Forestry Commission

Forestry Statistics 2007

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

FOREST SERVICE

national STATISTICS

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.

Forestry Statistics has been extended for this 2007 edition to include:

- more detailed timber statistics, to incorporate figures previously presented in UK Timber Statistics;
- data on biodiversity and on health & safety, previously included in UK Indicators of Sustainable Forestry;
- summary results on recreation from a variety of sources;
- tables for each chapter available in downloadable format; and
- more detailed information on the sources used.

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.

Economics and Statistics
October 2007

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.

This section contains the following topics:

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

1.1 Area of woodland: 2007

The area of woodland in the UK at 31 March 2007 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 2007

Forest type and ownership	England	Scotland	Wales	Northern Ireland	UK
thousand hectares					
Conifers					
FC/ FS woodland	149	430	93	56	728
Non-FC/ FS woodland[2]	218	618	65	10	912
Total	**367**	**1 048**	**158**	**66**	**1 640**
Broadleaves[1]					
FC/ FS woodland	53	27	13	5	98
Non-FC/ FS woodland[2]	704	266	114	15	1 098
Total	**757**	**293**	**127**	**20**	**1 197**
Total					
FC/ FS woodland	202	457	107	61	827
Non-FC/ FS woodland[2]	922	884	178	26	2 010
Total	**1 124**	**1 341**	**285**	**87**	**2 837**

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	1.8	1 419	5.8
1965	886	6.8	656	8.4	201	9.7	42	3.1	1 784	7.3
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
2007[3]	1 124	8.6	1 341	17.2	285	13.7	87	6.4	2 837	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, taken from the Annual Abstract of Statistics 2002 (published by the Office for National Statistics) are:

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

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 2007 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.

1.3 Woodland area by ownership

The Forestry Commission/ Forest Service owned or managed 29% of the total woodland area in the UK in 2007. 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, 2003-2007

Ownership	England	Scotland	Wales	Northern Ireland	UK
thousand hectares					
Forestry Commission/ Forest Service					
2003	207	470	110	61	848
2004	205	465	110	62	842
2005	205	463	109	61	838
2006	204	460	108	61	832
2007	202	457	107	61	827
Non-FC/FS woodland					
2003	904	857	176	24	1 960
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
Total woodland					
2003	1 110	1 327	285	85	2 807
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

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 2007, under the Forest Stewardship Council (FSC). This represented 45% of the total UK woodland area, varying from 31% in England to 74% in Northern Ireland. Figures showing volumes of certified timber and Chain of Custody certificates are provided in tables 2.31 and 2.32.

Table 1.4 Area of certified woodland[1,2], March 2007

Ownership	England	Scotland	Wales	Northern Ireland	UK
thousand hectares					
Forestry Commission/ Forest Service[3]	202	457	107	61	827
Non-FC/ FS	149	280	17	3	449
Total woodland area certified	**351**	**737**	**124**	**64**	**1 276**

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.

For information on the volume of certified timber and on Chain of custody certificates, see the following:

- Certification
  - Volume certified
  - Chain of custody certificates

1.5 Land use

Woodland accounted for 74% of all Forestry Commission/ Forest Service land in the UK in 2007. This proportion was highest in Wales (86%) and lowest in Scotland (69%).

Table 1.5 Land-use of the Forestry Commission and Forest Service, 2003-2007

Year (ending 31/3)	England	Scotland	Wales	Northern Ireland	UK
thousand hectares					
Woodland[1]					
2003	207	470	110	61	848
2004	205	465	110	62	842
2005	205	463	109	61	838
2006	204	460	108	61	832
2007	202	457	107	61	827
Other land[1,2]					
2003	52	190	16	14	273
2004	53	191	16	14	274
2005	54	205	17	15	291
2006	55	208	17	15	296
2007	55	210	18	14	297
Total FC/ FS land area					
2003	259	660	126	76	1 121
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

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 NIWT: 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.

1.7 NIWT: 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.

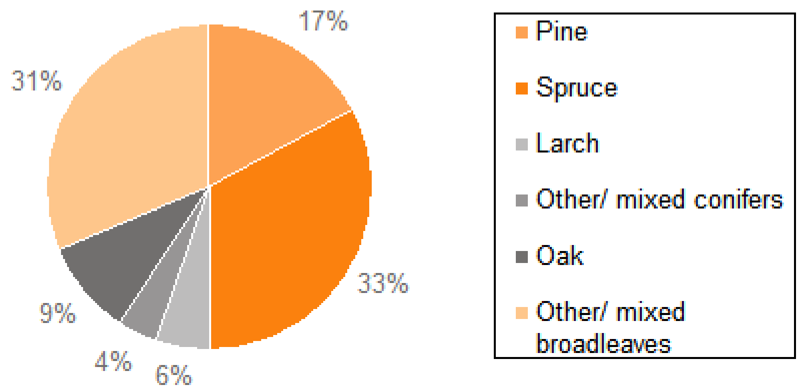
Source: 1995-99 National Inventory of Woodland and Trees.

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



1.8 NIWT: 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.

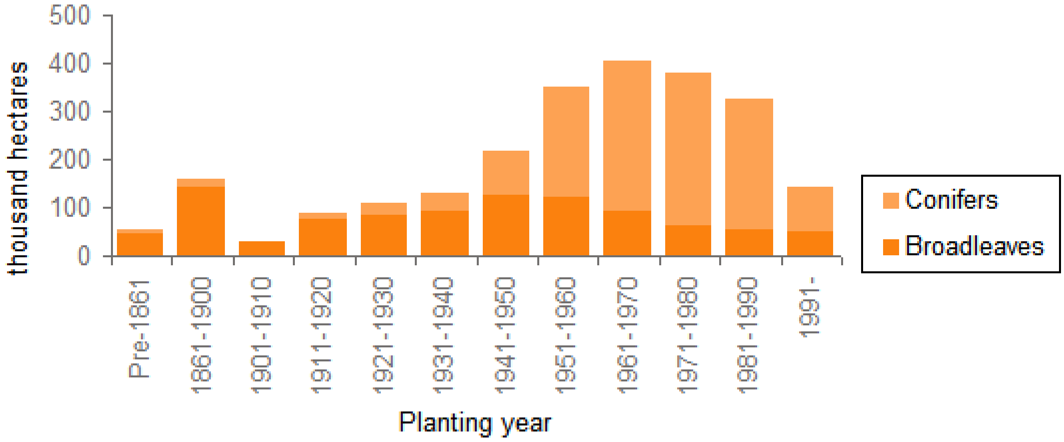
Source: 1995-99 National Inventory of Woodland and Trees.

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



1.9 NIWT: 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.

1.10 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.

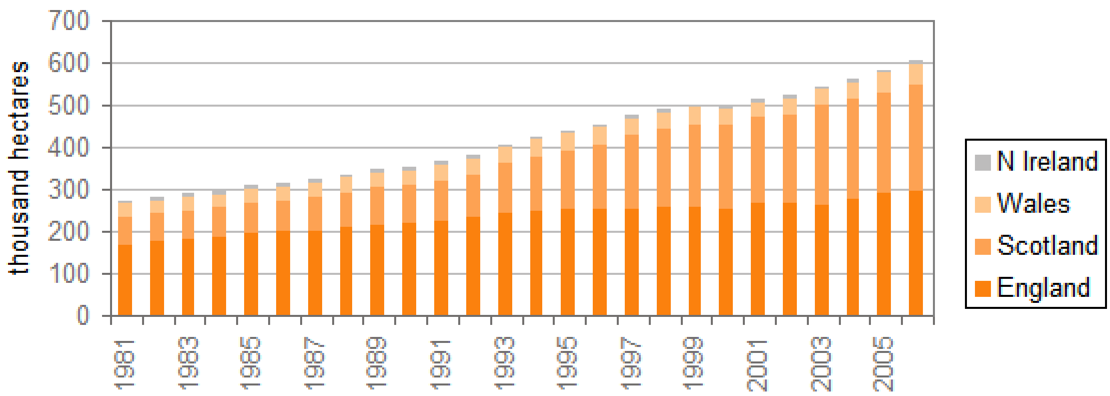
The area of farm woodland in the UK has increased from 476 thousand hectares in 1997 to 606 thousand hectares in 2006. Almost half (49%) of all farm woodland is in England, with a further 41% in Scotland, 8% in Wales and 2% in Northern Ireland.

Table 1.10 Area of farm woodland, 1997 to 2006

Year	England	Scotland	Wales	Northern Ireland	UK
thousand hectares					
1997	251.2	178.1	38.9	8.2	476.4
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	544.3
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	249.4	51.3	9.6	606.3

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

Figure 1.3 Area of farm woodland, 1981-2006



1.11 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 under 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[1]	48	154	31
Total EU-27	**156**	**419**	**37**
Non-EU	37	152	25
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**

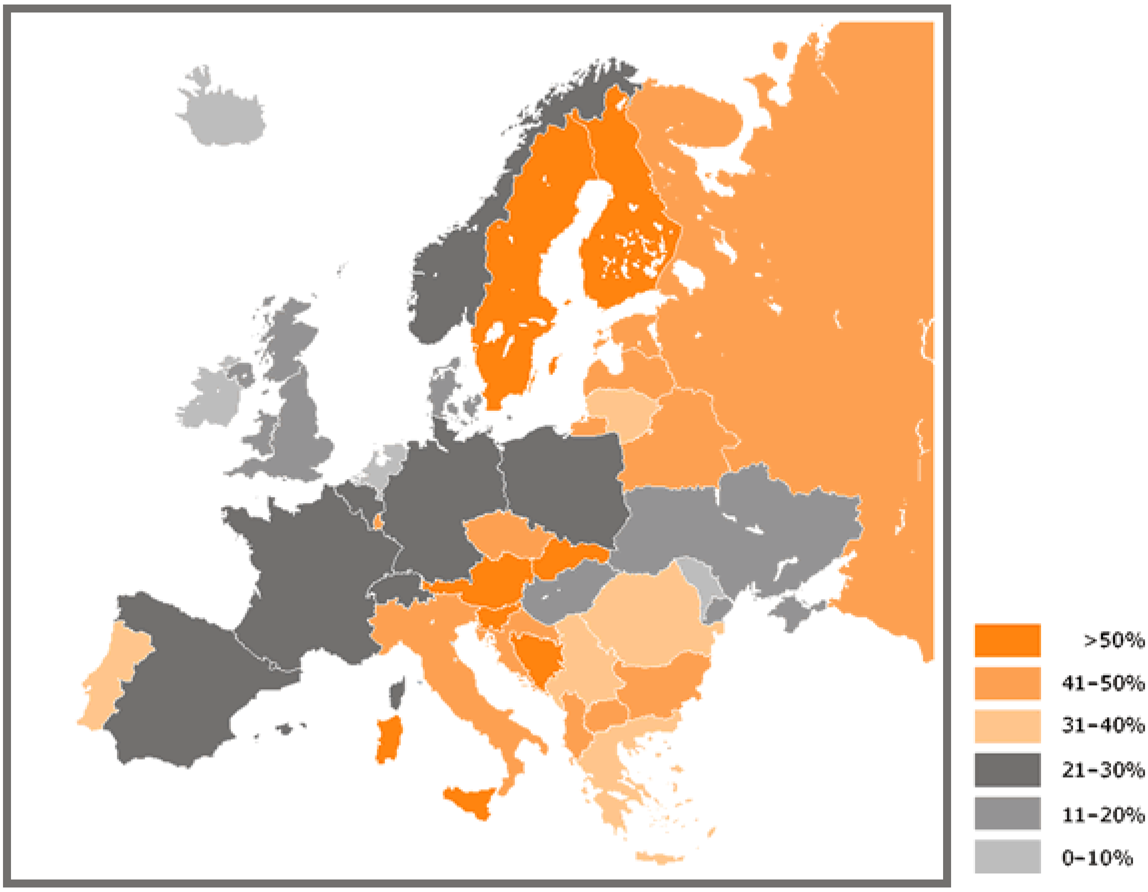
Not National Statistics.

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

Notes:

1. "Other EU" includes Bulgaria and Romania both of which joined the EU in January 2007.

Figure 1.4 Forest cover: international comparisons, 2005


>50%
41-50%
31-40%
21-30%
11-20%
0-10%

1.12 New planting & restocking by forest type

The total area of new planting and restocking in the UK was 28.3 thousand hectares in 2006-07. Restocking accounted for almost two thirds of this total. Broadleaved species accounted for the majority (80%) of new planting but just 20% of the restocking area in 2006-07.

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									
2002-03	0.5	5.4	5.9	2.4	0.9	3.4	3.0	6.3	9.2
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	1.9	0.9	2.8	2.1	6.0	8.1
2005-06	0.1	3.6	3.7	2.1	1.1	3.2	2.2	4.6	6.8
2006-07	0.1	3.1	3.2	1.8	0.9	2.7	1.9	4.0	5.9
Scotland									
2002-03	3.0	3.7	6.7	7.4	1.1	8.5	10.3	4.9	15.2
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	8.0	1.5	9.5	9.9	5.3	15.2
2005-06	1.0	3.0	4.0	7.1	1.1	8.2	8.1	4.1	12.2
2006-07	2.0	4.6	6.6	9.8	1.7	11.4	11.8	6.3	18.0
Wales									
2002-03	0.0	0.3	0.3	1.6	0.3	1.9	1.6	0.6	2.2
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	1.2	0.4	1.6	1.2	1.0	2.1
2005-06	0.0	0.5	0.5	1.6	0.9	2.5	1.6	1.4	2.9
2006-07	0.0	0.4	0.4	1.9	0.8	2.7	1.9	1.2	3.1
Northern Ireland									
2002-03	0.5	0.1	0.6	0.6	0.1	0.7	1.1	0.2	1.3
2003-04	0.1	0.4	0.5	0.9	0.2	1.0	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
UK									
2002-03	4.0	9.5	13.5	12.0	2.5	14.5	16.0	12.0	28.0
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	12.0	2.9	14.8	14.1	12.7	26.7
2005-06	1.1	7.6	8.7	11.6	3.3	14.8	12.7	10.8	23.5
2006-07	2.1	8.5	10.7	14.2	3.5	17.7	16.3	12.0	28.3

Source: Forestry Commission, Forest Service, grant schemes.

1.13 New planting & restocking by ownership

Almost all new planting (98% in 2006-07) 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									
2002-03	0.7	5.2	5.9	2.3	1.1	3.4	3.0	6.3	9.2
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	1.8	0.9	2.8	1.9	6.2	8.1
2005-06	0.2	3.5	3.7	2.4	0.8	3.2	2.6	4.3	6.8
2006-07	0.2	2.9	3.2	1.8	0.9	2.7	2.0	3.9	5.9
Scotland									
2002-03	0.1	6.6	6.7	5.0	3.5	8.5	5.1	10.1	15.2
2003-04	0.1	6.7	6.8	5.3	3.6	8.9	5.4	10.3	15.7
2004-05	0.0	5.6	5.7	5.3	4.2	9.5	5.3	9.8	15.2
2005-06	0.1	3.9	4.0	4.4	3.8	8.2	4.5	7.7	12.2
2006-07	0.0	6.6	6.6	5.4	6.0	11.4	5.4	12.6	18.0
Wales									
2002-03	0.0	0.3	0.3	1.2	0.7	1.9	1.2	1.0	2.2
2003-04	0.0	0.5	0.5	1.4	0.4	1.8	1.4	0.9	2.3
2004-05	0.0	0.5	0.5	1.3	0.3	1.6	1.3	0.8	2.1
2005-06	0.0	0.5	0.5	1.7	0.8	2.5	1.7	1.3	2.9
2006-07	0.0	0.4	0.4	1.7	1.0	2.7	1.7	1.4	3.1
Northern Ireland									
2002-03	0.1	0.5	0.6	0.7	0.0	0.7	0.8	0.5	1.3
2003-04	0.1	0.4	0.5	1.0	0.1	1.0	1.1	0.5	1.6
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	0.7	0.1	0.8	0.7	0.5	1.3
UK Total									
2002-03	0.9	12.6	13.5	9.1	5.3	14.5	10.0	17.9	28.0
2003-04	0.3	12.1	12.4	9.9	5.0	14.9	10.2	17.2	27.3
2004-05	0.1	11.8	11.9	9.4	5.5	14.8	9.5	17.3	26.7
2005-06	0.3	8.4	8.7	9.3	5.5	14.8	9.6	13.9	23.5
2006-07	0.2	10.4	10.7	9.7	8.0	17.7	9.9	18.4	28.3

Source: Forestry Commission, Forest Service, grant schemes.

1.14 New planting and restocking

Figure 1.5 New planting in the UK, 1976-2007

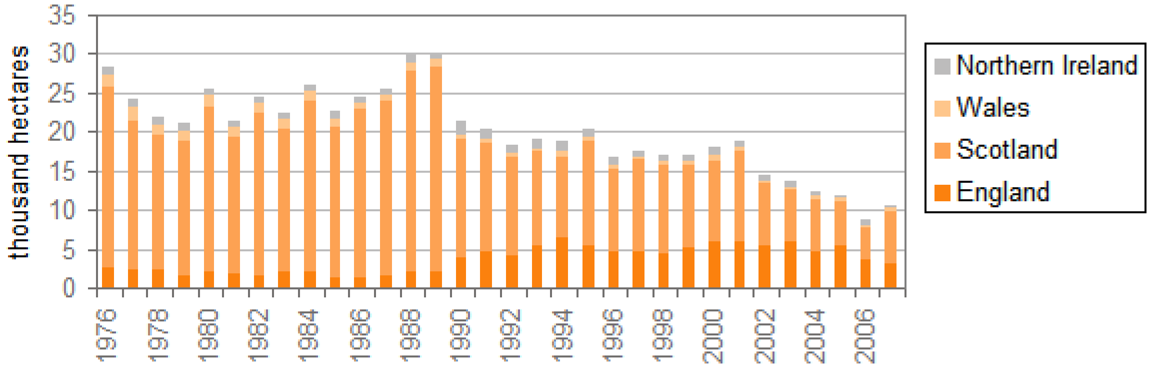
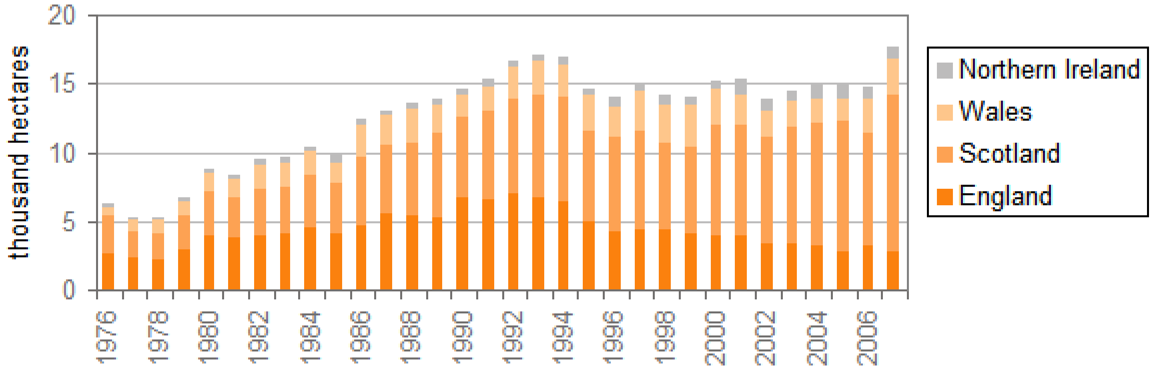


Figure 1.6 Restocking in the UK, 1976-2007



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.

This section contains the following topics:

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

For information on employment in forestry and wood processing, see:

Employment & Businesses

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.

Statistics on wood production are presented for the following topics:

Summary: wood production
Softwood removals survey
Origin of non-FC/ FS removals
Origin of FC/ FS removals
Softwood availability forecasts

2.1.1 Summary: wood production

A total of 8.5 million green tonnes of softwood was produced in the UK in 2006. This was almost unchanged from the previous year. Over the same period, hardwood removals fell by more than one quarter, to 0.4 million green tonnes in 2006.

Table 2.1 Wood production, 1997-2006

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						
1997	3 949	2 846	6 795	91	727	818
1998	4 188	2 638	6 826	118	599	717
1999	4 725	2 555	7 280	128	548	676
2000	4 850	2 580	7 430	130	525	655
2001	4 604	2 900	7 504	145	496	641
2002	4 650	2 998	7 648	118	503	621
2003	4 817	3 518	8 334	117	446	563
2004	4 894	3 632	8 526	113	400	514
2005	4 579	3 913	8 491	101	493	594
2006	4 582	3 919	8 501	45	393	439

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.

2.1.2 Softwood removals survey

It is estimated that a total of 3.9 million green tonnes of softwood was removed from non-FC/ FS woodlands in 2006. This is almost unchanged from the 2005 figure.

Table 2.2 Softwood removals survey, 1997-2006

Year	Survey results[1]		% change	Estimated UK total
thousand green tonnes				
	Previous year	**Latest year**		
1997	1 685	1 738	3%	2 846
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	1 902	3%	2 998
2003	1 891	2 222	17%	3 518
2004	2 293	2 367	3%	3 632
2005	2 547	2 744	8%	3 913
2006	2 968	2 973	0%	3 919

Source: Private Sector Softwood Removals Survey

Notes:

1. 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 2006.

Table 2.3 Non-FC/ FS softwood removals by country, 1997-2006

Year	England	Scotland	Wales	Northern Ireland	UK
per cent of UK total					
1997	26.1	62.6	10.3	1.0	100.0
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	12.8	74.6	11.6	1.0	100.0
2003	14.9	75.1	9.2	0.8	100.0
2004	13.8	76.5	8.9	0.8	100.0
2005	14.8	76.5	7.7	1.0	100.0
2006	15.3	75.4	8.9	0.5	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 4.6 million green tonnes of softwood was removed from FC/ FS woodlands in 2006, almost unchanged from the 2005 level.

Table 2.4 FC/ FS softwood removals by country, 1997-2006

Year	England	Scotland	Wales	Northern Ireland	UK
thousand green tonnes					
1997	1 081	1 820	839	208	3 949
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

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 (FC, 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 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
Hardwood

and more detailed tables on the following topics:

Sawmills - All Mills
Sawmills - Larger Mills
Pulp & paper
Woodbased panels
Miscellaneous products
Exports
Certification

2.2.1 Softwood

A total of 8.2 million green tonnes of UK grown softwood were delivered to wood processing industries in the UK in 2006. Sawmills accounted for the majority of softwood deliveries (63%). A further 17% of softwood was delivered to woodbased panel mills and 6% to integrated pulp and paper mills. Roundwood exports in 2006 accounted for 8% of all softwood deliveries.

Table 2.6 Deliveries of UK grown softwood to the wood processing industries, 1997-2006

Year	Sawmills	Pulpmills	Woodbased panels	Fencing	Woodfuel[1]	Other[2]	Exports[3]	Total
thousand green tonnes								
1997	4 079	940	1 690	371	100	33	0	7 213
1998	4 152	844	1 527	401	100	33	0	7 057
1999	4 450	660	1 613	406	100	32	24	7 285
2000	4 469	695	1 685	347	100	32	16	7 344
2001	4 586	668	1 680	346	100	31	61	7 471
2002	4 656	696	1 456	290	100	29	133	7 360
2003	4 784	704	1 486	266	100	45	307	7 692
2004	4 916	483	1 525	274	100	79	610	7 987
2005	4 885	500	1 502	322	100	95	705	8 109
2006	5 171	481	1 365	293	100	114	643	8 168

Source: industry surveys, industry associations.

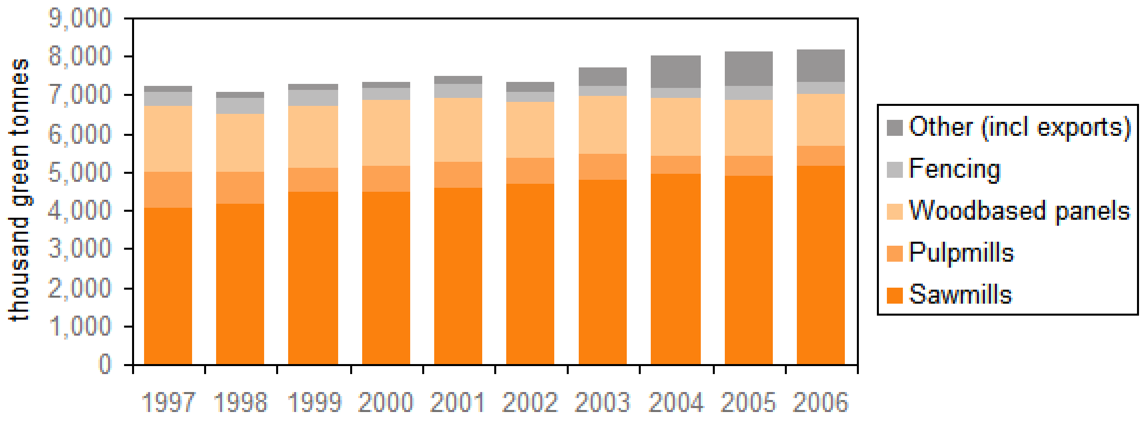
Notes:

1. The estimates for woodfuel are by the Expert Group on Timber and Trade Statistics*. They include forest residues.*

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



2.2.2 Hardwood

A total of 0.4 million green tonnes of UK grown softwood were delivered to wood processing industries in the UK in 2006. This represented a fall of over one quarter, from the 2005 total of 0.6 million green tonnes, following the closure of an integrated pulp & paper mill in early 2006.

The majority of UK hardwood deliveries (57%) were used for woodfuel.

Table 2.7 Deliveries of UK grown hardwood to the wood processing industries, 1997-2006

Year	Sawmills	Pulpmills	Woodbased panels	Woodfuel[1]	Other[2]	Total
thousand green tonnes						
1997	297	198	118	150	55	818
1998	255	180	77	150	55	717
1999	228	191	52	150	55	676
2000	200	200	50	150	55	655
2001	192	209	35	150	55	641
2002	163	210	43	150	55	621
2003	139	215	4	150	55	563
2004	93	214	2	150	55	514
2005	73	214	2	250	55	594
2006	65	54	1	250	70	439

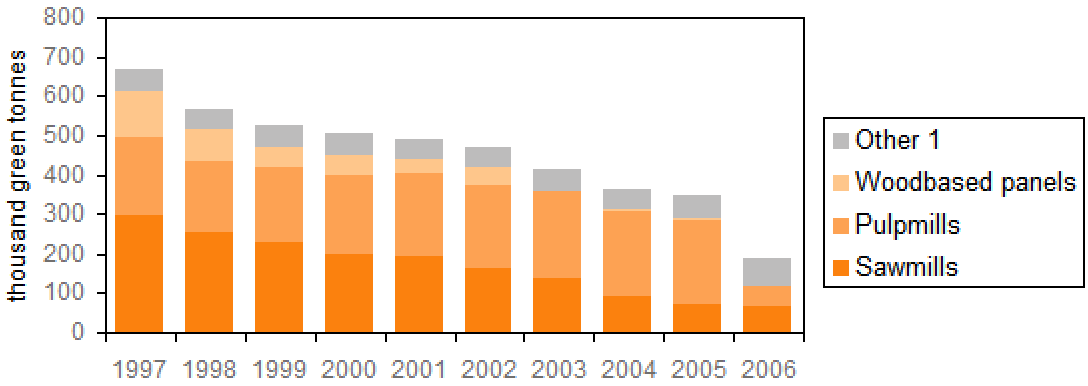
Source: industry surveys, industry associations.

Notes:

1. The estimates for woodfuel are by the Expert Group on Timber and Trade Statistics. They include woodfuel from short rotation coppice (SRC), forest residues and arboriculture. Non-coniferous wood fuel has been revised with effect from 2005, but this should not be interpreted as an increase in a single year. Wood fuel 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



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.

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

The following topics are available for all mills:

Summary: consumption & production
Number of sawmills by size
Number of mills by country
Number of mills by type of wood sawn
Consumption of softwood by size of mill
Consumption of softwood by country
Production of softwood by size of mill
Production of softwood by country
Sales to bioenergy

More detailed tables (covering sawmills producing at least 10 thousand m^3 sawnwood) are available at:

Sawmills - Larger Mills

2.3.1 Summary: consumption & production

Sawmills consumed a total of 5.4 million green tonnes of softwood in 2006, and increase of 5% from the 2005 figure. Over the same period, hardwood consumption fell by almost one fifth, to 86 thousand green tonnes in 2006.

Table 2.8 Consumption and production by UK sawmills, 1997-2006

Year	Softwood				Hardwood			
consumption: thousand green tonnes, **production:** thousand cubic metres								
	Consumption of			**Production**	**Consumption of**			**Production**
	UK grown	**Imported**	**Total**		**UK grown**	**Imported**	**Total**	
1997	4 079	254	4 333	2 382	297	6	303	147
1998	4 152	246	4 398	2 387	255	8	263	128
1999	4 450	227	4 677	2 531	228	7	235	120
2000	4 469	234	4 703	2 514	200	11	211	108
2001	4 586	239	4 825	2 581	192	70	263	130
2002	4 656	235	4 891	2 614	163	18	181	91
2003	4 784	225	5 009	2 661	139	18	158	81
2004	4 916	226	5 142	2 711	93	28	120	61
2005	4 885	272	5 157	2 716	73	34	107	53
2006	5 171	266	5 438	2 850	65	22	86	45

Source: Sawmill Survey

2.3.2 Number of sawmills by size

A total of 226 sawmills processed UK roundwood in 2006. Over 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, 1997-2006

Year	Size of mill (total production)[1]						Total
	< 1	1 - < 5	5 - < 10	10 - < 25	25 - < 50	50 +	
1997	171	123	39	21	17	9	380
1998	143	119	38	21	13	12	346
1999	133	106	36	22	12	15	324
2000	118	105	32	19	14	14	302
2001	104	94	28	24	13	15	278
2002	96	85	26	24	10	16	257
2003	95	80	22	23	12	16	248
2004	91	71	20	23	10	18	233
2005	91	65	20	19	10	19	224
2006	91	64	20	21	11	19	226

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 226 active sawmills in 2006 (117) were in England, 73 were in Scotland, 21 in Wales and 15 in Northern Ireland.

Table 2.10 Number of sawmills by country, 1997-2006

Year	England	Scotland	Wales	Northern Ireland	UK
1997	233	101	31	15	380
1998	206	95	30	15	346
1999	193	87	29	15	324
2000	173	87	27	15	302
2001	151	85	27	15	278
2002	138	81	23	15	257
2003	132	79	22	15	248
2004	121	76	21	15	233
2005	117	72	20	15	224
2006	117	73	21	15	226

Source: Sawmill Survey

2.3.4 Number of mills by type of wood sawn

Around two thirds of the 226 active sawmills in 2006 processed softwood only. A further 23% processed both softwood and hardwood, and the remaining 9% processed only hardwood.

Table 2.11 Number of sawmills by type of wood sawn, 1997-2006

Year	Softwood only	Hardwood only	Both	Total
1997	233	29	118	380
1998	213	29	104	346
1999	190	34	100	324
2000	188	29	85	302
2001	180	26	72	278
2002	167	23	67	257
2003	161	21	66	248
2004	151	19	63	233
2005	152	17	55	224
2006	154	20	52	226

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 91% of the total softwood consumed by sawmills in 2006.

Table 2.12 Consumption of softwood by size of mill, 1997-2006

Year	Size of mill (total production)[1]						Total
	< 1	1 - < 5	5 - < 10	10 - < 25	25 - < 50	50 +	
thousand green tonnes							
1997	72	371	405	543	1 130	1 811	4 333
1998	58	384	405	576	836	2 139	4 398
1999	56	337	374	592	709	2 610	4 677
2000	50	372	309	503	879	2 590	4 703
2001	43	289	295	634	822	2 742	4 825
2002	35	258	279	659	648	3 013	4 891
2003	31	248	227	598	795	3 110	5 009
2004	33	227	216	630	638	3 397	5 142
2005	32	244	232	518	657	3 473	5 157
2006	31	214	252	613	739	3 588	5 438

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 (45%) of the 5.4 million green tonnes of softwood delivered to UK sawmills in 2006. A further 29% was consumed by mills in England, 14% in Wales and the remaining 13% in Northern Ireland.

Table 2.13 Consumption of softwood by country, 1997-2006

Year	England	Scotland	Wales	Northern Ireland	UK
thousand green tonnes					
1997	1 433	1 604	634	662	4 333
1998	1 471	1 628	637	662	4 398
1999	1 572	1 732	711	662	4 677
2000	1 498	1 831	713	662	4 703
2001	1 422	2 017	724	662	4 825
2002	1 341	2 168	720	662	4 891
2003	1 404	2 167	777	662	5 009
2004	1 355	2 312	813	662	5 142
2005	1 374	2 351	746	685	5 157
2006	1 561	2 433	757	686	5 438

Source: Sawmill Survey

2.3.7 Production of softwood by size of mill

Sawmills with total sawnwood production of 10 thousand cubic metres or more accounted for 90% of the total soft sawnwood produced by sawmills in 2006.

Table 2.14 Production of softwood by size of mill, 1997-2006

Year	Size of mill (total production)[1]						Total
	< 1	1 - < 5	5 - < 10	10 - < 25	25 - < 50	50 +	
thousand cubic metres							
1997	41	220	224	304	608	985	2 382
1998	33	226	227	314	446	1 142	2 387
1999	32	197	208	317	378	1 398	2 531
2000	29	218	168	274	460	1 365	2 514
2001	25	169	167	355	420	1 446	2 581
2002	21	153	159	360	341	1 580	2 614
2003	18	148	130	328	428	1 610	2 661
2004	19	132	119	331	350	1 761	2 711
2005	19	125	121	278	347	1 825	2 716
2006	18	127	133	326	390	1 856	2 850

Source: Sawmill Survey

Notes:

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

2.3.8 Production of softwood by country

1.3 million cubic metres (46%) of sawn softwood was produced by sawmills in Scotland. A further 30% was produced by mills in England, 13% in Wales and 12% in Northern Ireland.

Table 2.15 Production of softwood by country, 1997-2006

Year	England	Scotland	Wales	Northern Ireland	UK
thousand cubic metres					
1997	823	876	342	342	2 382
1998	828	883	335	342	2 387
1999	879	940	370	342	2 531
2000	815	989	369	342	2 514
2001	783	1 075	381	342	2 581
2002	745	1 147	381	342	2 614
2003	772	1 156	392	342	2 661
2004	732	1 230	408	342	2 711
2005	734	1 248	368	365	2 716
2006	841	1 299	378	332	2 850

Source: Sawmill Survey

2.3.9 Sales to bioenergy

For the first time in 2006, all sawmills were asked to report sales to bioenergy. An estimated 212 thousand green tonnes (mainly softwood) were sold to bioenergy in 2006. Almost two thirds of this total (64%) was sold by sawmills in Northern Ireland.

Table 2.16 Sales to bioenergy, 2006

Type	England	Scotland	Wales	Northern Ireland	UK
thousand green tonnes					
Softwood	32	20	19	135	205
Hardwood	6	0	1	0	7
Total	**38**	**20**	**19**	**135**	**212**

Source: Sawmill Survey

2.4 Sawmills - Larger Mills

The following, more detailed, tables for 2006 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.

Softwood consumption and production
Source of softwood logs
Sawnwood product markets
Other sawmill products
Sawmill employment

Summary tables, covering all sawmills, are available at:

Sawmills - All Mills

2.4.1 Softwood consumption and production

Additional information was collected for 2006 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 4.94 million green tonnes. Softwood sawnwood production was 2.57 million m^3 and other products (chips, bark, sawdust, etc) amounted to 2.51 million tonnes.

Table 2.17 Larger mills[1], 2006: softwood consumption and production

	England	Scotland	Wales	Northern Ireland	UK
Number of mills	17	23	8	3	51
Consumption (thousand green tonnes)	1 351	2 205	712	673	4 940
Sawnwood production (thousand m^3)	720	1 173	355	324	2 572
Other products (thousand tonnes)	663	1 143	381	326	2 512

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 with source reported, 53% came from Scotland, 21% from England, 14% from Wales and 6% from Northern Ireland. The remaining 6% was imported from other countries.

93% of softwood sawlogs used by Scottish mills came from Scotland. The corresponding proportions of mills' log use coming from within the same country were 66% for Wales, 59% for England and 45% for Northern Ireland.

Table 2.18 Larger mills[1], 2006: source of logs

Source	England	Scotland	Wales	Northern Ireland	UK
thousand green tonnes					
England	702	160	130	0	992
Scotland	254	2 045	96	120	2 515
Wales	229	0	455	0	684
Northern Ireland	0	0	0	300	300
Total UK logs	**1 185**	**2 205**	**681**	**420**	**4 491**
Other countries	2	0	10	253	265
Source not reported	164	0	20	0	184
Total log consumption	**1 351**	**2 205**	**712**	**673**	**4 940**

Source: Sawmill Survey (detailed)

Notes:

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

2.4.3 Sawnwood product markets

In 2006, 36% of softwood sawnwood production was used for fencing, 34% for construction, 29% for packaging and pallets and the remaining 1% went to all other markets.

Table 2.19 Larger mills[1], 2006: sawnwood product markets

Product market	England	Scotland	Wales	Northern Ireland	UK
per cent					
Construction	23	44	20	33	34
Fencing	52	26	34	43	36
Packaging/ pallets	25	29	46	21	29
Other	0	1	0	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 sawmill products

Other products (excluding sawnwood) from softwood amounted to 2.51 million tonnes. Almost two thirds (63%) of these other products were sold to wood processing industries in the form of chips and 19% were sold to these industries as bark or in other formats. A further 9% of other products was sold to bio-energy (including pellet manufacturers) and 9% was sold to others.

Table 2.20 Larger mills[1], 2006: other products

Destination and type of product[2]	England	Scotland	Wales	Northern Ireland	UK
per cent of total other products					
Sold to wood processing industries					
Wood chips	62	67	68	43	63
Bark	5	2	6	2	3
Sawdust & other	20	18	16	1	16
Total	**87**	**87**	**89**	**46**	**82**
Sold to bio-energy (incl pellet manufacturers)					
Wood chips	6	1	5	26	6
Bark	0	0	0	0	0
Sawdust & other	1	0	0	15	2
Total	**6**	**1**	**5**	**41**	**9**
Other sales					
Wood chips	3	0	0	1	1
Bark	2	8	5	9	6
Sawdust & other	2	2	1	2	2
Total	**7**	**11**	**6**	**13**	**9**
Used internally for heat/ energy					
Wood chips	0	1	0	0	0
Bark	0	0	0	0	0
Sawdust & other	0	0	0	0	0
Total	**0**	**1**	**0**	**0**	**0**

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 products.

2.4.5 Sawmill employment

There were estimated to be 2,963 full time equivalent staff employed directly by sawmills producing at least 10 thousand m^3 of sawnwood in 2006. Other employment (including contractors and their employees) accounted for a further 318 full time equivalents.

Table 2.21 Larger mills[1], 2006: sawmill employment

Employment type	England	Scotland	Wales	Northern Ireland	UK
full time equivalents					
Direct					
Line & production workers	795	1 071	260	304	2 430
Managerial & administrative staff	166	149	34	80	429
Haulage of timber/ products	68	31	1	5	105
Total direct employment	**1 029**	**1 251**	**295**	**389**	**2 963**
Others					
Line & production workers	24	13	16	11	64
Managerial & administrative staff	1	0	0	1	2
Haulage of timber/ products	45	198	4	5	252
Total contract employment	**70**	**211**	**20**	**17**	**318**

Source: Sawmill Survey (detailed)

Notes:

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

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.

Statistics on pulp and paper are presented for the following topics:

Inputs for the integrated pulp & paper mills
Production of paper
Production of pulp

2.5.1 Inputs for the integrated pulp & paper mills

The integrated pulp & paper mills in the UK consumed 626 thousand tonnes of softwood and 54 thousand tonnes of hardwood in 2006. UK roundwood represented 79% of the inputs for the integrated pulp & paper mills in 2006, with the remaining 19% coming from sawmill products.

Table 2.22 Inputs for the integrated pulp & paper mills[1], 1997-2006

Year	UK roundwood[2]		Sawmill products[3]		Total[4]	
thousand green tonnes						
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
1997	940	198	279	0	1 239	198
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

Source: UK Forest Products Association

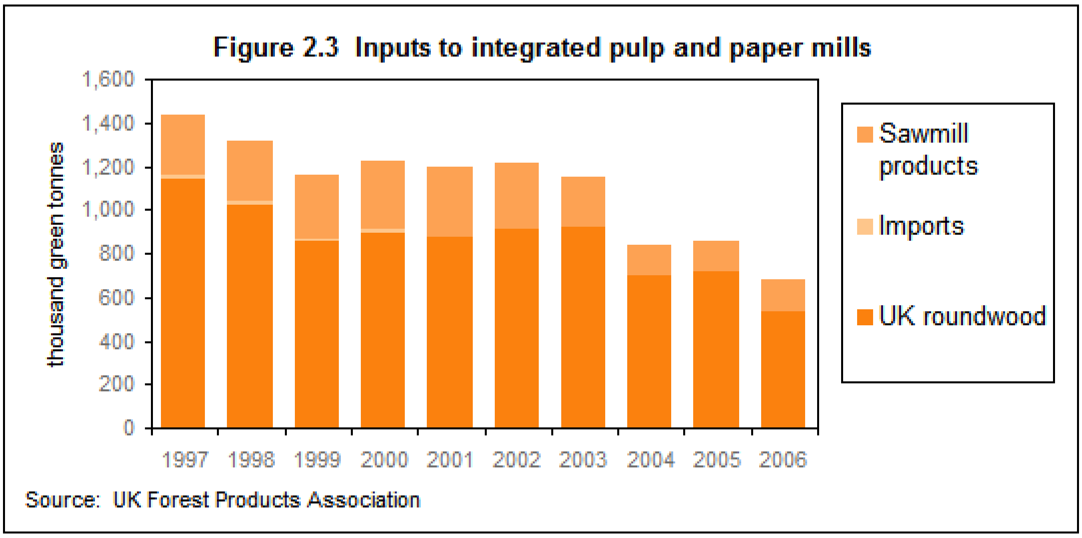
Notes:

1. This table excludes inputs of recycled paper and cardboard.

2. UK roundwood includes all material from forest operations.

3. Sawmill products include peeled and unpeeled chips, sawdust, slabwood, shavings, postplant chips & peelings.

4. Includes inputs from imported roundwood and chips.



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 5.6 million tonnes of paper were produced by UK paper mills in 2006.

Table 2.23 Production of paper and paperboard, 1997-2006

Year	Graphic papers (incl newsprint)	Sanitary & household papers	Packaging materials	Other	Total paper & paperboard
thousand tonnes					
1997	2 809	639	2 617	415	6 480
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	2 484	806	1 755	544	5 589

Source: Confederation of Paper Industries

2.5.3 Production of pulp

A total of 0.3 million tonnes of wood pulp and 3.6 million tonnes of recovered fibre pulp were produced by UK paper mills in 2006.

Table 2.24 Production of pulp, 1997-2006

Year	Wood pulp[1]			Recovered fibre pulp
	Mechanical	Semi-chemical	Total wood pulp	
thousand tonnes				
1997	537	86	623	3 930
1998	509	75	584	3 957
1999	442	75	517	4 043
2000	411	63	474	4 154
2001	429	63	492	3 927
2002	444	80	524	3 924
2003	413	91	504	3 864
2004	258	86	344	3 939
2005	341	0	341	3 842
2006	287	0	287	3 561

Source: *Confederation of Paper Industries*

Notes:

1. These figures for wood pulp measure the intermediate product in integrated mills.

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).

Figures on woodbased panels are presented for the following topics:

Inputs for woodbased panel products
Production of woodbased panel products

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 2006. A further 1.8 million green tonnes of sawmill products and 1.2 million green tonnes of recycled wood fibre were also consumed in 2006.

Table 2.25 Inputs to woodbased panel mills, 1997-2006

Year	UK roundwood[1]		Sawmill products[2]		Imported[3]		Total		
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Recycled wood fibre[4]
thousand green tonnes									
1997	1 690	118	1 744	40	10	0	3 444	158	..
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	1 078
2005	1 502	2	1 732	2	6	0	3 240	4	1 043
2006	1 365	1	1 794	0	3	0	3 162	1	1 173

Source: Wood Panel Industries Federation

Notes:

1. UK roundwood includes all material from forest operations.

2. Sawmill products include peeled and unpeeled chips, sawdust, slabwood, shavings, postplant chips and peelings.

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

4. 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.

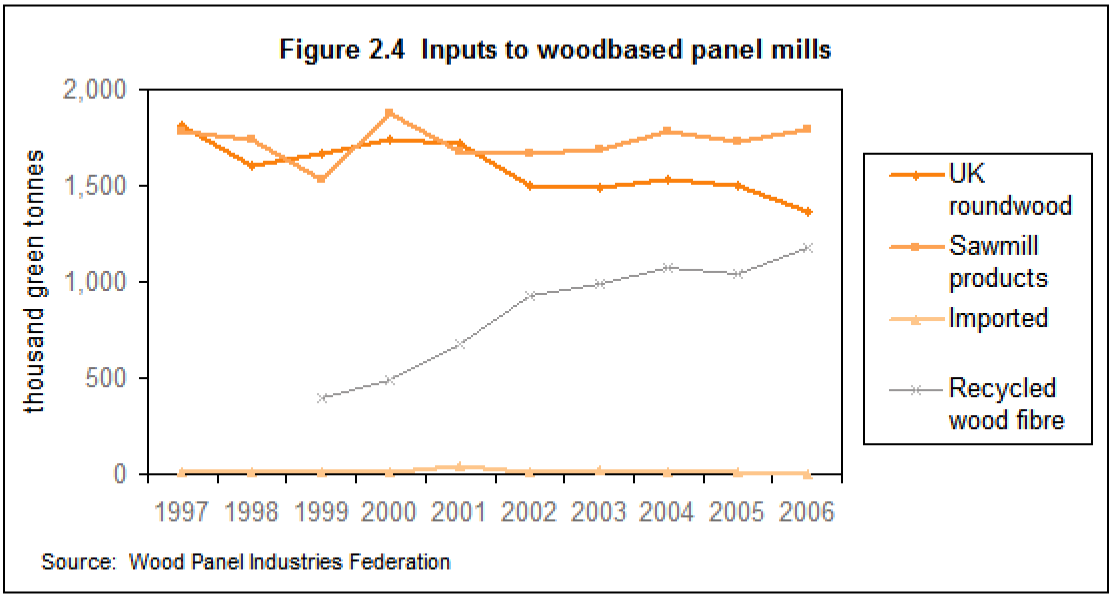


Figure 2.4 Inputs to woodbased panel mills
2,000
1,500
1,000
500
0
thousand green tonnes
1997 1998 1999 2000 2001 2002 2003 2004 2005 2006
UK roundwood
Sawmill products
Imported
Recycled wood fibre
Source: Wood Panel Industries Federation

2.6.2 Production of woodbased panel products

A total of 3.5 million m^3 of woodbased panel products were produced in 2006, a 3% increase on the 2005 total of 3.4 million m^3. Three quarters of woodbased panel products produced in the UK were particleboard (including oriented strand board (OSB)).

Table 2.26 Woodbased panel production, 1997-2006

Year	Particleboard[1]	Fibreboard[2]	Plywood	Total
thousand cubic metres				
1997	2 175	460	5	2 640
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

Source: Wood Panel Industries Federation

Notes:

1. Includes Oriented Strand Board (OSB).

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

2.7 Miscellaneous products

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 293 thousand green tonnes of UK softwood were consumed by round fencing manufacturers in 2006. A further 100 thousand tonnes were estimated to have been used for fuelwood and 114 thousand green tonnes for other uses.

Table 2.27 Miscellaneous uses of UK softwood roundwood, 1997-2006

Year	Fencing	Fuelwood	Other[1]	Total
thousand green tonnes				
1997	371	100	33	504
1998	401	100	33	534
1999	406	100	32	538
2000	347	100	32	479
2001	346	100	31	477
2002	290	100	29	419
2003	266	100	45	411
2004	274	100	79	452
2005	322	100	95	517
2006	293	100	114	508

Source: Survey of Round Fencing Manufacturers, industry associations.

Notes:

1. Includes shavings, poles and woodwool.

An estimated 250 thousand green tonnes of UK hardwood were used for woodfuel in 2006. A further 30 thousand green tonnes were estimated to have been consumed by round fencing manufacturers and 35 thousand green tonnes for other uses, including exports.

2.7.1 Softwood round fencing manufacturers

There were 77 active round fencing manufacturers in 2006.

Table 2.28 Number of softwood round fencing manufacturers, 1997-2006

Year	Size category (consumption)[1]				Total
	< 1	1 - < 5	5 - < 10	10 +	
1997	45	46	10	11	112
1998	43	48	8	9	108
1999	38	43	8	10	99
2000	43	36	8	7	94
2001	41	33	8	7	89
2002	34	25	10	7	76
2003	28	28	9	6	71
2004	28	30	8	6	72
2005	30	27	8	8	73
2006	31	31	8	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 293 thousand green tonnes of UK softwood was purchased by softwood fencing manufacturers in 2006. This represents a fall of 9% from the 2005 total of 322 thousand green tonnes.

Table 2.29 UK roundwood purchased by softwood round fencing manufacturers, 1997-2006

Year	Size category (consumption)[1]				Total
	< 1	1 - < 5	5 - < 10	10 +	
thousand green tonnes					
1997	19	101	69	182	371
1998	15	112	58	216	401
1999	12	98	56	240	406
2000	15	82	60	190	347
2001	13	74	59	200	346
2002	12	63	68	148	290
2003	10	62	62	132	266
2004	9	69	53	143	274
2005	11	66	50	194	322
2006	12	77	49	154	293

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 2006 consisted of 505 thousand green tonnes of pulpwood and 138 thousand green tonnes of logs, giving a total of 643 thousand green tonnes of roundwood. The UK also exported 214 thousand tonnes of chips.

Table 2.30 Summary of softwood exports[1], 1997-2006

Year	Roundwood			Chips
	Pulpwood	Logs	Total	
thousand green tonnes				
1997	0	..	0	..
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

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.

Statistics are presented on the following topics:

Volume certified
Chain of custody certificates

For information on the area of woodland that is certified, see:

Certified woodland area

2.9.1 Volume certified

Respondents to Forestry Commission surveys were asked to report on volumes certified. Around two thirds of non-FC/ FS softwood removals in 2006 were from certified sources. 80% of sawmills' roundwood consumption and 62% of sawnwood production by sawmills in 2006 was certified. For round fencing manufacturers, less than one half of total softwood consumption was certified.

Table 2.31 Per cent of volume certified, 2002-2006

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	70	80	63	58
2005	69	76	71	53
2006	67	80	62	46

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. Almost 40% of sawmills who provided data in 2006 reported that they held a Chain of Custody certificate. This proportion varied with size of mill, from 18% of mills producing less than 5 thousand m^3 sawnwood to 93% of those producing 25 thousand m^3 sawnwood or more. Around one quarter of fencing manufacturers reported holding a Chain of Custody certificate.

Table 2.32 Chain of custody certificates[1], 2006

	Mills holding certificate	Mills without certificate	Certification status not reported	Total
Sawmills (size of mill[2])				
< 5	16	67	8	91
5 - < 25	15	11	1	27
25 +	26	2	0	28
All sawmills	**57**	**80**	**9**	**146**
Round fencing manufacturers	12	31	4	47

Source: industry surveys

Notes:

1. Mills responding for 2006. Accounts for almost 90% of total production for sawmills and over three quarters 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.

This section contains the following topics:

- Apparent consumption of wood in the UK
- Apparent consumption of wood products in the UK
- Flow of recovered paper
- UK import quantities by product
- UK export quantities by product
- UK import values by product
- UK export values by product
- Origin of wood imports

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 8.4 million m^3 WRME underbark in 2006. A further 48.8 million m^3 WRME underbark of wood and wood products were imported to the UK and 5.6 million m^3 WRME underbark were exported, giving apparent consumption of 51.5 million m^3 WRME underbark. These figures exclude recycled wood and recovered paper (see Table 3.5 for statistics on recovered paper).

Table 3.1 Apparent consumption of wood[1] in the UK, 1997-2006

Year	UK production[2]	Imports	Exports	Apparent Consumption
million m^3 WRME underbark				
1997	7.8	47.5	5.5	49.8
1998	7.6	46.6	5.8	48.4
1999	7.7	45.6	6.0	47.4
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	8.0	49.2	7.1	50.2
2004	8.3	53.4	7.3	54.4
2005	8.5	51.4	5.7	54.2
2006	8.4	48.8	5.6	51.5

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. This table is presented on a different basis from previous years, when imports and exports of recovered paper were included.

2. UK production of roundwood is estimated from deliveries to wood processing industries, 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, 2006

Product	UK production	Imports	Exports	Apparent consumption
Sawnwood (thousand m^3)				
Coniferous	2 850	7 186	356	9 679
Non-coniferous	45	562	8	599
Total	2 895	7 748	365	10 278
Woodbased panels (thousand m^3)				
Veneer sheets	0	57	5	52
Plywood	0	1 497	126	1 371
Particleboard	2 626	996	208	3 414
Fibreboard	872	834	200	1 506
Total	3 498	3 384	539	6 344
Paper & paperboard (thousand tonnes)				
Newsprint	1 095	1 445	102	2 439
Other graphic papers	1 389	4 051	339	5 101
Sanitary & household papers	806	169	40	935
Packaging materials	1 755	2 019	487	3 287
Other paper & paperboard	544	72	33	583
Total	5 589	7 756	1 001	12 344

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 million tonnes in 2006. The amount of recovered paper which is exported has risen from around 0.5 million tonnes in 1997 to 4 million tonnes in 2006 and now accounts for around one half of UK production.

Table 3.3 Flow of recovered paper, 1997-2006

Year	UK production	Imports	Exports	Apparent consumption[1]
thousand tonnes				
1997	4 983	75	462	4 596
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	139	3 997	4 158

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 2006 comprised 7.7 million cubic metres of sawnwood, 3.4 million cubic metres of woodbased panels and 1.3 million cubic metres of roundwood. This represented an overall fall of 6% in the level of wood imports from the 2005 level.

A total of 7.8 million tonnes of paper was imported into the UK in 2006, representing a 10% increase on the 2005 figure of 7.7 million tonnes.

Table 3.4 UK import quantities, 2002-2006

Year	Wood (thousand m^3)			Pulp and paper (thousand tonnes)			
	Roundwood	Sawnwood	Woodbased panels	Paper	Pulp	Recovered paper	Total pulp & paper
2002	1 020	8 201	3 782	7 072	1 623	76	8 771
2003	1 253	8 714	3 492	7 490	1 522	100	9 112
2004	1 235	8 653	3 813	7 528	1 636	87	9 251
2005	1 539	8 223	3 552	7 663	1 694	78	9 434
2006	1 329	7 748	3 384	7 756	1 452	139	9 347

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

3.5 UK export quantities by product

A total of 5.4 million tonnes of pulp and paper (including recovered paper) was exported from the UK in 2006. The quantity of recovered paper exports has more than trebled between 2002 and 2006. At the same time, the quantity of roundwood exports has increased to almost 5 times the 2002 level.

Table 3.5 UK export quantities, 2002-2006

Year	Wood (thousand m^3)			Pulp and paper (thousand tonnes)			
	Roundwood	Sawnwood	Woodbased panels	Paper	Pulp	Recovered paper	Total pulp & paper
2002	198	293	424	1 546	21	1 227	2 794
2003	631	356	531	1 697	10	2 005	3 713
2004	998	371	519	1 557	29	3 127	4 714
2005	1 093	358	520	1 164	25	3 329	4 518
2006	973	365	539	1 001	23	3 997	5 021

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

3.6 UK import values by product

Wood product imports in 2006 were valued at a total of £6.1 billion. Pulp and paper (including recovered paper) comprised two thirds of this total, 19% was sawnwood, 12% woodbased panels and 2% roundwood.

Table 3.6 UK import values, 2002-2006

Year	Wood			Pulp and paper				Total
	Roundwood	Sawnwood	Woodbased panels	Paper	Pulp	Recovered paper	Total pulp & paper	
£ million								
2002	68	1 107	781	3 237	484	9	3 730	5 686
2003	84	1 225	767	3 509	484	10	4 003	6 079
2004	79	1 190	885	3 520	476	7	4 003	6 157
2005	98	1 120	796	3 432	517	5	3 954	5 968
2006	96	1 144	746	3 559	546	9	4 114	6 100

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 £1.5 billion in 2006. This comprised 86% pulp and paper (mainly paper), 9% woodbased panels, 3% sawnwood and 2% roundwood.

Table 3.7 UK export values, 2002-2006

Year	Wood			Pulp and paper				Total
	Roundwood	Sawnwood	Woodbased panels	Paper	Pulp	Recovered paper	Total pulp & paper	
£ million								
2002	12	39	82	982	9	98	1 088	1 221
2003	21	47	91	1 002	5	173	1 181	1 340
2004	30	50	95	992	7	235	1 234	1 409
2005	32	52	102	1 002	6	278	1 286	1 472
2006	33	49	127	942	8	328	1 278	1 488

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 2006. Sawn hardwood was most commonly imported from Latvia and the USA.

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. All particleboard imports to the UK in 2006 came from within the EU (mainly Germany, Belgium, France and Ireland). The EU also supplied the majority of fibreboard imports, with Ireland, Spain and Germany being the principal sources.

Brazil, the USA, Canada and Sweden were amongst the principal sources of wood pulp to the UK in 2006, whilst most paper imports came from Finland, Sweden and Germany.

Table 3.8 Country of origin of wood imports to the UK, 2006

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	34	1	0	0	1	12	18
Finland	17	0	14	5	2	6	20
Germany	5	6	1	25	14	1	15
France	0	7	1	21	8	1	9
Belgium	0	2	0	24	9	0	2
Latvia	16	18	1	0	0	0	0
Spain	0	0	1	2	19	5	2
Ireland	2	0	0	11	27	0	1
Estonia	4	6	0	0	0	0	0
Poland	0	0	0	0	7	0	1
Other EU	5	10	1	12	7	12	14
Total EU-27	**83**	**51**	**20**	**100**	**95**	**36**	**82**
USA	1	17	0	0	1	17	2
Canada	1	4	1	0	0	16	3
Brazil	0	2	24	0	1	18	1
Russia	14	1	5	0	0	1	1
China	0	1	25	0	0	0	0
Malaysia	0	6	15	0	0	0	0
Other non-EU	1	18	10	0	3	12	10
Total non-EU	**17**	**49**	**80**	**0**	**5**	**64**	**18**

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

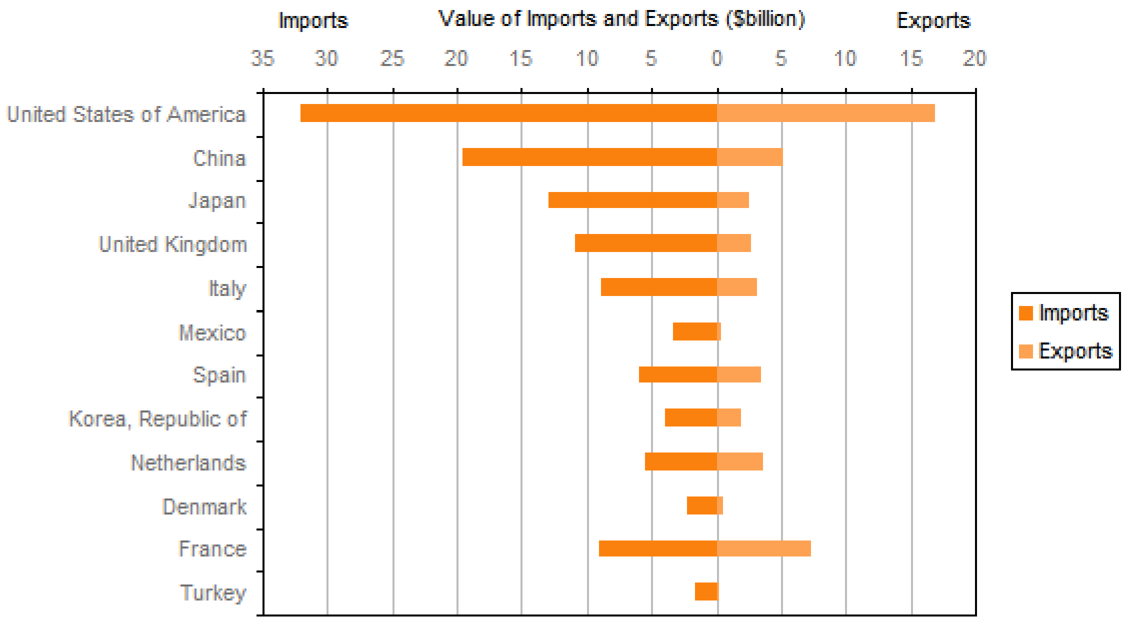
Notes:

1. "Other EU" includes Bulgaria and Romania, both of which joined the EU in January 2007.

3.9 World trade in forest products

The UK was the fourth largest net importer of forest products in 2005, behind USA, China and Japan.

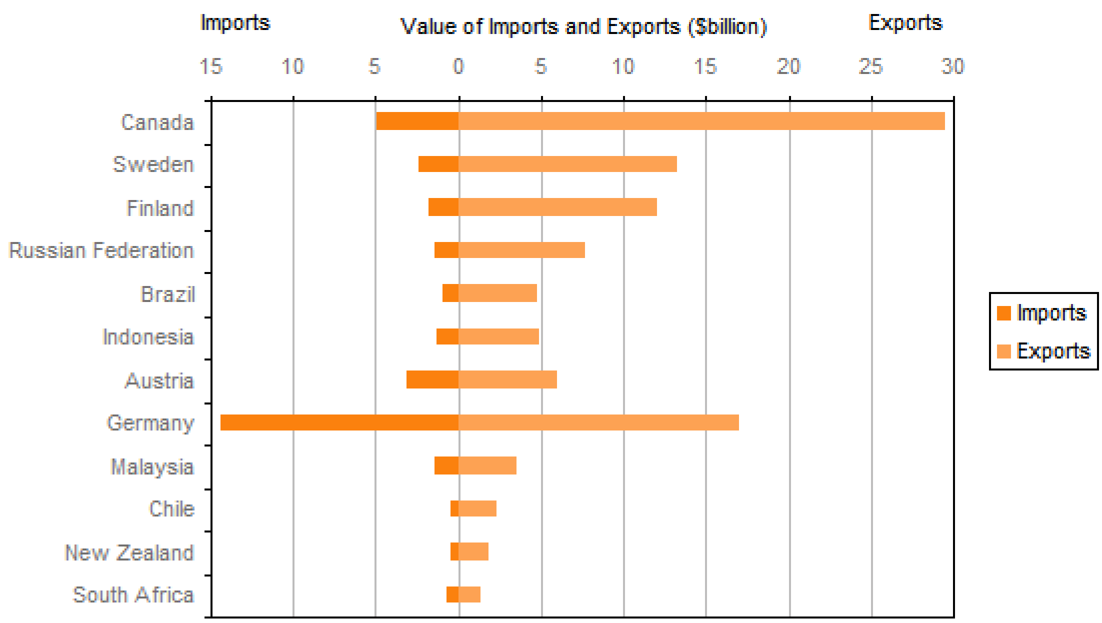
Figure 3.1 Largest net importers of forest products, 2005



Source: FAO

The largest net exporters of forest products in 2005 were Canada, Sweden and Finland.

Figure 3.2 Largest net exporters of forest products, 2005



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.

This section contains the following topics:

- Ancient and semi-natural woodland
- Protected forest areas
- Climate change and carbon
  - Carbon sequestration
  - Public opinion of forestry and climate change
- Biodiversity
  - Populations of wild birds
  - Woodland vegetation

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**	**2133**	**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. Based on combinations of these designtaions 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'.

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 Researve
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.

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.

For more information, see the FC website pages on Forestry and Climate Change

Statistics are available for:

Carbon sequestration
Public opinion of forestry and climate change

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

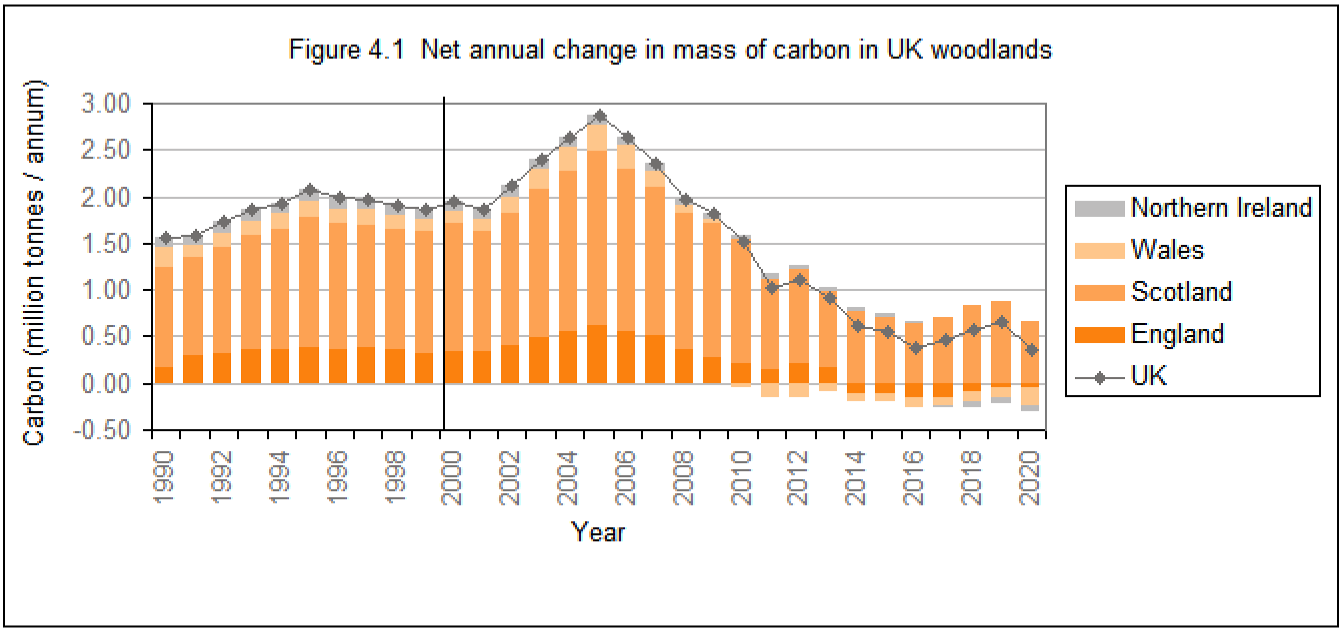
Year	Removals to forestland	including removals due to land afforested since 1990[1]
million tonnes of carbon per year		
1990	3.3	0.0
1995	3.8	0.1
2000	3.8	0.4
2005	4.4	0.6
2010	2.9	0.8
2015	2.1	1.0
2020	1.4	1.2

Not National Statistics.

Source: Climate Change: The UK Programme 2006 *(Defra, 2006)*

Notes:

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



Not National Statistics.

Source: UK Emissions by Sources and Removals by Sinks due to Land Use, Land Use Change and Forestry Activities, CEH Report C01504 *(Centre for Ecology and Hydrology, 2002)*

Notes:

1. Carbon in 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 2000.

4.3.2 Public Opinion of Forestry Survey - climate change

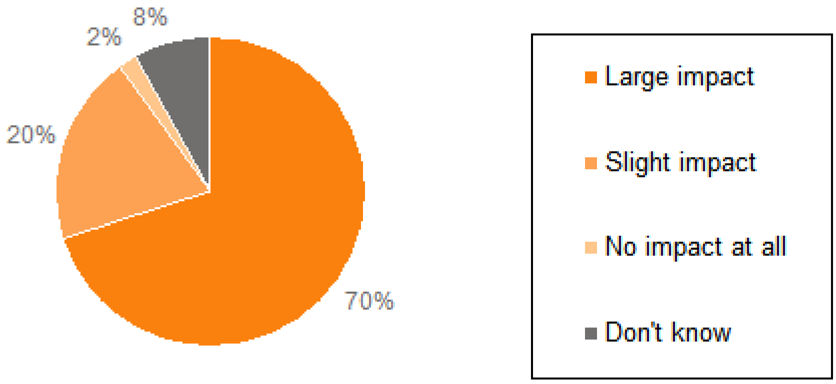
The Forestry Commission has conducted similar biennial surveys of public attitudes to forestry and forestry-related issues since 1995. Four separate surveys were undertaken in 2007; in Scotland, Wales, Northern Ireland and across the UK as a whole.

Some questions on the relationship between forestry and climate change have been asked in previous surveys, and were asked again in 2007. For example, the results of the UK 2007 survey indicate that:

- when asked about a series UK forestry topics seen in the media, the most common response was 'Forests and woodlands helping to tackle climate change' ;
- one of top public benefits to be gained from public support of forestry is 'To help tackle climate change'.

In addition, in 2007, for the first time within each of the four surveys, an additional section of questions was included on this issue. The first new question found that the vast majority UK respondents believe that climate change will have an impact on the UK, with most believing that there will be a large impact (70% of all respondents).

Figure 4.2 Impact of climate change



Not National Statistics
Source: UK 2007 Public Opinion of Forestry Survey
Base: 4000 UK respondents

Further questions were asked, on the way in which forests and woodlands can impact on climate change and on how UK forests should be managed in response to the threat of climate change. The results are available within the 2007 Public Opinion of Forestry reports available on our website[1].

[1] *Preliminary reports were publsihed on 21 June 2007; final reports will be available on 15 November 2007.*

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.

Statistics on biodiversity are presented for the following topics:

Populations of wild birds
Woodland vegetation

4.4.4 Populations of wild birds

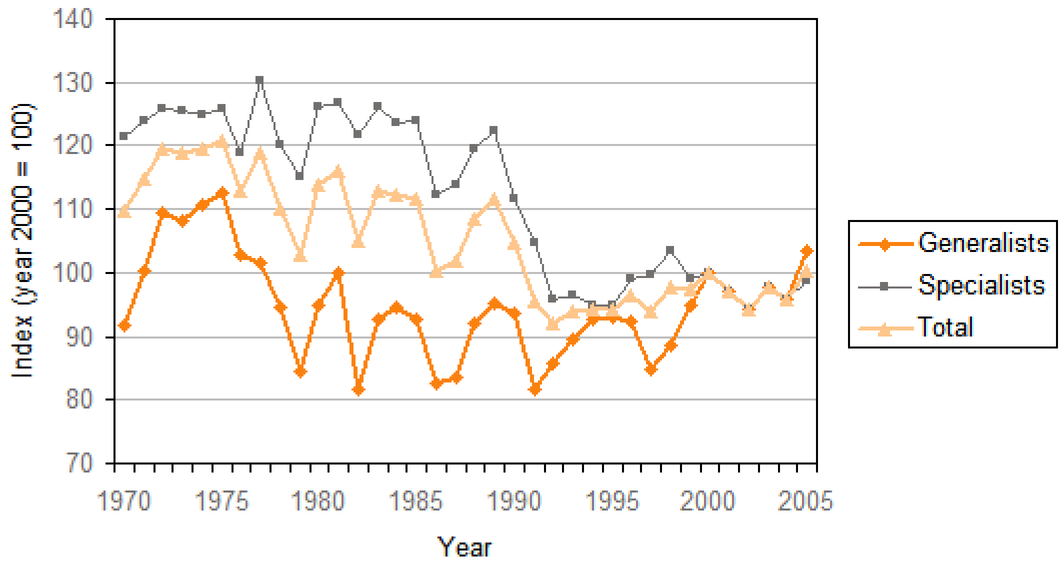
The index for woodland birds is currently based on the average of changes in populations of 33 species, of which 12 are generalists and 21 are woodland specialists (those that breed or feed mainly or solely in woodland). Since the early 1990s the UK woodland bird indicator has remained between 10 to 15 per cent below the level in the early 1970s. Many of the species showing the greatest declines overall are woodland specialists , with Lesser Redpoll, Willow Tit and Tree Pipit declining particularly severely. Against this, other woodland specialists such as Great Spotted Woodpecker, Green Woodpecker and Nuthatch have increased. The index will be revised when next published, to add some extra species for which adequate data are now available.

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)						
1970	92	174	74	110	92	121
1975	102	186	81	121	113	126
1980	101	170	88	114	95	126
1985	95	130	94	111	93	124
1990	98	120	100	105	94	112
1995	95	105	100	94	93	95
2000	100	100	100	100	100	100
2005	101	97	97	100	103	99

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

Figure 4.3 Populations of woodland birds



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.

The following topics are covered:

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 2006, should be no more than around +/-10%, i.e. the true figure is likely to be between around 65 and 79 million.

Table 5.1 Number of visits to woodland

	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	-	65	-	-
2005	170	57	-	-
2006	-	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 2004-2006:* 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 reacreation in Scotland.

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

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

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.

Estimated number of visits
Woodland visit characteristics

In 2006 an estimated 72 million recreation visits were made by the Scottish population to woodland in Scotland, either as a main destination or other destination (33 million to Forestry Commission woodland, 39 million to other woodland). This represents a 26% increase over the 57 million recreation visits to woodland estimated for 2005.

Table 5.3 Estimated number of visits taken to woodlands for recreation in Scotland, 2004-2006

Year	FC owned woodland	Other woodland / don't know owner	Total
millions of visits			
2004	27.5	37.5	**65.0**
2005	27.3	30.0	**57.2**
2006	32.7	39.3	**72.0**

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 +/-10%, i.e. the true figure is likely to be between around 65 and 79 million.

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

Table 5.4 Woodland visit characteristics - Scotland, 2004-2006

Woodland visit characteristics	2004	2005	2006
per cent			
Main activity during visit			
Walking	68	67	71
Family Outing	10	12	10
Cycling	5	5	7
Main transport			
Car / van	64	61	56
On foot	26	29	38
Cycling	4	7	3
Distance travelled			

Up to 2 miles	10	14	21
Over 2, up to 5 miles	20	24	24
Over 5, up to 20 miles	29	29	28
Over 20 miles	40	34	26
Duration of visit (round trip)			
Up to 1 hour	9	8	12
1 - less than 2 hours	22	25	31
2 - less than 3 hours	16	20	19
3 hours or more	53	46	37
Frequency of visit to main destination			
At least once a day	7	8	11
Several times a week	13	8	15
Once a week	11	9	14
1-2 times a month	23	22	19
Once every 2-3 months	17	19	14
Less often	22	22	17
First ever visit	7	11	9
Accompanied by dog	28	29	35

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

A Wales Outdoor Recreation Survey is currently being planned for 2008. The overall aim will be to 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 - recreation

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 Table 5.5 and Figure 5.1 have been taken from the UK and country reports on the 2007 surveys, which include comparisons with previous surveys.

The preliminary reports on the surveys conducted in 2007 (published on our website on 21 June 2007) and the final reports (available on 15 November 2007) 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

	England	Scotland	Wales	Northern Ireland	UK
per cent of respondents					
Visited woodland in last few years	76	75	79	62	77

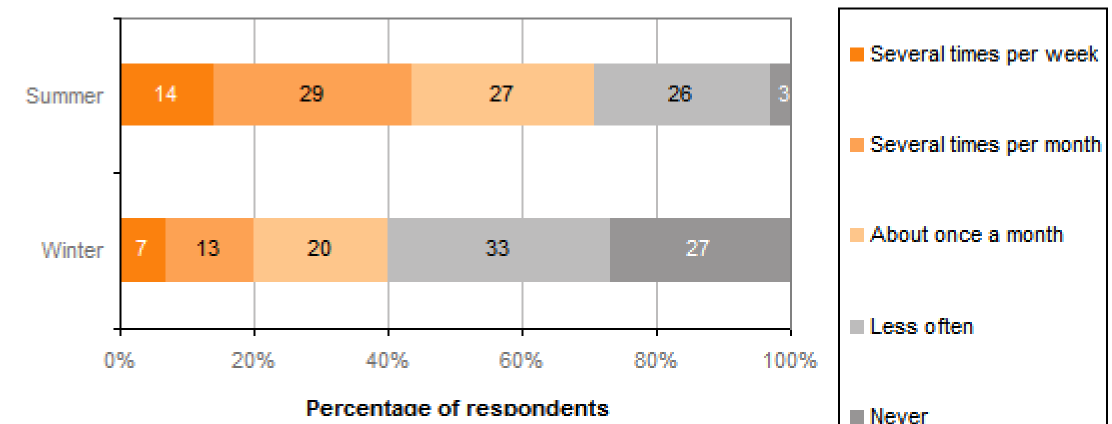
Not National Statistics.

Source: Public Opinion of Forestry Surveys 2007.

Base: UK 4,000, Engalnd 3,339, Scotland 1,007, Wales 952, Northern Ireland 1,021

Those who had visited woodland were asked how frequently they had visited during the previous summer and winter. Figure 5.1 shows that respondents visited much more often during the summer, with 70% visiting at least once a month in the summer of 2006 compared to 40% in winter 2006/7.

Figure 5.1 Frequency of visits to woodland



Not National Statistics
Source: UK 2007 Public Opinion of Forestry Survey
Base: 4000 UK respondents

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 (reports available here) which used data from traffic counters and other counters. Information about visitors and their views on facilities were collected by on-site visitor surveys and the results summarised in *Forest Visitor Surveys and Counts*.

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.

All Forests Survey
Quality of experience
Northern Ireland Forest Service day 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.

Wales All Forests Survey
Scotland All Forests Survey

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

Table 5.6 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	12
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 this survey and a final report presenting overall results will be placed on our website when they become available.

Table 5.7 provides a summary of the key characteristics and results obtained from the Scotland All Forests survey.

Table 5.7 Woodland visit characteristics - Scotland All Forests Survey

Woodand 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 Foresry 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 5.8 Sites of Quality of Experience surveys undertaken in England and Wales

Year	England	Wales
2003	Grizedale, Westonbirt, Whiston	-
2004	Dalby, Thetford	-
2005	Alice Holt, Cannoch Chase, The Forest of Dean	-
2006	Sherwood Pines, Delamere, Hamsterley	Garwnant, Nant yr Arian

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) and South Wales (2006). These surveys aim to identify 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 2006-07, 410 thousand people visited those Forest Service sites where an admission charge was made.

Table 5.9 Day visitors to Northern Ireland Forest Service sites [1]

Year	Visitors to Forest Service sites
thousands	
1997-98	458
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

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 2007 is shown below. A total of 655 sites were featured on the website: 298 (45%) in Scotland, 243 (37%) in England and 114 (17%) in Wales.

Over four-fifths of sites had parking facilities; over three-quarters offered walking activities.

Table 5.10 Number of Forestry Commission recreation facilities and activities[1,2], July 2007

Facilities/ activities	England	Scotland	Wales	GB
number of sites				
Total sites on FC website	**243**	**298**	**114**	**655**
Facilities				
Parking - Free	177	235	77	**489**
Parking - Paid	37	18	11	**66**
Information	109	129	21	**259**
Easy Access	93	43	19	**155**
Toilet	73	62	16	**151**
Refreshments	53	27	8	**88**
Visitor Centre	28	21	6	**55**
Shop	25	11	5	**41**
Activities				
Walking	177	245	81	**503**
Picnic	119	103	40	**262**
Cycling	106	112	38	**256**
Horse Riding	73	63	57	**193**
Wildlife Activities	70	68	10	**148**
Education	53	42	14	**109**
View Point	29	65	12	**106**
Heritage	26	44	5	**75**
Fishing	28	20	13	**61**
Barbecue	37	6	14	**57**
Play Area	33	18	6	**57**
Orienterring	34	16	6	**56**
Camping	24	11	4	**39**
Arts	16	17	0	**33**
Forest Drive	15	11	1	**27**
Arboretum	8	4	4	**16**
Watersports	4	3	2	**9**
Skiing	0	2	0	**2**

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.

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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.

Woods for People
Space for People

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 5.11 shows the proportions of woodland with public access (permissive) as identified by the Woods for People database.

The changes between versions (2004 and 2006) are the result of several factors, including the development of the database between versions as areas are updated by land owners; one significant change was a reduction in England and Wales due of the 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 (use link provided below, then click on the 'Contributors List' on the left hand menu).

Table 5.11 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**

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 data are from version 3 of the Woods for People dataset (which has been based on only woodland areas).

3. Accessible woodland is the proportion of total woodland areas defined in 2004 for the Woods for People project; these total woodland areas were not updated in 2006.

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 5.12 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 previosuly 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.

The following topics are covered:

- Employment: Annual Business Inquiry (ABI)
- Forest Employment Survey - Employers
- Forest Employment Survey - Activity
- Forest Employment Survey - Travel to work
- Health & safety
- Establishments in the primary wood processing industries
- VAT registered 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). From 2001 to 2005, employment declined by almost one quarter in primary wood processing.

Table 6.1 Employment in Forestry and Wood Processing[2], 2001-2005

Standard Industrial Classification (SIC)[1]	2001	2002	2003	2004	2005
thousands					
SIC 02: Forestry	13	14	12	13	12
SIC 20: Wood products					
20.1 Sawmilling	13	13	11	11	10
20.2 Panels	7	7	6	6	6
Other SIC 20 Secondary products	70	74	71	71	69
Total	**90**	**94**	**88**	**88**	**85**
SIC 21: Pulp & paper					
21.1 Pulp & paper	19	17	17	17	14
21.2 Articles of paper & paperboard	76	75	69	66	62
Total	**95**	**93**	**86**	**83**	**76**
Total wood processing (SIC 20 + 21)	**185**	**187**	**174**	**171**	**161**
Total primary wood processing (SIC 20.1 + 20.2 + 21.1)	**39**	**37**	**34**	**34**	**30**

Source: Annual Business Inquiry *- average employment in year (Office for National Statistics, June 2007)*

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 (in 2005-06, one per thousand major accidents and six per thousand total reported).

Table 6.5 Accidents to employees in forestry and primary wood processing[2]

Standard Industrial Classification (SIC)[1]	Number		Rate / 1000	
5-year averages				
	1996-97 to 2000-01	2001-02 to 2005-06	1996-97 to 2000-01	2001-02 to 2005-06
SIC 02 Forestry				
Major accidents[3]	51	42	4.7	4.0
Total reported	168	119	15.4	11.4
SIC 20.1 Sawmilling				
Major accidents[3]	111	67	9.9	6.2
Total reported	414	253	27.2	17.0
SIC 20.2 Panels				
Major accidents[3]	16	17	2.2	2.9
Total reported	81	69	11.1	11.4
SIC 21.1 Pulp & paper				
Major accidents[3]	79	54	3.1	3.1
Total reported	512	298	20.1	17.1
Total forestry and primary wood processing				
Major accidents[3]	**258**	**180**	**4.7**	**4.0**
Total reported	**1 175**	**739**	**21.3**	**16.5**

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]
1997	380	4	11	112	507
1998	346	4	11	108	469
1999	324	4	10	99	437
2000	302	4	10	94	410
2001	278	4	10	89	381
2002	257	4	10	76	347
2003	248	3	8	71	330
2004	233	3	8	72	316
2005	224	3	8	73	308
2006	226	3	8	77	314

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 2,795 forestry businesses, 795 sawmilling businesses, 150 panels businesses and 340 pulp & paper businesses were registered for VAT purposes in the UK in 2005.

Table 6.7 Number[1] of VAT-registered businesses at end of year by Standard Industrial Classification (SIC)[2], 1996-2005

Year	SIC 02 Forestry	SIC 20.1 Sawmilling	SIC 20.2 Panels	SIC 21.1 Pulp & paper
1996	3 260	1 220	185	560
1997	3 285	1 160	195	550
1998	3 260	1 100	190	520
1999	3 210	1 030	180	490
2000	3 115	995	180	465
2001	3 045	950	175	440
2002	3 010	910	175	395
2003	2 965	865	165	365
2004	2 880	820	160	350
2005	2 795	795	150	340

Source: Business start ups and closures: VAT registrations and deregistrations *(Department for Business Enterprise and Regulatory Reform, 2006).*

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.

The following topics are covered:

- Timber prices
- Financial return from forestry
- Gross value added
- Government expenditure on public forests
- Other government expenditure on forestry
- Grant schemes

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, or from the National Statistics website.

The coniferous standing sales price index for Great Britain was 11% higher in real terms in the year to March 2007, compared with the previous year. The softwood sawlog price index was 10% higher in real terms in the 6 months to March 2007, compared with the corresponding period in the previous year.

Table 7.1 Coniferous standing sales and sawlog price indices[1] for Great Britain, 1998-2007

Period ending March	Standing sales		Sawlogs	
	Nominal terms[2]	Real terms[3]	Nominal terms[2]	Real terms[3]
index (period to September 1996 = 100)				
1998	82.3	78.8	90.0	86.6
1999	51.1	47.7	78.1	73.4
2000	49.7	45.5	83.9	77.5
2001	45.4	41.0	81.6	74.2
2002	43.2	38.1	75.3	66.6
2003	33.6	28.7	72.8	62.6
2004	32.6	27.1	70.3	58.8
2005	34.5	27.9	74.7	60.7
2006	39.9	31.7	71.3	56.8
2007	45.4	35.1	80.6	62.7

Source: Timber Price Indices *(data to March 2007)*

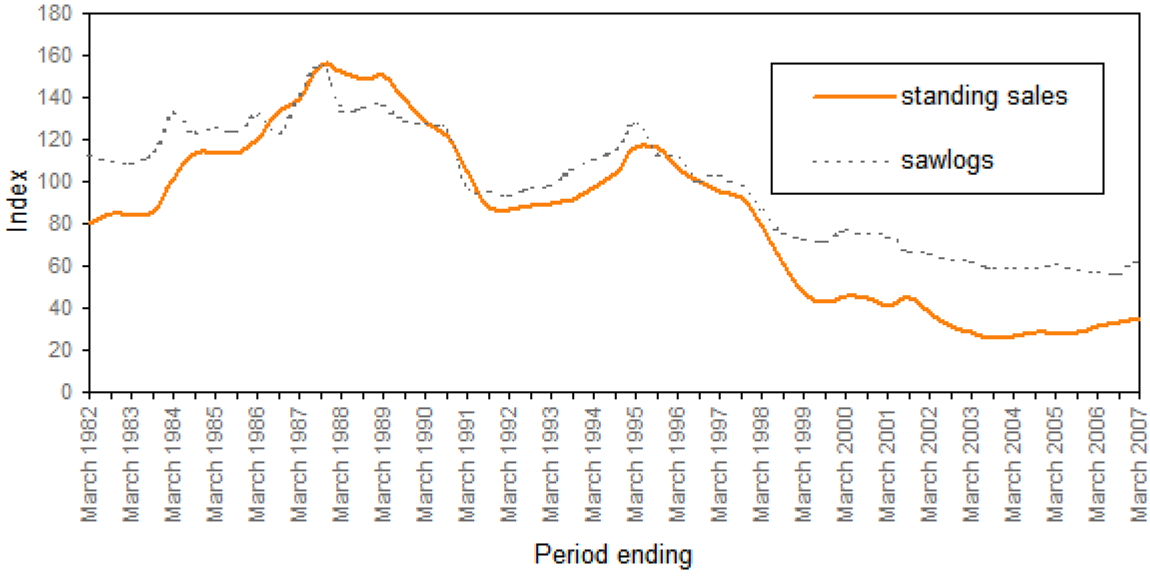
Notes:

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 in real terms (period to September 1996 = 100)



Source: Timber Price Indices

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 2003 to 2006 is estimated to have been 14.6% per annum. This continues the recovery from the negative returns of recent years. The annual return for 2006 is estimated to have been 20.6%.

Table 7.2 Returns from forestry, 1997-2006

Period ending	annual return	3 year return (annual average)
per cent per annum		
1997	4.0	7.9
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

Not National Statistics

Source: IPD UK Forestry Index 2007

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 2001 to 2005, GVA in primary wood processing decreased by 9% to £1.4 billion. GVA in forestry is reported to have increased by 10% over the same period.

Table 7.3 Gross Value Added in Forestry and Wood Processing[2], 2001-2005

Standard Industrial Classification (SIC)[1]	2001	2002	2003	2004	2005
£ million					
SIC 02: Forestry	294	292	316	321	323
SIC 20: Wood products					
20.1 Sawmilling	312	346	354	356	421
20.2 Panels	222	232	245	275	254
Other SIC 20 Secondary products	1 781	1 881	2 070	2 327	2 268
Total	**2 315**	**2 459**	**2 669**	**2 958**	**2 943**
SIC 21: Pulp & paper					
21.1 Pulp & paper	1 002	1 022	879	788	728
21.2 Articles of paper & paperboard	2 715	2 747	2 594	2 536	2 134
Total	**3 717**	**3 770**	**3 472**	**3 325**	**2 861**
Total wood processing (SIC 20 + 21)	**6 032**	**6 229**	**6 141**	**6 283**	**5 804**
Total primary wood processing (SIC 20.1 + 20.2 + 21.1)	**1 536**	**1 600**	**1 478**	**1 419**	**1 403**

Source: Annual Business Inquiry *(Office for National Statistics, June 2007)*

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 2006-07 totalled £64 million. £55 million was used to fund forest management and development, £35 million for recreation, conservation & heritage and £39 million for harvesting & haulage. Timber sales generated a total income of £66 million in 2006-07.

The total net expenditure for 2006-07 of £64 million comprised £27 million in Scotland, £23 million in England and £15 million in Wales.

Table 7.4 Funding public forests - net expenditure[1], 2002-03 - 2006-07

	2002-03	2003-04	2004-05	2005-06	2006-07
£ million					
GB					
Forest management & development[2]	77.6	61.8	53.4	56.1	55.4
Recreation, conservation & heritage	21.5	25.0	30.6	32.4	35.1
Harvesting & haulage	43.4	41.9	42.4	39.0	39.3
Less timber income	-68.2	-62.2	-64.3	-61.9	-65.8
Net expenditure	**74.2**	**66.4**	**62.1**	**65.6**	**64.0**
England					
Forest management & development[2]	22.4	19.5	16.3	18.4	16.6
Recreation, conservation & heritage	8.5	9.6	11.8	13.8	15.8
Harvesting & haulage	10.1	10.2	10.1	10.8	11.1
Less timber income	-18.4	-16.8	-17.3	-18.7	-20.3
Net expenditure	**22.7**	**22.5**	**20.8**	**24.3**	**23.1**
Scotland					
Forest management & development[2]	43.7	34.3	28.0	28.0	28.0
Recreation, conservation & heritage	7.1	7.8	9.1	11.3	13.4
Harvesting & haulage	22.5	21.9	22.5	21.6	21.8
Less timber income	-34.0	-32.3	-35.5	-35.0	-36.7
Net expenditure	**39.4**	**31.7**	**24.1**	**26.0**	**26.6**
Wales					
Forest management & development[2]	11.4	7.9	9.1	9.6	10.8
Recreation, conservation & heritage	5.9	7.6	9.7	7.3	5.9
Harvesting & haulage	10.7	9.7	9.9	6.6	6.4
Less timber income	-15.9	-13.0	-11.5	-8.2	-8.7
Net expenditure	**12.1**	**12.2**	**17.3**	**15.3**	**15.3**

Source: Forestry Commission Annual Report & 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 £123 million on other activities in 2006-07. £62 million of this total was used by the national offices in each country for grants and partnership funding and a further £29 million for policy, regulation & administration. At a GB level, £38 million was used for international & GB support services and £15 million for research.

Table 7.5 Other government expenditure on forestry[1,2], 2002-03 - 2006-07

	2002-03	2003-04	2004-05	2005-06	2006-07
£ million					
GB					
Grants and partnership funding[3]	37.8	40.6	44.8	46.0	61.5
Policy, regulation & administration	22.8	31.7	23.6	28.3	29.2
Research - GB funded	11.9	12.4	13.2	14.3	15.1
International & GB support services	31.7	36.3	38.2	38.5	37.6
Less recovery of support service costs from countries	-14.2	-21.5	-24.2	-23.3	-20.2
Total	**89.9**	**99.5**	**95.6**	**103.8**	**123.3**
England					
Grants and partnership funding[3]	18.8	18.6	20.2	18.2	18.3
Policy, regulation & administration	12.5	15.7	12.7	12.9	13.2
Total	**31.4**	**34.3**	**32.9**	**31.1**	**31.5**
Scotland					
Grants and partnership funding[3]	14.0	15.8	17.9	19.7	34.0
Policy, regulation & administration	6.1	9.2	10.1	10.9	8.4
Total	**20.1**	**25.0**	**27.9**	**30.6**	**42.4**
Wales					
Grants and partnership funding[3]	4.9	6.1	6.8	8.1	9.2
Policy, regulation & administration	4.1	6.8	0.8	4.6	7.6
Total	**9.1**	**12.9**	**7.6**	**12.6**	**16.8**

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.

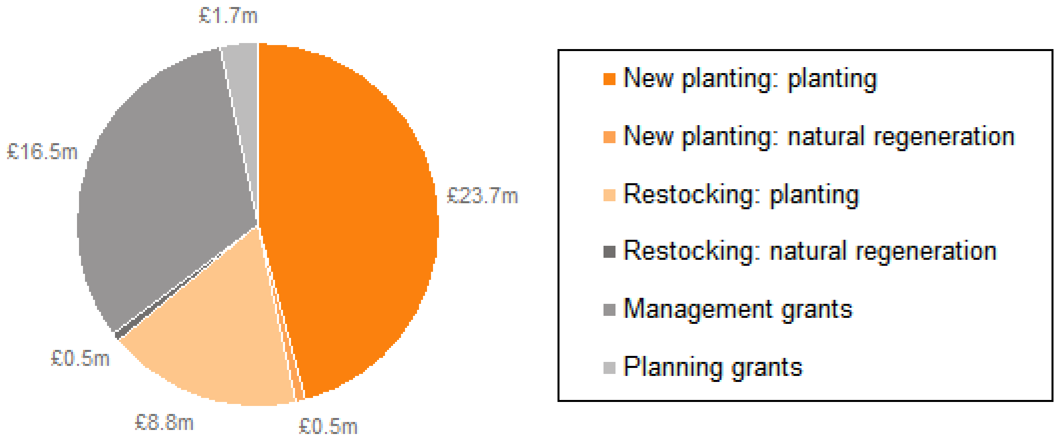
Because of the differences between these schemes, it is increasingly difficult to provide comparable statistics across the three countries. Total areas of new planting and restocking are shown in Table 1.13. Expenditure on grants and partnership funding is included in Table 7.5. Grant spend is shown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

Table 7.6 Grant money paid in 2006-07, by type of grant

Type of grant	England	Scotland	Wales	GB
£ million				
New planting				
Planting	6.9	15.9	0.9	23.7
Natural regeneration	0.1	0.4	0.0	0.5
Restocking				
Planting	0.6	7.6	0.6	8.8
Natural regeneration	0.1	0.2	0.1	0.5
Management grants	7.7	7.4	1.4	16.5
Planning grants	0.4	1.1	0.2	1.7
Total	**15.9**	**32.6**	**3.1**	**51.6**

Source: Forestry Commission

Figure 7.2 GB grant money paid in 2006-07 by type of grant



9 Glossary

Broadleaves

Trees which do not have needles or cones (a few, such as alder, have cone-like structures for their seeds which are not true cones)

Cement bonded particleboard

Sheet material manufactured under pressure, based on wood and other vegetable particles bound with hydraulic cement and possibly containing additives

Chipboard

(see Particleboard)

Conifers

Trees with needles and cones

Coppice

Trees which are cut near ground level (or sometimes higher in which case they are pollards), causing them to produce many small shoots. These shoots are harvested every few years at a relatively early age for products such as staves, fencing, fuel and charcoal. 'Coppice with standards' includes scattered trees that are left to grow as normal ('standards')

DARDNI

Department of Agriculture and Rural Development, Northern Ireland; part of the Northern Ireland Executive.

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 m3

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

Origin
The original natural genetic source

OSB (oriented strand board)
Multi-layered board made from strands of wood of a predetermined shape and thickness together with a binder. The strands in the external layers are aligned and parallel to the board length or width

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

PEFC

Programme for Endorsement of Forest Certification

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 information collected from these sources, the methodology used to estimate figures, revisions and the level of detail reported.

The following topics are covered here:

10.1 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 of gorse, Rhododendron, etc., outside woodland.

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'.

The following pages provide further information on the data sources used:

Woodland area
Woodland Inventories
New planting & restocking

10.1.1 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. As there are no sufficiently reliable data sources in this area, no account is taken of woodland converted to another land-use.

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).

The following pages provide further details on data sources:

Woodland Inventories
New planting & restocking

10.1.2 Woodland Inventories

Woodland censuses have taken place in Great Britain every 15 years or so. Most censuses, however, used slightly different definitions of woodland, so some apparent changes in area over time are due to changing definitions. The principal differences for censuses 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 are collected for individual sample plots, covering a wide variety of topics, include ownership type, species and age.

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 census are available from www.forestry.gov.uk/inventory.

10.1.3 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 recently 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 (around 880 hectares in total for 2006-07), 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 Timber

Statistics on timber are obtained from a number of sources. For wood production (or 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 in May, with final figures issued in Forestry Facts and Figures (September) and Forestry Statistics (October).

The following pages provide further details on the sources and methodology used:

10.2.1 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.

Further information is available on the following pages:

Private Sector Softwood Removals Survey
Comparison of removals and deliveries of UK softwood roundwood
Estimation of hardwood removals from non-FC/ FS woodlands
Conversion factors

10.2.2 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 2006, the questionnaire was issued to 43 harvesting companies, of which 35 responded, giving a response rate of 81%.

Private Sector Softwood Removals Survey Response Rates, 1997-2006

Year	Forms issued	Responses received	Response rate
1997	38	26	68%
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%

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 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 2006, detailed questionnaires were issued to 48 mills, of which 40 responded, giving a response rate of 83%. For the short questionnaire, 124 responses were received from the 216 forms issued, corresponding to a 57% response rate.

Sawmill Survey Response Rates (all questionnaires), 1997-2006

Year	Forms issued	Responses received	Response rate
1997	510	290	57%
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%

Methodology

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

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 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 (newsprint, uncoated mechanical, uncoated woodfree, coated papers), sanitary & household papers, packaging materials (case materials, folding boxboard, wrapping papers, other papers mainly for packaging) 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 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) was collected until 1999 and plywood until 2000.

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 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 2006, the questionnaire was issued to 109 mills, of which 61 responded, giving a response rate of 56%.

Survey of Round Fencing Manufacturers Response Rates, 1997-2006

Year	Forms issued	Responses received	Response rate
1997	128	84	66%
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%

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 Other deliveries

Background

Data on other deliveries comprise the following:

- Shavings - mainly obtained from shavings manufacturers,
- Woodfuel - 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 by country of origin (England, Scotland, Wales, Northern Ireland), 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 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 Comparison of removals and deliveries of UK softwood roundwood

The table below provides a comparion 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, 1997-2006

Year	FC/ FS removals	Non-FC/ FS removals	Total removals	Deliveries	Balance[1]
thousand green tonnes					
1997	3 949	2 846	6 795	7 213	-418
1998	4 188	2 638	6 826	7 057	-231
1999	4 725	2 555	7 280	7 309	-29
2000	4 850	2 580	7 430	7 379	51
2001	4 604	2 900	7 504	7 507	-3
2002	4 650	2 998	7 648	7 360	288
2003	4 817	3 518	8 334	7 692	643
2004	4 894	3 632	8 526	7 987	539
2005	4 579	3 913	8 491	8 109	383
2006	4 582	3 919	8 501	8 168	333

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.

The following pages provide further details on the methodology used to produce figures for removals and deliveries:

Wood production
Private Sector Softwood Removals Survey
Sawmill Survey
Pulp & paper
Woodbased panels
Survey of Round Fencing Manufacturers
Other deliveries
Conversion factors

10.2.9 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, 1997-2006

Year	Deliveries	FC/ FS removals	Non-FC/ FS removals
thousand green tonnes			
1997	818	91	727
1998	717	118	599
1999	676	128	548
2000	655	130	525
2001	641	145	496
2002	621	118	503
2003	563	117	446
2004	514	113	400
2005	594	101	493
2006	439	45	393

Source: industry surveys, industry associations

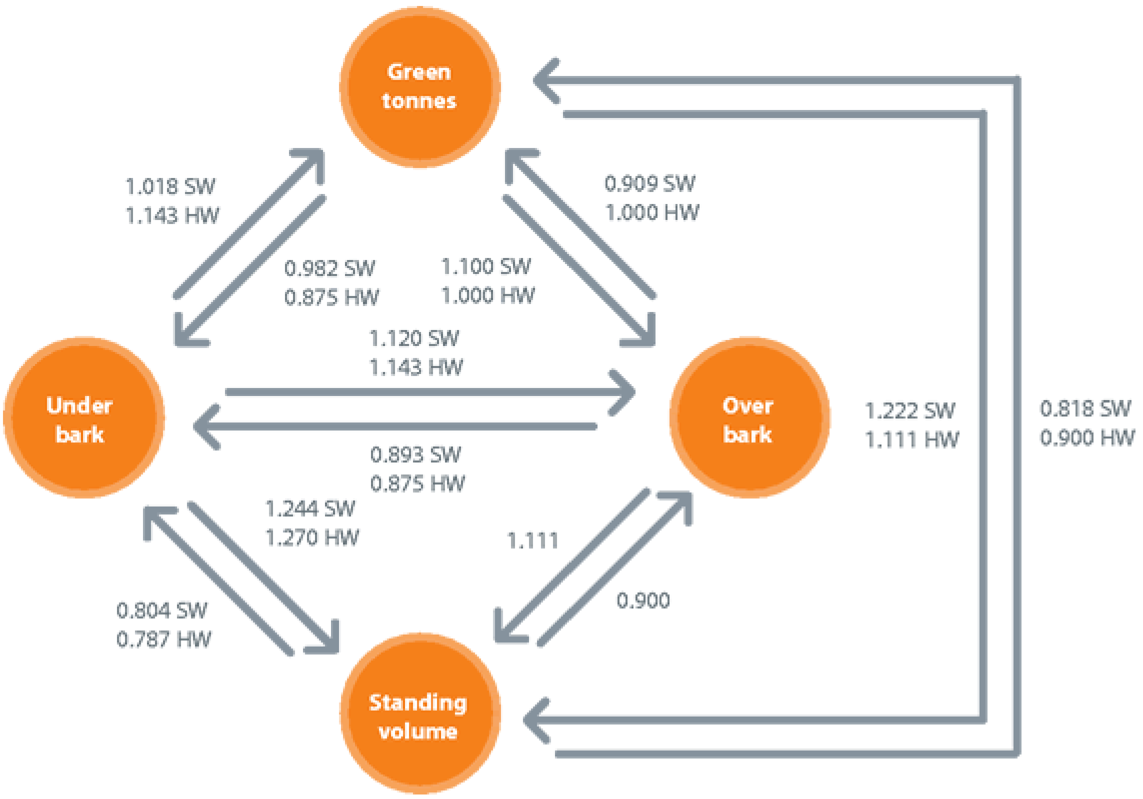
The following pages provide further details on the methodology used to produce figures for removals and deliveries:

- Wood production
- Sawmill Survey
- Pulp & paper
- Woodbased panels
- Survey of Round Fencing Manufacturers
- Other deliveries
- Conversion factors

10.2.10 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	m^3	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 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 covers quantities (weights and volumes) and values of wood and wood products imported to and exported from the UK. The data is 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 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 (September) and Forestry Statistics (October).

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.

The following page provides further information on conversion factors:

Conversion factors

10.4 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 now 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 data set for England is currently being revised by English Nature. The latest figures for Wales from the digital Ancient Woodland Inventory give (thousand hectares) 62 total ancient woodland, of which 34 ASNW and 28 PAWS.

Carbon sequestration

The information in Table 4.3 is taken from Climate Change: The UK Programme 2006 (Defra, 2006). 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 an earlier source: UK Emissions by Sources and Removals by Sinks due to Land Use, Land Use Change and Forestry Activities, CEH Report C01504 (Centre for Ecology and Hydrology, 2002). This chart is for carbon in 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 2000.

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 October 2006, 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 is being recalculated in 2007 to include 4 additional species; this will also affect the indices for total woodland birds and (to a lesser extent) all birds. The results are due to be published in October 2007, too late for inclusion here.

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 is in 2007.

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 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 on 21 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 will be available on 15 November 2007.

Most of the results presented here in Forestry Statistics 2007 have been taken from the UK 2007 survey, a report for which will also be available on 15 November 2007.

10.6 Recreation

Visitor Monitoring

There are two main approaches to visitor monitoring:

- General population surveys of individuals at their home (Visits to woodland - household surveys)
- Surveying and counting of visitors to a specific area or woodland (Visits to woodland - on-site surveys)

There are advantages and disadvantages to each approach, related to factors such as representativeness, feasibility and cost and 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 (8.5 million, table 5.7) 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.

10.7 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.

The following pages provide further information on the data obtained from industry surveys and industry associations:

Sawmill Survey
Pulp & paper
Woodbased panels
Survey of Round Fencing Manufacturers

10.8 Finance & 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.

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.

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.

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.