



## Forestry Commission

# WOOD SUPPLY AND DEMAND 1998

**Statistics on Supply and Demand for Home-Grown Timber in Great Britain**

**1987-1998**

**Report prepared by the HQ 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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## CONVERSION FACTORS

Conversion factors are used to convert between cubic metres (standing, overbark, underbark) and green tonnes. 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> coniferous standing = 0.818 green tonnes  
1 m<sup>3</sup> broadleaved standing = 0.90 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 F

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**TABLE 1 DELIVERIES OF CONIFEROUS ROUNDWOOD GREAT BRITAIN**

000 green tonnes

	Sawmills~	Pulpmills	Woodpanel	British Coal	Fencing*	Miscellaneous*	Pulp Exports	TOTAL
<b>BRW</b>								
1987	2,618	647	741	68	-	185	396	4,655
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	3,406	1,104	1,407	0	406	136	48	6,507
1995	3,373	1,106	1,699	0	387	134	8	6,707
1996	3,499	853	1,500	0	337	134	0	6,323
1997	3,567	940	1,690	0	323	133	0	6,653
1998	3,653	844	1,527	0	354	133	0	6,511
<b>Imports</b>								
1987	-	0	-	4	-	0	0	4
1988	-	0	-	-	-	0	0	0
1989	-	0	-	-	-	0	0	0
1990	-	0	-	-	-	0	0	0
1991	-	25	2	0	-	0	0	27
1992	-	1	1	0	0	0	0	2
1993	39	36	30	0	0	0	0	105
1994	40	2	65	0	0	0	0	107
1995	50	4	23	0	0	0	0	77
1996	42	0	3	0	0	0	0	45
1997	30	0	0	0	0	0	0	30
1998	21	0	0	0	0	0	0	21

BRW = British Roundwood - Not available

~Sawmills exclude small sawmills before 1994. Conversion factor for m<sup>3</sup> ub to green tonnes = 1.018

\*Fencing is included in miscellaneous up to 1991

**TABLE 2 COMPARISON BETWEEN REMOVALS AND DELIVERIES OF BRITISH CONIFEROUS ROUNDWOOD**

000 green tonnes

	FC Removal	PW Removal	TOTAL	Deliveries	Balance
1987	2,737	1,464	4,201	4,655	-454
1988	2,834	1,723	4,557	4,894	-338
1989	2,854	1,848	4,702	5,237	-535
1990	2,831	1,801	4,632	5,388	-756
1991	3,076	1,623	4,699	5,475	-775
1992	3,321	1,701	5,022	5,803	-781
1993	3,388	1,947	5,335	6,062	-727
1994	3,534	2,476	6,010	6,507	-497

TABLE 1 DELIVERIES OF CONIFEROUS ROUNDWOOD GREAT BRITAIN

1995	3,379	2,710	6,089	6,707	-618
1996	3,519	2,634	6,153	6,323	-170
1997	3,764	2,945	6,709	6,653	+56
1998	4,065	2,654	6,719	6,511	+208

FC = Forestry Commission

PW = Private Woodland

TABLE 3 DELIVERIES OF SOFTWOOD RESIDUES - GREAT BRITAIN

000 green tonnes

	Pulpmills	Wood Panel		Exports	TOTAL
	BRW	BRW	Imports		
1987	93	862	0	80	1,035
1988	85	835	121	50	1,091
1989	89	1,009	120	50	1,268
1990	116	1,116	110	50	1,392
1991	112	1,150	75	0	1,337
1992	135	1,197	98	0	1,430
1993	144	1,319	143	0	1,606
1994	176	1,368	156	0	1,700
1995	284	1,521	162	0	1,967
1996	305	1,542	160	0	2,007
1997	299	1,744	120	0	2,163
1998	292	1,711	190	0	2,193

BRW = British Roundwood

TABLE 4 DELIVERIES OF HARDWOOD ROUNDWOOD GREAT BRITAIN

000 green tonnes

	Sawmills~	Pulpmills	Wood Panel	Fencing*	Miscellaneous*	TOTAL
1987	503	241	43	-	145	932
1988	543	276	107	-	201	1,127
1989	701	274	102	-	215	1,292
1990	591	272	46	-	215	1,124
1991	638	158	99	-	220	1,115
1992	347	161	69	30#	175	782
1993	272	156	78	30#	175	711
1994	357	190	96	30#	175	848
1995	376	196	113	30#	175	890
1996	294	202	91	30#	175	792
1997	295	198	118	30#	175	816
1998	259	180	77	30#	175	721

~Sawmills exclude small sawmills before 1994 . Conversion factor for m<sup>3</sup> ub to green tonnes = 1.143

\*Fencing is included in miscellaneous up to 1991

# Estimate

TABLE 5 COMPARISON BETWEEN REMOVALS AND DELIVERIES OF BRITISH HARDWOOD ROUNDWOOD

000 green tonnes

TABLE 1 DELIVERIES OF CONIFEROUS ROUNDWOOD GREAT BRITAIN

	<b>FC Removal</b>	<b>PW Removal</b>	<b>TOTAL</b>	<b>Deliveries</b>	<b>Balance</b>
1987	0	1,002	1,002	932	+70
1988	109	1,151	1,260	1,127	+133
1989	111	1,165	1,276	1,292	-16
1990	97	1,025	1,122	1,124	-2
1991	97	1,015	1,112	1,115	-3
1992	72	755	827	782	+45
1993	124	750#	874	711	+163
1994	128	750#	878	848	+30
1995	107	750#	857	890	-33
1996	113	750#	863	792	+71
1997	101	750#	851	816	+35
1998	124	750#	874	721	+153

FC = Forestry Commission

PW = Private Woodland

# Estimate

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## A: REMOVALS OF CONIFER ROUNDWOOD

### PRIVATE SECTOR

Forestry Commission (FC) carry out an annual survey of some of the largest harvesting companies, to ask for the quantity of private sector removals for the last two years. The companies surveyed are responsible for about half of the total of private removals.

The first FC survey was for 1994 when 33 questionnaires were sent out. In 1996 the distribution was increased to 38 and a further 6 companies were added for the 1998 survey. During the 1997 survey 1 company reported no longer being involved in timber harvesting and has been removed from the distribution list.

Results are shown in Table 6. The % change on the previous year is calculated for those respondents who give figures for two years on their latest return.. Some results for previous years have been revised, as some companies reported errors in their previous figures.

**Table 6 Private Sector Softwood Removals: FC Survey**

Year	FC survey		TGA survey
	% change on previous year	Respondents / survey distribution	% change on previous years
1994	+23%	33 / 33 (100%)	+27.2%
1995	+13%	24 / 33 (73%)	+ 9.5%
1996	- 4%	32 / 38 (84%)	- 2.8%
1997	+12%	26 / 38 (68%)	(discontinued)
1998	-10%	30 / 43 (70%)	(discontinued)

The Table below compares forecast and reported removals for Private 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 for private woods interpolated for the years between the 5-year averages.

**Table 7 Private Sector Softwood Removals:**

**000 m<sup>3</sup> overbark standing**

Year	Forecast	Reported	% of forecast
1986	1,810	1,480	82
1987	1,687	1,790	106
1988	1,759	2,106	120
1989	1,780	2,259	127
1990	1,900	2,202	116

1991	1,800	1,984	110
1992	2,200	2,079	95
1993	2,360	2,380	101
1994	2,518	3,027	120
1995	2,700	3,313	123
1996	2,900	3,220	111
1997	3,100	3,600	116
1998	3,300	3,245	98

## FORESTRY COMMISSION

Forest Enterprise report figures for planned and actual removals and forecasts are available by interpolating between 5-year averages in the 1995 Softwood Assessment. In the Table below, planned and actual removals are shown as % of the forecast.

**Table 8 Forestry Commission Softwood Removals**

**000m<sup>3</sup> overbark standing**

Year	Forecast	Planned *		Removals	
	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



A. Removals

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

\* Planned figures are for financial years, commencing in April of the year shown. Other figures are for calendar years, except that for removals in 1995, which is for financial year 1995/96.

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**TOTAL: PRIVATE + FORESTRY COMMISSION**

Total softwood removals in 1998 (8,219,000 cubic metres overbark) were similar to 1997; 60% of the total was Forestry Commission.

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## B: GB SAWMILLS - ANNUAL SURVEY 1998

This section gives results for timber consumption and sawnwood production from the Sawmill Survey for 1998, including mills with less than 1000 m<sup>3</sup> sawnwood production.

### Survey Responses

In the 1998 Survey 407 questionnaires were sent out and 215 responses were received, a response rate of 53%.

The latest estimates for consumption and production in the last five 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 1994-1997 have been revised to include estimates for sawmills that reported data for the first time in 1998, and to take account of earlier mill closures notified in the 1998 survey or identified in checks against the Inter-Departmental Business Register (IDBR) maintained by the Office for National Statistics.

**Table 9: Estimates of Consumption and Production 1994 - 1998**

			1994	1995	1996	1997	1998
<b>Softwood:</b>	consumption	000 m <sup>3</sup> ub	3,346	3,313	3,437	3,504	3,588
	production	000 m <sup>3</sup>	1,909	1,887	1,921	1,985	2,003
<b>Hardwood:</b>	consumption	000 m <sup>3</sup> ub	312	329	257	258	227
	production	000 m <sup>3</sup>	178	189	151	142	126

### Number of Mills

Based on all the 1998 survey responses, together with data from previous years for those who did not respond for 1998, it is estimated that there were 365 sawmills processing British timber in 1998, of which 198 produced at least 1000 m<sup>3</sup> sawnwood. Of those 198 mills, 130 processed softwood only, 16 hardwood only, and 52 both hardwood and softwood. Of the 167 smaller mills, 86 processed softwood only, 13 hardwood only, and 68 both hardwood and softwood.

**Table 10 : Number of Sawmills 1994 - 1998**

Size Category (production)	1994	1995	1996	1997	1998
<b>Great Britain</b>	<b>486</b>	<b>449</b>	<b>405</b>	<b>383</b>	<b>365</b>
<1,000m <sup>3</sup>	256	223	198	185	167
1 - 5,000m <sup>3</sup>	144	141	123	117	119
5 - 25,000m <sup>3</sup>	65	65	62	58	57
25,000m <sup>3</sup> +	21	20	22	23	22

<b>Scotland</b>	<b>123</b>	<b>111</b>	<b>100</b>	<b>100</b>	<b>98</b>
<1,000m <sup>3</sup>	58	47	43	45	40
1 - 5,000m <sup>3</sup>	30	30	25	23	26
5 - 25,000m <sup>3</sup>	26	25	22	22	22
25,000m <sup>3</sup> +	9	9	10	10	10
<b>England</b>	<b>325</b>	<b>300</b>	<b>269</b>	<b>250</b>	<b>235</b>
<1,000m <sup>3</sup>	179	158	137	125	113
1 - 5,000m <sup>3</sup>	106	101	90	86	84
5 - 25,000m <sup>3</sup>	33	35	34	31	30
25,000m <sup>3</sup> +	7	6	8	8	8
<b>Wales</b>	<b>38</b>	<b>38</b>	<b>36</b>	<b>33</b>	<b>32</b>
<1,000m <sup>3</sup>	19	18	18	15	14
1 - 5,000m <sup>3</sup>	8	10	8	8	9
5 - 25,000m <sup>3</sup>	6	5	6	5	5
25,000m <sup>3</sup> +	5	5	4	5	4

The larger size categories have been combined to avoid disclosing individual returns.

### Imported Round Timber

It is estimated that 19 mills used imported round timber in 1998, totalling 21,000m<sup>3</sup> ub softwood and 5,000m<sup>3</sup> ub hardwood. This is based on responses for 1998 and estimates for non-respondents that had reported using imported round timber in earlier years.

### British Softwood

Softwood consumption (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 3.59 million m<sup>3</sup> underbark and sawn softwood production was 2.00 million m<sup>3</sup> sawnwood. This was slightly up on 1997.

Apparent recovery (calculated as the ratio of sawnwood production to underbark log

consumption) was 56% - slightly down on 1997.

**Table 11a : softwood consumption**

**000 m<sup>3</sup> underbark**

	Size category (000 m <sup>3</sup> production)				All
	<1	1-5	5-25	25+	
<b>GB Total</b>	<b>67</b>	<b>376</b>	<b>912</b>	<b>2,234</b>	<b>3,588</b>
Scotland	22	119	425	942	1,508
England	42	225	396	808	1,471
Wales	3	32	91	483	608

**Table 11b : softwood production**

**000 m<sup>3</sup> underbark**

	Size category (000 m <sup>3</sup> production)				All
	<1	1-5	5-25	25+	
<b>GB Total</b>	<b>38</b>	<b>228</b>	<b>511</b>	<b>1,226</b>	<b>2,003</b>
Scotland	13	71	234	518	836
England	23	140	228	449	841
Wales	2	17	49	259	327

## British Hardwood

Hardwood consumption (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 227,000 m<sup>3</sup> underbark and total sawn hardwood production was 126,000 m<sup>3</sup> sawnwood, a fall of just over 11% on 1997. Apparent recovery is 56%, about the same as 1997.

**Table 12a : hardwood consumption**

**000 m<sup>3</sup> underbark**

	Size category (000 m <sup>3</sup> total production: hard + soft)				All
	<1	1-5	5-10	10+	
<b>GB Total</b>	<b>22</b>	<b>108</b>	<b>77</b>	<b>20</b>	<b>227</b>
Scotland	1	9	8	0	18
England	20	92	69	20	202
Wales	0	7	0	0	7

**Table 12b : hardwood production**

**000 m<sup>3</sup> underbark**

	Size category (000 m <sup>3</sup> total production: hard + soft)				All
	<1	1-5	5-10	10+	
<b>GB Total</b>	<b>11</b>	<b>60</b>	<b>43</b>	<b>11</b>	<b>126</b>
Scotland	0	5	4	0	9
England	11	51	39	11	112
Wales	0	5	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 1998, 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).

**Table 13a - Summary Softwood Statistics\***

Year	Log Consumption (000m <sup>3</sup> ub)		Sawnwood Production (000m <sup>3</sup> sawn)		Apparent Recovery (%)	
<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	1,441		815		57	
1995	1,395		785		56	
1996	1,446		800		55	
1997	1,479		824		56	
1998	1,508		836		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	1,406	499	814	281	58	56

1995	1,365	554	799	304	59	55
1996	1,410	581	806	316	57	54
1997	1,421	605	827	333	58	55
1998	1,471	608	841	327	57	54
<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	3,346		1,909		57	
1995	3,313		1,887		57	
1996	3,437		1,921		56	
1997	3,504		1,985		57	
1998	3,588		2,003		56	

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\***

Year	Log Consumption (000m <sup>3</sup> ub)	Sawnwood Production (000m <sup>3</sup> sawn)	Apparent Recovery (%)
<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	19	10	51
1995	23	13	54
1996	21	11	51
1997	22	11	50
1998	18	9	52
<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	283	10	161	7	57	63
1995	294	11	170	7	58	64
1996	227	8	135	5	59	62
1997	229	8	126	5	55	63
1998	202	7	112	5	55	66
<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	312		178		57	
1995	329		189		58	
1996	257		151		59	
1997	258		142		55	
1998	227		126		56	

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 INDUSTRY

Figures for the Pulp Industry were provided by the UK Forest Products Association.

Table 14 shows pulpwood exports; no pulpwood was exported in 1996, 1997 or 1998.

**Table 14 Pulpwood Exports**

000 green tonnes

	Scotland	England	Wales	Great Britain
1987	301	85	10	396
1988	104	163	0	267
1989	73	95	0	168
1990	34	25	0	59
1991	38	28	0	66
1992	45	21	0	66
1993	11	4	0	15
1994	46	2	0	48
1995	8	0	0	8
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0

Table 15 shows the pulp industry's use of softwood and hardwood roundwood and residues.

**Table 15 Pulp Industry**

000 green tonnes

Year	Capacity		Deliveries (consumption before 1988)							
			British RW		Imported RW		Residues		Total	
	Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard
1987	757	302	647	241	0	0	93	24	740	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



<b>1991</b>	1,266	303	939	158	25	0	112	19	1,076	177
<b>1992</b>	1,175	181	949	161	1	0	135	20	1,085	181
<b>1993</b>	1,316	178	1,037	156	36	5	144	22	1,217	183
<b>1994</b>	1,356	208	1,104	190	2	3	176	18	1,282	211
<b>1995</b>	1,457*	212	1,106	196	4	0	284	4	1,394	200
<b>1996</b>	1,267	202	853	202	0	0	305	0	1,158	202
<b>1997</b>	1,267	220	940	198	0	0	299	0	1,239	198
<b>1998</b>	1,590		844	180	0	0	292	0	1,136	180

		<b>Sources of British Roundwood</b>							
<b>Year</b>	<b>Capacity</b>		<b>Scotland</b>		<b>England</b>		<b>Wales</b>		
	<b>Soft</b>	<b>Hard</b>	<b>Soft</b>	<b>Hard</b>	<b>Soft</b>	<b>Hard</b>	<b>Soft</b>	<b>Hard</b>	
<b>1987</b>	757	302	204	0	258	216	211	21	
<b>1988</b>	794	326	280	0	225	256	204	20	
<b>1989</b>	883	304	349	0	225	244	220	30	
<b>1990</b>	1,074	303	396	0	240	264	221	8	
<b>1991</b>	1,266	303	469	0	223	152	240	6	
<b>1992</b>	1,175	181	504	0	203	156	242	5	
<b>1993</b>	1,316	178	558	0	232	153	247	3	
<b>1994</b>	1,356	208	668	0	184	176	252	14	
<b>1995</b>	1,457*	212	659	0	197	188	250	8	
<b>1996</b>	1,267	202	478	0	175	194	200	8	
<b>1997</b>	1,267	220	598	0	161	190	181	8	
<b>1998</b>	1,590		Not Available						

\* Softwood capacity reclassified from 1995

BRW = British Roundwood

Residues includes residues from imported wood (14,000 green tonnes in 1998)

13 December 2000

## D: WOODBASED PANEL PRODUCTS

Figures for woodbased panel products were supplied by the Wood Panel Industries Federation.

### Particleboard Industry

The figures given in Table 16 are combined totals for Particleboard (wood chipboard and cement bonded particleboard) and for Oriented Strand Board (OSB). In 1998 the Particleboard Industry used 1.4 million tonnes of British Roundwood and 1.4 million tonnes of residues.

### Fibreboard

Total fibreboard manufacture in 1998 used 0.2 million tonnes of British Roundwood and 0.6 million tonnes of residues.

Table 17a gives figures for Medium Density Fibreboard (MDF) manufacturers and Table 17b gives figures for 'other fibreboard' manufacturers up to 1997. Both Tables are discontinued, as broken-down figures are no longer available.

### Summary

Table 18 gives the totals for this sector, adding figures from Tables 16 and 17.

### Table 16 Particleboard

000 green tonnes

Year	Capacity	Deliveries (consumption before 1988)									
		BRW		Imported Roundwood		Residues of BRW		Residues (Imported)		Total	
		Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard
1987	1,526	724	42	0	0	685	3	0	4	1,409	49
1988	2,212	744	107	0	0	601	0	121	22	1,466	129
1989	2,300	900	102	0	5	677	28	120	21	1,700	151
1990	2,120	979	46	0	0	719	28	110	20	1,808	94
1991	2,340	1,180	99	2	0	745	23	75	32	2,002	154
1992	2,600	1,216	69	1	0	751	25	68	25	2,036	119
1993	2,600	1,161	78	30	3	842	29	78	10	2,111	120
1994	2,600	1,217	96	65	15	910	21	86	10	2,278	142
1995	2,850	1,499	113	23	7	1,053	21	102	11	2,677	152
1996	2,850	1,330	91	3	0	952	23	130	21	2,415	135
1997	2,850	1,500	116	0	0	1,084	37	110	21	2,694	174
1998	3,450	1,332	76	0	0	1,126	27	180	29	2,638	132

BRW = British Roundwood

Notes: Particleboard covers chipboard, oriented strand board and cement bonded particleboard.

Residues (Imported) includes recycled wood (not otherwise provided for in the enquiry) and residues produced from imported wood.

**Table 17 Fibreboard****000 green tonnes**

Year	Capacity	Deliveries (consumption before 1988)							
		BRW		Residues of BRW		Residues (Imported)		Total	
		Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard
1987	204	17	1	177	5	0	0	194	6
1988	298	19	0	234	5	0	0	253	5
1989	345	14	0	332	0	0	0	346	0
1990	430	19	0	397	0	0	0	416	0
1991	430	18	0	405	0	0	0	423	0
1992	478	0	0	446	0	30	0	476	0
1993	673	124	0	477	0	65	0	666	0
1994	753	190	0	458	0	70	0	718	0
1995	753	200	0	468	0	60	0	728	0
1996	795	170	0	590	5	30	0	790	5
1997	915	190	2	660	3	10	0	860	5
1998	840	195	1	585	2	10	0	790	3

BRW = British Roundwood

Residues includes recycled wood

Residues (Imported) includes residues from imported wood.

**Table 17a Medium Density Fibreboard****000 green tonnes**

Year	Capacity	Deliveries (consumption before 1988)							
		BRW		Residues of BRW		Residues (Imported)		Total	
		Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard
1987	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
1998	<i>Table Discontinued – Fibreboard figures no longer split between MDF &amp; Other</i>								

**Table 17b Other Fibreboard**

000 green tonnes

		Deliveries (consumption before 1988)					
Year	Capacity	BRW		Residues of BRW		Total	
		Soft	Hard	Soft	Hard	Soft	Hard
1987	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
1998	<i>Table Discontinued – Fibreboard figures no longer split between MDF &amp; Other</i>						

BRW = British Roundwood

**Table 18 Woodbased Panel Products Summary**

000 green tonnes

		Deliveries (consumption before 1988)									
Year	Capacity	BRW		Imported Roundwood		Residues of BRW		Residues (Imported)		Total	
		Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard
1987	1,730	741	43	0	0	862	8	0	4	1,603	55
1988	2,510	763	107	0	0	835	5	121	22	1,719	134
1989	2,645	914	102	0	5	1,009	28	120	21	2,043	156
1990	2,550	998	46	0	0	1,116	28	110	20	2,224	94
1991	2,770	1,198	99	2	0	1,150	23	75	32	2,425	154
1992	3,078	1,216	69	1	0	1,197	25	98	25	2,512	119
1993	3,273	1,285	78	30	3	1,319	29	143	10	2,777	120
1994	3,353	1,407	96	65	15	1,368	21	156	10	2,996	142
1995	3,603	1,699	113	23	7	1,521	21	162	11	3,405	152
1996	3,645	1,500	91	3	0	1,542	23	160	21	3,205	140
1997	3,765	1,690	118	0	0	1,744	40	120	21	3,554	179
1998	4,290	1,527	77	0	0	1,711	29	190	29	3,428	135

BRW = British Roundwood

Residues (Imported) include residues produced from imported wood.



## 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, but only a very limited coverage of hardwood (just over 1,500 tonnes in total for 1998, compared with the Sub-Committee's estimate of around 30,000 tonnes).

For 1998, questionnaires were sent out to 138 manufacturers and 95 responses were received (69% response); 21 were nil returns or reported closing down during the year. The softwood figures reported by the 74 active respondents to the 1998 survey totalled 301,000 tonnes.

Based on the 1998 survey, including estimates for non-respondents, it is estimated that in 1998 there were 102 manufacturers using a total of 354,000 tonnes of softwood, an increase of about 10% from 1997. This estimate uses the actual figures (301,000 tonnes) reported for 1998 by the 74 respondents, adds on 51,000 tonnes for the 24 non-respondents who had responded either in 1994, 1995, 1996, or 1997 (assuming no change from their previous figure), and adds a further 2,000 tonnes as a rough estimate for 4 companies that have not responded in any year. Adding on 21 nil returns and 15 assumed nil returns for non-respondents brings the total to the distribution list's 138 total.

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

**Table 19 Softwood Round Fencing**

#### Number of manufacturers

Size Category (Green Tonnes p.a.)	Under 1,000	1,000-4,999	5,000-9,999	10,000+	Total
1994	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

#### 000 green tonnes

Size Category (Green Tonnes p.a.)	Under 1,000	1,000-4,999	5,000-9,999	10,000+	Total
1994	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

## SUMMARY FOR MISCELLANEOUS PRODUCTS

For softwood fencing the figures shown in Table 21 are based on the Fencing Surveys for 1993 to 1998 and Sub-Committee estimate for 1992. For hardwood fencing, the estimate for all years is based on advice by the Sub-Committee. Woodwool figures are reported by the Manufacturer's association. All other figures are estimates by the Sub-Committee. British Coal softwood round mining timber, which used to be shown separately, is now included in the "other" category.

**Table 20 Miscellaneous uses of British Wood**

<b>Softwood</b>						<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>Hardwood</b>						<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>	150	0	0	30	25	<b>205</b>
<b>1993</b>	150	0	0	30	25	<b>205</b>
<b>1994</b>	150	0	0	30	25	<b>205</b>
<b>1995</b>	150	0	0	30	25	<b>205</b>
<b>1996</b>	150	0	0	30	25	<b>205</b>
<b>1997</b>	150	0	0	30	25	<b>205</b>

<b>1998</b>	150	0	0	30	25	<b>205</b>
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\* Original survey result for 1993 (not revised to adjust for limited scope of survey), Sub-Committee estimate for 1992.

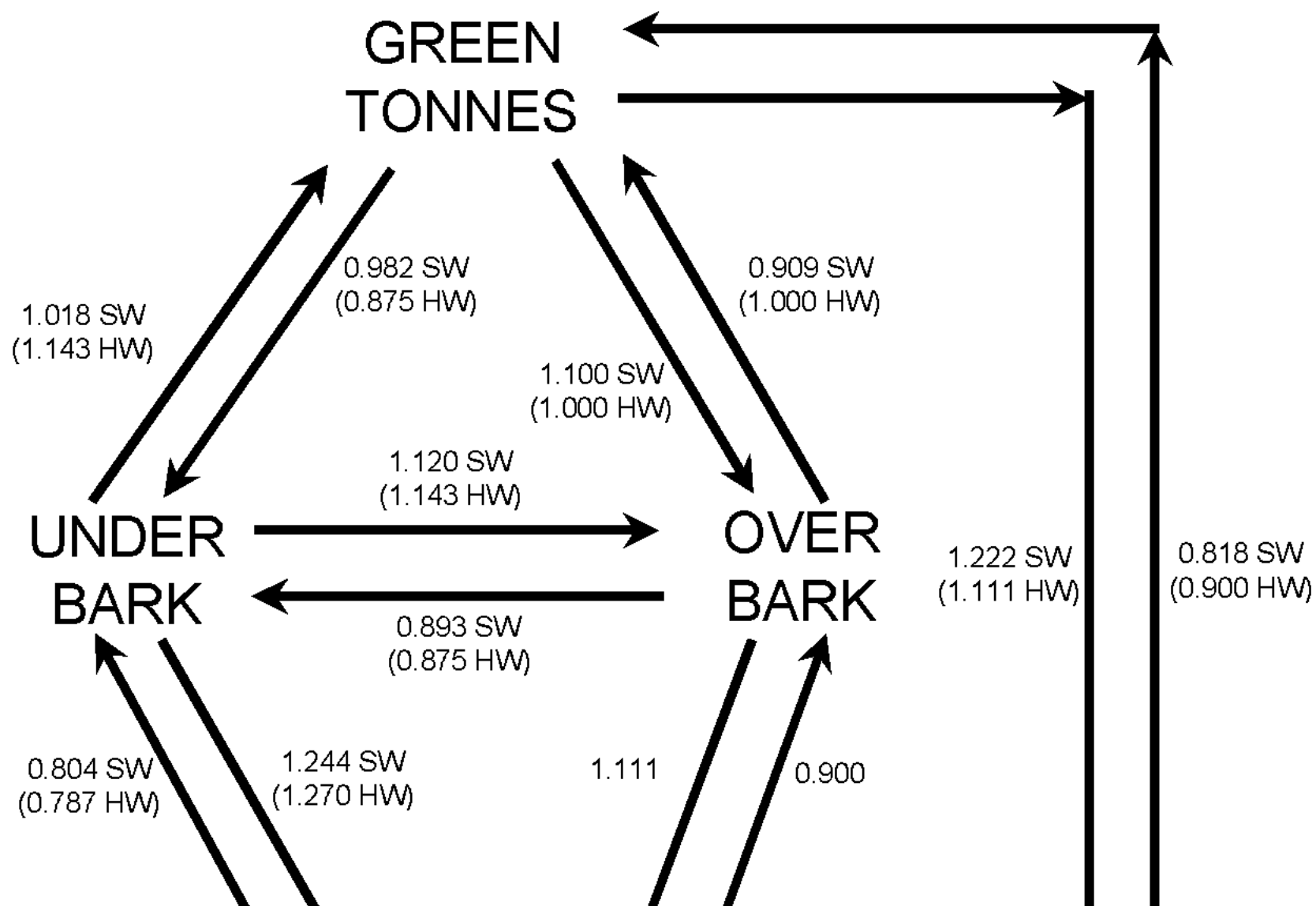
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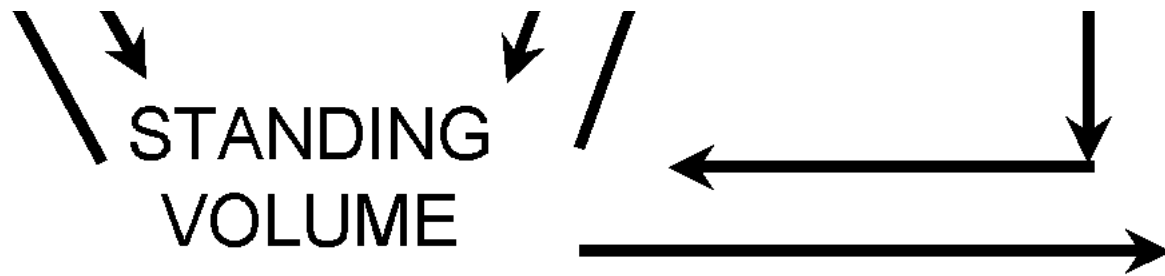
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**F. CONVERSION FACTORS**

Conversion factors were used in this report to convert between cubic metres (standing, overbark, underbark) and green tonnes. These are illustrated in the following diagram (where different factors apply to softwood and hardwood, these are marked SW and HW).

**SSD CONVERSION FACTORS**



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.

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

**Table 21 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
Coniferous sawnwood	m <sup>3</sup>	2.13
Non-coniferous 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 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.

