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

ECONOMICS AND STATISTICS
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INTRODUCTION

Forestry Statistics 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 includes some 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 is provided by the UK Indicators of Sustainable Forestry, which were published in October 2002 and updated on the website www.forestry.gov.uk/sfindicators.

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.

CONTENTS

Notes

- Figures in the tables are individually rounded, so the constituent items may not sum to the totals given.
- .. denotes data not available
- In this report 'woodland' (defined in the glossary) refers to woods and forests of all sizes.
- In the United Kingdom 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.
- Most public sector woodland is owned or managed by the Forestry Commission (FC) or, in Northern Ireland, the Forest Service (FS). Woodland owned by local authorities, the Ministry of Defence, and other public sector bodies is included in 'non-FC/FS woodland'.

1. WOODLAND AREA AND PLANTING

This section contains information about the extent of woodland in the United Kingdom and compares the United Kingdom with other countries.

Area of woodland: 2004

The area of woodland in the UK at 31 March 2004 is 2.8 million hectares. Of this total, 1.3 million hectares (47%) is in Scotland, 1.1 million hectares (40%) is in England, 0.3 million hectares (10%) is in Wales and the remaining 0.1 million hectares (3%) is in Northern Ireland.

Table 1.1 Area of woodland by ownership and forest type at 31 March 2004

thousands of hectares

		Conifers	Broadleaves[1]	Total
United Kingdom				
	FC/FS woodland	749	93	**842**
	Non-FC/FS woodland	902	1 074	**1 976**
	Total	1 651	1 166	**2 817**
England				
	FC woodland	154	52	**205**
	Non-FC woodland[2]	217	693	**910**
	Total	370	745	**1 115**
Scotland				
	FC woodland	440	25	**465**
	Non-FC woodland[2]	611	254	**865**
	Total	1 051	280	**1 330**
Wales				
	FC woodland	98	11	**110**
	Non-FC woodland[2]	64	112	**176**
	Total	162	123	**286**
Northern Ireland				
	FS woodland	58	4	**62**
	Non-FS woodland	10	14	**24**
	Total	68	18	**86**

Source: Forestry Commission, Forest Service and 1995–99 National Inventory of Woodland and Trees.

Notes

1 Broadleaves include coppice and coppice with standards.

2 Non-FC woodland figures for England, Scotland and Wales are based on the 1995–99 National Inventory of Woodland and Trees (NIWT) and adjusted for new planting and sales of FC woodland, but at present no adjustment is made for woodland converted to another land-use. They include non-FC publicly owned woodland. The NIWT did not include Northern Ireland.

Area of woodland: changes over time

The information for Great Britain in Table 1.2 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 (0.8 hectares) were not included.
1947 Woodlands with an area of less than 5 acres (2 hectares) were not included.
1965 Woodlands with an area of less than 1 acre (0.4 hectares) were not included.
1980 Woodlands with an area of less than 0.25 hectares were not included.
1995–99 Woodlands with an area of 0.1–2 hectares were included on a sample basis; some woodland missing from earlier surveys was included.

The information for Northern Ireland comes from a variety of sources.

The 2.8 million hectares of woodland in the UK represents 11.6% of the total land area, although this percentage ranges from 6.3% in Northern Ireland to 17.0% in Scotland.

Table 1.2 Woodland area in the United Kingdom

Year	UK		England		Scotland		Wales		N Ireland	
	Woodland Area (000 ha)	% Woodland Area[1]	Woodland Area (000 ha)	% Woodland Area[1]	Woodland Area (000 ha)	% Woodland Area[1]	Woodland Area (000 ha)	% Woodland Area[1]	Woodland Area (000 ha)	% Woodland Area[1]
1086[2]				≈15						
c1350				≈10						
late 17thC				≈8		≈4[3]				≈1.5[4]
1905	1 140	4.7	681	5.2	351	4.5	88	4.2	15	1.1[4]
1924	1 211	5.0	660	5.1	435	5.6	103	5.0	13	1.0
1947	1 419	5.8	755	5.8	513	6.6	128	6.2	23	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	2 746	11.3	1 097	8.4	1 281	16.4	287	13.8	81	6.0
2004[6]	2 817	11.6	1 115	8.6	1 330	17.0	286	13.8	86	6.3

Notes

[1] Percentage of the total surface area including inland water. The total surface areas, including inland water, taken from the Annual Abstract of Statistics 2002 (published by the Office for National Statistics) are:

United Kingdom	24 291 000 hectares
England	13 042 000 hectares
Scotland	7 813 000 hectares
Wales	2 078 000 hectares
Northern Ireland	1 358 000 hectares

[2] Estimated from information in the Domesday Survey of England.
[3] *c.*1750, from the Roy maps.
[4] Per cent is for all Ireland, 17thC and for Ulster 1908.
[5] 1939–40 Census.
[6] Great Britain estimates for 2004 are based on data obtained from the 1995–99 National Inventory of Woodland and Trees, and adjusted for new planting and sales of FC woodland, but at present no adjustment is made for woodland converted to another land-use.

The areas in Table 1.3 for non-FC woodland in GB have been projected forward from the final results of the 1995–99 National Inventory of Woodland and Trees published in 2001.

The Forestry Commission/Forest Service owned or managed 30% of the total woodland area in the UK in 2004. However, this proportion ranged from 18% of the woodland area in England to 72% in Northern Ireland.

Table 1.3 **Area of woodland in the United Kingdom by ownership**

thousands of hectares

Year	UK	England	Scotland	Wales	N Ireland
Forestry Commission/Forest Service					
2000	886	216	493	116	61
2001	861[1]	208[1]	478[1]	115[1]	61
2002	855	206	475	113	61
2003	848	207	470	110	61
2004	842	205	465	110	62
Non-FC/FS woodland					
2000	1 907	886	826	173	22
2001	1 929	893	839	175	22
2002	1 945	898	849	175	23
2003	1 960	904	857	176	24
2004	1 976	910	865	176	24
Total woodland					
2000	2 793	1 103	1 319	289	83
2001	2 790	1 100	1 317	289	83
2002	2 800	1 104	1 324	288	84
2003	2 807	1 110	1 327	285	85
2004	2 817	1 115	1 330	286	86

Source: Forestry Commission, Forest Service and 1995–99 National Inventory of Woodland and Trees.

Notes

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

National Inventory of Woodland and Trees (GB)

The following tables and charts present information for Great Britain, obtained from the 1995–99 National Inventory of Woodland and Trees (not National Statistics).

Table 1.4 shows that 44% of the GB woodland area in 1995–99 was personally owned. A further 35% was owned or managed by the Forestry Commission.

Table 1.4 **Area of woodland[1] in GB by ownership type**

thousands of hectares

Ownership type	GB	England	Scotland	Wales
Forestry Commission	882	223	539	120
Other public body (not FC)	45	27	13	5
Local authority	80	61	11	8
Private forestry or timber business	41	7	28	6
Other private business	273	147	101	26
Personal	1 110	481	533	96
Charity	90	68	14	8
Community ownership or common land	5	4	0	1
Unclassified	18	4	13	1
Total	**2 545**	**1 022**	**1 253**	**270**

Source: 1995–99 National Inventory of Woodland and Trees (not National Statistics).

Notes

1 Excludes woods of less than 2 hectares.

Over one half (53%) of the total woodland area in Great Britain is made up of conifers although this proportion ranges from 31% in England to 72% in Scotland.

Sitka spruce accounted for almost one half (49%) of the conifer area, followed by Scots pine (16%) and Lodgepole pine (10%). Amongst broadleaf species, Oak covered 23% of the broadleaf area, followed by Birch (16%) and Ash (13%).

Table 1.5 Area of woodland in GB by main tree species

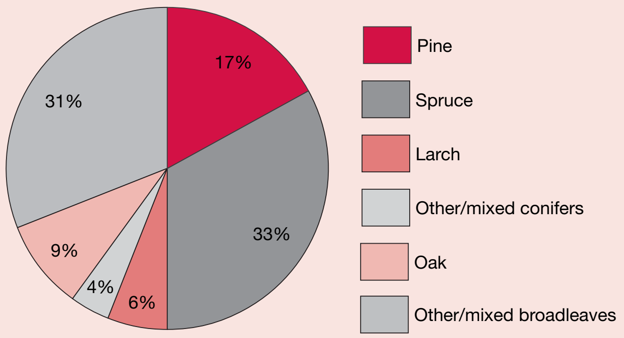
thousands of hectares

Species	GB	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
Japanese/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	**1 406**	**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**

Source: 1995–99 National Inventory of Woodland and Trees (not National Statistics).

Notes
[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



Source: 1995–99 National Inventory of Woodland and Trees (not National Statistics).

Two thirds of woodland area in Great Britain consists of trees planted after 1950. Conifers tend to have a shorter rotation, with 87% of conifers but just 39% of broadleaves planted after 1950.

Table 1.6 Area of woodland[1] in GB by planting year classes[2]

thousands of hectares

Planting year	GB	England	Scotland	Wales
Conifers				
Pre-1861	6	2	4	0
1861–1900	14	5	9	0
1901–1910	3	1	1	0
1911–1920	13	6	7	0
1921–1930	22	7	13	1
1931–1940	37	16	17	4
1941–1950	89	36	43	10
1951–1960	228	67	129	33
1961–1970	314	74	203	38
1971–1980	317	59	234	24
1981–1990	273	36	215	21
1991–	89	32	41	17
Total	**1 406**	**340**	**916**	**149**
Broadleaves				
Pre-1861	46	34	12	1
1861–1900	144	89	31	24
1901–1910	27	19	5	4
1911–1920	75	55	11	9
1921–1930	85	60	16	9
1931–1940	91	56	15	20
1941–1950	126	85	25	16
1951–1960	121	80	27	15
1961–1970	90	59	22	8
1971–1980	63	42	17	4
1981–1990	52	33	15	4
1991–	50	36	11	3
Total	**971**	**648**	**206**	**118**
Total				
Pre-1861	52	35	16	1
1861–1900	157	94	40	24
1901–1910	30	21	6	4
1911–1920	88	61	18	9
1921–1930	107	67	29	10
1931–1940	128	72	31	25
1941–1950	215	121	69	26
1951–1960	350	146	156	47
1961–1970	404	133	225	46
1971–1980	380	101	251	28
1981–1990	325	70	230	26
1991–	140	68	52	20
Total	**2 377**	**988**	**1 123**	**266**

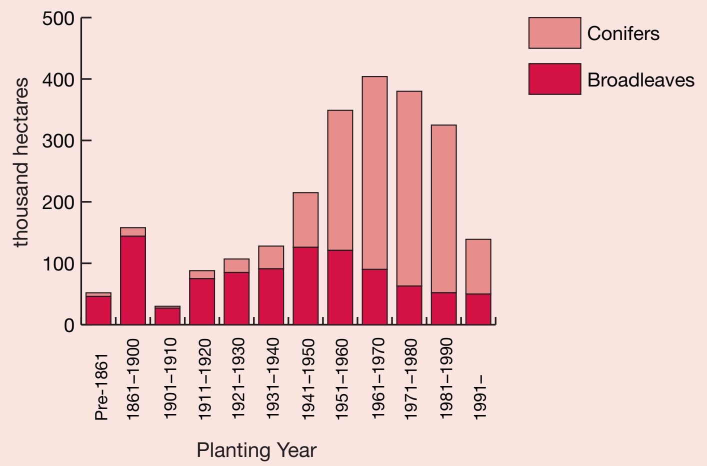
Source: 1995–99 National Inventory of Woodland and Trees (not National Statistics).

Notes

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



Source: 1995–99 National Inventory of Woodland and Trees (not National Statistics).

There are estimated to be around 3814 million trees in Great Britain. The majority of these (56%) are in Scotland, with a further 34% in England and the remainder in Wales.

Table 1.7 Number of trees in GB

millions of trees

	GB	England	Scotland	Wales
Conifers (woods over 2 ha)	2 667	523	1 892	252
Broadleaves (woods over 2 ha)	857	577	188	92
Small woods and other	290	179	73	38
All trees	**3 814**	**1 279**	**2 154**	**382**

Source: 1995–99 National Inventory of Woodland and Trees (not National Statistics).

Area of farm woodland

Agricultural Censuses run by Defra (Department for Environment, Food and Rural Affairs) and the devolved administrations collect annual information on the land-use of farms. The table below shows the area of woodland on farms.

The area of farm woodland in the UK has increased, from 425.1 thousand hectares in 1994 to 544.3 thousand hectares in 2003. Around one half (48%) of all farm woodland is in England, with a further 43% in Scotland, 7% in Wales and 2% in Northern Ireland.

Table 1.8 Area of farm woodland, 1994 to 2003[1]

thousands of hectares

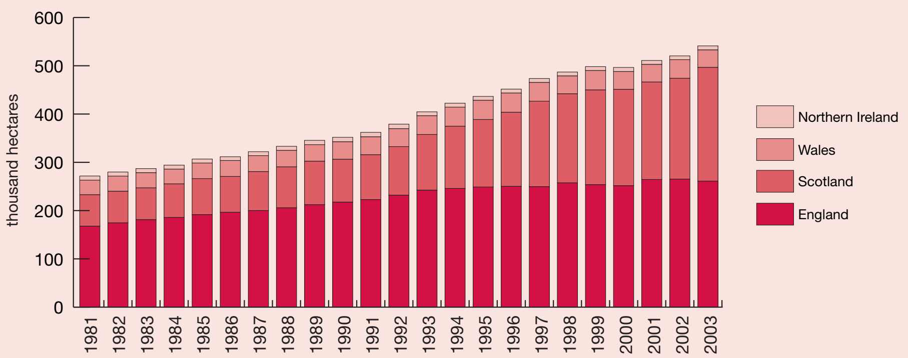
Year	UK	England	Scotland	Wales	N Ireland
1994	425.1	247.5	129.6	39.8	8.2
1995	439.2	250.6	140.4	40.1	8.1
1996	454.4	251.8	154.3	40.1	8.2
1997	476.4	251.2	178.1	38.9	8.2
1998	490.0	259.1	185.5	37.2	8.2
1999	501.2	255.4	197.2	40.4	8.2
2000	499.5	253.2	200.6	37.1	8.6
2001	513.9	266.2	202.9	36.7	8.2
2002	523.6	267.0	209.9	38.8	7.9
2003	544.3	262.9	236.6	36.5	8.4

Source: June Agricultural Census – Defra, SEERAD, WAG, DARDNI.

Notes

1 Some figures for 2000–2002 have been revised to reflect revisions made by Defra and the devolved administrations.

Figure 1.3 Area of farm woodland, 1981–2003



Source: June Agricultural Census – Defra, SEERAD, WAG, DARDNI.

Area of woodland: international comparisons

The forest areas in Table 1.9 are mostly estimates by the Food and Agriculture Organisation (FAO) published in FAO's *State of Worlds Forests 2003* (not a National Statistics publication).

At 11.6% forest cover (in 2000), the UK is one of the least densely forested countries in Europe.

Table 1.9 **Forest cover: international comparisons – 2000**

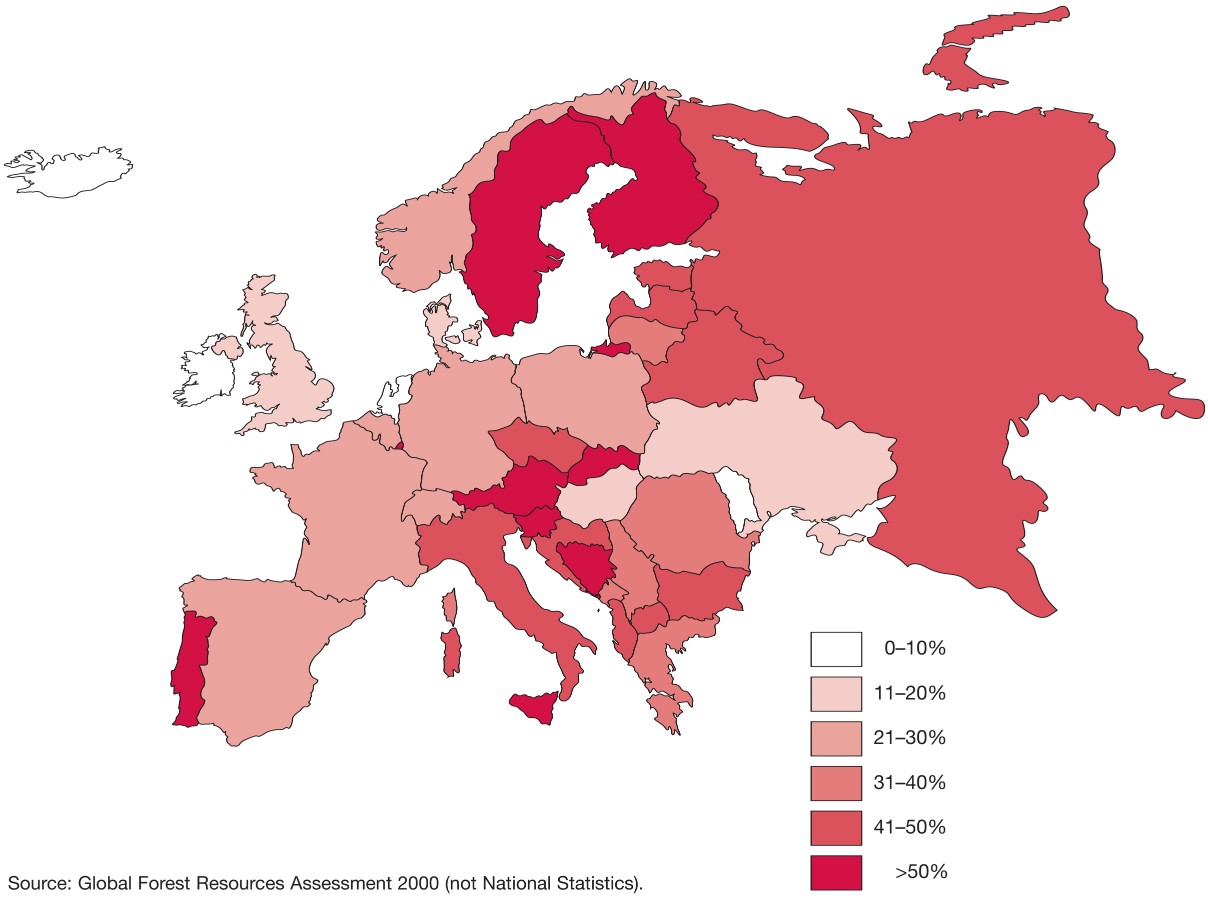
Country	Forest area (thousand ha)	Total land area (thousand ha)	Forest as % of land area
United Kingdom	2 794	24 160	11.6%
Austria	3 886	8 273	47.0%
Belgium/Luxembourg	728	3 282	22.2%
Denmark	455	4 243	10.7%
Finland	21 935	30 459	72.0%
France	15 341	55 010	27.9%
Germany	10 740	34 927	30.7%
Greece	3 599	12 890	27.9%
Ireland	659	6 889	9.6%
Italy	10 003	29 406	34.0%
Netherlands	375	3,392	11.1%
Portugal	3 666	9 150	40.1%
Spain	14 370	49 945	28.8%
Sweden	27 134	41 162	65.9%
Total EU-15	**115 685**	**313 188**	**36.9%**
Estonia	2 060	4 227	48.7%
Latvia	2 923	6 205	47.1%
Lithuania	1 994	6 258	31.9%
Other EU-25	16 975	55 181	30.8%
Total EU-25	**139 637**	**385 059**	**36.3%**
Russian Federation	851 392	1 688 851	50.4%
Other Europe	48 394	186 972	25.9%
Total Europe[1]	**1 039 423**	**2 260 882**	**46.0%**
China	163 480	932 743	17.5%
Japan	24 081	37 652	64.0%
Other Asia	360 060	2 113 426	17.0%
Total Asia[1]	**547 621**	**3 083 821**	**17.8%**
USA	225 993	915 895	24.7%
Canada	244 571	922 097	26.5%
Other North and Central America	78 740	298 974	26.3%
Total North and 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 (excluding Antarctic)	**3 869 455**	**13 063 900**	**29.6%**

Notes

1 Cyprus is included in Europe above, but was included in Asia in the FAO publication.

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 in Table 1.9 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 1995–99 National Inventory of Woodland and Trees.

Figure 1.4 **Per cent woodland cover by country in Europe**



Source: Global Forest Resources Assessment 2000 (not National Statistics).

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. New planting can use planting/seeding or natural colonisation. Restocking can also use planting/seeding or natural regeneration. The figures in this section are for all types of woodland.

Information about Forestry Commission and Forest Service new planting and restocking comes from administrative systems. Information about other woodland comes principally from the Woodland Grant Scheme (WGS) and (for 2003–04) the Scottish Forestry Grant Scheme (SFGS). The areas are those for which the second instalment of grant has been paid. Areas receiving grant are allocated to years by date of payment, except for England in 2003–04, which are by date of claim. A further 1478 hectares of new planting and 131 hectares of restocking, claimed in 2002–03 and paid in 2003–04, are excluded from Tables 1.10 and 1.11 and Figures 1.5 and 1.6. 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 (around 700 hectares in total in 2003–04), and it has been assumed that all of this area is broadleaves. It is assumed that there is no non-FS non-grant aided planting and restocking in Northern Ireland.

New planting and restocking figures for the year ending 31 March 2002 may have been affected by the Foot and Mouth Disease restrictions which were in force during the year.

The total area of new planting and restocking in the UK was 28.5 thousand hectares in 2003–04. In the last two years restocking has accounted for more than half of this total. Broadleaved species accounted for the majority (79%) of new planting but just 18% of the restocking area.

Table 1.10 **New planting and restocking: breakdown between broadleaves and conifers[1]**

thousands of hectares

Year (ending 31March)	New planting			Restocking			Total		
	Broadleaf	Conifer	Total	Broadleaf	Conifer	Total	Broadleaf	Conifer	Total
UK total									
1999–00	11.4	6.5	17.9	3.3	11.9	15.2	14.6	18.4	33.1
2000–01	13.6	5.1	18.7	3.0	12.2	15.3	16.6	17.4	34.0
2001–02	10.5	3.9	14.4	2.4	11.4	13.8	12.9	15.3	28.2
2002–03	9.5	4.0	13.5	2.5	12.0	14.5	12.0	16.0	28.0
2003–04	10.7	2.9	13.6	2.7	12.1	14.9	13.4	15.1	28.5
England									
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	3.4	9.9
2001–02	4.7	0.7	5.4	0.8	2.6	3.4	5.5	3.2	8.7
2002–03	5.4	0.5	5.9	0.9	2.4	3.4	6.3	3.0	9.2
2003–04	5.6	0.2	5.8	0.8	2.3	3.1	6.4	2.5	8.9
Scotland									
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
2001–02	5.0	3.0	8.0	1.2	6.6	7.8	6.2	9.6	15.8
2002–03	3.7	3.0	6.7	1.1	7.4	8.5	4.9	10.3	15.2
2003–04	4.2	2.6	6.8	1.3	7.6	8.9	5.5	10.2	15.7
Wales									
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
2001–02	0.2	0.0	0.3	0.3	1.6	1.9	0.5	1.6	2.2
2002–03	0.3	0.0	0.3	0.3	1.6	1.9	0.6	1.6	2.2
2003–04	0.4	0.0	0.5	0.5	1.4	1.8	0.9	1.4	2.3
Northern Ireland									
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
2001–02	0.5	0.2	0.7	0.1	0.7	0.8	0.6	0.9	1.5
2002–03	0.1	0.5	0.6	0.1	0.6	0.7	0.2	1.1	1.3
2003–04	0.4	0.1	0.5	0.2	0.9	1.0	0.6	1.0	1.6

Source: Forestry Commission, Forest Service and Woodland Grant Scheme.

Notes

1 Figures for 2000–01 to 2002–03 have been revised from Forestry Statistics 2003 to calculate totals from unrounded figures.

Almost all new planting (98%) takes place on non-FC/FS land. In contrast, most restocking occurs on FC/FS land (66%).

Table 1.11 New planting and restocking: breakdown between Forestry Commission / Forest Service and other woodland[1]

thousands of hectares

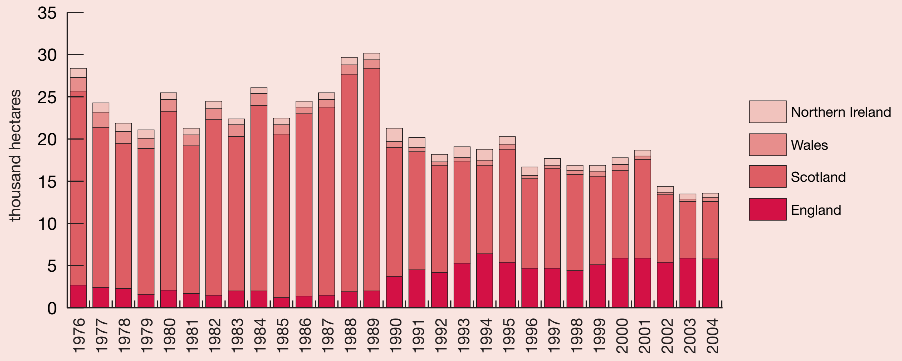
Year (ending 31March)	New planting			Restocking			Total		
	FC/FS	Non-FC/FS	Total	FC/FS	Non-FC/FS	Total	FC/FS	Non-FC/FS	Total
UK total									
1999–00	0.3	17.6	17.9	8.8	6.4	15.2	9.0	24.0	33.1
2000–01	0.3	18.4	18.7	8.9	6.4	15.3	9.3	24.8	34.0
2001–02	0.8	13.6	14.4	9.1	4.7	13.8	9.9	18.3	28.2
2002–03	0.9	12.6	13.5	9.1	5.3	14.5	10.0	17.9	28.0
2003–04	0.3	13.3	13.6	9.9	5.0	14.9	10.2	18.3	28.5
England									
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	9.9
2001–02	0.6	4.7	5.4	2.3	1.1	3.4	2.9	5.8	8.7
2002–03	0.7	5.2	5.9	2.3	1.1	3.4	3.0	6.3	9.2
2003–04	0.1	5.8	5.8	2.2	0.9	3.1	2.3	6.6	8.9
Scotland									
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
2001–02	0.1	7.9	8.0	4.9	2.9	7.8	5.0	10.8	15.8
2002–03	0.1	6.6	6.7	5.0	3.5	8.5	5.1	10.1	15.2
2003–04	0.1	6.7	6.8	5.3	3.6	8.9	5.4	10.3	15.7
Wales									
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
2001–02	0.0	0.3	0.3	1.1	0.8	1.9	1.1	1.0	2.2
2002–03	0.0	0.3	0.3	1.2	0.7	1.9	1.2	1.0	2.2
2003–04	0.0	0.5	0.5	1.4	0.4	1.8	1.4	0.9	2.3
Northern Ireland									
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
2001–02	0.1	0.6	0.7	0.8	0.0	0.8	0.8	0.7	1.5
2002–03	0.1	0.5	0.6	0.7	0.0	0.7	0.8	0.5	1.3
2003–04	0.1	0.4	0.5	1.0	0.1	1.0	1.1	0.5	1.6

Source: Forestry Commission, Forest Service and Woodland Grant Scheme.

Notes

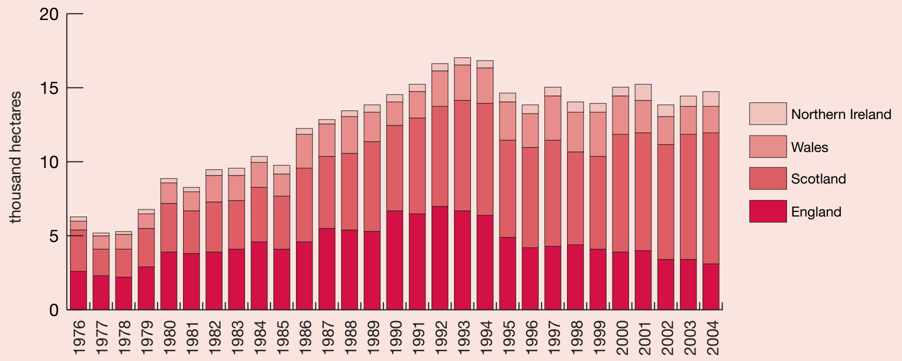
1 Figures for 2000–01 to 2002–03 have been revised from Forestry Statistics 2003 to calculate totals from unrounded figures.

Figure 1.5 New planting in the UK, 1976–2004



Source: Forestry Commission, Forest Service and Woodland Grant Scheme.

Figure 1.6 Restocking in the UK, 1976–2004



Source: Forestry Commission, Forest Service and Woodland Grant Scheme.

The Woodland Grant Scheme (GB)

Non-FC woodland in Great Britain has been supported by a range of grants available under the Woodland Grant Scheme (WGS), 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. In Scotland, WGS was replaced by SFGS in 2003.

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 rural affairs 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 1.12 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 information in Table 1.11, which for natural colonisation/regeneration is from second instalment payments, and demonstrates the woodland area that has become successfully established.

Table 1.13 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.

A total of 11.1 thousand hectares of woodland received first instalment WGS support in Great Britain in 2003–04.

Table 1.12 Areas receiving first instalment[1] WGS support in Great Britain in year ending 31 March 2004[2]

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	8.7	0.6	0.8	0.4
Better land contribution	4.8	0.1	Additional contributions not available for restocking	
Community woodland contribution	0.7	0.0		
Community forest premium	0.3	0.0		
Challenge funds	0.9	0.1		
Tendering (National Forest)	0.2	0.0		
Short rotation coppice locational contribution	0.0	0.0		
Conifers				
Total grant-aided	2.4	0.1	2.3	0.1
Better land contribution	1.2	0.0	Additional contributions not available for restocking	
Community woodland contribution	0.1	0.0		
Community forest premium	0.0	0.0		
Challenge funds	0.5	0.0		
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	11.1	0.7	3.1	0.6
Better land contribution	6.0	0.1	Additional contributions not available for restocking	
Community woodland contribution	0.8	0.0		
Community forest premium	0.3	0.0		
Challenge funds	1.4	0.1		
Tendering (National Forest)	0.2	0.0		
Short rotation coppice locational contribution	0.0	0.0		

Source: Woodland Grant Scheme

Notes

1 First instalment and supplementary payments. Supplementary payments are only available for new woodland.

2 Figures relate to areas for which grants were paid during the year in Scotland and Wales, and the area for which grants were claimed during the year in England.

A total of 43.9 thousand hectares of woodland in Great Britain was approved for annual management grant under the Woodland Grant Scheme (WGS) in 2003–04. This represented an increase of 66% from the 2002–03 figure of 26.5 thousand hectares. The total of 43.9 thousand hectares in 2003–04 comprised 38.5 thousand hectares in England (88%), 4.3 thousand hectares in Scotland (10%) and 1.0 thousand hectares in Wales (2%).

Table 1.13 Woodland in Great Britain approved for annual management grant[1] under the Woodland Grant Scheme

thousands of hectares

Year (ending 31 March)	GB	England	Scotland	Wales
Broadleaves				
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
2001–02	18.6	15.4	2.2	1.0
2002–03	19.7	15.7	3.2	0.8
2003–04	32.2	30.2	1.3	0.7
Conifers				
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
2001–02	8.1	4.5	3.1	0.5
2002–03	6.8	3.5	2.8	0.5
2003–04	11.7	8.3	3.0	0.4
Total				
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
2001–02	26.6	20.0	5.3	1.5
2002–03	26.5	19.2	6.0	1.3
2003–04	43.9	38.5	4.3	1.0

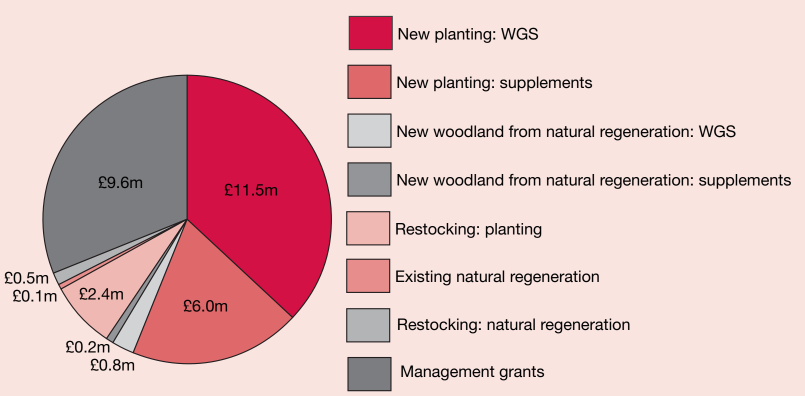
Source: Woodland Grant Scheme

Notes

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

Figure 1.7 Grant money paid in year ending 31 March 2004 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 grants for restocking by natural regeneration are for fencing to allow trees to establish (these categories were amalgamated in Table 1.12). Neither the Farm Woodland Premium Scheme (funded by Defra and the devolved administrations) nor Woodland Improvement Grants are included in this figure.



Source: Woodland Grant Scheme

The Farm Woodland Premium Scheme (GB)

The Farm Woodland Premium Scheme (FWPS) is designed to encourage the creation of new woodlands on farms. It achieves this by offering annual payments to compensate for the agricultural income forgone through establishing and maintaining woodland. The FWPS can only be given where WGS is also payable, because the environmental and silvicultural standards of the WGS must be satisfied before a FWPS application can be approved. As a result, the areas approved for FWPS grant are included in the Woodland Grant Scheme areas in previous tables.

A total of 8 thousand hectares of woodland were approved for FWPS grant in 2003–04. 58% of this total area was in England, 36% in Scotland and 5% in Wales.

Table 1.14 Area of woodland in GB approved for FWPS grant

				hectares
Year (ending 31 March)	GB	England	Scotland	Wales
Conifers				
1995–96	3 379	327	2 976	76
1996–97	2 306	225	2 058	23
1997–98	2 608	301	2 238	68
1998–99	3 711	460	3 159	92
1999–00	4 670	563	3 913	195
2000–01	1 970	368	1 597	5
2001–02	2 368	446	1 915	8
2002–03	3 260	200	3 030	30
2003–04	725	126	588	12
Broadleaves				
1995–96	5 896	2 369	3 243	284
1996–97	4 515	1 486	2 907	122
1997–98	4 354	1 930	2 247	177
1998–99	5 769	2 683	2 803	284
1999–00	9 061	2 862	5 800	399
2000–01	4 882	2 795	1 919	168
2001–02	5 981	3 818	1 970	193
2002–03	6 933	4 389	2 242	302
2003–04	6 940	4 347	2 204	389
Total				
1995–96	9 275	2 696	6 219	360
1996–97	6 821	1 711	4 965	145
1997–98	6 962	2 231	4 485	245
1998–99	9 480	3 143	5 962	376
1999–00	13 731	3 425	9 713	594
2000–01	6 852	3 163	3 516	173
2001–02	8 349	4 264	3 885	201
2002–03	10 193	4 589	5 272	332
2003–04	7 665	4 473	2 792	401

Source: Woodland Grant Scheme

The Energy Crop Scheme (England)

The Energy Crop Scheme (ECS) is run by Defra (Department for Environment, Food and Rural Affairs) in partnership with the Forestry Commission. The scheme, which is part of the England Rural Development Programme (ERDP), offers grants for the establishment of energy crops (Short Rotation Coppice and Miscanthus) and for the establishment of producer groups (Short Rotation Coppice only).

A total of 669 hectares of short rotation coppice and 539 hectares of miscanthus have been agreed under the Energy Crop Scheme in England, as at September 2004.

Table 1.15 Energy Crop Scheme: Number of applications and area of land

	Number	Area (ha)
Short rotation coppice		
Live agreements	44	669
Applications still being processed[1]	3	41
Miscanthus		
Live agreements	36	539
Applications still being processed[1]	11	169

Source: Defra

Notes

[1] Applications still being processed include deferred applications with postponed planting years.

2. UNITED KINGDOM 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 Great Britain in Tables 2.1–2.9 is taken from the National Statistics publication *British Timber Statistics 2003*.

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 (thousand m^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 E.

A total of 11.1 million cubic metres overbark standing was produced in the UK in 2003. This represented an increase of 12.3% from the 2002 total of 9.9 million cubic metres overbark standing.

Table 2.1 Wood production

thousand m^3 overbark standing

Calendar year	GB Softwood FC woodland	GB Softwood Non-FC woodland	GB Softwood Total softwood	GB Hardwood[1]	N Ireland[2]	UK Total
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	1 250	210	7 120
1994	4 320	3 030	7 350	930	250	8 520
1995	4 130	3 480	7 610	970	250	8 830
1996	4 290	3 320	7 610	870	250	8 730
1997	4 570	3 420	7 990	890	260	9 150
1998	4 830	3 170	8 000	790	290	9 070
1999	5 440	3 070	8 510	740	320	9 580
2000	5 530	3 100	8 630	720	380	9 730
2001	5 140	3 480	8 630	710	400	9 730
2002	5 210	3 630	8 840	690	410	9 930
2003	5 370	4 670	10 040	620	480	11 150

Source: British Timber Statistics 2003 and Forest Service.

Notes

1 Most hardwood production in Great Britain comes from non-FC woodland; the figures are estimates based on reported deliveries to wood processing industries.

2 Most Northern Ireland production is from the Forest Service (mainly softwood). The figures shown include FS estimates of non-FS production.

3 Great Britain only.

Figures before 1994 are not National Statistics.

Figures have been rounded to the nearest 10 000 m^3.

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.*

Softwood production in Great Britain is projected to increase to an annual average of 15.5 million m^3 overbark standing over the five year period 2017 to 2021. The majority of this softwood is projected to come from non-FC woodland.

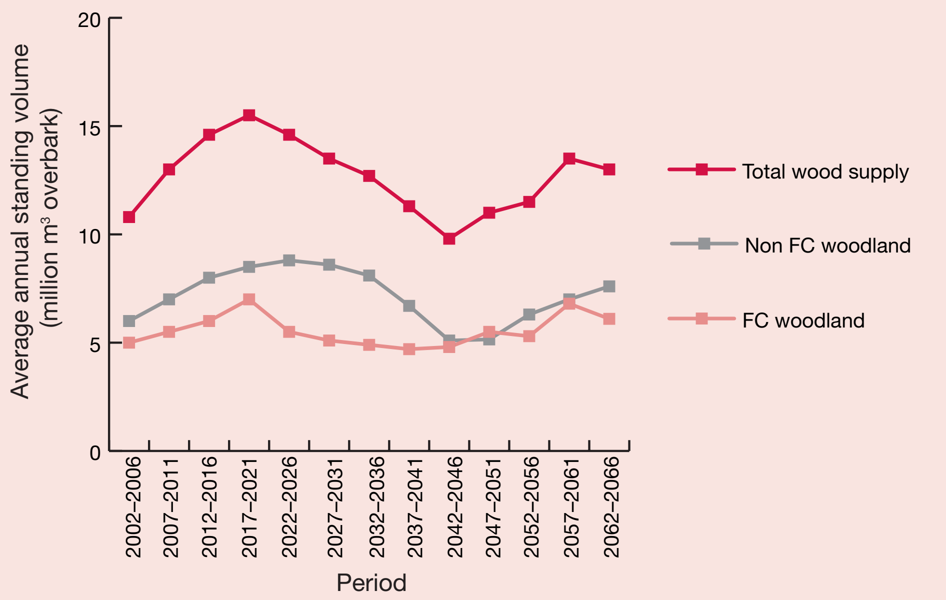
Table 2.2 **Wood production forecasts – Great Britain**

thousand m^3 overbark standing

Annual average in the five years:	Softwood FC woodland	Softwood Non-FC woodland	Softwood Total softwood	Hardwood	Total (GB only)
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**

Source: 2000 softwood assessment

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



Source: 2000 softwood assessment

Timber deliveries

Most figures for timber deliveries (inputs to wood processing) are expressed in green tonnes. Conversion factors to underbark volumes can be found in Appendix E. Note that information in Table 2.3 mainly relates to Great Britain, not United Kingdom. Almost all British grown roundwood is processed within Great Britain, but increasing quantities of roundwood have recently been exported for processing.

A total of 7.2 million green tonnes of GB grown softwood and 0.6 million green tonnes of GB grown hardwood were delivered to wood processing industries in Great Britain in 2003. This represents an increase of around 4% from the 2002 total for GB roundwood deliveries. Sawmills accounted for the majority of softwood deliveries (60%) but just 24% of hardwood deliveries. A further 21% of softwood was delivered to woodbased panel mills and 10% to integrated pulp and paper mills. Roundwood exports in 2003 accounted for 5% of all softwood deliveries.

Table 2.3 Deliveries of British grown roundwood to the wood processing industries in Great Britain[3]

thousand green tonnes

Year	Sawmills	Pulp mills	Woodbased panel mills	Miscellaneous[1]	Exports[2]	Total GB[1]
Hardwood						
1994	346	190	96	205	0	837
1995	362	196	113	205	0	876
1996	282	202	91	205	0	780
1997	282	198	118	205	0	803
1998	245	180	77	205	0	707
1999	221	191	52	205	0	669
2000	195	200	50	205	0	650
2001	189	209	35	205	0	638
2002	160	210	43	205	0	618
2003	136	215	4	205	0	560
Softwood						
1994	3 466	1 104	1 407	542	48	6 567
1995	3 429	1 106	1 699	521	8	6 763
1996	3 583	853	1 500	471	0	6 407
1997	3 655	940	1 690	456	0	6 741
1998	3 731	844	1 527	486	0	6 588
1999	4 027	660	1 613	489	24	6 814
2000	4 007	695	1 685	431	16	6 834
2001	4 123	668	1 680	428	61	6 960
2002	4 194	696	1 456	370	133	6 849
2003	4 316	704	1 486	362	342	7 210
Total						
1994	3 812	1 294	1 503	747	48	7 404
1995	3 791	1 302	1 812	726	8	7 639
1996	3 865	1 055	1 591	676	0	7 187
1997	3 938	1 138	1 808	661	0	7 545
1998	3 977	1 024	1 604	691	0	7 296
1999	4 248	851	1 665	694	24	7 482
2000	4 202	895	1 735	636	16	7 483
2001	4 312	877	1 715	633	61	7 598
2002	4 354	906	1 499	575	133	7 467
2003	4 452	919	1 490	567	342	7 770

Source: British Timber Statistics 2003.

Notes

1. These figures were estimated by, or partly composed of estimates made by, the Supply and Demand Sub-committee of the Forestry Commission Advisory Panel.
2. Exports here are the quantities of wood 'exported' (in this case including transfers to Northern Ireland) without going to a wood processing industry in Great Britain.
3. Figures for sawmills (1994–2002) and miscellaneous (1999–2002) have been revised from Forestry Statistics 2003 in light of additional information received.

Sawmills

The information in Tables 2.4 and 2.5 is for the sawing of logs of United Kingdom 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 the Forestry Commission in an annual Sawmill Survey. For more detail of Great Britain sawmills, see *British Timber Statistics 2003.* Figures for Northern Ireland are provided by the Forest Service.

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

In 2003 UK sawmills consumed a total of 4.5 million m^3 underbark of softwood, producing 2.7 million m^3 sawnwood. A further 121 thousand m^3 underbark of hardwood was consumed, producing 70 thousand m^3 sawnwood.

Table 2.4 Consumption and production of UK timber by sawmills[1]

	Consumption of roundwood (thousand m^3 underbark)		Production of sawn timber (thousand m^3)	
	Hardwood	Softwood	Hardwood	Softwood
1994	305	3 538	174	2 165
1995	319	3 507	184	2 144
1996	249	3 659	147	2 193
1997	249	3 736	138	2 268
1998	217	3 825	121	2 293
1999	195	4 137	114	2 455
2000	172	4 149	102	2 445
2001	167	4 271	93	2 536
2002	142	4 349	81	2 590
2003	121	4 525	70	2 683

Source: British Timber Statistics 2003 and Forest Service.

Notes
1 Figures for 1994–2002 have been revised from Forestry Statistics 2003 in light of additional information received.

Table 2.5 Number of sawmills in the United Kingdom

Size category production[1]	UK	England	Scotland	Wales	N Ireland
<1 000 m^3	95	58	23	7	7
1 000–4 999 m^3	84	50	24	4	6
5 000–24 999 m^3	43	17	18	7	1
25 000–49 999 m^3	12	4	5	2	1
≥50 000 m^3	16	4	9	2	1
Total	**250**	**133**	**79**	**22**	**16**

Source: British Timber Statistics 2003 and Forest Service.

Notes
1 Size category for GB mills is based on sawnwood production from GB timber only. For mills in Northern Ireland, size cateogry is based on total sawnwood production.

Pulp and paper mills

The information in Tables 2.6 and 2.7 relates 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). [Source: Forestry Industry Handbook 1998]

Integrated pulp and paper mills in the UK consumed a total of 0.9 million green tonnes of UK roundwood in 2003 (mainly softwood) and a further 0.2 million green tonnes of sawmill products.

Table 2.6 Inputs to integrated pulp and paper mills[1]

thousand green tonnes

Year	UK roundwood		Imported roundwood		Imported chips		Sawmill products		**Total**	
	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood
1994	190	1104	3	2	..	..	18	176	**211**	**1 282**
1995	196	1106	0	4	..	..	4	284	**200**	**1 394**
1996	202	853	0	0	..	..	0	305	**202**	**1 158**
1997	198	940	0	0	0	20	0	279	**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**
2001	209	668	0	0	0	0	0	323	**209**	**991**
2002	210	696	0	0	0	0	0	307	**210**	**1 003**
2003	215	704	0	0	0	0	0	234	**215**	**938**

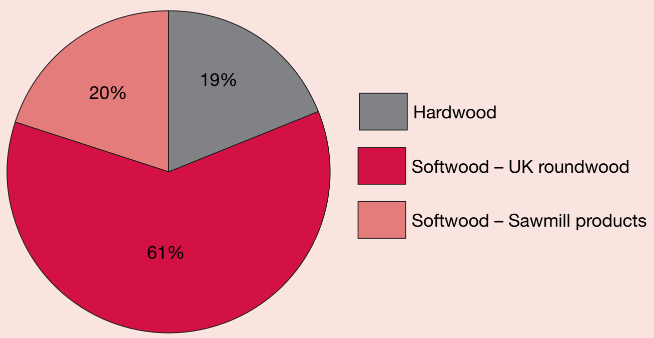
Source: British Timber Statistics 2003.

Notes

1 This table excludes inputs of recycled paper and cardboard.

Figure 2.2 Inputs to integrated pulp and paper mills 2003

Note that this figure excludes inputs of recycled paper and cardboard.



Source: British Timber Statistics 2003.

Table 2.7 gives information on the country of origin of the UK grown roundwood for all integrated pulp and paper mills in the UK. Figures are not available for the quantity broken down by the country in which the mill is located, which could disclose data for individual mills.

Around one half of UK grown roundwood used in integrated pulp and paper mills is obtained from Scotland. A further one third is obtained from England and the remaining 18% from Wales.

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

thousand green tonnes

Year	UK		England		Scotland		Wales		N 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
2001	209	668	200	86	0	454	9	128	0	0
2002	210	696	200	98	0	448	10	150	0	0
2003	215	704	196	87	0	466	19	151	0	0

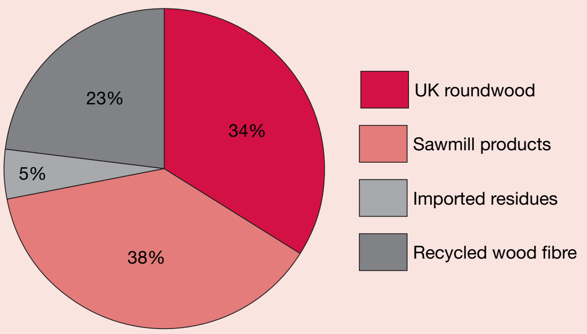
Source: British Timber Statistics 2003.

Woodbased panel products

Woodbased 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).

Sawmill products account for 38% of all inputs to woodbased panel mills. A further 34% is obtained from UK roundwood and 23% from recycled wood fibre.

Figure 2.3 **Inputs to woodbased panel mills 2003**



Source: British Timber Statistics 2003.

Table 2.8 shows the inputs used in the production of all types of woodbased panels in the United Kingdom.

Table 2.8 Inputs to woodbased panel production

thousand green tonnes

Year	UK roundwood[1]		Imported roundwood		Sawmill products[2]		Imported wood products and products from imported wood[3]		Total		
	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Recycled wood fibre[4]
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	28	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	150[5]	62	3 285	400
2000	50	1 685	0	0	0	1 871	0	143	50	3 699	488
2001	35	1 680	5	0	0	1 675	20	132	60	3 487	675
2002	43	1 456	0	0	0	1 669	0	134	43	3 259	932
2003	4	1 486	0	0	4	1 682	0	225	8	3 393	993

Source: British Timber Statistics 2003.

Notes

1 UK roundwood includes all material from forest operations.
2 Sawmill products include 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 woodbased panel production.
5 Estimated by the United Kingdom Forest Products Association (UKFPA).

Miscellaneous uses of British wood (GB)

Data for softwood fencing are collected by the Forestry Commission in an annual survey of round fencing manufacturers. 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 Great Britain only.

A total of 233 thousand green tonnes of GB softwood and an estimated 30 thousand green tonnes of GB hardwood were consumed by round fencing manufactures in 2003. Fuelwood accounted for a further 250 thousand green tonnes of roundwood (hardwood and softwood).

Table 2.9 Miscellaneous uses of British wood

thousand green tonnes

Year	Fuelwood		Poles	Woodwool	Fencing		Other		GB total	
	Hardwood[1]	Softwood[1]	Softwood[1]	Softwood	Hardwood[1]	Softwood[2]	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	353	25	25	205	486
1999	150	100	4	3	30	357	25	25	205	489
2000	150	100	4	3	30	299	25	25	205	431
2001	150	100	4	2	30	297	25	25	205	428
2002	150	100	4	0	30	241	25	25	205	370
2003	150	100	4	0	30	233	25	25	205	362

Source: British Timber Statistics 2003.

Notes

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

2 Fencing figures for 1999 to 2002 have been revised in light of additional information received.

Certification

Forest certification assesses forest management practices against an agreed standard and awards a label to those forest products that meet the standard. In order for products to achieve certification, both forest management practices and the Chain of Custody, which tracks timber from forest to retail outlet, must be assessed.

1.2 million hectares of woodland in the UK were certified under the Forest Stewardship Council in March 2004. This represented 42% of the total UK woodland area, but varied from 27% in England to 74% in Northern Ireland.

Table 2.10 Woodland area certified under FSC in March 2004

	UK	England	Scotland	Wales	N Ireland
Total woodland area (000 ha)	2 817	1 115	1 330	286	86
Certified area (000 ha)	1 173	300	680	129	64
No. certificates applying to woodland in one country	44	29	11	3	1
No. certificates applying to woodland in more than one country	10				
Total no. certificates	54				

Source: Forest Stewardship Council.

Respondents to Forestry Commission surveys were asked to report on volumes certified. Over 50% of non-FC softwood removals in 2003 were from certified sources. Almost two thirds of sawmills' roundwood consumption and around one half of sawnwood production by sawmills in 2003 was certified. For round fencing manufacturers, around one third of total softwood consumption in 2003 was certified.

Table 2.11 Percentage of volume certified

	% certified volume	
	2002	**2003**
Removals[1]		
Softwood from non-FC woodland	40	54
Sawmills		
Consumption (softwood and hardwood)	64	66
Production[2] (softwood and hardwood)	61	49
Round fencing manufacturers		
Consumption (softwood)	14	36

Source: British Timber Statistics 2003.

Notes

1 For all removals from FC woodland, the source is certified.

2 A number of sawmills reported 100% certified production in 2002 and 70% certified production in 2003. It is believed that this may have occurred as a result of some confusion over what figure to report rather than any recent change in certified volumes output by these mills.

Sawmills and round fencing manufacturers were also asked whether they held a Chain of Custody certificate. Over one quarter of sawmills who provided data in 2003 reported that they held a Chain of Custody certificate. However, this proportion varied with size of mill, from just 14% of mills producing less than 5 thousand m³ sawnwood to around 60% of those producing 25 thousand m³ sawnwood or more. Around one quarter of round fencing manufacturers reported holding a Chain of Custody certificate.

Table 2.12 Chain of Custody certificates[1] – 2003

	Mill holding certificate	Mills without certficate	Certification status not reported	Total
Sawmills				
Size category production				
<5 000 m³	11	62	6	79
5 000–<24 999 m³	10	11	2	23
≥25 000 m³	13	4	5	22
All mills	34	77	13	124
Round fencing manufacturers				
All mills	12	26	7	45

Source: British Timber Statistics 2003.

Notes

1 Mills responding in 2003. Accounts for around 80% of total production for sawmills and almost 60% of total consumption by round fencing manufacturers.

Certification was also a topic in the 2003 Public Opinion of Forestry, a survey of 4120 adults across the UK (see chapter 5 for further details on this survey). Respondents were first asked if they had been shopping for wood products in the last few years. Those who had (47%), were then asked if they recognised either the FSC or PEFC symbols. Almost one third (31%) of those who had been shopping for wood products in the last few years said that they recognised the FSC symbol and 8% said that they recognised the PEFC symbol. 61% of respondents did not recollect seeing either symbol.

Table 2.13 **Public Opinion of Forestry 2003: Respondents who had seen the FSC or PEFC logos on wood products**

	percent of respondents
FSC logo	31
PEFC logo	8
None	61
Don't know	4

Base: UK adults who had been shopping for wood products: 1930
Source: UK Public Opinion of Forestry 2003.

Notes
[1] Includes multiple responses.

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 in Table 2.14. This table will be expanded in the future if more information is collected.

Table 2.14 **Christmas tree sales**

	Quantity (thousands)			Value (£ thousands)		
Year	FC	FS	Other	FC	FS	Other
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[1]	..
2001–02	65	7	..	1 200	96	..
2002–03	87	7	..	1 278	93	..
2003–04	68	3	..	1 212	60	..

Source: Forestry Commission and Forest Service (not National Statistics).

Notes
[1] Includes VAT.

Prices of wood and wood products

The Forestry Commission has collected information for many years on the prices of conifers sold standing by the FC and published a Coniferous Standing Sales Price Index (CSSPI) every 6 months. The CSSPI gives values for overlapping 12 monthly periods and is available from the Forestry Commission website. A softwood sawlog price index, providing information on prices (delivered to roadside), of coniferous sawlogs produced by the Forestry Commission, is also published. 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.

The average price per m^3 overbark standing was £5.60 in nominal terms (£4.65 in 1996 prices) in the year to March 2004. This represents a fall of 5.2% in real terms compared to the previous year. Over the same time period, sawlog prices have fallen by 5.8%.

Table 2.15 Coniferous standing sales and sawlog price indices[1] for Great Britain

per m^3 overbark standing

Year ending	Standing sales Nominal terms[2]	Standing sales Real teams[3,4]	Sawlogs Nominal terms[2]	Sawlogs Real terms[3,4]
1982	40.0	80.2	57.0	113.2
1983	44.6	83.5	58.5	108.7
1984	56.3	100.6	73.9	131.2
1985	66.7	113.4	73.5	124.1
1986	75.4	121.6	81.2	130.1
1987	88.7	138.7	90.5	140.5
1988	102.7	152.1	91.0	134.3
1989	109.1	151.0	100.3	138.6
1990	99.4	128.4	99.5	128.2
1991	87.3	104.6	80.9	96.7
1992	76.4	86.3	83.3	93.7
1993	82.2	89.9	89.3	97.3
1994	91.5	97.4	103.4	109.7
1995	110.9	116.3	121.1	127.0
1996	104.6	106.6	108.6	110.7
1997	96.8	95.4	104.7	103.1
1998	82.3	79.1	90.0	86.5
1999	51.1	47.8	78.1	72.9
2000	49.8	45.5	83.9	76.6
2001	45.4	41.0	81.6	73.6
2002	43.2	38.0	75.3	66.2
2003	33.6	28.6	72.8	62.0
2004	32.6	27.1	70.3	58.4

Source: Coniferous Standing Sale Price Index

Notes

1 The price indices are constructed from information on Forestry Commission sales only. September 1996 = 100.

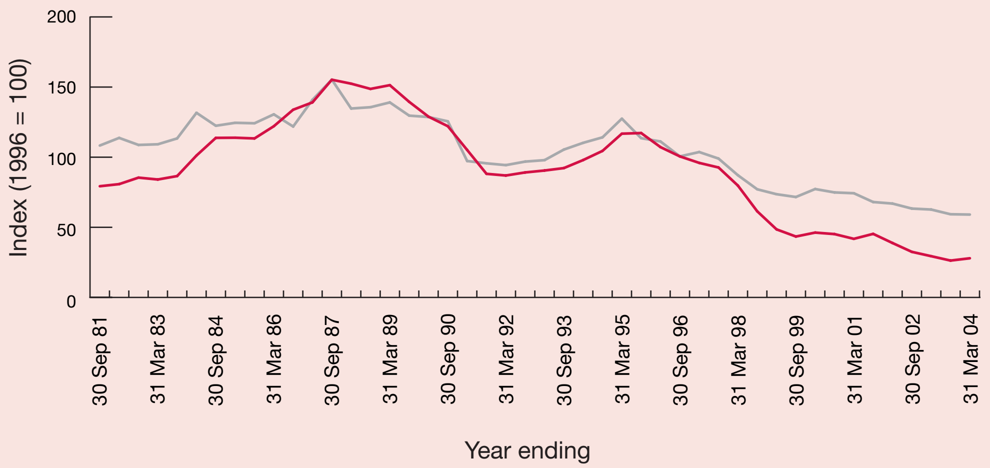
2 Nominal prices are the actual prices at that point in time, so the nominal price index includes inflation.

3 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.

4 Real terms indices have been revised from Forestry Statistics 2003 in light of revisions made by the Office for National Statistics (ONS) to the GDP deflator.

Figure 2.4 **Coniferous standing sales and sawlog price indices in real terms (September 1996 = 100)**

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



Source: Coniferous Standing Sale Price Index

Financial return from forestry

Returns to the forest owner are made up of sales of timber (standing or felled), sales of other goods and services, increases in the value of the woodland (from annual increment or market factors), and the net income from subsidies (e.g. planting grants) less taxes. The owner's costs are made up of employment costs and other purchases.

Estimates of the overall return from commercial Sitka spruce plantations are produced annually in the Investment Property Databank (IPD) UK Forestry Index (not National Statistics), which is calculated from a sample of private sector plantations in mainland Britain.

The total return from forestry in the three year period 2000 to 2003 is estimated to be -1.7% per annum. This represents a fall from the high of 9.9% per annum for the three year period 1993 to 1996.

Table 2.16 **3 year rolling annualised returns from forestry**

percent per annum

	Total return
1992–95	4.4%
1993–96	9.9%
1994–97	7.9%
1995–98	4.5%
1996–99	-3.0%
1997–00	-5.2%
1998–01	-5.4%
1999–02	-3.2%
2000–03	-1.7%

Source: IPD UK Forestry Index 2004.

3. IMPORTS, EXPORTS AND APPARENT CONSUMPTION OF WOOD PRODUCTS

A large proportion of the wood and wood products consumed in the United Kingdom are imported 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 E.1, Appendix E, which convert to standing volumes overbark.

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 United Kingdom. It is calculated as total United Kingdom production plus imports, minus exports. This figure does not include any allowance for recycled wood and waste paper within the United Kingdom. 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.

UK production of roundwood totalled 8.0 million m^3 WRME underbark in 2003. A further 49.7 million m^3 WRME underbark of wood and wood products were imported to the UK and 12.6 million m^3 WRME underbark were exported, giving an apparent consumption of 45.0 million m^3 WRME underbark.

Table 3.1 Apparent consumption of wood in the UK[1]

million m^3 WRME underbark

Year	UK production[2]	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	7.2	45.1	5.4	46.9
1997	7.5	47.7	6.8	48.4
1998	7.3	46.8	7.0	47.0
1999	7.5	46.8	7.4	46.9
2000	7.6	48.9	7.7	48.8
2001	7.7	50.2	8.2	49.8
2002	7.6	49.1	9.5	47.2
2003	8.0	49.7	12.6	45.0

Source: UK Overseas Trade Statistics and conversion factors to WRME.

Notes

1 Figures for 1999 to 2002 have been revised from Forestry Statistics 2003 in light of additional information received on UK production and revisions to import and export data.

2 UK production of roundwood is estimated from deliveries to wood processing industries, as in Table 2.3.

UK production accounted for around one quarter of the UK sawnwood market, and around one half of the UK woodbased panel and paper markets.

Table 3.2 Apparent consumption of wood products[1,2] in the UK – 2003

Product	Unit	UK production[3]	Imports	Exports	Apparent consumption
Sawnwood	1000 m^3	**2 753**	**8 695**	**355**	**11 092**
Coniferous		2 683	7 958	342	10 299
Non-coniferous		70	736	14	793
Woodbased panels	1000 m^3	**3 361**	**3 499**	**531**	**6 329**
Veneer sheets		0	28	5	23
Plywood		0	1 253	65	1 188
Particleboard		2 526	1 232	256	3 502
Fibreboard		835	987	205	1 616
Paper & paperboard	1000 mt	**6 226**	**7 086**	**1 418**	**11 894**
Newsprint		1 038	1 523	239	2 322
Other graphic papers		1 494	3 368	543	4 319
Sanitary & household papers		808	133	24	917
Packaging materials		2 240	1 561	560	3 241
Other paper & paperboard		646	501	53	1 094

Source: UK Overseas Trade Statistics and deliveries to wood processing industries, as in Table 2.3.

Notes

1. Excludes other wood products, e.g. wood fuel and round fencing.
2. Excludes roundwood and intermediate products (e.g. pulp and sawmill products), to avoid double counting.
3. UK production of sawnwood is production from UK timber only. Production of other products is the output of wood processors in the UK, using UK or imported roundwood.

'Wood and wood products' in Table 3.3 make up most of the following divisions of the Standard International 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)

Around one third of the wood products imported to the UK in 2003 were imported as softwood (round and sawn). A further one third were imported as paper, 16% were imported as woodbased panels and 13% as pulp. Paper (29%) and recovered paper (43%) accounted for the majority of exports of wood products from the UK in 2003.

Table 3.3 UK imports and exports (WRME volumes)[1]

thousand m^3 WRME underbark

	Wood (round and sawn)			Paper and paperboard			Total wood and wood products
	Softwood	Hardwood	Wood-based panels	Paper	Pulp	Recovered Paper	
Imports							
1960[2]	18 300		2 500	3 500	11 700		36 000
1970[2]	15 900		3 400	7 300	13 700		40 300
1980[2]	11 500		3 600	9 800	9 800		34 700
1990[2]	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	13 784	1 464	6 449	17 439	7 518	179	46 832
2000	15 263	1 767	7 092	16 493	7 865	400	48 880
2001	15 278	1 855	7 353	18 614	6 985	144	50 228
2002	16 131	2 016	8 279	15 500	6 951	213	49 089
2003	17 274	2 392	8 030	15 160	6 515	280	49 651
Exports							
1960[2]	not compiled						800
1970[2]							1 200
1980[2]							2 300
1990[2]							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	391	193	1 359	4 071	124	1 311	7 448
2000	502	347	1 206	3 900	32	1 712	7 699
2001	833	277	1 467	3 532	12	2 033	8 154
2002	833	239	1 597	3 355	23	3 454	9 501
2003	1 093	481	1 882	3 653	5	5 459	12 572

Source: UK Overseas Trade Statistics and conversion factors to WRME.

Notes

1 Figures for 1999 to 2002 have been revised from Forestry Statistics 2003 to reflect revisions to import and export data.

2 Data for 1990 and earlier are rounded to the nearest 100 000 m^3.

In Table 3.4 'associated products' are made up of the following SITC sub divisions which are excluded from wood and wood products in Table 3.3;

- 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).

The value of wood and wood product imports (including associated products) in 2003 was £7.7 billion. Exports were valued at £2.6 billion.

Table 3.4 UK imports and exports (current prices)

£million

	Imports			Exports		
	Wood and wood products	Associated products	Total (Divs 24, 25, 63, 64)	Wood and wood products	Associated products	Total (Divs 24, 25, 63, 64)
1999	5 658	1 787	**7 444**	1 218	1 231	**2 449**
2000	6 141	1 927	**8 068**	1 258	1 271	**2 529**
2001	6 469	1 978	**8 448**	1 216	1 308	**2 524**
2002	5 766	1 960	**7 726**	1 164	1 273	**2 436**
2003	5 710	2 010	**7 721**	1 307	1 254	**2 561**

Source: UK Overseas Trade Statistics

Notes

[1] Figures for 1999 to 2002 have been revised from Forestry Statistics 2003 to reflect revisions to import and export data.

Sweden, Latvia and Finland provided the majority of imports of sawn softwood to the UK in 2002. Sawn hardwood was most commonly imported from Latvia, USA and Estonia. UK imports of plywood tended to come from countries outwith the EU, such as Brazil and Indonesia, whilst most particleboard and fibreboard imports came from within the EU. Canada and the USA were amongst the principal sources of wood pulp for the UK, whilst the majority of paper and paperboard imports originated in Sweden, Finland and Germany.

Table 3.5 Country of origin of wood imports to the UK 2002[1]

% of total UK imports (volume) in each category

	Sawn softwood	Sawn hardwood	Plywood	Particleboard	Fibreboard	Wood pulp	Paper and paperboard
Sweden	31	1	1	2	3	12	20
Finland	17	1	9	6	2	9	26
Germany	1	6	4	11	14	1	17
France	0	4	1	17	4	1	4
Ireland	2	1	0	5	20	0	0
Other EU-15	1	5	3	16	38	9	11
Total EU-15[2]	**53**	**18**	**18**	**58**	**81**	**32**	**79**
Latvia	25	26	5	0	1	0	0
Estonia	5	10	1	0	3	0	0
Other EU-25	2	3	1	0	11	0	1
Total EU-25[2]	**86**	**56**	**25**	**59**	**96**	**32**	**80**
USA	0	13	0	0	3	23	6
Canada	2	3	1	0	0	21	5
Brazil	0	2	36	0	1	14	0
Indonesia	0	1	17	0	0	1	0
Other non-EU	12	24	20	41	0	10	8
Total non-EU	**14**	**44**	**75**	**41**	**4**	**68**	**20**

Source: FAO and UK Overseas Trade Statistics.

Notes

[1] Categories used above are those used by FAO in 'Forest Products Trade Flow Data', and are not fully consistent with those used in Tables 3.3–3.4.

[2] EU-15 represents the 15 EU-member states in 2002; EU-25 includes the 10 new member states from May 2004.

The UK was the fourth largest net importer of forest products in 2003, behind China, USA and Japan.

Figure 3.1 **World trade in forest products: largest net importers, 2003**

Source: FAO

The largest net exporters of forest products in 2003 were Canada, Finland and Sweden.

Figure 3.2 **World trade in forest products: largest net exporters, 2003**

Source: FAO

4. ENVIRONMENT

This section presents a range of information about the woodland environment, mostly using sources that are not National Statistics. More information on environmental aspects is included in the United Kingdom Indicators of Sustainable Forestry published in October 2002.

Protected woodland areas

The information in Tables 4.1–4.4 has been reproduced from *Protected Forest Areas in the UK* (not National Statistics). They have been derived from a variety of sources, and are unlikely to give a wholly accurate inventory of protected areas in the United Kingdom. The woodland categories used in Tables 4.1 and 4.3 are defined as:

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

Ancient semi-natural woodlands tend to be richer in plants and animals than other woodland areas. The area of ASNW, which is one of the *Quality of Life Counts* indicators of sustainable development, has declined over the centuries and woodlands have become increasingly fragmented. It is estimated to total 326 thousand hectares, of which almost two thirds are in England, over one quarter are in Scotland and the remainder in Wales. Later estimates, produced by overlaying the Ancient Woodland Inventory on the National Inventory of Woodland and Trees give lower figures for ASNW.

Table 4.1 Areas of ancient and semi-natural woodland

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

Source: Report 'Protected Forest Areas in the UK' (not National Statistics).

The types of statutory protection include:

SAC: Special Area of Conservation; NNR: National Nature Reserve;
SPA: Special Protection Area; SSSI: Site of Special Scientific Interest (ASSI in Northern Ireland).

In the pan-European classification of protected forest areas, 10 thousand hectares of woodland in the UK are in the highest categories 'non-intervention nature reserves' and 'wilderness areas in near-natural condition', estimated from combinations of these designations and objectives.

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

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
SSSI	128.7	126.7	79.8	38.0	8.9	2.0

Source: Report 'Protected Forest Areas in the UK' (not National Statistics).

Notes

[1] The Scottish figure 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 Great Britain and United Kingdom totals.

Management practices can provide a degree of protection, even when it is not statutory protection. In the pan-European classification of protected forest areas, the UK has 135 thousand hectares of woodland with 'conservation through active management' and 646 thousand hectares with 'protection of landscapes and specific natural elements'. Table 4.3 shows some of these areas managed by the public and voluntary sectors, including over 80 thousand hectares of woodland managed by voluntary sector organisations such as the National Trust, Wildlife Trust, Woodland Trust and RSPB.

Table 4.3 **Summary of areas under 'protective' ownership (non-statutory protection)**

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*

Source: Report 'Protected Forest Areas in the UK' (not National Statistics).

The conditions attached to receiving payments under the Woodland Grant Scheme can also provide a degree of protection. Table 4.4 shows the total area under WGS management, which includes public (non-FC/FS) and voluntary sector as well as other non-FC/FS ownership. This table therefore includes the voluntary sector figures shown in Table 4.3.

Table 4.4 **Summary of areas under WGS management (non-statutory protection) in GB**

thousands of hectares

Type of protection	GB	England	Scotland	Wales
Total	918.6	445.4	421.6	51.6
Public (non-FC/FS)	45.3	37.0	5.7	2.6
Voluntary sector	67.3	44.7	19.4	3.2

Source: Report 'Protected Forest Areas in the UK' (not National Statistics).

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. Table 4.5 (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 measures the net annual change in the mass of carbon; it includes carbon accumulation in forests by woody biomass, soils, litter and wood products. For 2000, the net addition to carbon in woody biomass was around 2 MtC per year, while about 0.6 MtC per year were transferred to 'stores' in forest soil and litter, and 0.3 MtC per year to 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 included in the total forest sink.

Table 4.5 Carbon sequestration

	Forest sink (MtC/yr[1])	Forest sink due to expansion of woodland due to trees planted since 1990 (MtC/yr[1])
1990	2.6	0.0
1995	2.8	0.2
2000	2.9–2.9	0.3–0.3
2005	3.2–3.3	0.4–0.6
2010	3.1–3.4	0.6–0.8
2015	2.7–3.0	0.9–1.2
2020	2.4–2.8	1.2–1.6

Source: DETR publication: 'Climate Change: The UK Programme' (not National Statistics).

Notes

1 Million tonnes carbon per year.

Damage to woodland

Compared with some other European Union member states, the United Kingdom has only small losses of woodland to forest fires. No information is collected on fire damage in non-FC/FS owned woodland.

Table 4.6 Fire damage

Year	Forestry Commission	Forest Service	UK (FC/FS woodland only)
Number of fires			
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
2001–02	350	13	363
2002–03	259	1	260
2003–04	61	16	77
Area of woodland burnt (hectares)			
1995–96	466	94	560
1996–97	450	135	585
1997–98	310	22	332
1998–99	45	9	54
1999–00	165	6	171
2000–01	181	85	266
2001–02	141	85	226
2002–03	147	1	148
2003–04	146	91	237

Source: Forestry Commission and Forest Service.

5. RECREATION

The Forestry Commission obtains information about woodland visits and visitors from the Day Visits Survey, Public Opinion of Forestry Survey and on-site monitoring programmes.

Visits to woodland

The information in Table 5.1 is taken from *UK Day Visits Surveys* (1994, 1996 and 1998), and the *GB Day Visits Survey* (2002/3), which collected data about day trips from home during these years. The 1994, 1996 and 1998 surveys covered a calendar year, while the 2002/3 survey covered a 12-month period starting in March 2002. Despite the name of the early surveys, they did not cover visits by people living in Northern Ireland. Visits to overseas destinations are also excluded. Although the methodology used in the 2002/3 survey was largely the same as in earlier surveys, differences between practices in the two surveys may be responsible for some of the differences in results.

Table 5.2 shows the main characteristics of woodland visits in 2002/3. Similar information for the 1996 and 1998 surveys is provided in *Forestry Statistics 2002*.

The GB Day Visits Survey was a sample survey, so the results are subject to the effects of chance, depending on the sample achieved. Confidence limits apply to all results from the survey. For example, when confidence limits are included, the first line of data in Table 5.2 gives figures of 8%±0.9% in GB, 8%±1.0% in England, 9%±1.7% in Scotland and 7%±1.5% in Wales. Further information about confidence limits can be found in the *GB Leisure Day Visits Survey 2002/3 Technical Report*.

It is estimated that around 252 million day visits from home were made to woodland in GB in 2002/3. Of those surveyed in 2002/3, 8% had visited woodland in the previous 2-week period, while 40% had visited woodland in the last year.

Table 5.1 Number of day visits to woodland

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
2002/3	252	222	18	12

Source: 1994, 1996 & 1998: UK Day Visits Survey, carried out by National Centre for Social Research (not National Statistics).
2002/3: GB Day Visits Survey, carried out by TNS Travel & Tourism (not National Statistics).

Table 5.2 Woodland visit characteristics – 2002/3

percentage[1]

		Journey starting point			
		GB	England	Scotland	Wales
Most recent woodland visit	Within last 2 weeks	8	8	9	7
	Within last year	40	40	36	40
Season of year	January–March	27	28	20	15
	April–June	22	21	28	27
	July–September	38	39	28	35
	October–December	14	12	25	23
Day of week	Weekday	55	54	62	66
	Weekend	45	46	38	34
Duration of visit (round trip)	Up to 1 hour	39	41	23	25
	Over 1, up to 2 hours	28	28	29	31
	Over 2, up to 3 hours	10	9	16	13
	Over 3 hours	23	22	32	31
Distance travelled (round trip)	Up to 2 miles	26	27	21	22
	Over 2, up to 5 miles	36	38	24	29
	Over 5, up to 20 miles	22	21	31	30
	Over 20 miles	16	14	25	19
Group composition	One adult only	50	51	42	48
	Two adults only	20	18	31	31
	Three or more adults only	8	9	6	4
	Group with children	21	22	21	16
Perceived owner or manager	Local Authority	33	35	22	22
	Forestry Commission	21	20	27	29
	Voluntary organisation	7	7	7	9
	Private owner	23	23	19	21
	Other	6	7	3	7
	Don't know	9	8	22	12

Source: 2002/3 GB Day Visits Survey (not National Statistics).

Notes

[1] 'Most recent woodland visit' figures refer to % of respondents, others refer to % of trips.

The Public Opinion of Forestry Survey is carried out every 2 years and covers people's attitudes to forestry and forestry-related issues, including visits to woodland.

The Public Opinion of Forestry Survey 2003 (not National Statistics) is a set of three surveys covering:

- A representative sample of 4120 adults across the United Kingdom;
- A representative sample of 1000 adults across Scotland; and
- A representative sample of 1000 adults across Wales.

The information in Figures 5.1 and 5.2 and Tables 5.3 and 5.4 is taken from the UK and country reports on the 2003 survey, which included comparisons with previous surveys. The survey was carried out in March 2003. Results from the UK survey of 4120 adults are accurate to within ±2.3% for questions where all respondents gave an answer.

In the 2003 survey, 67% of respondents said they had visited woodland in the last few years for walks, picnics or other recreation.

Table 5.3 Woodland visitors

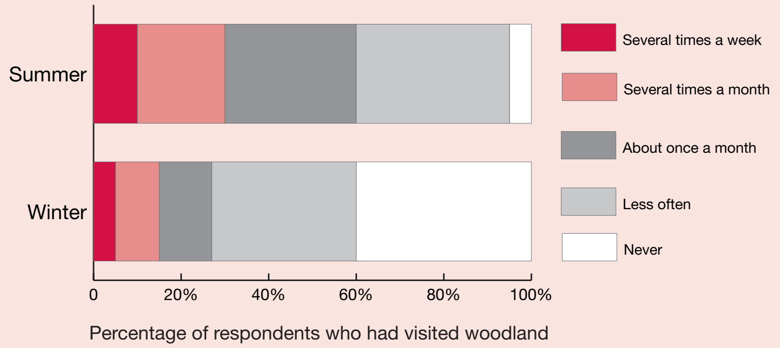
% of respondents

	UK	England	Scotland	Wales	N Ireland
Visited woodland in last few years	67	66	64	62	77

Source: Public Opinion of Forestry Surveys (not National Statistics).

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, with 62% visiting at least once a month in summer 2002 compared with 29% in winter 2002/3.

Figure 5.1 Frequency of visits to woodland



Source: Public Opinion of Forestry Survey 2003 (not National Statistics).

Respondents were also asked who they thought owned any of the forests or woodlands they had visited (Table 5.4). Voluntary bodies (e.g. National Trust, Woodland Trust) and the Forestry Commission/Forest Enterprise/Forest Service were the most popular responses (more than one response was possible for this question). Although similar, this is not directly comparable with the question in the 2002/3 GB Day Visits Survey (see Table 5.2), which asked about specific trips, rather than all forests visited.

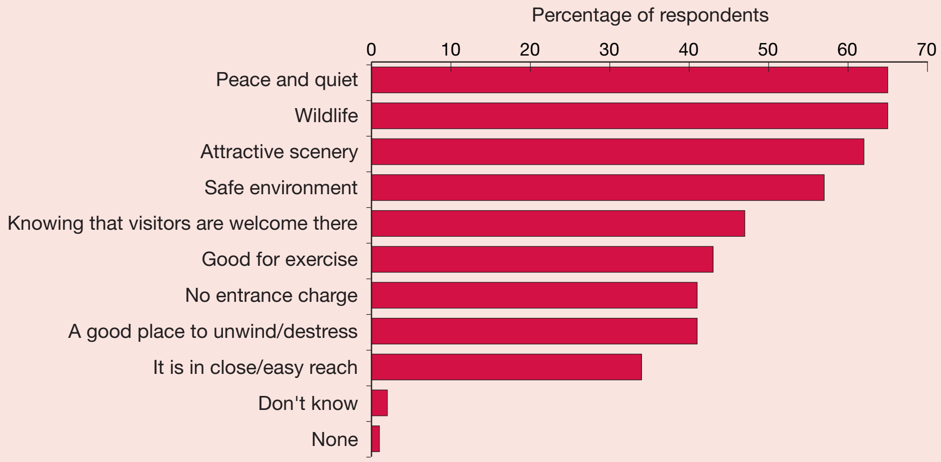
Table 5.4 Ownership of woodland visited

	% of respondents who had visited woodland
Forestry Commission/Forest Enterprise (GB) or Forest Service (NI)	40
Voluntary bodies	50
National Trust/National Trust for Scotland	*42*
Woodland Trust	*16*
Other voluntary body	*4*
Local authorities	33
Private owners	18
None/Don't know	17

Source: Public Opinion of Forestry Survey 2003 (not National Statistics).

Respondents to the survey were asked to identify the factors that were important to them when choosing to visit a woodland. Peace and quiet (65%), wildlife (65%), attractive scenery (62%) and a safe environment (57%) were the most frequently stated reasons.

Figure 5.2 Factors important when choosing to visit a woodland



Source: Public Opinion of Forestry Survey 2003 (not National Statistics).

Until 2002, a visitor monitoring programme (not National Statistics) was carried out at selected Forestry Commission woodland sites in England, Scotland and Wales. Year-on-year changes in visitor numbers were estimated by the Trends Index, which used data from traffic counters and other counters (*Visitor Monitoring Trends Index Report*). Information about visitors and their views on facilities were collected by on-site visitor surveys; with the results summarised in *Forest Visitor Surveys*.

In Northern Ireland in 2003–04, a total of 446 thousand people visited those Forest Service sites where an admission charge was made.

Table 5.6 Day visitors to Northern Ireland Forest Service sites[1]

thousands of people visiting sites

Year (ending 31 March)	N Ireland
1995–96	499
1996–97	537
1997–98	458
1998–99	382
1999–00	403
2000–01	402
2001–02	403
2002–03	460
2003–04	446

Source: Forest Service

Notes
1 Only covers sites for which an admission charge is made.

Woodland recreation facilities (GB)

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. Forest Parks cover around 143 thousand hectares in Scotland, 136 thousand hectares in England and around 13 thousand hectares in Wales. The largest is Galloway Forest Park, which covers a total area of 77 thousand hectares, followed by Kielder Forest Park, at 61 thousand hectares.

Table 5.7 Size of Forest Parks

hectares

England	New Forest	27 000
	Forest of Dean	11 000
	Delamere	1 000
	Sherwood Pines	1 200
	Thetford	19 000
	North Riding	12 000
	Whinlatter	1 200
	Grizedale	2 500
	Kielder	61 000
		135 900
Scotland	Glenmore	3 500
	Tay	17 000
	Queen Elizabeth	20 000
	Argyll	21 000
	Galloway	77 000
	Tweed Valley	4 900
		143 400
Wales	Afan Argoed	3 000
	Coed-y-Brenin	3 200
	Gwydyr	6 500
		12 700

Source: Forestry Commission

Table 5.8 presents information on Forestry Commission recreation facilities and activities that were included on the Forestry Commission website in August 2004. A total of 588 sites were featured on the website: 270 (46%) in Scotland, 215 (37%) in England and 103 (18%) in Wales.

Almost all sites (87%) had parking facilities and four-fifths (80%) included walking activities.

Table 5.8 Forestry Commission recreation facilities and activities[1,2] – 2004

as at August 2004

Facility	GB	England	Scotland	Wales
Total sites on FC website	588	215	270	103
Facilities				
Parking – Free	455	165	218	72
Parking – Paid	58	34	12	12
Information	224	101	106	17
Easy Access	143	82	42	19
Toilet	137	66	56	15
Refreshments	74	46	23	5
Visitor Centre	49	24	20	5
Shop	34	18	11	5
Activities				
Walking	470	172	228	70
Cycling	229	98	104	27
Picnic	224	94	93	37
Horse Riding	124	61	43	20
Wildlife Activities	91	51	34	6
Educational	89	47	28	14
View Point	65	16	46	3
Heritage	56	19	33	4
Play Area	51	28	16	7
Orienteering	49	28	15	6
Fishing	45	12	21	12
Barbecue	43	24	6	13
Forest Drive	24	13	10	1
Camping	24	10	12	2
Arts	22	14	8	0
Arboretum	14	7	3	4
Watersports	6	2	3	1
Skiing	2	0	2	0

Source: Forestry Commission

Notes

1 Number of sites where a given facility or activity is present. These data are not directly comparable with numbers published for previous years before 2003.

2 A small number of facilities or activities are double counted as they appear more than once in the database used for the website.

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.

Table 5.9 provides information on the 12 Community Forests in England and five other community forestry initiatives in Great Britain. These 17 community forests cover a land area of 1.1 million hectares. A total of 22 thousand hectares of new planting had been achieved by March 2004. This has increased the woodland cover in these forests from an initial 7% to 9% of the total area by March 2004.

Table 5.9 Community Forests

Name of Forest	Land area[1] (ha)	Initial woodland area (ha)	Initial % woodland cover	Target new planting (ha)	Achieved new planting to Mar 2004 (ha)	Population[2] (millions)
Community Forests						
Forest of Avon	57 300	3 380	6	6 726	472	1
Forest of Mercia	23 000	1 344	6	5 656	618	4
Forest of Marston Vale	15 800	569	4	4 120	840	1
Great North Forest	24 870	1 970	8	4 000	1 047	1
Great Western Community Forest	39 000	1 170	3	7 588	1 160	1
Greenwood Community Forest	43 800	4 530	10	5 750	1 209	2
Mersey Forest	92 500	3 700	4	8 140	2 606	4
Red Rose Forest	76 000	2 960	4	10 000	1 263	4
South Yorkshire	50 530	3 800	8	3 670	573	2
The Tees Forest	34 970	2 410	7	5 870	1 072	1
Thames Chase Community Forest	10 406	824	8	2 260	472	5
Watling Chase Community Forest	18 800	1 690	9	1 930	291	3
Other community forestry initiatives						
Black Country Urban Forest	36 000	364	1	1 000	370	1
Central Scotland Forest	160 000	19 000	12	15 000	5 369	1
ELWOOD (East Lancashire)	126 000	10 691	9	1 000	327	0
The National Forest	50 200	3 010	6	13 554	4 627	10
White Rose Forest	202 100	9 100	5	12 126	115	2
Total	1 061 276	70 512	7	108 390	22 431	

Source: Forestry Commission

Notes

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

2 The population is usually the population living within 20 km. In a few cases however, it is the population of the area served, which may represent a larger area (e.g. those living within a 90 minute drive for the National Forest).

6. EMPLOYMENT

This section contains information on the latest employment survey undertaken by the Forestry Commission.

Tables 6.1 and 6.2 show estimates obtained from the 1998/9 employment survey (not National Statistics). The report *1998/9 Forest Employment Survey*, together with more detailed regional breakdowns, is available on the Forestry Commission website.

There were estimated to be a total of almost 30 thousand full-time equivalent employees in the forestry and primary wood processing industries in Great Britain in 1998/9. Around one half of employees were based in England, a further 36% were in Scotland and 14% in Wales. Over one third of all employees were employed by wood processing industries and a further 29% by private woodland owners.

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

full-time equivalents

Employer[1]	GB	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

Source: Forest Employment Survey 1998/9 (not National Statistics).

Notes

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

Around 43% of employees were based in the forest, mainly in harvesting (16% of all employees), maintenance (11%) or establishment (9%). Processing accounted for the majority of non-forest employees (38% of all employees).

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

full-time equivalents

Activity	GB	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**

Source: Forest Employment Survey 1998/9 (not National Statistics).

Almost all direct workers (96%) travelled less than 20 miles to their place of employment. Contract workers were more likely to travel further, with 45% travelling more than 20 miles.

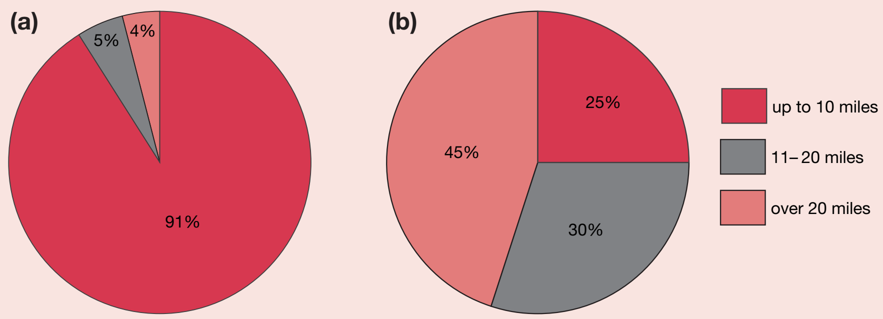
Table 6.3 Percentage of forestry workers travelling less than 20 miles to their place of employment in GB

% workers

	GB	England	Scotland	Wales
Direct workers	96	97	98	80
Contracts workers	55	56	54	55
Total	**71**	**72**	**68**	**68**

Source: Forest Employment Survey 1998/9 (not National Statistics).

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



Source: Estimated from the Forest Employment Survey 1998/9 (not National Statistics).

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. LAND-USE, ACQUISITIONS AND DISPOSALS

This section contains information on the land-use, land acquisition and land disposal activities of the Forestry Commission and the Forest Service.

Land-use

Woodland accounted for 75% of all Forestry Commission/Forest Service land in the UK in 2003–04. This proportion was highest in Wales (88%) and lowest in Scotland (71%).

Table 7.1 Land-use of the Forestry Commission and Forest Service

thousands of hectares

Year (ending 31 March)	UK	England	Scotland	Wales	N Ireland
Woodland[1]					
1980	945	252	501	138	54[4]
1990	956	235	533	130	58
2000	886	216	493	116	61
2001[3]	862	208	478	115	61
2002	856	206	475	113	61
2003	848	207	470	110	61
2004	841	205	465	110	62
Other land[1,2]					
1980	390	51	298	23	18[4]
1990	258	40	191	11	16
2000	243	44	172	12	15
2001[3]	267	51	187	15	15
2002	273	51	192	16	14
2003	273	52	190	16	14
2004	274	53	191	16	14
Total FC/FS land area					
1980	1 335	303	800	161	72[4]
1990	1 214	275	723	141	75
2000	1 129	260	665	127	76
2001[3]	1 129	258	665	130	76
2002	1 129	257	667	129	76
2003	1 121	259	660	126	76
2004	1 116	259	656	125	76

Source: Forestry Commission and Forest Service.

Notes

1. The definitions used by Forestry Commission and Forest Service have varied over time, so there are some small inconsistencies in the comparisons in Table 7.1.
2. 'Other land' includes agricultural land and areas of moorland and mountain.
3. The apparent decrease in woodland cover in 2001 is due to a reclassification of Forestry Commission open land within the forest.
4. Area at the end of the 1979–80 planting season.

Acquisitions and disposals

Table 7.2 includes acquisitions and disposals of both woodland and other land.

Before 1980–81 figures were only published for woodland (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 woodland in the 1970's was around 10 thousand hectares in Great Britain (mostly in Scotland).

A 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 Forestry Commission 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.

A total of 953 hectares of land was acquired by the Forestry Commission/Forest Service in 2003–04 and 3490 hectares were disposed of, resulting in a net decrease of 2538 hectares. The majority of the acquisitions (58%) and disposals (74%) were in Scotland.

Table 7.2 Land acquisitions and disposals

hectares

Year (ending 31 March)	UK (FC/FS)	GB (FC)	England	Scotland	Wales	N Ireland (FS)
Acquisitions						
average 1980–81 to 1989–90	2 911	2 472	136	2 087	250	439
average 1990–91 to 1999–00	968	724	124	589	12	244
2000–01[1]	1 088	1 012	696	316	0	76
2001–02[1]	1 584	1 503	1 380	116	7	81
2002–03[1]	660	596	261	89	246	64
2003–04	953	917	292	556	69	36
Disposals						
average 1980–81 to 1989–90	15 087	15 018	2 969	9 853	2 196	69
average 1990–91 to 1999–00	9 571	9 428	1 497	6 390	1 541	143
2000–01	6 030	5 868	714	3 391	1 763	162
2001–02	3 100	3 090	613	2 060	417	10
2002–03	1 490	1 475	370	1 046	59	15
2003–04	3 490	3 490	559	2 577	354	1

Source: Forestry Commission and Forest Service.

Notes

1 2000–01 to 2002–03 figures are the acquisitions of plantation and plantable land.

Appendix A

SOURCES AND DEFINITIONS

Scope

This publication covers a wide range of forestry aspects in the United Kingdom, 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 non-FC/FS woodland comes from administration of grants and licences, 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 United Kingdom 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 C. 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 from 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 1995–99 National Inventory of Woodland and Trees mapped all areas down to 2.0 ha, but sample-based information was also collected for smaller woods, small groups of trees and individual trees. The area statistics in Tables 1.1–1.6 show totals for woods over 0.1 hectares.

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 owned or managed by Forestry Commission (FC) and woodland owned by others (Tables 1.1 and 1.3). FC data now come from a GIS where mappable open space is excluded from the total. Non-FC woodland (from the National Inventory of Woodland and Trees, NIWT) includes open areas less than 1 hectare 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 United Kingdom 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 and supporting protocols. 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 (last published in August 2004), Forestry Facts & Figures (September 2004) and this publication, Forestry Statistics (November 2004). Further information on how we are implementing the National Statistics Code of Practice and supporting protocols is available in the Forestry Commission's Statement of Compliance, available from our website (www.forestry.gov.uk/statistics).

Quality of Estimates

There are several 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), United Kingdom Forest Products Association (UKFPA) or Forestry and Timber Association (FTA). 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.

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.

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 on-site 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 Day Visits Survey) that use recognised sampling frames.

Appendix B

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	Woodbased panel mills	Round fencing manufacturers (GB only)	UK total[1]
1995	459	4	11	131	605
1996	412	4	11	119	546
1997	384	4	11	103	502
1998	351	4	11	99	465
1999	328	4	10	90	432
2000	305	4	10	85	404
2001	279	4	10	80	373
2002	258	4	10	67	339
2003	250	3	8	64	325

Notes

1 A single mill may be recorded twice, as a sawmill and a round fencing manufacturer.

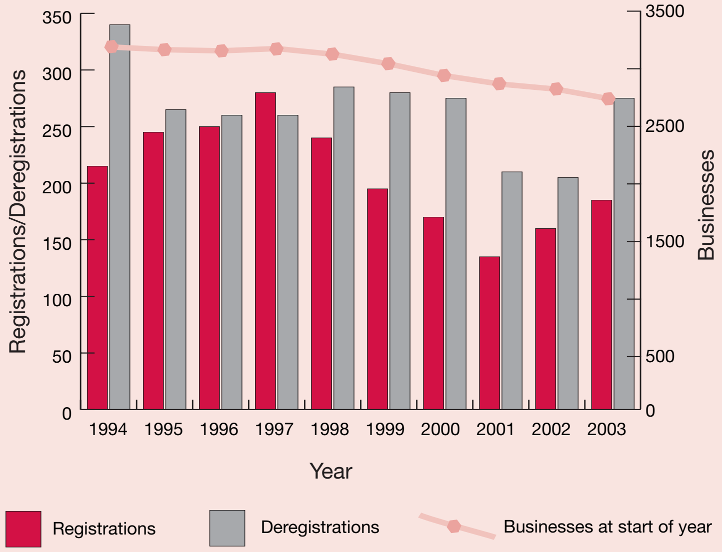
VAT-registered businesses involved in forestry and primary wood processing

The Standard Industrial Classification (SIC) is the United Kingdom's classification of business activities. The main heading including forestry businesses is 020: Forestry and logging. 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.

Charts B.1–B.4 (using data from *Business start-ups and closures: VAT registrations and deregistrations 1994–2003* published by the Small Business Service of the Department for Trade and Industry) 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[1]**

Values have been rounded to the nearest 5 businesses.

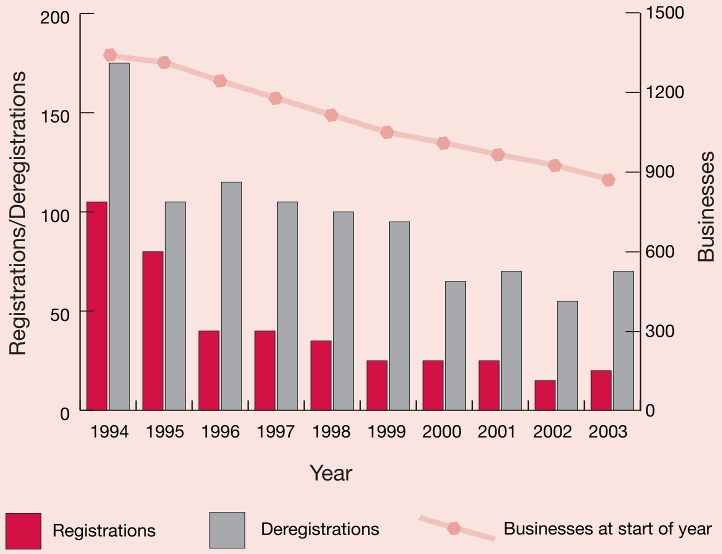


Notes

[1] Figures have been revised from Forestry Statistics 2003 to reflect revised data published by DTI.

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[1]**

Values have been rounded to the nearest 5 businesses.

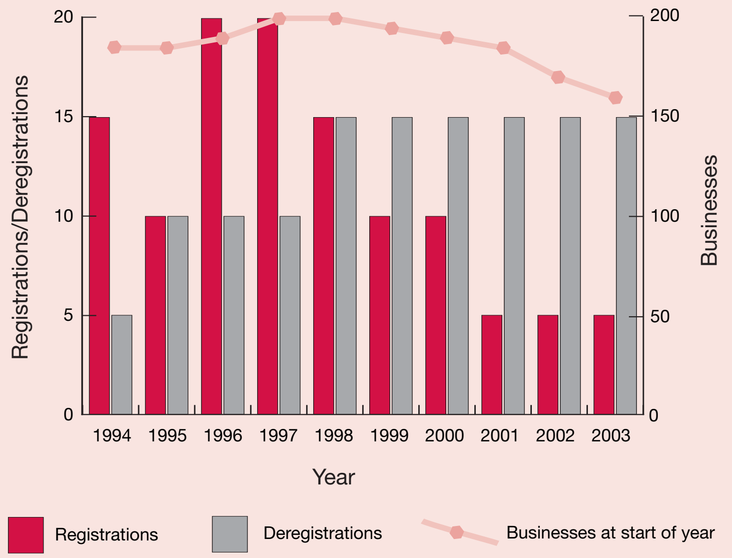


Notes

[1] Figures have been revised from Forestry Statistics 2003 to reflect revised data published by DTI.

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**[1]

Values have been rounded to the nearest 5 businesses.

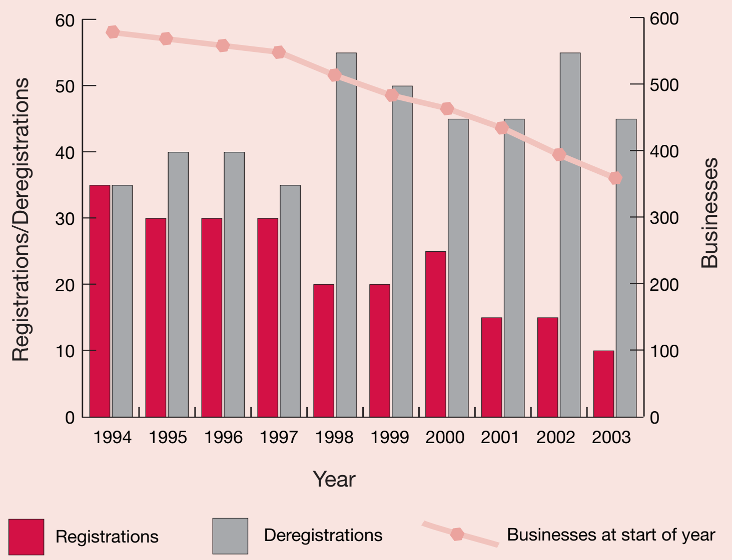


Notes

[1] Figures have been revised from Forestry Statistics 2003 to reflect revised data published by DTI.

Figure B.4 **Total number of businesses and VAT registrations and deregistrations of businesses classified to SIC 211: Manufacture of pulp, paper and paperboard**[1,2]

Values have been rounded to the nearest 5 businesses.



Notes

[1] Only integrated pulp and paper mills are normally included in primary wood processing.

[2] Figures have been revised from Forestry Statistics 2003 to reflect revised data published by DTI.

Appendix C

TREE SPECIES IN BRITISH WOODLAND

Based on report for Forest Resources Assessment 2000

Table C.1 Tree species in British woodland

Main species Common name	Latin name	**Other species** Common name	Latin name
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*	Aspen	*Populus tremula*
Hawthorn	*Crataegus monogyna*	Black poplar	*Populus nigra*
Common alder	*Alnus glutinosa*	Poplar	*Populus* spp
Hazel	*Corylus avellana*	Juniper	*Juniperis communis*
Elder	*Sambucus nigra*	Hornbeam	*Carpinus betulus*
		Crab apple	*Malus sylvestris*
		Service tree	*Sorbus torminalis*
		Whitebeams, etc.	*Sorbus* spp
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*
Western hemlock	*Tsuga heterophylla*	Japanese cedar	*Cryptomeria japonica*
		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 x hispanica*
		Peach	*Prunus persica*
		Almond	*Prunus dulcis*
		Other cherries	*Prunus* spp
		Apple	*Malus domestica*

Appendix D

GLOSSARY

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
Boreal region	Region of forest areas of the Northern Temperate Zone: dominated by coniferous trees such as spruce, fir and pine
Broadleaf	Trees which do not have needles or 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')
DARDNI	Department of Agriculture and Rural Development, Northern Ireland
Defra	Department for Environment, Food and Rural Affairs
ECS	Energy Crop Scheme
ERDP	England Rural Development Programme
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 Great Britain. The responsibility for Forestry is devolved to ministers in the Scottish Parliament and Welsh Assembly, but the executive functions are exercised throughout Great Britain by the FC
FE	Forest Enterprise: the agencies or parts 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)
FWPS	Farm Woodland Premium Scheme
GB	Great Britain: England, Scotland and Wales

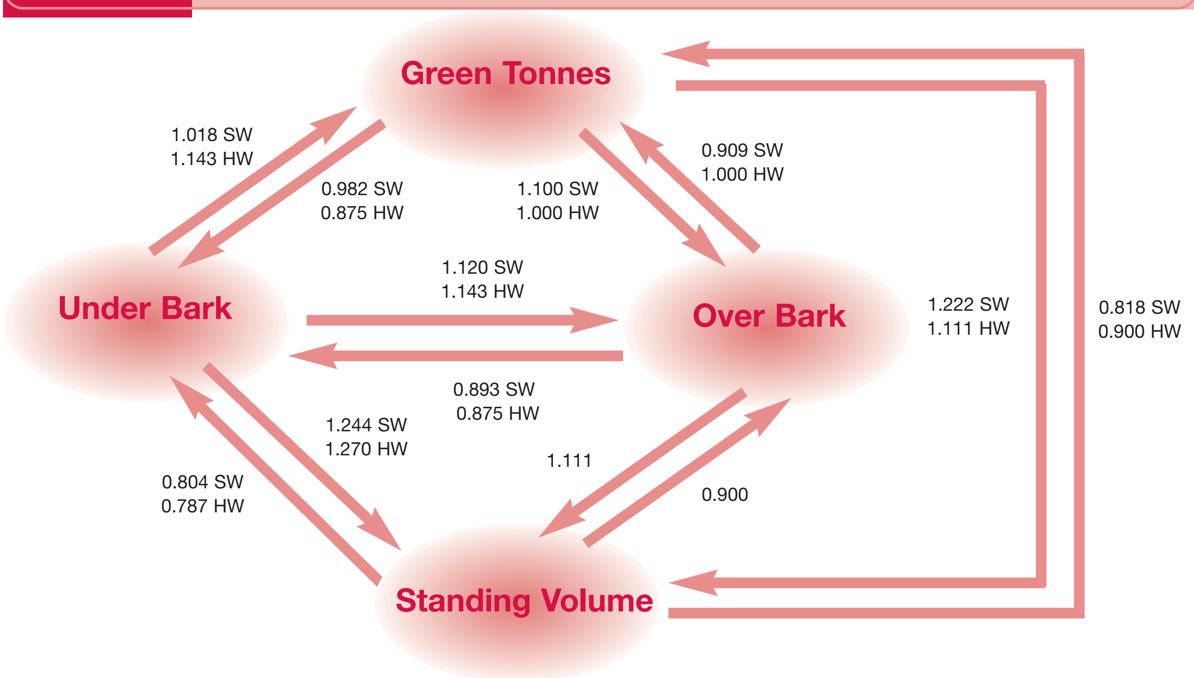
GIS	Geographic Information System
Green tonne	Weight measurement of timber fresh felled before any natural or artificial drying has occurred.
ha	hectare (2.471 acres)
Hardwood	The wood of broadleaved trees, a term sometimes used for the broadleaved trees themselves
High forest	Trees capable of growing 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/m^3
Miscanthus	Woody, perennial rhizomatous grasses originating from Asia
Native species	Species that have arrived and inhabited an area naturally, without deliberate assistance by man. For trees and shrubs in the United Kingdom 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 colonisation	Creation of new woodland by natural means, i.e. without sowing or planting
Natural regeneration	Regeneration of existing 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
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	Woodbased 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)
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
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 14 cm top diameter that is destined to be sawn into planks or boards

Sawmill products	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 or co-products
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
SEERAD	Scottish Executive Environment and Rural Affairs Development
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
SFGS	Scottish Forestry Grant Scheme. Introduced in June 2003 to replace the Woodland Grant Scheme in Scotland
Silviculture	The care and cultivation of forest trees
Softwood	The wood of coniferous trees or conifers themselves
SPA	Special Protection Area
SRC	Short rotation coppice (either willow or popular)
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
UKFPA	United Kingdom Forest Products Association
UN ECE	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.
WAG	Welsh Assembly Government
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

Appendix E

CONVERSION FACTORS

Figure E.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 FC Technical Paper 19 *Revised Forecasts of the Supply and Demand for Wood in the UK*. The factor for paper products includes an allowance for the proportion of recycled paper manufactured in the United Kingdom. The factors are shown in Table E.1.

Table E.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 3.3, which used an older set of factors to convert to WRME underbark.

Appendix F

FURTHER INFORMATION

Useful addresses

Economics and Statistics
Forestry Commission
231 Corstorphine Road
Edinburgh
EH12 7AT

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Forest Service
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Upper Newtownards Road
Belfast
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www.forestryserviceni.gov.uk

Customer Contact Centre
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Office for National Statistics
Cardiff Road
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NP10 8XG

www.statistics.gov.uk

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Palais des Nations
CH - 1211 GENEVA 10
Switzerland

www.unece.org/trade/timber/

Forestry Department
Food and Agriculture Organization
of the United Nations
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www.fao.org/forestry/

European Forest Institute
Torikatu 34
FIN-80100 Joensuu
Finland

www.efi.fi

References and Bibliography

Forestry Commission Economics and Statistics publications

British Timber Statistics 2003 (2004)
Forest Employment Survey 1998/9 (2001)
Forestry Facts and Figures 2004 (2004)
Forest Visitor Surveys 2002, Summary Report (2004)
Public Opinion of Forestry 2003 (2003)
UK Indicators of Sustainable Forestry (2002)
First Release: Coniferous Standing Sales Price Index (2004)
First Release: UK Wood Production and Trade (2004)
First Release: Woodland area, planting and restocking (2004)

Other Forestry Commission/Forest Service publications

FC Technical Paper 19; A Whiteman, (1996)
GB: New forecast of Softwood availability; S Smith, J Gilbert & R Coppock, (2001)
1995-99 National Inventory of Woodland & Trees; S Smith & J Gilbert, (2001)

Forest Service Annual Report 2002-2003; Forest Service, (2003)

Other publications

IPD UK Forestry Index 2004; Investment Property Databank

Protected Forest Areas in the UK, (2001), for World Wide Fund for Nature and Forestry Commission; S Pryor & G Peterken.

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

State of Worlds Forests 2003, Food and Agriculture Organisation of the United Nations

State of Europe's Forests 2003, *The MCPFE Report on Sustainable Forest Management in Europe,* MCPFE Liaison Unit Vienna and UN Economic Commission for Europe/Food and Agriculture Organisation of the United Nations.

GB Leisure Day Visits: Report of the 2002–03 GB Day Visits Survey, for a consortium of national agencies responsible for recreation and tourism; TNS Travel and Tourism.

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