Forestry Commission

Forestry Statistics 2008

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

NATIONAL STATISTICS

FOREST SERVICE

0 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 information about environment and recreation, but it is still weighted towards the traditional topics that have the best quality data.

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.

As a National Statistics output, this publication concentrates on topics for which the data meet National Statistics quality standards. However some topics outside the scope of National Statistics are included, to give a more rounded picture; any such tables are footnoted 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.

To navigate this publication, please use the links on the left hand side of the screen to access the contents list, to use the search facility or to select a range of pages to print. The back to Statistics button will access the Forestry Commission's Statistics home page. Individual pages provide further links to relevant tables and sources.

Selected statistics from this publication are available in Forestry Facts and Figures 2008, which is available in hard copy and on our web pages. A Welsh language version of Forestry Facts and Figures is also available.

Economics and Statistics
September 2008

1 Woodland Areas and Planting

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

Use the links on the right to access data and sources on woodland area and planting.

A copy of all woodland area and planting tables is available to download as an Excel spreadsheet.

1.1 Area of woodland: 2008

The area of woodland in the UK at 31 March 2008 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 0.1 million hectares (3%) is in Northern Ireland.

Table 1.1 Area of woodland by ownership and forest type at 31 March 2008

Forest type and ownership	England	Scotland	Wales	Northern Ireland	UK
thousand hectares					
Conifers					
FC/ FS woodland	147	424	92	56	720
Non-FC/ FS woodland[2]	219	621	65	10	915
Total	**366**	**1 045**	**157**	**66**	**1 635**
Broadleaves[1]					
FC/ FS woodland	55	28	14	5	101
Non-FC/ FS woodland[2]	706	269	114	16	1 105
Total	**761**	**297**	**128**	**21**	**1 207**
Total					
FC/ FS woodland	202	452	106	61	821
Non-FC/ FS woodland[2]	925	890	179	26	2 020
Total	**1 127**	**1 342**	**285**	**87**	**2 841**

Source: Forestry Commission, Forest Service, 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, nor for changes in woodland composition at restocking. They include non-FC publicly owned woodland. The NIWT did not include Northern Ireland.

1.2 Area of woodland: changes over time

The 2.8 million hectares of woodland in the UK represents 11.7% of the total land area; this percentage ranges from 6.4% in Northern Ireland to 17.2% in Scotland.

Table 1.2 Woodland area in the United Kingdom

Year	England		Scotland		Wales		Northern Ireland[2]		UK	
	Area (000 ha)	%[1]	Area (000 ha)	%[1]	Area (000 ha)	%[1]	Area (000 ha)	%[1]	Area (000 ha)	%[1]
1086		~15								
c1350		~10		~4						
17thC		~8		~4				~1.5		
1905	681	5.2	351	4.5	88	4.2	15	1.1	1 140	4.7
1924	660	5.1	435	5.6	103	5.0	13	1.0	1 211	5.0
1947	755	5.8	513	6.6	128	6.2	23	1.7	1 419	5.9
1965	886	6.8	656	8.4	201	9.7	42	3.1	1 784	7.4
1980	948	7.3	920	11.8	241	11.6	67	4.9	2 175	9.0
1995-99	1 097	8.4	1 281	16.4	287	13.8	81	6.0	2 746	11.3
2008[3]	1 127	8.7	1 342	17.2	285	13.7	87	6.4	2 841	11.7

Not National Statistics.

Source: Forestry Commission, Forest Service.

Notes:

1. Percentage of the total surface area including inland water. The total surface areas, including inland water are taken from the Annual Abstract of Statistics 2008 (published by the Office for National Statistics).

2. For Northern Ireland, 17th century figure is estimate for all Ireland, 1905 figure is estimate for Ulster 1908, 1947 figure assumes no change from 1939-40 Census.

3. Non-FC woodland figures for 2008 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. The NIWT did not include Northern Ireland.

1.3 Woodland area by ownership

The Forestry Commission/ Forest Service owned or managed 29% of the total woodland area in the UK in 2008. This proportion ranged from 18% of the woodland area in England to 70% in Northern Ireland.

Table 1.3 Area of woodland in the United Kingdom by ownership, 2004-2008

Ownership	England	Scotland	Wales	Northern Ireland	UK
thousand hectares					
Forestry Commission/ Forest Service					
2004	205	465	110	62	842
2005	205	463	109	61	838
2006	204	460	108	61	832
2007	202	457	107	61	827
2008	202	452	106	61	821
Non-FC/FS woodland					
2004	909	865	176	24	1 974
2005	914	871	177	25	1 987
2006	918	876	178	25	1 997
2007	922	884	178	26	2 010
2008	925	890	179	26	2 020
Total woodland					
2004	1 114	1 330	286	86	2 816
2005	1 119	1 334	286	85	2 825
2006	1 121	1 337	285	86	2 829
2007	1 124	1 341	285	87	2 837
2008	1 127	1 342	285	87	2 841

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

1.4 Certified woodland area

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.

1.3 million hectares of woodland in the UK were certified in March 2008, under the Forest Stewardship Council (FSC). This represented 45% of the total UK woodland area, varying from 30% in England to 73% in Northern Ireland. Figures showing volumes of certified timber and Chain of Custody certificates are provided in tables 2.30 and 2.31.

Table 1.4 Area of certified woodland[1,2], March 2008

Ownership	England	Scotland	Wales	Northern Ireland	UK
thousand hectares					
Forestry Commission/ Forest Service[3]	202	452	106	61	821
Non-FC/ FS	139	288	15	3	445
Total woodland area certified	**341**	**740**	**121**	**64**	**1 266**

Source: Forest Stewardship Council, Forestry Commission, Forest Service.

Notes:

1. All certified woodland is under the Forest Stewardship Council (FSC) scheme.

2. The estimates are based on UK data published by FSC, supplemented by data from individual certificates and other sources. Where possible, figures are for the woodland area certified, rather than the land area certified.

3. The Forestry Commission and Forest Service areas are the latest areas, as shown in Table 1.1, rather than the areas shown on the certificates.

1.5 Land use

Woodland accounted for 73% of all Forestry Commission/ Forest Service land in the UK in 2008. This proportion was highest in Wales (86%) and lowest in Scotland (68%).

Table 1.5 Land-use of the Forestry Commission and Forest Service, 2004-2008

Year (ending 31/3)	England	Scotland	Wales	Northern Ireland	UK
thousand hectares					
Woodland[1]					
2004	205	465	110	62	842
2005	205	463	109	61	838
2006	204	460	108	61	832
2007	202	457	107	61	827
2008	202	452	106	61	821
Other land[1,2]					
2004	53	191	16	14	274
2005	54	205	17	15	291
2006	55	208	17	15	296
2007	55	210	18	14	297
2008	56	215	18	14	304
Total FC/ FS land area					
2004	259	656	125	76	1 116
2005	259	668	126	76	1 129
2006	259	668	125	76	1 128
2007	257	666	124	76	1 124
2008	258	667	124	76	1 125

Source: Forestry Commission, 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 1.5.

2. 'Other land' includes agricultural land and areas of moorland and mountain.

1.6 National Inventory of Woodland and Trees

This section contains information extracted from the 1995-99 National Inventory of Woodland and Trees.

1.6.1 Woodland area by ownership type

44% of the GB woodland area in 1995-99 was personally owned. A further 35% was owned or managed by the Forestry Commission.

Table 1.6 Area of woodland[1] in GB by ownership type

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

Not National Statistics.

Source: 1995-99 National Inventory of Woodland and Trees.

Notes:

1. Excludes woods of less than 2 hectares.

1.6.2 Woodland area by main tree species

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 in Great Britain, 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 1.7 Area of woodland in GB by main tree species

Species	England	Scotland	Wales	GB
thousand hectares				
Conifers				
Scots pine	82	140	5	227
Corsican pine	41	2	3	47
Lodgepole pine	7	122	6	135
Sitka spruce	80	528	84	692
Norway spruce	32	35	11	79
European larch	14	9	1	23
Japanese/hybrid larch	33	56	22	111
Douglas fir	24	10	11	45
Other conifer	19	5	6	30
Mixed conifer	9	8	0	18
Total Conifers	**340**	**916**	**149**	**1 406**
Broadleaves				
Oak	159	21	43	223
Beech	64	10	9	83
Sycamore	49	11	7	67
Ash	105	5	19	129
Birch	70	78	13	160
Poplar	11	0	1	12
Sweet chestnut	12	0	1	12
Elm	4	1	0	5
Other broadleaves	84	18	18	120
Mixed broadleaves	91	62	8	160
Total broadleaves	**648**	**206**	**118**	**971**
Total - all species	**988**	**1 123**	**266**	**2 377**
Felled	15	23	9	47
Coppice[1]	22	1	0	24
Open space[2]	72	134	11	217
Total woodland	**1 097**	**1 281**	**287**	**2 665**

Not National Statistics.

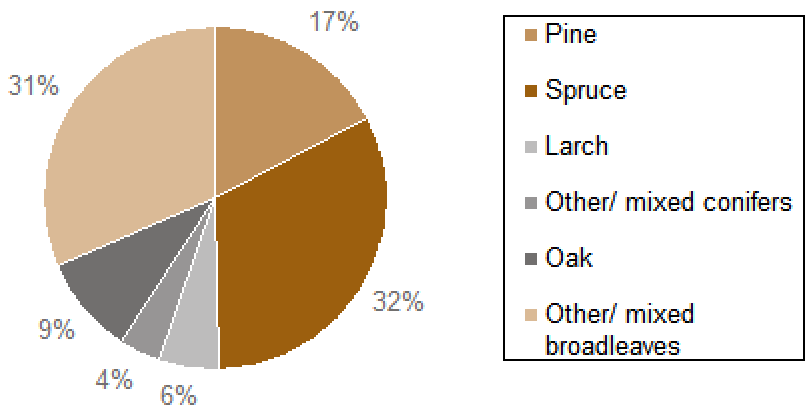
Source: 1995-99 National Inventory of Woodland and Trees.

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



Not National Statistics.

Source: 1995-99 National Inventory of Woodland and Trees.

1.6.3 Woodland area by age

Two thirds of woodland area in GB 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 1.8 Area of woodland[1] in GB by planting year classes[2]

Planting year	England	Scotland	Wales	GB
thousand hectares				
Conifers				
pre-1861	2	4	0	6
1861-1900	5	9	0	14
1901-1910	1	1	0	3
1911-1920	6	7	0	13
1921-1930	7	13	1	22
1931-1940	16	17	4	37
1941-1950	36	43	10	89
1951-1960	67	129	33	228
1961-1970	74	203	38	314
1971-1980	59	234	24	317
1981-1990	36	215	21	273
1991-	32	41	17	89
Total conifers	**340**	**916**	**149**	**1 406**
Broadleaves				
pre-1861	34	12	1	46
1861-1900	89	31	24	144
1901-1910	19	5	4	27
1911-1920	55	11	9	75
1921-1930	60	16	9	85
1931-1940	56	15	20	91
1941-1950	85	25	16	126
1951-1960	80	27	15	121
1961-1970	59	22	8	90
1971-1980	42	17	4	63
1981-1990	33	15	4	52
1991-	36	11	3	50
Total broadleaves	**648**	**206**	**118**	**971**
Total				
pre-1861	35	16	1	52
1861-1900	94	40	24	157
1901-1910	21	6	4	30
1911-1920	61	18	9	88
1921-1930	67	29	10	107

1931-1940	72	31	25	128
1941-1950	121	69	26	215
1951-1960	146	156	47	350
1961-1970	133	225	46	404
1971-1980	101	251	28	380
1981-1990	70	230	26	325
1991-	68	52	20	140
Total	**988**	**1 123**	**266**	**2 377**

Not National Statistics.

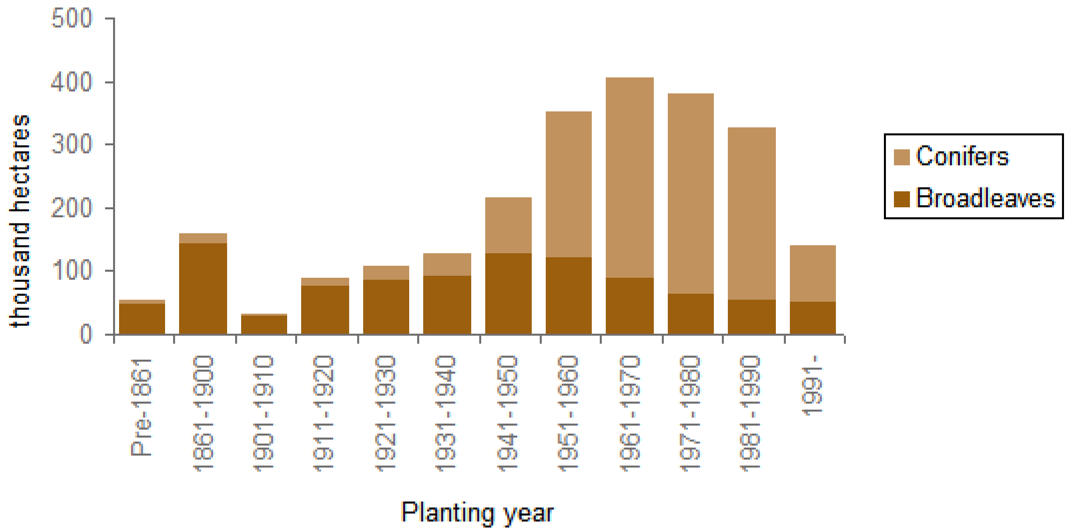
Source: 1995-99 National Inventory of Woodland and Trees.

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



Not National Statistics.

Source: 1995-99 National Inventory of Woodland and Trees.

1.6.4 Number of trees

There are estimated to be around 3,814 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 1.9 Number of trees in GB

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

Not National Statistics.

Source: 1995-99 National Inventory of Woodland and Trees.

1.7 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.

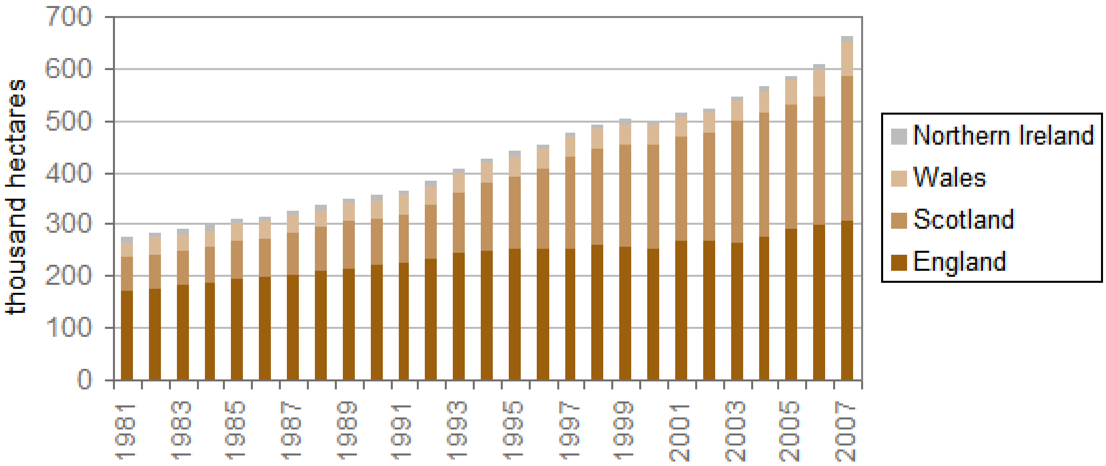
The area of farm woodland in the UK has increased from 490 thousand hectares in 1998 to 661 thousand hectares in 2007. Almost half (46%) of all farm woodland is in England, with a further 42% in Scotland, 10% in Wales and the remainder in Northern Ireland.

Table 1.10 Area of farm woodland, 1998 to 2007

Year	England	Scotland	Wales	Northern Ireland	UK
thousand hectares					
1998	259.1	185.5	37.2	8.2	490.0
1999	255.4	197.2	40.4	8.2	501.2
2000	253.2	200.6	37.1	8.6	499.5
2001	266.2	202.9	36.7	8.2	513.9
2002	267.0	209.9	38.8	7.9	523.6
2003	262.9	236.6	36.5	8.4	544.4
2004	274.1	239.0	41.7	8.2	563.0
2005	291.7	238.0	44.9	8.6	583.2
2006	296.0	249.3	51.3	9.6	606.2
2007	305.4	277.5	67.9	9.9	660.7

Source: June Agricultural Census - Defra, The Scottish Government, Welsh Assembly Government, Northern Ireland Executive.

Figure 1.3 Area of farm woodland, 1981-2007



Source: June Agricultural Census - Defra, The Scottish Government, Welsh Assembly Government, Northern Ireland Executive.

1.8 Forest cover: international comparisons

The FAO Global Forest Resources Assessment (FRA) is a collation of forest data undertaken by the UN FAO at the global level. The information in Table 1.11 uses forest area from FRA 2005, excluding 'other wooded land'; for the UK, this is very similar to the definition of 'woodland' used in previous tables.

At around 12% forest cover, the UK is one of the least densely forested countries in Europe.

Table 1.11 Forest cover: international comparisons, 2005

Country	Forest area (million ha)	Total land area (million ha)	Forest as % of land area
Europe			
United Kingdom	3	24	12
Finland	23	30	74
France	16	55	28
Germany	11	35	32
Italy	10	29	34
Spain	18	50	36
Sweden	28	41	67
Other EU	48	154	31
Total EU-27	**156**	**419**	**37**
Non-EU	37	152	24
Russian Federation	809	1 689	48
Total Europe	**1 002**	**2 261**	**44**
Asia	571	3 087	19
North & Central America	706	2 144	33
South America	832	1 743	48
Africa	635	2 968	21
Oceania	206	849	24
World	**3 952**	**13 053**	**30**

Not National Statistics.

Source: FAO Global Forest Resources Assessment 2005 - Annex 3 Global tables.

Figure 1.4 Forest cover: international comparisons, 2005

Figure 1.4

Not National Statistics.

Source: FAO.

1.9 New planting & restocking by forest type

The total area of new planting and restocking in the UK was 26.4 thousand hectares in 2007-08. Restocking accounted for 72% of this total. Broadleaved species accounted for the majority (89%) of new planting but just 22% of the restocking area in 2007-08.

Table 1.12 New planting and restocking by forest type

Year (ending 31/3)	New planting			Restocking			Total		
thousand hectares									
	Conifers	Broadleaves	Total	Conifers	Broadleaves	Total	Conifers	Broadleaves	Total
England									
2003-04	0.2	4.4	4.6	2.3	0.9	3.2	2.5	5.3	7.8
2004-05	0.2	5.1	5.3	2.0	0.9	2.8	2.1	6.0	8.2
2005-06	0.1	3.6	3.7	2.1	1.1	3.2	2.2	4.7	6.9
2006-07	0.1	3.1	3.2	1.8	0.9	2.8	1.9	4.0	5.9
2007-08	0.1	2.5	2.6	2.0	1.5	3.5	2.1	4.0	6.1
Scotland									
2003-04	2.6	4.2	6.8	7.6	1.3	8.9	10.2	5.5	15.7
2004-05	1.9	3.8	5.7	8.8	1.6	10.4	10.7	5.4	16.1
2005-06	1.0	3.0	4.0	7.8	1.2	9.0	8.8	4.2	13.0
2006-07	2.0	4.6	6.6	10.6	1.8	12.4	12.6	6.4	19.0
2007-08	0.7	3.4	4.2	10.8	1.8	12.6	11.5	5.2	16.7
Wales									
2003-04	0.0	0.4	0.5	1.4	0.5	1.8	1.4	0.9	2.3
2004-05	0.0	0.5	0.5	1.3	0.5	1.8	1.4	1.0	2.4
2005-06	0.0	0.5	0.5	1.8	1.0	2.8	1.8	1.5	3.2
2006-07	0.0	0.4	0.4	2.1	0.9	3.0	2.2	1.2	3.4
2007-08	0.0	0.2	0.2	1.5	0.8	2.3	1.5	1.0	2.5
Northern Ireland									
2003-04	0.1	0.4	0.5	0.9	0.2	1.1	1.0	0.6	1.6
2004-05	0.0	0.3	0.4	0.9	0.1	1.0	0.9	0.4	1.3
2005-06	0.0	0.6	0.6	0.8	0.2	0.9	0.8	0.7	1.5
2006-07	0.0	0.5	0.5	0.7	0.1	0.8	0.8	0.5	1.3
2007-08	0.1	0.5	0.6	0.5	0.0	0.5	0.6	0.5	1.1
UK									
2003-04	2.9	9.5	12.4	12.1	2.8	14.9	15.1	12.3	27.3
2004-05	2.1	9.8	11.9	13.0	3.0	16.1	15.1	12.8	28.0
2005-06	1.1	7.6	8.7	12.5	3.4	15.9	13.7	11.0	24.6
2006-07	2.1	8.5	10.7	15.3	3.6	19.0	17.5	12.2	29.6
2007-08	0.9	6.7	7.5	14.8	4.1	18.9	15.7	10.8	26.4

Source: Forestry Commission, Forest Service, grant schemes.

1.10 New planting & restocking by ownership

Almost all new planting (99% in 2007-08) takes place on non-FC/FS land. In contrast, more than half of restocking occurs on FC/FS land (55%).

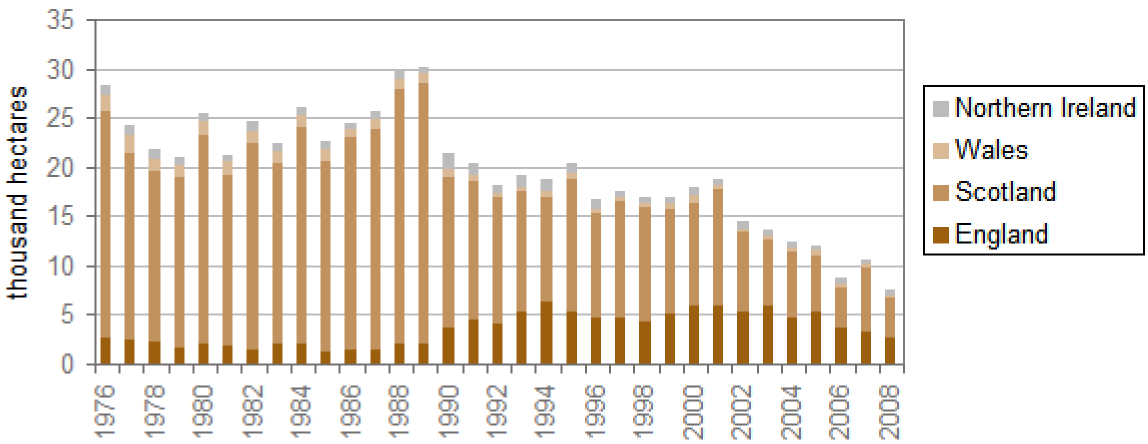
Table 1.13 New planting and restocking by ownership

Year (ending 31/3)	New Planting			Restocking			Total		
thousand hectares									
	FC/FS	Non-FC/FS	Total	FC/FS	Non-FC/FS	Total	FC/FS	Non-FC/FS	Total
England									
2003-04	0.1	4.6	4.6	2.2	0.9	3.2	2.3	5.5	7.8
2004-05	0.1	5.3	5.3	1.9	0.9	2.8	1.9	6.2	8.2
2005-06	0.2	3.5	3.7	2.5	0.8	3.2	2.6	4.3	6.9
2006-07	0.2	2.9	3.2	1.9	0.9	2.8	2.1	3.9	5.9
2007-08	0.1	2.5	2.6	2.1	1.4	3.5	2.3	3.8	6.1
Scotland									
2003-04	0.1	6.7	6.8	5.3	3.6	8.9	5.4	10.3	15.7
2004-05	0.0	5.6	5.7	6.2	4.2	10.4	6.3	9.8	16.1
2005-06	0.1	3.9	4.0	5.2	3.8	9.0	5.3	7.7	13.0
2006-07	0.0	6.6	6.6	6.4	6.0	12.4	6.4	12.6	19.0
2007-08	0.0	4.2	4.2	5.9	6.7	12.6	5.9	10.8	16.7
Wales									
2003-04	0.0	0.5	0.5	1.4	0.4	1.8	1.4	0.9	2.3
2004-05	0.0	0.5	0.5	1.6	0.3	1.8	1.6	0.8	2.4
2005-06	0.0	0.5	0.5	2.0	0.8	2.8	2.0	1.3	3.2
2006-07	0.0	0.4	0.4	2.0	1.0	3.0	2.0	1.4	3.4
2007-08	0.0	0.2	0.2	2.0	0.4	2.3	2.0	0.6	2.5
Northern Ireland									
2003-04	0.1	0.4	0.5	1.0	0.1	1.1	1.1	0.5	1.6
2004-05	0.0	0.3	0.4	0.9	0.1	1.0	0.9	0.4	1.3
2005-06	0.0	0.6	0.6	0.8	0.1	0.9	0.9	0.7	1.5
2006-07	0.0	0.5	0.5	0.8	0.1	0.8	0.8	0.5	1.3
2007-08	0.0	0.5	0.6	0.5	0.1	0.5	0.5	0.6	1.1
UK Total									
2003-04	0.2	12.1	12.4	9.9	5.0	14.9	10.2	17.2	27.3
2004-05	0.1	11.8	11.9	10.6	5.5	16.1	10.7	17.3	28.0
2005-06	0.3	8.4	8.7	10.4	5.5	15.9	10.7	13.9	24.6
2006-07	0.2	10.4	10.7	11.0	8.0	19.0	11.2	18.4	29.6
2007-08	0.2	7.4	7.5	10.4	8.5	18.9	10.6	15.9	26.4

Source: Forestry Commission, Forest Service, grant schemes.

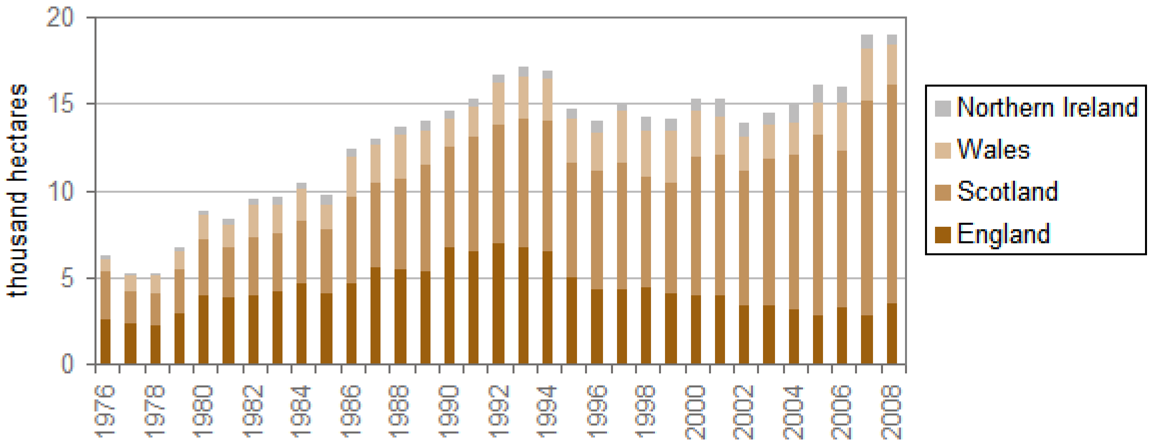
1.11 New planting and restocking: time series

Figure 1.5 New planting in the UK, 1976-2008



Source: Forestry Commission, Forest Service, grant schemes.

Figure 1.6 Restocking in the UK, 1976-2008



Source: Forestry Commission, Forest Service, grant schemes.

2 UK Grown Timber

This section covers the production of timber 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.

Use the links on the right to access data and sources on timber and on employment in forestry and wood processing.

A copy of all timber tables is available to download as an Excel spreadsheet.

2.1 Wood production

Figures for wood production (or removals) are expressed in green tonnes (i.e. weight when freshly felled). The data are derived from a number of sources:

FC/ FS figures are obtained from Forestry Commission and Forest Service administrative systems;

Non-FC/ FS softwood figures are obtained from the Private Sector Softwood Removals Survey;

Total hardwood figures are estimated from hardwood deliveries figures, which are compiled from surveys of the UK-grown timber industry, trade associations and expert estimates.

Use the links on the right to access data and sources on wood production.

2.1.1 Summary: wood production

A total of 9.1 million green tonnes of softwood was produced in the UK in 2007. This was an increase of 6% from the previous year. Over the same period, hardwood production remained almost unchanged, at 0.4 million green tonnes in 2007.

Table 2.1 Wood production, 1998-2007

Year	Softwood			Hardwood[1]		
	FC/ FS woodland	Non-FC/ FS woodland	Total softwood	FC/ FS woodland	Non-FC/ FS woodland	Total hardwood
thousand green tonnes						
1998	4 188	2 638	6 826	118	598	716
1999	4 725	2 555	7 280	128	547	675
2000	4 850	2 580	7 430	130	524	654
2001	4 604	2 900	7 504	145	486	632
2002	4 650	2 982	7 632	118	502	620
2003	4 817	3 497	8 314	117	445	562
2004	4 894	3 625	8 519	113	399	513
2005	4 579	3 900	8 479	101	492	593
2006	4 582	3 984	8 566	45	392	438
2007	4 653	4 424	9 077	40	400	440

Source: Forestry Commission, Forest Service, industry surveys, industry associations.

Notes:

1. Most hardwood production in the UK comes from non-FC/ FS woodland; the figures are estimates based on reported deliveries to wood processing industries and others.

2.1.2 Private sector softwood removals survey

It is estimated that a total of 4.4 million green tonnes of softwood was removed from non-FC/ FS woodlands in 2007. This is an 11% increase from the 2006 figure.

Table 2.2 Private sector softwood removals survey[1], 1998-2007

Year	Survey results[2]		% change	Estimated UK total
thousand green tonnes				
	Previous year	**Latest year**		
1998	1 980	1 835	-7%	2 638
1999	1 783	1 727	-3%	2 555
2000	1 631	1 647	1%	2 580
2001	1 634	1 837	12%	2 900
2002	1 839	1 891	3%	2 982
2003	1 891	2 221	17%	3 497
2004	2 293	2 376	4%	3 625
2005	2 547	2 740	8%	3 900
2006	2 978	3 043	2%	3 984
2007	3 034	3 368	11%	4 424

Source: Private Sector Softwood Removals Survey

Notes:

1. *Removals from non-FC/ FS woodlands only.*

2. *Survey results exclude Northern Ireland before 2004.*

2.1.3 Origin of non-FC/ FS removals

It is estimated that 75% of all softwood removals from non-FC/ FS woodlands were harvested in Scotland, 15% in England, 9% in Wales and the remainder in Northern Ireland in 2007.

Table 2.3 Non-FC/ FS softwood removals by country, 1998-2007

Year	England	Scotland	Wales	Northern Ireland	UK
per cent of UK total					
1998	22.4	65.3	11.2	1.1	100.0
1999	18.7	68.0	12.1	1.2	100.0
2000	19.5	66.8	12.5	1.1	100.0
2001	18.8	67.2	13.0	1.0	100.0
2002	12.9	74.5	11.7	1.0	100.0
2003	14.9	75.0	9.2	0.8	100.0
2004	13.8	76.5	8.9	0.8	100.0
2005	14.8	76.4	7.7	1.0	100.0
2006	15.6	74.8	9.1	0.5	100.0
2007	14.9	75.2	9.2	0.7	100.0

Source: Private Sector Softwood Removals Survey

2.1.4 Origin of FC/ FS removals

Information on removals from Forestry Commission (FC) and Forest Service (FS) woodlands is extracted from administrative systems.

A total of 4.7 million green tonnes of softwood was removed from FC/ FS woodlands in 2007, a 2% increase from the 2006 level.

Table 2.4 FC/ FS softwood removals by country, 1998-2007

Year	England	Scotland	Wales	Northern Ireland	UK
thousand green tonnes					
1998	1 121	2 067	763	238	4 188
1999	1 266	2 351	836	273	4 725
2000	1 156	2 616	752	326	4 850
2001	1 075	2 354	779	396	4 604
2002	1 103	2 268	894	385	4 650
2003	1 107	2 405	880	424	4 817
2004	1 204	2 527	783	380	4 894
2005	1 165	2 388	673	353	4 579
2006	1 152	2 454	612	364	4 582
2007	1 211	2 496	584	363	4 653

Source: Forestry Commission, Forest Service.

2.1.5 Softwood availability forecasts

Softwood availability forecasts are taken from the 2005 forecast, published in September 2006 (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 of GB forecasts are available in UK: new forecast of softwood availability in the November 2006 edition of Forestry & British Timber.

Softwood production in the UK is projected to increase to an annual average of almost 12 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/ FS woodland.

Table 2.5 Softwood availability forecasts

Annual average in the five years	England	Scotland	Wales	Northern Ireland	UK
thousand green tonnes					
FC/ FS					
2007 - 2011	1 119	2 644	645	370	4 778
2012 - 2016	1 170	3 083	721	474	5 447
2017 - 2021	1 148	3 355	649	468	5 620
2022 - 2026	981	3 024	610	433	5 048
Non-FC/ FS					
2007 - 2011	1 520	2 995	547	16	5 078
2012 - 2016	1 638	3 583	610	16	5 847
2017 - 2021	1 763	3 959	622	16	6 361
2022 - 2026	1 800	4 095	610	16	6 522
Total softwood					
2007 - 2011	2 639	5 638	1 193	386	9 856
2012 - 2016	2 807	6 666	1 331	490	11 294
2017 - 2021	2 910	7 315	1 271	484	11 980
2022 - 2026	2 781	7 119	1 220	449	11 570

Source: 2005 UK Forecast of Softwood Availability (Forestry Commission, 2006)

No forecasts are published for hardwood.

2.2 Deliveries of UK grown roundwood

Figures for deliveries of UK grown roundwood to wood processing industries and others are expressed in green tonnes (i.e. weight when freshly felled). The data are derived from a number of sources, including surveys of the UK-grown timber industry, trade associations and expert estimates. Further details on data sources and methodology are available using the links on the right.

The statistics presented on deliveries cover summary tables for softwood and hardwood, as well as more detailed tables. Use the links on the right to access data and sources on deliveries.

2.2.1 Softwood deliveries

A total of 8.8 million green tonnes of UK grown softwood were delivered to UK wood processing industries and others in 2007. Sawmills accounted for the majority of softwood deliveries (64%). A further 15% of softwood was delivered to woodbased panel mills and 5% to integrated pulp and paper mills. Roundwood exports in 2007 accounted for 9% of all softwood deliveries.

Table 2.6 Deliveries of UK grown softwood, 1998-2007

Year	Sawmills	Pulpmills	Woodbased panels	Fencing	Woodfuel[1]	Other[2]	Exports[3]	Total
thousand green tonnes								
1998	4 146	844	1 527	401	100	33	0	7 052
1999	4 452	660	1 613	385	100	32	24	7 266
2000	4 476	695	1 685	347	100	32	16	7 351
2001	4 598	668	1 680	325	100	31	61	7 463
2002	4 677	696	1 456	289	100	29	133	7 380
2003	4 812	704	1 486	265	100	45	307	7 719
2004	4 953	483	1 525	273	100	79	610	8 022
2005	4 929	500	1 502	321	100	95	705	8 152
2006	5 215	481	1 365	275	100	114	643	8 194
2007	5 590	472	1 362	294	200	113	759	8 791

Source: industry surveys, industry associations.

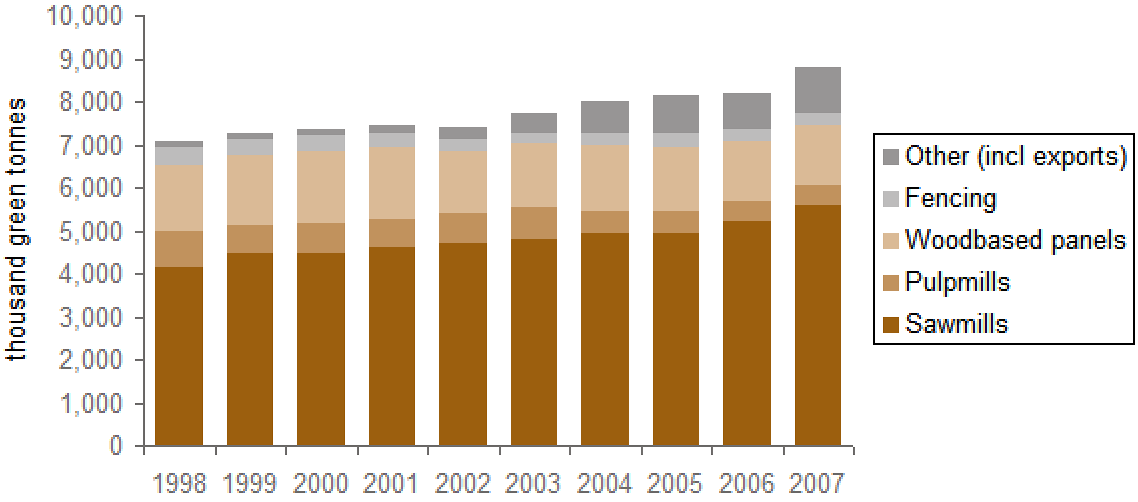
Notes:

1. Woodfuel derived from stemwood, and for 2007 include estimated roundwood use for biomass energy. The figures are estimated by the Expert Group on Timber and Trade Statistics.

2. Includes shavings and poles. Quantities for some uses are estimates by the Expert Group on Timber and Trade Statistics.

3. Exports exclude Northern Ireland before 2004.

Figure 2.1 Deliveries of UK softwood roundwood



Source: industry surveys, industry associations.

2.2.2 Hardwood deliveries

A total of 0.4 million green tonnes of UK grown hardwood were delivered to UK wood processing industries and others in 2007.

The majority of UK hardwood deliveries (68%) were used for woodfuel.

Table 2.7 Deliveries of UK grown hardwood, 1998-2007

Year	Sawmills	Pulpmills	Woodbased panels	Woodfuel[1]	Other[2]	Total
thousand green tonnes						
1998	254	180	77	150	55	716
1999	227	191	52	150	55	675
2000	199	200	50	150	55	654
2001	183	209	35	150	55	632
2002	162	210	43	150	55	620
2003	138	215	4	150	55	562
2004	92	214	2	150	55	513
2005	72	214	2	250	55	593
2006	64	54	1	250	70	438
2007	66	0	5	300	69	440

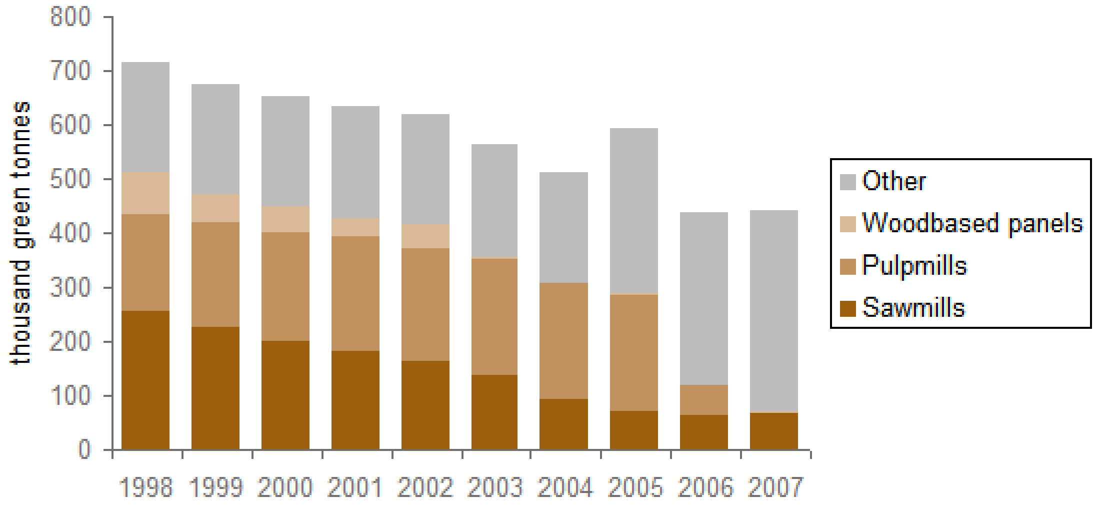
Source: industry surveys, industry associations.

Notes:

1. Woodfuel derived from stemwood, and for 2007 include estimated roundwood use for biomass energy. The figures are estimated by the Expert Group on Timber and Trade Statistics. The apparent increase in woodfuel from 2004 to 2005 reflects a new estimate of the level of hardwood deliveries for woodfuel and should not be interpreted as an increase in a single year. Woodfuel includes wood for charcoal; charcoal production in the UK is estimated to be about 5 thousand tonnes, with about 7 green tonnes of wood required to make one tonne of charcoal.

2. Includes round fencing and roundwood exports. Quantities for hardwood fencing and some other uses are estimates by the Expert Group on Timber and Trade Statistics.

Figure 2.2 Deliveries of UK hardwood roundwood



Source: industry surveys, industry associations.

Notes:

1. Other includes fencing.

2.3 Sawmills - All Mills

Data are collected by the Forestry Commission in an annual Sawmill Survey. Summary results, covering number of mills, consumption and production are available for all mills. More detailed figures are available for larger mills only (sawmills producing at least 10 thousand m^3 sawnwood).

Consumption units are given in green tonnes. For production, the units used are m^3 sawnwood.

Use the links on the right to access data and sources on sawmills.

2.3.1 Summary: consumption & production

Sawmills consumed a total of 5.9 million green tonnes of softwood in 2007, an increase of 7% from the 2006 figure. Over the same period, hardwood consumption increased by 3% to 87 thousand green tonnes in 2007

Table 2.8 Consumption and production by UK sawmills, 1998-2007

Year	Softwood				Hardwood			
consumption: thousand green tonnes, **production:** thousand m^3 sawnwood								
	Consumption of			**Production**	**Consumption of**			**Production**
	UK grown	**Imported**	**Total**		**UK grown**	**Imported**	**Total**	
1998	4 146	246	4 393	2 383	254	8	262	128
1999	4 452	227	4 679	2 530	227	7	234	120
2000	4 476	234	4 711	2 515	199	11	210	108
2001	4 598	239	4 838	2 583	183	17	200	97
2002	4 677	235	4 912	2 619	162	18	180	91
2003	4 812	225	5 037	2 669	138	18	157	81
2004	4 953	226	5 178	2 722	92	28	120	60
2005	4 929	272	5 201	2 730	72	34	106	53
2006	5 215	266	5 482	2 862	64	22	85	45
2007	5 590	263	5 853	3 100	66	21	87	45

Source: Sawmill Survey

2.3.2 Number of sawmills by size

A total of 211 sawmills processed UK roundwood in 2007. Around two thirds of sawmills produced less than five thousand m^3 sawnwood (softwood and hardwood).

Table 2.9 Number of sawmills by size of mill, 1998-2007

Year	Size of mill (total production)[1]						Total
	< 1	1 - < 5	5 - < 10	10 - < 25	25 - < 50	50 +	
1998	139	118	38	21	13	12	341
1999	129	105	36	22	12	15	319
2000	116	102	32	19	14	14	297
2001	101	91	28	24	12	15	271
2002	92	81	26	24	10	16	249
2003	91	76	22	23	12	16	240
2004	87	67	20	23	10	18	225
2005	86	61	20	19	9	20	215
2006	85	60	19	21	10	20	215
2007	85	56	17	21	12	20	211

Source: Sawmill Survey

Notes:

1. Categories are based on total sawnwood production (softwood and hardwood), in thousand m^3.

2.3.3 Number of mills by country

The majority of the 211 active sawmills in 2007 (107) were in England, 70 were in Scotland, 21 in Wales and 13 in Northern Ireland.

Table 2.10 Number of sawmills by country, 1998-2007

Year	England	Scotland	Wales	Northern Ireland	UK
1998	201	95	30	15	341
1999	188	87	29	15	319
2000	168	87	27	15	297
2001	145	84	27	15	271
2002	131	80	23	15	249
2003	125	78	22	15	240
2004	114	75	21	15	225
2005	110	71	20	14	215
2006	110	71	21	13	215
2007	107	70	21	13	211

Source: Sawmill Survey

2.3.4 Number of mills by type of wood sawn

Around two thirds of the 211 active sawmills in 2007 processed softwood only. A further 26% processed both softwood and hardwood, and the remaining 8% processed only hardwood.

Table 2.11 Number of sawmills by type of wood sawn, 1998-2007

Year	Softwood only	Hardwood only	Both	Total
1998	210	28	103	341
1999	187	33	99	319
2000	184	28	85	297
2001	174	25	72	271
2002	160	22	67	249
2003	154	20	66	240
2004	144	18	63	225
2005	144	16	55	215
2006	144	19	52	215
2007	139	17	55	211

Source: Sawmill Survey

2.3.5 Consumption of softwood by size of mill

Sawmills with total sawnwood production of 10 thousand cubic metres or more accounted for 93% of the total softwood consumed by sawmills in 2007.

Table 2.12 Consumption of softwood by size of mill, 1998-2007

Year	Size of mill (total production)[1]						Total
	< 1	1 - < 5	5 - < 10	10 - < 25	25 - < 50	50 +	
thousand green tonnes							
1998	56	381	405	576	836	2 139	4 393
1999	53	334	374	592	717	2 610	4 679
2000	49	365	309	503	895	2 590	4 711
2001	40	280	295	634	846	2 742	4 838
2002	33	248	279	659	680	3 013	4 912
2003	29	239	227	598	835	3 110	5 037
2004	31	218	216	630	686	3 397	5 178
2005	30	235	232	518	579	3 607	5 201
2006	29	205	243	613	661	3 730	5 482
2007	31	189	203	604	840	3 985	5 853

Source: Sawmill Survey

Notes:

1. Categories are based on total sawnwood production (softwood and hardwood), in thousand m^3.

2.3.6 Consumption of softwood by country

Mills in Scotland consumed almost one half (46%) of the 5.9 million green tonnes of softwood delivered to UK sawmills in 2007. A further 29% was consumed by mills in England, 13% in Wales and 12% in Northern Ireland.

Table 2.13 Consumption of softwood by country, 1998-2007

Year	England	Scotland	Wales	Northern Ireland	UK
thousand green tonnes					
1998	1 465	1 628	637	662	4 393
1999	1 574	1 732	711	662	4 679
2000	1 505	1 831	713	662	4 711
2001	1 436	2 015	724	662	4 838
2002	1 363	2 166	720	662	4 912
2003	1 434	2 165	777	662	5 037
2004	1 394	2 310	813	662	5 178
2005	1 421	2 349	746	685	5 201
2006	1 608	2 430	757	686	5 482
2007	1 673	2 683	784	714	5 853

Source: Sawmill Survey

2.3.7 Production of sawn softwood by size of mill

Sawmills with total sawnwood production of 10 thousand cubic metres or more accounted for 92% of the total sawn softwood produced by sawmills in 2007.

Table 2.14 Production of sawn softwood by size of mill, 1998-2007

Year	Size of mill (total production)[1]						Total
	< 1	1 - < 5	5 - < 10	10 - < 25	25 - < 50	50 +	
thousand cubic metres							
1998	31	223	227	314	446	1 142	2 383
1999	31	195	208	317	381	1 398	2 530
2000	28	213	168	274	466	1 365	2 515
2001	24	163	167	355	429	1 446	2 583
2002	19	147	159	360	354	1 580	2 619
2003	16	142	130	328	443	1 610	2 669
2004	17	126	119	331	368	1 761	2 722
2005	17	119	121	278	317	1 877	2 730
2006	17	121	128	326	359	1 911	2 862
2007	18	112	111	332	437	2 090	3 100

Source: Sawmill Survey

Notes:

1. Categories are based on total sawnwood production (softwood and hardwood), in thousand m^3.

2.3.8 Production of sawn softwood by country

1.5 million cubic metres (47%) of sawn softwood was produced by sawmills in Scotland. A further 29% was produced by mills in England, 13% in Wales and the remainder in Northern Ireland.

Table 2.15 Production of sawn softwood by country, 1998-2007

Year	England	Scotland	Wales	Northern Ireland	UK
thousand cubic metres					
1998	824	883	335	342	2 383
1999	879	940	370	342	2 530
2000	815	989	369	342	2 515
2001	786	1 074	381	342	2 583
2002	751	1 146	381	342	2 619
2003	781	1 155	392	342	2 669
2004	744	1 228	408	342	2 722
2005	749	1 247	368	365	2 730
2006	855	1 297	378	332	2 862
2007	884	1 452	405	360	3 100

Source: Sawmill Survey

2.3.9 Sales to bioenergy

An estimated 220 thousand green tonnes (mainly softwood) were sold to bioenergy in 2007. 55% of this total was sold by sawmills in Northern Ireland.

Table 2.16 Sales to bioenergy, 2006-2007

	England	Scotland	Wales	Northern Ireland	UK
thousand green tonnes					
Softwood					
2006	31	20	19	134	204
2007	58	27	9	121	216
Hardwood					
2006	6	0	0	0	6
2007	3	0	0	0	3
Total					
2007	37	20	20	134	210
2007	61	27	9	121	220

Source: Sawmill Survey

2.4 Sawmills - Larger Mills

The following, more detailed, tables for 2007 are available for larger mills (those producing at least 10 thousand m^3 sawnwood) only. These mills are estimated to account for around 90% of all sawn softwood produced.

2.4.1 Softwood consumption and production

Additional information was collected for 2007 from mills that, based on their responses to previous surveys, were believed to produce more than 10 thousand m^3 of sawnwood.

Total softwood consumption by all sawmills covered by the detailed sawmill survey was 5.4 million green tonnes. Sawn softwood production was 2.9 million m^3 and other softwood products (chips, bark, sawdust, etc) amounted to 2.8 million tonnes.

Table 2.17 Larger mills[1], 2007: softwood consumption and production

	England	Scotland	Wales	Northern Ireland	UK
Number of mills	17	25	8	3	53
Consumption (thousand green tonnes)	1 479	2 495	757	699	5 430
Sawnwood production (thousand m^3)	772	1 346	390	351	2 859
Other products (thousand tonnes)	747	1 296	407	313	2 764

Source: Sawmill Survey (detailed)

Notes:

1. Sawmills producing at least 10 thousand m^3 sawnwood (softwood and hardwood).

2.4.2 Source of softwood logs

Of all softwood sawlogs, 54% came from Scotland, 23% from England, 13% from Wales and 5% from Northern Ireland. The remaining 5% was imported from other countries.

94% of softwood sawlogs used by Scottish mills came from Scotland. The corresponding proportions of mills' log use coming from within the same country were 64% for England, 63% for Wales and 41% for Northern Ireland.

Table 2.18 Larger mills[1], 2007: source of softwood logs

Source	England	Scotland	Wales	Northern Ireland	UK
thousand green tonnes					
England	946	156	149	0	1 251
Scotland	321	2 339	132	148	2 941
Wales	211	0	476	0	688
Northern Ireland	0	0	0	288	288
Total UK logs	**1 479**	**2 495**	**757**	**436**	**5 167**
Other countries	0	0	0	263	263
Total log consumption	**1 479**	**2 495**	**757**	**699**	**5 430**

Source: Sawmill Survey (detailed)

Notes:

1. Sawmills producing at least 10 thousand m^3 sawnwood (softwood and hardwood).

2.4.3 Sawn softwood product markets

In 2007, 39% of sawn softwood production was used for fencing, 34% for construction, 26% for packaging and pallets and the remaining 1% went to all other markets.

Table 2.19 Larger mills[1], 2007: sawn softwood product markets

Product market	England	Scotland	Wales	Northern Ireland	UK
per cent					
Construction	22	45	22	33	34
Fencing	55	29	35	43	39
Packaging/ pallets	23	26	38	21	26
Other	0	0	4	3	1
Total	**100**	**100**	**100**	**100**	**100**

Source: Sawmill Survey (detailed)

Notes:

1. Sawmills producing at least 10 thousand m^3 sawnwood (softwood and hardwood).

2.4.4 Other softwood products

Other products (excluding sawnwood) from softwood amounted to 2.8 million tonnes. Almost two thirds (63%) of these other products were sold to wood processing industries in the form of chips and 20% were sold to these industries as bark or in other formats. A further 7% of other products was sold to bio-energy (including pellet manufacturers) and 10% was sold to others.

Table 2.20 Larger mills[1], 2007: other softwood products

Destination and type of product[2]	England	Scotland	Wales	Northern Ireland	UK
per cent of total other softwood products					
Sold to wood processing industries					
Wood chips	65	66	66	45	63
Bark	3	2	6	1	3
Sawdust & other	19	19	20	1	17
Total	**87**	**87**	**91**	**47**	**83**
Sold to bio-energy (incl pellet manufacturers)					
Wood chips	4	2	2	21	5
Bark	0	0	0	0	0
Sawdust & other	1	0	0	17	2
Total	**5**	**2**	**2**	**39**	**7**
Other sales					
Wood chips	1	0	0	1	1
Bark	4	7	5	9	6
Sawdust & other	2	3	1	3	2
Total	**8**	**11**	**6**	**13**	**10**

Source: Sawmill Survey (detailed)

Notes:

1. Sawmills producing at least 10 thousand m^3 sawnwood (softwood and hardwood).

2. Excludes sales of firewood and other products disposed of as waste, which account for less than 0.5% of other softwood products.

2.4.5 Sawmill employment

There were estimated to be 2,918 full time equivalent staff employed directly by sawmills producing at least 10 thousand m^3 of sawnwood in 2007.

Table 2.21 Larger mills[1], 2007: sawmill employment

Employment type	England	Scotland	Wales	Northern Ireland	UK
full time equivalents					
Direct					
Line & production workers	734	1 154	265	305	2 458
Managerial & administrative staff	147	159	32	80	417
Haulage of timber/ products	28	9	1	5	43
Total direct employment	**909**	**1 322**	**298**	**390**	**2 918**
Others[2]					
Line & production workers	29	20	9	11	69
Managerial & administrative staff	3	1	0	1	5
Total contract employment	**32**	**21**	**9**	**12**	**74**

Source: Sawmill Survey (detailed)

Notes:

1. Sawmills producing at least 10 thousand m^3 sawnwood (softwood and hardwood).

2. Excludes haulage employment on contract.

2.5 Pulp & paper

Statistics on inputs to the pulp & paper industry only cover the integrated pulp & paper mills in the UK that use UK roundwood. There were four such mills until 2003, three from 2004 and two from spring 2006. Figures on inputs are provided by the UK Forest Products Association.

Figures on production of pulp and paper are provided by the Confederation of Paper Industries, and cover all paper production in the UK.

2.5.1 Inputs for the integrated pulp & paper mills

The integrated pulp & paper mills in the UK consumed 633 thousand tonnes (all softwood) in 2007. UK roundwood represented 75% of the inputs for the integrated pulp & paper mills in 2007, with the remaining 25% coming from sawmill products.

Table 2.22 Inputs for the integrated pulp & paper mills[1], 1998-2007

Year	UK roundwood[2]		Sawmill products		Total[3]	
thousand green tonnes						
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
1998	844	180	277	0	1 136	180
1999	660	191	295	0	964	191
2000	695	200	308	0	1 004	218
2001	668	209	323	0	991	209
2002	696	210	307	0	1 003	210
2003	704	215	234	0	938	215
2004	483	214	143	0	626	214
2005	500	214	138	0	638	214
2006	481	54	145	0	626	54
2007	472	0	161	0	633	0

Source: UK Forest Products Association

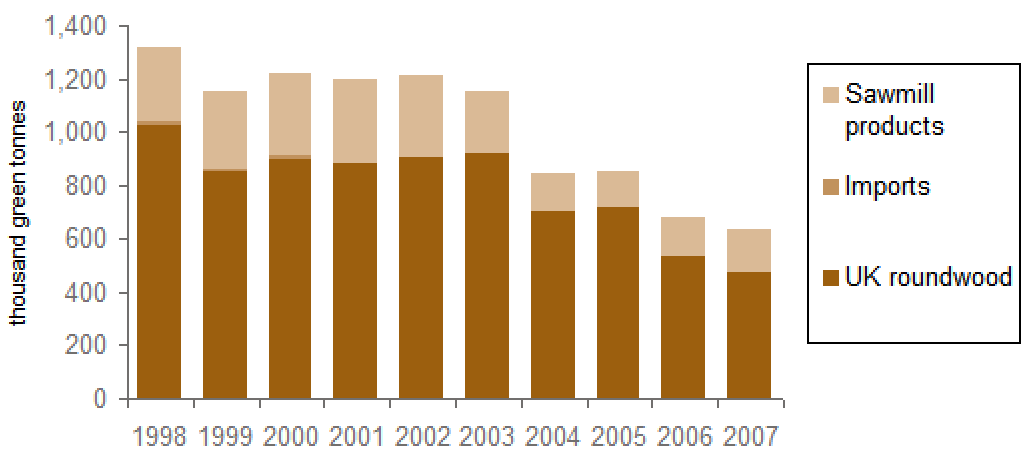
Notes:

1. Excludes inputs of recycled paper and cardboard.

2. UK roundwood derived from stemwood.

3. Includes inputs from imported roundwood and chips.

Figure 2.3 Inputs to integrated pulp and paper mills



Source: UK Forest Products Association

2.5.2 Production of paper

Figures for the production of pulp and paper are provided by the Confederation of Paper Industries. They cover all paper production from UK mills, not just those using UK roundwood.

A total of 5.2 million tonnes of paper was produced by UK paper mills in 2007. This represented a 6% decrease from 2006.

Table 2.23 Production of paper and paperboard, 1998-2007

Year	Graphic papers (incl newsprint)	Sanitary & household papers	Packaging materials	Other	Total paper & paperboard
thousand tonnes					
1998	2 788	635	2 590	464	6 477
1999	2 816	718	2 527	515	6 576
2000	2 847	724	2 291	743	6 605
2001	2 627	738	2 190	649	6 204
2002	2 526	823	2 207	662	6 218
2003	2 532	808	2 240	646	6 226
2004	2 632	806	2 230	572	6 240
2005	2 654	801	1 989	595	6 039
2006	2 483	805	1 999	301	5 588
2007	2 229	834	1 852	313	5 228

Source: Confederation of Paper Industries

2.6 Woodbased panels

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).

Statistics on woodbased panels are provided by the Wood Panel Industries Federation (WPIF).

2.6.1 Inputs for woodbased panel products

A total of 1.4 million green tonnes of UK roundwood was consumed by the woodbased panel products sector in 2007. A further 1.9 million green tonnes of sawmill products and 1.2 million green tonnes of recycled wood fibre were also consumed in 2007.

Table 2.24 Inputs to woodbased panel mills, 1998-2007

Year	UK roundwood[1]		Sawmill products		Imported[2]		Total		
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Re w fi
thousand green tonnes									
1998	1 527	77	1 711	29	10	0	3 248	106	..
1999	1 613	52	1 522	10	10	0	3 145	62	400
2000	1 685	50	1 871	0	14	0	3 570	50	488
2001	1 680	35	1 675	0	13	25	3 368	60	675
2002	1 456	43	1 669	0	13	0	3 138	43	932
2003	1 486	4	1 682	4	22	0	3 190	8	993
2004	1 525	2	1 778	0	9	0	3 312	2	1 0
2005	1 502	2	1 732	2	6	0	3 240	4	1 0
2006	1 365	1	1 794	0	3	0	3 162	1	1 1
2007	1 362	5	1 940	0	2	0	3 304	5	1 2

Source: Wood Panel Industries Federation

Notes:

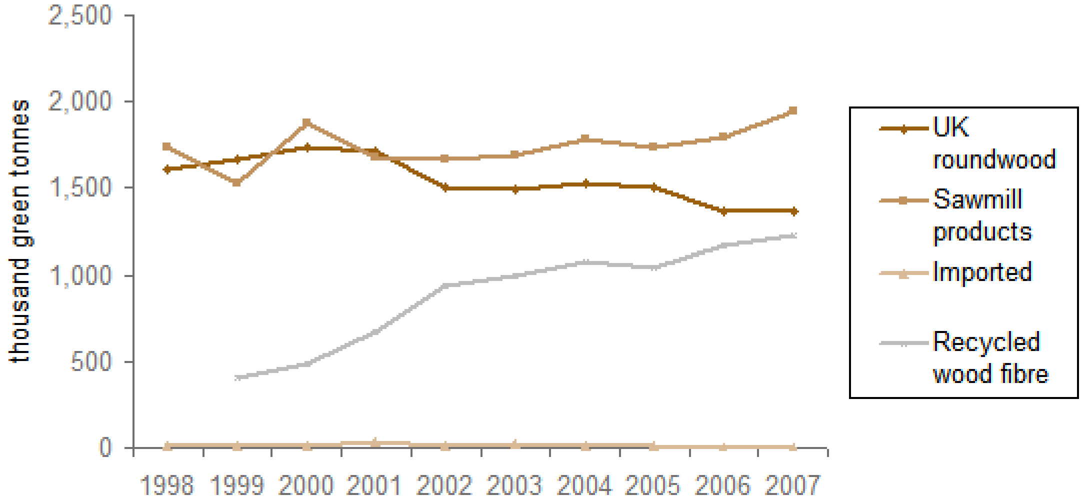
1. UK roundwood derived from stemwood.

2. Imports include roundwood, wood products and products from imported wood.

3. Recycled wood fibre is wood fibre recovered from both pre- and post-consumer wood waste for use in woodbased panel production.

.. denotes data not available.

Figure 2.4 Inputs to woodbased panel mills



Source: Wood Panel Industries Federation

2.6.2 Production of woodbased panel products

A total of 3.5 million m^3 of woodbased panel products was produced in 2007, a slight increase on the 2006 total. Around three quarters of woodbased panel products produced in the UK were particleboard (including oriented strand board (OSB)).

Table 2.25 Woodbased panel production, 1998-2007

Year	Particleboard[1]	Fibreboard[2]	Plywood	Total
thousand cubic metres				
1998	2 287	435	5	2 727
1999	2 442	527	5	2 974
2000	2 570	700	5	3 275
2001	2 498	757	0	3 255
2002	2 446	771	0	3 217
2003	2 526	835	0	3 361
2004	2 653	880	0	3 533
2005	2 557	841	0	3 398
2006	2 626	872	0	3 498
2007	2 684	865	0	3 549

Source: Wood Panel Industries Federation

Notes:

1. Includes Oriented Strand Board (OSB).

2. Includes Medium Density Fibreboard (MDF) and hardboard.

2.7 Miscellaneous products

Softwood

Data for softwood fencing are obtained from the Survey of Round Fencing Manufacturers. Figures for other uses are reported by manufacturers or are estimated by representatives of the wood processing industries.

A total of 294 thousand green tonnes of UK softwood were consumed by round fencing manufacturers in 2007. A further 200 thousand tonnes were estimated to have been used for woodfuel (including biomass energy) and 113 thousand green tonnes for other uses.

Table 2.26 Miscellaneous uses of UK softwood roundwood, 1998-2007

Year	Fencing	Woodfuel[1]	Other[2]	Total
thousand green tonnes				
1998	401	100	33	534
1999	385	100	32	517
2000	347	100	32	479
2001	325	100	31	456
2002	289	100	29	418
2003	265	100	45	410
2004	273	100	79	452
2005	321	100	95	516
2006	275	100	114	490
2007	294	200	113	607

Source: Survey of Round Fencing Manufacturers, industry associations.

Notes:

1. Woodfuel derived from stemwood, and for 2007 include estimated roundwood use for biomass energy. The figures are estimated by the Expert Group on Timber and Trade Statistics.

2. Includes shavings, poles and woodwool.

Hardwood

An estimated 300 thousand green tonnes of UK hardwood were used for woodfuel (including biomass energy) in 2007. A further 30 thousand green tonnes were estimated to have been consumed by round fencing manufacturers and 39 thousand green tonnes for other uses, including exports.

2.7.1 Softwood round fencing manufacturers

There were 77 active round fencing manufacturers in 2007.

Table 2.27 Number of softwood round fencing manufacturers, 1998-2007

Year	Size category (consumption)[1]				Total
	< 1	1 - < 5	5 - < 10	10 +	
1998	43	48	8	9	108
1999	37	43	8	9	97
2000	42	36	8	7	93
2001	40	33	8	6	87
2002	33	25	10	7	75
2003	27	28	9	6	70
2004	27	30	8	6	71
2005	28	26	8	8	70
2006	28	31	7	6	72
2007	33	27	10	7	77

Source: Survey of Round Fencing Manufacturers

Notes:

1. Categories are based on total softwood consumption, in thousand green tonnes.

2.7.2 UK roundwood purchased by softwood round fencing manufacturers

A total of 294 thousand green tonnes of UK softwood was purchased by softwood fencing manufacturers in 2007. This represents an increase of 7% from the 2006 total of 275 thousand green tonnes.

Table 2.28 UK roundwood purchased by softwood round fencing manufacturers, 1998-2007

Year	Size category (consumption)[1]				Total
	< 1	1 - < 5	5 - < 10	10 +	
thousand green tonnes					
1998	15	112	58	216	401
1999	11	98	56	220	385
2000	14	82	60	190	347
2001	12	74	59	180	325
2002	11	63	68	148	289
2003	10	62	62	132	265
2004	8	69	53	143	273
2005	10	66	50	194	321
2006	11	77	47	140	275
2007	13	60	60	161	294

Source: Survey of Round Fencing Manufacturers

Notes:

1. Categories are based on total softwood consumption, in thousand green tonnes.

2.8 Exports

UK softwood exports in 2007 consisted of 588 thousand green tonnes of pulpwood and 171 thousand green tonnes of logs, giving a total of 759 thousand green tonnes of roundwood. The UK also exported 251 thousand tonnes of chips.

Table 2.29 Summary of softwood exports[1], 1998-2007

Year	Roundwood			Chips
	Pulpwood	Logs	Total	
thousand green tonnes				
1998	0	..	0	..
1999	24	..	24	..
2000	16	..	16	..
2001	61	..	61	..
2002	133	..	133	..
2003	217	90	307	..
2004	465	145	610	320
2005	560	145	705	150
2006	505	138	643	214
2007	588	171	759	251

Source: industry associations

Notes:

1. Data for exports from Northern Ireland before 2004 are not available.

.. denotes not available.

2.9 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.

Use the links on the right to access data and sources on certification (including certified woodland area).

2.9.1 Volume certified

Respondents to Forestry Commission surveys were asked to report on volumes certified. 74% of non-FC/ FS softwood removals in 2007 were from certified sources. 78% of sawmills' roundwood consumption and 65% of sawnwood production by sawmills in 2007 was certified. For round fencing manufacturers, 54% of total softwood consumption was certified.

Table 2.30 Per cent of volume certified, 2002-2007

Year	Removals[1]	Sawmills		Round fencing
	Softwood from non-FC/ FS woodland	Consumption (softwood and hardwood)	Production (softwood and hardwood)	Consumption (softwood)
per cent certified volume				
2002	40	65	62	14
2003	54	67	50	36
2004	74	80	63	58
2005	69	76	71	53
2006	67	81	64	46
2007	74	78	65	54

Source: industry surveys

Notes:

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

2.9.2 Chain of custody certificates

Sawmills and round fencing manufacturers were also asked whether they held a Chain of Custody certificate. 42% of sawmills who provided data in 2007 reported that they held a Chain of Custody certificate. This proportion varied with size of mill, from 19% of mills producing less than 5 thousand m^3 sawnwood to 97% of those producing 25 thousand m^3 sawnwood or more. 29% of fencing manufacturers reported holding a Chain of Custody certificate.

Table 2.31 Chain of custody certificates[1], 2007

	Mills holding certificate	Mills without certificate	Certification status not reported	Total
Sawmills (size of mill[2])				
< 5	15	60	3	78
5 - < 25	13	12	2	27
25 +	28	1	0	29
All sawmills	**56**	**73**	**5**	**134**
Round fencing manufacturers	15	34	3	52

Source: industry surveys

Notes:

1. Mills responding for 2007. Accounts for almost 90% of total production for sawmills and almost 90% of total consumption by round fencing manufacturers.

2. Categories are based on total sawnwood production (softwood and hardwood), in thousand m^3.

3 Trade

This section contains information about international trade in wood products, and about the level of apparent consumption estimated from data for trade and UK production.

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 Revenue & Customs. The two sources are surveys of European Union (EU) internal trade (Intrastat) and customs data for trade with non-EU countries.

A copy of all trade tables is available to download as an Excel spreadsheet.

3.1 Apparent consumption of wood in the UK

Apparent consumption is the amount of timber, measured as wood raw material equivalent (WRME) 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. 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 9.0 million m^3 WRME underbark in 2007. A further 54.1 million m^3 WRME underbark of wood and wood products were imported to the UK and 6.6 million m^3 WRME underbark were exported, giving apparent consumption of 56.4 million m^3 WRME underbark. These figures exclude recycled wood and recovered paper (see Table 3.3 for statistics on recovered paper).

Table 3.1 Apparent consumption of wood[1] in the UK, 1998-2007

Year	UK production[2]	Imports	Exports	Apparent Consumption
million m^3 WRME underbark				
1998	7.6	46.6	5.8	48.4
1999	7.7	45.6	6.0	47.3
2000	7.8	47.4	5.8	49.5
2001	7.9	49.4	5.9	51.4
2002	7.8	48.5	5.8	50.4
2003	8.1	49.0	7.1	50.0
2004	8.3	53.2	7.5	54.0
2005	8.5	51.2	5.8	54.0
2006	8.4	53.6	5.9	56.1
2007	9.0	54.1	6.6	56.4

Source: industry surveys, industry associations, UK overseas trade statistics (HM Revenue & Customs) and conversion factors to Wood Raw Material Equivalent (WRME).

Notes:

1. Excludes recovered paper.

2. UK production of roundwood is estimated from deliveries to wood processing industries and others, as in tables 2.6 and 2.7.

3.2 Apparent consumption of wood products in the UK

UK production accounted for over 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, 2007

Product	UK production	Imports	Exports	Apparent consumption
Sawnwood (thousand m^3)				
Coniferous	3 100	7 944	326	10 717
Non-coniferous	45	459	11	493
Total	3 146	8 402	338	11 210
Woodbased panels (thousand m^3)				
Veneer sheets	0	33	5	28
Plywood	0	1 624	70	1 555
Particleboard	2 684	1 196	162	3 717
Fibreboard	865	1 038	276	1 627
Total	3 549	3 891	513	6 928
Paper & paperboard (thousand tonnes)				
Newsprint	1 036	1 562	129	2 469
Other graphic papers	1 193	3 943	354	4 782
Sanitary & household papers	834	175	36	973
Packaging materials	1 852	2 116	433	3 535
Other paper & paperboard	313	88	19	383
Total	5 228	7 884	971	12 141

Source: industry surveys, industry associations, UK overseas trade statistics (HM Revenue & Customs).

Notes:

1. Excludes other wood products, e.g. fuelwood and round fencing.

2. Excludes roundwood and intermediate products (e.g. sawmill products, pulp and recovered paper) to avoid double counting.

3.3 Flow of recovered paper

UK production of recovered paper (the amount recovered from businesses and households in the UK) totalled 8.6 million tonnes in 2007. The amount of recovered paper which is exported has risen from around 0.4 million tonnes in 1998 to 4.7 million tonnes in 2007 and now accounts for over one half of UK production.

Table 3.3 Flow of recovered paper, 1998-2007

Year	UK production	Imports	Exports	Apparent consumption[1]
thousand tonnes				
1998	4 999	57	443	4 614
1999	5 135	61	452	4 744
2000	5 301	136	590	4 847
2001	5 521	50	694	4 877
2002	5 968	76	1 227	4 817
2003	6 304	100	2 005	4 399
2004	7 126	87	3 127	4 085
2005	7 718	78	3 329	4 467
2006	8 015	140	3 996	4 159
2007	8 617	88	4 728	3 977

Source: Confederation of Paper Industries, UK overseas trade statistics (HM Revenue & Customs).

Notes:

1. Apparent consumption of recovered paper refers to use of recycled paper pulp in the UK.

3.4 UK import quantities by product

Wood imports to the UK in 2007 comprised 8.4 million cubic metres of sawnwood, 3.9 million cubic metres of woodbased panels and 1.2 million cubic metres of roundwood. This represented a 6% increase overall in the level of wood imports from the 2006 level.

A total of 7.9 million tonnes of paper was imported into the UK in 2007, representing a 2% increase from the 2006 figure of 7.7 million tonnes.

Table 3.4 UK import quantities, 2003-2007

Year	Wood (thousand m^3)			Pulp and paper (thousand tonnes)			
	Roundwood	Sawnwood	Woodbased panels	Paper	Pulp	Recovered paper	Total pulp & paper
2003	1 045	8 714	3 492	7 490	1 522	100	9 112
2004	1 048	8 653	3 813	7 528	1 636	87	9 251
2005	1 325	8 223	3 552	7 663	1 694	78	9 434
2006	1 133	7 963	3 685	7 741	1 452	140	9 332
2007	1 222	8 402	3 891	7 884	1 425	88	9 396

Source: UK overseas trade statistics (HM Revenue & Customs), industry associations

3.5 UK export quantities by product

A total of 5.7 million tonnes of pulp and paper (including recovered paper) was exported from the UK in 2007. The quantity of recovered paper exports has more than doubled between 2003 and 2007.

Table 3.5 UK export quantities, 2003-2007

Year	Wood (thousand m^3)			Pulp and paper (thousand tonnes)			
	Roundwood	Sawnwood	Woodbased panels	Paper	Pulp	Recovered paper	Total pulp & paper
2003	631	356	531	1 697	10	2 005	3 713
2004	1 280	371	519	1 557	29	3 127	4 714
2005	1 174	358	520	1 164	25	3 329	4 518
2006	1 177	415	510	1 002	24	3 996	5 022
2007	1 320	338	513	971	24	4 728	5 722

Source: UK overseas trade statistics (HM Revenue & Customs), industry associations

3.6 UK import values by product

Wood product imports in 2007 were valued at a total of £6.8 billion. Pulp and paper (including recovered paper) comprised 62% of this total, 22% was sawnwood, 14% woodbased panels and 2% roundwood.

Table 3.6 UK import values, 2003-2007

Year	Wood			Pulp and paper				Total
	Roundwood	Sawnwood	Woodbased panels	Paper	Pulp	Recovered paper	Total pulp & paper	
£ million								
2003	98	1 225	767	3 509	484	10	4 003	6 094
2004	95	1 190	885	3 520	476	7	4 003	6 173
2005	114	1 120	796	3 432	517	5	3 954	5 984
2006	112	1 144	748	3 599	548	9	4 156	6 160
2007	142	1 520	920	3 689	525	7	4 222	6 804

Source: UK overseas trade statistics (HM Revenue & Customs), industry associations

3.7 UK export values by product

Wood product exports from the UK were valued at a total of £1.6 billion in 2007. This comprised 86% pulp and paper (mainly paper), 7% woodbased panels, 4% sawnwood and 2% roundwood.

Table 3.7 UK export values, 2003-2007

Year	Wood			Pulp and paper				Total
	Roundwood	Sawnwood	Woodbased panels	Paper	Pulp	Recovered paper	Total pulp & paper	
£ million								
2003	25	47	91	1 002	5	173	1 181	1 345
2004	34	50	95	992	7	235	1 234	1 412
2005	35	52	102	1 002	6	278	1 286	1 475
2006	37	61	128	947	8	329	1 284	1 510
2007	40	70	115	998	7	405	1 410	1 635

Source: UK overseas trade statistics (HM Revenue & Customs), industry associations

3.8 Origin of wood imports

Sweden, Finland and Latvia provided the majority of imports of sawn softwood to the UK in 2007. Sawn hardwood was most commonly imported from the USA and other non-EU countries.

UK imports of plywood commonly came from countries outwith the EU, such as China, Brazil and Malaysia, whilst Finland accounted for the majority of EU trade. Most particleboard imports to the UK in 2007 came from within the EU (mainly Germany, Belgium, France and Ireland). The EU also supplied the majority of fibreboard imports, with Ireland, Belgium and Germany being the principal sources.

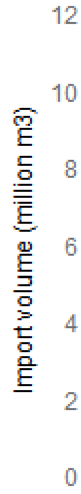
Brazil, the USA and Canada were amongst the principal sources of wood pulp to the UK in 2007, whilst most paper imports came from Finland, Sweden and Germany.

Table 3.8 Country of origin of wood imports to the UK, 2007

Source	Sawn softwood	Sawn hardwood	Plywood	Particle-board	Fibre-board	Wood pulp	Paper and paperboard
per cent of total UK imports (volume) in each category							
Sweden	33	2	0	0	1	9	18
Finland	15	0	12	5	3	6	19
Germany	10	8	1	24	17	1	16
France	0	9	1	20	1	1	8
Belgium	1	1	1	21	19	0	2
Latvia	12	5	1	0	1	0	0
Spain	0	0	1	2	11	8	3
Ireland	3	1	0	15	27	0	0
Other EU-27	10	14	1	9	14	13	14
Total EU-27	**84**	**41**	**18**	**96**	**94**	**38**	**79**
Canada	4	5	1	3	0	11	5
USA	1	20	0	1	1	15	3
Norway	0	0	0	0	1	9	6
Brazil	0	4	23	0	1	19	1
Russian Federation	9	1	7	0	0	0	1
China	0	2	28	0	1	0	1
Malaysia	0	6	15	0	0	0	0
Cameroon	0	10	0	0	0	0	0
Other non-EU	2	12	7	0	2	8	4
Total non-EU	**16**	**59**	**82**	**4**	**6**	**62**	**21**

Source: UK overseas trade statistics (HM Revenue & Customs).

Figure 3.1 Country of origin of sawn softwood imports to the UK, 1962-2007

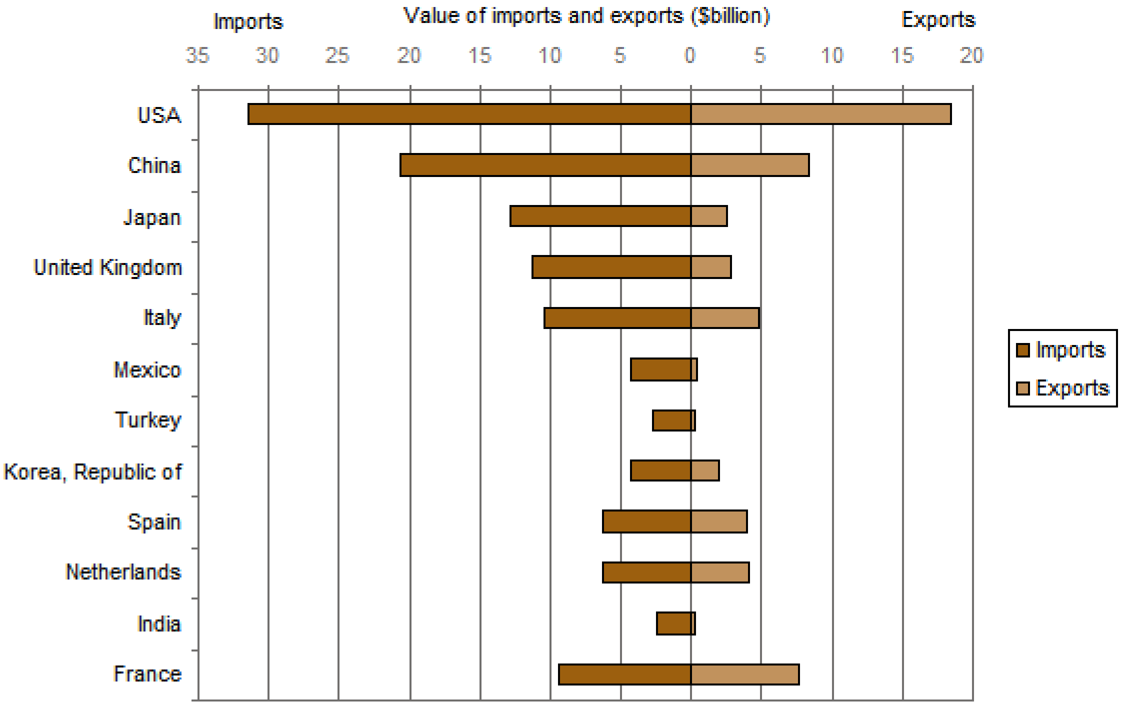


Source: FAO, UK overseas trade statistics (HM Revenue & Customs), industry associations.

3.9 World trade in forest products

The UK was the fourth largest net importer of forest products in 2006, behind USA, China and Japan.

Figure 3.2 Largest net importers of forest products, 2006



Source: FAO

The largest net exporters of forest products in 2006 were Canada, Finland and Sweden.

Figure 3.3 Largest net exporters of forest products, 2006


Imports
Value of imports and exports ($billion)
Exports
20 15 10 5 0 5 10 15 20 25 30
Canada
Finland
Sweden
Russian Federation
Indonesia
Brazil
Austria
Germany
Chile
Malaysia
New Zealand
Portugal
Imports
Exports

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 UK Indicators of Sustainable Forestry, published in October 2002 with web updates.

A copy of all environment tables is available to download as an Excel spreadsheet.

4.1 Ancient and semi-natural woodland

Ancient semi-natural woodland (ASNW) tends to be richer in plants and animals than other woodland areas. The area of ASNW has declined over the centuries and woodlands have become increasingly fragmented. In a 2001 report it was estimated to total 326 thousand hectares, of which almost two-thirds was in England. Later estimates, produced by overlaying the Ancient Woodland Inventory on the National Inventory of Woodland and Trees, give lower figures, but are not considered reliable.

Table 4.1 Ancient and semi-natural woodland

Woodland type	England	Scotland	Wales	Northern Ireland	UK
thousand hectares					
ASNW[2]	206	89	31	0	326
PAWS[2]	135	59	30	1	225
OSNW[2]	210	44	52	15	320
Total ancient[1]	**341**	**148**	**61**	**1**	**551**
Total semi-natural[1]	**416**	**133**	**82**	**15**	**646**

Not National Statistics.

Source: Protected Forest Areas in the UK *(S Pryor & G Peterken, 2001) with Northern Ireland data from* Back on the Map *(Woodland Trust, 2007)*

Notes:

1. Ancient woodland is woodland that has been in continuous existence since 1600 (1750 in Scotland);
Semi-natural woodland is woodland with natural characteristics (predominantly native species of trees, ground plants and animals).
2. ASNW (ancient semi-natural woodland) is both ancient and semi-natural;
PAWS (plantation on an ancient woodland site) is ancient but not semi-natural;
OSNW (other semi-natural woodland) is semi-natural but not ancient.

4.2 Protected forest areas

Woodland areas can be placed under different types of statutory and non-statutory protection.

Table 4.2 Woodland areas under types of statutory protection

Type of protection[1]	England	Scotland	Wales	Northern Ireland	UK
thousand hectares					
SAC	24	22	1	0	47
SPA	..	..	1	..	..
NNR[2]	9	19	1	0	30
SSSI	80	38	9	2	129

Not National Statistics.

Source: Protected Forest Areas in the UK *(S Pryor & G Peterken, 2001).*

Notes:

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

2. For NNR, the Scottish figure is the area of NNR managed under the WGS, and probably under-estimates the total woodland in NNRs in Scotland. This has a knock-on effect on the UK total.

.. Denotes data not available.

Based on combinations of these designations and objectives, it has been estimated that 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 conditions', 135 thousand hectares have 'conservation through active management' and 646 thousand hectares have 'protection of landscapes and specific natural elements'.

4.3 Climate change and carbon

Globally, forest ecosystems play a key role in addressing climate change by absorbing carbon dioxide from the atmosphere and storing it in growing vegetation and soil. Deforestation caused by the unsustainable harvesting of timber and the conversion of forests to other land-uses leads to significant emissions of this stored carbon back to the atmosphere. Deforestation alone currently accounts for 18% of global emissions of carbon dioxide. Forests and woodlands can also be managed as a sustainable source of wood – an alternative and less polluting energy source to fossil fuels, and a low-energy construction material.

Although they cover a small area, the forests and woodlands in Britain have a role to play too. The challenge is to protect what we have, and to make sure we can adapt to the new threats and opportunities that climate change will bring, while still maintaining and expanding a sustainable forest and woodland resource.

4.3.1 Carbon sequestration

Under the Kyoto protocol, additional woodland planted since 1990 contributes to the UK's carbon dioxide emissions target by removing carbon from the air. In climate change reporting, this is described as removals to forestland, also called the forest sink. It measures the net annual accumulation of carbon in forests by woody biomass, soils, litter and changes in the quantity of forest products from timber grown in the UK. The figures for the forest sink due to expansion since 1990 are included in the total forest sink.

Table 4.3 Net carbon dioxide removals attributed to UK forestry

Year	Total	of which, due to land afforested since 1990[1]
million tonnes of carbon per year		
1990	3.3	0.0
1995	3.7	0.1
2000	3.8	0.4
2005	4.3	0.6
2010	2.9	0.8
2015	2.1	0.9
2020	1.3	1.1

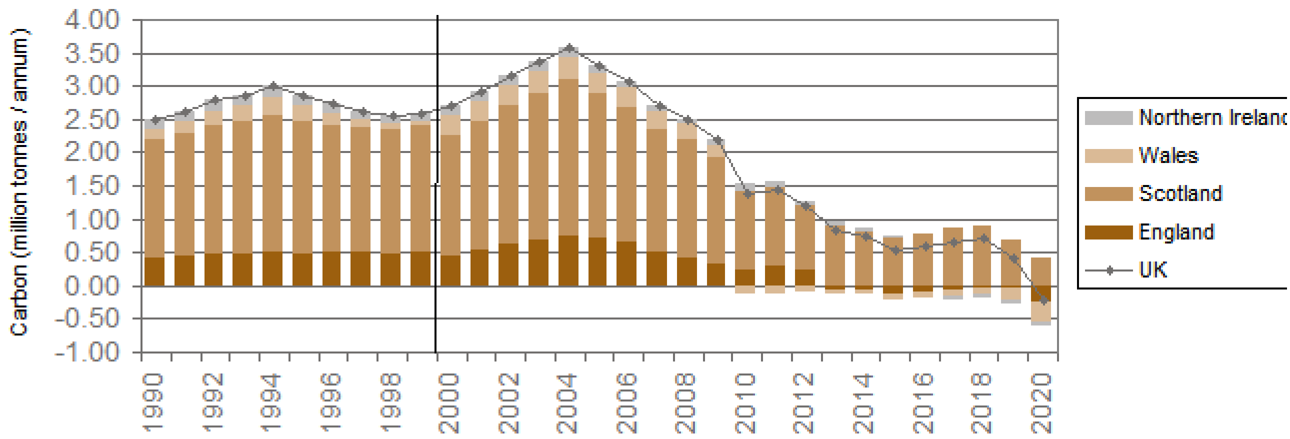
Not National Statistics.

Source: Inventory and projections of UK emissions by sources and removal by sinks due to land use, land use change and forestry (CEH, 2008), contributing to 2006 UK Greenhouse Gas Emissions *(Defra, January 2008).*

Notes:

1. Entries for woodlands planted from 1990 exclude increasing pool of carbon in timber products

Figure 4.1 Net annual change in mass of carbon in UK woodlands[1]



Not National Statistics.

Source: Inventory and projections of UK emissions by sources and removal by sinks due to land use, land use change and forestry

(CEH, 2008), contributing to 2006 UK Greenhouse Gas Emissions (Defra, January 2008)

Notes:

1. Carbon in living forest biomass only; excludes carbon in litter, soils and forest products.

2. Future predictions of carbon uptake assume that commercial conifer plantations will be replanted when felled, and that planting of new woodland will continue at the same rate as in 2006.

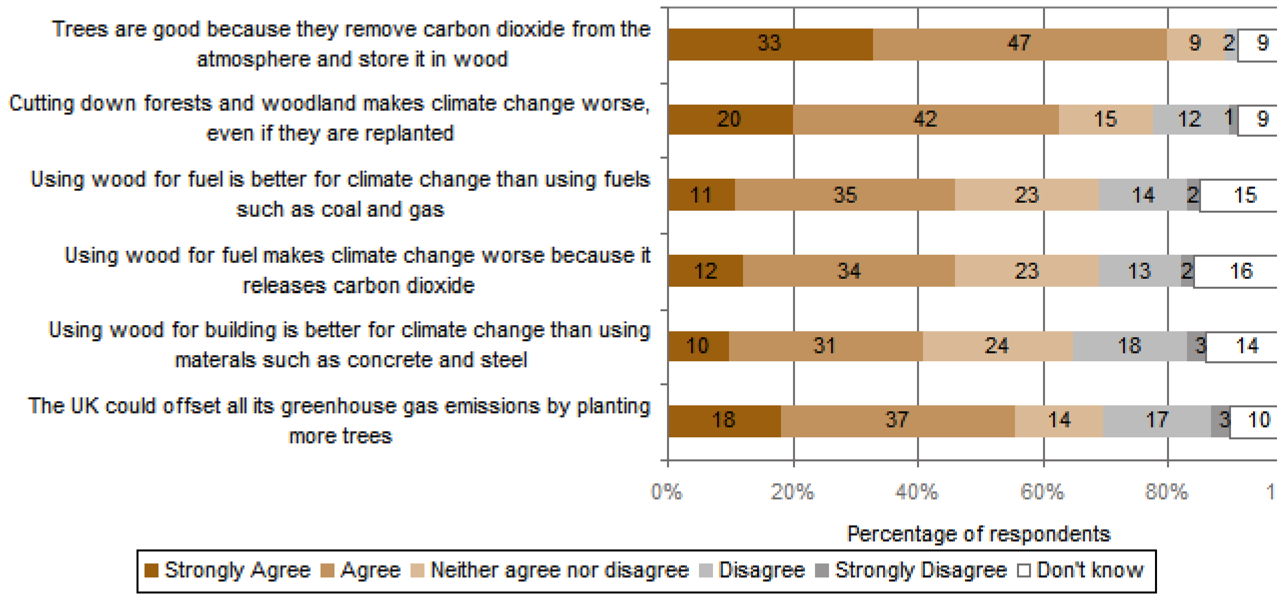
4.3.2 Public Opinion of Forestry Survey - climate change

The Forestry Commission has conducted similar biennial surveys of public attitudes to forestry and forestry-related issues since 1995. The most recent set of four separate surveys was conducted in 2007; in Scotland, Wales, Northern Ireland and across the UK as a whole. The full results are available within the 2007 Public Opinion of Forestry reports available on our website·

In the 2007 UK survey, a new series of questions asked about forests and climate change. The first new question found that 90% of respondents believed that climate change would have an impact on the UK, while only 2% believed there would be no impact at all.

Further questions were asked, including on the ways in which forests and woodlands can impact on climate change. Some of the public views presented below do not reflect expert opinion.

Figure 4.2 Public opinion on ways in which forests and woodlands can impact on climate change



Not National Statistics.

Source: UK Public Opinion of Forestry Survey 2007.

Base: 4,000 UK respondents.

Questions were also posed on how UK forests should be managed in response to the threat of climate change - see the survey reports for further details.

Public views on forests and climate change were also given by other parts of the 2007 survey:

- when asked about a series of UK forestry topics seen in the media, the most common response, given by 35% of respondents, was 'Forests and woodlands helping to tackle climate change' ;
- 61% of respondents said that 'to help tackle climate change' is a good reason to support forestry with public money.

4.4 Biodiversity

Biodiversity (short for biological diversity) means the total variety of life. It includes the variety of habitats, species and genes. As a signatory to the Convention on Biological Diversity, the UK is committed to conserving and enhancing biodiversity and has set out objectives, priorities and targets in the UK Biodiversity Action Plan (BAP).

Forestry aims to contribute towards the aims and targets of the UK BAP:

- To conserve and where practical enhance overall populations and natural ranges of native species and the quality and range of wildlife habitats and ecosystems within woodlands.
- To help conserve and enhance internationally and nationally important and threatened species, habitats and ecosystems and of natural and managed habitats which are characteristic of local areas.
- To increase public awareness and involvement with woodland biodiversity conservation.

Abundance of animal species and diversity of plant species that depend wholly or partly on woodland are important components of biodiversity.

4.4.4 Populations of wild birds

The index for woodland birds was expanded in 2007 to cover 38 species, of which 12 are generalists and 26 are woodland specialists (those that breed or feed mainly or solely in woodland). Since the early 1990s the UK woodland bird indicator has remained about 20 per cent below the level in the early 1970s.

Table 4.4 UK populations of wild birds

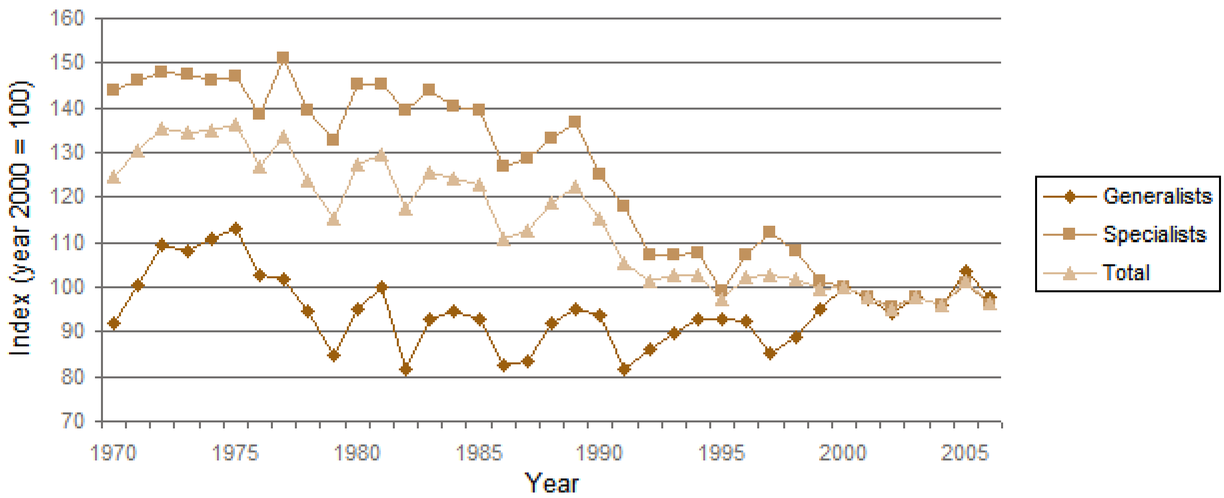
Year	Total breeding birds	Farmland birds	Seabirds	Woodland birds	Woodland generalists	Woodland specialists
index (year 2000 = 100)						
1997	98.4	101.4	100.8	102.7	85.1	112.0
1998	96.9	95.7	97.0	101.6	88.7	108.2
1999	96.2	95.0	98.1	99.4	95.1	101.4
2000	100.0	100.0	100.0	100.0	100.0	100.0
2001	98.9	99.5	100.8	97.7	97.1	98.0
2002	98.9	98.9	100.8	95.2	94.3	95.6
2003	99.6	99.2	99.6	97.8	97.8	97.7
2004	99.4	97.6	95.7	96.1	96.1	96.0
2005	101.6	97.5	97.0	101.6	103.5	100.7
2006	100.9	96.1	97.1	96.5	97.7	96.0

Source: British Trust for Ornithology (BTO), Royal Society for the Protection of Birds (RSPB).

Notes:

1. Based on data in e-Digest of Environmental Statistics (Defra, November 2007).

Figure 4.3 UK populations of woodland birds



Source: British Trust for Ornithology (BTO), Royal Society for the Protection of Birds (RSPB).

Notes:

1. *Based on data in e-Digest of Environmental Statistics (Defra, November 2007).*

4.4.5 Woodland vegetation

This indicator is derived from data collected by the Countryside Survey 2000. It shows the overall condition and richness of flora in woodland. Between 1990 and 1998 there was a decrease in the species richness of broadleaved, mixed and yew woodlands in England and Wales.

Table 4.5 Vegetation richness and condition scores[1]

	1998			Change 1990 - 1998		
	England & Wales	Scotland	GB	England & Wales	Scotland	GB
Broadleaved, mixed & yew woodland						
Species richness score	14.1	19.9	15.3	- 2.4	n.s.	- 2.1
Light score	6.0	6.3	6.0	- 0.1	n.s.	- 0.1
Fertility score	5.2	4.1	5.0	+ 0.1	n.s.	+ 0.1
Conifer woodland						
Species richness score	8.6	10.8	10.0	n.s.	n.s.	n.s.
Light score	6.0	6.5	6.3	n.s.	n.s.	n.s.
Fertility score	4.0	3.1	3.4	n.s.	n.s.	n.s.

Not National Statistics.

Source: Countryside Survey 2000.

Notes:

1. Higher scores indicate more species, and higher levels of light and fertility.

n.s. = change not statistically significant

5 Recreation

This section contains information on the number and profile of visits to woodlands across the UK, Forestry Commission facilities and activities and public access to woodland.

A copy of all recreation tables is available to download as an Excel spreadsheet.

5.1 Visits to woodland - household surveys

The information shown below in Table 5.1 has been obtained from the following general population household surveys.

- UK Day Visits Surveys (1994,1996, 1998)
- GB Day Visits Survey (2002/3)
- Scottish Recreation Survey (2003 onwards)
- England Leisure Visits Survey (2005)

It is likely that differences in survey design and methodology have contributed to a considerable proportion of the differences in results between these surveys. As the scope of the surveys has evolved over time, the figures in Table 5.1 should not be interpreted as time trends but instead as separate breakdowns for each survey.

In common with all sample based surveys, the results from each survey are subject to the effects of chance, depending on the particular survey method used and the sample acheived, thus confidence limits apply to all results from these surveys. For example, the range of uncertainty around the estimated 72 million visits to woodland in Scotland (by Scottish residents) in 2007, should be no more than around +/-15%, i.e. the true figure is likely to be between around 61 and 83 million.

Table 5.1 Number of visits to woodland

Year	Journey starting point			
	England	Scotland	Wales	GB
million visits				
1994	273	18	12	303
1996	308	26	11	346
1998	321	22	11	355
2002/3	222	18	12	252
2004	..	70	..	..
2005	170	62	..	..
2006	..	76	..	..
2007	..	72	..	..

Not National Statistics.

Source: 1994, 1996, 1998: UK Day Visit Surveys, carried out by National Centre for Social Research (not available online); 2002/3: GB Day Visits Survey, carried out by TNS Travel & Tourism; England 2005: England Leisure Visits Survey (ELVS), carried out by Research International; Scotland 2004-2007: Scottish Recreation Survey, carried out by TNS Travel & Tourism.

Notes:

1. The UK and GB Day Visits Surveys collected data about day trips from home; the 1994, 1996 and 1998 surveys covered calendar years, while the 2002/3 survey was conducted over a 12-month period starting in March 2002. Despite the name of the early UK surveys, they did not cover visits by people living in Northern Ireland.

2. ELVS included trips taken in England by repondents living in England, from February 2005 to February 2006.

3. The Scottish Recreation Survey, which commenced in July 2003 (and is scheduled to continue until 2013), collects information on visits to the outdoors for leisure and recreation in Scotland.

4. In each survey, visits to overseas destinations are excluded.

.. denotes data not available.

5.1.1 England

An England Leisure Visits Survey (ELVS) was carried out during 2005. This survey measured the extent of participation by the English adult population in Leisure Visits, defined as round trips from home for leisure purposes (although the survey also collected information on trips made from a holiday base). Telephone interviews were conducted across all geographic regions in England, with a core sample of 23,500.

In 2005, 5% of all Leisure Visits, an estimated 170 million trips, included a trip to a woodland or forest. Table 5.2 shows the main characteristics of the trips which involved a visit to a wood or forest.

A pilot study that examined methods for obtaining more consistent visit data for England was completed in 2007. Natural England are leading on plans for another England leisure visits survey, which is likely to commence in 2009.

Table 5.2 Woodland visit characteristics - England 2005 (ELVS)

Woodland visit characteristics	2005
per cent	
Most recent woodland visit	
Within last month	16
Within last year	40
Season of year	
January-March	29
April-June	27
July-September	22
October-December	23
Day of week	
Weekday	61
Weekend	39
Main activity on trip	
Walking	62
Cycling	9
Eat/drink out	6
Duration of visit (round trip)	
Up to 1 hour	30
Over 1, up to 2 hours	26
Over 2, up to 3 hours	12
Over 3 hours	31
Distance travelled (round trip)	
Up to 2 miles	6
Over 2, up to 5 miles	32
Over 5, up to 20 miles	33
Over 20 miles	29
Main mode of transport	
Car/van	45

On foot	41
Bicycle	8
Group composition	
One adult only	33
With family	47
With friends	18
Organised group	2
Perceived owner or manager	
Local Authority	18
Forestry Commission	8
Voluntary organisation	15
Private owner	24
Other	12
Don't know	25

Not National Statistics.

Source: England Leisure Visits Survey 2005, carried out by Research International.

Notes:

1. Most recent woodland visit figures refer to per cent of respondents, others refer to per cent of trips.

5.1.2 Scotland

The Scottish Recreation Survey (ScRS), which measures and collects details about the Scottish adult population's participation in outdoor recreation in Scotland, began in July 2003 and will run for ten years, with 1,000 adults being interviewed in their home each month.

In 2007 an estimated 72 million recreation visits were made by the Scottish population to woodland in Scotland, either as a main destination or other destination (28 million to Forestry Commission woodland, 44 million to other woodland). This represents a 5% decrease from the 76 million recreation visits to woodland estimated for 2006.

Table 5.3 Estimated number of visits taken to woodlands for recreation in Scotland, 2004-2007

Year	FC owned woodland	Other woodland / don't know owner	Total
millions of visits			
2004	28.5	41.9	**70.4**
2005	28.8	33.2	**62.1**
2006	34.8	41.0	**75.8**
2007	28.4	43.8	**72.2**

Not National Statistics.

Source: Scottish Recreation Survey, carried out by TNS.

Notes:

1. The Scottish Recreation Survey results are obtained from the Scottish Omnibus Survey. All results are subject to the effects of chance in sampling, so a range of uncertainty (confidence interval) should be associated with any result from the survey. The confidence intervals take into account the effect of clustering, weighting and stratification in the survey design. For example, the range of uncertainty around the 72 million visits in 2006 result should be no more than around +/-15%, i.e. the true figure is likely to be between around 61 and 83 million.

Table 5.4 shows the main characteristics of recreation visits, where the main destination of visit was woodland, from the first four full calendar years of the Scottish Recreation Survey.

Table 5.4 Woodland visit characteristics - Scotland, 2004-2007

Woodland visit characteristics	2004	2005	2006	2007
per cent				
Main activity during visit				
Walking	76	78	79	79
Family Outing	8	5	6	5
Cycling	6	6	7	6
Main transport				
On foot	46	45	57	50
Car/ van	47	48	38	41
Cycling	4	5	2	5
Distance travelled				

Up to 2 miles	18	21	33	28
Over 2, up to 5 miles	36	31	33	36
Over 5, up to 20 miles	25	28	22	23
Over 20 miles	21	20	12	13
Duration of visit (round trip)				
Up to 1 hour	20	13	17	22
1 - less than 2 hours	30	32	41	43
2 - less than 3 hours	14	19	18	14
3 hours or more	36	36	24	21
Frequency of visit to main destination				
At least once a day	27	26	34	38
Several times a week	25	14	27	21
Once a week	8	10	12	9
1-2 times a month	15	16	11	13
Less often	19	26	12	11
First ever visit	5	7	4	6
Accompanied by dog	50	50	57	58

Not National Statistics.

Source: Scottish Recreation Survey, carried out by TNS.

Notes:

1. Per cent of respondents whose main destination of last visit was woodland.

5.1.3 Wales

Fieldwork for a Wales Outdoor Recreation Survey commenced in January 2008 and will continue until January 2009; final results will be available during Spring 2009. The survey will provide data on Welsh residents' participation in informal outdoor activities and visits to the countryside, including woodland.

5.1.4 Public Opinion of Forestry Survey - woodland visitors

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

The results shown in Tables 5.5 and 5.6 and Figure 5.1 have been taken from the UK and country reports on the surveys in 2007 and earlier years. The reports also include other recreation-related results, such as whether the woodlands visited were in towns or the countryside and any reasons given by survey respondents for not visiting woodlands.

In the UK 2007 survey, 77% of respondents said that they had visited woodland in the last few years for walks, picnics or other recreation.

Table 5.5 Woodland visitors[1]

Year	England	Scotland	Wales	Northern Ireland	UK
per cent of respondents					
2003	66	64	62	77	67
2005	65	50	69	67	65
2007	76	75	79	62	77

Not National Statistics.

Source: UK and GB Public Opinion of Forestry Surveys, 2003 to 2007

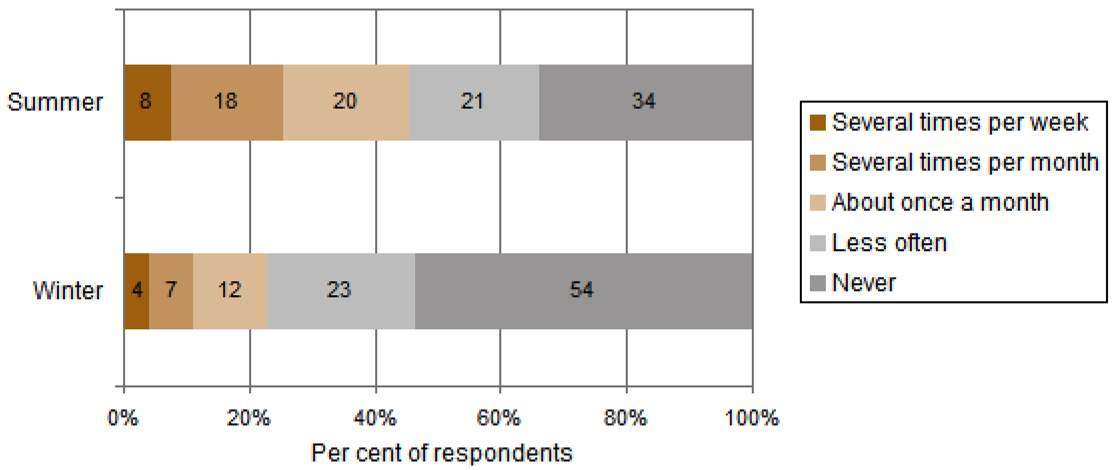
Base: UK/ GB = 4,000 respondents; Scotland and Wales = 1,000 respondents each; Northern Ireland = 120 respondents (2003), 1,000 respondents (2005 and 2007)

Notes:

1. Those stating they had visited woodland in the last few years.

Survey respondents were asked how frequently they had visited during the previous summer and winter. Figure 5.1, which presents UK results for the 2003 to 2007 surveys, shows that respondents visited much more often during the summer, with 46% visiting at least once a month in the summer compared to 23% in the winter.

Figure 5.1 Frequency of visits to woodlands



Not National Statistics.

Source: UK and GB Public Opinion of Forestry Surveys, 2003 to 2007.

Base: average visit frequencies from last three surveys - 4,120 in 2003; 4,000 in 2005; 4,000 in 2007.

5.1.5 Public Opinion of Forestry Survey - woodland visitors by age group

In the UK 2007 Public Opinion of Forestry survey, 83% of respondents aged 35 to 54 said that they had visited woodland in the last few years for walks, picnics or other recreation. This compares with 78% of respondents aged 16 to 34 and 70% of respondents aged 55 or over.

Table 5.6 Woodland visitors[1] by age group

Year	Aged 16 to 34	Aged 35 to 54	Aged 55 and over	Total
per cent of respondents				
1999	73	74	55	67
2001	75	77	63	72
2003	71	72	60	67
2005	66	74	56	65
2007	78	83	70	77

Not National Statistics.

Source: UK and GB Public Opinion of Forestry Surveys, 1999 to 2007.

Base: 2,000 respondents (1999, 2001); 4,000 respondents (2003 to 2007).

Notes:

1. Those stating they had visited woodland in the last few years.

5.2 Visits to woodland - on-site surveys

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. Information about visitors and their views on facilities were collected by on-site visitor surveys.

In 2002 and 2003, the Forestry Commission developed new visitor monitoring systems to replace the existing national visitor monitoring programme. The 'All Forests Visitor Monitoring Survey' provides more accurate estimates of the number of visits to a wider range of Forestry Commission woodland, whilst continuing to gather information on the profile of visitors.

In addition, a new on-site survey methodology to measure visitor's 'Quality of Experience' was adopted in England in 2004 and in Wales in 2006, with six or seven surveys now being carried out per year at selected sites.

Although neither of these methods have been used in Northern Ireland, the Forest Service do collect information on the total number of paying visitors.

5.2.1 All Forests Survey

The All Forests visitor monitoring survey was undertaken in Wales (over a one-year period) and Scotland (over three years), with surveying starting in 2004.

Surveying took place from January 2004 to January 2005 with over 1,200 hours of fieldwork undertaken during 285 days. During this period, 765 face to face interviews were achieved. By stratifying all Welsh Assembly Government (WAG) woodlands by estimated usage and the size of surrounding population, this study estimated that around 4.3 million visits are made annually to WAG woodland in Wales.

At a combined level, the blocks selected are representative of the range of facilities and activities available in WAG woodland, but this is not always the case at a district level. Approximately a fifth of each district's forests were included in the survey.

Table 5.7 provides a summary of the key results obtained from the Wales All Forests survey.

Table 5.7 Woodland visit characteristics - Wales All Forests Survey

Woodland visit characteristics	2004
per cent of visits	
Type of trip	
Day trip	81
Overnight trip	19
Main activity during visit	
Dog walking	40
Other walking	32
Cycling	12
Main transport	
Car / van	81
Walked	12
Cycled	3
Distance travelled (one-way)	
Less than 6 miles	46
6 to 15 miles	22
16 to 25 miles	13
Over 25 miles	19
Duration of visit (time spent in forest)	
Up to 1 hour	55
Over 1 hour, up to 2 hours	27
Over 2 hours, up to 3 hours	8
Over 3 hours	10
Frequency of visit to site of interview	
More than once a day	6
Once a day	10

1 to 3 times per week	23
1 to 3 times per month	16
1 to 3 times per year	19
Less often	7
First ever visit	19
Importance of forest and facilities in decsion to visit area	
Only reason for coming	26
Very important	39
Quite important	17
Group composition	
Alone	37
Couples / groups of two	42
Groups of three or more	20

Not National Statistics.

Source: Wales All Forests Survey 2004, carried out by TNS.

All Forests surveying was carried out in Scotland across all 15 forest districts[1]. Due to the scale of this exercise, fieldwork was spread across a three-year period from June 2004 to June 2007, with over 5,000 hours of fieldwork, undertaken over 1,158 days achieving almost 2,700 face to face interviews. By stratifying all Forestry Commission Scotland (FCS) woodlands, independently in each forest district, by estimated usage and the size of surrounding population, this study estimated that around 8.2 million visits are made annually to FCS woodland.

At a combined level, the blocks selected are representative of the range of facilities and activities available in FCS woodland, but this is not always the case at a district level. Approximately a fifth of each district's forests were included in the survey. Full reports for each year of the survey and a final report presenting overall results are accessible via the link below.

Table 5.8 provides a summary of the key characteristics and results obtained from the Scotland All Forests survey.

Table 5.8 Woodland visit characteristics - Scotland All Forests Survey

Woodland visit characteristics	2004-2007
per cent of visits	
Type of trip	
Day trip	82
Overnight trip	18
Main activity during visit	
Dog walking	50
Other walking	29
Cycling	11
Main transport	
Car / van	78
Walked	18

Cycled	2
Distance travelled (one-way)	
Less than 6 miles	58
6 to 15 miles	19
16 to 25 miles	10
Over 25 miles	12
Duration of visit (time spent in forest)	
Up to 1 hour	59
Over 1 hour, up to 2 hours	24
Over 2 hours, up to 3 hours	10
Over 3 hours	7
Frequency of visit to site of interview	
More than once a day	7
Once a day	13
1 to 3 times per week	25
1 to 3 times per month	17
1 to 3 times per year	17
Less often	5
First ever visit	16
Importance of forest and facilities in decsion to visit area	
Only reason for coming	23
Very important	40
Quite important	17
Group composition	
Alone	42
Couples / groups of two	37
Groups of three or more	21

Not National Statistics.

Source: Scotland All Forests Survey 2004-2007, carried out by TNS.

Notes:

1. A third of FC forest districts were surveyed each year, although by the end of the project, the Kincardine and Buchan forest districts had been combined to form one forest district named Aberdeenshire.

5.2.2 Quality of Experience

A new on-site survey methodology was developed early in 2003 to measure visitors' 'Quality of Experience'. Pilot surveys were conducted in 2003 at Afan Argoed and the New Forest, prior to adoption of the methodology in England in 2004 and in Wales in 2006, with six or seven surveys now being carried out per year at selected sites. Reports from these surveys are published on the Forestry Commission website when results become available.

These studies were designed to investigate what constitutes quality of experience for visitors, addressing related concepts such as motivations, expectations and the needs of different groups.

Visitors who used a particular site at least once a month were interviewed and asked to rate both the levels of importance of different aspects of woodland and forest visits and their satisfaction with the same aspects. Visitors who visited less often were interviewed for a shorter period before being given a questionnaire to take away and return regarding their levels of satisfaction.

Table 5.9 Sites of Quality of Experience surveys undertaken in England and Wales

Year	England	Wales
2003	Grizedale, Westonbirt, Whiston	-
2004	Dalby, Thetford	-
2005	Alice Holt, Cannock Chase, Forest of Dean	-
2006	Sherwood Pines, Delamere, Hamsterley	Garwnant, Nant yr Arian
2007	Fineshade, Rosliston, Whinlatter	Coed y Brenin

Source: Quality of experience surveys, carried out by TNS.

In addition, surveys have been conducted around community forests in Thames Chase (2004), South Yorkshire (2005), North West England (2006), South Wales (2006), South West England (2007) and North & Mid Wales (2007). These surveys examine the recreation activities undertaken by members of the local community, levels of recreational use, awareness of local open spaces, and the motivations and barriers to using Forestry Commission sites for recreation.

5.2.3 Northern Ireland Forest Service day visitors

In Northern Ireland in 2007-08, 518 thousand people visited those Forest Service sites where an admission charge was made.

Table 5.10 Day visitors to Northern Ireland Forest Service sites [1]

Year	Visitors to Forest Service sites
thousands	
1998-99	382
1999-00	403
2000-01	402
2001-02	403
2002-03	460
2003-04	446
2004-05	508
2005-06	433
2006-07	410
2007-08	518

Source: Forest Service

Notes:

1. Number of people visiting sites where an admission charge was made.

5.3 Forestry Commission facilities and activities

A breakdown of the recreation facilities and activities that were included on the recreation area of the Forestry Commission website in July 2008 is shown below. A total of 671 sites were featured on the website: 304 (45%) in Scotland, 260 (39%) in England and 107 (16%) in Wales.

Over three quarters of sites had parking facilities; almost four fifths offered walking activities and over two fifths cycling routes.

Table 5.11 Number of Forestry Commission recreation facilities and activities[1,2], July 2008

Facilities/ activities	England	Scotland	Wales	GB
number of sites				
Total sites on FC website	**260**	**304**	**107**	**671**
Facilities				
Parking - Free	189	242	79	**510**
Parking - Paid	41	20	9	**70**
Information	118	130	20	**268**
Easy Access	100	46	22	**168**
Toilets	73	65	14	**152**
Refreshments	55	29	7	**91**
Visitor Centre	31	21	5	**57**
Shop	22	13	4	**39**
Activities				
Walking	185	263	84	**532**
Picnic	122	112	39	**273**
Cycling	115	127	40	**282**
Horse Riding	81	80	57	**218**
Wildlife Activities	80	79	11	**170**
Education	61	32	14	**107**
View Point	35	86	12	**133**
Heritage	29	49	5	**83**
Fishing	29	20	13	**62**
Barbecue	36	6	13	**55**
Play Area	33	18	6	**57**
Orienteering	37	15	6	**58**
Camping	24	11	4	**39**
Arts	20	21	0	**41**
Forest Drive	15	8	1	**24**
Arboretum	9	4	5	**18**
Watersports	4	3	2	**9**

Skiing	0	2	0	**2**

Not National Statistics.

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 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.

5.4 Public access to woodland

The Woods for People project (led by the Woodland Trust) has created a UK-wide provisional inventory of accessible woodland.

As a result of the information gathered on accessible woodland, the Woodland Trust has undertaken a major analysis of woodland access provision and deficit across the UK. This project, named Space for People, has used the accessible woodland data from the Woods for People project to develop targets for increasing woodland access.

5.4.1 Woods for People

The Woods for People project has created a UK-wide provisional inventory of accessible woodland.

At present, it does not include woodlands where the only access is on public rights of way. For Scotland, the Land Reform Act gives a right of responsible access to almost all land, but the dataset only includes woods that encourage access. Table 5.12 shows the proportions of woodland with public access (permissive) as identified by the Woods for People database.

The changes between versions of the dataset (2004, 2006 and 2007) are the result of several factors, including the development of the database between versions as areas are updated by land owners; one significant change has been a reduction in England and Wales as a result of a fall in the amount of Walkers Welcome data. A list of land owners who have contributed to the project is available on the Woods for People web site.

Table 5.12 Woods for People: Publicly accessible[3] woodland

Year	England	Scotland	Wales	Northern Ireland	UK
per cent of all woodland area					
2004[1]	37	57	49	66	**49**
2006[2]	32	58	39	64	**46**
2007[2]	34	58	40	64	**47**

Not National Statistics.

Source: *Woods for People* *(Woodland Trust)*

Notes:

1. The 2004 data are from version 1 of the Woods for People project; the results presented here (after re-analysis in September 2007) count only areas of woodland within areas of land owned. The higher results originally presented in the 2004 Woodland Trust Spaces for People report, were based in part on total land areas, rather than only woodland areas.

2. The 2006 and 2007 data are from versions 3 and 4 of the Woods for People dataset respectively (which are based on only woodland areas).

3. Accessible woodland is the proportion of the total woodland area defined in 2004 for the Woods for People project; the total woodland area was not updated in 2006 or 2007.

5.4.2 Space for People

As a result of the information gathered on accessible woodland, the Woodland Trust has undertaken a major analysis of woodland access provision and deficit across the UK. This project, named **Space for People**, has used the accessible woodland data from the Woods for People project to develop targets for increasing woodland access.

The Space for People analysis proposes a Woodland Access Standard for people to have access to a woodland of an adequate size near to where they lived. The report estimates the proportion of the population with access to nearby woods, the extent to which this could be increased by improving access and the amount of new woodland that would have to be created to give the rest of the population this level of access. The initial results of the analysis in 2004 showed the following levels of access:

Table 5.13 Space for People[1]: Publicly accessible woodland, 2004

% of population with access to:	England	Scotland[2]	Wales	Northern Ireland
per cent				
2 ha or more more wood within 500m	10	15	16	7
20 ha or more wood within 4km	55	54	72	50

Not National Statistics.

Source: Space for People (Woodland Trust, 2004).

Notes:

1. The Space for People analysis is scheduled to be updated in 2009, five years on from the initial work.

2. An interim update was performed for Scotland in 2006, to provide an update for the Scottish Forestry Strategy. That work indicated that the proportion of the population with access to 2 hectares or more of woodland within 500 metres of their home was 23%, while the proportion with access to 20 hectares or more of woodland within 4 kilometres of their home was 68%. The increase in the proportion of people in Scotland with access to woodland is due to a variety of factors, including the creation of new woodland (or settlements near to existing woodland) and the inclusion of this new woodland (and existing woodland not previously identified) within the 2006 version of the Woods for People dataset.

6 Employment & Businesses

This section contains information on employment in forestry and wood processing, health & safety and the number of businesses.

A copy of all Employment & Businesses tables is available to download as an Excel spreadsheet.

6.1 Employment: Annual Business Inquiry (ABI)

The Annual Business Inquiry (ABI) carried out by the Office for National Statistics (ONS) includes statistics on employment broken down by Standard Industrial Classification (SIC). In wood processing, SIC 20 (wood products) and SIC 21 (pulp and paper) have a much wider scope than the Forest Employment Survey (tables 6.2 to 6.4), as they include primary processing of imported material and also some secondary processing. The ABI was extended to include forestry in 2001; SIC 02 (forestry) has a narrower scope than in the Forest Employment Survey, as it does not include activities like timber haulage and government administration.

Employment reported by the ABI is shown in Table 6.1 (average employment in the year).

Table 6.1 Employment in forestry and wood processing[2], 2002-2006

Standard Industrial Classification (SIC)[1]	2002	2003	2004	2005	2006
thousands					
SIC 02: Forestry	14	12	13	12	11
SIC 20: Wood products					
20.1 Sawmilling	13	11	11	10	13
20.2 Panels	7	6	6	6	5
Other SIC 20 Secondary products	74	71	71	69	67
Total	**94**	**88**	**88**	**85**	**85**
SIC 21: Pulp & paper					
21.1 Pulp & paper	17	17	17	14	14
21.2 Articles of paper & paperboard	75	69	66	62	59
Total	**93**	**86**	**83**	**76**	**74**
Total wood processing (SIC 20 + 21)	**187**	**174**	**171**	**161**	**159**
Total primary wood processing (SIC 20.1 + 20.2 + 21.1)	**37**	**34**	**34**	**30**	**32**

Source: Annual Business Inquiry - average employment in year (Office for National Statistics, June 2008)

Notes:

1. Standard Industrial Classification (SIC) categories are:
02 (forestry, logging & related services);
20.1 (sawmilling and planing of wood, impregnation of wood);
20.2 (manufacture of veneer sheets, manufacture of plywood, laminboard, particleboard and other panels and boards);
Other SIC 20 (manufacture of builders' carpentry and joinery, wooden containers, and other products of wood, straw and plaiting materials);
21.1 (manufacture of pulp, paper and paperboard).
21.2 (manufacture of articles of paper and paperboard).

2. Excludes other wood-using industries.

6.2 Forest Employment Survey: employers

Tables 6.2 to 6.4 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.

Total employment (including self-employment) in the forestry and primary wood processing industries in Great Britain in 1998-99 was estimated to be around 30 thousand full-time equivalents. Around one half were based in England, 36% in Scotland and 14% in Wales. 36% were employed working for primary wood processing industries, 29% for private woodland owners, 16% for forestry companies and contractors and 13% for the Forestry Commission

Table 6.2 Employment in forestry and primary wood processing industries, 1998/9

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

Not National Statistics.

Source: Forest Employment Survey 1998/9

Notes:

1. Figures include work by contractors and self-employment as well as employees.

6.3 Forest Employment Survey: activity

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

Table 6.3 Employment in forestry and primary wood processing by activity, 1998/9

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

Not National Statistics.

Source: Forest Employment Survey 1998/9

6.4 Forest Employment Survey: travel to work

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 6.4 Percentage of forestry workers travelling less than 20 miles to their place of employment in GB, 1998/9

Type of employment	England	Scotland	Wales	GB
per cent of workers				
Direct workers	97	98	80	96
Contract workers	56	54	55	55
Total	**72**	**68**	**68**	**71**

Not National Statistics.

Source: Forest Employment Survey 1998/9

6.5 Health & safety

Accidents involving absence from work of at least 3 days are reported to the Health & Safety Executive (HSE). Accident rates per thousand employees have decreased in forestry and primary wood processing, but are still much higher than the averages for all industries.

Table 6.5: Accidents to employees in forestry and primary wood processing[2], 2002-03 - 2006-07

Standard Industrial Classification (SIC)[1]	Major Accidents[3]		Total Reported	
	Number	Rate/ 1000 employees	Number	Rate/ 1000 employees
SIC 02 - Forestry				
2002-03	45	4.2	126	11.8
2003-04	36	3.8	113	11.8
2004-05	40	4.0	103	10.4
2005-06	31	3.4	85	9.4
2006-07	30	3.3	78	8.6
SIC 20.1 - Sawmilling				
2002-03	76	6.5	355	30.3
2003-04	51	4.9	181	17.2
2004-05	58	5.9	176	18.0
2005-06	48	4.9	180	18.4
2006-07	35	3.6	154	16.0
SIC 20.2 - Panels				
2002-03	23	3.9	106	18.0
2003-04	15	2.5	57	9.7
2004-05	14	2.5	51	8.9
2005-06	8	1.5	34	6.2
2006-07	12	2.4	44	9.0
SIC 21.1 - Pulp & Paper				
2002-03	56	3.1	322	17.7
2003-04	58	3.4	307	17.8
2004-05	48	2.9	239	14.5
2005-06	41	2.8	217	14.9
2006-07	34	2.4	178	12.5

Source: Health & Safety Executive (accidents), Office for National Statistics (employment).

Notes:

1. Standard Industrial Classification (SIC) categories are:
02 (forestry, logging & related services);
20.1 (sawmilling and planing of wood, impregnation of wood);
20.2 (manufacture of veneer sheets, manufacture of plywood, laminboard, particleboard and other panels and boards);
21.1 (manufacture of pulp, paper and paperboard).

2. Excludes other wood-using industries.

3. Major accidents include fatal accidents, which averaged 1 or less per year in each sector.

6.6 Establishments in the primary wood processing industries

Table 6.6 shows the number of primary wood processors, according to the sampling frames used for Forestry Commission surveys of establishments using UK timber. The figures in Table 6.6 do not correspond with the VAT registration information given in Table 6.7. 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 that are excluded from Table 6.7 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 Table 6.7 are excluded here (usually because they do not use UK-grown timber).

Table 6.6 Number of establishments in the primary wood processing industries using UK-grown roundwood

Year	Sawmills	Pulp & paper mills	Woodbased panel mills	Round fencing manufacturers	Total[1]
1998	341	4	11	108	464
1999	319	4	10	97	430
2000	297	4	10	93	404
2001	271	4	10	87	372
2002	249	4	10	75	338
2003	240	3	8	70	321
2004	225	3	8	71	307
2005	215	3	8	70	296
2006	215	2	8	72	297
2007	211	2	8	77	298

Source: industry surveys, industry associations

Notes:

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

6.7 VAT registered businesses

Table 6.7 shows the number of VAT-registered businesses classified under forestry and primary wood processing. The headings shown potentially include businesses not traditionally regarded as forestry or primary wood processing, and some businesses that are traditionally included in forestry and primary wood processing are excluded as they are classified to other headings of the Standard Industrial Classification (SIC).

A total of 2,980 forestry businesses, 810 sawmilling businesses, 145 panels businesses and 345 pulp & paper businesses were registered for VAT purposes in the UK at the start of 2007.

Table 6.7 Number[1] of VAT-registered businesses at start of year by Standard Industrial Classification (SIC)[2], 1998-2007

Year	SIC 02 Forestry	SIC 20.1 Sawmilling	SIC 20.2 Panels	SIC 21.1 Pulp & paper
1998	3 325	1 160	195	555
1999	3 310	1 105	190	525
2000	3 275	1 035	185	495
2001	3 200	1 005	180	470
2002	3 140	965	180	445
2003	3 130	930	180	405
2004	3 115	885	170	375
2005	3 065	845	165	365
2006	3 025	825	160	350
2007	2 980	810	145	345

Source: Business start ups and closures: VAT registrations and deregistrations (Department for Business Enterprise and Regulatory Reform, 2007).

Notes:

1. All figures are rounded by the Department for Business Enterprise and Regulatory Reform (BERR) to the nearest multiple of 5.

2. Standard Industrial Classification (SIC) categories are:
02 (forestry, logging & related services);
20.1 (sawmilling and planing of wood, impregnation of wood);
20.2 (manufacture of veneer sheets, manufacture of plywood, laminboard, particleboard and other panels and boards);
21.1 (manufacture of pulp, paper and paperboard).

7 Finance & Prices

This section contains information about timber prices, financial returns from forestry, gross value added (GVA), Government expenditure on forestry and grants.

A copy of all Finance & Prices tables is available to download as an Excel spreadsheet.

7.1 Timber prices

The Forestry Commission has collected information for many years on the prices of conifers sold standing by the FC and publishes a Coniferous Standing Sales Price Index (CSSPI) every 6 months for overlapping 12 month periods. A softwood sawlog price index, providing information for 6-month periods on prices (delivered to roadside), of coniferous sawlogs produced by the Forestry Commission, is also published. Both series are published in Timber Price Indices on the Forestry Commission website. 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.

The coniferous standing sales price index for Great Britain was 42% higher in real terms in the year to March 2008, compared with the previous year. The softwood sawlog price index was 14% higher in real terms in the 6 months to March 2008, compared with the corresponding period in the previous year.

Table 7.1 Coniferous standing sales and sawlog price indices[1] for Great Britain, 1999-2008

Period ending March	Standing sales		Sawlogs	
	Nominal terms[2]	Real terms[3]	Nominal terms[2]	Real terms[3]
index (period to September 1996 = 100)				
1999	51.1	47.7	78.1	72.9
2000	49.7	45.5	83.9	76.7
2001	45.4	41.0	81.6	73.6
2002	43.2	38.1	75.3	66.3
2003	33.6	28.7	72.8	62.2
2004	32.6	27.1	70.3	58.3
2005	34.5	27.9	74.7	60.3
2006	39.9	31.6	71.3	56.4
2007	45.4	35.0	80.6	62.0
2008	66.4	49.6	94.4	70.5

Source: Timber Price Indices (data to March 2008)

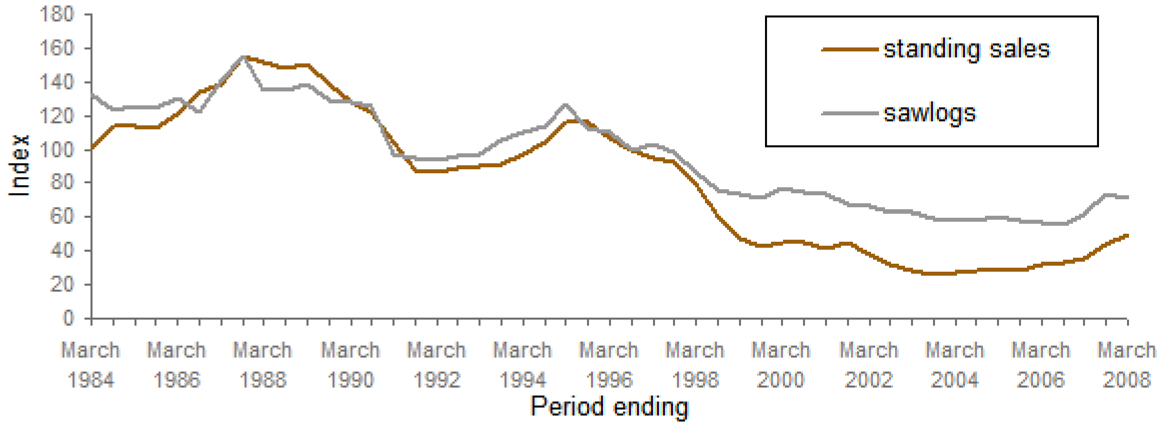
Notes:

1. The price indices are constructed from information on Forestry Commission sales only.

2. Nominal prices are the actual prices at that point in time.

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.

Figure 7.1 Coniferous standing sales and sawlog price indices[1] in real terms[2], 1984-2008



Source: Timber Price Indices (data to March 2008)

Notes:

1. The price indices are constructed from information on Forestry Commission sales only.

2. 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.

7.2 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 2004 to 2007 is estimated to have been 22.0% per annum. This continues the recovery from the negative returns of recent years. The annual return for 2007 is estimated to have been 31.6%.

Table 7.2 Returns from forestry, 1998-2007

Period ending	annual return	3 year return (annual average)
per cent per annum		
1998	-1.4	4.4
1999	-11.1	-3.0
2000	-2.9	-5.2
2001	-1.1	-5.1
2002	-4.7	-2.9
2003	1.3	-1.5
2004	9.2	1.8
2005	14.4	8.2
2006	20.6	14.6
2007	31.6	22.0

Not National Statistics

Source: IPD UK Forestry Index

7.3 Gross value added

The Annual Business Inquiry (ABI) carried out by the Office for National Statistics (ONS) includes statistics on gross value added broken down by Standard Industrial Classification (SIC). The ABI was extended to include forestry from 2000. Gross Value Added (GVA) is the difference between the value of outputs and the value of intermediate consumption, so mainly comprises employment costs and profits.

From 2002 to 2006, GVA in primary wood processing decreased by 16% to £1.35 billion. GVA in forestry has undergone a net decrease of 2% over the same period.

Table 7.3 Gross value added in forestry and wood processing[2], 2002-2006

Standard Industrial Classification (SIC)[1]	2002	2003	2004	2005	2006
£ million					
SIC 02: Forestry	292	316	321	323	286
SIC 20: Wood products					
20.1 Sawmilling	346	354	356	424	460
20.2 Panels	232	245	275	255	274
Other SIC 20 Secondary products	1 881	2 070	2 327	2 273	1 977
Total	**2 459**	**2 669**	**2 958**	**2 952**	**2 711**
SIC 21: Pulp & paper					
21.1 Pulp & paper	1 022	879	788	762	612
21.2 Articles of paper & paperboard	2 747	2 594	2 536	2 377	2 043
Total	**3 770**	**3 472**	**3 325**	**3 139**	**2 655**
Total wood processing (SIC 20 + 21)	**6 229**	**6 141**	**6 283**	**6 091**	**5 366**
Total primary wood processing (SIC 20.1 + 20.2 + 21.1)	**1 600**	**1 478**	**1 419**	**1 441**	**1 346**

Source: Annual Business Inquiry *(Office for National Statistics, June 2008)*

Notes:

1. Standard Industrial Classification (SIC) *categories are:*
02 (forestry, logging & related services);
20.1 (sawmilling and planing of wood, impregnation of wood);
20.2 (manufacture of veneer sheets, manufacture of plywood, laminboard, particleboard and other panels and boards);
Other SIC 20 (manufacture of builders' carpentry and joinery, wooden containers, and other products of wood, straw and plaiting materials);
21.1 (manufacture of pulp, paper and paperboard).
21.2 (manufacture of articles of paper and paperboard).

2. Excludes other wood-using industries.

7.4 Government expenditure on public forests

Net expenditure on public forests by the Forestry Commission in 2007-08 totalled £60 million. £60 million was used to fund forest management and development, £38 million for recreation, conservation & heritage and £39 million for harvesting & haulage. Timber sales generated a total income of £79 million in 2007-08.

The total net expenditure for 2007-08 of £60 million comprised £20 million in Scotland, £28 million in England and £11 million in Wales.

Table 7.4 Funding public forests - net expenditure[1], 2003-04 - 2007-08

	2003-04	2004-05	2005-06	2006-07	2007-08
£ million					
GB					
Forest management & development[2]	61.8	53.4	56.1	55.4	60.3
Recreation, conservation & heritage	25.0	30.6	32.4	35.1	38.3
Harvesting & haulage	41.9	42.4	39.0	39.3	39.5
Less timber income	-62.2	-64.3	-61.9	-65.8	-78.6
Net expenditure	**66.4**	**62.1**	**65.6**	**64.0**	**59.5**
England					
Forest management & development[2]	19.5	16.3	18.4	16.6	19.4
Recreation, conservation & heritage	9.6	11.8	13.8	15.8	15.3
Harvesting & haulage	10.2	10.1	10.8	11.1	11.9
Less timber income	-16.8	-17.3	-18.7	-20.3	-26.3
Net expenditure	**22.5**	**20.8**	**24.3**	**23.1**	**20.3**
Scotland					
Forest management & development[2]	34.3	28.0	28.0	28.0	31.9
Recreation, conservation & heritage	7.8	9.1	11.3	13.4	16.7
Harvesting & haulage	21.9	22.5	21.6	21.8	21.2
Less timber income	-32.3	-35.5	-35.0	-36.7	-42.1
Net expenditure	**31.7**	**24.1**	**26.0**	**26.6**	**27.8**
Wales					
Forest management & development[2]	7.9	9.1	9.6	10.8	9.0
Recreation, conservation & heritage	7.6	9.7	7.3	5.9	6.3
Harvesting & haulage	9.7	9.9	6.6	6.4	6.3
Less timber income	-13.0	-11.5	-8.2	-8.7	-10.2
Net expenditure	**12.2**	**17.3**	**15.3**	**14.4**	**11.5**

Source: Forestry Commission Annual Reports & Accounts

Notes:

1. Excludes notional cost of capital and any surplus/ deficit on sale of properties.

2. Includes all expenditure on public forests not covered under "recreation, conservation & heritage" or "harvesting & haulage".

7.5 Other government expenditure on forestry

In addition to expenditure on public forests, the Forestry Commission spent a total of £138 million on other activities in 2007-08. £72 million of this total was used by the national offices in each country for grants and partnership funding and a further £33 million for policy, regulation & administration. At a GB level, £39 million was used for international & GB support services and £16 million for research.

Table 7.5 Other government expenditure on forestry[1,2], 2003-04 - 2007-08

	2003-04	2004-05	2005-06	2006-07	2007-08
£ million					
GB					
Grants and partnership funding[3]	40.6	44.8	46.0	61.5	71.6
Policy, regulation & administration	31.7	23.6	28.3	29.2	32.9
Research - GB funded	12.4	13.2	14.3	15.1	15.5
International & GB support services	36.3	38.2	38.5	37.6	38.9
Less recovery of support service costs from countries	-21.5	-24.2	-23.3	-20.2	-21.2
Total	**99.5**	**95.6**	**103.8**	**123.3**	**137.7**
England					
Grants and partnership funding[3]	18.6	20.2	18.2	18.3	27.2
Policy, regulation & administration[4]	15.7	12.7	12.9	13.2	14.8
Total	**34.3**	**32.9**	**31.1**	**31.5**	**42.0**
Scotland					
Grants and partnership funding[3]	15.8	17.9	19.7	34.0	33.1
Policy, regulation & administration[4]	9.2	10.1	10.9	8.4	9.7
Total	**25.0**	**27.9**	**30.6**	**42.4**	**42.8**
Wales					
Grants and partnership funding[3]	6.1	6.8	8.1	9.2	11.3
Policy, regulation & administration[4]	6.8	0.8	4.6	7.6	8.5
Total	**12.9**	**7.6**	**12.6**	**16.8**	**19.8**

Source: Forestry Commission

Notes:

1. Forestry Commission expenditure only. Excludes expenditure incurred by other departments.

2. Excludes miscellaneous income.

3. EU co-financing not subtracted from grant expenditure. In Wales, includes "Objective 1" expenditure, starting in 2003.

4. Country costs for "policy, regulation & administration" include shares of GB support service costs.

7.6 Grant schemes

Non-FC woodland in Great Britain is supported by a range of grants for creating new woodland and managing existing woodland. The Woodland Grant Scheme (WGS) was introduced in 1988, at the same time as tax relief was phased out. In Scotland, WGS was replaced by the Scottish Forestry Grant Scheme (SFGS) in 2003. The English Woodland Grant Scheme (EWGS) was launched in July 2005 and Better Woodlands for Wales (BWW) in December 2005.

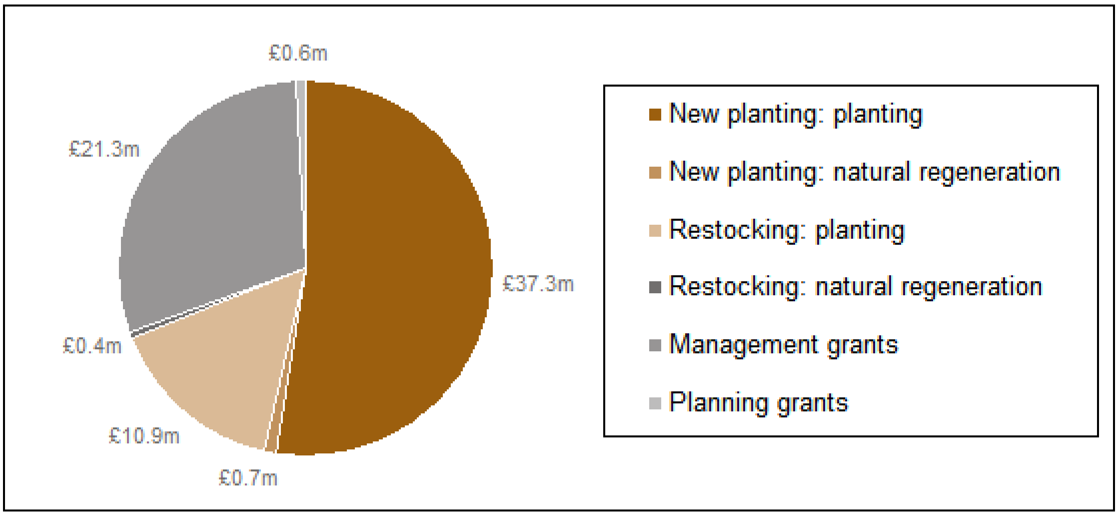
Because of the differences between these schemes, it is increasingly difficult to provide comparable statistics across the three countries. Total areas of new planting and restocking are shown in Table 1.13. Expenditure on grants and partnership funding is included in Table 7.5. Grant spend is shown in Table 7.6. For other statistics, see the three countries' Annual Report and Accounts.

Table 7.6 Grant money paid in 2007-08, by type of grant

Type of grant	England	Scotland	Wales	GB
£ million				
New planting				
Planting	24.5	12.3	0.5	37.3
Natural regeneration	0.2	0.6	0.0	0.7
Restocking				
Planting	4.1	6.1	0.7	10.9
Natural regeneration	0.1	0.3	0.0	0.4
Management grants	12.6	7.5	1.2	21.3
Planning grants	0.3	0.1	0.1	0.6
Total	**41.7**	**26.9**	**2.6**	**71.1**

Source: Forestry Commission

Figure 7.2 GB grant money paid in 2007-08 by type of grant



Source: Forestry Commission

9 Glossary

broadleaves

Trees that 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).

conifers

Trees with needles and cones .

coppice

Trees that 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').

Defra

Department for Environment, Food and Rural Affairs.

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, responsible for the Forest Resources Assessment and for compiling international statistics on production and trade of wood products.

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.

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.

forest

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.

FS

Northern Ireland Forest Service (an agency of the Department of Agriculture and Rural Development).

FSC

Forest Stewardship Council.

GB

Great Britain: England, Scotland and Wales.

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).

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.

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.

NI

Northern Ireland.

NIWT

National Inventory of Woodland and Trees.

ONS

Office for National Statistics.

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.

overbark

The volume of wood including the bark. Can be either standing volume or felled volume.

particleboard

Panel material manufactured under pressure and heat from particles of wood (wood (also chipboard) flakes, chips, shavings, sawdust) in particle form, with the addition of an adhesive.

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).

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.

Scottish Government

Devolved government in Scotland. Previously the Scottish Executive.

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.

silviculture

The care and cultivation of forest trees.

softwood

The wood of coniferous trees or conifers themselves.

SRC

Short rotation coppice (either willow or poplar).

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 compiling international statistics on production and trade of wood products for Europe, the Russian Federation and North America.

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.

Welsh Assembly Government

Devolved government in Wales.

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.

10 Sources

This section provides further information on the data sources used to provide figures for this publication. Where relevant, information is also provided on the data collected from these sources, the methodology used to estimate figures, revisions and the level of detail reported.

10.1 Sources: Woodland area and planting

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. There is no minimum height for trees to form a woodland at maturity, so the definition includes woodland scrub but not areas with only shrub species such as gorse or Rhododendron.

There is no minimum size for a woodland. In this report, 'woodland' (as defined above) refers to woods and forests of all sizes. The 1995-99 National Inventory of Woodland and Trees mapped all areas down to 2.0 hectares, but sample-based information was also collected for smaller woods, small groups of trees and individual trees. The area statistics in Chapter 1 show totals for woods over 0.1 hectares.

This is a different definition from that used internationally which is based on 10% canopy cover, a minimum height at maturity of 5m and minimum area of 0.5 hectares. However, the two definitions are estimated to give similar areas of woodland in the UK, as the UK woodland in areas of 0.1 - 0.5 hectares balances the unrecorded area with 10 - 20% canopy cover.

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.

Most public sector woodland is owned by 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'.

10.1.1 Sources: Woodland area

Background

Data on woodland area in the UK are derived from the following sources:

- Forestry Commission and Forest Service administrative records of FC/ FS woodland areas;
- National Inventory of Woodland and Trees (GB);
- Statistics on new planting of non-FC woodlands in Great Britain;
- Forestry Commission administrative records of disposals of woodland (GB) and
- Forest Service estimates of non-FS woodland area in Northern Ireland.

Data collected

Data are woodland areas in each country (England, Scotland, Wales, Northern Ireland) by ownership (FC/ FS, non-FC/ FS) and type of woodland (conifer, broadleaf).

Methodology

For FC/ FS woodlands, data are obtained annually from administrative systems. Forest Service also provide estimates of non-FS woodland on an annual basis.

For non-FC woodlands in Great Britain, annual estimates of woodland areas are based on the most recent inventory of woodlands - currently the 1995-99 National Inventory of Woodland and Trees (NIWT). The figures obtained from NIWT are then rolled forward for each country by adding statistics for new planting of non-FC woodland and disposals of FC woodland. No account is taken of woodland converted to another land-use, nor for changes in composition at restocking, as there are no sufficiently reliable data sources for these topics.

Revisions

The statistics on woodland area may be revised between the provisional figures published in the First Release Woodland area, planting and restocking and the final data published in Forestry Facts & Figures and Forestry Statistics, to take account of revisions to administrative data. They are not normally revised after final figures are published except when a new National Inventory of Woodland and Trees is published, previous years may be revised.

Reporting

Statistics reported for each year are published at a country level (England, Scotland, Wales, Northern Ireland).

10.1.2 Sources: Woodland Inventories

Woodland inventories have taken place in Great Britain every 15 years or so. Most inventories, however, used slightly different definitions of woodland, so some apparent changes in area over time are due to changing definitions. The principal differences for inventories since 1905 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.

Estimates of woodland area prior to 1905 have been obtained from a variety of sources, including:

- Domesday Survey of England - for information in 1086;
- Scottish Woodland History (TC Smout ed, 1997) - for estimate for end Middle Ages in Scotland;
- Roy maps c1750 - for Scotland 17th Century estimate.

National Inventory of Woodland and Trees

In the latest 1995-99 inventory, data were collected for one hectare squares, covering a wide variety of topics, include ownership type, species and age. The results were uprated to total woodland areas from a digital map based on aerial photography.

Results are published for countries (Great Britain, England, Scotland, Wales) and for more detailed geographical breakdowns (regions and counties).

Further details on the most recent inventory are available from www.forestry.gov.uk/inventory.

10.1.3 Sources: New planting & restocking

Background

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.

Information about Forestry Commission and Forest Service new planting and restocking comes from administrative systems. Information about other woodland has come principally from the Woodland Grant Scheme (WGS) and the successor grant schemes introduced in England, Scotland and Wales. For natural colonisation and regeneration, 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.

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

Data collected

Data on planting (new planting, restocking) in each country (England, Scotland, Wales, Northern Ireland) are obtained by ownership (FC/ FS, non-FC/ FS) and type of woodland (conifer, broadleaf).

Revisions

The statistics on new planting and restocking may be revised between the provisional figures published in the First Release 'Woodland Area, Planting and Restocking' and the final data published in Forestry Facts & Figures and Forestry Statistics, to take account of revisions to administrative data. They are not normally revised after final figures are published.

Reporting

Statistics reported for each year are published at a country level (England, Scotland, Wales, Northern Ireland).

10.2 Sources: Timber

Statistics on timber are obtained from a number of sources. For wood production (removals), data are compiled from:

- Forestry Commission and Forest Service administrative records of removals from FC/ FS woodlands;
- Private Sector Softwood Removals Survey for softwood removals from non-FC/ FS woodlands and
- deliveries of hardwood to wood processing industries (see below) for total hardwood removals.

There is no source of data for hardwood removals from non-FC/ FS woodlands, so these are estimated to be:

- deliveries of hardwood to wood processing industries (see below) less
- hardwood removals from FC/ FS woodlands.

Deliveries are estimated from the following sources:

- Sawmill Survey;
- Confederation of Paper Industries;
- UK Forest Products Association;
- Wood Panel Industries Federation;
- Survey of Round Fencing Manufacturers;
- shavings manufacturers;
- harvesting companies (for roundwood and chip exports) and
- estimates provided by the Expert Group on Timber and Trade Statistics.

Provisional results (in summary format) are published in the First Release 'UK Wood Production and Trade', with final figures issued in Forestry Facts and Figures and Forestry Statistics.

10.2.1 Sources: Wood production

Background

Figures on UK wood production are compiled from a variety of sources:

- Forestry Commission/ Forest Service administrative records - for all removals from FC/ FS woodlands;
- the Private Sector Softwood Removals Survey - for softwood removals from non-FC/ FS woodlands and
- statistics on deliveries - for total hardwood removals.

The compilation of data on wood production was extended in 2004 to include Northern Ireland.

Methodology

Figures for removals from FC/ FS woodlands are converted from cubic metres (m^3) to green tonnes using standard conversion factors. For total softwood figures, the results from the Private Sector Softwood Removals Survey are combined with the data for FC/ FS woodlands to produce total softwood removals.

For hardwood figures, the total hardwood removals are assumed to equal the total hardwood deliveries (obtained from industry surveys and industry associations). Hardwood removals from FC/ FS woodlands are then subtracted to give an estimate of the amount of hardwood removed from non-FC/ FS woodlands.

Revisions

Non-FC/ FS softwood removals are subject to revision annually (see note on the Private Sector Softwood Removals Survey). Removals from FC/ FS woodlands are not normally revised. Total hardwood removals (and consequently hardwood removals from non-FC/ FS woodlands) are subject to annual revisions (see notes on deliveries for further information).

Reporting

Figures are published as UK totals. Country breakdowns (England, Scotland, Wales, Northern Ireland) are also published for softwood in table 2.3 (as percentages) for non-FC/ FS removals and table 2.4 for FC/ FS removals. Approximate country breakdowns are also estimated for hardwood removals.

10.2.2 Sources: Private Sector Softwood Removals Survey

Background

The Private Sector Softwood Removals Survey is an annual survey conducted by the Forestry Commission (in association with the Forest Service) of a sample of harvesting companies in the UK.

The survey, which previously covered harvesting companies in Great Britain only, was extended in 2004 to include harvesting companies in Northern Ireland. Figures for Northern Ireland in earlier years have therefore been estimated, based on responses to the 2004 survey.

Data collected

The questionnaire used for the Private Sector Softwood Removals Survey is issued to around 40 harvesting companies, to collect information on:

- the quantity of softwood roundwood harvested from non-FC/ FS woodlands in the UK in the current year and in the previous year and
- the quantity of softwood roundwood harvested from certified non-FC/ FS woodlands.

Response rates

In 2007, the questionnaire was issued to 43 harvesting companies, of which 34 responded, giving a response rate of 79%.

Private Sector Softwood Removals Survey Response Rates, 1998-2007

Year	Forms issued	Responses received	Response rate
1998	43	30	70%
1999	45	39	87%
2000	43	26	60%
2001	42	30	71%
2002	35	24	69%
2003	33	24	73%
2004	41	33	80%
2005	40	28	70%
2006	43	35	81%
2007	43	34	79%

Methodology - Estimation of non-FC/ FS softwood removals

The percentage change in non-FC/ FS softwood removals from the previous year to the current year is calculated for all respondents. This percentage change is then applied to the estimated total for the previous year, subject to any revisions (see below), to produce an estimated total for the current year.

Revisions

Results from the Private Sector Softwood Removals Survey may be revised between the provisional figures published in the First Release 'UK Wood Production and Trade' and the final data published in Forestry Facts and Figures and Forestry Statistics to take account of late returns and the results of additional data quality checking procedures.

In order to use the most accurate information possible in estimating total non-FC/ FS softwood removals, figures for non respondents in earlier years are estimated wherever possible, using their responses in previous and in subsequent years. This may cause the estimates for all previous years to be revised when new data are received from a former non-respondent. This process reduces the potential over-inflation of estimated removals which can be caused by harvesting companies tending to respond when removals have increased but being less likely to do so when their removals have reduced.

Reporting

Figures are published as UK totals and as percentages from each country (England, Scotland, Wales, Northern Ireland).

10.2.3 Sources: Sawmill Survey

Background

The Sawmill Survey is an annual survey conducted by the Forestry Commission (in association with the Forest Service) of sawmills in the UK that are believed to use UK logs.

The survey, which previously covered sawmills in Great Britain only, was extended in 2004 to include sawmills in Northern Ireland. Figures for Northern Ireland in earlier years have therefore been estimated, based on responses to the 2004 survey.

The detailed survey has changed over recent years, both in terms of coverage and periodicity. For 1996 and earlier, detailed questionnaires were issued triennially to mills producing at least 1,000 m^3 of sawnwood. From 1998 to 2004, the questionnaires were issued on a biennial basis to mills producing at least 5,000 m^3 of sawnwood. From 2005, the detailed questionnaires have been issued annually, to mills producing at least 10,000 m^3 of sawnwood.

Data collected

2 questionnaires are used for the Sawmill Survey:

- a detailed questionnaire goes to around 50 mills that have annual production of at least 10,000 m^3 of sawnwood, and
- a short questionnaire to all other mills that are believed to take UK sawlogs (around 200 mills).

Both questionnaires collect information on:

- the consumption of UK and imported logs,
- the production of sawnwood and
- (from 2006) sales to bioenergy.

In addition, the detailed questionnaire also collects information on:

- the source of UK logs (England, Scotland, Wales or Northern Ireland),
- sawnwood product markets,
- other products and
- sawmill employment.

Response rates

In 2007, detailed questionnaires were issued to 51 mills, of which 44 responded, giving a response rate of 86%. For the short questionnaire, 105 responses were received from the 192 forms issued, corresponding to a 55% response rate.

Sawmill Survey Response Rates (all questionnaires), 1998-2007

Year	Forms issued	Responses received	Response rate
1998	407	225	55%
1999	406	244	60%

2000	374	193	52%
2001	260	172	66%
2002	288	150	52%
2003	260	143	55%
2004	262	147	56%
2005	257	143	56%
2006	264	164	62%
2007	243	149	61%

Methodology

Each year, figures for non respondents are estimated by rolling forward data from previous years for these mills. For larger mills, these estimates may be modified to take account of advice from the Expert Group on Timber & Trade Statistics.

Revisions

Results from the Sawmill Survey may be revised between the provisional figures published in the First Release 'UK Wood Production and Trade' and the final data published in Forestry Facts and Figures and Forestry Statistics to take account of late returns and the results of additional data quality checking procedures.

All the main results (number of mills, consumption, production) are subject to revision annually, as information becomes available about mills opening or closing, or new information becomes available for previous non-respondents. The most common revisions are relatively small downward changes, but this can vary from year to year as special exercises are run to validate the survey population. Information about new mills opening can on occasion cause much larger upward revisions to softwood volumes, as in British Timber Statistics 2003. Results from the survey of larger mills, which provides more detailed information, are not normally revised.

Reporting

Statistics reported for each year are limited to mills that are known to use UK roundwood, but also include any imported logs used by these mills.

Tables for softwood are broken down by country (England, Scotland, Wales, Northern Ireland) and by size of mill. Given the low number of sawmills using UK hardwood, tables for hardwood are presented at a total UK level only.

The number of active mills is presented in tables 2.9 to 2.11.

10.2.4 Sources: Pulp & paper

Background

Data on the pulp and paper sector are obtained from two sources:

- UK Forest Products Association (UKFPA) provides figures on inputs to the integrated pulp and paper mills and
- Confederation of Paper Industries (CPI) provides figures on pulp and paper production.

Integrated pulp and paper mills are paper mills that use UK roundwood to produce pulp, which is an intermediate product in the production of paper. Inputs for other paper mills are not covered.

Data collected

The data collected on inputs cover the type of input (roundwood, sawmill products), the type of wood (softwood, hardwood) and, for UK roundwood inputs, the country of origin (England, Scotland, Wales or Northern Ireland).

Production data covers wood pulp (mechanical or semi-chemical), recovered fibre pulp and paper & paperboard. Paper & paperboard production are available for the following categories: graphic papers, sanitary & household papers, packaging materials and other paper & paperboard. Data are also collected on UK "production" of waste paper, which is the amount recovered from the UK for re-use in the UK or for export.

Methodology

The data on inputs to integrated pulp & paper mills are collected by the UK Forest Products Association (UKFPA) from all such mills in the UK. The number of integrated pulp and paper mills has fallen over recent years and currently stands at 2.

The Confederation of Paper Industries (CPI) collects production and raw material data from members and non-members, which accounts for the majority of UK production. The remainder is estimated by CPI using a variety of sources.

Revisions

The statistics on pulp and paper are not normally revised after publication. On occasion, a provisional figure or estimate may be published, and replaced by the actual figure in a subsequent publication.

Reporting

Statistics reported for each year on inputs are limited to integrated pulp & paper mills. A breakdown by country (England, Scotland, Wales, Northern Ireland) is only available for the source of UK roundwood used by the integrated pulp & paper mills. Figures for production are available at a total UK level only.

10.2.5 Sources: Woodbased panels

Background

Data on the woodbased panel sector are obtained from the Wood Panel Industries Federation (WPIF) and cover all woodbased panel mills in the UK.

Data collected

Data are collected on inputs and on production.

The data collected on inputs covers the type of input (roundwood, sawmill products, imports) and the type of wood (softwood, hardwood).

Production data covers all types of woodbased panels made in the UK, which currently comprises particleboard (including oriented strand board) and fibreboard (medium density fibreboard). Production of hardboard (another type of fibreboard) ended in 1999 and production of plywood ended in 2000.

Methodology

The data on woodbased panels are collected by the Wood Panel Industries Federation (WPIF), which represents all UK wood panel manufacturers. Figures on wood consumption are collected annually. Production data (excluding waste and rejects) are derived from quarterly returns. Response rates in recent years have been 100%.

Revisions

The statistics on woodbased panels are not normally revised after publication. On occasion, a provisional figure or estimate may be published, and replaced by the actual figure in a subsequent publication.

Reporting

Statistics reported for each year are available at a UK level only.

10.2.6 Sources: Survey of Round Fencing Manufacturers

Background

The Survey of Round Fencing Manufacturers is an annual survey conducted by the Forestry Commission (in association with the Forest Service) of round fencing manufacturers (or mills) in the UK that are believed to consume UK roundwood.

The survey, which previously covered mills in Great Britain only, was extended in 2004 to include those in Northern Ireland. Figures for Northern Ireland in earlier years have therefore been estimated, based on responses to the 2004 survey.

Data collected

The questionnaire used for the Survey of Round Fencing Manufacturers is issued to around 100 mills, to collect information on the consumption of UK and (from 2006) imported roundwood. A breakdown of the country of origin (England, Scotland, Wales, Northern Ireland) for UK roundwood is also requested.

Response rates

In 2007, the questionnaire was issued to 103 mills, of which 67 responded, giving a response rate of 65%.

Survey of Round Fencing Manufacturers Response Rates, 1998-2007

Year	Forms issued	Responses received	Response rate
1998	138	95	69%
1999	139	91	65%
2000	142	78	55%
2001	127	84	66%
2002	109	68	62%
2003	104	52	50%
2004	107	67	63%
2005	103	60	58%
2006	109	61	56%
2007	103	67	65%

Methodology

Each year, figures for non respondents are estimated by rolling forward data from previous years for these mills.

Revisions

Results from the Survey of Round Fencing Manufacturers may be revised between the provisional figures published in the First Release 'UK Wood Production and Trade' and the final data published in Forestry Facts and Figures and Forestry Statistics to take account of late returns and the results of additional data quality checking procedures.

All figures are subject to revision annually, as information becomes available about mills opening or closing, or new information becomes available for previous non-respondents. Such revisions are generally quite small.

Reporting

Figures are published as UK totals and by size of mill. Data for individual countries can be produced, subject to confidentiality constraints.

10.2.7 Sources: Other deliveries

Background

Data on other deliveries comprise the following:

- shavings - mainly obtained from shavings manufacturers;
- woodfuel - suppliers and Expert Group on Timber & Trade Statistics estimates;
- hardwood round fencing - Expert Group on Timber & Trade Statistics estimates;
- other miscellaneous products - Expert Group on Timber & Trade Statistics estimates and
- exports of roundwood and chips - harvesting companies and Forest Service.

The figures, which previously covered Great Britain only, were extended in 2004 to include Northern Ireland. Figures for exports prior to 2004 relate to Great Britain only.

Data collected

The data collected on shavings, woodfuel and other miscellaneous products cover the quantity of roundwood only.

Data collected on exports covers pulpwood, logs and chips. For 2004 and earlier years, these figures were provided by the UK Forest Products Association (UKFPA).

Methodology

For shavings, data are collected from the main companies known to produce shavings. In addition, a small estimate is made to cover other shavings manufacturers.

There are currently no reliable sources for data on woodfuel, hardwood round fencing and other miscellaneous products. As a result, estimates (that are rarely changed) are made by the Expert Group on Timber & Trade Statistics to attempt to take account of these other uses of UK roundwood. The estimate for hardwood used for woodfuel was revised in 2005 to reflect a perceived increase in woodfuel, but this should not be interpreted as an increase in a single year. For 2007, an estimate of roundwood use for biomass energy was included in the woodfuel figure, based on data reported by suppliers and Expert Group on Timber & Trade Statistics estimates.

For exports, data are requested from harvesting companies believed to have exported roundwood or chips in the last year. Forest Service provides data on behalf of companies exporting from Northern Ireland. If required, a small estimate is made for any non respondents or to cover other companies which may have exported roundwood during the year.

Revisions

The statistics on other deliveries are not normally revised after publication. On occasion, an estimate may be revised in a subsequent publication, to take account of expert advice on perceived changes in the market for roundwood.

Reporting

Statistics reported for each year are available at a UK level only.

10.2.8 Sources: Comparison of removals and deliveries of UK softwood roundwood

The table below provides a comparison between the figures for removals (obtained from Forestry Commission, Forest Service and Private Sector Removals Survey) and deliveries (obtained from industry surveys and trade associations) for UK softwood roundwood.

Comparison of removals and deliveries of UK softwood roundwood, 1998-2007

Year	FC/ FS removals	Non-FC/ FS removals	Total removals	Deliveries	Balance[1]
thousand green tonnes					
1998	4 188	2 638	6 826	7 052	-225
1999	4 725	2 555	7 280	7 266	14
2000	4 850	2 580	7 430	7 351	79
2001	4 604	2 900	7 504	7 463	41
2002	4 650	2 982	7 632	7 380	252
2003	4 817	3 497	8 314	7 719	595
2004	4 894	3 625	8 519	8 022	497
2005	4 579	3 900	8 479	8 152	328
2006	4 582	3 984	8 566	8 194	372
2007	4 653	4 424	9 077	8 791	286

Source: Forestry Commission, Forest Service, industry surveys, industry associations

Notes:

1. The difference between reported removals and deliveries. This can be caused by variations in the level of stocks between harvesting and delivery to the wood processor, but a persistent difference indicates that statistics for removals and/ or deliveries may be unreliable.

10.2.9 Sources: Estimation of hardwood removals from non-FC/ FS woodlands

Figures for hardwood removals from non-FC/ FS woodlands are derived from total hardwood deliveries (obtained from industry surveys and trade associations) less hardwood removals from FC/ FS woodlands.

Estimation of hardwood removals from non-FC/ FS woodlands, 1998-2007

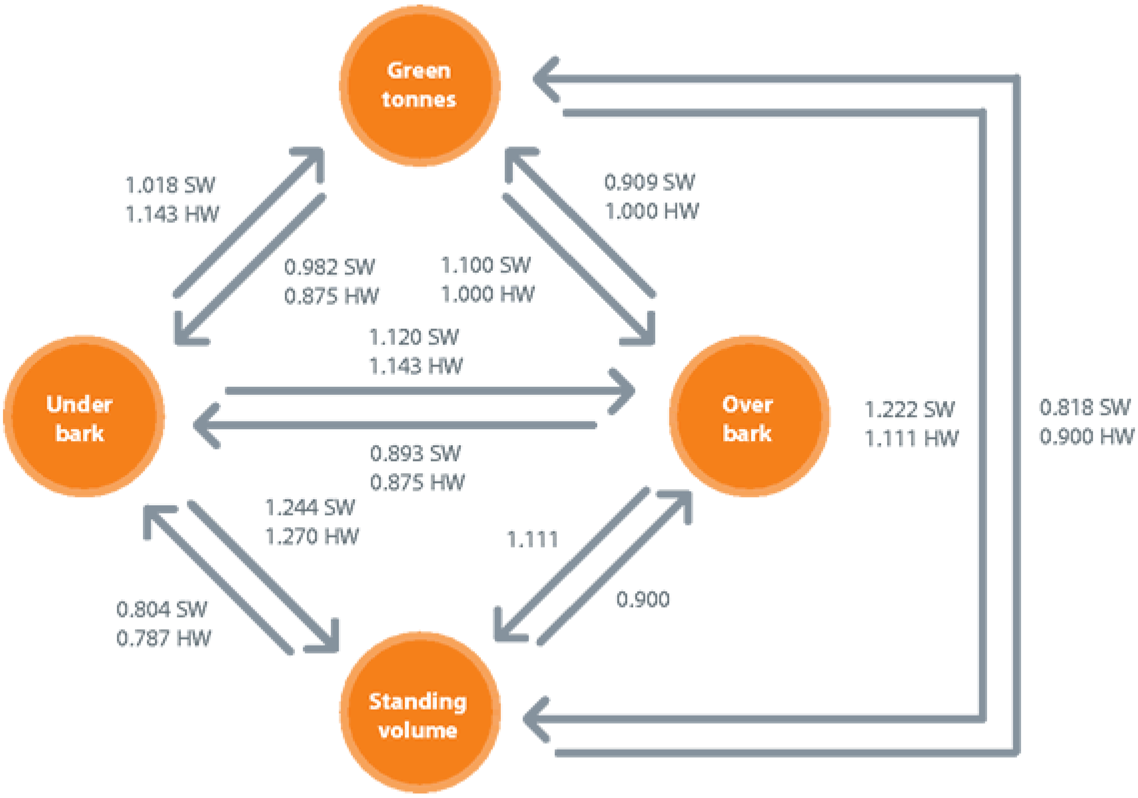
Year	Deliveries	FC/ FS removals	Non-FC/ FS removals
thousand green tonnes			
1998	716	118	598
1999	675	128	547
2000	654	130	524
2001	632	145	486
2002	620	118	502
2003	562	117	445
2004	513	113	399
2005	593	101	492
2006	438	45	392
2007	440	40	400

Source: industry surveys, industry associations

10.2.10 Sources: Conversion factors

Conversion factors between cubic metres and green tonnes

The following factors have been used in Chapter 2 (Timber) to convert between cubic metres (m^3) and green tonnes:



Conversion factors between cubic metres and metric tonnes

The following factors have been used in Chapter 3 (Trade) to convert between cubic metres (m^3) and metric tonnes:

Product	m^3 / tonne
Fuelwood, including wood for charcoal	1.38
Wood chips, sawdust, etc	1.48
Industrial roundwood (wood in the rough) - softwood	1.43
Industrial roundwood (wood in the rough) - hardwood	1.25
Sawnwood - softwood	1.82
Sawnwood - hardwood	1.43
Veneer sheets	1.33
Plywood, particleboard	1.54
Hardboard	1.053
MDF (medium density fibreboard)	1.667
Insulating board - density 0.35-0.5 g/cm^3	1.667
Insulating board - other	4.00

Conversion factors to Wood Raw Material Equivalent (wrme) underbark

The following factors have been used in Chapter 3 (Trade) where required to convert to wood raw material equivalent, which indicates the volume of wood (in m^3 underbark) needed to produce one unit of a final product:

Product	Measurement unit	Factor to wrme underbark
Fuelwood	tonnes	1.20
Wood charcoal	tonnes	6.00
Chips, sawdust, etc	tonnes	1.20
Industrial roundwood (rough, treated)	m^3	1.10
Industrial roundwood (in the rough)	m^3	1.00
Sleepers	m^3	1.58
Softwood sawnwood	m^3	2.00
Hardwood sawnwood	tonnes	2.50
Wastepaper	tonnes	2.80
Mechanical pulp	tonnes	2.50
Chemical dissolving pulp	tonnes	2.50
Sulphate pulp, unbleached	tonnes	6.00
Sulphate pulp, bleached	tonnes	4.50
Sulphite pulp	tonnes	5.00
Semi-chemical woodpulp	tonnes	2.75
Veneer (< 6mm)	tonnes	3.45
Other woodbased panels	tonnes	2.50
Woodwool, woodflour	tonnes	1.70
Packing cases, pallets	tonnes	2.00
Other manufactured wood	tonnes	2.50
Newsprint	tonnes	2.80
Writing & printing paper, uncoated	tonnes	3.50
Other paper & paperboard	tonnes	2.50

Notes:

1. A revised set of figures was produced in FC Technical Paper 19, Revised Forecasts of the Supply and Demand for Wood in the UK (Forestry Commission, 1996), but these have not been used in this publication.

10.3 Sources: Trade

Background

Data on imports and exports are based on data obtained from overseas trade statistics on intra-EC trade and extra-EC trade produced by HM Revenue and Customs.

Data on apparent consumption is derived as UK production plus imports less exports.

Data collected

The data obtained from HM Revenue and Customs cover quantities (weights and volumes) and values of wood and wood products imported to and exported from the UK. Data are compiled for the following products:

- roundwood - woodfuel, industrial roundwood;
- wood charcoal;
- wood chips & particles;
- wood residues;
- sawnwood;
- woodbased panels - veneer sheets, plywood, particleboard, fibreboard;
- pulp - wood pulp, other pulp;
- recovered paper and
- paper & paperboard - graphic papers (including newsprint), sanitary & household papers, packaging materials, other paper & paperboard.

For roundwood, sawnwood and woodbased panels, a softwood/ hardwood breakdown is available.

Data are also obtained by country of origin (for imports) and destination country (for exports).

Methodology

The data obtained from HM Revenue & Customs are converted to other units (if required) and checked against other sources and expert advice (including the Expert Group on Timber and Trade Statistics, Wood Panel Industries Federation and Confederation of Paper Industries). For consistency with timber deliveries data, roundwood and wood chip exports figures are replaced by those compiled from harvesting companies and (for Northern Ireland) Forest Service.

Revisions

The statistics on imports and exports are subject to revision after publication if revisions are made to the overseas trade statistics produced by HM Revenue & Customs. Figures may also be refined to take account of expert advice from the Expert Group on Timber & Trade Statistics and trade associations on the trade in specific products.

Reporting

Provisional results are published in the First Release 'UK Wood Production and Trade' in May, with final figures issued in Forestry Facts and Figures and Forestry Statistics.

Statistics reported for each year are available at a UK level. Data are also available for country imported from (or exported to) and for more detailed product types.

10.4 Sources: Environment

Ancient and semi-natural woodland and protected areas

The information in Table 4.2 and most of Table 4.1 has been reproduced from Protected Forest Areas in the UK (S Pryor & G Peterken, 2001) (not National Statistics). It has been derived from a variety of sources, and is unlikely to give a wholly accurate inventory of protected areas in the United Kingdom.

The woodland categories used in Table 4.1 are:

- 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.

The types of statutory protection in Table 4.2 are:

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

Data about the small amount of ancient woodland in Northern Ireland was not available in 2001, but has been added using the report Back on the Map (Woodland Trust, 2007).

The UK Indicators of Sustainable Forestry (indicator B1) published in 2002 used results from a different source: Pryor & Smith (2002). This was an updated estimate of ancient woodland area derived by overlaying the NIWT 1995-1999 digital map onto ancient woodland inventories. This gave lower figures than those published in Pryor & Peterken (2001). At the time, Pryor & Smith (2002) was thought to give the best estimates of ancient woodland area. However, further investigation of the discrepancies between NIWT and the ancient woodland inventories suggests that some discrepancies are due to differences in spatial registration of woods, and that some areas of ancient woodland are incorrectly omitted from the totals in Pryor & Smith (2002). In consequence, the estimates from Pryor & Peterken (2001) are now recommended for use, until better information becomes available.

The Ancient Woodland Inventory data sets for England and Wales are currently being revised. New estimates for Scotland will become available from the Native Woodland Survey of Scotland.

Carbon sequestration

The information in Table 4.3 is taken from inventory and projections of UK emissions by sources and removal by sinks due to land use, land use change and forestry (CEH, 2008), contributing to 2006 UK Greenhouse Gas Emissions (Defra, January 2008). The figures for removals due to land afforested since 1990 exclude the increasing pool of carbon in timber products.

Figure 4.2 shows annual estimates of carbon sequestration by country, taken from the same source but shows carbon in living forest biomass only; it excludes carbon in litter, soils and forest products. Future predictions of carbon uptake assume that commercial conifer plantations will be replanted when felled, and that planting of new woodland will continue at the same rate as in 2006.

Populations of wild birds

Population indices for wild birds are a framework indicator for sustainable development. The data published here are based on those published by Defra in November 2007, rescaled here to give year 2000 = 100 instead of year 1970 = 100. Further data and analysis about populations of wild birds are in Defra Wildlife KeyFacts.

The index for woodland specialists was recalculated in 2007 to include 4 additional species; this affected the indices for total woodland birds and (to a lesser extent) all birds.

Woodland vegetation

This indicator, which shows the overall condition and richness of flora in woodland, is derived from data collected in 1998 for the Countryside Survey 2000. The Countryside Survey is carried out at intervals of about 8-10 years; the next was in 2007, with initial results to be published in late 2008.

CS2000 did not contain sufficient monitoring plots for Wales to be analysed separately. No similar samples were taken in the Northern Ireland Countryside Survey.

Broadleaved scores are based on 195 sample ‘x’ plots in CS2000 in GB. Broadleaved change scores are based on the 131 plots that were in the same woodland broad habitat in 1990 and 1998.

Conifer scores are based on 170 sample ‘x’ plots in CS2000 in GB.

10.5 Sources: Public Opinion of Forestry

Background

The Forestry Commission has conducted similar biennial surveys of public attitudes to forestry and forestry-related issues since 1995. Four separate surveys were undertaken in 2007; in Scotland, Wales, Northern Ireland and across the UK as a whole.

Some questions were asked in all four of the surveys conducted in 2007 and in the surveys undertaken in earlier years, but an increasing number are survey specific. Questions are asked on a variety of topics including, public awareness of forestry, woodland-based recreation and community involvement, woodfuel and the relationship between forestry and climate change.

Methodology

The survey results were obtained by placing questions on omnibus surveys run by private market research companies. The four surveys undertaken in 2007 achieved representative samples of around:

- 4,000 adults across the UK
- 1,000 adults across Scotland
- 950 adults across Wales
- 1,000 adults across Northern Ireland

All results are subject to the effects of chance in sampling, so a range of uncertainty (confidence interval) is associated with results from the surveys. The confidence intervals take into account the effect of clustering, weighting and stratification in the survey designs. For questions asked to the whole UK sample of 4,000, the range of uncertainty around any result should be no more than ± 2.3%, while for questions asked to 1,000 respondents, the corresponding range of uncertainty should be no more than ± 4.6%.

Reporting

Preliminary reports for England (using a subset of the UK data set), Scotland, Wales and Northern Ireland were published in June 2007.

Final reports giving more in-depth information on the specific questions asked in each country, including breakdowns by geographic regions, socio-demographic variables (e.g. gender, age, health, social class), deprivation indices and rural urban categorisations were published in November 2007.

10.6 Sources: Recreation

Visitor Monitoring

There are two main approaches to visitor monitoring:

- General population surveys of individuals at their home ;
- Surveying and counting of visitors to a specific area or woodland.

There are advantages and disadvantages to each approach, related to factors such as representativeness, feasibility and cost; each approach provides different types of information.

In general, on-site studies provide information on visitor interaction with local or specific woodland areas and include all categories of visitors to a site, regardless of their country of residence and interests.

In contrast, general population studies are limited to residents of a certain country or area, are often carried out by market research companies at a national level, and include people who do not visit woodlands.

Differences in results - household surveys

It is notable from table 5.1 that different surveys have provided some quite different estimates of the aggregate number of visits to woodlands; for example, a fall, in recent years, in the estimated number of visits to woodlands in England and GB. It is likely that the use of different market research companies and varying approaches and practices (in-home or telephone interview, changed questionnaire structure etc) are responsible for a substantial proportion of the fall identified in the table.

Table 5.1 also highlights a large difference in the estimates for Scotland, although in contrast to the England and GB results, the Scottish result is dramatically higher in recent years. It is, however, again likely that this variation is primarily connected with the change in survey scope, design and methodology (UK and GB Day Visit Surveys until 2002/3, Scottish Recreation Survey 2004 onwards).

Differences in results - household survey versus on-site survey

The aggregate visit number estimate for Forestry Commission Scotland woodland obtained from the All Forests Scotland survey (8.2 million, table 5.8) is substantially lower than the corresponding estimates derived from the Scottish Recreation Survey (around 30 million, table 5.3). Although it would be unreasonable to expect that two surveys which employ such differing methods would produce consistent estimates, the magnitude of the difference is notable. Considering the methods employed in these surveys, it may be hypothesised that the the Scottish Recreation Survey overestimates the number of visits, the All Forests Survey provides an underestimate and that the 'true' number of visits to Forestry Commission Scotland woodland lies somewhere between the estimates derived from these surveys.

Revisions

Results from the Scottish Recreation Survey for 2004-2007 (tables 5.1, 5.3 and 5.4) have been amended from previously published figures following revisions to the survey weighting scheme.

10.7 Sources: Employment and businesses

Statistics on employment are obtained from:

- Annual Business Inquiry (Office for National Statistics) - an annual survey of UK businesses, and
- Forest Employment Survey - a Forestry Commission survey of forestry and primary wood processing businesses in Great Britain, last run in 1998/9.

Numbers of businesses are estimated from:

- Industry surveys (Sawmill Survey, Survey of Round Fencing Manufacturers) and industry associations (UK Forest Products Association, Wood Panel Industries Federation) - for businesses believed to be using UK roundwood, and
- Business Start-ups and closures: VAT registrations and de-registrations (Department for Business Enterprise and Regulatory Reform) - for VAT-registered businesses.

The Annual Business Inquiry and Department for Business Enterprise and Regulatory Reform both classify businesses by Standard Industrial Classification (SIC) code. Businesses are classified to SIC codes according to their main activity.

10.8 Sources: Finance & prices

Timber prices

Annual figures for coniferous standing sales from Forestry Commission owned woodland broken down by size category, and for Forestry Commission sales of softwood logs, are obtained from administrative records held by the Forestry Commission. The figures are obtained twice yearly, covering the year to 31 March and the year to 30 September for standing sales and the six month period to 31 March and to 30 September for logs.

The GDP market prices deflator (published quarterly by the Office for National Statistics) is used to convert the figures to real prices (September 1996 base).

The coniferous standing sales prices are converted to a Laspeyres index, which allows the figures to be compared over time on the basis of a constant (September 1996) size mix.

The coniferous standing sales and softwood log indices are published twice yearly, in May and November, in the First Release 'Timber Price Indices'. This publication includes further detail on how the indices are compiled.

The methodology used to compile the coniferous standing sales index will change from November 2008. Further details on this change are available in the paper Methodology for the Coniferous Standing Sales Index.

Financial returns

Estimates of financial returns from commercial Sitka spruce plantations are compiled and published by Investment Property Databank Limited (IPD). The returns include changes in the value of forestry estates, as well as timber price changes.

Gross Value Added

Statistics on gross value added (GVA) are obtained from the Annual Business Inquiry (Office for National Statistics), an annual survey of UK businesses. The Annual Business Inquiry uses the Standard Industrial Classification (SIC) to classify businesses to industries according to their main activity.

Government expenditure

Information about government expenditure on forestry is obtained from administrative records held by the Forestry Commission. Data are published annually in the Annual Report & Accounts produced by National Offices.

Data on grant expenditure are obtained from administrative records for woodland grant schemes across GB.