BRITISH TIMBER STATISTICS 2000

Statistics on British timber harvested and used by primary wood processing industries in Great Britain 1994-2000

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

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September 2001

A National Statistics publication

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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.

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.

The quality of data from these statistical systems was assessed against National Statistics (NS) standards. 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 2000, 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 Economics & Statistics Unit, in association with the 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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Mr W A Willis, Timber Growers Association (England & Wales)
Mr N Purdy, Forest Enterprise
Mr S Smith, Forest Research
Mr R E Selmes, Forestry Commission

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 24).

Table 1 Deliveries of British softwood roundwood

000 green tonnes

Year	Sawmills	Pulpmills	Woodbased panels	Fencing	Other	Pulpwood exports	Total
1994	3,427	1,104	1,407	406	136	48	6,528
1995	3,389	1,106	1,699	387	134	8	6,723
1996	3,487	853	1,500	337	134	0	6,311
1997	3,553	940	1,690	323	133	0	6,639
1998	3,634	844	1,527	354	133	0	6,492
1999	3,928	660	1,613	362	132	24	6,719
2000	4,007	695	1,613[1]	306	132	16	6,769

[1] Data for 2000 were not available for woodbased panel products, so the figure for 1999 is repeated: see section D.

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[1]
1994	3,534	2,476	6,010	6,528	-518
1995	3,379	2,710	6,089	6,723	-634
1996	3,511	2,634	6,145	6,311	-166
1997	3,740	2,945	6,685	6,639	+46
1998	3,950	2,654	6,604	6,492	+112
1999	4,452	2,628	7,080	6,719	+361
2000	4,524	3,089	7,613	6,769	+844

[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 consistent 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	361	190	96	205	852
1995	377	196	113	205	891
1996	295	202	91	205	793
1997	296	198	118	205	817
1998	259	180	77	205	721
1999	234	191	52	205	682
2000	209	200	52[2]	205	666

[1] Other includes fencing

[2] Data for 2000 were not available for woodbased panel products, so the figure for 1999 is repeated: see section D.

Table 4 Estimation of private woodland hardwood removals

000 green tonnes

Year	Deliveries	Forestry Commission removals	Private woodland removals[1]
1994	852	128	724
1995	891	107	784
1996	793	113	680
1997	817	101	716
1998	721	132	589
1999	682	142	540
2000	666	144	522

[1] 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 69% 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. Three companies have reported no longer being involved in timber harvesting and have been removed from the distribution list – one after the 1997 survey and two 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^3 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^3 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
2000	26 / 43 (60%)	1,794	1,526	+18%	3,089	3,776

Excluding the two companies who had reported closing, there were 11 respondents in 1999 who did not respond in 2000. Of those, 5 had reported harvesting no softwood in 1999. The six remaining non-respondents had previously reported harvesting a total of 288 thousand green tonnes in 1999.

Origin of timber

For the first time this year respondents were asked to indicate which country, or countries, they had harvested timber from. Twenty-one respondents provided this information for timber harvested in 2000. These companies were responsible for 1,766 thousand green tonnes of the reported softwood removals and of this figure, 67% was reported to have been harvested in Scotland, 23% in England and 10% in Wales. Nineteen companies were also able to report which country their harvesting activities had taken place in during the previous year. Of the 1,444 thousand green tonnes which these companies reported harvesting in 1999, 70% was harvested from Scottish forests, 20% from English forests and 10% from Welsh forests. Applying these percentages to the estimated totals gives the following country breakdown:

Table 6 Origin of timber

000 m^{3}ob standing

	1999	2000
Great Britain	3,213	3,776
Scotland	2,249	2,537
England	652	857
Wales	315	381

Previously, estimates of volume harvested from Scotland, England and Wales were published annually in "Forestry Facts and Figures". This was however, discontinued in FFF 1994-1995. For calendar year 1994 it was estimated that 1,385,000 m^3 overbark (55%) of softwood harvested by the private sector was harvested in Scotland, 945,000 m^3 overbark (38%) from England and 190,000 m^3 overbark (8%) from Wales. These percentages have been used by the Forestry Commission since then to answer any ad hoc queries that may have been received regarding the amount of timber harvested from each country.

TOTAL: PRIVATE WOODLANDS AND FORESTRY COMMISSION

Total softwood removals in 2000 were 7.5% up on 1999; 59% of the total was from Forestry Commission woodlands.

Table 7 Total softwood removals: private woodlands + Forestry Commission

000 m^3 overbark standing

Year	Forestry Commission[1]	Private woodlands	Total	% FC
1994	4,320	3,027	7,347	59%
1995	4,131	3,313	7,444	55%
1996	4,292	3,220	7,512	57%
1997	4,572	3,600	8,172	56%
1998	4,829	3,245	8,074	60%
1999	5,443	3,213	8,656	63%
2000	5,530	3,776	9,306	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 8 Great Britain: 2000:forecast of softwood availability – Forest Enterprise and private sector

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

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

B: GB SAWMILLS - ANNUAL SURVEY 2000

This section gives results for timber consumption and sawnwood production from the Sawmill Survey for 2000.

Survey Responses

In the 2000 Survey 374 questionnaires were sent out. Following a reminder and a telephone call to the largest non-respondents, 193 responses were received, a response rate of 52%.

The latest estimates for consumption and production in the last seven 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. While the 2000 sawmill survey was being carried out, Forest Enterprise offices around Britain were asked to provide information on mills in their area, who had not responded to the annual sawmill survey since 1998 or earlier. Estimates for 1994-1999 have been revised to include information supplied during this exercise. Revisions were also made to historical data for sawmills that reported data for the first time in 2000, and also to take account of mill closures before 2000 which were only notified to us during the 2000 survey.

Table 9: Consumption and production 1994 - 2000

			1994	1995	1996	1997	1998	1999	2000
Softwood:	consumption	000 m^3 ub	3,366	3,329	3,425	3,490	3,570	3,859	3,936
	production	000 m^3	1,923	1,899	1,917	1,980	1,995	2,147	2,159
Hardwood:	consumption	000 m^3 ub	316	330	258	259	227	205	183
	production	000 m^3	180	190	151	143	126	119	107

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 2000, totaling 9,200 m^3 ub softwood and 7,900 m^3 ub hardwood. This is based on responses for 2000 and estimates for non-respondents that had reported using imported round timber in earlier years.

Number of sawmills

Based on all the 2000 survey responses, together with data from previous years for those who did not respond for 2000, it is estimated that there were 297 sawmills processing British timber in 2000, of which 178 produced at least 1,000 m^3 sawnwood. Of those 178 mills, 132 processed softwood only, 11 hardwood only, and 35 both hardwood and softwood. Of the 119 smaller mills, 48 processed softwood only, 17 hardwood only, and 54 both hardwood and softwood.

Table 10: Number of sawmills 1994 - 2000

Size Category (production)	1994	1995	1996	1997	1998	1999	2000
Great Britain	**483**	**440**	**393**	**367**	**339**	**314**	**297**
<1,000m^3	252	215	187	170	144	136	119
1,000 - 4,999m^3	144	139	122	116	116	98	100
5,000 - 24,999m^3	66	66	62	58	57	56	53
25,000 - 49,999m^3	14	15	15	15	11	10	12
50,000m^3+	7	5	7	8	11	14	13
Scotland	**121**	**110**	**98**	**97**	**93**	**84**	**85**
<1,000m^3	57	47	42	43	36	30	29
1,000 - 4,999m^3	29	29	24	22	25	24	27
5,000 - 24,999m^3	26	25	22	22	22	20	18
25,000 - 49,999m^3	5	7	7	6	4	2	4
50,000m^3+	4	2	3	4	6	8	7
England	**324**	**293**	**260**	**238**	**215**	**200**	**185**
<1,000m^3	176	151	128	113	95	93	81
1,000 - 4,999m^3	107	100	90	86	82	66	67
5,000 - 24,999m^3	34	36	34	31	30	32	28
25,000 - 49,999m^3	5	4	6	6	5	5	5
50,000m^3+	2	2	2	2	3	4	4
Wales	**38**	**37**	**35**	**32**	**31**	**30**	**27**
<1,000m^3	19	17	17	14	13	13	9
1,000 - 4,999m^3	8	10	8	8	9	8	6
5,000 - 24,999m^3	6	5	6	5	5	4	7
25,000 - 49,999m^3	4	4	2	3	2	3	3
50,000m^3+	1	1	2	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 3.94 million m^3 underbark and sawn softwood production was 2.16 million m^3 sawnwood. While consumption rose by around 2% from 1999 , production rose by only around 0.5%.

Apparent recovery (calculated as the ratio of sawnwood production to underbark log consumption) was 55%.

Table 11a : Softwood consumption - 2000

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	**53**	**353**	**800**	**762**	**1,969**	**3,936**
Scotland	16	130	379	251	951	1,728
England	36	192	325	318	639	1,510
Wales	1	31	96	192	378	698

Table 11b : Softwood production - 2000

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	**31**	**211**	**447**	**405**	**1,065**	**2,159**
Scotland	10	76	206	141	520	953
England	21	116	185	161	354	836
Wales	0	19	56	103	191	369

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 183 thousand m^3 underbark and total sawn hardwood production was 107 thousand m^3 sawnwood, both down around 10% on 1999. Apparent recovery is 59%, slightly up on 1999.

Table 12a : Hardwood consumption - 2000

000 m^3 underbark

	Sawmill size category (000 m^3 total production: hard + soft)				
	<1	**1 - <5**	**5 - <10**	**10+**	**Total**
GB Total	**21**	**57**	**91**	**14**	**183**
Scotland	1	2	5	0	8
England	18	55	75	14	161
Wales	2	0	11	0	13

Table 12b : Hardwood production - 2000

000 m^3 sawnwood

	Sawmill size category (000 m^3 total production: hard + soft)				
	<1	**1 - <5**	**5 - <10**	**10+**	**Total**
GB Total	**12**	**35**	**53**	**8**	**107**
Scotland	1	1	3	0	5
England	10	33	42	8	94
Wales	1	0	8	0	9

Summary

Tables 13a and 13b (on the next two pages) give summaries of production and consumption, for softwood and hardwood, for the years 1994 to 2000.

Table 13a - Summary softwood statistics: 1994 - 2000

	Year	Log consumption (000 m^3 ub)	Sawnwood production (000 m^3 sawn)	*Apparent recovery (%)*
Great Britain	1994	3,366	1,923	*57*
	1995	3,329	1,899	*57*
	1996	3,425	1,917	*56*
	1997	3,490	1,980	*57*
	1998	3,570	1,995	*56*
	1999	3,859	2,147	*56*
	2000	3,936	2,159	*55*
Scotland	1994	1,440	814	*57*
	1995	1,394	784	*56*
	1996	1,444	799	*55*
	1997	1,478	823	*56*
	1998	1,504	834	*55*
	1999	1,614	894	*55*
	2000	1,728	953	*55*
England	1994	1,426	828	*58*
	1995	1,381	810	*59*
	1996	1,399	803	*57*
	1997	1,407	823	*58*
	1998	1,458	835	*57*
	1999	1,564	892	*57*
	2000	1,510	836	*55*
Wales	1994	499	281	*56*
	1995	554	304	*55*
	1996	581	316	*54*
	1997	605	333	*55*
	1998	608	326	*54*
	1999	681	361	*53*
	2000	698	369	*53*

Table 13b - Summary hardwood statistics: 1994 - 2000

	Year	Log consumption (000 m^3 ub)	Sawnwood production (000 m^3 sawn)	*Apparent recovery (%)*
Great Britain	1994	316	180	*57*
	1995	330	190	*58*
	1996	258	151	*59*
	1997	259	143	*55*
	1998	227	126	*55*
	1999	205	119	*58*
	2000	183	107	*59*
Scotland	1994	12	6	*51*
	1995	16	9	*56*
	1996	12	6	*51*
	1997	13	6	*50*
	1998	10	5	*53*
	1999	10	5	*48*
	2000	8	5	*56*
England	1994	294	167	*57*
	1995	304	175	*57*
	1996	238	140	*59*
	1997	239	131	*55*
	1998	209	115	*55*
	1999	187	109	*58*
	2000	161	94	*58*
Wales	1994	10	7	*63*
	1995	11	7	*64*
	1996	8	5	*62*
	1997	8	5	*63*
	1998	7	5	*66*
	1999	7	5	*65*
	2000	13	9	*67*

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

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

.. Data not available

Table 15 Capacity and inputs for the pulp and paper industry

000 green tonnes

Year	Capacity		Deliveries									
			British roundwood[1]		Imported roundwood		Imported chips		Sawmill co-products[2]		Total	
	Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard	Soft	Hard
1994	1,356	208	1,104	190	2	3	..	..	176	18	1,282	211
1995	1,457[3]	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
2000	1,150	224	695	200	0	18	1	0	308	0	1,004	218

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 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. Figures for 2000 were not available from the Association in time for inclusion in this publication. Other sources indicate that production of both Particleboard and Fibreboard increased in 2000, but roundwood formed a smaller proportion of inputs. For the supply and demand balance (see tables 1 – 4) it was assumed that the quantity of soft and hard British roundwood used was the same as in 1999.

Estimates of the country of origin of British roundwood were compiled for the first time for 1999, and are shown in Table 16. Total capacity and inputs for woodbased panel products are shown in Table 17.

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

000 green tonnes

Year	Great Britain	Scotland	England	Wales
1999	1,665	1,087	408	170
2000	..	..	..	..

.. Data not available

Particleboard

The figures given in Table 18 are combined totals for Particleboard (wood chipboard and cement bonded particleboard) and for Oriented Strand Board (OSB).

Fibreboard

The figures in Table 19 are combined totals for all types of Fibreboard; the main Fibreboard product in Britain is Medium Density Fibreboard (MDF).

Table 17 Capacity and inputs for woodbased panel products

000 green tonnes

Year	Capacity	Deliveries										
		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	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	..
1999	..	1,613	52	0	0	1,522	10	0	0	3,135	62	400
2000	..	..	..	..	..	..	..	..	..	..	..	..

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.
.. Data not available.

Table 18 Capacity and inputs for particleboard

000 green tonnes

Year	Capacity	Deliveries										
		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	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	..
1999	..	1,300	52	0	0	817	10	0	0	2,117	62	400
2000	..	..	..	..	..	..	..	..	..	..	..	..

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.
.. Data not available.

Table 19 Capacity and inputs for fibreboard

000 green tonnes

Year	Capacity	Deliveries										
		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	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
2000	..	..	..	..	..	..	..	..	..	..	..	..

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.
.. Data not available.

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 2000, compared with the Sub-Committee's estimate of around 30,000 tonnes).

For 2000, questionnaires were sent out to 142 manufacturers and 78 responses were received (55% response); 20 were nil returns or reported closing down during the year. The softwood figures reported by the 58 active respondents to the 2000 survey totalled 146,000 tonnes.

Based on the 2000 survey, including estimates for non-respondents, it is estimated that in 2000 there were 90 manufacturers using a total of 306,000 tonnes of softwood, a fall of about 15% from 1999. This estimate uses the actual figures (146,000 tonnes) reported for 2000 by the 58 respondents, and adds on 160,000 tonnes for the 32 non-respondents who had responded in a previous year, assuming no change from their previous figure. Adding on 20 nil returns and 32 assumed nil returns for non-respondents brings the total to the distribution list's 142 total.

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

Table 20 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	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
2000	43	35	6	6	90

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	104	42	194	354
1999	11	93	40	217	362
2000	13	79	44	169	306

[1] 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 21 are based on the Fencing Surveys. Woodwool figures are reported by the manufacturers. All other figures are estimates by the Sub-Committee.

Table 21 Miscellaneous uses of British 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	354	25#	**487**
1999	100#	4#	3	362	25#	**494**
2000	100#	4#	3	306	25#	**438**

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 150,000 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 22 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	..	..	..

.. Data not available.

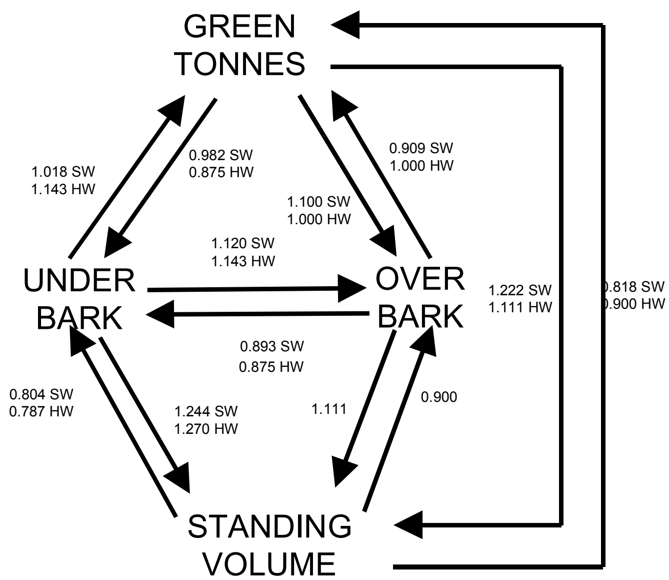
Data are not collected for export of logs.

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 23 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.