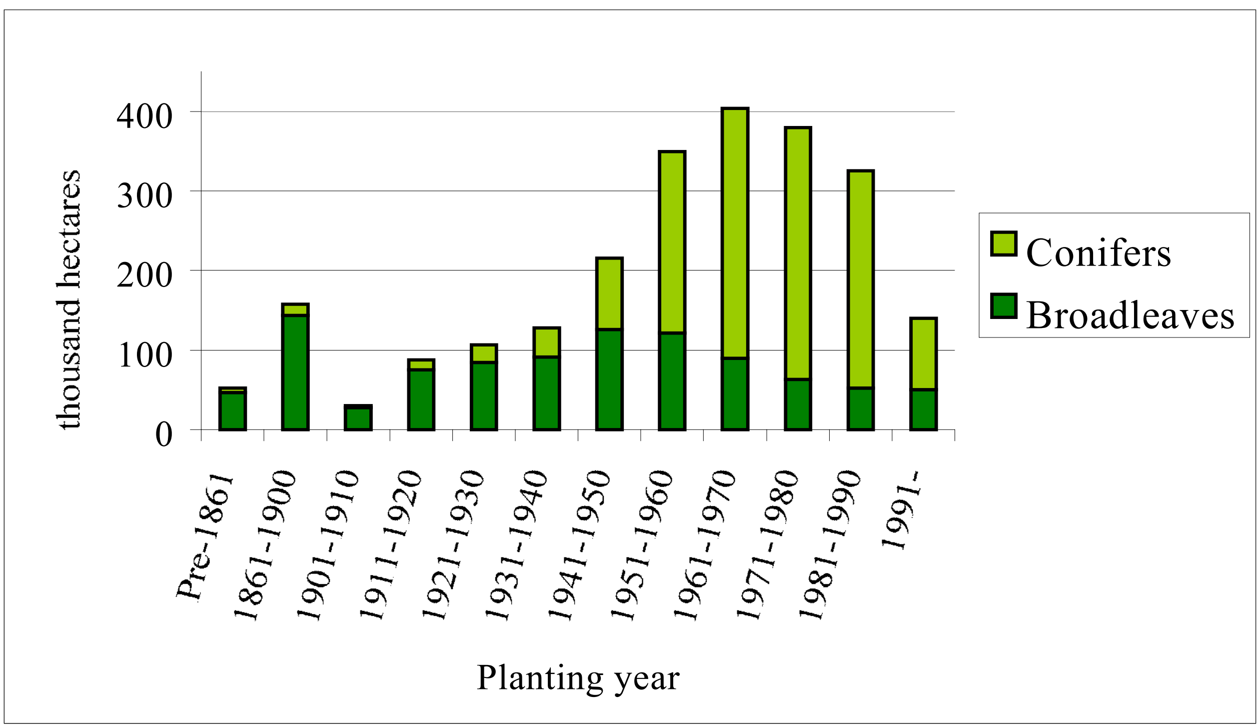
Table 1.5 Area of woodland[1] by planting year classes[2], from NIWT 1995-1999

thousands of hectares

Planting year	Conifers	Broadleaves	Total
Pre-1861	6	46	52
1861-1900	14	144	157
1901-1910	3	27	30
1911-1920	13	75	88
1921-1930	22	85	107
1931-1940	37	91	128
1941-1950	89	126	215
1951-1960	228	121	350
1961-1970	314	90	404
1971-1980	317	63	380
1981-1990	273	52	325
1991-	89	50	140
Total	**1,406**	**971**	**2,377**

[1] excluding felled, coppice and open space
[2] age is determined from records where these are 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.

Figure 1.2 Age profile of woodland in GB



Area of woodland – International comparisons

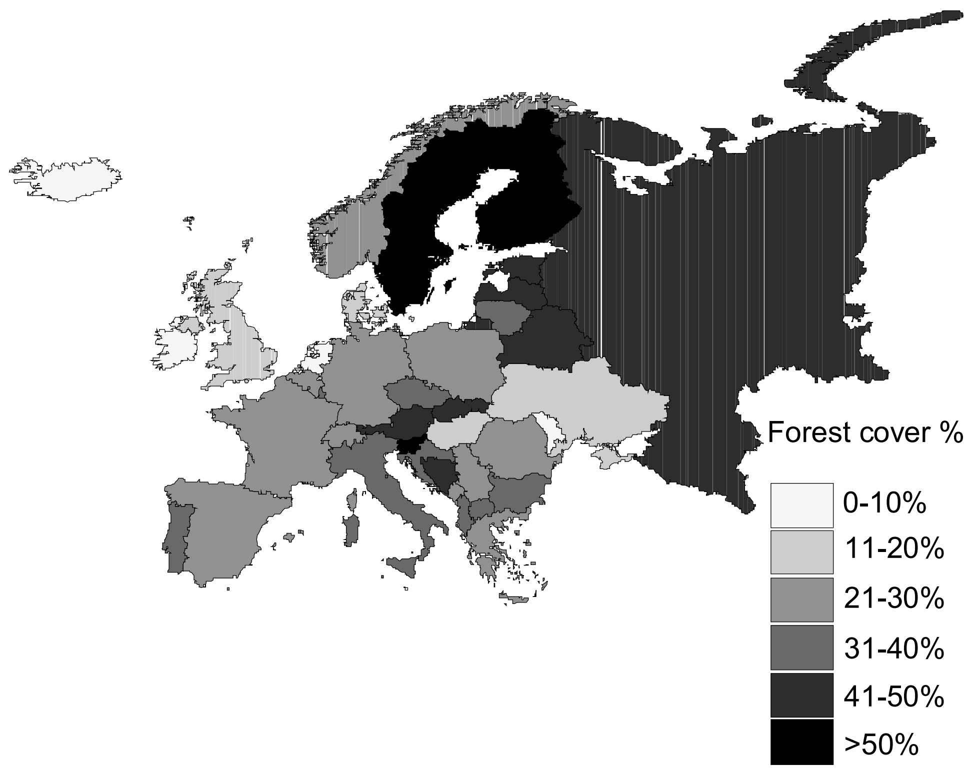
Table 1.6 Forest Cover – International comparisons - 2000

These are mostly estimates by FAO, projected forward from latest country data provided for the Global Forest Resources Assessment 2000, published in FAO's State of Worlds Forests 2001 (not a National Statistics publication).

Country	Forest Area (thousand ha)	Total Land Area (thousand ha)	Forest as % of Land Area
United Kingdom	2,794	24,160	11.6%
Austria	3,886	8,273	47.0%
Belgium/Luxembourg	728	3,282	22.2%
Estonia	2,060	4,227	48.7%
Denmark	455	4,243	10.7%
Finland	21,935	30,459	72.0%
France	15,341	55,010	27.9%
Germany	10,740	34,927	30.7%
Greece	3,599	12,890	27.9%
Ireland	659	6,889	9.6%
Italy	10,003	29,406	34.0%
Latvia	2,923	6,205	47.1%
Lithuania	1,994	6,258	31.9%
Netherlands	375	3,392	11.1%
Norway	8,868	30,683	28.9%
Portugal	3,666	9,150	40.1%
Russian Federation	851,392	1,688,851	50.4%
Spain	14,370	49,945	28.8%
Sweden	27,134	41,162	65.9%
Switzerland	1,199	3,955	30.3%
Other Europe	55,130	206,590	26.7%
Total Europe	**1,039,251**	**2,259,957**	**46.0%**
China	163,480	932,743	17.5%
Japan	24,081	37,652	64.0%
Other Asia	360,232	2,114,351	17.0%
Total Asia	**547,793**	**3,084,746**	**17.8%**
USA	225,993	915,895	24.7%
Canada	244,571	922,097	26.5%
Other North & Central America	78,740	298,974	26.3%
Total North & Central America	**549,304**	**2,136,966**	**25.7%**
Brazil	543,905	845,651	64.3%
Other South America	341,713	909,090	37.6%
Total South America	**885,618**	**1,754,741**	**50.5%**
Total Africa	**649,866**	**2,978,394**	21.8%
Australia	154,539	768,230	20.1%
New Zealand	7,946	26,799	29.7%
Other Oceania	35,138	54,067	65.0%
Total Oceania	**197,623**	**849,096**	**23.3%**
World	**3,869,455**	**13,063,900**	**29.6%**

The Forest Resources Assessment (FRA) is a collation of forest data undertaken by the UN FAO at the global level and by UNECE for temperate and boreal regions. The information extracted above uses *forest* area from FRA, that is, excluding "other wooded land"; for the UK, this is very similar to the definition of "woodland" used in previous tables. The original sources for this table have varying dates, but have been updated using whatever information was available to FAO, to give an estimate of each country's forest resources in 2000. The UK figures were updated using emerging results from the National Inventory.

Figure 1.3 Per cent woodland cover by country in Europe (source: Global FRA 2000)



New planting and restocking

New planting is the creation of new areas of woodland. Restocking is the replanting of areas of woodland that have been felled. Both new planting and restocking can use planting/ seeding or natural regeneration. The figures here are for all types of woodland; information about native pinewoods is in the "Environment" section.

Information about Forestry Commission and Forest Service new planting and restocking comes from administrative systems. Private sector information comes principally from the Woodland Grant Scheme (WGS); the areas are those for which the *second* instalment of grant has been paid during the year – the second instalment is approved when woodland reaches a certain stage and density of growth, so this information corresponds approximately to the amount of new and restocked woodland created. See the following section for more information from the WGS.

Local estimates for areas of planting and restocking which are not FC and which are not grant-aided are included for England, Scotland and Wales. These estimates are relatively small (less than 500 hectares a year in total), and it has been assumed that all of this area is broadleaves. It is assumed that there is no non-grant aided planting and restocking in Northern Ireland.

Table 1.7 New planting and restocking: breakdown between broadleaves and conifers

thousands of hectares

Year ending 31Mar	New planting			Restocking			Total		
	broad-leaf	conifer	total	broad-leaf	conifer	total	broad-leaf	conifer	total
UK total									
1979-80	1.1	23.5	25.4	0.9	7.7	8.8	2.0	31.2	34.2
1989-90	5.8	15.5	21.3	4.5	10.1	14.6	10.3	25.6	35.9
1994-95	10.8	9.4	20.2	3.6	11.0	14.7	14.4	20.5	34.9
1995-96	9.3	7.4	16.7	3.1	10.9	14.0	12.4	18.3	30.6
1996-97	9.9	7.7	17.6	3.5	11.6	15.1	13.4	19.3	32.7
1997-98	9.9	7.0	16.9	3.0	11.2	14.2	12.9	18.2	31.1
1998-99	10.4	6.6	17.0	2.8	11.3	14.1	13.2	17.9	31.1
1999-00	11.4	6.5	17.9	3.3	11.9	15.2	14.6	18.4	33.1
2000-01	13.5	5.2	18.7	3.0	12.2	15.3	16.6	17.4	34.0
England									
1979-80	0.7	1.4	2.1	0.7	3.2	3.9	1.4	4.5	6.0
1989-90	2.8	0.9	3.7	3.1	3.6	6.7	5.9	4.5	10.5
1994-95	4.8	0.6	5.4	1.9	3.0	4.9	6.7	3.6	10.3
1995-96	4.3	0.4	4.7	1.5	2.7	4.2	5.8	3.1	8.9
1996-97	4.2	0.5	4.7	1.6	2.7	4.3	5.8	3.2	9.0
1997-98	3.8	0.6	4.4	1.5	2.9	4.4	5.3	3.5	8.7
1998-99	4.4	0.7	5.1	1.3	2.7	4.1	5.7	3.5	9.2
1999-00	5.2	0.7	5.9	1.4	2.5	3.9	6.6	3.2	9.8
2000-01	5.2	0.7	5.9	1.2	2.7	4.0	6.4	3.5	9.8
Scotland									
1979-80	0.3	20.9	21.2	0.1	3.2	3.3	0.4	24.0	24.5
1989-90	2.5	12.8	15.3	1.2	4.6	5.8	3.7	17.4	21.0
1994-95	5.1	8.3	13.4	1.3	5.3	6.6	6.4	13.5	20.0
1995-96	4.3	6.2	10.6	1.2	5.6	6.8	5.5	11.9	17.4
1996-97	5.1	6.7	11.8	1.4	5.8	7.2	6.5	12.5	19.0
1997-98	5.5	5.9	11.4	1.0	5.3	6.3	6.5	11.3	17.8
1998-99	5.1	5.3	10.5	1.1	5.3	6.3	6.2	10.6	16.8
1999-00	5.2	5.2	10.4	1.5	6.5	8.0	6.7	11.7	18.4
2000-01	7.8	3.9	11.7	1.4	6.6	8.0	9.2	10.6	19.7
Wales									
1979-80	0.1	1.3	1.4	0.0	1.3	1.4	0.1	2.6	2.7
1989-90	0.2	0.4	0.7	0.3	1.4	1.6	0.5	1.8	2.3
1994-95	0.5	0.1	0.6	0.3	2.3	2.6	0.8	2.3	3.2
1995-96	0.4	0.1	0.4	0.3	1.9	2.3	0.7	2.0	2.7
1996-97	0.4	0.1	0.4	0.4	2.6	3.0	0.8	2.6	3.4
1997-98	0.4	0.1	0.5	0.4	2.3	2.7	0.8	2.5	3.2
1998-99	0.5	0.1	0.6	0.3	2.7	3.0	0.8	2.9	3.7
1999-00	0.5	0.2	0.7	0.3	2.4	2.6	0.8	2.6	3.4
2000-01	0.4	0.1	0.4	0.3	1.9	2.2	0.6	2.0	2.6
Northern Ireland									
1979-80[1]	0.1	0.7	0.8	0.0	0.3	0.3	0.1	0.9	1.0
1989-90	0.2	1.4	1.6	0.1	0.5	0.5	0.3	1.9	2.1
1994-95	0.4	0.5	0.9	0.1	0.5	0.6	0.4	1.0	1.5
1995-96	0.3	0.7	1.0	0.1	0.6	0.6	0.3	1.3	1.6
1996-97	0.3	0.5	0.8	0.1	0.5	0.6	0.3	1.0	1.3
1997-98	0.3	0.4	0.6	0.1	0.6	0.7	0.4	1.0	1.3
1998-99	0.3	0.4	0.7	0.1	0.5	0.6	0.4	0.9	1.4
1999-00	0.4	0.4	0.8	0.1	0.5	0.6	0.5	0.9	1.5
2000-01	0.2	0.4	0.7	0.2	1.0	1.1	0.4	1.4	1.8

[1] For Northern Ireland, the 1980-81 breakdown into broadleaf and conifer has been used to estimate the components in 1979-80

Table 1.8 New planting and restocking: breakdown between Forestry Commission/ Forest Service and other woodland

thousands of hectares

Year ending 31Mar	New planting			Restocking			Total		
	FC/FS	other	Total	FC/FS	other	Total	FC/FS	other	Total
UK total									
1979-80	16.5	8.8	25.4	5.9	2.9	8.8	22.5	11.7	34.2
1989-90	4.6	16.7	21.3	8.3	6.3	14.6	13.0	23.0	35.9
1994-95	1.2	19.1	20.2	8.4	6.3	14.7	9.6	25.3	34.9
1995-96	0.6	16.1	16.7	8.1	5.9	14.0	8.7	22.0	30.6
1996-97	0.6	17.0	17.6	8.4	6.7	15.1	9.0	23.7	32.7
1997-98	0.2	16.7	16.9	8.5	5.7	14.2	8.7	22.4	31.1
1998-99	0.2	16.8	17.0	8.5	5.6	14.1	8.7	22.4	31.1
1999-00	0.3	17.6	17.9	8.8	6.4	15.2	9.0	24.0	33.1
2000-01	0.3	18.4	18.7	8.9	6.4	15.3	9.3	24.8	34.0
England									
1979-80	0.9	1.2	2.1	2.2	1.7	3.9	3.1	2.9	6.0
1989-90	0.2	3.6	3.7	2.7	4.0	6.7	2.9	7.6	10.5
1994-95	0.1	5.3	5.4	2.4	2.5	4.9	2.4	7.9	10.3
1995-96	0.0	4.7	4.7	2.2	2.0	4.2	2.2	6.7	8.9
1996-97	0.0	4.7	4.7	2.2	2.1	4.3	2.2	6.7	9.0
1997-98	0.0	4.4	4.4	2.3	2.0	4.4	2.3	6.4	8.7
1998-99	0.0	5.1	5.1	2.3	1.8	4.1	2.3	6.9	9.2
1999-00	0.1	5.9	5.9	2.2	1.7	3.9	2.2	7.6	9.8
2000-01	0.1	5.7	5.9	2.1	1.8	4.0	2.3	7.6	9.8
Scotland									
1979-80	14.1	7.0	21.2	2.3	1.0	3.3	16.4	8.1	24.5
1989-90	3.8	11.5	15.3	3.8	2.0	5.8	7.6	13.5	21.0
1994-95	0.8	12.6	13.4	3.5	3.1	6.6	4.3	15.6	20.0
1995-96	0.4	10.2	10.6	3.7	3.2	6.8	4.0	13.4	17.4
1996-97	0.5	11.3	11.8	3.5	3.7	7.2	4.0	15.0	19.0
1997-98	0.1	11.3	11.4	3.6	2.7	6.3	3.7	14.1	17.8
1998-99	0.1	10.4	10.5	3.4	3.0	6.3	3.4	13.4	16.8
1999-00	0.0	10.4	10.4	4.3	3.8	8.0	4.3	14.2	18.4
2000-01	0.1	11.6	11.7	4.4	3.6	8.0	4.5	15.2	19.7
Wales									
1979-80	0.8	0.6	1.4	1.2	0.1	1.4	2.0	0.7	2.7
1989-90	0.1	0.6	0.7	1.4	0.3	1.6	1.5	0.8	2.3
1994-95	0.0	0.6	0.6	2.0	0.6	2.6	2.0	1.2	3.2
1995-96	0.0	0.4	0.4	1.6	0.6	2.3	1.6	1.1	2.7
1996-97	0.0	0.4	0.4	2.2	0.8	3.0	2.2	1.2	3.4
1997-98	0.0	0.5	0.5	1.9	0.8	2.7	1.9	1.3	3.2
1998-99	0.0	0.6	0.6	2.2	0.8	3.0	2.3	1.4	3.7
1999-00	0.0	0.7	0.7	1.8	0.8	2.6	1.8	1.6	3.4
2000-01	0.0	0.4	0.4	1.4	0.8	2.2	1.4	1.2	2.6
Northern Ireland									
1979-80	0.7	0.0	0.8	0.3	0.0	0.3	1.0	0.0	1.0
1989-90	0.6	1.1	1.6	0.5	0.0	0.5	1.0	1.1	2.1
1994-95	0.3	0.6	0.9	0.5	0.0	0.6	0.8	0.6	1.5
1995-96	0.2	0.8	1.0	0.6	0.0	0.6	0.8	0.8	1.6
1996-97	0.1	0.6	0.8	0.5	0.1	0.6	0.6	0.7	1.3
1997-98	0.1	0.5	0.6	0.6	0.1	0.7	0.7	0.6	1.3
1998-99	0.1	0.6	0.7	0.6	0.1	0.6	0.7	0.7	1.4
1999-00	0.2	0.6	0.8	0.5	0.1	0.6	0.7	0.7	1.5
2000-01	0.1	0.6	0.7	0.9	0.2	1.1	1.0	0.8	1.8

The Woodland Grant Scheme (GB)

Private woodland in Great Britain is supported by a range of grants available under the Woodland Grant Scheme, which was introduced in 1988 as tax relief was phased out. Grants are available under two main categories, for creating new woodland and managing existing woodland.

For ***new woodland*** areas there are two grant rates for broadleaves (for areas above and below 10 hectares) and one grant rate for conifers. The higher broadleaved rate of grant is also paid to encourage planting of Scots pine to establish new native pinewoods. These grants are paid in two instalments, the first instalment being paid when the work has been carried out to a satisfactory standard, the following payment five years later. A discretionary payment is paid for natural regeneration. This is based on the costs of the preparatory work required. When the trees are a certain height, a fixed payment equivalent to the restocking grant is paid.

Supplementary grants are available for planting on better quality agricultural land (Better Land Contribution) and to encourage the creation of new woodland close to towns and cities, where public access will be allowed (Community Woodland Contribution). A Premium is also available for planting woodland in the Community Forests and National Forest in England. Farmers may additionally apply for the Farm Woodland Premium Scheme. This scheme offers payments from the agriculture departments to compensate for agricultural income foregone. Challenge funds, where applicants bid for the money they require to carry out the work, are also available to encourage new planting in certain targeted areas.

Grants for ***existing woodland*** include a restocking grant (paid in one instalment) a management grant (usually paid over a five year period) and a number of Woodland Improvement Grants. There are also Challenge funded projects to encourage certain types of work in existing woodland.

Table 1.9 shows the areas where the initial work has been carried out satisfactorily and the *first* instalment of grant has been paid – it demonstrates how much new work is being undertaken with grant aid. This differs from the non-Forestry Commission/Forest Service information in Table 1.8, which is from *second* instalment payments and demonstrates the woodland area that has become successfully established.

Table 1.10 shows the annual management grant, but does not include the more capital-oriented woodland improvement grant.

The Forest Service in Northern Ireland operates a similar scheme, but their data are not included in this section; for more information see the Forest Service annual report.

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Table 1.9 Areas receiving first instalment WGS support in GB in year ending 31 March 2001

First instalment and supplementary payments. Supplementary payments are only available for new woodland. The Farm Woodland Premium Scheme is not included here.

thousands of hectares

	New planting (excluding natural regeneration)	New woodland from natural regeneration	Restocking (excluding natural regeneration)	Restocking from natural regeneration
Broadleaves				
Total grant-aided	11.1	2.7	1.4	1.0
Better land contribution	3.9	0.0	Additional contributions not available for restocking	
Community woodland contribution	0.4	0.0		
Community forest premium	1.0	0.0		
Challenge funds	0.5	0.1		
Tendering (National Forest)	0.0	0.0		
Short rotation coppice locational contribution	0.6	0.0		
Conifers				
Total grant-aided	4.4	0.7	3.1	0.1
Better land contribution	1.8	0.0	Additional contributions not available for restocking	
Community woodland contribution	0.2	0.0		
Community forest premium	0.1	0.0		
Challenge funds	0.8	0.4		
Tendering (National Forest)	0.0	0.0		
Short rotation coppice locational contribution	(not applicable – conifers are not used for short rotation coppice)			
Total				
Total grant-aided	15.5	2.8	4.5	1.1
Better land contribution	5.7	0.0	additional contributions not available for restocking	
Community woodland contribution	0.6	0.0		
Community forest premium	1.1	0.0		
Challenge funds	1.3	0.1		
Tendering (National Forest)	0.0	0.0		
Short rotation coppice locational contribution	0.6	0.0		

Table 1.10 Woodland in GB approved for management grant under the Woodland Grant Scheme

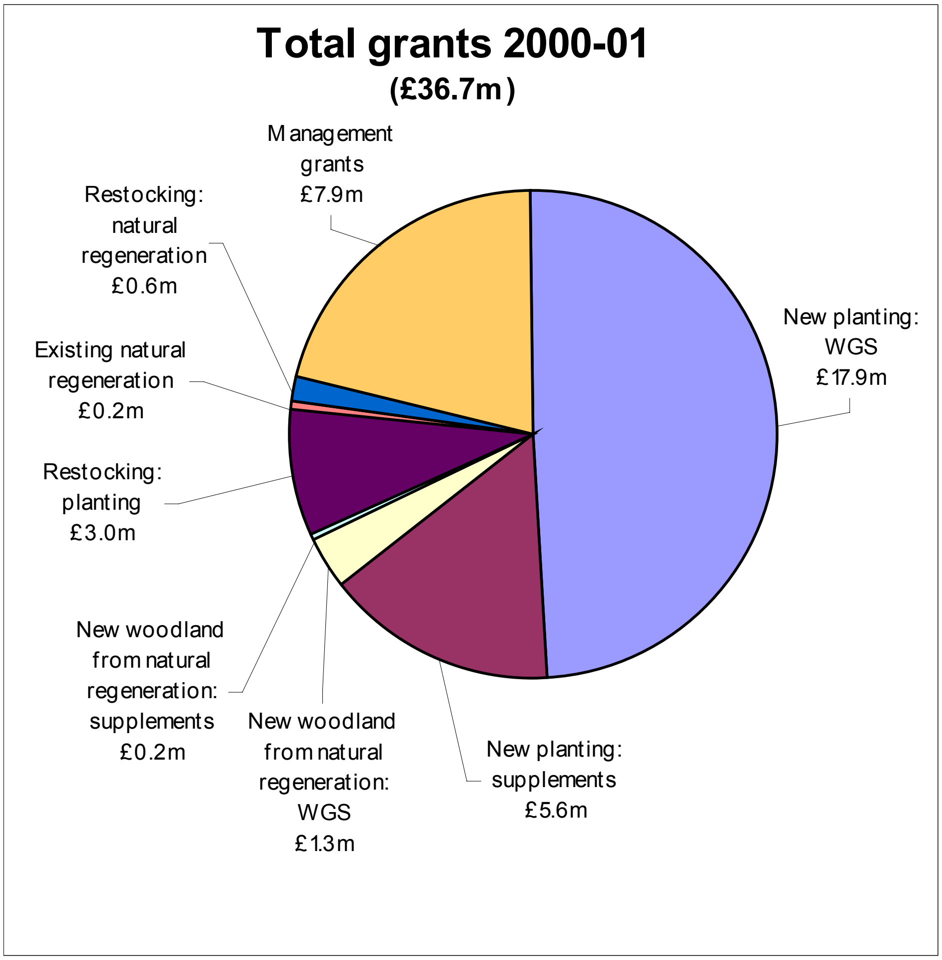
Standard, special and annual management grants are included. Woodland Improvement Grants are not included.

thousands of hectares

Year ending 31 March	Great Britain	England	Scotland	Wales
Broadleaves				
1993-94	46.9	39.3	5.8	1.9
1994-95	30.9	21.7	8.1	1.0
1995-96	21.2	15.5	4.3	1.4
1996-97	18.9	12.7	4.9	1.3
1997-98	23.6	18.5	3.9	1.2
1998-99	29.6	24.6	3.6	1.5
1999-00	30.3	24.9	4.3	1.0
2000-01	22.5	18.5	2.6	1.4
Conifers				
1993-94	64.1	18.2	42.0	3.9
1994-95	40.7	7.6	31.3	1.8
1995-96	14.8	4.5	9.1	1.2
1996-97	8.8	3.3	5.1	0.5
1997-98	12.6	5.9	5.8	0.9
1998-99	13.6	6.2	6.6	0.8
1999-00	14.9	8.6	5.4	0.9
2000-01	11.7	4.9	6.3	0.4
Total				
1993-94	111.1	57.5	47.7	5.8
1994-95	71.5	29.4	39.4	2.8
1995-96	36.0	20.0	13.5	2.5
1996-97	27.7	15.9	10.0	1.8
1997-98	36.1	24.4	9.7	2.1
1998-99	43.3	30.8	10.1	2.3
1999-00	45.1	33.5	9.7	1.9
2000-01	34.2	23.4	8.9	1.9

Figure 1.4 Grant money paid in year ending 31 March 2001 by type of grant

Grants for existing natural regeneration are paid to safeguard trees which are already established (for example by fencing to keep deer out), whereas restocking by natural regeneration is for fencing to allow trees to establish (these categories were amalgamated in Table 1.9). Neither the Farm Woodland Premium Scheme (funded by the agriculture departments) nor Woodland Improvement Grants are included in this figure.



2. UK-grown timber and wood products

This section covers the production of timber and other products from woodland, and the primary processing of harvested wood to give basic wood products. Timber originating from conifers is known as softwood and that from broadleaves is known as hardwood.

Information for GB in Tables 2.1 to 2.9 is taken from the National Statistics publication *British Timber Statistics 2000*.

Information on employment within the forestry and primary wood processors sectors is given in section 6. Details on the number of businesses involved in forestry and primary wood processing can be found in Appendix B.

Wood production

Figures for production are expressed in standing volumes (000m^3 overbark standing). One m^3 overbark standing weighs approximately 0.82 tonnes (softwood) or 0.90 tonnes (hardwood) when freshly felled. Further information on conversion factors between cubic metres and green tonnes is in Appendix C.

Table 2.1 Wood production
Figures have been rounded to the nearest 10,000m^3.

000m^3 overbark standing

Calendar year	GB Softwood			GB Hardwood[1]	Northern Ireland[2]	UK Total
	Forestry Commission	Private woodland	Total softwood			
1970	1,490	900	2,390	1,300	..	3,690[3]
1980	2,410	980	3,390	1,300	100	4,790
1990	3,460	2,200	5,660	1,120	210	6,960
1994	4,320	3,030	7,350	950	250	8,540
1995	4,130	3,310	7,440	990	250	8,690
1996	4,290	3,220	7,510	880	250	8,650
1997	4,570	3,600	8,170	910	260	9,340
1998	4,830	3,250	8,070	800	290	9,160
1999	5,440	3,210	8,660	760	320	9,740
2000	5,530	3,780	9,310	740	380	10,430

[1] Most hardwood production in GB comes from private woodland; the figures are estimates based on reported deliveries to wood processing industries.
[2] Most Northern Ireland production is from the Forest Service. The figures shown include FS estimates of private sector production.
[3] Great Britain only.
Figures before 1994 are not National Statistics

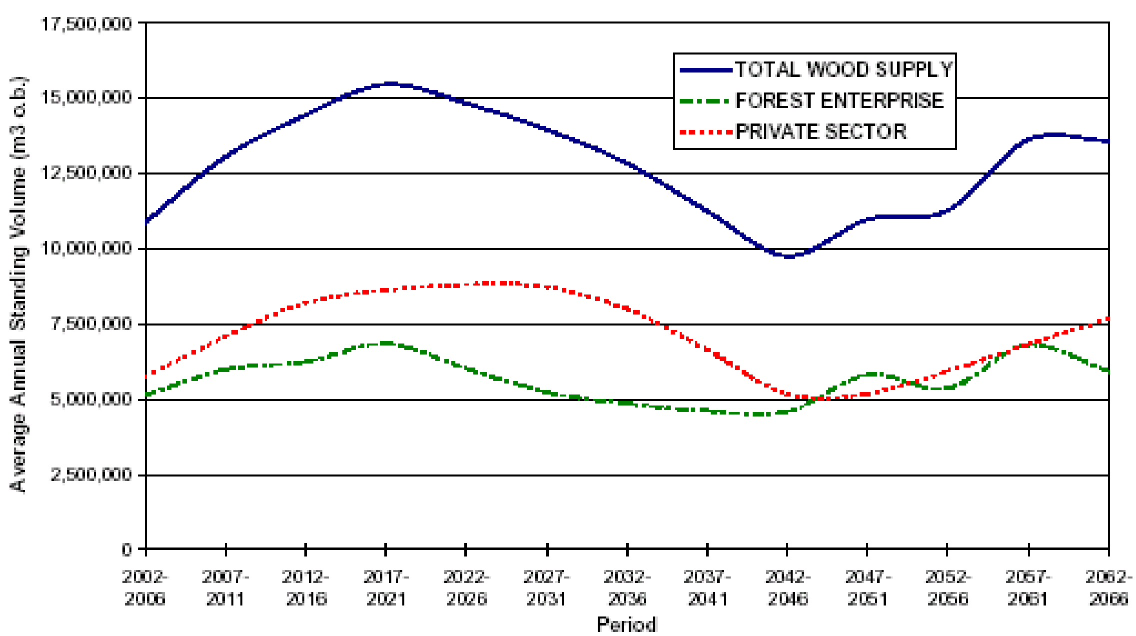
Table 2.2 Wood production forecasts - GB

Softwood production forecasts are taken from the 2000 softwood assessment (not National Statistics). Strictly, they are forecasts of availability rather than production, as they do not take account of financial factors or the state of markets, which may cause production to be delayed or brought forward. More information and detailed breakdowns are available in *Great Britain: new forecast of softwood availability* in the April 2001 edition of Forestry & British Timber.

000m^3 overbark standing

annual average in the five years:	Softwood			Hardwood	Total (GB only)
	Forestry Commission	Private woodland	Total softwood		
2002-2006	5,130	5,750	10,870	1,000	11,870
2007-2011	5,980	7,080	13,060	1,000	14,060
2012-2016	6,240	8,200	14,450	1,000	15,450
2017-2021	6,850	8,630	15,480	1,000	16,480

Figure 2.1: Longer term trend in softwood availability for Great Britain by sector.



Timber deliveries

Most figures for timber deliveries (inputs to wood processing) are expressed in green tonnes. Conversion factors to underbark volumes are in Appendix C.

Table 2.3 Deliveries of British-grown roundwood to the wood processing industries- GB
Note that information in this table relates to GB, not UK. Almost all British-grown roundwood is processed within Great Britain, but in some cases it is exported for processing.

000 green tonnes

Year	Sawmills	Pulp mills	Wood-based panel mills	Miscella-neous[1]	Exports[2]	Total GB[1]
Hardwood						
1994	361	190	96	205	0	852
1995	377	196	113	205	0	891
1996	295	202	91	205	0	793
1997	296	198	118	205	0	817
1998	259	180	77	205	0	721
1999	234	191	52	205	0	682
2000	209	200	52[3]	205	0	666
Softwood						
1994	3,427	1,104	1,407	542	48	6,528
1995	3,389	1,106	1,699	521	8	6,723
1996	3,487	853	1,500	471	0	6,311
1997	3,553	940	1,690	456	0	6,639
1998	3,634	844	1,527	487	0	6,492
1999	3,928	660	1,613	494	24	6,719
2000	4,007	695	1,613[3]	438	16	6,769
Total						
1990	3,788	1,294	1,503	747	48	7,380
1995	3,766	1,302	1,812	726	8	7,614
1996	3,782	1,055	1,591	676	0	7,104
1997	3,849	1,138	1,808	661	0	7,456
1998	3,893	1,024	1,604	692	0	7,401
1999	4,162	851	1,665	699	24	7,401
2000	4,216	895	1,665[3]	643	16	7,435

[1] These figures are estimated by, or partly composed of estimates made by, the Supply and Demand Subcommittee of the Forestry Commission Advisory Panel.
[2] Exports here are the quantities of wood "exported" (in this case including transfers to N Ireland) without going to a wood processing industry in GB.
[3] Data were not available for wood-based panel products for 2000, so the figure for 1999 is repeated.

Sawmills

The data in the following tables are for the sawing of logs of UK origin only. Any other activity (such as sawing of imported logs, or further processing of wood rough-sawn by other businesses) is excluded.

Data for Great Britain are collected by an annual Sawmill Survey, carried out by the Forestry Commission.

Consumption is expressed as the total volume of roundwood (excluding bark) delivered. Production is expressed in terms of the volume of sawnwood produced. Conversion factors to green tonnes or overbark volumes are given Appendix C

Table 2.4 Consumption and production of UK timber by sawmills

	Consumption of roundwood ($000m^3$ underbark)		Production of sawn timber ($000m^3$)	
	Hardwood	Softwood	Hardwood	Softwood
1994	318	3,561	181	2,023
1995	332	3,579	191	2,024
1996	260	3,675	152	2,042
1997	261	3,740	144	2,105
1998	229	3,850	127	2,135
1999	207	4,179	120	2,307
2000	185	4,306	108	2,344

Table 2.5 Number of sawmills in the UK
(for more detail of GB sawmills, see *British Timber Statistics 2000* or *Sawmill Survey 2000*)

Size category production	UK	England	Scotland	Wales	Northern Ireland
$<1,000m^3$	128	81	29	9	9
$1,000 – 4,999m^3$	103	67	27	6	3
$5,000 – 24,999m^3$	56	28	18	7	3
$25,000 – 49,999m^3$	14	5	4	3	2
$50,000m^3+$	14	4	7	2	1
Total	**315**	**185**	**85**	**27**	**18**

Pulp and paper mills

The data given below relate only to mills which use UK-grown roundwood in the production of paper (integrated pulp and paper mills). These mills also use recycled newsprint (200,000 tonnes in 1997) and recycled cardboard (50,000 tonnes in 1997).

Table 2.6 Inputs to integrated pulp and paper mills
Note that this table excludes inputs of recycled paper and cardboard.

000 green tonnes

Year	UK roundwood		Imported roundwood		Imported chips		Sawmill co-products		Total	
	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood
1994	190	1,104	3	2	..	..	18	176	211	1,282
1995	196	1,106	0	4	..	..	4	284	200	1,394
1996	202	853	0	0	..	..	0	305	202	1,158
1997	198	940	0	0	..	20	0	299	198	1,239
1998	180	844	0	0	0	15	0	277	180	1,136
1999	191	660	0	0	0	9	0	295	191	964
2000	200	695	18	0	0	1	0	308	218	1,004

Figure 2.2 Inputs to integrated pulp and paper mills 2000
Note that this figure excludes inputs of recycled paper and cardboard.

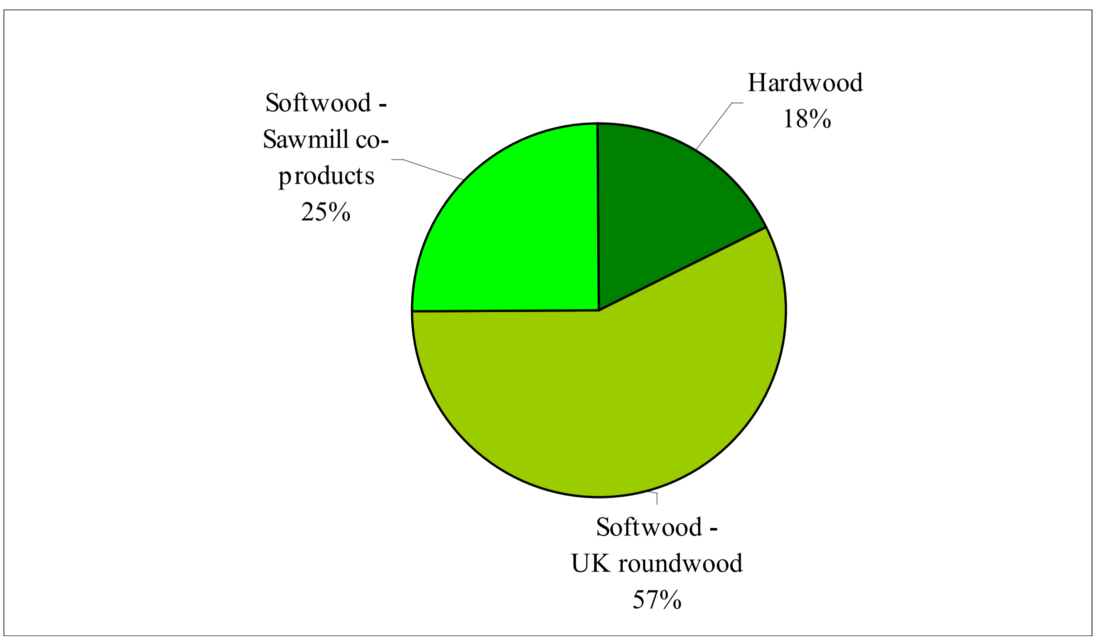


Table 2.7 UK-grown roundwood used in integrated pulp and paper mills

This shows the country of origin of the UK-grown roundwood for all integrated pulp and paper mills in the UK. Figures are not currently available for the quantity broken down by the country in which the mill is located, which could disclose data for individual mills.

000 green tonnes

Year	United Kingdom		England		Scotland		Wales		Northern Ireland	
	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood
1994	190	1,104	176	184	0	668	14	252	0	0
1995	196	1,106	188	197	0	659	8	250	0	0
1996	202	853	194	175	0	478	8	200	0	0
1997	198	940	190	161	0	598	8	181	0	0
1998	180	844	..	..	..	..	..	..	0	0
1999	191	660	177	107	0	383	14	170	0	0
2000	200	695	188	86	0	479	12	130	0	0

Wood-based panel products

Wood-based panels are oriented strand board (OSB), wood chipboard and cement bonded particleboard (which are all types of particleboard), and medium density fibreboard (MDF) and other fibreboard (which are both types of fibreboard).

Figure 2.3 Inputs to wood-based panel mills 1999

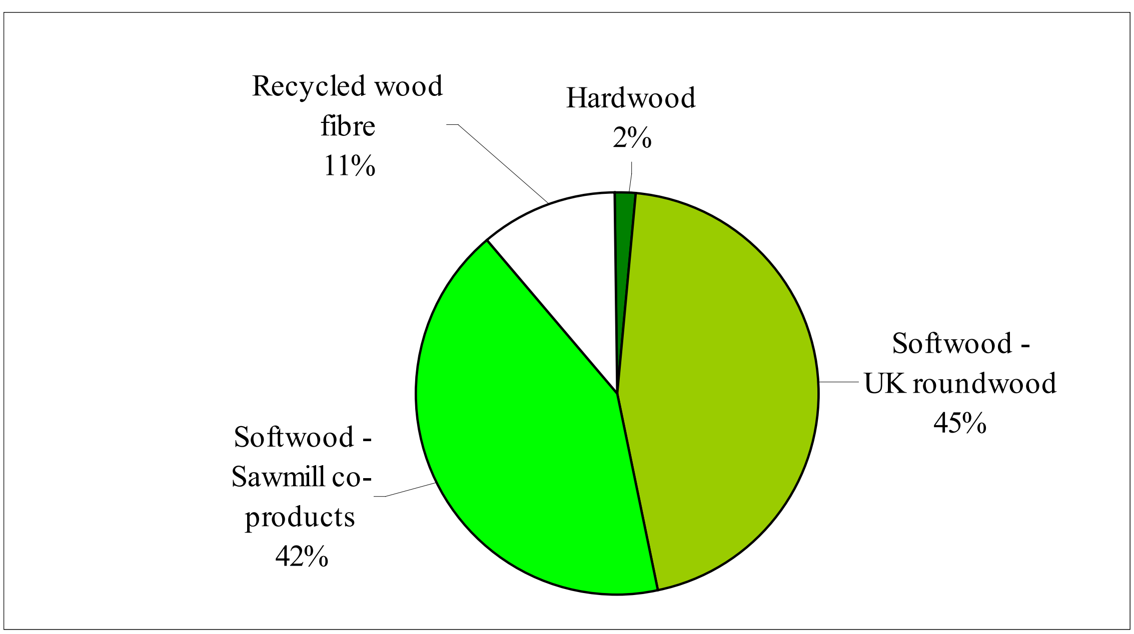


Table 2.8 Inputs to wood-based panel production - GB

This table shows the inputs used in the production of all types of wood-based panels. This table relates to GB only, not UK.

000 green tonnes

Year	British roundwood[1]		Imported roundwood		Sawmill co-products[2]		Imported residues and residues from imported wood[3]		GB total		
	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Recycled wood fibre[4]
Total inputs to wood-based panel mills											
1994	96	1,407	15	65	21	1,368	10	156	142	2,996	..
1995	113	1,699	7	23	21	1,521	11	162	152	3,405	..
1996	91	1,500	0	3	23	1,542	21	160	140	3,205	..
1997	118	1,690	0	0	40	1,744	21	120	179	3,554	..
1998	77	1,527	0	0	29	1,711	29	190	135	3,428	..
1999	52	1,613	0	0	10	1,522	0	0	62	3,135	400
2000[5]	..	..	..	..	..	..	..	..	..	..	..
Inputs to particleboard production											
1994	96	1,217	15	65	21	910	10	86	142	2,278	..
1995	113	1,499	7	23	21	1,053	11	102	152	2,677	..
1996	91	1,330	0	3	23	952	21	130	135	2,415	..
1997	116	1,500	0	0	37	1,084	21	110	174	2,694	..
1998	76	1,332	0	0	27	1,126	29	180	132	2,638	..
1999	52	1,300	0	0	10	817	0	0	62	2,117	400
2000[5]	..	..	..	..	..	..	..	..	..	..	..
Inputs to fibreboard production											
1994	0	190	0	0	0	458	0	70	0	718	..
1995	0	200	0	0	0	468	0	60	0	728	..
1996	0	170	0	0	5	590	0	30	5	790	..
1997	2	190	0	0	3	660	0	10	5	860	..
1998	1	195	0	0	2	585	0	10	3	790	..
1999	0	313	0	0	0	705	0	0	0	1,018	0
2000[5]	..	..	..	..	..	..	..	..	..	..	..

[1] British roundwood includes all material from forest operations.

[2] Sawmill co-products includes peeled and unpeeled chips, sawdust, slabwood, shavings, postplant chips and peelings.

[3] Includes chips and shavings.

[4] Recycled wood fibre is wood fibre recovered from both pre- and post-consumer wood waste for use in wood based panel production.

[5] Figures for 2000 were not available in time for this publication.

Miscellaneous uses of British wood

Table 2.9 Miscellaneous uses of British wood - GB
Data for softwood fencing are collected by an annual survey of round fencing manufacturers, carried out by the Forestry Commission. Many of the other uses are not covered by survey or administrative sources, and the values are estimates made by representatives of the wood processing industries. This table covers GB only.

000 green tonnes

Year	Fuelwood		Poles	Wood wool	Fencing		Other		Total GB	
	Hardwood[1]	Softwood[1]	Softwood	Softwood	Hardwood[1]	Softwood	Hardwood[1]	Softwood[1]	Hardwood[1]	Softwood[1]
1994	150	100	4	7	30	406	25	25	205	542
1995	150	100	4	5	30	387	25	25	205	521
1996	150	100	4	5	30	337	25	25	205	471
1997	150	100	4	4	30	323	25	25	205	456
1998	150	100	4	4	30	354	25	25	205	487
1999	150	100	4	3	30	362	25	25	205	494
2000	150	100	4	3	30	306	25	25	205	438

[1] These figures are estimated by, or partly composed of estimates made by, the Supply and Demand Sub-committee of the Forestry Commission Advisory Panel.

Other forest products

Very little information is currently available on other forest products. Data (not National Statistics) for Christmas tree sales by FC and FS are given below. This table will be expanded in the future if more information is collected.

Table 2.10 Other forest products: Christmas tree sales

Product	Quantity (000s)			Value (£000's)		
	FC	NI Forest Service	other	FC	NI Forest Service	other
Christmas trees						
1996-97	137	11	..	..	102	..
1997-98	155	10	..	1,100	91	..
1998-99	162	11	..	1,100	89	..
1999-00	112	10	..	1,300	97	..
2000-01	72	8	..	1,300	113	..

Prices of wood and wood products

The Forestry Commission has collected information for many years on prices of conifers sold standing by the FC, and constructed a Coniferous Standing Sales Price Index (CSSPI) in overlapping yearly periods each 6 months. The CSSPI is available from the Forestry Commission website.

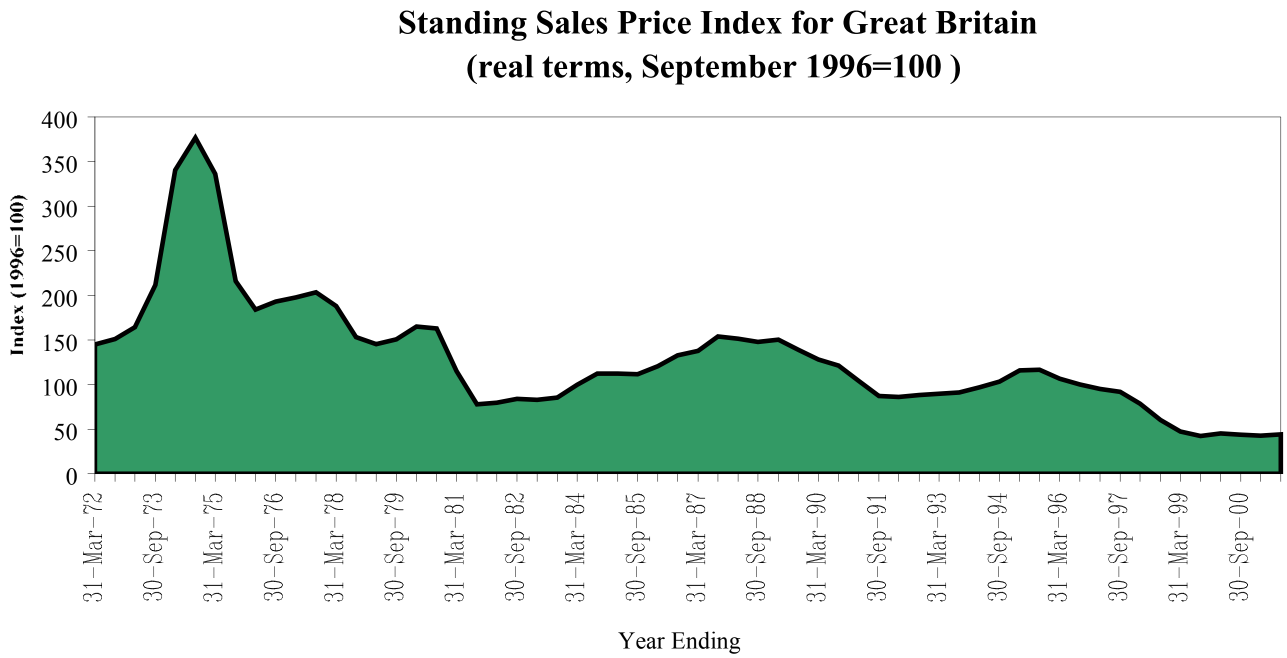
Table 2.11 Coniferous standing sales price index for Great Britain (per m^3 overbark standing)
This price index is constructed from information on Forestry Commission sales only.

Year to end March:	average price £	real[1] average price £1996	price index in nominal terms[2] Sep 1996 = 100	price index in real terms[1] Sep 1996 = 100
1985	10.26	17.32	66.70	112.51
1986	11.26	18.03	75.40	120.78
1987	12.62	19.60	88.70	137.79
1988	15.36	22.67	102.71	151.58
1989	15.80	21.84	109.08	150.72
1990	15.14	19.51	99.38	128.08
1991	13.75	16.44	87.33	104.39
1992	11.21	12.63	76.40	86.03
1993	12.33	13.43	82.23	89.62
1994	13.87	14.73	91.51	97.15
1995	17.28	18.09	110.85	115.99
1996	16.59	16.87	104.60	106.36
1997	15.92	15.68	96.77	95.35
1998	13.35	12.80	82.33	78.93
1999	8.44	7.83	51.13	47.45
2000	8.13	7.36	49.75	45.04
2001	7.78	6.96	47.78	42.75

[1] Real terms values are obtained by using the GDP deflator to convert to "constant prices", (in this case prices in 1996). This allows trends in timber prices to be tracked without the influence of inflation.
[2] Nominal prices are the actual prices at that point in time, so the nominal price index includes inflation.

Figure 2.4 Coniferous standing sales price index in real terms

Note that the overlapping periods used to construct the index will make this graph in real terms appear smoother than the actual movement of prices, and remove any seasonality in the series.



There is little other information on wood prices before primary processing and no price index is available for broadleaves. Prices for outputs of primary wood processing are collected by the Office for National Statistics (ONS) in the Producer Price Indices (PPIs), and these are available in the MM22 Business Monitor which gives detailed PPIs monthly, or from the National Statistics website.

3. Imports, exports and apparent consumption of wood products

The UK imports a large proportion of the wood and wood products consumed in the UK, from a range of different countries. Information on imports and exports comes from the Overseas Trade Statistics compiled by HM Customs & Excise. The two sources are surveys of European Union (EU) internal trade (Intrastat) and customs data for trade with non-EU countries.

Quantities are given as wood raw material equivalent underbark, that is the amount of timber (underbark) required to produce these products. The factors used here differ from the factors in Table C.1, Appendix C, which convert to standing volumes overbark.

Table 3.1 Apparent consumption of wood products in the UK

Apparent consumption is the amount of timber (measured as wood raw material equivalent underbark) used as wood and wood products by people and industries in the UK. It is calculated as total UK production plus imports, minus exports. This figure does not include any allowance for recycled wood and waste paper within the UK. Apparent consumption also differs from actual consumption by the extent of changes in the level of stocks. It is not practical to collect information on actual consumption.

million m^3 wrme underbark

Year	UK production[1]	Imports	Exports	Apparent consumption
1991	6.5	43.2	5.0	44.8
1992	6.6	43.5	5.1	45.0
1993	6.8	42.2	4.5	44.5
1994	7.4	47.6	5.8	49.2
1995	7.6	44.3	6.0	45.9
1996	7.1	45.1	5.4	46.8
1997	7.4	47.7	6.8	48.4
1998	7.2	46.8	7.0	47.0
1999	7.5	46.9	7.6	46.8
2000	7.5	48.6	7.7	48.5

[1] UK production is estimated from deliveries to wood processing industries, as in Table 2.3

In Table 3.2 ‘Wood and wood products’ are summarised from the following divisions of the Standard Industrial Trade Classification (SITC)

- 24 (cork and wood)
- 25 (pulp and waste paper)
- 63 (cork and wood manufactures (excluding furniture))
- 64 (paper, paperboard, and articles of paper pulp, of paper or of paperboard)

The ‘associated products’ in Table 3.3 are made up of the following SITC categories;

- 244 (cork, natural, raw and waste (including natural cork in blocks or sheets))
- 251.92 (pulps of other fibrous cellulosic material)
- 633 (cork manufactures)
- 641.7 (paper, paperboard, cellulose wadding/webs of fibre, coated, impregnated, painted etc, excluding group 892, in rolls or sheets, not elsewhere specified)
- 641.9 (converted paper and paperboard not elsewhere specified)
- 642 (paper and paperboard cut to size or shape, and articles of paper or paperboard).

Table 3.2 Imports and exports (volumes)

Data for 1990 and earlier are rounded to the nearest 100,000m^3. See the text above for explanation of the categories.

000m^3 wrme underbark

	Wood (round and sawn)			Paper and paperboard			Total wood and wood products
	Softwood (Div 24)	Hard-wood (Div 24)	Wood-based panels (Div 63)	Paper (Div 64)	Pulp (Div 25)	Recov-ered Paper (Div 25)	
Imports							
1960	18,300		2,500	3,500	11,700		36,000
1970	15,900		3,400	7,300	13,700		40,300
1980	11,500		3,600	9,800	9,800		34,700
1990	20,300		5,700	13,800	8,600		48,400
1995	12,536	1,432	5,150	15,930	8,447	677	44,172
1996	13,335	1,659	5,372	16,564	7,929	250	45,107
1997	13,977	1,614	5,970	17,803	8,171	211	47,746
1998	14,070	1,514	6,312	17,244	7,542	161	46,843
1999	14,117	1,432	6,087	17,493	7,625	171	46,926
2000	15,153	1,725	6,725	16,358	8,235	399	48,594
Exports							
1960	not compiled						800
1970							1,200
1980							2,300
1990							4,700
1995	290	81	718	3,355	158	762	5,364
1996	201	82	756	3,407	55	912	5,414
1997	203	93	985	4,193	22	1,341	6,838
1998	300	367	956	4,004	98	1,240	6,964
1999	438	298	1,364	4,050	124	1,295	7,569
2000	497	332	1,204	3,897	32	1,698	7,660

Table 3.3 Imports and exports (current prices)

See the text above for explanation of the categories.

£m

	Imports			Exports		
	wood and wood products	associated products (paper products, coated paper, cork, etc)	total (Divs 24, 25, 63, 64)	wood and wood products	associated products (paper products, coated paper, cork, etc)	total (Divs 24, 25, 63, 64)
1995	6,797	1,735	8,532	1,335	1,325	2,660
1996	6,409	1,697	8,106	1,252	1,400	2,653
1997	6,116	1,645	7,761	1,273	1,415	2,688
1998	5,832	1,709	7,541	1,214	1,327	2,541
1999	5,807	1,958	7,765	1,299	1,273	2,572
2000	6,247	2,080	8,327	1,338	1,321	2,659

Table 3.4 Country of origin of wood imports to the UK 1997

% of total UK imports in each category

	Sawn softwood	Sawn hardwood	Plywood	Particleboard	Fibreboard	Wood pulp	Paper and paperboard
Finland	16	2	7	–	5	12	25
Sweden	33	6	1	–	1	9	20
Other EU	7	13	6	91	62	12	34
Total EU	57	20	14	91	67	33	78
Baltic States	25	18	2	5	5	0	0
Brazil	0	3	13	–	–	14	1
Canada	6	5	6	1	1	15	7
Indonesia	0	2	23	–	–	–	0
Malaysia	–	10	5	–	2	–	–
Russia	7	–	6	–	–	0	1
USA	1	17	22	–	11	18	5
Other non EU	4	24	10	3	15	21	8
Total non EU	43	80	86	9	33	67	22

Note: Categories used above are those used by FAO in 'Forest Products Trade Flow Data', and are not fully consistent with those used in tables 3.2 and 3.3.

4. Environment

This section presents a limited range of information about environmental aspects, mostly using sources that are not National Statistics. More information on environmental aspects will be included in the UK Indicators of Sustainable Forestry to be published in 2002.

Protected woodland areas

Data in tables 4.1 – 4.3 are taken from a report *Protected Forest Areas in the UK* (not National Statistics). Although these are the most complete data available, they have been derived from a variety of sources, and are unlikely to give a wholly accurate inventory of protected areas in the UK. In particular, figures *in italics* have been approximated in the report by breaking down data for a wider area, typically using land area.

Table 4.1 Areas of ancient and semi-natural woodland in UK

OSNW (other semi-natural woodland) is semi-natural but not ancient; PAWS (plantation on an ancient woodland site) is ancient (in the sense of continuously wooded over a long period) but not semi-natural. ASNW (ancient semi-natural woodland) is both ancient and semi-natural.

thousands of hectares

	UK	GB	England	Scotland	Wales	N Ireland
ASNW	325.8	325.8	206.0	89.1	30.7	–
PAWS	224.1	224.1	135.1	59.1	29.9	–
OSNW	320.5	305.5	209.8	44.0	51.7	15.0
Total ancient	549.9	549.9	341.1	148.2	60.6	–
Total semi-natural	646.3	631.3	415.8	133.1	82.4	15.0

Table 4.2 Summary of woodland areas under different types of statutory protection

See the glossary for definitions of the abbreviations.

thousands of hectares

Type of protection	UK	GB	England	Scotland	Wales	N Ireland
SAC	47.0	47.0	23.8	22.1	1.0	0.04
SPA	1.3	1.3	–	–	1.3	–
NNR	*30.1*[1]	*29.7*[1]	9.2	*19.4*[1]	1.1	0.4
A/SSSI – total	128.7	126.7	79.8	*38.0*[2]	8.9	2.0
of which						
ASNW	72.6	72.6	42.0	25.5	5.1	–
PAWS	10.5	10.5	7.9	2.0	6	–
OSNW	26.1	24.1	18.3	3.3	2.5	2.0
all ancient	83.1	83.1	49.9	27.5	5.7	–
all semi-natural	98.7	96.7	60.3	30.8	7.6	2.0

[1] The Scottish data is the area of NNR managed under the WGS, and probably underestimates the total woodland in NNRs in Scotland; this has a knock-on effect on the GB and UK totals.

[2] There are discrepancies which mean that the categories of SSSIs for Scotland are not consistent with the total. See the full report for further details.

Table 4.3 Summary of areas under 'protective' ownership and WGS management (non-statutory protection)

See the glossary for definitions of the abbreviations.

thousands of hectares

Type of protection	UK	GB	England	Scotland	Wales	N Ireland
Public Sector						
FC/FS ASNW	11.4	11.4	2.7	7.8	0.8	–
PAWS	131.1	131.1	80.6	33.2	17.4	–
OSNW	49.0	49.0	25.0	16.5	7.5	–
A/SSSIs	40.0	*37.4*	*21.4*	*12.6*	*3.4*	*2.3*
FNRs	36.2	36.0	*12.6*	*19.4*	*4.0*	0.2
LNR	*10.0*	*9.4*	7.8	–	–	–
Voluntary Sector						
NT and NTS	*28.0*	*26.0*	*18.9*	4.0	*3.0*	*2.1*
Wildlife trusts	26.5	*25.0*	*14.2*	*8.6*	*2.3*	*1.5*
Woodland Trust	13.5	13.5	8.4	3.7	1.4	–
RSPB	14.2	*13.4*	*7.6*	*4.6*	*1.2*	*0.8*
Management under WGS						
Total	..	918.6	51.6	421.6	51.6	..
Public (non-FC/FS)	..	45.3	2.6	5.7	2.6	..
Voluntary sector	..	67.3	3.2	19.4	3.2	..

Figures in italics have been estimated, see text above Table 4.1.

Carbon sequestration

Under the Kyoto protocol, additional woodland planted since 1990 contributes to the UK's carbon dioxide emissions target by removing carbon from the air. The following table (taken from the DETR publication *Climate Change: The UK Programme* – (not National Statistics)) shows estimates and forecasts for the amount of carbon.

The forest sink includes carbon accumulation in forests by woody biomass, soils, litter and wood products. No wood products have yet been generated from new planting since 1990. The figures for the carbon sink due to expansion since 1990 are already included in the total forest sink.

Table 4.4 Carbon sequestration

	Forest sink (MtC/yr)	Forest sink due to expansion of woodland due to trees planted since 1990 (MtC/yr)
1990	2.6	0.0
1995	2.8	0.2
2000	2.9 to 2.9	0.3 to 0.3
2005	3.2 to 3.3	0.4 to 0.6
2010	3.1 to 3.4	0.6 to 0.8
2015	2.7 to 3.0	0.9 to 1.2
2020	2.4 to 2.8	1.2 to 1.6

Damage to woodland

Table 4.5 Fire damage
Compared with some other EU member states, the UK has only small losses of woodland to forest fires. No information is collected on fire damage in privately owned woodland.

Year	Forestry Commission	Northern Ireland Forest Service	UK (FC/FS woodland only)
Number of fires			
1969-70	489	..	..
1979-80	..	82	..
1989-90	76	22	98
1995-96	888	18	906
1996-97	478	30	508
1997-98	369	6	375
1998-99	155	3	158
1999-00	78	3	81
2000-01	41	6	47
Area of woodland burnt (ha)			
1969-70	453	..	..
1979-80	..	770	..
1989-90	185	127	312
1995-96	466	94	560
1996-97	585	135	450
1997-98	310	22	332
1998-99	45	9	54
1999-00	165	6	171
2000-01	181	85	266

Native Pinewoods

Table 4.6 Creation of new native pinewoods

hectares

Year ending 31 March	
1989-90	31
1990-91	563
1991-92	985
1992-93	3,094
1993-94	2,143
1994-95	3,834
1995-96	4,217
1996-97	4,784
1997-98	4,735

Figures for 1998-99 to 2000-01 were not compiled in time for this publication.

5. Recreation

Visits to woodland

The information in Tables 5.1 and 5.2 is taken from the UK Day Visits Survey, which collected data about day trips from home during 1994, 1996 and 1998. Despite its name, it did not cover visits by people living in Northern Ireland. Visits to overseas destinations are also excluded.

The UK Day Visits survey was a sample survey, so the results vary by chance depending on the sample achieved. For example the first line of data in table 5.2 is accurate to ±1.7% in England in 1998, so there is only weak evidence for a decline from 1996 to 1998; in Scotland, however, the accuracy is ±2.4%, so a fall of 3% is significant. Similar caution should be used in assessing the other figures in the table, where the confidence limits may be wider. For more detail see *1998 UK Leisure Day Visits Survey Technical Report* (not National Statistics) published by the National Centre for Social Research.

Table 5.1 Day visits to woodland (taken from the UK Day Visits Survey)

millions of visits

	journey starting point			
	GB	England	Scotland	Wales
1994	303	273	18	12
1996	346	308	26	11
1998	355	321	22	11

Table 5.2 Characteristics of day visitors to woodland (taken from the UK Day Visits Survey)

per cent

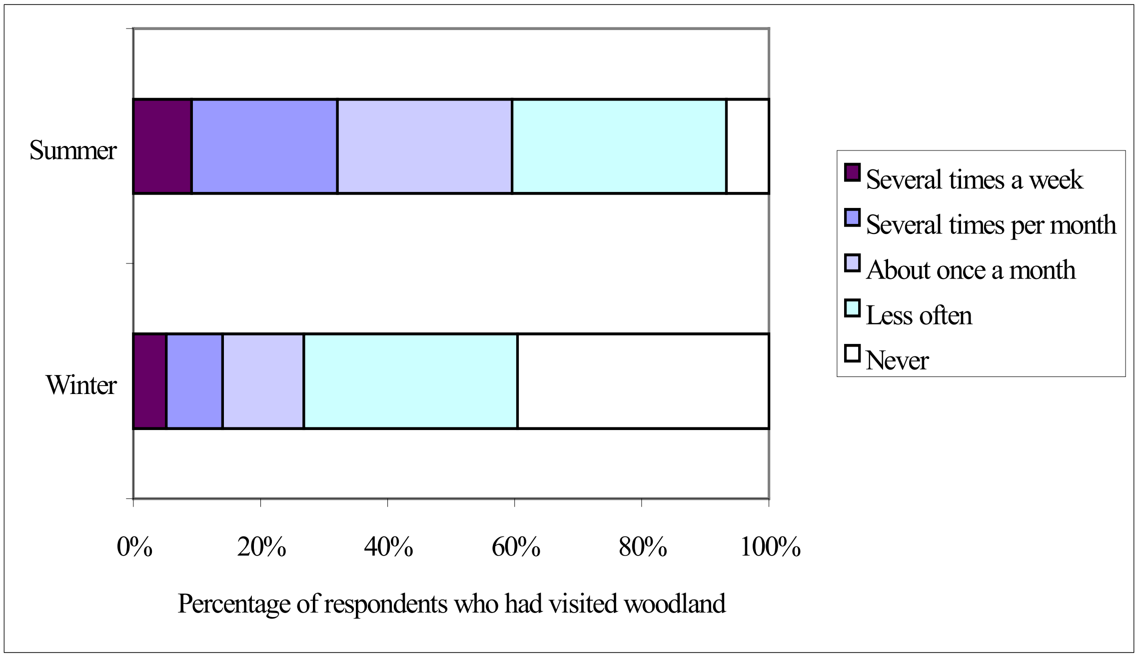
Question	Response categories	GB '96	GB '98	England '96	England '98	Scotland '96	Scotland '98	Wales '96	Wales '98
Timing of the last visit to woodland	Within last 2 weeks	11	11	12	11	12	9	8	8
	Over 2 weeks, within last 4 weeks	6	7	6	7	6	6	6	5
	Over 4 weeks, within last 3 months	7	8	8	8	6	6	6	7
	Over 3 months, within last 6 months	6	6	6	6	7	5	5	5
	Over 6 months, within last year	7	6	7	6	7	6	7	6
	No visit in last year	63	62	60	61	61	66	69	69
Season of year	January-March	24	33	23	34	29	25	36	43
	April-June	31	24	32	23	29	38	22	26
	July-September	25	23	25	23	31	28	18	19
	October-December	18	20	19	21	12	9	23	12
Duration of visit (round trip)	Up to 1 hour	30	35	31	35	15	29	25	35
	Over 1 hour, up to 2 hours	29	29	29	29	29	36	34	28
	Over 2 hours, up to 3 hours	13	11	13	11	17	10	12	18
	Over 3 hours	28	25	27	25	38	24	29	19
Distance travelled (round trip)	Up to 5 miles	54	59	54	58	41	61	65	64
	Over 5 miles, up to 10 miles	19	18	19	18	18	16	12	18
	Over 10 miles, up to 20 miles	9	10	9	10	14	6	9	6
	Over 20 miles	18	14	18	14	27	16	14	12
Main mode of transport	Car / van	43	32	43	32	49	32	32	30
	On foot	48	55	48	54	37	58	61	62
	Bicycle	7	8	7	8	7	8	3	4
	Other	2	5	2	6	7	1	4	4
Composition of group	One person	41	43	42	43	24	47	49	42
	Two adults	32	25	32	25	38	31	27	25
	Group with child(ren)	17	14	15	13	31	15	14	22
	Other group	10	18	11	19	7	7	10	11
Perceived owner or manager	Local Authority	43	42	43	43	38	32	30	15
	Forestry Commission	12	10	11	9	24	19	25	20
	Voluntary organisation	8	7	8	7	5	7	7	9
	Private owner	17	18	16	17	20	28	27	31
	Other	6	8	7	8	2	2	2	4
	Don't know	14	15	15	15	10	13	9	21

The Public Opinion of Forestry survey (not National Statistics) is a sample survey of 2000 adults in GB. It is carried out every 2 years and covers people's opinions on the amount of woodland, the Forestry Commission, forest management, and visits to woodland. The information in Figure 5.1 and Table 5.3, is taken from the report on the 2001 survey, which included comparisons with similar surveys in 1999, 1997 and 1995. The survey was carried out in February 2001.

Results from this survey are accurate to within ±2% for questions where all respondents gave an answer.

In the 2001 survey, 72% of respondents said they had visited woodland in the last few years. Those who had visited woodland were asked how frequently they had visited during the previous summer and winter. Figure 5.1 shows that the respondents visited much more often during the summer.

Figure 5.1 Frequency of visits to woodland (2001 survey)



Respondents were also asked who they thought owned the forest or woodland they had visited (Table 5.3), with the FC and voluntary bodies (e.g. National Trust, Woodland Trust) being the most popular responses. This can be compared with the UK Day Visits Surveys, which found that more visits were to local authority woodland, but more of the infrequent visitors tended to go to Forestry Commission woodland.

Table 5.3 Ownership of woodland visited (2001 survey)

percentage of respondents who had visited woodland

Forestry Commission / Forest Enterprise	41
Voluntary bodies (e.g. National Trust, Woodland Trust)	41
Local authorities	37
Private owners	20
None / Don't know	11

For more information see the *Public Opinion of Forestry 2001* report.

Forest Enterprise carries out a visitor monitoring programme (not National Statistics) at selected Forestry Commission woodland sites in England, Scotland and Wales. Year-on-year changes in visitor numbers are estimated by the Trends Index, which uses data from traffic counters and other counters. Information about visitors and their views on facilities are collected by national programme and by local surveys; the latest results are summarised in *Forest Visitor Surveys 2000*.

Table 5.4 Day visitors to NI Forest Service sites for which an admission charge is made

thousands of people visits

Year ending 31 March	N Ireland
1995-96	499
1996-97	537
1997-98	458
1998-99	382
1999-00	403
2000-01	402

Woodland recreation facilities

Forest Parks are areas of Forestry Commission land, which are of national importance for recreation. Recreation facilities are also available at many smaller woodland sites. Information is only available for Forestry Commission woodland, but many woodland sites managed by local authorities, voluntary organisations, and other private owners also provide recreation facilities.

Table 5.5 Forest Enterprise recreational facilities

at 31 March 2001

Facility	GB (Forest Enterprise)	England	Scotland	Wales
Forest Walks	646	233	361	52
Cycle Trails	191	84	94	13
Horse Riding Routes	98	32	55	11
Forest Drives	12	6	5	1
Car Parks	699	356	236	107
Picnic Sites	405	209	110	86
Toilets	99	57	25	17
Play Areas	39	27	2	10
Orienteering Courses	55	35	14	6
Visitor Centres	34	20	9	5
Wildlife Hides	23	13	7	3
Forest Classrooms	30	23	3	4
Viewpoints	32	0	32	0
X-Country Ski Routes	7	0	7	0

Table 5.6 Forest Parks

hectares

Scotland		
	Glenmore FP	3,500
	Queen's View FP	17,000
	Queen Elizabeth FP	20,000
	Argyll FP	21,000
	Galloway FP	77,000
		138,500
England		
	New Forest	27,000
	Forest of Dean	11,000
	Delamere	700
	Sherwood Pines	900
	Thetford	19,000
	North Riding	12,000
	Whinlatter	1,200
	Grizedale	2,500
	Kielder	61,000
		135,300
Wales		
	Afan Argoed	2,700
	Coed-y-Brenin	3,100
	Gwydyr	6,500
		12,300

Community Forests

England's 12 Community Forests are the product of a partnership between the Forestry Commission, the Countryside Agency and a host of other local and national partnerships. Since their inception in 1991, the Community Forests have helped to revitalise areas around many of England's towns and cities, delivering economic, social and environmental benefits to local communities. The Capital Modernisation Fund has financed new land for future community woodland development in Thames Chase, Red Rose and Mersey Forests; Forest Enterprise acquired 800 hectares in 2000/2001 for further social and environmental improvements.

Table 5.7 England's Community Forests

Name	Area (Hectares)	Population within 20km (millions)	Initial % woodland cover	Target new planting (ha)	Achieved new planting to Mar 2001 (ha)
Forest of Avon	57,300	1	5.9	6,726	340
Forest of Mercia	21,000	4	6.4	5,656	432
Forest of Marston Vale	15,800	0.5	3.6	4,120	801
Great North Forest	16,000	1	8	4,000	929
Great Western Community Forest	39,000	1	3	7,588	1,008
Greenwood Community Forest	41,400	5	11.3	5,750	226
Mersey Forest	92,500	4	4	8,140	1,647
Red Rose Forest	76,000	4	3.9	10,000	858
South Yorkshire	39,499	1.9	7.6	3,670	463
The Tees Forest	25,500	1	6.9	5,870	849
Thames Chase Community Forest	9,850	3	9.7	2,000	268
Watling Chase Community Forest	18,800	3	7.9	2,300	246
Total	452,649	26.4	6.5	65,820	8,067

Note: Area is total area designated as extent of Community Forest. Only a limited proportion of this will ever be covered by trees.

Other initiatives to create new woodland, for community benefits and to promote local development, include the Central Scotland Woodland, The National Forest (in the English Midlands), and the South West Forest. Information for these initiatives has not yet been compiled into a similar format to Table 5.7 for Community Forests.

6. Employment

The Forestry Commission undertakes an employment survey every 5 years. Tables 6.1 and 6.2 show estimates obtained from the 1998/9 employment survey. The report on the '1998/9 Forest Employment Survey' is available on the Forestry Commission website.

Table 6.1 Employment in forestry and primary wood processing industries 1998/9

full-time equivalents

Employer[1]	Great Britain	England	Scotland	Wales
Forestry Commission	3,909	1,331	2,011	567
Private woodland owners	8,425	4,242	3,196	987
Forestry companies and contractors	4,598	2,077	2,223	298
Wood processing industries	10,628	5,581	2,917	2,130
Other employers	1,972	1,508	347	117
Total	29,532	14,739	10,694	4,099

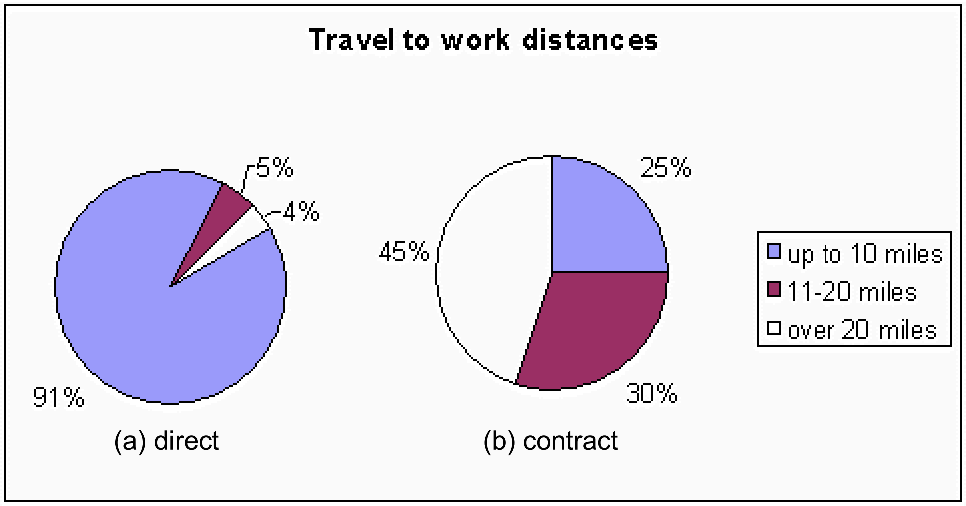
[1] Figures include work by contractors as well as employees

Table 6.2 Employment in forestry and primary wood processing by activity 1998/9

full-time equivalents

Activity	Great Britain	England	Scotland	Wales
Forest nurseries	624	421	201	2
Establishment	2,529	1,088	1,189	252
Maintenance	3,364	1,680	1,304	380
Harvesting	4,770	2,330	1,947	493
Road construction	407	181	179	47
Other forest	982	466	372	144
Total forest	12,676	6,166	5,192	1,318
Haulage	1,061	326	593	142
Processing	11,227	5,952	3,083	2,192
Other non-forest	4,568	2,295	1,826	447
Total non-forest	16,856	8,573	5,502	2,781
Total	29,532	14,739	10,694	4,099

Figure 6.1 Travel to work distances for (a) direct and (b) contract employees in 1998/9



Other studies have been commissioned to estimate the number of jobs in the wider economy (tourism, service industries, transport and so on) which depend on the existence of forestry and primary wood processing activities. Information on these studies is available from the Forestry Commission's website.

7. Forestry Commission and Forest Service

This section contains information on the activities of the Forestry Commission and the Forest Service, which do not fall clearly into the other parts of the publication.

Land use

Table 7.1 Land use of the Forestry Commission and Forest Service
The definitions used by FC and FS have varied over time, so there are some small inconsistencies in the comparisons.

thousands of hectares

Area as at 31 March	woodland	other land[1]	Total FC / FS land area
United Kingdom			
1980	944.8	390.2	1,335.0
1990	956.4	257.9	1,214.3
2000	886.1	242.7	1,128.7
2001[3]	861.5	267.4	1,128.9
England			
1980	252.1	50.9	303.0
1990	235.0	39.6	274.6
2000	216.4	43.8	260.1
2001[3]	207.6	50.8	258.5
Scotland			
1980	501.2	298.5	799.7
1990	532.8	190.6	723.5
2000	493.2	172.2	665.4
2001[3]	478.0	186.9	664.8
Wales			
1980	137.6	23.1	160.7
1990	130.0	11.5	141.5
2000	115.7	11.6	127.3
2001[3]	114.9	15.0	129.9
Northern Ireland			
1980[2]	53.9	17.6	71.6
1990	58.5	16.2	74.7
2000	60.8	15.0	75.8
2001	61.0	14.7	75.7

1 'Other land' includes agricultural land and areas of moorland and mountain.
2 area at the end of the 1979-80 planting season
3 the apparent fall in woodland cover in 2001 is due to a reclassification of Forestry Commission open land within the forest.

Acquisitions and disposals

Table 7.2 Land acquisitions and disposals

These tables include acquisitions and disposals of both forest and other non-forest land. Before 1980-81 figures were only published for forest land (either with trees or suitable for planting), and net of disposals, since the main focus was on the acquisition of land for planting. The average annual net acquisition of forest land over the period 1969-70 to 1978-79 was 9,919ha in Great Britain (186ha in England, 9,091ha in Scotland and 642ha in Wales). The disposals programme was started after 1979, and ended with the introduction of a moratorium on new large-scale disposals in 1997.

For some land, the FC has acquired only the leasehold, or the freehold has been acquired in a later year than the leasehold. In these cases the area is included when the leasehold is acquired.

hectares

Financial Year ending 31 March	UK	GB (FC)	England	Scotland	Wales	N Ireland (FS)
Acquisitions						
average 1979-80[1] to 1988-89	3,672	3,172	144	2,060	968	497
average 1989-90 to 1994-95	1,471	1,099	72	1,004	23	372
1995-96	103	29	0	29	0	74
1996-97	233	22	22	0	0	211
1997-98	636	501	199	310	0	135
1998-99	665	386	385	1	0	279
1999-00	306	212	212	0	0	94
2000-01[2]	1,088	1,012	696	316	0	76
Disposals						
average 1979-80[1] to 1988-89	14,344	14,293	2,800	9,391	2,102	48
average 1989-90 to 1994-95	9,945	9,756	1,491	6,846	1,419	189
1995-96	9,260	9,088	1,897	5,889	1,302	172
1996-97	10,997	10,842	2,068	6,874	1,900	155
1997-98	12,737	12,642	2,535	8,763	1,344	95
1998-99	5,859	5,754	1,083	2,534	2,137	105
1999-00	5,305	5,265	431	3,384	1,450	40
2000-01	6,030	5,868	714	3,391	1,763	162
Balance						
average 1979-80[1] to 1988-89	-10,672	-11,122	-2,656	-7,332	-1,134	449
average 1989-90 to 1994-95	-8,474	-8,657	-1,419	-5,842	-1,397	183
1995-96	-9,157	-9,059	-1,897	-5,860	-1,302	-98
1996-97	-10,764	-10,820	-2,046	-6,874	-1,900	56
1997-98	-12,101	-12,141	-2,336	-8,453	-1,344	40
1998-99	-5,194	-5,368	-698	-2,533	-2,137	174
1999-00	-4,999	-5,053	-219	-3,384	-1,450	54
2000-01	-4,942	-4,856	-18	-3,075	-1,763	-86

[1] for 1979-80 figures were published for forest land only (see text for explanation)
[2] 2000-01 figures are the acquisitions of plantation and plantable land

Scope and Definitions

Scope

This publication covers a wide range of forestry aspects in the UK, drawing on statistics produced by the Forestry Commission (FC) for England, Scotland and Wales, statistics from the Northern Ireland Forest Service (FS) and other sources. Information on FC and FS woodland is available from the management of their estates; information on private sector woodland comes from administration of grants and licenses, and in Great Britain is supplemented by various FC-run surveys of the forestry and primary wood processing industries. There are no comparable surveys covering Northern Ireland, so in some cases information for NI has been taken from estimates based on local knowledge, and in some cases only data for the FS estate are shown.

Woodland

The definition of woodland in UK forestry statistics is land under stands of trees with a canopy cover of at least 20% (or having the potential to achieve this), including integral open space, and including felled areas that are awaiting restocking. A tree is defined by its species; a list of tree species in British woodland is given in Appendix D. There is no minimum height for trees to form a woodland at maturity, so the definition includes woodland scrub but not areas of gorse, *Rhododendron*, etc., outside woodland. This is a different definition than that used internationally which is based on 10% canopy cover and a minimum height at maturity of 5m, but the two definitions are estimated to give similar areas of woodland in UK.

There is no minimum size for a woodland (the National Inventory of Woodland and Trees maps all areas down to 2.0 ha, but sample-based information is also collected for smaller woods, small groups of trees and individual trees). Woodland includes native and non-native trees; semi-natural and plantation areas. Woodland habitat types are not currently differentiated in these statistics.

Integral open space is defined differently in the data sources used in this publication for woodland managed by Forest Enterprise and woodland owned by others (Tables 1.1 and 1.3). Forest Enterprise data now come from a GIS where mappable open space is excluded from the total. Non-FE woodland (from the National Inventory of Woods and Trees, NIWT) includes open areas less than1 ha as integral open space.

Forestry Activity

Statistics for economic aspects of forestry and primary wood processing relate to the forestry-based activities involved. So in a business with several different activities (say forestry, construction and property management), it is only the forestry part of the business which contributes to the figures. Support for forestry activities (such as office workers) is however included. The sampling frame of businesses involved in forestry and primary wood processing is mostly obtained from lists of members of trade associations. Measures are taken to avoid double counting where businesses are members of more than one organisation, but there may be a small level of undercounting for businesses which are not members of any organisation.

Business statistics in the UK are generally produced using a different classification system, where the whole of a business is classified according to its largest activity. This means that estimates in this publication are not directly comparable with the Office for National Statistics (ONS)'s Annual Business Inquiry, for example.

National Statistics
Official statistics bearing the National Statistics logo are produced to high professional standards set out in the National Statistics Code of Practice. They undergo regular quality assurance reviews to ensure that they meet customer needs. They are produced free from political interference.

The main statistics outputs produced by the Forestry Commission were approved for inclusion in National Statistics from August 2001. National Statistics outputs include British Timber Statistics (September 2001), Forestry Commission Facts & Figures (October 2001) and this publication Forestry Statistics (November 2001). For some surveys with a long periodicity (for example the Forest Employment Survey), it may be several years before they can be considered for designation as National Statistics.

Quality of Estimates
There are many components of quality, and it is difficult and expensive to measure many of them regularly. Some indications of the quality of the estimates in this publication are given under the headings below.

Business Surveys
Frame
The frame for the business surveys here includes businesses and individuals that belong to one or more of the following associations; Forestry Contracting Association (FCA), Association of Professional Foresters (APF), UK Forest Products Association (UKFPA) or Timber Growers Association (TGA). The frame population size is reduced to account for businesses that are members of more than one association. Some businesses are identified from other sources such as FC Forest Districts. There are probably some businesses involved in forestry which are not members of any of these associations or otherwise identified, and these will not contribute to statistics. No exercise has been undertaken to try to determine the extent of this underestimation.

Non-response
Some businesses do not respond to surveys, so some compensation for their non-response is needed in compiling the statistics. If there are differences between the characteristics of businesses that respond and businesses that do not, this can lead to a bias in the results. This bias is minimised by stratifying into groups (for example by size) that might be expected to have similar characteristics, but there have been no studies to estimate the bias in the context of these surveys.

Sampling error
Sampling errors arise from taking a sample rather than surveying all the businesses. Many of the figures here are from censuses where all businesses are sampled, and in these cases the sampling error is zero. In some cases however, there are sampling errors, and these are referred to in the text.

Visitor Surveys
Frame
There is no frame for visitor surveys (that is, there is no list of visitors from which to select a sample). Most visitor surveys aim to select a representative set of sample periods, and interview the next group to pass after completing an interview. Some of the information about visitors comes from household surveys (for example the UK Day Visits Survey) that use a recognised sampling frame.

Forestry and primary wood processing businesses

Number of establishments in the primary wood processing industries

Table B.1 shows the number of primary wood processors, according to the sampling frames used for Forestry Commission surveys (and Forest Service data for Northern Ireland). The figures in Table B.1 do not correspond with the VAT registration information given in Figures B.1-B.4. They count establishments (sites) rather than businesses and include those that do not need to register for VAT. They also have a different basis for classification, so some businesses which are excluded from Figs B.1-B.4 because of their VAT classification are included in this table (typically businesses where primary wood processing is a small part of their total activity), and some businesses included in Figs B.1-B.4 are excluded here (usually because they do not use British timber).

Table B.1 Number of establishments in the primary wood processing industries using UK-grown roundwood.

Year	Sawmills	Pulp and paper mills	Wood-based panel mills	Round fencing manufacturers (GB only)	UK total[2]
1990	336[1]	4	11	..	..
1995	467	4	10	132	613
1996	422	4	10	120	556
1997	399	4	10	105	518
1998	379	4	10	102	495
1999	354	4	9	94	461
2000	315	4	9	90	418

[1] in 1990 excludes mills processing 1000m^3 underbark or less per year
[2] A single mill may be recorded twice, as a sawmill and a round fencing manufacturer.

VAT-registered businesses involved in forestry and primary wood processing

The Standard Industrial Classification (SIC) is the UK's classification of business activities. The main heading including forestry businesses is 020: Forestry and logging, and the main headings for primary wood processing are 201: Sawmilling and planing of wood, impregnation of wood; 202: Manufacture of veneer sheets; manufacture of plywood, laminboard, particleboard, fibreboard and other panels and boards; and part of 211: Manufacture of pulp, paper and paperboard. All these headings potentially include businesses *not* traditionally regarded as forestry or primary wood processing, and some businesses which are traditionally included in forestry or primary wood processing are excluded as they are classified to other headings of the SIC.

The following charts (using data from *Business start-ups and closures: VAT registrations and deregistrations 1980-99* published by the Small Business Service of the Department for Education and Employment) show start-ups and closures and the size of the business population in these classifications. Because businesses with turnover below the VAT threshold are not required to register, many of the smallest businesses are not included in these figures. The figures are also not restricted to businesses using domestically produced timber but include businesses wholly using imports.

Figure B.1 Total number of businesses and VAT registrations and deregistrations of businesses classified to SIC 020: Forestry and logging. Values have been rounded to the nearest 5 businesses.

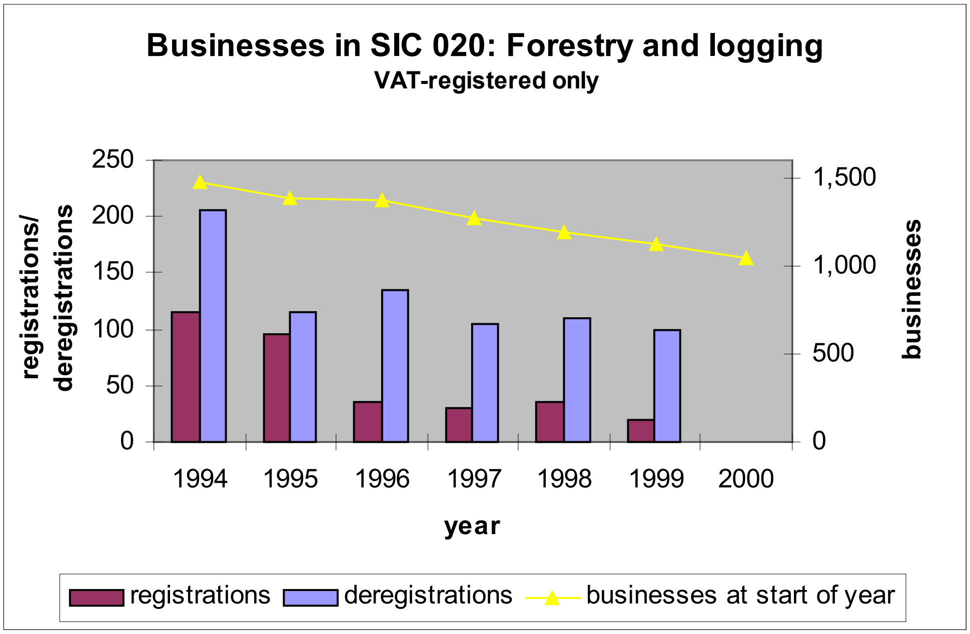


Figure B.2 Total number of businesses and VAT registrations and deregistrations of businesses classified to SIC 201: Sawmilling and planing of wood, impregnation of wood. Values have been rounded to the nearest 5 businesses.

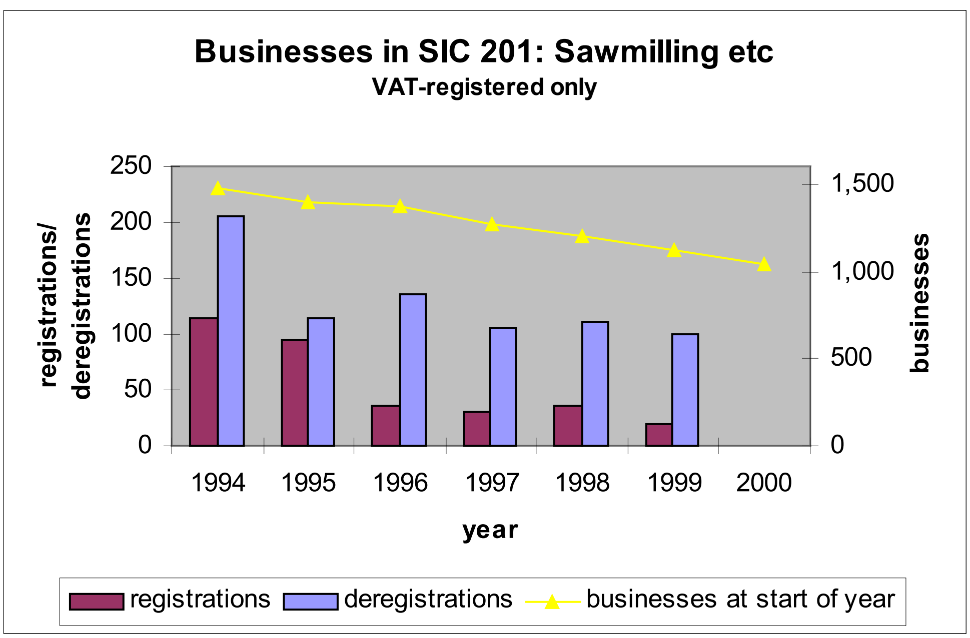


Figure B.3 Total number of businesses and VAT registrations and deregistrations of businesses classified to SIC 202: Manufacture of veneer sheets; manufacture of plywood, laminboard, particleboard, fibreboard and other panels and boards. Values have been rounded to the nearest 5 businesses.

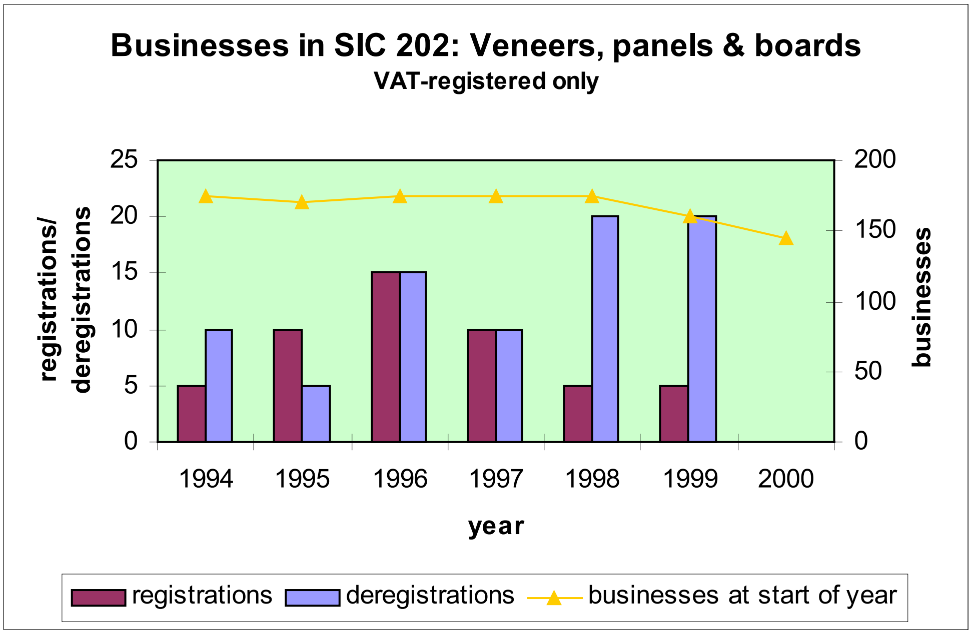
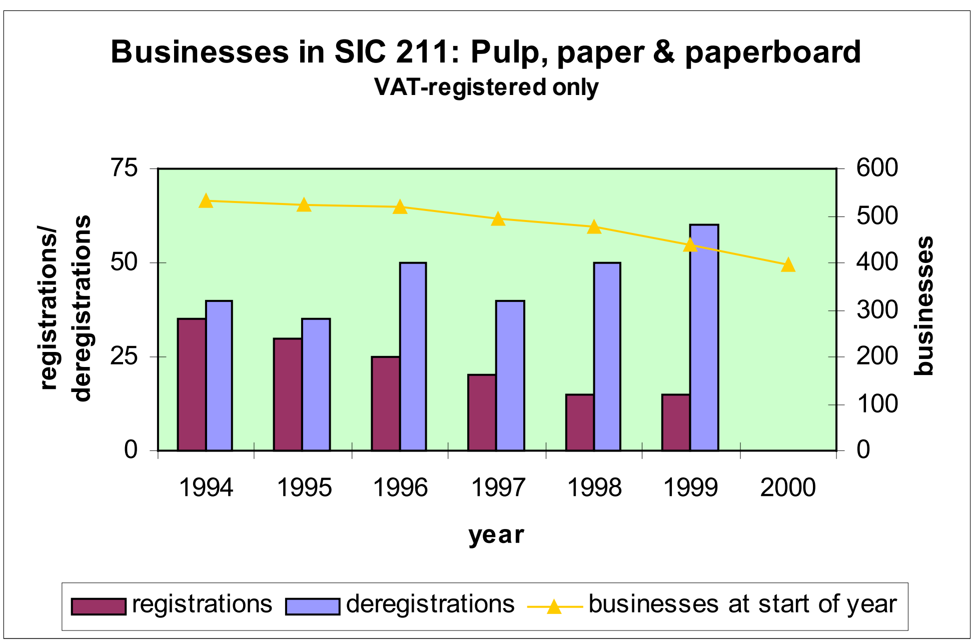


Figure B.4 Total number of businesses and VAT registrations and deregistrations of businesses classified to SIC 211: Manufacture of pulp, paper and paperboard. Note that only integrated pulp and paper mills are normally included in primary wood processing. Values have been rounded to the nearest 5 businesses.



Glossary and conversion factors

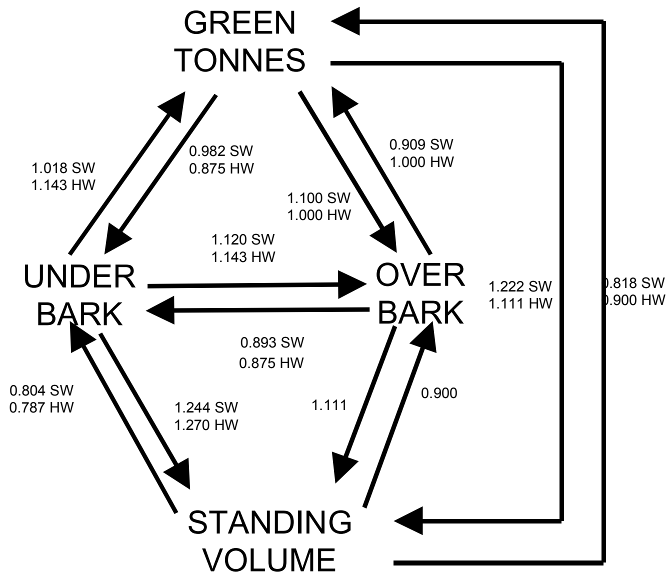
ancient woodland	woodland which has been in continuous existence since 1600 (1750 in Scotland)
ASNW	ancient semi-natural woodland
ASSI	area of special scientific interest – the Northern Ireland equivalent of SSSI
broadleaf	trees which do not have needles, and which do not have cones (a few, such as alder, have cone-like structures for their seeds which are not true cones).
cement bonded particleboard	sheet material manufactured under pressure, based on wood and other vegetable particles bound with hydraulic cement and possibly containing additives
chipboard	(see particleboard)
coated	A term applied to any type of paper whose surface has been treated in such a way as to apply a coating in order to enhance its finish characteristics. The coating consists of a layer of coating materials such as clay, various pigments and/or special substances in combination with adhesives of some type, varnish or lacquer. The coating is used to improve the surface characteristic of the paper, e.g., opacity, smoothness, colour, printing quality.
conifer	trees with needles and cones.
coppice	trees which are cut near ground level (or sometimes higher in which case they are *pollards*), causing them to produce many small shoots. These shoots are harvested every few years at a relatively early age for products such as staves, fencing, fuel and charcoal. “coppice with standards” includes scattered trees that are left to grow as normal (“standards”).
co-products (sawmill)	materials including wood chips, sawdust and bark which arise during the conversion of logs to sawn timber. Most used as inputs to other wood processing industries, or sold for other uses. Formerly called sawmill residues.
establishment	The first five to ten years or formative period that ends once young trees are of sufficient size that, given adequate protection, they are likely to survive at the required stocking.
FAO	United Nations Food and Agriculture Organisation
FC	Forestry Commission: the government department responsible for forestry matters in GB. The responsibility for Forestry is devolved to ministers in the Scottish Parliament and Welsh Assembly, but the executive functions are exercised throughout GB by the FC.
FE	Forest Enterprise: the agency of the Forestry Commission responsible for managing the FC forest estate
fibreboard	Panel material with thickness equal to or greater than 1.5mm, manufactured from lignocellulosic fibres with application of heat and/or pressure. The bond is derived either from the felting of the fibres and their inherent adhesive properties or from a synthetic binder added to the fibres.

FNR	Forest Nature Reserve
FRA	Forest Resources Assessment
FS	Northern Ireland Forest Service (an agency of the Department for Agriculture and Rural Development)
GB	Great Britain: England, Scotland and Wales
GIS	Geographic Information System
green tonne	Weight measurement of timber fresh felled before any natural or artificial drying has occurred.
ha	hectare = 2.471 acres
hardwood	The wood of broadleaved trees, a term sometimes used for the broadleaved trees themselves
high forest	trees capable of growing to be suitable for timber production (compare with *coppice*)
LNR	Local Nature Reserve
MDF (medium-density fibreboard)	Wood fibreboard made by a dry process in which the primary bond is derived from a bonding agent, and having a density usually exceeding 600 kg/m3.
native species	species that have arrived and inhabited an area naturally, without deliberate assistance by man. For trees and shrubs in the UK usually taken to mean those present after post-glacial recolonisation and before historic times. Some species are only native in particular regions –hence locally native.
natural regeneration	regeneration of woodland by natural means, i.e. without sowing or planting
new planting	establishing woodland on ground that was not woodland in the recent past.
NGO	non-government organisation(s)
NI	Northern Ireland
NIWT	National Inventory of Woodland and Trees in the Countryside
NNR	National Nature Reserve
NT	National Trust
NTS	National Trust for Scotland
ONS	Office for National Statistics
origin	the original natural genetic source.
OSB (oriented strand board)	Multi-layered board made from strands of wood of a predetermined shape and thickness together with a binder. The strands in the external layers are aligned and parallel to the board length or width.
OSNW	other (not ancient) semi-natural woodland
overbark	the volume of wood including the bark. Can be either standing volume or felled volume.
particleboard (also chipboard)	Panel material manufactured under pressure and heat from particles of wood (wood flakes, chips, shavings, sawdust) in particle form, with the addition of an adhesive.
PAWS	plantation on an ancient woodland site

plywood	wood-based panel consisting of an assembly of layers bonded together with the direction of the grain in adjacent layers, usually at right angles. (Not made in the UK).
private	Refers to non-FC and non-FS, e.g. (private sector/ private woodland or private owners), may include other public sector organisations
pulp	A fibrous material produced by mechanically or chemically reducing wood into their component parts from which pulp, paper and paperboard sheets are formed after proper slushing and treatment or used for dissolving purposes (dissolving pulp or chemical cellulose) to make rayon, plastics, and other synthetic products. Sometimes called wood pulp.
recovered	either industrial process by-products (e.g. offcuts or fines from a board manufacturing mill, furniture factory, joinery or construction) or from post-consumer waste wood (e.g. pallets, construction waste) after the stage of recovery or reclamation for purposes of recycling.
residues	an older term that was used to describe saw dust, wood chips, slab wood, offcuts, bark etc. that arise from sawmilling and wood processing. The term is deprecated. See co-products.
restocking	The replanting of an area after trees are removed.
roundwood	logs and small branches (small roundwood)
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
sawlogs	material of at least 14cm top diameter that is destined to be sawn into planks or boards.
sawnwood	sawn timber – timber that has been cut into planks or boards from logs.
scrub	area of poorly formed trees or bushes unsuitable for conversion to timber
semi-natural	woodland with natural characteristics (predominantly native species of trees, ground plants and animals) where wood production is not a primary objective; this term is used rather than natural because the woodland may have originally been planted or have been managed for wood production in the past.
softwood	the wood of coniferous trees or conifers themselves.
SPA	Special Protection Area
SSSI	site of special scientific interest (the equivalent designation in Northern Ireland is ASSI)
standing volume	measurement of quantity before trees are felled. Usually expressed as cubic metres overbark standing.

thinning	A proportion of stems removed in order to give the best stems space and light to grow into a more valuable crop. This is usually carried out some time after canopy closure and may be repeated at intervals. It is a necessary operation in the production of quality timber. A temporary reduction in standing volume will result.
UK	United Kingdom : Great Britain and Northern Ireland
UNECE	United Nations Economic Commission for Europe, responsible for the Temperate and Boreal Forest Resource Assessment and for compiling international statistics on production and trade of wood products
underbark	the volume of wood excluding the bark
veneer	A thin layer of wood, produced by peeling or slicing, used for decorative purposes. Veneers are usually applied to less expensive or less attractive substitutes including solid timber, woodbased sheet materials etc.
WGS	Woodland Grant Scheme
woodland	land under stands of trees with a canopy cover of at least 20% (25% in Northern Ireland), or having the potential to achieve this, including integral open space, and including felled areas that are awaiting restocking
wrme	wood raw material equivalent – the volume of trees required to produce a wood product. Can be measured underbark or overbark.

Figure C.1: Conversion factors between cubic metres and green tonnes



A revised set of factors that indicates the volume of standing tree crop (wood raw material equivalent - WRME) needed to produce one unit of a final product was published in 'Revised Forecasts of the Supply and Demand for Wood in the UK' by Adrian Whiteman (FC Technical Paper 19, 1996). The factor for paper products includes an allowance for the proportion of recycled paper manufactured in the UK. The factors are shown below:

Table C.1 Conversion factors to WRME (standing volume)

Product	Measurement Unit	Factor to WRME
Fuelwood and charcoal	m^3	1.25
Other industrial roundwood	m^3	1.25
Softwood sawnwood	m^3	2.13
Hardwood sawnwood	m^3	2.09
Newsprint	tonnes	)
Printing and writing paper	tonnes	) 4.30
Other paper and paperboard	tonnes	)
Plywood	m^3	3.67
Fibreboard	m^3	2.35
Particleboard	m^3	1.61
Veneer sheets	m^3	3.67

Notes 1. The charcoal conversion factor is for volume to volume. About 7.8 m^3 of wood is required to make one tonne of charcoal, but one tonne of charcoal is equal to about 6 m^3 in volume.
2. The conversion factor for Oriented Strand Board (OSB) is higher than for other types of particleboard, and the average for particleboard has been constructed by assuming that OSB is 25% of the total.

These factors were not used for Tables 3.1 and 3.2, which used an older set of factors to convert to wrme underbark.

Appendix D

Tree species in British woodland

As reported for Forest Resources Assessment 2000

Main species		***Other species***	
Native (indigenous) tree species occurring on forest and other wooded land			
Scots pine	*Pinus sylvestris*	Yew	*Taxus baccata*
Oak - sessile	*Quercus robur*	Wild cherry (gean)	*Prunus avium*
Oak - pedunculate	*Quercus petraea*	Bird cherry	*Prunus padus*
Ash	*Fraxinus excelsior*	Whitebeam	*Sorbus aria*
Downy Birch	*Betula pubescens*	Elm	*Ulmus* spp
Silver birch	*Betula pendula*	Lime	*Tilia* spp
Beech	*Fagus sylvatica*	Field maple	*Acer campestre*
Rowan	*Sorbus aucuparia*	Willow	*Salix* spp
Holly	*Ilex aquifolium*	Poplar	*Populus* spp
Hawthorn	*Crataegus monogyna*	Aspen	*Populus tremula*
Common alder	*Alnus glutinosa*	Juniper	*Juniperis communis*
Hazel	*Corylus avellana*	Hornbeam	*Carpinus betulus*
Elder	*Sambucus nigra*	Crab apple	*Malus domestica*
		Strawberry tree	*Arbutus unedo*
		Service tree	*Sorbus torminalis*
		Other *Sorbus*	*Sorbus* spp
		Black poplar	*Populus nigra*
Introduced tree species on forest and other wooded land			
Sitka spruce	*Picea sitchensis*	Other pines	*Pinus* spp
Lodgepole pine	*Pinus contorta*	Other spruces	*Picea* spp
Larches	*Larix* spp	Western red cedar	*Thuja plicata*
Douglas fir	*Pseudotsuga menziesii*	Cypresses	*Chamaecyparis* spp
Sycamore	*Acer pseudoplatanus*	Grand fir	*Abies grandis*
Norway spruce	*Picea abies*	Noble fir	*Abies procera*
Corsican pine	*Pinus nigra* var *maritima*	Silver fir	*Abies alba*
		Japanese cedar	*Cryptomeria japonica*
Western hemlock	*Tsuga heterophylla*	Coast redwood	*Sequoia sempervirens*
		Wellingtonia	*Sequoiadendron giganteum*
		Cedars	*Cedrus* spp
		Monkey puzzle	*Araucaria araucana*
		Other oaks	*Quercus* spp
		Roble	*Nothofagus obliqua*
		Raoul	*Nothofagus nervosa*
		Other alders	*Alnus* spp
		Filbert	*Corylus maxima*
		Horse chestnut	*Aesculus hippocastanum*
		Sweet chestnut	*Castanea sativa*
		English walnut	*Juglans regia*
		Norway maple	*Acer platanoides*
		Other maples	*Acer* spp
		Tree of heaven	*Ailanthus altissima*
		Balsam poplars	*Populus* spp
		Other willows	*Salix* spp
		London plane	*Platanus × hispanica*
		Peach	*Prunus persica*
		Almond	*Prunus dulcis*
		Other cherries	*Prunus* spp
		Apple	*Malus domestica*

Appendix E

Statistics – Useful addresses and web pages

Forestry Commission
231 Corstorphine Road
Edinburgh
EH12 7AT
www.forestry.gov.uk/statistics

Timber Section
UN/ECE Trade Division
Palais des Nations
CH - 1211 GENEVA 10
Switzerland
www.unece.org/trade/timber/

Forest Service
Dundonald House
Upper Newtownards Road
Belfast
BT4 3SB
www.dani.gov.uk/core/forestry

Forestry Department
Food and Agriculture Organization of the United Nations
Viale delle Terme di Caracalla
00100 Rome
Italy
www.fao.org/forestry/

Office for National Statistics
1 Drummond Gate
London
SW1V 2QQ
www.statistics.gov.uk

European Forest Institute
Torikatu 34
FIN-80100 Joensuu
Finland
www.efi.fi

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GB: New forecast of Softwood availability; S Smith, J Gilbert & R Coppock, (2001)
National Inventory of Woodland & Trees 1995-1999; S Smith & J Gilbert, (2001)
Public Opinion of Forestry 2001; B Heggie, (2001)
Sawmill Survey 2000; V Balachandran & A Henderson, (2001)

Forest Service Annual Report 2000-2001; Forest Service, (2001)

Other publications:
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Overseas Trade Statistics (OTS Q, Fourth Quarter 2000 and OTS 1, December 2000); HM Customs and Excise, published by, and available from, The Stationery Office

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State of Worlds Forests 2001, Food and Agriculture Organization of the United Nations

1998 UK Leisure Day Visits Survey Technical Report, for a consortium of national agencies responsible for recreation and tourism in the UK; National Centre for Social Research.