



Forestry Commission

Forestry Statistics

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

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We would like to acknowledge the contribution of a wide range of statistics in this publication from the Northern Ireland Forest Service, which has made it possible to have complete coverage of the UK.

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Scope and Definitions

Scope

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

Woodland

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

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

Integral open space is defined differently in the data sources used in this publication for woodlands managed by Forest Enterprise and woodlands owned by others (Tables 1.2, 1.3 and 5.3). Forest Enterprise data come from a GIS where mappable open space is excluded from the total. Non-FE woodlands (from the National Inventory of Woods and Trees, NIWT) include open areas <1 ha as integral open space.

Forestry Activity

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

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

National Statistics

It is intended that many of the statistics produced by the Forestry Commission will become approved National Statistics outputs, but further work is needed on the methods and systems in use to produce these statistics before the National Statistician and Ministers this designation. For some surveys with a long periodicity (for example the Forest Employment Survey), it may be several years before designation as National Statistics.

For more information on National Statistics see www.statistics.gov.uk.

Quality of Estimates

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

Business Surveys

Frame

The frame for the business surveys here includes businesses and individuals which belong to one or more of the following associations

- Forestry Contracting Association (FCA)
- Association of Professional Foresters (APF)
- UK Forest Products Association (UKFPA)
- Timber Growers Association (TGA)

The frame population size is reduced to account for businesses which are members of more than one association. Some businesses are identified from other sources such as FC Forest Districts. There are probably some businesses involved in forestry which are not members of any of these associations or otherwise identified, and these will not contribute to statistics. No exercise has been undertaken to try to determine the extent of this underestimation.

Non-response

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

Sampling error

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

Visitor Surveys

Frame

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

1. General Statistics

This section covers general information on the extent of forestry in the UK. Most public sector woodland is owned and managed by the Forestry Commission or Northern Ireland Forest Service, but there are also woodlands owned by local authorities, the Ministry of Defence, and other public sector bodies. There have been changes in the extent of public sector ownership, both from the sale of Forestry Commission land (see section 5), and from the privatisation of parts of industries which were in the public sector, for example the water authorities in England and Wales.

Table 1.1 Area of woodlands and proportion of total area¹ covered by woodlands in the UK.

The information for Great Britain in the following table is taken from woodland censuses from 1905 onwards. Most censuses, however, used slightly different definitions of woodland, with the result that some of the increases 1905 – 2000 are due to changing definitions. The principal differences are:

1905	felled areas and scrub were excluded
1924	undertaken by questionnaire; woods smaller than 2 acres (approx 0.8ha) were not included
1947	woods smaller than 5 acres (approx 2 ha) were not included
1965	woods smaller than 1 acre (0.4ha) were not included
1980	woods smaller than 0.25ha were not included
2000	woods down to 0.1ha were included on a sample basis; some woodlands missing from earlier land cover surveys were discovered

The information from Northern Ireland comes from a variety of sources. The province was not formed until 1920.

Year	thousands of hectares & proportion of area ¹ (%)									
	UK		England		Scotland		Wales		N Ireland	
1086 ²			≈15 %							
c1350			≈10 %							
late 17 th C			≈8 %		≈4 % ³					
1905	1,140	4.7%	681	5.2%	351	4.5%	88	4.2%	20	1.5% ⁴
1924	1,212	5.0%	660	5.1%	435	5.6%	103	5.0%	<14	<1% ⁵
1947	1,420	5.8%	755	5.8%	513	6.6%	128	6.2%	24	1.8% ⁶
1965	1,784	7.3%	886	6.8%	656	8.4%	201	9.7%	42	3.1%
1980	2,175	9.0%	948	7.3%	920	11.8%	241	11.6%	67	4.9%
1990 ⁷	2,400	9.9%	958	7.3%	1,120	14.3%	248	11.9%	74	5.4%
1995 ⁷	2,470	10.2%	977	7.5%	1,167	14.9%	247	11.9%	80	5.9%
2000 ⁸	2,827	11.6%	1,135	8.7%	1,318	16.9%	291	14.0%	83	6.1%
surface area ¹	24,291	100 %	13,042	100 %	7,813	100 %	2,078	100 %	1,358	100 %

¹ the surface area including inland water 1998, from the Annual Abstract of Statistics 2001 (published by the Office for National Statistics)

² estimated from information in the Domesday Survey of England

³ c.1750, from the Roy maps

⁴ per cent is for all Ireland, 1908; the area is estimated by assuming that the proportion

which is wooded is the same for N Ireland and the Republic of Ireland

⁵ 1925

⁶ 1939/40 Census

⁷ GB estimates for 1990 and 1995 are projected forward from the 1980 Census of Woodland

⁸ GB estimates for 2000 are projected forward from the 1995-99 National Inventory of Woodland and Trees

Table 1.2 Area of woodlands in the UK, by ownership.

Data for 1980 are from the 1980 Census of Woodlands and Trees, and the areas for 2000 for privately owned woodland have been projected from the 1995-99 National Inventory of Woods and Trees.

thousands of hectares

Year	UK	England	Scotland	Wales	N Ireland
Forestry Commission/NI Forest Service					
1980	946	255	498	139	54
1990	956	235	533	130	58
1995	922	225	514	122	61
2000	886	216	493	116	61
Private and non-FC/NI Forest Service public woodland					
1980	1,230	693	422	102	13
1990	1,443	723	587	118	15
1995	1,548	752	652	125	19
2000	1,940	919	825	176	22
Total woodland					
1980	2,175	948	920	241	67
1990	2,400	958	1,120	248	74
1995	2,470	977	1,167	247	80
2000	2,827	1,135	1,318	291	83

Table 1.3 Area of woodland by ownership and forest type, as at 31 March 2000

The broadleaves, conifers and coppice categories correspond to woodland where timber production is a primary objective; other woodland includes woods where timber production is not a main objective (this last category is not used in the N Ireland information). The information in this table about private woodland has been projected from the National Inventory of Woodland and Trees 1995-99.

thousands of hectares

Owner	UK	England	Scotland	Wales	N Ireland
Forestry Commission / NI Forest Service					
Broadleaf	50	35	6	6	4
Conifer	785	164	458	105	58
Coppice	1	1	0	0	0
Other	51	17	30	14	-
Private woodland					
Broadleaf	834	596	144	82	12
Conifer	868	206	572	79	10
Coppice	24	22	1	1	0
Other	214	94	108	12	-
Total woodland					
Broadleaf	884	631	150	88	16
Conifer	1,592	370	1,030	185	68
Coppice	21	19	1	1	0
Other	266	111	138	16	-

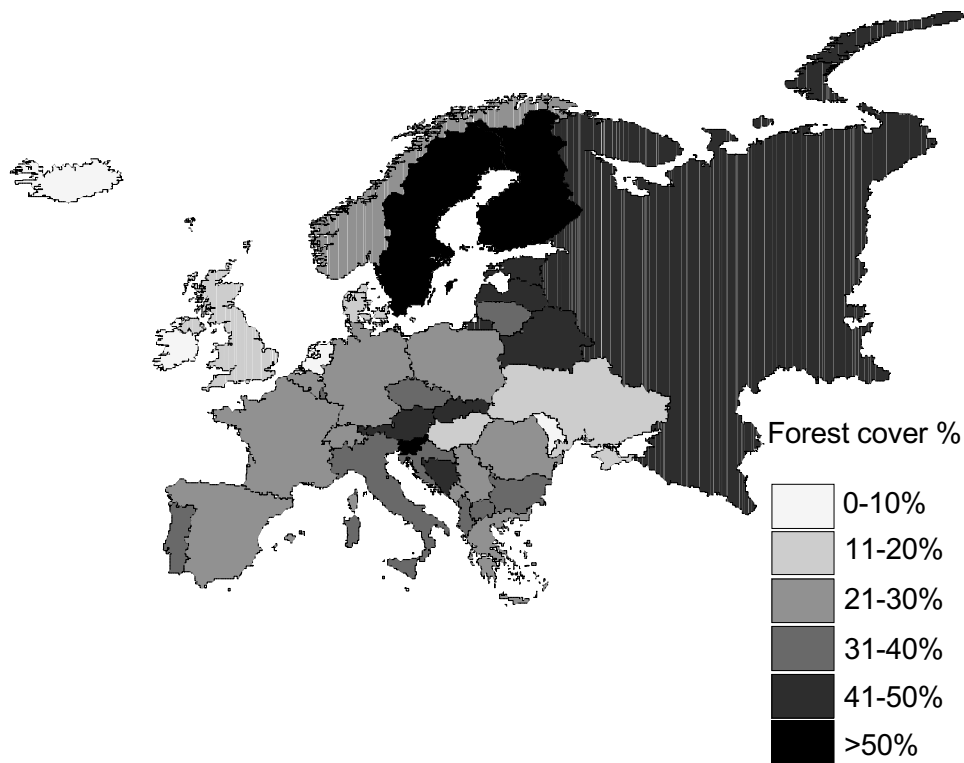
Table 1.4 Per cent woodland cover in European Union states and selected other countries (source: Global FRA 2000).

The Global Forest Resources Assessment (FRA) is a collation of forest data undertaken by the UN FAO. The information extracted below uses *forest* area from FRA, that is, excluding “other wooded land”; for the UK, this is very similar to the definition of “woodland” used in previous tables. The original sources for this table have varying dates, but have been updated using whatever information is available to give an estimate of each country’s forest resources in 2000. The UK figures have been updated to correspond with Table 1.1.

country	forest area (million ha)	surface area (million ha) including inland water	proportion forest (%)
United Kingdom	2.8	24.3	12
Austria	3.9	8.4	46
Belgium & Luxembourg	0.7	3.3	22
Denmark	0.5	4.3	11
Finland	21.9	33.8	65
France	15.3	55.2	28
Germany	10.7	35.7	30
Greece	3.6	13.2	27
Ireland	0.7	6.9	10
Italy	10.0	30.1	33
Netherlands	0.4	4.1	9
Portugal	3.7	9.2	40
Spain	14.4	50.1	29
Sweden	27.1	45.0	60
European Union	115.7	323.7	36
Iceland	0.0	10.3	0
Norway	8.9	32.4	27
Switzerland	1.2	4.1	29
Estonia	2.1	4.5	46
Latvia	2.9	6.5	45
Lithuania	2.0	6.5	31
Other Europe ¹	46.4	196.9	24
Total Europe	179.2	583.9	31
Russian Federation	851.4	1,707.5	50
Other CIS	43.0	503.1	9
Total CIS	894.4	2,210.6	40

¹ Other Europe comprises: Albania, Bosnia, Bulgaria, Croatia, Cyprus, Czech Republic, Hungary, Liechtenstein, Macedonia (FYR), Malta, Poland, Romania, Slovakia, Slovenia, Turkey and Yugoslavia

Figure 1.1 Per cent woodland cover by country in Europe (source: Global FRA 2000).



Planting and restocking

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

Since there is no survey or administrative source, local estimates for areas of planting and restocking which is not FC and which is not grant-aided are included for England, Scotland and Wales, and it has been assumed that all of this area is broadleaves. It is assumed that there is no non-grant aided planting and restocking in Northern Ireland.

Table 1.5 New planting and restocking: breakdown between broadleaf and coniferous woodland

thousands of hectares

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

¹ the 1981 breakdown into broadleaf and conifer has been used to estimate the components in 1980

Table 1.6 New planting and restocking: breakdown between Forestry Commission/ Forest Service and other woodlands.

thousands of hectares

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

Grants

The private forestry sector in Great Britain is supported by a range of grants available under the Woodland Grant Scheme, which was introduced in 1988. The Northern Ireland Forest Service operates a similar scheme. Grants are available under two main categories, for creating new woodlands and managing existing woodlands.

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

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

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

Table 1.7 shows the areas where the initial work has been carried out satisfactorily and the *first* instalment of grant has been paid – it demonstrates how much new work is being undertaken with grant aid. Non-Forestry Commission/Forest Service information in Table 1.6 is from *second* instalment payments and demonstrates the woodland area that has become successfully established. Table 1.8 shows the annual management grant, but does not include the more capital-oriented woodland improvement grant.

Table 1.7 Areas receiving first instalment WGS support in Great Britain in year ending 31 March 2000. First instalment and supplementary payments. Supplementary payments are only available for new woodland. The Farm Woodland Premium Scheme is not included here.

thousands of hectares

	New planting (excluding natural regeneration)	New woodland from natural regeneration	Restocking (excluding natural regeneration)	Restocking from natural regeneration
Broadleaves				
Total grant-aided	9.6	1.8	1.5	0.6
Better land contribution	4.1	0.0		
Community woodland contribution	0.9	0.0		
Community forest premium	0.6	0.0		
Challenge funds	0.6	0.3		
Tendering (National Forest)	0.0	0.0		
Short rotation coppice locational contribution	0.3	0.0		
Conifers				
Total grant-aided	6.0	0.7	3.3	0.1
Better land contribution	2.0	0.0		
Community woodland contribution	0.1	0.0		
Community forest premium	0.3	0.0		
Challenge funds	1.0	0.4		
Tendering (National Forest)	0.0	0.0		
Short rotation coppice locational contribution	(not applicable – conifers are not used for short rotation coppice)			
Total				
Total grant-aided	15.6	2.5	4.8	0.7
Better land contribution	6.1	0.0		
Community woodland contribution	1.0	0.0		
Community forest premium	0.9	0.0		
Challenge funds	1.6	0.6		
Tendering (National Forest)	0.0	0.0		
Short rotation coppice locational contribution	0.3	0.0		

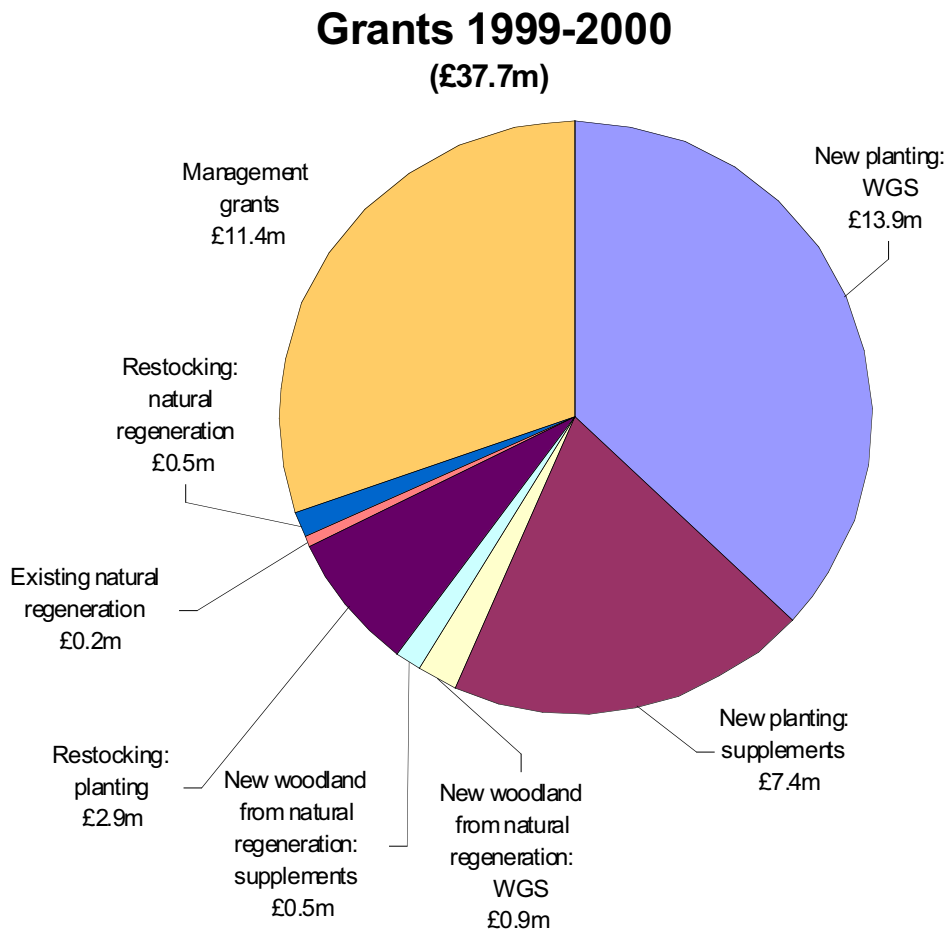
Table 1.8: Woodland in GB approved for management grant under the Woodland Grant Scheme. Standard, special and annual management grants are included. Woodland Improvement Grants are not included.

thousands of hectares

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

Figure 1.2: Grant money paid in year ending 31 March 2000 by type of grant.

Grants for existing natural regeneration is paid to safeguard trees which are already established (for example by fencing to keep deer out), whereas restocking by natural regeneration is for fencing to allow trees to establish (these categories have been amalgamated in Table 1.7). Neither the Farm Woodland Premium Scheme (funded by the agriculture departments) nor Woodland Improvement Grants are included in this graph.



2. Production and primary wood processing

This section covers the production of timber and other products from woodlands, and the primary processing of harvested wood to give basic wood products. Information on employment within the forestry sector is given in section 4.

VAT-registered businesses involved in forestry and primary wood processing

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

The following charts (using data from *Business start-ups and closures: VAT registrations and deregistrations 1980-99* published by the Small Business Service of the Department for Education and Employment show start-ups and closures and the size of the business population in these classifications. Because businesses with turnover below the VAT threshold are not required to register, many of the smallest businesses are not included in these figures. The figures are also not restricted to businesses using domestically produced timber but include businesses wholly using imports. More information on numbers of businesses engaged in various aspects of primary processing is given in table 2.12.

Figure 2.1 Population size and VAT registrations and deregistrations of businesses classified to SIC 020: Forestry and logging. Values have been rounded to the nearest 5 businesses.

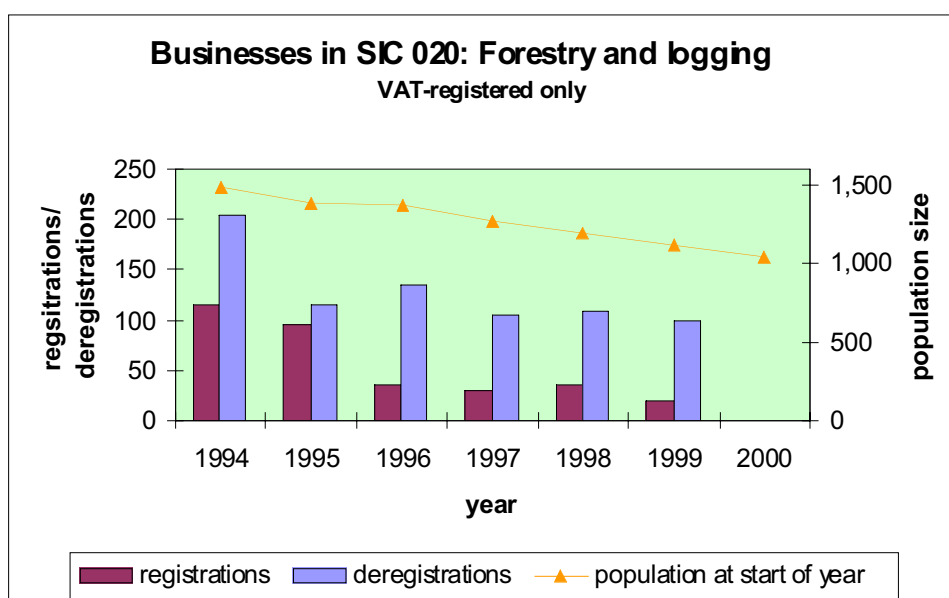


Figure 2.2 Population size and VAT registrations and deregistrations of businesses classified to SIC 201: Sawmilling and planing of wood, impregnation of wood. Values have been rounded to the nearest 5 businesses.

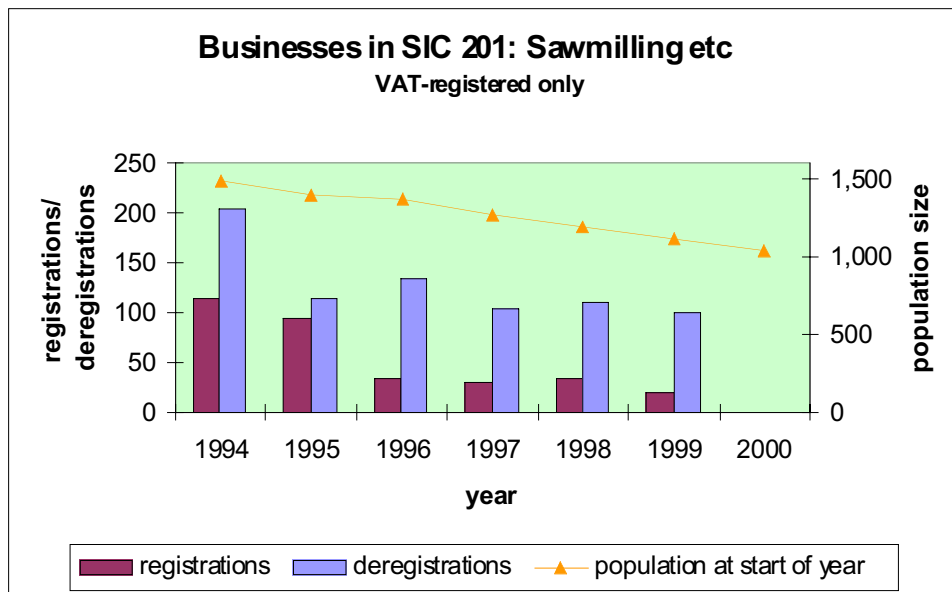


Figure 2.3 Population size and VAT registrations and deregistrations of businesses classified to SIC 202: Manufacture of veneer sheets; manufacture of plywood, laminboard, particle board, fibre board and other panels and boards. Values have been rounded to the nearest 5 businesses.

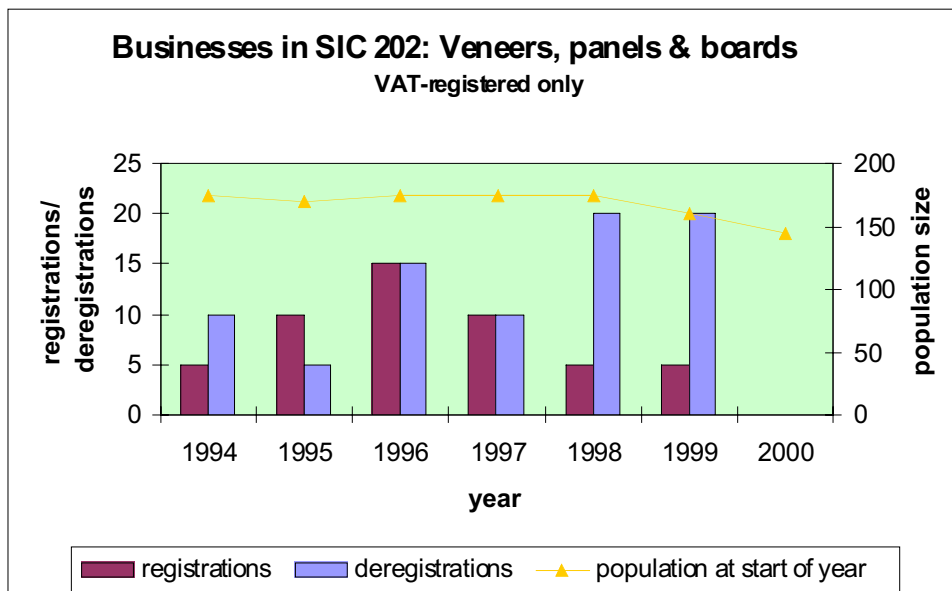
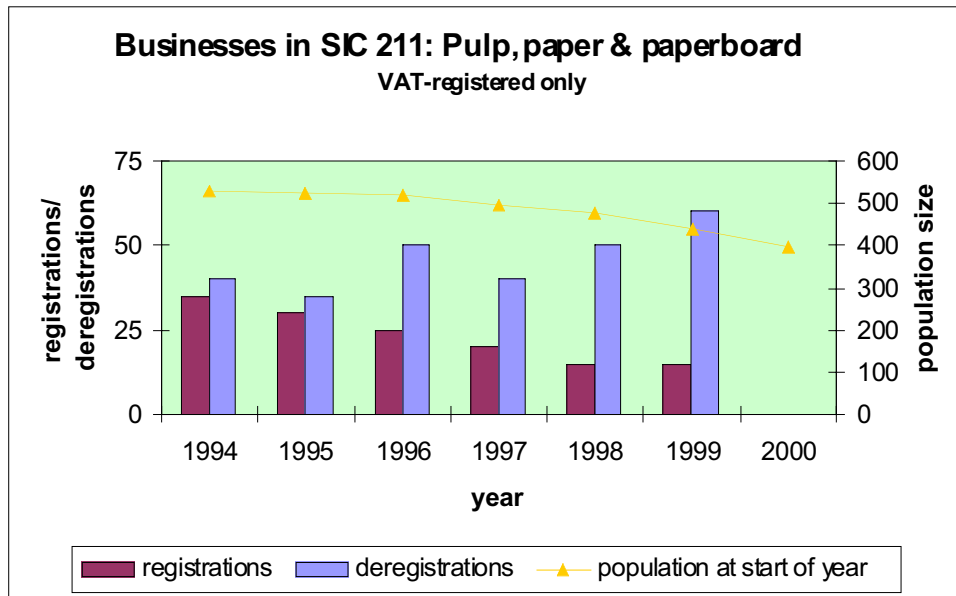


Figure 2.4 Population size and VAT registrations and deregistrations of businesses classified to SIC 211: Manufacture of pulp, paper and paperboard. Note that only integrated pulp and paper mills are normally included in primary wood processing. Values have been rounded to the nearest 5 businesses.



Prices of wood and wood products

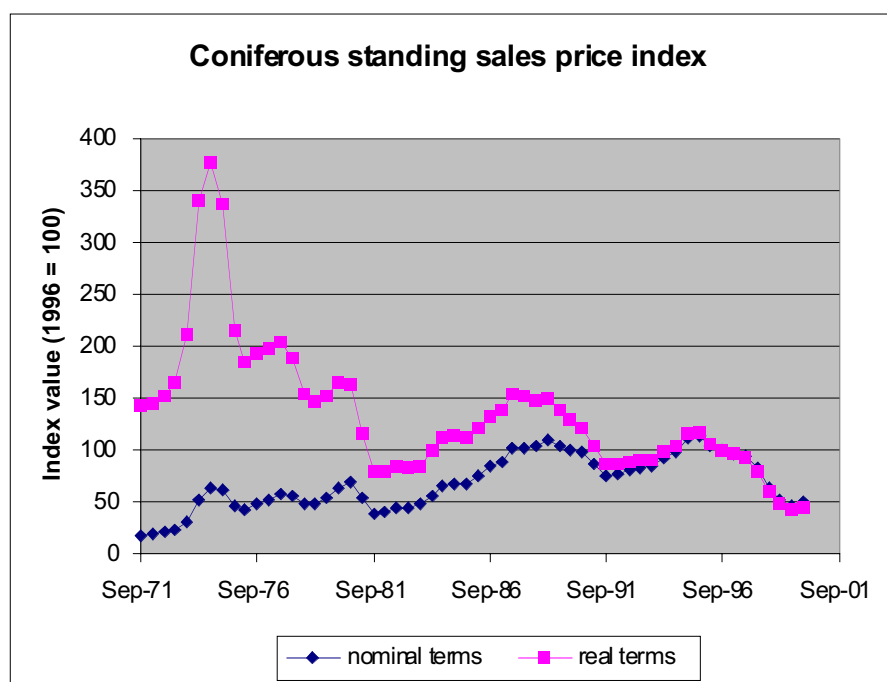
There is relatively little information on wood prices before primary processing. The Forestry Commission has collected information for many years on prices of conifers sold standing by the FC, and constructed a Coniferous Standing Sales Price Index (CSSPI) in overlapping yearly periods each 6 months. Recently this has been modified to use base-year weights to reduce the effect of changing size mixes, and it is this Laspeyres index which is given below. A log price index is constructed by Forest Enterprise, but it is not adjusted for size mix, and is not presented here. 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 ONS's website, www.statistics.gov.uk.

Table 2.1 Coniferous standing sales price index for Great Britain (per cubic metre overbark standing). This price index is constructed from information on Forestry Commission sales only, and is a Laspéyres index so it is not affected by changes in the mix of sizes of wood sold.

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

¹ Real terms values are obtained by using the GDP deflator to convert to “constant prices”

Figure 2.5 Graph of change in the coniferous standing sales price index with time. Note that the overlapping periods used to construct the index will make this graph appear smoother than the actual movement of prices, and remove any seasonality in the series.



Non-wood forest products

Very little information is currently available on non-wood forest products; it is hoped that this table can be expanded in the future if more information is collected.

Table 2.2 Non-wood forest products: Christmas tree sales

Product	Quantity (000s)			Value (£th)		
	FC	NI Forest Service	other	FC	NI Forest Service	other
Christmas trees						
1996-97	137	11	na	na	102	na
1997-98	155	10	na	1,100	91	na
1998-99	162	11	na	1,100	89	na
1999-00	155	10	na	1,300	97	na

Imports and exports of wood products

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

Table 2.3 is summarised from divisions

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

of the Standard Industrial Trade Classification (SITC), but products in the following categories are excluded:

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

The values are given as wood raw material equivalent underbark, that is the amount of timber (underbark) required to produce these products.

The total value of the imports reported in Table 2.3 forms the first column of Table 2.4, while the value of the excluded headings above forms the second column.

Table 2.3 Imports and exports (volumes). Data for 1990 and earlier are rounded to the nearest 100,000m³. See the text for further explanation.

000m³ wrme underbark

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

Table 2.4 Imports and exports (values, current prices). See text for further explanation.

£m

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

Table 2.5 Country of origin of wood imports to the UK 1997

per cent of total UK imports in each category

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

Note: Categories used above are those used by FAO in ‘Forest Products Trade Flow Data’, and are not necessarily consistent with those used in tables 2.3 and 2.4.

UK-grown timber

Table 2.6 Wood production

Figures have been rounded to the nearest 10,000m³. Private sector wood production in Northern Ireland is thought to be small, and is not included.

Calendar year	Softwood			Hardwood ¹	NI Forest Service ²	UK Total
	Forestry Commission	Private woodlands	Total softwood			
1970	1,490	900	2,390	1,300	na	3,690 ³
1980	2,410	980	3,390	1,300	50	4,740
1990	3,460	2,200	5,660	1,120	180	6,960
1991	3,760	1,980	5,740	1,240	190	7,170
1992	4,060	2,080	6,140	870	200	7,210
1993	4,140	2,380	6,520	790	200	7,510
1994	4,320	3,030	7,350	940	220	8,510
1995	4,130	3,310	7,440	990	220	8,650
1996	4,300	3,220	7,520	880	230	8,630
1997	4,600	3,600	8,200	910	230	9,340
1998	4,970	3,250	8,210	800	230	9,240
1999	5,590	3,210	8,800	760	260	9,820

¹ Most broadleaved production comes from private woodlands; the figures are estimates based on reported deliveries to wood processing industries.

² NI Forest Service figures are for years ending 31 March; private sector production in Northern Ireland is not included.

³ Great Britain only.

Table 2.7 Wood production forecasts

Softwood production forecasts are taken from the 2000 softwood assessment. More information and detailed breakdowns are available in *Great Britain: new forecast of softwood availability* in the April 2001 edition of Forestry & British Timber, p20.

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

Table 2.8 Deliveries of British-grown roundwood to the wood processing industries.
Note that information in this table relates to GB, not UK.

000 green tonnes						
Year	Sawmills	Pulp mills	Wood-based panel mills	Miscellaneous	Exports ¹	Total GB
Hardwood						
1990	591	272	46	215 [†]	0	1,124 [†]
1995	379	196	113	205 [†]	0	893 [†]
1996	297	202	91	205 [†]	0	795 [†]
1997	298	198	118	205 [†]	0	819 [†]
1998	262	180	77	205 [†]	0	724 [†]
1999	237	191	52	205 [†]	0	685 [†]
Softwood						
1990	3,180	857	998	294	59	5,388
1995	3,393	1,106	1,699	521	8	6,727
1996	3,493	853	1,500	471	0	6,317
1997	3,560	940	1,690	456	0	6,646
1998	3,649	844	1,527	487	0	6,507
1999	3,951	660	1,563	494	24	6,692
Total						
1990	3,771	1,129	1,044	509 [†]	59	6,512 [†]
1995	3,772	1,304	1,812	726 [†]	8	7,620 [†]
1996	3,900	1,055	1,591	676 [†]	0	7,112 [†]
1997	3,858	1,138	1,808	661 [†]	0	7,465 [†]
1998	3,911	1,024	1,604	692 [†]	0	7,231 [†]
1999	4,188	851	1,615	699 [†]	24	7,377 [†]

[†] These figures are estimated by, or partly composed of estimates made by, the Supply and Demand Subcommittee of the Forestry Commission Advisory Panel.

¹ Exports here are the quantities of wood “exported” (in this case including transfers to N Ireland) without going to a wood processing industry in GB.

Table 2.9 Apparent consumption of wood products in the UK

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

Year	million m ³ wrme underbark			
	UK production	Imports	Exports	Apparent consumption
1991	6.5	43.2	5.0	44.8
1992	6.6	43.5	5.1	45.0
1993	6.8	42.2	4.5	44.5
1994	7.4	47.6	5.8	49.2
1995	7.6	44.3	6.0	45.9
1996	7.1	45.1	5.4	46.8
1997	7.5	47.7	6.8	48.4
1998	7.2	46.8	7.0	47.0
1999	7.4	46.9	7.6	46.7

Numbers of businesses in the primary wood processing industries

Note that the figures in Table 2.8 do not correspond with the VAT registration information given in Figures 2.1-2.4. They include businesses which do not need to register for VAT, and also have a different basis for classification, so some businesses which are excluded from Figs 2.1-2.4 because of their VAT classification are included here (typically businesses where primary wood processing is a small part of their total activity), and some businesses included in Figs 2.1-2.4 are excluded here (usually because they do not use British timber).

Table 2.10 Numbers of businesses in the primary wood processing industries using UK-grown roundwood.

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

¹ excludes mills processing 1000m³ underbark or less per year

² A single mill may be recorded twice, as a sawmill and a round fencing manufacturer.

Sawmills

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

Table 2.11 Consumption and production of UK timber by sawmills

	Consumption of roundwood (000m ³ overbark)		Production of sawn timber (000m ³)	
	Hardwood	Softwood	Hardwood	Softwood
1995	334	3,583	192	1,926
1996	262	3,681	154	1,946
1997	263	3,747	145	2,009
1998	231	3,864	128	2,143
1999	209	4,201	121	2,322

Table 2.12 Number of sawmills in the UK (for more detail of GB sawmills, see *British Timber Statistics* or the biennial *Sawmill Survey* report)

	UK	England	Scotland	Wales	Northern Ireland
<1,000m ³	163	110	31	13	9
1,000 – 4,999m ³	104	69	24	8	3
5,000 – 24,999m ³	60	33	20	4	3
25,000 – 49,999m ³	12	5	2	3	2
50,000m ³ +	15	4	8	2	1
Total	354	221	85	30	18

Pulp and paper mills

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

Table 2.13 Amounts and origins of UK-grown roundwood used in integrated pulp and paper mills.

Year	United Kingdom		England		Scotland		Wales		Northern Ireland	
	hard	soft	hard	soft	hard	soft	hard	soft	hard	soft
1990	272	857	264	240	0	396	8	221	0	0
1995	196	1,106	188	197	0	659	8	250	0	0
1996	202	853	194	175	0	478	8	200	0	0
1997	198	940	190	161	0	598	8	181	0	0
1998	180	844	Not Available						0	0
1999	191	660	177	107	0	383	14	170	0	0

000 green tonnes

Table 2.14 Inputs to integrated pulp and paper mills 1999

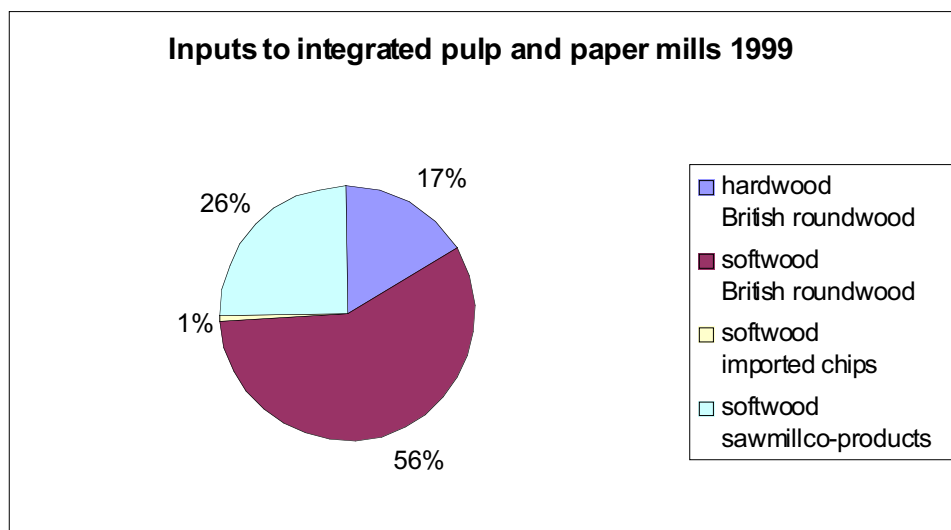
Note that this table excludes inputs of recycled paper and cardboard.

000 green tonnes

Year	UK roundwood		Imported roundwood		Imported chips		Sawmill co-products		Total	
	Hard	Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard	Soft
1990	272	857	0	0	na	na	31	116	303	973
1995	196	1,106	0	4	na	na	4	284	200	1,394
1996	202	853	0	0	na	na	0	305	202	1,158
1997	198	940	0	0	na	20	0	299	198	1,239
1998	180	844	0	0	0	15	0	277	180	1,136
1999	191	660	0	0	0	9	0	295	191	964

Figure 2.6 Inputs to integrated pulp and paper mills 1999

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



Wood-based panel products

Table 2.15 Inputs to wood-based panel production

This table shows the inputs used in the production of all types of wood-based panels. These 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). Tables 2.14 and 2.15 respectively show the quantities of inputs to particleboard and fibreboard production. Note that tables 2.12-2.15 relate to GB only, not UK.

000 green tonnes

Year	British roundwood ¹		Imported roundwood		Sawmill co-products ²		Imported residues and residues from imported wood ³		GB total		
	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Recycled wood fibre ⁴
1990	46	998	0	0	28	1,116	20	110	94	2,224	na
1995	113	1,699	7	23	21	1,521	11	162	152	3,405	na
1996	91	1,500	0	3	23	1,542	21	160	140	3,205	na
1997	118	1,690	0	0	40	1,744	21	120	179	3,554	na
1998	77	1,527	0	0	29	1,711	29	190	135	3,428	na
1999	52	1,563	0	0	10	1,472	0	0	62	3,035	350

¹ British roundwood includes all material from forest operations.

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

³ Includes chips and shavings.

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

Figure 2.7 Inputs to wood-based panel mills 1999

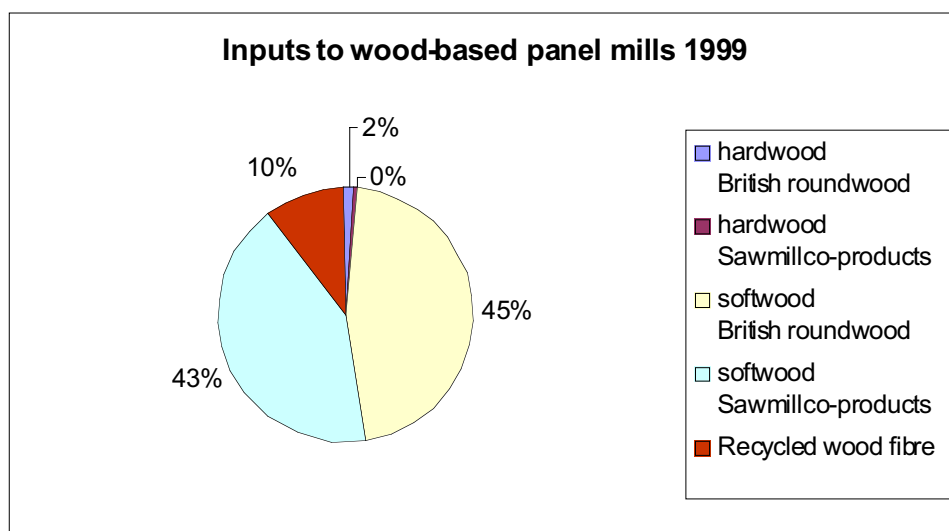


Table 2.16 Inputs to particleboard production

000 green tonnes

Year	British roundwood ¹		Imported roundwood		Sawmill co-products ²		Imported residues and residues from imported wood ³		GB total		
	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Recycled wood fibre ⁴
1990	46	979	0	0	28	719	20	110	94	1,808	na
1995	113	1,499	7	23	21	1,053	11	102	152	2,677	na
1996	91	1,330	0	3	23	952	21	130	135	2,415	na
1997	116	1,500	0	0	37	1,084	21	110	174	2,694	na
1998	76	1,332	0	0	27	1,126	29	180	132	2,638	na
1999	52	1,250	0	0	10	767	0	0	62	2,017	350

¹ British roundwood includes all material from forest operations.

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

³ Includes chips and shavings.

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

Table 2.17 Inputs to fibreboard production

000 green tonnes

Year	British roundwood ¹		Imported roundwood		Sawmill co-products ²		Imported residues and residues from imported wood ³		GB total		
	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Recycled wood fibre ⁴
1990	0	19	0	0	0	397	0	0	0	416	na
1995	0	200	0	0	0	468	0	60	0	728	na
1996	0	170	0	0	5	590	0	30	5	790	na
1997	2	190	0	0	3	660	0	10	5	860	na
1998	1	195	0	0	2	585	0	10	3	790	na
1999	0	313	0	0	0	705	0	0	0	1,018	0

¹ British roundwood includes all material from forest operations.

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

³ Includes chips and shavings.

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

Roundwood fencing manufacturers

Table 2.18 Purchases of wood by roundwood fencing manufacturers. This table covers GB only.

000 green tonnes

Year	British roundwood
1995	387
1996	337
1997	323
1998	354
1999	362

Miscellaneous uses of British wood

Table 2.19 Miscellaneous uses of British wood. Many of these uses are not covered by survey or administrative sources, and the values are estimates made by representatives of the wood processing industries. This table covers GB only.

000 green tonnes

Year	Fuelwood		Poles softwood	Wood wool softwood	Fencing		Other		Total	
	hardwood	softwood			hardwood	softwood	hardwood	softwood	hardwood	softwood
1995	150 [†]	100 [†]	4 [†]	5	30 [†]	387	25 [†]	25 [†]	205 [†]	521 [†]
1996	150 [†]	100 [†]	4 [†]	5	30 [†]	337	25 [†]	25 [†]	205 [†]	471 [†]
1997	150 [†]	100 [†]	4 [†]	4	30 [†]	323	25 [†]	25 [†]	205 [†]	456 [†]
1998	150 [†]	100 [†]	4 [†]	4	30 [†]	354	25 [†]	25 [†]	205 [†]	487 [†]
1999	150 [†]	100 [†]	4 [†]	3	30 [†]	362	25 [†]	25 [†]	205 [†]	494 [†]

[†] These figures are estimated by, or partly composed of estimates made by, the Supply and Demand Subcommittee of the Forestry Commission Advisory Panel.

3. Environment

This section presents information on the areas of woodlands with statutory and non-statutory conservation protection, and estimates of carbon sequestration by woodlands. It also includes data on forest fires.

Protected woodland areas

Data in tables 3.1 – 3.3 are taken from a report *Protected Forest Areas in the UK* by Simon Pryor and George Peterken for the World Wide Fund for Nature and Forestry Commission (published in January 2001). Although these are the most complete data available, they have been derived from a variety of sources, and are unlikely to give a wholly accurate inventory of protected areas in the UK. In particular, figures *in italics* have been approximated in the report by breaking down data for a wider area, typically using land area.

Table 3.1 Areas of ancient and semi-natural woodland categories in UK

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

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

Table 3.2 Summary of woodland areas under different types of statutory protection.
See the glossary (p41) for definitions of the abbreviations.

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

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

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

Table 3.3 Summary of areas under ‘protective’ ownership and WGS management (non-statutory protection). See the glossary (p41) for definitions of the abbreviations.

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

Figures in italics have been estimated, see text above Table 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. The following table (taken from the DETR publication *Climate Change: The UK Programme* (Cm4913)) shows estimates and forecasts for the amount of carbon removed from the atmosphere.

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

Table 3.4 Carbon sequestration

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

Damage to woodlands

Table 3.5 Fire damage

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

Year	Forestry Commission	Northern Ireland Forest Service	other woodlands	UK (FC/FS woodland only)
Number of fires				
1969-70	489	na	not available	na
1979-80	na	82		na
1989-90	76	22		98
1995-96	888	18		906
1996-97	478	30		508
1997-98	369	6		375
1998-99	155	3		158
1999-00	78	3		81
Area of woodland destroyed (ha)				
1969-70	453	na	not available	na
1979-80	na	770		na
1989-90	185	127		312
1995-96	466	94		560
1996-97	585	135		450
1997-98	310	22		332
1998-99	45	9		54
1999-00	165	6		171

4. Social Aspects of Forestry

This section contains information on social aspects of forestry

Day visits to woodland

The information in Tables 4.1 and 4.2 is taken from the UK Day Visits Survey, which collected data about day trips from home during 1994, 1996 and 1998. Despite its name, it did not cover visits by people living in N Ireland. Visits to overseas destinations are also excluded.

The UK Day Visits survey was a sample survey, which means that the results vary by chance depending on the sample achieved. For example the first line of data in table 4.2 below is accurate to $\pm 1.7\%$ in England in 1998, so there is only weak evidence for a decline from 1996 to 1998; in Scotland, however, the accuracy is $\pm 2.4\%$, so a fall of 3% is significant. Similar caution should be used in assessing the other figures in the table, where the confidence limits may be wider. For more detail see *1998 UK Leisure Day Visits Survey Technical Report* published by the National Centre for Social Research.

Table 4.1 Day visits to woodland (taken from the UK Day Visits Survey)
millions of people days

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

Table 4.2 Characteristics of day visitors to woodland (taken from the UK Day Visits Survey).

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

Table 4.3 Day visitors to NI Forest Service sites for which an admission charge is made.

thousands of people visits	
Year ending 31 March	N Ireland
1995-96	499
1996-97	537
1997-98	458
1998-99	382
1999-00	403

Employment

The Forestry Commission undertakes an employment survey every 5 years. There have been many changes of definition and coverage from 1993/4 to 1998/9, with the result that it is very difficult to assess the true changes in employment between the two surveys. Tables 4.4 and 4.5 show estimates obtained from the 1998/9 employment survey. Further information is available in the report of the 1998/9 Forest Employment survey, published in January 2001.

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

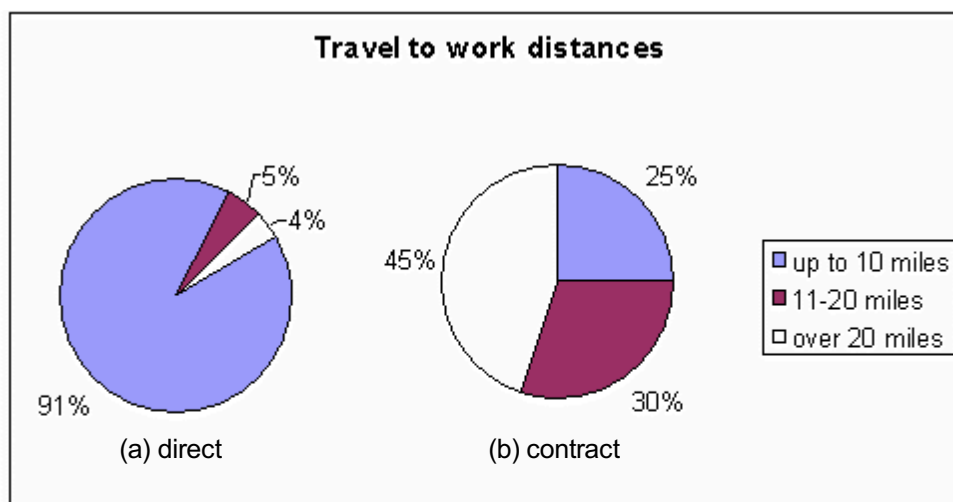
Table 4.4 Employment in forestry and primary wood processing industries 1998/9
full-time equivalents

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

Table 4.5 Employment in forestry and primary wood processing by activity 1998/9
full-time equivalents

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

Figure 4.1 Travel to work distances for (a) direct and (b) contract employees in 1998/9



5. Forestry Commission and Northern Ireland Forest Service

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

Table 5.1 Land use of the national forest estate. The definitions used in 1980 were different to those in use in 1990 and 2000, so there are some small inconsistencies in the comparisons.

thousands of hectares

area at 31 March	planted woodland	other woodland ¹	to be planted	total forest land	total other land	total land area
Great Britain						
1980	890.9		71.5	962.4	301.0	1,263.4
1990	863.5	34.4	11.2	909.1	230.5	1,139.6
2000	774.2	51.1	0.6	825.9	227.1	1,052.9
England						
1980	252.1		6.8	258.9	44.1	303.0
1990	219.7	15.3	0.3	235.4	39.3	274.6
2000	199.5	16.9	0.1	216.5	43.7	260.1
Scotland						
1980	501.2		61.3	562.5	237.2	310.0
1990	516.7	16.1	10.4	543.3	180.2	723.5
2000	463.4	29.8	0.4	493.6	171.8	665.4
Wales						
1980	137.6		3.4	141.0	19.7	160.7
1990	127.1	2.9	0.5	130.5	11.0	141.5
2000	111.3	4.4	0.0	115.8	11.6	127.4
Northern Ireland						
1980	53.9 ³		na	53.9	17.6	71.6
1990	58.5		0.8	59.3	15.4	74.7
2000	60.8		1.1 ³	61.9 ³	13.9	75.8

¹ 'Other woodland' is predominantly semi-natural native woodland managed for conservation purposes

² Predominantly areas of moorland and mountain located within the forest boundary.

³ Area at the end of the 1979-80 planting season

Table 5.2 Land acquisitions and disposals (ha)

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

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

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

¹ forest land only (see text for explanation)

Table 5.3 Forest Enterprise and Northern Ireland Forest Service recreational facilities

at 31 March 2000

Facility	GB (Forest Enterprise)	England	Scotland	Wales	N Ireland (Forest Service)
car parks	784	403	277	104	na
cycle trails	392	259	106	27	na
forest classrooms	31	23	5	3	na
forest drives	10	6	3	1	na
horse riding routes	114	46	55	13	na
orienteering courses	82	40	27	15	na
picnic sites	507	240	169	98	na
play areas	41	24	4	13	na
toilets	107	55	34	18	na
visitor centres	31	16	9	6	na
walks	703	277	335	91	na
wildlife hides	27	16	8	3	na

Glossary and conversions

1 hectare = 2.471 acres

ancient woodland	woodland which has been in continuous existence since 1600 (1750 in Scotland)
ASNW	ancient semi-natural woodland
ASSI	area of special scientific interest – the Northern Ireland equivalent of SSSI
broadleaf	trees which do not have needles, and which do not have cones (a few, such as alder, have cone-like structures for their seeds which are not true cones); woodland composed of at least 20% broadleaved trees
conifer	trees with needles and cones; woodland composed of at least 80% conifer trees
coppice	Trees which are cut near ground level (or sometimes higher in which case they are <i>pollards</i>), 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.
FAO	United Nations' Food and Agriculture Organisation
FC	Forestry Commission: the government department responsible for forestry matters in GB. The responsibility for Forestry is devolved to ministers in the Scottish Parliament and Welsh Assembly, but the executive functions are exercised throughout GB by the FC.
FE	Forest Enterprise: the agency of the Forestry Commission responsible for managing the FC forest estate
FNR	Forest Nature Reserve
FRA	Forest Resources Assessment
FS	Northern Ireland Forest Service (an agency of the Department for Agriculture and Rural Development)
GIS	Geographic Information System
ha	hectare
high forest	trees capable of growing to be suitable for timber production (compare with <i>coppice</i> and <i>scrub</i>)
LNR	Local Nature Reserve
NGO	non-government organisation(s)
NI	Northern Ireland
NIWT	National Inventory of Woodland and Trees in the Countryside
NNR	National Nature Reserve
NT	National Trust
NTS	National Trust for Scotland

ONS	Office for National Statistics
OSNW	other (not ancient) semi-natural woodland
overbark	the volume of wood including the bark. Can be either standing volume or felled volume.
PAWS	plantation on an ancient woodland site
productive woodland	woodland managed in a way which will result in at least some potential for the production of timber products
roundwood	logs and small branches (small roundwood) (compare with sawnwood and other products)
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
scrub	area of poorly formed trees or bushes unsuitable for conversion to timber
semi-natural	woodland with natural characteristics (predominantly native species of trees, ground plants and animals) where wood production is not a primary objective; this term is used rather than natural because the woodlands may have originally been planted or have been managed for wood production in the past.
SPA	Special Protection Area
SSSI	site of special scientific interest (the equivalent designation in Northern Ireland is ASSI)
underbark	the volume of wood excluding the bark
WGS	Woodland Grant Scheme
woodland	land under stands of trees with a canopy cover of at least 20% (25% in Northern Ireland), or having the potential to achieve this, including integral open space, and including felled areas that are awaiting restocking
wrme	wood raw material equivalent – the volume of standing trees required to produce a wood product. Can be measured underbark or overbark.

Statistics - Useful addresses and web pages

Forestry Commission 231 Corstorphine Road Edinburgh EH12 7AT	www.forestry.gov.uk
Northern Ireland Forest Service Dundonald House Upper Newtownards Road Belfast BT4 3SB	www.dani.gov.uk/core/forestry
Office for National Statistics 1 Drummond Gate London SW1V 2QQ	www.statistics.gov.uk
Timber Section UN/ECE Trade Division Palais des Nations CH - 1211 GENEVA 10 Switzerland	www.unece.org/trade/timber/welcome.htm
Forestry Department Food and Agriculture Organization of the United Nations Viale delle Terme di Caracalla 00100 Rome Italy	www.fao.org/waicent/faoinfo/forestry/forestry.htm
European Forest Institute Torikatu 34 FIN-80100 Joensuu Finland	www.efi.fi

Tree Species in British Woodlands

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