BRITISH TIMBER STATISTICS 2002

Statistics on British timber harvested and used by primary wood processing industries in Great Britain 1994-2002

Economics & Statistics, Forestry Group, Forestry Commission
28 August 2003

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INTRODUCTION

This report contains statistics on removals (harvesting) of roundwood (timber) from forests and woodlands in Britain, and deliveries of this British roundwood to sawmills and other primary wood processing industries. It also includes some statistics on production of wood products, including those using imported wood.

Roundwood covers all material from forest operations: logs, small roundwood and wood chipped at the harvesting site. Softwood is timber from conifers, such as spruce, pine, fir and larch. Hardwood is timber from broadleaved trees such as oak, beech, ash and sycamore.

The geographic scope is limited to Great Britain – Scotland, England and Wales. Northern Ireland is excluded; trade between Great Britain and Northern Ireland would be treated here as imports and exports.

The quality of data from these statistical systems was assessed against National Statistics (NS) standards in 2000. It was concluded that the surveys and other sources since 1994 largely met NS standards, but that quality was worse in earlier years. The scope of this NS publication is limited to the period 1994 to 2002, but earlier figures are available from the non-NS publication British Timber Statistics 1999.

Statistics for deliveries to primary wood processing industries are for mills that use British roundwood. Imported roundwood is only identified if it is used by processors that also use British roundwood. Processors that only use imported timber and wood products are outside the scope. Secondary processors that use sawnwood or woodpulp to produce other wood products (e.g. furniture or paper) are also outside the scope.

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

ACKNOWLEDGEMENTS

This report was compiled by the Forestry Commission (Forestry Group: Economics and Statistics), in association with the former Forestry Commission Advisory Panel (FCAP) Sub-Committee on Supply and Demand. We gratefully acknowledge the assistance of all members of the Sub-Committee and of the associations that they represent.

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CONVERSION FACTORS

Conversion factors are used to convert between cubic metres (standing, overbark, underbark) and green tonnes (delivered weight, including moisture). The factors used in converting the figures from Sections A and B of this report into the summary Tables are shown below:

1 m^3 softwood standing	= 0.818 green tonnes
1 m^3 hardwood standing	= 0.900 green tonnes
1 m^3 underbark softwood	= 1.018 green tonnes
1 m^3 underbark hardwood	= 1.143 green tonnes

Further details are given in Section G (page 30).

SUMMARY TABLES 1994-2002

Tables 1 – 4 present a summary of the statistics that appear in more detail throughout this report. Table 1 gives the total softwood deliveries to the different sectors, as reported in Sections B – F. This total is then used in Table 2 to compare reported deliveries with the reported softwood removals (Section A). Table 3 summarises deliveries of hardwood as reported in Sections B –F, a figure that is then used to estimate non-FC hardwood removals in Table 4.

Table 1 Deliveries of British softwood roundwood

000 green tonnes

Year	Sawmills	Pulpmills	Woodbased panels	Fencing	Other	Pulpwood exports	Total
1994	3,448	1,104	1,407	406	136	48	6,549
1995	3,410	1,106	1,699	387	134	8	6,744
1996	3,509	853	1,500	337	134	0	6,333
1997	3,573	940	1,690	323	133	0	6,659
1998	3,647	844	1,527	353	133	0	6,504
1999	3,943	660	1,613	358	132	24	6,730
2000	3,921	695	1,685	295	132	16	6,744
2001	3,966	668	1,680	298	131	61	6,804
2002	3,972	668	1,456	238	129	161	6,624

Table 2 Comparison of removals and deliveries of British softwood roundwood

000 green tonnes

Year	Forestry Commission removals	Removals from non-FC woodlands	Total removals	Deliveries	Balance[1]
1994	3,534	2,476	6,010	6,549	-539
1995	3,379	2,844	6,223	6,744	-521
1996	3,511	2,714	6,225	6,333	-108
1997	3,740	2,798	6,538	6,659	-121
1998	3,950	2,593	6,543	6,504	+39
1999	4,452	2,512	6,964	6,730	+234
2000	4,524	2,536	7,060	6,744	+316
2001	4,208	2,851	7,059	6,804	+255
2002	4,265	2,967	7,232	6,624	+608

[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.

Table 3 Deliveries of British hardwood roundwood

000 green tonnes

Year	Sawmills	Pulpmills	Woodbased panels	Other[1]	Total
1994	346	190	96	205	837
1995	362	196	113	205	876
1996	282	202	91	205	780
1997	282	198	118	205	803
1998	246	180	77	205	708
1999	221	191	52	205	669
2000	194	200	50	205	649
2001	189	209	35	205	638
2002	160	209	43	205	617

[1] Other includes fencing

Table 4 Estimation of hardwood removals from non-FC woodlands

000 green tonnes

Year	Deliveries	Forestry Commission removals	Removals from non-FC woodlands[1]
1994	837	128	709
1995	876	107	769
1996	780	101	679
1997	803	91	712
1998	708	118	590
1999	669	128	541
2000	649	130	519
2001	638	145	493
2002	617	118	499

[1] Removals from non-FC woodlands are estimated as Deliveries less FC Removals. There is no survey or data source to obtain data for hardwood removals from non-FC woodland.

A: REMOVALS OF SOFTWOOD ROUNDWOOD

NON-FC WOODLANDS

The Forestry Commission (FC) carries out an annual survey of the largest harvesting companies, to ask for the quantity of softwood removals from non-FC woodlands for the last two years.

The first FC survey was for 1994 when 33 questionnaires were sent out. In 1996 the distribution was increased to 38, a further six companies were added for the 1998 survey and two more for the 1999 survey. During the course of the surveys the distribution list is amended as we become aware of closures etc. The response rate for 2002 includes 2 companies who reported that they no longer harvested British timber and who have now been removed from the distribution list, and 2 nil returns.

The methodology used to estimate the total softwood removals from non-FC woodlands has been revised to make better use of the data available since 1994. The survey results shown in the table below include figures for the companies that reported data for both years, as before, but now also includes estimates for non respondents who have provided data in other years. The % change from the survey results is used to roll forward the estimated total. The estimated total is also expressed as thousand cubic metres overbark standing for comparison with forecasts and FC removals. As a result of the change in methodology, figures differ from those previously published.

Table 5 Softwood removals survey

Year	Respondents / survey distribution	Survey results [1]		% change on previous year	Estimated total	
		Previous year 000 green tonnes	Latest year 000 green tonnes		000 green tonnes	000 m^3 ob standing
1994	33 / 33 (100%)	1,333	1,639	+23%	2,476	3,026
1995	24 / 33 (73%)	1,575	1,809	+15%	2,844	3,475
1996	32 / 38 (84%)	1,775	1,694	-5%	2,714	3,317
1997	26 / 38 (68%)	1,685	1,738	+3%	2,798	3,419
1998	30 / 43 (70%)	1,980	1,835	-7%	2,593	3,169
1999	39 / 45 (87%)	1,783	1,727	-3%	2,512	3,069
2000	26 / 43 (60%)	1,631	1,647	+1%	2,536	3,099
2001	30 / 42 (71%)	1,634	1,837	+12%	2,851	3,484
2002	24 / 35 (69%)	1,755	1,827	+4%	2,967	3,626

[1] Includes estimates for non respondents.

Origin of timber

The table below indicates the percentage breakdown of softwood harvested from each country. All respondents who reported data for 2002 provided a country breakdown, however estimates had to be made for non-respondents in 2002, and for both respondents and non-respondents in previous years who did not provide a country breakdown.

It is estimated that in 2002, 74% of the total softwood removals were harvested in Scotland, 13% in England and 13% in Wales. The large change from England to Scotland was reflected in the returns of several harvesting companies that reported both a significant fall in their harvesting operations in England, and either an increase, or only a slight drop, in their Scottish operations.

Table 6 Origin of softwood

percentage of softwood removals

	1999	2000	2001	2002
Great Britain	100	100	100	100
Scotland	66	65	66	74
England	20	22	20	13
Wales	14	14	14	13

Certification

Certification, e.g. to the UK Woodland Assurance Standard (UKWAS) demonstrates that an area of woodland is sustainably managed. This year, respondents were asked for the first time to report the volume of softwood removals from non-FC woodland that was certified. For the 19 respondents reporting softwood removals from non-FC woodland in 2002, a total of 890 thousand m^3 overbark standing (40%) was certified.

TOTAL: FORESTRY COMMISSION AND NON-FC WOODLANDS

Total softwood removals in 2002 were 2.5% up on 2001; 59% of the total was from Forestry Commission woodlands.

Table 7a Total softwood removals: Forestry Commission and non-FC woodlands

000 m^3 overbark standing

Year	Forestry Commission[1]	Non-FC woodlands	Total	% FC
1994	4,320	3,026	7,346	59%
1995	4,131	3,475	7,606	54%
1996	4,292	3,317	7,609	56%
1997	4,572	3,419	7,991	57%
1998	4,829	3,169	7,998	60%
1999	5,443	3,069	8,512	64%
2000	5,530	3,099	8,629	64%
2001	5,144	3,484	8,628	60%
2002	5,214	3,626	8,840	59%

[1] Statistics on volumes of Forestry Commission timber harvested are available from administrative records maintained by Forest Enterprise and are converted from recorded quantities of sales to estimated standing volumes using specific factors.

Table 7b - 2002 softwood removals - Forestry Commission and non-FC woodlands

000 m^3 overbark standing

	FC	Non-FC	Total
Great Britain	5,214	3,626	8,840
Scotland	2,772	2,699	5,471
England	1,349	467	1,816
Wales	1,093	460	1,553

Table 8 Forecast of softwood availability

	2002 - 2006	2007 - 2011	2012 - 2016	2017 – 2021
Great Britain				
FC woodlands	5,125	5,980	6,244	6,852
Non-FC woodlands	5,746	7,077	8,204	8,630
Total	**10,871**	**13,057**	**14,448**	**15,482**
Scotland				
FC woodlands	2,782	3,477	3,756	4,432
Non-FC woodlands	3,415	4,443	5,351	5,713
Total	**6,197**	**7,920**	**9,107**	**10,145**
England				
FC woodlands	1,378	1,497	1,482	1,414
Non-FC woodlands	1,748	1,966	2,122	2,202
Total	**3,126**	**3,463**	**3,604**	**3,616**
Wales				
FC woodlands	965	1,006	1,006	1,006
Non-FC woodlands	582	669	731	714
Total	**1,547**	**1,675**	**1,737**	**1,720**

Source:
Smith S, Gilbert J and Coppock R (2000), Forestry Commission. Great Britain: New Forecast of Softwood Availability.
In Forestry & British Timber (April 2001)

Note:
In Table 8 above 'Non-FC woodlands' includes woodlands owned by other public bodies such as local authorities, etc.
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B: GB SAWMILLS - ANNUAL SURVEY 2002

This section gives results for timber consumption and sawnwood production from the Sawmill Survey for 2002.

Survey Responses

In the 2002 Survey 288 questionnaires were sent out. Responses were received from 150 mills, a response rate of 52%.

The latest estimates for consumption and production in the last nine years, including estimates for non-respondents, are shown in Table 9 expressed in thousand cubic metres underbark (ub) for consumption, and thousand cubic metres sawnwood for production. Revisions have been made to historical data.

Table 9: Consumption and production 1994 - 2002

	Softwood:		Hardwood:	
	consumption (000 m^3 ub)	production (000 m^3)	consumption (000 m^3 ub)	production (000 m^3)
1994	3,387	1,935	303	173
1995	3,350	1,911	317	183
1996	3,447	1,930	247	146
1997	3,510	1,991	247	137
1998	3,583	2,001	215	120
1999	3,873	2,154	193	113
2000	3,852	2,114	170	101
2001	3,896	2,150	165	92
2002	3,902	2,158	140	80

Imported Round Timber

Of the mills covered by the survey (those that saw British timber), it is estimated that 16 mills used imported round timber in 2002, totaling 9,900 cubic metres underbark softwood and 13,900 cubic metres underbark hardwood. This is based on responses for 2002 and estimates for non-respondents that had reported using imported round timber in earlier years.

Number of sawmills

Based on all the 2002 survey responses, together with data from previous years for those who did not respond for 2002, it is estimated that there were 242 sawmills processing British timber in 2002, of which 151 produced at least 1,000 m^3 sawnwood.

Table 10: Number of sawmills 1994 - 2002

Size Category (production)	1994	1995	1996	1997	1998	1999	2000	2001	2002
Great Britain	**482**	**440**	**392**	**364**	**331**	**308**	**285**	**261**	**242**
<1,000m^3	250	214	184	166	137	129	111	97	91
1,000 - 4,999m^3	145	140	124	117	115	99	101	93	82
5,000 - 24,999m^3	66	66	62	58	57	56	48	48	47
25,000 - 49,999m^3	14	15	15	15	11	10	12	9	8
50,000m^3+	7	5	7	8	11	14	13	14	14
Scotland	**125**	**114**	**102**	**100**	**95**	**87**	**86**	**83**	**80**
<1,000m^3	58	47	42	42	35	30	29	25	23
1,000 - 4,999m^3	30	31	26	24	25	24	27	27	27
5,000 - 24,999m^3	28	27	24	24	25	23	19	20	19
25,000 - 49,999m^3	5	7	7	6	4	2	4	3	3
50,000m^3+	4	2	3	4	6	8	7	8	8
England	**321**	**291**	**257**	**234**	**207**	**193**	**173**	**152**	**139**
<1,000m^3	174	151	126	111	90	87	73	61	58
1,000 - 4,999m^3	108	100	91	86	82	68	68	62	53
5,000 - 24,999m^3	32	34	32	29	27	29	23	21	21
25,000 - 49,999m^3	5	4	6	6	5	5	5	4	4
50,000m^3+	2	2	2	2	3	4	4	4	3
Wales	**36**	**35**	**33**	**30**	**29**	**28**	**26**	**26**	**23**
<1,000m^3	18	16	16	13	12	12	9	11	10
1,000 - 4,999m^3	7	9	7	7	8	7	6	4	2
5,000 - 24,999m^3	6	5	6	5	5	4	6	7	7
25,000 - 49,999m^3	4	4	2	3	2	3	3	2	1
50,000m^3+	1	1	2	2	2	2	2	2	3

British Softwood

Consumption of British softwood (in thousand cubic metres underbark) and production (in thousand cubic metres sawnwood) are shown in the following tables, including estimates for non respondents. Total softwood consumption in 2002 was 3.90 million cubic metres underbark and sawn softwood production was 2.16 million cubic metres sawnwood.

Table 11a : Softwood consumption - 2002

000 m^3 underbark

	Sawmill size category (000 m^3 total production: hard + soft)					
	<1	**1 - <5**	**5 - <25**	**25 - <50**	**50+**	**Total**
GB Total	**35**	**259**	**839**	**535**	**2,233**	**3,902**
Scotland	12	103	398	201	1,176	1,889
England	22	145	331	280	558	1,335
Wales	2	11	111	55	499	678

Table 11b : Softwood production - 2002

000 m^3 sawnwood

	Sawmill size category (000 m^3 total production: hard + soft)					
	<1	**1 - <5**	**5 - <25**	**25 - <50**	**50+**	**Total**
GB Total	**21**	**157**	**478**	**287**	**1,216**	**2,158**
Scotland	7	62	223	112	633	1,038
England	13	88	193	143	316	754
Wales	1	7	61	31	266	367

British Hardwood

Consumption of British hardwood (in thousand cubic metres underbark) and production (in thousand cubic metres sawnwood) are shown in the following tables, again including estimates for non respondents. Results for the larger categories are combined, to avoid disclosure of individual returns. Total hardwood consumption in 2002 was 140 thousand cubic metres underbark and total sawn hardwood production was 80 thousand cubic metres sawnwood.

Table 12a : Hardwood consumption - 2002

000 m^3 underbark

	Sawmill size category (000 m^3 total production: hard + soft)				
	<1	**1 - <5**	**5 - <10**	**10+**	**Total**
GB Total	**14**	**48**	**35**	**42**	**140**
Scotland	1	2	0	0	3
England	11	47	24	42	125
Wales	2	0	11	0	13

Table 12b : Hardwood production - 2002

000 m^3 sawnwood

	Sawmill size category (000 m^3 total production: hard + soft)				
	<1	**1 - <5**	**5 - <10**	**10+**	**Total**
GB Total	**8**	**31**	**20**	**21**	**80**
Scotland	0	1	0	0	2
England	6	30	13	21	70
Wales	1	0	8	0	9

Summary

Table 13 gives summaries of production and consumption, for softwood and hardwood, for the years 1994 to 2002.

Table 13 - Summary sawmill statistics: 1994 – 2002

		Softwood		Hardwood	
	Year	Log consumption (000 m³ ub)	Sawnwood production (000 m³ sawn)	Log consumption (000 m³ ub)	Sawnwood production (000 m³ sawn)
Great Britain	1994	3,387	1,935	303	173
	1995	3,350	1,911	317	183
	1996	3,447	1,930	247	146
	1997	3,510	1,991	247	137
	1998	3,583	2,001	215	120
	1999	3,873	2,154	193	113
	2000	3,852	2,114	170	101
	2001	3,896	2,150	165	92
	2002	3,902	2,158	140	80
Scotland	1994	1,465	828	12	6
	1995	1,426	802	16	9
	1996	1,475	817	12	6
	1997	1,509	841	13	6
	1998	1,538	851	10	5
	1999	1,646	912	10	5
	2000	1,703	941	8	5
	2001	1,809	996	3	2
	2002	1,889	1,038	3	2
England	1994	1,425	827	281	160
	1995	1,372	806	290	168
	1996	1,392	798	226	134
	1997	1,399	818	227	125
	1998	1,439	825	197	109
	1999	1,548	882	176	104
	2000	1,470	814	149	87
	2001	1,407	788	150	81
	2002	1,335	754	125	70
Wales	1994	497	280	10	7
	1995	552	303	11	7
	1996	579	315	8	5
	1997	602	332	8	5
	1998	606	325	7	5
	1999	678	360	7	5
	2000	678	358	13	9
	2001	680	366	13	9
	2002	678	367	13	9

Certification

For the first time this year, mills were asked whether they held a chain of custody certificate, the percentage of input volume from certified sources and the percentage of output volume sold as certified in 2002. Excluding nil responses, there were 125 mills providing data in 2002. 35 (28%) reported that they held a chain of custody certificate, although this proportion varied from just 10% of mills producing less than 5 thousand cubic metres sawnwood in 2002 to over 90% of those producing 25 thousand cubic metres sawnwood or more.

Table 14 – Chain of custody certificates [1] – 2002

	Sawmill size category (000 m3 total production: hard + soft)			
	<5	**5 - <25**	**25+**	**Total**
Total	**83**	**25**	**17**	**125**
Mills holding certificate	8	11	16	35
Mills without certificate	69	14	1	84
Certification status not reported	6	0	0	6

[1] Sawmills responding in 2002, excluding nil responses. These 125 mills accounted for around 75% of the estimated total sawnwood production in 2002.

The following table shows the percentage of certified input and output volumes, including estimates for non responses. Certified timber accounts for almost two thirds of consumption and around 60% of sawnwood production. These proportions varied by size of mill, with larger mills generally reporting higher levels of certified timber than smaller mills.

Table 15 – Consumption and production certified [1] – 2002

	Sawmill size category (000 m3 total production: hard + soft)			
	<5	**5 - <25**	**25+**	**Total**
% consumption certified	12%	38%	79%	64%
% production certified	5%	18%	83%	61%

[1] Includes estimates for non responses.

GB SAWMILLS - BIENNIAL SURVEY 2002 (Mills with over 5,000m^3 production)

Additional information was collected in 2002 from mills that produced at least 5,000 cubic metres sawnwood. Similar information had been collected in 2000, 1998, 1996, 1993 and 1990, but the scope before 1998 had also included mills producing 1,000-5,000 cubic metres sawnwood. This section of the report presents the results for 2002 (with the corresponding figures for 2000 in brackets). As for the annual survey, revisions have been made to historical data so the figures for 2000 may differ from those previously published (in "Sawmill Survey 2000").

Of the estimated 69 (71) mills producing over 5000 cubic metres sawnwood, 40 (40) completed a detailed questionnaire. Data from 2000 and from 1998 were used to estimate figures for those who had responded in previous years but not for 2002. All results are shown rated up to the total number of mills and to their consumption and production figures reported in the annual surveys.

Softwood

GB Summary (see Table 17a)

Total **softwood consumption** was 3.61 million (3.44 million) cubic metres underbark.

The **species breakdown** showed an increase in spruce and corresponding reduction in other conifers. The species reported were spruce 74% (67%), pine 16% (18%) and other conifers 10% (15%).

Softwood production broken down by **market classification** showed little change. 36% (35%) went to construction (including agricultural buildings), 31% (34%) to fencing, 31% (28%) to packaging and pallets and 2% (3%) to all other markets.

Softwood **co-products** added up to 1.91 million (1.80 million) green tonnes. 85% (83%) of softwood co-products were sold to wood processing industries, 10% (11%) sold as bark, 4% (5%) were sold to other industries, and 1% (1%) burnt for heat.

England, Scotland & Wales

The main flows of softwood logs between countries were from Scotland and Wales into England. Around 81% (82%) of reported Scottish logs were sawn in Scottish mills. Around 70% (64%) of reported Welsh logs were sawn in Welsh mills.

Table 16: Flow of softwood logs between countries - 2002 (000m^3 underbark)
Mills with at least 5,000m^3 production

		Sawmills in		
Source	**GB**	**Scotland**	**England**	**Wales**
Scotland	1,995	1,611	324	60
England	632	43	518	70
Wales	630	0	187	444
Imports	0	0	0	0
Total response	**3,258**	**1,654**	**1,030**	**574**
Non-response to question or survey	350	120	223	8
Total	**3,608**	**1,774**	**1,252**	**581**

Table 17a gives information on consumption and production by size category. Table 17b presents the same information as Table 17a, but broken down by country (England, Wales and Scotland) instead of size category.

Table 17a: Softwood - consumption and production 2002
Mills with at least 5,000m^3 production : GB size category breakdown

	Mill size category (000 m^3 total production) [1]				Total
	5 - <10	**10 - <25**	**25 - <50**	**50+**	
Consumption (000 m^3 underbark)	274	565	535	2,233	3,608
Spruce	126	263	360	1,800	2,549
Pine	67	211	106	168	553
Other conifer	57	91	70	137	355
Not reported	23	0	0	128	152
Sawnwood production (000 m^3)	158	320	287	1,216	1,981
Construction	25	33	84	564	705
Fencing	77	178	137	228	621
Packaging & pallets	55	97	56	404	612
Mining timber	1	5	0	0	6
Furniture	0	0	0	0	0
Other	1	7	9	20	36
Co-products (000 green tonnes)	138	279	274	1,215	1,906
Sales to wood processing industries	117	235	229	1,043	1,624
Wood chips	95	184	180	822	1,281
Sawdust & other	22	51	49	221	343
Other sales	14	14	15	27	70
Wood chips	0	1	12	6	19
Sawdust & other	13	12	3	21	50
Firewood	0	1	0	2	3
Sold as bark	7	27	27	129	190
Burnt for heat	0	1	2	11	14
Disposed of as waste	0	0	0	4	5

[1] Size category is based on total production of mill (softwood and hardwood), not just softwood production

Table 17b: Softwood - consumption and production 2002
Mills with at least 5,000m³ production: country breakdown

	Scotland	England	Wales	Great Britain
Consumption (000 m^3 underbark)	1,774	1,168	665	3,608
Spruce	1,370	646	533	2,549
Pine	231	277	44	553
Other conifer	150	117	88	355
Not reported	23	128	0	152
Sawnwood production (000 m^3)	969	653	359	1,981
Construction	447	174	84	705
Fencing	202	314	105	621
Packaging & pallets	301	148	163	612
Mining timber	5	1	0	6
Furniture	0	0	0	0
Other	13	16	6	36
Co-products (000 green tonnes)	966	591	350	1,906
Sales to wood processing industries	811	505	309	1,624
Wood chips	665	382	234	1,281
Sawdust & other	146	122	74	343
Other sales	38	27	4	70
Wood chips	3	14	3	19
Sawdust & other	35	13	1	50
Firewood	3	0	0	3
Sold as bark	96	57	36	190
Burnt for heat	13	1	0	14
Disposed of as waste	5	0	0	5

Hardwood

GB Summary (See Table 18)

Hardwood consumption was 78 thousand (94 thousand) cubic metres underbark.

The **main species** reported were beech 35% (21%), oak 32% (40%) and ash 17% (15%). This represents an increase in the consumption of beech and a corresponding decrease in oak.

Hardwood production broken down by **market classification** showed that the main markets were sawn mining timber 66% (33%) and construction 17% (22%). **Hardwood co-products** added up to 32 thousand (35 thousand) green tonnes, of which around 16 thousand (28 thousand) green tonnes were sold to wood processing industries.

England, Scotland & Wales

Little hardwood production was in the scope for the survey (mills sawing over 5,000 cubic metres) for Scotland or Wales, so only GB totals are given.

Table 18: Hardwood - consumption and production 2002
All mills with total production of at least 5,000m^3

	Great Britain
Consumption (000 m^3 underbark)	78
Oak	25
Ash	13
Beech	27
Other hard	14
Sawnwood production (000 m^3)	41
Construction	7
Fencing	1
Packaging & pallets	2
Mining timber	27
Furniture	1
Other	4
Co-products (000 green tonnes)	32
Sales to wood processing industries	16
Wood chips	13
Sawdust & other	3
Other sales	10
Wood chips	8
Sawdust & other	2
Firewood	6
Sold as bark	0
Burnt for heat	0
Disposed of as waste	0

Employment

The numbers of direct employees and of contractors and subcontractors are shown below, rated up according to the total consumption in each size category. Employment is expressed in full time equivalents; e.g. someone who works for the sawmill half the time is recorded as 0.5.

The total employment figures are 9% lower than those for 2000. Total employment was 3,255 (3,596) full time equivalents, of which 2,765 (2,972) were direct employees and 490 (624) contractors or sub-contractors. Contractors or sub-contractors accounted for over 80% of the employment on haulage, but only 1% of line and production workers.

Table 19a : Sawmill Employment (2002 - mills with at least 5,000m^3 production)

	Direct	Contract	Total
Line and production workers	2,260	34	2,294
Managerial and administrative staff	415	2	417
Haulage of timber/ products	90	454	544
Total	**2,765**	**490**	**3,255**

Table 19b: Sawmill Employment (2002 – mills with at least 5,000m^3 production): country breakdown

	Scotland		England		Wales	
	Direct	Contract	Direct	Contract	Direct	Contract
Line and production workers	1,025	5	914	29	321	0
Managerial and administrative staff	185	0	182	2	48	0
Haulage of timber/ products	13	233	71	121	6	100
Total	**1,223**	**238**	**1,167**	**152**	**375**	**100**

C: PULP & PAPER INDUSTRY

The statistics for the pulp and paper industry in Tables 20 and 21 just cover the four integrated pulp and paper mills that use British roundwood, and were provided by the UK Forest Products Association.

Table 20 Origin of British roundwood used by the pulp and paper industry

000 green tonnes

Year	Great Britain		Scotland		England		Wales	
	Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard
1994	1,104	190	668	0	184	176	252	14
1995	1,106	196	659	0	197	188	250	8
1996	853	202	478	0	175	194	200	8
1997	940	198	598	0	161	190	181	8
1998	844	180	..	..	..	..	..	..
1999	660	191	383	0	107	177	170	14
2000	695	200	479	0	86	188	130	12
2001	668	209	454	0	86	200	128	9
2002[1]	668	209	454	0	86	200	128	9

.. Data not available
[1] Figures for 2002 are not available, so were estimated as unchanged from 2001.

Table 21 Inputs for the pulp and paper industry

000 green tonnes

Year	Deliveries to integrated pulp & paper mills									
	British roundwood[1]		Imported roundwood		Imported chips		Sawmill co-products[2]		Total	
	Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard
1994	1,104	190	2	3	..	..	176	18	1,282	211
1995	1,106	196	4	0	..	..	284	4	1,394	200
1996	853	202	0	0	..	..	305	0	1,158	202
1997	940	198	0	0	20	0	279	0	1,239	198
1998	844	180	0	0	15	0	277	0	1,136	180
1999	660	191	0	0	9	0	295	0	964	191
2000	695	200	0	18	1	0	308	0	1,004	218
2001	668	209	0	0	0	0	323	0	991	209
2002[3]	668	209	0	0	0	0	323	0	991	209

[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] Figures for 2002 are not available, so were estimated as unchanged from 2001.
.. Data not available

Table 22 Production of pulp and paper

These figures for production of pulp and paper products are supplied by The Paper Federation of Great Britain. They cover all paper production from British mills, not just those using British roundwood

000 tonnes

Product	1994	1995	1996	1997	1998	1999	2000	2001	2002[1]
Paper & Paperboard	**5,829**	**6,093**	**6,189**	**6,480**	**6,477**	**6,576**	**6,605**	**6,204**	**6,218**
Graphic papers (inc newsprint)	2,588	2,639	2,729	2,809	2,788	2,816	2,847	2,627	2,526
Sanitary & household papers	551	567	586	639	635	718	724	738	823
Packaging materials	2,375	2,534	2,513	2,617	2,590	2,527	2,291	2,190	2,207
Other	315	353	361	415	464	515	743	649	662
Wood pulp	**626**	**639**	**575**	**623**	**583**	**517**	**474**	**492**	**492**
Mechanical	502	548	490	537	509	442	411	429	429
Semi-Chemical	124	91	85	86	75	75	63	63	63

[1] Figures for wood pulp for 2002 are not available, so were estimated as unchanged from 2001.

D: WOODBASED PANEL PRODUCTS

Figures in Table 23 for inputs to the woodbased panel products sector have been supplied by The Wood Panel Industries Federation (WPIF) since 2000. Previous years figures were supplied by The United Kingdom Forest Products Association (UKFPA).

Table 23 Inputs for woodbased panel products

000 green tonnes

Year	Deliveries to woodbased panel mills										
	British roundwood[1]		Imported roundwood		Sawmill co-products[2]		Imported residues and residues from imported wood[3]		Total		
	Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard	Recycled wood fibre[4]
1994	1,407	96	65	15	1,368	21	156	10	2,996	142	..
1995	1,699	113	23	7	1,521	21	162	11	3,405	152	..
1996	1,500	91	3	0	1,542	28	160	21	3,205	140	..
1997	1,690	118	0	0	1,744	40	120	21	3,554	179	..
1998	1,527	77	0	0	1,711	29	190	29	3,428	135	..
1999	1,613	52	0	0	1,522	10	150[#]	0	3,285	62	400
2000[5]	1,685	50	0	0	1,871	0	143	0	3,699	50	488
2001[5]	1,680	35	0	5	1,675	0	132	20	3,487	60	675
2002[5]	1,456	43	0	0	1,669	0	134	0	3,259	43	932

[1] British roundwood includes all material from forest operations.
[2] Sawmill co-products includes peeled and unpeeled chips, sawdust, slabwood, shavings, postplant chips and peelings.
[3] Includes chips and shavings.
[4] Recycled wood fibre is wood fibre recovered from both pre- and post-consumer wood waste for use in wood based panel production.
[5] Estimated by The Wood Panel Industries Federation
[#] Estimate
.. Data not available.

Table 24 Production of woodbased panel products

Figures for production of woodbased panel products are supplied by The Wood Panel Industries Federation (WPIF).

000m^3

Product	1994	1995	1996	1997	1998	1999	2000	2001	2002
Woodbased Panels (Total)	**2,210**	**2,533**	**2,609**	**2,640**	**2,727**	**2,974**	**3,275**	**3,255**	**2,917**
Particle Board (including OSB)	1,803	2,118	2,164	2,175	2,287	2,442	2,570	2,498	2,146
Fibreboard	402	410	440	460	435	527	700	757	771
Hardboard	2	2	20	48	45	12	0	0	0
MDF (Medium Density)	400	408	420	412	390	515	700	757	771
Plywood	5	5	5	5	5	5	5	0	0

E: MISCELLANEOUS PRODUCTS

ROUNDWOOD FENCING MANUFACTURERS

Surveys of roundwood fencing manufacturers have been carried out for each year since 1993. In preparation for the 1995 survey, many more fencing manufacturers were identified, extending the list from around 70 to around 130. The survey is now believed to give a good coverage of softwood fencing, but only a very limited coverage of hardwood.

For 2002, questionnaires were sent out to 109 manufacturers and 68 responses were received (62% response). Earlier years figures have been revised in light of information received during the current survey.

Based on the 2002 survey, including estimates for non-respondents, it is estimated that in 2002 there were 64 manufacturers using a total of 238,000 tonnes of softwood, around 20% lower than in 2001. The consequences of Foot and Mouth Disease in 2001 may have affected the fencing market in 2002.

Table 25 Softwood round fencing

Number of manufacturers

Year	Size category (green tonnes p.a.)				Total
	Under 1,000	1,000-4,999	5,000-9,999	10,000+	
1994[1]	68	35	19	10	132
1995	66	43	13	9	131
1996	55	43	13	8	119
1997	43	42	8	10	103
1998	41	44	6	8	99
1999	36	39	6	9	90
2000	40	30	6	6	82
2001	40	29	6	6	81
2002	31	19	8	6	64

British roundwood purchased **000 green tonnes**

Year	Size category (green tonnes p.a.)				Total
	Under 1,000	1,000-4,999	5,000-9,999	10,000+	
1994[1]	17	76	126	187	406
1995	17	77	115	178	387
1996	17	92	87	141	337
1997	18	92	53	160	323
1998	14	103	42	194	353
1999	11	90	40	217	358
2000	13	70	44	169	295
2001	12	65	43	178	298
2002	10	49	49	131	238

[1] 1994 includes estimates for those added to the survey mailing list for 1995

Certification

For the first time this year, mills were asked whether they held a chain of custody certificate and the percentage of their input and output volumes in 2002 which were certified. Excluding nil responses, there were 48 mills providing data in 2002. 9 (19%) reported that they held a chain of custody certificate. 14 mills recorded input from certified sources, accounting for between 70% and 100% of roundwood consumed. This represents around 14% of total roundwood consumption by manufacturers reporting data in 2002. 4 mills recorded output sold as certified, accounting for 100% of production from these mills.

SUMMARY FOR MISCELLANEOUS PRODUCTS

Softwood

For softwood fencing the figures shown in Table 26 are based on the Fencing Surveys. Woodwool figures are reported by the manufacturers. All other figures are estimates by the Sub-Committee.

Table 26 Miscellaneous uses of British softwood roundwood

000 green tonnes

	Fuelwood#	Poles#	Woodwool	Fencing	Other#	Total
1994	100	4	7	406	25	**542**
1995	100	4	5	387	25	**521**
1996	100	4	5	337	25	**471**
1997	100	4	4	323	25	**456**
1998	100	4	4	353	25	**486**
1999	100	4	3	358	25	**490**
2000	100	4	3	295	25	**427**
2001	100	4	2	298	25	**429**
2002	100	4	0	238	25	**367**

Estimated by Sub-Committee.

Hardwood

No firm data are available for miscellaneous uses of hardwood. The Sub-Committee estimates that, for each year since 1994, around 150 thousand green tonnes is used for fuelwood, around 30 thousand green tonnes for round fencing and around 25 thousand for other uses, a total of 205 thousand green tonnes.

F: ROUNDWOOD EXPORTS

Table 27 Pulpwood exports

000 green tonnes

Year	Great Britain	Scotland	England	Wales
1994	48	46	2	0
1995	8	8	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	24	24	0	0
2000	16	..	..	..
2001	61	..	..	..
2002	161	..	..	..

.. Data not available.

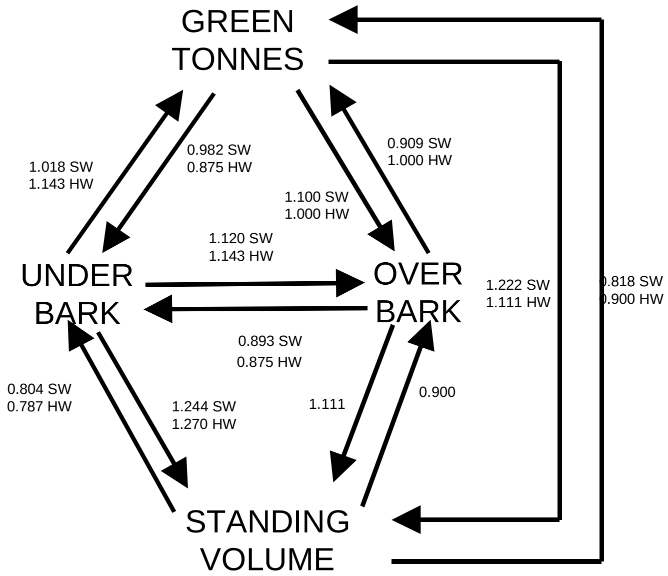
Data are not collected for export of logs.

G. CONVERSION FACTORS

CUBIC METRES AND GREEN TONNES

Conversion factors were used in this report to convert between cubic metres (standing, overbark, underbark) and green tonnes (delivered weight, including moisture). These are illustrated in the following diagram (where different factors apply to softwood and hardwood, these are marked SW and HW). Factors are generalised, based on a range of different types of timber and processing methods. They are shown to 3 decimal places to ensure the diagram balances.

Figure 1: Conversion factors between cubic metres and green tonnes



WOOD RAW MATERIAL EQUIVALENT

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

Table 28 Conversion factors to WRME

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

Notes 1. The charcoal conversion factor is for volume to volume. About 7.8 m^3 of wood is required to make one tonne of charcoal, but one tonne of charcoal is equal to about 6 m^3 in volume.

2. The conversion factor for Oriented Strand Board (OSB) is higher than for other types of particleboard, and the average for particleboard has been constructed by assuming that OSB is 25% of the total.