



**Forestry Commission**

**BRITISH TIMBER STATISTICS**  
**(Formerly Wood Supply and Demand)**  
**1999**

**Statistics on British timber harvested and used by primary wood  
processing industries in Great Britain  
1987-1999**

**Prepared by Economics & Statistics Unit of the Forestry Commission on behalf of the  
Forestry Commission Advisory Panel (FCAP) Sub-Committee on  
Supply and Demand.**

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# CONTENTS

	Page
<b>Introduction, Acknowledgements &amp; Conversion Factors</b>	3
<b>Summary Tables 1987-1999</b>	4
Table 1    Deliveries of British softwood roundwood	4
Table 2    Comparison of removals and deliveries of British softwood roundwood	4
Table 3    Deliveries of British hardwood roundwood	5
Table 4    Estimation of private woodland hardwood removals	5
<b>A: Removals of Softwood Roundwood</b>	6
Table 5    Private sector softwood removals: FC Survey	6
Table 6    Private sector softwood removals	7
Table 7    Forestry Commission softwood removals	8
Table 8    Total softwood removals: private woodlands + Forestry Commission	8
<b>B: Sawmill Survey</b>	9
Table 9    Consumption and production 1994-1999	9
Table 10   Number of sawmills	10
Table 11a   Softwood consumption	11
Table 11b   Softwood production	11
Table 12a   Hardwood consumption	12
Table 12b   Hardwood production	12
Table 13a   Summary softwood statistics	13
Table 13b   Summary hardwood statistics	14
<b>C: Pulp Industry</b>	15
Table 14   Origin of British roundwood used by the pulp & paper industry	15
Table 15   Capacity and inputs for the pulp and paper industry	16
<b>D: Woodbased Panel Products</b>	17
Table 16   Origin of British roundwood for woodbased panel products	17
Table 17   Capacity and inputs for woodbased panel products	18
Table 18   Capacity and inputs for particleboard	19
Table 19   Capacity and inputs for fibreboard	20
Table 20a   Medium density fibreboard (discontinued)	21
Table 20b   Other fibreboard (discontinued)	21
<b>E: Miscellaneous Products</b>	22
Table 21   Softwood round fencing	22
Table 22   Miscellaneous uses of British roundwood	23
<b>F: Roundwood Exports</b>	24
Table 23   Pulpwood exports	24
<b>G: Conversion Factors</b>	25
Figure 1   Conversion factors between cubic metres and green tonnes	25
Table 24   Conversion factors to WRME	25



## 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.

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 recorded here as imports and exports.

Statistics from 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.

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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 <sup>3</sup> softwood standing	= 0.818 green tonnes
1 m <sup>3</sup> hardwood standing	= 0.900 green tonnes
1 m <sup>3</sup> underbark softwood	= 1.018 green tonnes
1 m <sup>3</sup> underbark hardwood	= 1.143 green tonnes

Further details are given in Section G (page 25).

**Table 1 Deliveries of British softwood roundwood**

000 green tonnes

Year	Sawmills <sup>1</sup>	Pulpmills	Wood panel	Mining	Fencing <sup>2</sup>	Miscellaneous <sup>2</sup>	Pulpwood exports	Total
1987	2,618	673	741	68	..	185	396	4,681
1988	2,907	709	763	48	..	200	267	4,894
1989	3,099	794	914	37	..	225	168	5,237
1990	3,180	857	998	32	..	262	59	5,388
1991	2,978	939	1,198	22	..	272	66	5,475
1992	3,191	949	1,216	16	186	179	66	5,803
1993	3,305	1,037	1,285	10	237	173	15	6,062
1994	3,427	1,104	1,407	0	406	136	48	6,528
1995	3,393	1,106	1,699	0	387	134	8	6,727
1996	3,493	853	1,500	0	337	134	0	6,317
1997	3,560	940	1,690	0	323	133	0	6,646
1998	3,649	844	1,527	0	354	133	0	6,507
1999	3,951	660	1,613	0	362	132	24	6,742

.. Not available

<sup>1</sup> Sawmills exclude small sawmills before 1994.<sup>2</sup> Fencing is included in miscellaneous up to 1991**Table 2 Comparison of removals and deliveries of British softwood roundwood**

000 green tonnes

Year	Forestry Commission removals	Private woodland removals	Total removals	Deliveries	Balance <sup>1</sup>
1987	2,736	1,464	4,200	4,681	-481
1988	2,834	1,723	4,557	4,894	-337
1989	2,853	1,848	4,701	5,237	-536
1990	2,830	1,801	4,631	5,388	-757
1991	3,076	1,623	4,699	5,475	-776
1992	3,320	1,701	5,021	5,803	-782
1993	3,387	1,947	5,334	6,062	-728
1994	3,534	2,476	6,010	6,528	-518
1995	3,379	2,710	6,089	6,727	-638
1996	3,519	2,634	6,153	6,317	-164
1997	3,764	2,945	6,709	6,646	+63
1998	4,065	2,654	6,719	6,507	+212
1999	4,569	2,628	7,197	6,742	+455

<sup>1</sup> 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 consistent difference indicates that statistics for removals and/or deliveries may be unreliable.

**Table 3 Deliveries of British hardwood roundwood**

<b>000 green tonnes</b>					
<b>Year</b>	<b>Sawmills<sup>1</sup></b>	<b>Pulpmills</b>	<b>Wood panel</b>	<b>Miscellaneous<sup>2</sup></b>	<b>Total</b>
<b>1987</b>	503	241	43	145	932
<b>1988</b>	543	276	107	201	1,127
<b>1989</b>	701	274	102	215	1,292
<b>1990</b>	591	272	46	215	1,124
<b>1991</b>	638	158	99	220	1,115
<b>1992</b>	347	161	69	205	782
<b>1993</b>	272	156	78	205	711
<b>1994</b>	361	190	96	205	852
<b>1995</b>	379	196	113	205	893
<b>1996</b>	297	202	91	205	795
<b>1997</b>	298	198	118	205	819
<b>1998</b>	262	180	77	205	724
<b>1999</b>	237	191	52	205	685

<sup>1</sup> Sawmills exclude small sawmills before 1994.

<sup>2</sup> Miscellaneous includes fencing

**Table 4 Estimation of private woodland hardwood removals**

<b>000 green tonnes</b>			
<b>Year</b>	<b>Deliveries</b>	<b>Forestry Commission removals</b>	<b>Private woodland removals<sup>1</sup></b>
<b>1987</b>	932	32	900
<b>1988</b>	1,127	109	1,018
<b>1989</b>	1,292	111	1,181
<b>1990</b>	1,124	97	1,027
<b>1991</b>	1,115	97	1,018
<b>1992</b>	782	72	710
<b>1993</b>	711	124	587
<b>1994</b>	852	128	724
<b>1995</b>	893	107	786
<b>1996</b>	795	113	682
<b>1997</b>	819	101	718
<b>1998</b>	724	124	600
<b>1999</b>	685	117	568

<sup>1</sup> Private woodland removals are estimated as Deliveries less FC Removals. There is no survey or data source to obtain data for private woodland hardwood removals.

## A: REMOVALS OF SOFTWOOD ROUNDWOOD

### PRIVATE SECTOR WOODLANDS

The Forestry Commission (FC) carries out an annual survey of some of the largest harvesting companies, to ask for the quantity of softwood removals from private sector woodlands for the last two years. The companies now surveyed are responsible for about 75% of the total of private softwood removals.

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. Two companies have reported no longer being involved in timber harvesting and have been removed from the distribution list – one after the 1997 survey and one after 1999.

Results are shown in Table 5. The % change on the previous year is calculated using data from those respondents who give figures for two years on their latest return. This % change is used to roll forward the estimated total, which is also expressed as 000 m<sup>3</sup> overbark standing for comparison with forecasts and FC removals.

**Table 5 Private sector softwood removals survey**

Year	Respondents / survey distribution	Respondents only		% change on previous year	Estimated total	
		Latest year 000 green tonnes	Previous year 000 green tonnes		000 green tonnes	000 m <sup>3</sup> ob standing
1994	33 / 33 (100%)	1,639	1,333	+23%	2,476	3,027
1995	24 / 33 (73%)	1,515	1,306	+13%	2,710	3,313
1996	32 / 38 (84%)	1,539	1,601	- 4%	2,634	3,220
1997	26 / 38 (68%)	1,559	1,388	+12%	2,945	3,600
1998	30 / 43 (70%)	1,409	1,563	-10%	2,654	3,245
1999	39 / 45 (87%)	1,836	1,858	-1%	2,628	3,213

Table 6 below compares forecast and reported removals from private sector woodlands. The “reported” figures up to 1996 were calculated from the % changes reported in a small survey carried out by the Timber Growers Association (TGA); it was agreed that the FC survey should be used for this purpose from 1997. Forecasts are based on published forecasts of softwood availability for private woods interpolated for the years between the 5-year averages; for 1995 to 1998 this used the 1995 Softwood Assessment (*Rothnie & Selmes, 1996*). For 1999, it takes account of the new forecasts for Scotland (*Smith & Gilbert, 1999*) and Wales (*Smith & Gilbert, 2000*) based on the new National Inventory of Woodlands.

**Table 6 Private sector softwood removals:**

<b>000 m<sup>3</sup> overbark standing</b>			
<b>Year</b>	<b>Forecast</b>	<b>Reported</b>	<b>% of forecast</b>
<b>1986</b>	1,810	1,480	82
<b>1987</b>	1,687	1,790	106
<b>1988</b>	1,759	2,106	120
<b>1989</b>	1,780	2,259	127
<b>1990</b>	1,900	2,202	116
<b>1991</b>	1,800	1,984	110
<b>1992</b>	2,200	2,079	95
<b>1993</b>	2,360	2,380	101
<b>1994</b>	2,518	3,027	120
<b>1995</b>	2,700	3,313	123
<b>1996</b>	2,900	3,220	111
<b>1997</b>	3,100	3,600	116
<b>1998</b>	3,300	3,245	98
<b>1999</b>	4,145*	3,213	78

\* New softwood availability forecasts for Scotland and Wales used for 1999

### **References**

Rothnie B D and Selmes R E (1996), Forestry Commission. New Assessment of GB Softwood Availability. *In Forestry & British Timber (January issue)*.

Smith S and Gilbert J (1999), Forestry Commission. Scotland: New Forecast of Softwood Availability. *In Forestry & British Timber (July issue)*

Smith S and Gilbert J (2000), Forestry Commission. Wales: New Forecast of Softwood Availability. *Publication pending*

## FORESTRY COMMISSION WOODLANDS

Forest Enterprise reports figures for planned and actual removals. Forecasts are interpolated for the years between the 5-year averages; for 1995 to 1998 this used the 1995 Softwood Assessment (*Rothnie & Selmes, 1996*). For 1999, it takes account of the new forecast for Scotland. Statistics on volumes of timber harvested are available for Forestry Commission woodlands, from administrative records maintained by Forest Enterprise, converted from recorded quantities of sales to estimated standing volumes using specific factors. In Table 7 below, planned and reported removals are shown as % of the forecast.

**Table 7 Forestry Commission softwood removals**

Year	Forecast <sup>1</sup>	Planned <sup>1</sup>		000 m <sup>3</sup> overbark standing Reported	
	000 m <sup>3</sup> ob	000 m <sup>3</sup> ob	% of forecast	000 m <sup>3</sup> ob	% of forecast
1986	3,187	3,107	97	3,149	99
1987	3,260	3,211	98	3,345	103
1988	3,415	3,457	101	3,464	101
1989	3,435	3,564	104	3,488	102
1990	3,530	3,602	102	3,460	98
1991	3,603	3,872	107	3,760	104
1992	3,682	3,859	105	4,059	110
1993	3,763	3,848	102	4,141	110
1994	3,880	4,100	106	4,320	111
1995	4,228	4,204	99	4,131*	98
1996	4,360	4,448	102	4,302	99
1997	4,490	4,458	99	4,602	102
1998	4,620	5,022	109	4,969	108
1999	5,090	5,312	104	5,586	110

<sup>1</sup> Forecast and planned figures are for financial years, commencing in April of the year shown. Reported removals are for calendar years, except for 1995, which is for the financial year 1995/96.

## TOTAL: PRIVATE WOODLANDS AND FORESTRY COMMISSION

Total softwood removals in 1999 were 7% up on 1998; 63% of the total was from Forestry Commission woodlands.

**Table 8 Total softwood removals: private woodlands + Forestry Commission**

Year	000 m <sup>3</sup> overbark standing			
	Forestry Commission	Private woodlands	Total	% FC
1996	4,302	3,220	7,522	57%
1997	4,602	3,600	8,202	56%
1998	4,969	3,245	8,214	60%
1999	5,586	3,213	8,799	63%

## B: GB SAWMILLS - ANNUAL SURVEY 1999

This section gives results for timber consumption and sawnwood production from the Sawmill Survey for 1999.

### Survey Responses

In the 1999 Survey 406 questionnaires were sent out. Following various reminders, including a letter from the UK Forest Products Association to their members, and a final telephone call to the largest non-respondents, 244 questionnaires were returned, a response rate of 60%.

The latest estimates for consumption and production in the last six years, including estimates for non-respondents, are shown in Table 9 expressed in thousand cubic metres underbark for consumption, and thousand cubic metres sawnwood for production. Estimates for 1994-1998 have been revised to include estimates for sawmills that reported data for the first time in 1999, and to take account of earlier mill closures notified in the 1999 survey.

**Table 9: Consumption and production 1994 - 1999**

			<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>
<b>Softwood:</b>	consumption	000 m <sup>3</sup> ub	3,366	3,333	3,431	3,497	3,584	3,881
	production	000 m <sup>3</sup>	1,923	1,901	1,921	1,984	2,003	2,162
<b>Hardwood:</b>	consumption	000 m <sup>3</sup> ub	316	332	260	261	229	207
	production	000 m <sup>3</sup>	180	191	153	144	127	120

## Number of sawmills

Based on all the 1999 survey responses, together with data from previous years for those who did not respond for 1999, it is estimated that there were 336 sawmills processing British timber in 1999, of which 182 produced at least 1000 m<sup>3</sup> sawnwood. Of those 182 mills, 121 processed softwood only, 14 hardwood only, and 47 both hardwood and softwood. Of the 154 smaller mills, 73 processed softwood only, 17 hardwood only, and 64 both hardwood and softwood.

**Table 10: Number of sawmills 1994 - 1999**

Size Category (production)	1994	1995	1996	1997	1998	1999
<b>Great Britain</b>	<b>486</b>	<b>449</b>	<b>404</b>	<b>381</b>	<b>361</b>	<b>336</b>
<1,000m <sup>3</sup>	255	222	196	182	163	154
1,000 - 4,999m <sup>3</sup>	144	141	124	118	119	101
5,000 - 24,999m <sup>3</sup>	66	66	62	58	57	57
25,000 - 49,999m <sup>3</sup>	14	15	15	15	11	10
50,000m <sup>3</sup> +	7	5	7	8	11	14
<b>Scotland</b>	<b>120</b>	<b>109</b>	<b>97</b>	<b>97</b>	<b>95</b>	<b>85</b>
<1,000m <sup>3</sup>	56	46	41	43	38	31
1,000 - 4,999m <sup>3</sup>	29	29	24	22	25	24
5,000 - 24,999m <sup>3</sup>	26	25	22	22	22	20
25,000 - 49,999m <sup>3</sup>	5	7	7	6	4	2
50,000m <sup>3</sup> +	4	2	3	4	6	8
<b>England</b>	<b>328</b>	<b>303</b>	<b>272</b>	<b>252</b>	<b>235</b>	<b>221</b>
<1,000m <sup>3</sup>	180	159	138	125	112	110
1,000 - 4,999m <sup>3</sup>	107	102	92	88	85	69
5,000 - 24,999m <sup>3</sup>	34	36	34	31	30	33
25,000 - 49,999m <sup>3</sup>	5	4	6	6	5	5
50,000m <sup>3</sup> +	2	2	2	2	3	4
<b>Wales</b>	<b>38</b>	<b>37</b>	<b>35</b>	<b>32</b>	<b>31</b>	<b>30</b>
<1,000m <sup>3</sup>	19	17	17	14	13	13
1,000 - 4,999m <sup>3</sup>	8	10	8	8	9	8
5,000 - 24,999m <sup>3</sup>	6	5	6	5	5	4
25,000 - 49,999m <sup>3</sup>	4	4	2	3	2	3
50,000m <sup>3</sup> +	1	1	2	2	2	2

## 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 was 3.88 million m<sup>3</sup> underbark and sawn softwood production was 2.16 million m<sup>3</sup> sawnwood. These were both up around 8% on 1998.

Apparent recovery (calculated as the ratio of sawnwood production to underbark log consumption) was 56% - the same as 1998.

**Table 11a : Softwood consumption**

	000 m <sup>3</sup> underbark					Total
	Sawmill size category (000 m <sup>3</sup> total production: hard + soft)					
	<1	1 - <5	5 - <25	25 - <50	50+	
<b>GB Total</b>	<b>67</b>	<b>319</b>	<b>903</b>	<b>595</b>	<b>1,997</b>	<b>3,881</b>
Scotland	18	110	422	104	960	1,614
England	47	178	424	295	642	1,587
Wales	3	30	57	195	395	681

**Table 11b : Softwood production**

	000 m <sup>3</sup> sawnwood					Total
	Sawmill size category (000 m <sup>3</sup> total production: hard + soft)					
	<1	1 - <5	5 - <25	25 - <50	50+	
<b>GB Total</b>	<b>40</b>	<b>192</b>	<b>504</b>	<b>323</b>	<b>1,103</b>	<b>2,162</b>
Scotland	11	65	228	63	527	894
England	27	109	242	154	374	906
Wales	2	17	34	106	203	361

## 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 was 207 thousand m<sup>3</sup> underbark and total sawn hardwood production was 120 thousand m<sup>3</sup> sawnwood, slightly down on 1998. Apparent recovery is 58%, the same as 1998.

**Table 12a : Hardwood consumption**

	000 m <sup>3</sup> underbark				Total
	Sawmill size category (000 m <sup>3</sup> total production: hard + soft)				
	<1	1 - <5	5 - <10	10+	
<b>GB Total</b>	<b>24</b>	<b>84</b>	<b>79</b>	<b>21</b>	<b>207</b>
Scotland	1	2	6	1	10
England	21	76	73	20	189
Wales	2	5	0	0	7

**Table 12b : Hardwood production**

	000 m <sup>3</sup> sawnwood				Total
	Sawmill size category (000 m <sup>3</sup> total production: hard + soft)				
	<1	1 - <5	5 - <10	10+	
<b>GB Total</b>	<b>13</b>	<b>51</b>	<b>45</b>	<b>11</b>	<b>120</b>
Scotland	0	1	3	0	5
England	12	47	42	10	111
Wales	1	4	0	0	5

## Summary

Tables 13a and 13b (on the next two pages) give summaries of production and consumption, for softwood and hardwood, for the years 1988 to 1999, together with figures for 1983 and 1980. Before 1994 all Sawmill Survey results excluded mills producing less than 1000 m<sup>3</sup> per year (500 m<sup>3</sup> for 1980 and 1983).

## Imported Round Timber

It is estimated that 15 mills used imported round timber in 1999, totalling 2,300 m<sup>3</sup> ub softwood and 4,600 m<sup>3</sup> ub hardwood. This is based on responses for 1999 and estimates for non-respondents that had reported using imported round timber in earlier years. Two mills, that reported a combined total consumption of over 20,000 m<sup>3</sup> ub imported softwood in 1998, both reported using no imported timber in 1999.

**Table 13a - Summary softwood statistics<sup>1</sup>**

Year	Log consumption (000 m <sup>3</sup> ub)		Sawnwood production (000 m <sup>3</sup> sawn)		Apparent recovery (%)	
<b>Great Britain</b>						
1980	1,638		937		57	
1983	2,139		1,227		57	
1988	2,856		1,602		56	
1989	3,044		1,775		58	
1990	3,121		1,854		59	
1991	2,925		1,713		59	
1992	3,135		1,823		58	
1993	3,247		1,897		58	
1994	3,366		1,923		57	
1995	3,333		1,901		57	
1996	3,431		1,921		56	
1997	3,497		1,984		57	
1998	3,584		2,003		56	
1999	3,881		2,162		56	
<b>Scotland</b>						
1980	721		423		59	
1983	949		537		56	
1988	1,204		676		56	
1989	1,322		770		58	
1990	1,397		812		58	
1991	1,405		797		57	
1992	1,337		740		55	
1993	1,334		781		59	
1994	1,440		814		57	
1995	1,394		784		56	
1996	1,444		799		55	
1997	1,478		823		56	
1998	1,505		834		55	
1999	1,614		894		55	
<b>England &amp; Wales</b>						
1980	917		514		56	
1983	1,190		690		58	
1988	1,652		926		56	
1989	1,722		1,005		58	
1990	1,724		1,042		62	
1991	1,520		916		60	
1992	1,798		1,083		60	
1993	1,913		1,116		58	
	<b>England</b>	<b>Wales</b>	<b>England</b>	<b>Wales</b>	<b>England</b>	<b>Wales</b>
1994	1,427	499	828	281	58	56
1995	1,385	554	813	304	59	55
1996	1,406	581	806	316	57	54
1997	1,414	605	827	333	58	55
1998	1,470	608	843	326	57	54
1999	1,587	681	906	361	57	53

<sup>1</sup> Note: Before 1994 all Sawmill Survey results excluded mills producing less than 1000 m<sup>3</sup> per year (500 m<sup>3</sup> for 1980 and 1983).

**Table 13b - Summary hardwood statistics<sup>1</sup>**

Year	Log consumption (000 m <sup>3</sup> ub)		Sawnwood production (000 m <sup>3</sup> sawn)		Apparent recovery (%)	
<b>Great Britain</b>						
1980	942		604		64	
1983	663		390		59	
1988	475		260		55	
1989	614		364		59	
1990	517		338		65	
1991	558		347		62	
1992	303		181		60	
1993	238		143		60	
1994	316		180		57	
1995	332		191		58	
1996	260		153		59	
1997	261		144		55	
1998	229		127		55	
1999	207		120		58	
<b>Scotland</b>						
1980	71		42		59	
1983	39		19		49	
1988	42		21		50	
1989	24		13		53	
1990	32		18		56	
1991	30		16		53	
1992	21		12		57	
1993	7		4		50	
1994	12		6		51	
1995	16		9		56	
1996	12		6		51	
1997	13		6		50	
1998	10		6		53	
1999	10		5		48	
<b>England &amp; Wales</b>						
1980	871		562		65	
1983	624		371		59	
1988	433		239		55	
1989	590		352		59	
1990	485		320		66	
1991	528		331		63	
1992	282		169		60	
1993	231		139		60	
	<b>England</b>	<b>Wales</b>	<b>England</b>	<b>Wales</b>	<b>England</b>	<b>Wales</b>
1994	294	10	167	7	57	63
1995	306	11	176	7	57	64
1996	240	8	141	5	59	62
1997	241	8	133	5	55	63
1998	211	7	117	5	55	66
1999	189	7	111	5	58	65

<sup>1</sup> Note: Before 1994 all Sawmill Survey results excluded mills producing less than 1000 m<sup>3</sup> per year (500 m<sup>3</sup> for 1980 and 1983).

## C: PULP & PAPER INDUSTRY

These statistics just cover the four integrated pulp and paper mills that use British roundwood. Figures for the pulp and paper industry were provided by the UK Forest Products Association.

**Table 14 Origin of British roundwood used by the pulp and paper industry**

Year	Great Britain		Scotland		England		Wales	
	Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard
1987	673	237	204	0	258	216	211	21
1988	709	276	280	0	225	256	204	20
1989	794	274	349	0	225	244	220	30
1990	857	272	396	0	240	264	221	8
1991	932	158	469	0	223	152	240	6
1992	949	161	504	0	203	156	242	5
1993	1,037	156	558	0	232	153	247	3
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			Not Available			
1999	660	191	383	0	107	177	170	14

**Table 15 Capacity and inputs for the pulp and paper industry**

000 green tonnes

Year	Capacity		Deliveries									
			British roundwood <sup>1</sup>		Imported roundwood		Imported chips		Sawmill co-products <sup>2</sup>		Total	
	Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard
1987 <sup>3</sup>	757	302	673	241	0	0	..	..	93	24	766	265
1988	794	326	709	276	0	0	..	..	85	50	794	326
1989	883	304	794	274	0	0	..	..	89	30	883	304
1990	1,074	303	857	272	0	0	..	..	116	31	973	303
1991	1,266	303	939	158	25	0	..	..	112	19	1,076	177
1992	1,175	181	949	161	1	0	..	..	135	20	1,085	181
1993	1,316	178	1,037	156	36	5	..	..	144	22	1,217	183
1994	1,356	208	1,104	190	2	3	..	..	176	18	1,282	211
1995	1,457 <sup>4</sup>	212	1,106	196	4	0	..	..	284	4	1,394	200
1996	1,267	202	853	202	0	0	..	..	305	0	1,158	202
1997	1,267	220	940	198	0	0	20	..	299	0	1,239	198
1998	1,590		844	180	0	0	15	0	277	0	1,136	180
1999	1,150	224	660	191	0	0	9	0	295	0	964	191

<sup>1</sup> British roundwood includes all material from forest operations.

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

<sup>3</sup> 1987 data are based on consumption, not deliveries.

<sup>4</sup> Softwood capacity was reclassified from 1995.

.. Data not available

## D: WOODBASED PANEL PRODUCTS

Figures for woodbased panel products are supplied by the UK Forest Products Association.

Estimates of the country of origin of British roundwood were compiled for the first time for 1999, and are shown in Table 16.

**Table 16 Origin of British roundwood for woodbased panel products (estimated)**

Year	000 green tonnes			
	Great Britain	Scotland	England	Wales
1999	1,665	1,087	408	170

### Particleboard

The figures given in Table 18 are combined totals for Particleboard (wood chipboard and cement bonded particleboard) and for Oriented Strand Board (OSB). In 1999 the Particleboard Industry used 1.3 million tonnes of British roundwood and 0.8 million tonnes of sawmill co-products.

### Fibreboard

Total fibreboard manufacture in 1999 used 0.3 million tonnes of British roundwood and 0.7 million tonnes of sawmill co-products.

Table 20a gives figures for Medium Density Fibreboard (MDF) manufacturers and Table 20b gives figures for 'other fibreboard' manufacturers up to 1997. Both Tables are discontinued, as separate figures are no longer available.

**Table 17 Capacity and inputs for woodbased panel products**

**000 green tonnes**

Year	Capacity	Deliveries										
		British roundwood <sup>1</sup>		Imported roundwood		Sawmill co-products <sup>2</sup>		Imported residues and residues from imported wood <sup>3</sup>		Total		
		Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard	Recycled wood fibre <sup>4</sup>
<b>1987<sup>5</sup></b>	1,730	741	43	0	0	862	8	0	4	1,603	55	..
<b>1988</b>	2,510	763	107	0	0	835	5	121	22	1,719	134	..
<b>1989</b>	2,645	914	102	0	5	1,009	28	120	21	2,043	156	..
<b>1990</b>	2,550	998	46	0	0	1,116	28	110	20	2,224	94	..
<b>1991</b>	2,770	1,198	99	2	0	1,150	23	75	32	2,425	154	..
<b>1992</b>	3,078	1,216	69	1	0	1,197	25	98	25	2,512	119	..
<b>1993</b>	3,273	1,285	78	30	3	1,319	29	143	10	2,777	120	..
<b>1994</b>	3,353	1,407	96	65	15	1,368	21	156	10	2,996	142	..
<b>1995</b>	3,603	1,699	113	23	7	1,521	21	162	11	3,405	152	..
<b>1996</b>	3,645	1,500	91	3	0	1,542	23	160	21	3,205	140	..
<b>1997</b>	3,765	1,690	118	0	0	1,744	40	120	21	3,554	179	..
<b>1998</b>	4,290	1,527	77	0	0	1,711	29	190	29	3,428	135	..
<b>1999</b>	..	1,613	52	0	0	1,522	10	0	0	3,135	62	400

<sup>1</sup> British roundwood includes all material from forest operations.

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

<sup>3</sup> Includes chips and shavings.

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

<sup>5</sup> 1987 data are based on consumption, not deliveries.

.. Not available.

**Table 18 Capacity and inputs for particleboard**

000 green tonnes

Year	Capacity	Deliveries										
		British roundwood <sup>1</sup>		Imported roundwood		Sawmill co-products <sup>2</sup>		Imported residues and residues from imported wood <sup>3</sup>		Total		
		Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard	Recycled wood fibre <sup>4</sup>
<b>1987<sup>5</sup></b>	1,526	724	42	0	0	685	3	0	4	1,409	49	..
<b>1988</b>	2,212	744	107	0	0	601	0	121	22	1,466	129	..
<b>1989</b>	2,300	900	102	0	5	677	28	120	21	1,700	151	..
<b>1990</b>	2,120	979	46	0	0	719	28	110	20	1,808	94	..
<b>1991</b>	2,340	1,180	99	2	0	745	23	75	32	2,002	154	..
<b>1992</b>	2,600	1,216	69	1	0	751	25	68	25	2,036	119	..
<b>1993</b>	2,600	1,161	78	30	3	842	29	78	10	2,111	120	..
<b>1994</b>	2,600	1,217	96	65	15	910	21	86	10	2,278	142	..
<b>1995</b>	2,850	1,499	113	23	7	1,053	21	102	11	2,677	152	..
<b>1996</b>	2,850	1,330	91	3	0	952	23	130	21	2,415	135	..
<b>1997</b>	2,850	1,500	116	0	0	1,084	37	110	21	2,694	174	..
<b>1998</b>	3,450	1,332	76	0	0	1,126	27	180	29	2,638	132	..
<b>1999</b>	..	1,300	52	0	0	817	10	0	0	2,117	62	400

<sup>1</sup> British roundwood includes all material from forest operations.

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

<sup>3</sup> Includes chips and shavings.

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

<sup>5</sup> 1987 data are based on consumption, not deliveries.

.. Not available.

**Table 19 Capacity and inputs for fibreboard**

000 green tonnes

Year	Capacity	Deliveries										
		British roundwood <sup>1</sup>		Imported roundwood		Sawmill co-products <sup>2</sup>		Imported residues and residues from imported wood <sup>3</sup>		Total		
		Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard	Recycled wood fibre <sup>4</sup>
1987 <sup>5</sup>	204	17	1	0	0	177	5	0	0	194	6	..
1988	298	19	0	0	0	234	5	0	0	253	5	..
1989	345	14	0	0	0	332	0	0	0	346	0	..
1990	430	19	0	0	0	397	0	0	0	416	0	..
1991	430	18	0	0	0	405	0	0	0	423	0	..
1992	478	0	0	0	0	446	0	30	0	476	0	..
1993	673	124	0	0	0	477	0	65	0	666	0	..
1994	753	190	0	0	0	458	0	70	0	718	0	..
1995	753	200	0	0	0	468	0	60	0	728	0	..
1996	795	170	0	0	0	590	5	30	0	790	5	..
1997	915	190	2	0	0	660	3	10	0	860	5	..
1998	840	195	1	0	0	585	2	10	0	790	3	..
1999	1,400	313	0	0	0	705	0	0	0	1,018	0	0

<sup>1</sup> British roundwood includes all material from forest operations.

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

<sup>3</sup> Includes chips and shavings.

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

<sup>5</sup> 1987 data are based on consumption, not deliveries.

.. Not available.

**Table 20a Medium Density Fibreboard**

**000 green tonnes**

Year	Capacity	Deliveries							
		British roundwood		Sawmill co-products		Imported residues and residues from imported wood		Total	
		Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard
1987 <sup>1</sup>	146	1	0	145	0	0	0	146	0
1988	250	5	0	207	0	0	0	212	0
1989	315	0	0	317	0	0	0	317	0
1990	400	5	0	383	0	0	0	388	0
1991	400	3	0	397	0	0	0	400	0
1992	475	0	0	443	0	30	0	473	0
1993	670	124	0	474	0	65	0	663	0
1994	750	190	0	455	0	70	0	715	0
1995	750	200	0	465	0	60	0	725	0
1996	750	170	0	550	0	30	0	750	0
1997	780	150	0	600	0	10	0	760	0

*Table Discontinued – Fibreboard figures no longer split between MDF & Other*

<sup>1</sup> 1987 data are based on consumption, not deliveries.

**Table 20b Other fibreboard**

**000 green tonnes**

Year	Capacity	Deliveries					
		British roundwood		Sawmill co-products		Total	
		Soft	Hard	Soft	Hard	Soft	Hard
1987 <sup>1</sup>	58	16	1	32	5	48	6
1988	48	14	0	27	5	41	5
1989	30	14	0	15	0	29	0
1990	30	14	0	14	0	28	0
1991	30	15	0	8	0	23	0
1992	3	0	0	3	0	3	0
1993	3	0	0	3	0	3	0
1994	3	0	0	3	0	3	0
1995	3	0	0	3	0	3	0
1996	45	0	0	40	5	40	5
1997	135	40	2	60	3	100	5

*Table Discontinued – Fibreboard figures no longer split between MDF & Other*

<sup>1</sup> 1987 data are based on consumption, not deliveries.

## 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 (around 1,000 tonnes in total for 1999, compared with the Sub-Committee's estimate of around 30,000 tonnes).

For 1999, questionnaires were sent out to 139 manufacturers and 91 responses were received (65% response); 30 were nil returns or reported closing down during the year. The softwood figures reported by the 61 active respondents to the 1999 survey totalled 222,000 tonnes.

Based on the 1999 survey, including estimates for non-respondents, it is estimated that in 1999 there were 94 manufacturers using a total of 362,000 tonnes of softwood, a slight increase from 1998. This estimate uses the actual figures (222,000 tonnes) reported for 1999 by the 61 respondents, and adds on 140,000 tonnes for the 33 non-respondents who had responded either in 1994, 1995, 1996, 1997 or 1998, assuming no change from their previous figure. Adding on 30 nil returns and 15 assumed nil returns for non-respondents brings the total to the distribution list's 139 total.

Figures for all years, broken down by size category, including estimates for non-respondents, are shown below.

**Table 21 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 <sup>1</sup>	68	35	19	10	132
1995	67	43	13	9	132
1996	56	43	13	8	120
1997	45	42	8	10	105
1998	43	45	6	8	102
1999	38	41	6	9	94

#### 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 <sup>1</sup>	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	104	42	194	354
1999	11	93	40	217	362

<sup>1</sup> 1994 includes estimates for those added to the survey mailing list for 1995

## SUMMARY FOR MISCELLANEOUS PRODUCTS

### Softwood

For softwood fencing the figures shown in Table 22 are based on the Fencing Surveys for 1993 to 1999 and a Sub-Committee estimate for 1992. Woodwool figures are reported by the manufacturers. All other figures are estimates by the Sub-Committee. Softwood round mining timber, which used to be shown separately, is now included in the “other” category.

**Table 22 Miscellaneous uses of British roundwood**

	<b>000 green tonnes</b>					
	<b>Fuelwood</b>	<b>Poles</b>	<b>Woodwool</b>	<b>Fencing</b>	<b>Other</b>	<b>Total</b>
<b>1992</b>	100#	30	8	186#	41	<b>365</b>
<b>1993</b>	100#	30	8	237*	35	<b>410</b>
<b>1994</b>	100#	4#	7	406	25#	<b>542</b>
<b>1995</b>	100#	4#	5	387	25#	<b>521</b>
<b>1996</b>	100#	4#	5	337	25#	<b>471</b>
<b>1997</b>	100#	4#	4	323	25#	<b>456</b>
<b>1998</b>	100#	4#	4	354	25#	<b>487</b>
<b>1999</b>	100#	4#	3	362	25#	<b>494</b>

\* Original survey result for 1993 (not revised to adjust for limited scope of survey)

# Estimated by Sub-Committee.

### Hardwood

No firm data are available for miscellaneous uses of hardwood. The Sub-Committee estimates that, for each year since 1992, around 150,000 green tonnes is used for fuelwood, around 30,000 green tonnes for round fencing and around 25,000 for other uses, a total of 205,000 green tonnes.

## F: ROUNDWOOD EXPORTS

Table 23 Pulpwood exports

Year	000 green tonnes			
	Great Britain	Scotland	England	Wales
1987	396	301	85	10
1988	267	104	163	0
1989	168	73	95	0
1990	59	34	25	0
1991	66	38	28	0
1992	66	45	21	0
1993	15	11	4	0
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

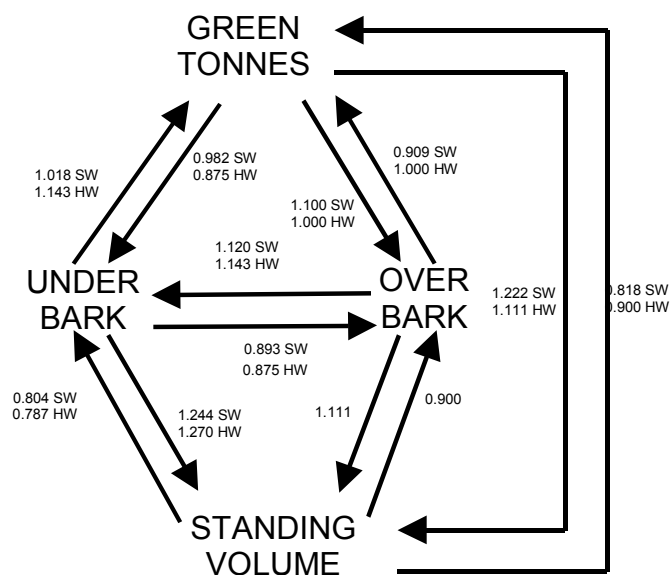
Data are not collected for export of logs.

## 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 24 Conversion factors to WRME**

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

- Notes
1. The charcoal conversion factor is for volume to volume. About 7.8 m<sup>3</sup> of wood is required to make one tonne of charcoal, but one tonne of charcoal is equal to about 6 m<sup>3</sup> 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.