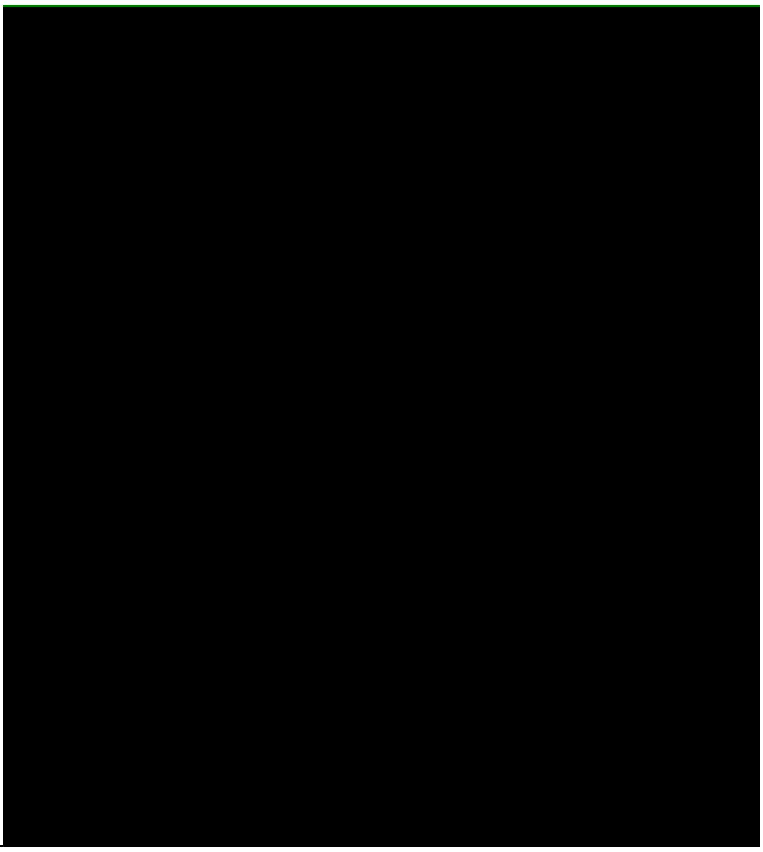
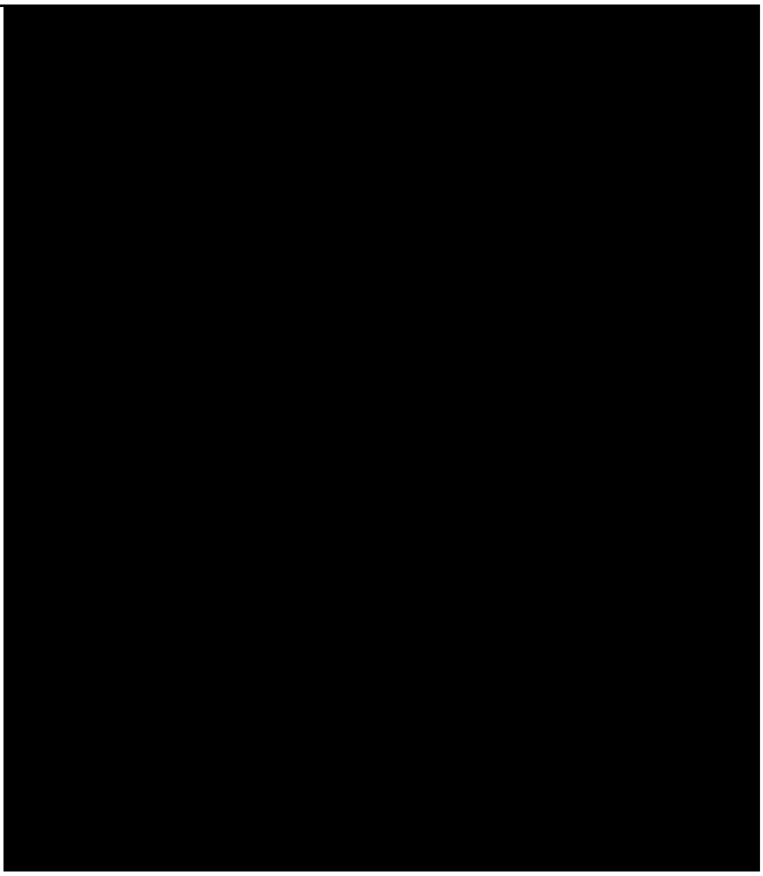


Sawmill Survey

Southern Region

A project undertaken as part of the NSW Comprehensive Regional Assessments

December 1999



SAWMILL SURVEY

SOUTHERN REGION

ABARE

A project undertaken for
the Joint Commonwealth NSW Regional Forest Agreement Steering Committee
as part of the
NSW Comprehensive Regional Assessments
project number NS 21/ES

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This project has been jointly funded by the New South Wales and Commonwealth Governments and managed through the Resource and Conservation Division, Department of Urban Affairs and Planning, and the Forests Taskforce, Department of the Prime Minister and Cabinet

The project has been overseen and the methodology has been developed through the Economic and Social Technical Committee which includes representatives from the New South Wales and Commonwealth Governments and stakeholder groups.

This report was produced by Cas Johnson and Allison Ball of the Forestry Economics Section, ABARE. Assistance was also provided by Peter Grist and Kevin Burns in the mill survey and report preparation. Data handling and tabulation output were provided by Walter Shafron of the Statistical Systems Development Unit, while database programming was carried out by Ken Colbert of the Information Technology Section. Support was also provided by State Forests of NSW, in particular Bruce McGee.

CONTENTS

PROJECT SUMMARY

This report describes a project undertaken as part of the comprehensive regional assessments of forests in New South Wales. The comprehensive regional assessments (CRAs) provide the scientific basis on which the State and Commonwealth Governments will sign regional forest agreements (RFAs) for major forest areas of New South Wales. These agreements will determine the future of these forests, providing a balance between conservation and ecologically sustainable use of forest resources.

Project objectives

The report presents the data gathered in the economic survey of mills in the Southern NSW RFA region for the 1997-98 financial year. Map 1a, on page 2, shows the area defined as the Southern NSW RFA region This survey report provides information on the current economic structure and performance of the business enterprises comprising the hardwood based industries of the region. It is intended that this information will be used in the industry impact assessments (FORUM modelling and Industry Response Analysis). These assessments analyse the potential economic, employment and social impacts associated with changes in resource availability within the region.

Methods

The survey of wood processing mills was conducted by ABARE officers using face to face interviews, and telephone follow-ups with mill owners or managers. Data was collected for the 1997-98 financial year. All mills receiving State forest logs from the Southern RFA region were surveyed, including mills outside the region receiving logs from the Southern RFA region. A number of mills receiving only private logs from the region were also surveyed.

Key results

The data collected included information on public and private log intake, recovery by log grade, mill door prices and production, sales by market, number and wages of mill employees, costs of operations and net mill income. Key findings include:

- Sawmills purchased approximately 159 600 cubic metres of sawlogs in 1997-98, of which 114 700 cubic metres were State forest hardwood logs from the Southern RFA region. An additional xxxx cubic metres of pole and pulp logs were purchased from the region, but processed at mills outside the region;
- Sawmills processed 160 200 cubic metres of logs and produced 72 800 cubic metres of sawn timber at an average recovery rate of around 45 per cent. Over half of this sawn timber production was fencing, paling and pallet grade timber;
- Total sales from sawn timber and residue were around $23.6 million. Key markets for sawmills included locally within the Southern region, as well as Sydney and Victoria;
- The gross value of production by sawmills in 1997-98 was $23.7 million. sawmill operating costs were $23.0 million. Net profit for the sawn timber industry was $677 500; and

- Sawmills employed 237 workers with three-quarters of these being permanent full-time employees. An estimated additional 13 employees processed pulp and pole log sourced from the region, but at mills located outside the region.

1. INTRODUCTION

This report outlines the economic mill survey undertaken as part of the comprehensive regional assessment of forests in Southern New South Wales. The comprehensive regional assessments (CRAs) provide the scientific basis on which the State and Commonwealth Governments will sign regional forest agreements (RFAs) for major forest areas of New South Wales. These agreements will determine the future of these forests, providing a balance between conservation, and ecologically and economically sustainable use of forest resources.

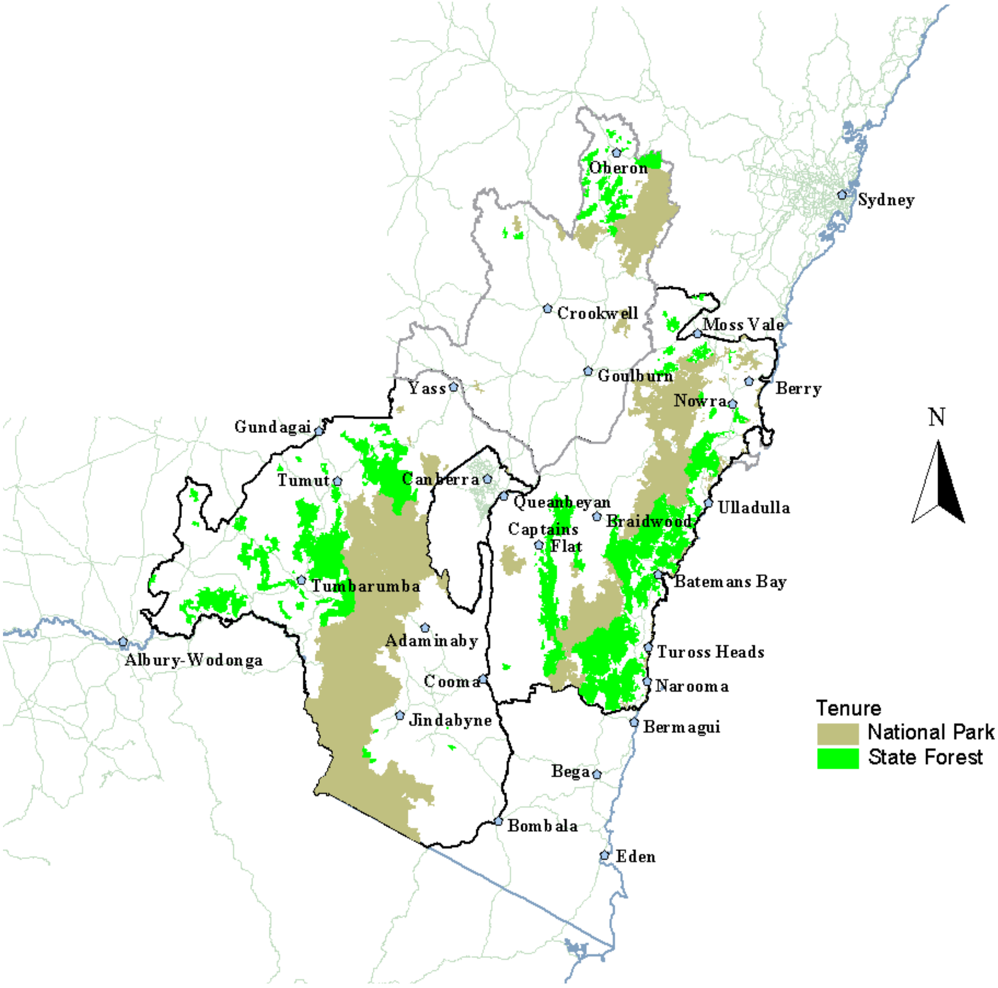
The Southern NSW RFA region, defined for the CRA process, is divided into three zones: South Coast, Southern Tablelands and Oberon. The Oberon zone was excluded from this survey. The South Coast zone extends from Moss Vale to Narooma along the coast and west to Queanbeyan. The Southern Tablelands zone extends from the Victorian border in the south, west to include Tumbarumba, Tumut and Gundagai, and north to Yass (see map 1a).

The purpose of this report is to provide information on the economic structure and performance of business enterprises comprising the hardwood based industries of the Southern NSW RFA region. It is intended that this information will be used to observe the economic, employment and social impacts associated with changes in resource availability within the region. The report is based on survey data collected from mills for the 1997-98 financial year.

The survey questionnaire and data processing arrangements for the survey were largely based on the similar exercises conducted by ABARE for other RFA regions in Australia. This approach provides outputs which are compatible with the development of ABARE's Forest Resource Utilisation Model (FORUM) (Dann et al 1997 [1]) for the region, and will also facilitate the production of a large selection of tables for the various other users of survey data.

[1] Dann, T., Gooday, P., Gilmour, C., Hansard, A., Hogan, L., Klijn, N., Lawson, M., Thorpe, S. and Tran, Q.T. 1997, *Economic Implications of Forest Resource Use Options in Tasmania*, ABARE Report, Canberra.

MAP 1A: THE SOUTHERN NSW REGION



2. SURVEY METHODOLOGY

2.1 THE APPROACH

The survey of wood processing mills in the Southern NSW RFA region, was conducted by ABARE officers during July and August of 1999. The survey involved face to face interviews with owners or managers of all the larger hardwood sawmills, plus telephone surveys for all the remaining hardwood sawmills obtaining logs from State forests in the Southern NSW RFA region. A number of additional mills receiving hardwood logs only from private sources within the region were also interviewed. The survey data were collected for the 1997-98 financial year. Mills receiving State forest logs from the region had previously been interviewed in 1995-96, as part of the Eden RFA process, and this earlier survey information provided the basis to update the mill information for 1997-98.

The mill survey data collected include the following:

- public and private log intake;
- total log throughput;
- recovery by species and log grade;
- mill door prices and production;
- sales by market, freight and delivery costs;
- number and wages of mill employees;
- costs of operations; and
- overhead costs (maintenance, administration, depreciation etc.).

Due to the sensitive nature of the survey data, particularly the mill’s financial data, ABARE is bound by confidentiality agreements with the mill owners and operators not to divulge individual mill data. As a result, all data presented in this report are aggregated into three classes of mills based on the total logs processed (logs from both State and private forest).

The sawmill classifications were:

- *Small* mills (less than one thousand cubic metres of log);
- *Medium* mills (between one thousand and five thousand cubic metres of log); and
- *Large* mills (more than five thousand cubic metres of log).

2.2 MILL INFORMATION

The Southern NSW RFA region covers in whole or part, nine State Forest NSW management areas: Tumut, Bago-Maragle, Adaminaby, Monaro South, Badja, Narooma, Queanbeyan, Batemans Bay and Nowra. These management areas are used in the breakdown of mill results in FORUM. Two of the mills included in this survey, a chip mill in the Eden management area and a pole mill located in the ACT, are located outside the Southern NSW RFA region but received State forest logs from the region.

The population of mills for the survey was defined as those mills receiving State forest hardwood logs for processing from the Southern NSW RFA region. To obtain a more comprehensive understanding of the sawn timber industry, particularly of small mills, a number of mills receiving only private hardwood logs were also included in the survey. The distribution of these two groups of mills within the mill size classifications is shown in table 2a. All of the 15 mills receiving State forest hardwood logs were surveyed and most of these mills also received hardwood logs from private sources plus a small volume of softwood. A total of 22 mills were surveyed.

The large and medium sized mills received over two-thirds of the State forest logs, and along with the chip and pole mills, accounted for over 99 per cent of State forest resource allocation. Only one mill in the small class received logs from State forests, and only one mill in the medium class did not receive any State forest logs.

Because of the distinctive nature of the chip and pole mills' operations, it has not been possible to present details of the operations of these two mills because of potential breaches of data confidentiality.

TABLE 2A: DISTRIBUTION OF MILLS WITHIN THE MILL CLASSIFICATIONS

Stratum	Mills receiving State forest log (a)	Private logs only (b)
Small (<1 000 m^3/yr)	1	6
Medium (1 000 - 5 000 m^3/yr)	5	1
Large (>5 000 m^3/yr)	7	0
Chip/Pole	2	0
Total	15	7

Note: **(a)** Mills receiving hardwood logs from State forest may also process logs from private sources. **(b)** Additional sample from mills receiving only private logs.

In addition to the mills identified above, there are a number of small operators with a licence to cut timber in the forests following log harvesting operations. These are salvage operations cutting a range of products including fencing material, firewood and other miscellaneous products. These operators are charged a rate per piece or quantity of timber product they remove from state forests. Following discussions with State Forest of NSW, this group was excluded from the mill survey population, as they do not receive logs from State forests.

3. LOG RESOURCE

3.1 RESOURCE AVAILABILITY

3.1.1 State forest logs

State Forest of NSW allocated approximately 166 400 cubic metres of hardwood logs from the Southern NSW RFA region in 1997-98 (see table 3a). Almost 40 per cent of this allocation were quota logs, while 30 per cent were pulp logs. A further 22 per cent were salvage logs and 7 per cent were smalls, the remaining 1 per cent being pole. The majority of these logs were sourced from the Narooma and Batemans Bay Management Areas (31 and 28 per cent respectively). The remaining logs were sourced from Queanbeyan (16 per cent), Bargo-Maragle (15 per cent), Tumut (8 per cent) and Moss Vale (1 per cent).

TABLE 3A: SOUTHERN NSW RFA REGION STATE LOG SUPPLY, 1997-98

Management Area	Quota	Smalls	Pole	Salvage	Pulp	Total
	m3	m3	m3	m3	m3	m3
Batemans Bay	16 525	7 577	558	7 699	14 476	46 835
Narooma	17 562	3 184	353	6 503	24 093	51 696
Moss Vale	1 004	203	0	328	0	1 535
Queanbeyan	7 453	245	0	7 634	11 998	27 330
Bargo-Maragle	16 009	62	0	8 945	0	25 017
Tumut	7 739	605	0	5 670	0	14 014
Total	66 292	11 876	911	36 779	50 567	166 425

Note: Total log allocation data provided by State Forests of NSW are slightly higher than the data provided by the mill survey reported in the next section due to different log accounting methods.

State forest logs sourced from within the region were processed by sawn timber mills, a pole mill and a chip mill. All of the quota, smalls and salvage grade logs were processed by sawn timber mills located within the region, while most of the pole and all of the pulp grade logs were processed by the two mills located outside the region. In addition, these two mills processed significant volumes of State forest logs sourced from outside the Southern NSW RFA boundary.

There are a large number of species of logs sourced from the region. Based on advice from the State Forests of NSW, the main species were aggregated into four groups: durable species, non-durable species, highland species, and ash species. For details on the groupings, refer to the box on species groups.

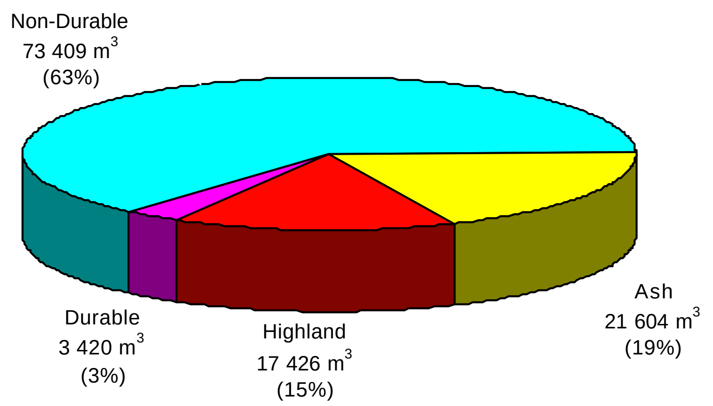
SPECIES GROUPS

Coastal species
Durable*:* Ironbark, Grey Box.
Non-Durable*:* Spotted Gum, Stringybark, Silvertop, Ash, Brown Barrel, Blackbutt, Monkey Gum, Peppermint, Messmate, Mountain Gum.

Tableland species
Highland*:* Mountain Gum, Manna Gum, Peppermint, Brown Barrel, Southern Blue Gum.
Ash Alpine Ash

Almost two thirds of the logs sourced from the region were non-durable species (excluding pulp). A further 19 per cent was ash species and 15 per cent was highland species. The remaining 3 per cent was sourced from durable species (see figure 3a). Pulp logs are not identified by species.

FIGURE 3A: STATE LOG ALLOCATION BY SPECIES (EXCLUDING PULP)



4. SURVEY RESULTS

The survey included all mills receiving State forest hardwood logs from the Southern NSW RFA region. All of the sawn timber mills were located within the region and received over 95 per cent of their State forest logs and all of their private and softwood logs from within the region.

On the other hand, all pulp logs and most of the pole logs sourced from within the region, were processed by two mills located outside the region. In addition, these two mills received and processed significant volumes of other logs sourced from outside the Southern NSW RFA region. However, because of potential breaches of data confidentiality, it is not possible to present details of the operations of these two mills.

This section of the survey analysis concentrates on the 20 sawn timber mills located within the region receiving all the State forest logs suitable for producing sawn timber. The wood processing industry in the Southern region is concentrated around sawn timber production and a detailed analysis of industry aggregates and averages for each mill class are provided.

4.1 THE SAWN TIMBER INDUSTRY

4.1.1 Mill intake

Approximately 114 700 cubic metres of hardwood State forest logs were delivered to sawmills from the Southern NSW RFA region in 1997-98 (see table 4a). In addition, the mills obtained a further 30 700 cubic metres of hardwood logs from private forests, as well as 8 700 cubic metres of softwood logs. Mills also received around 5 500 cubic metres of State forest hardwood logs from the Eden RFA region. Veneer, girder or pile grade logs were not available from the Southern NSW RFA region in 1997-98. In total, sawmills purchased approximately 159 600 cubic metres of logs in the 1997-98 financial year.

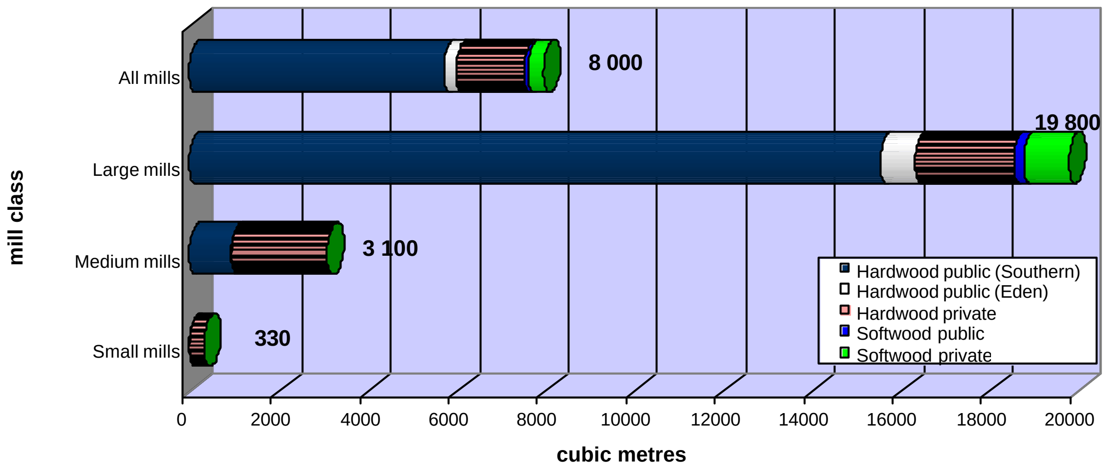
TABLE 4A: TOTAL LOG INTAKE BY MILL CLASS

	Hardwood			Softwood		Total
	Public – Southern Region	Public – Eden Region	Private (a)	Public	Private	
Stratum	**'000 m3**	**'000 m3**	**'000 m3**	**'000 m3**	**'000 m3**	**'000 m3**
Small (<1 000 m^3/yr)	(b)	0	2.3	0	0	2.3
Medium (1 000 - 5 000 m^3/yr)	5.7	0	12.9	0	0	18.6
Large (>5 000 m^3/yr)	109.0	5.5	15.5	1.6	7.1	138.7
Total	114.7	5.5	30.7	1.6	7.1	159.6

Note: **(a)** Private hardwood includes logs from Victorian State forests. **(b)** Less than 10 m^3/year.
The data provided by the mills on log allocation were slightly lower than the data provided by State Forests of NSW, reported in table 3a, due to different log accounting methods.

The small mills represented just over one third of the mill population but accounted for a very small proportion of the total log intake (1 per cent). The average log intake for small mills was approximately 330 cubic metres, and these mills purchased mainly private logs (see figure 4a). Medium sized mills accounted for just under one third of the population and around 12 per cent of the total log intake. The average log intake for medium mills was around 3 100 cubic metres. This group also had a relatively high intake of private logs, 69 per cent of their intake, with the remaining 31 per cent being State forest hardwood logs. The large mills represented just over one third of the mill population and accounted for nearly 87 per cent of the total log intake, with the average log intake for large mills being just over 19 800 cubic metres. These mills were much less reliant on private logs, with only 16 per cent of total intake sourced from private forests. State forests provided the remaining 84 per cent of total log intake for the large mills, 80 per cent from the Southern NSW RFA region and 4 per cent from the Eden RFA region, mostly hardwood logs. The small volume of softwood logs were included as part of the total saw mill analysis as they accounted for less than 6 per cent of log purchased, and it was not possible to separate the various costs associated with processing those logs.

FIGURE 4A: AVERAGE LOG INTAKE BY MILL CLASS

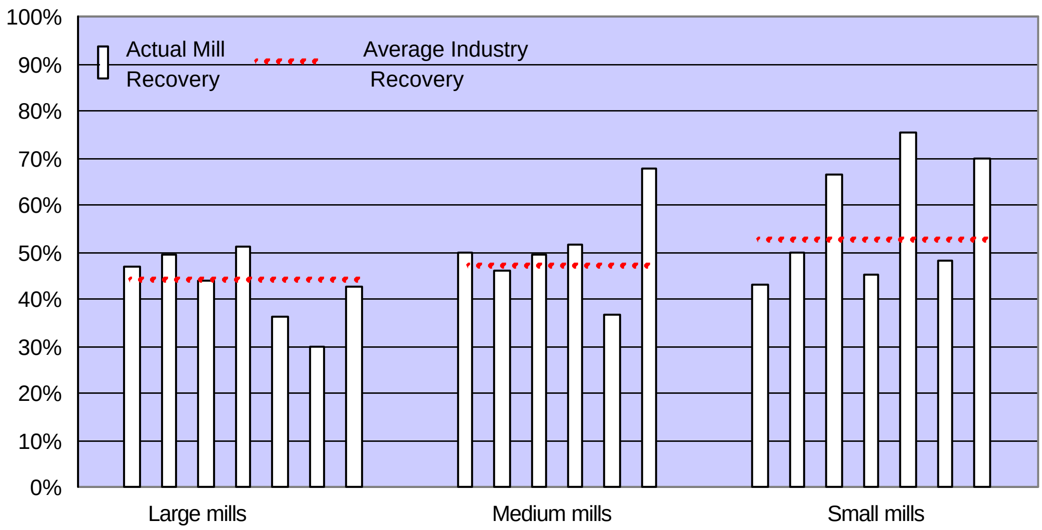


4.1.2 Production

In 1997-98, saw mills purchased approximately 159 600 cubic metres of log, but processed the slightly larger volume of 160 200 cubic metres of log, the additional log being sourced from previous years stocks. A total of 72 800 cubic metres of sawn timber was recovered from the 160 200 cubic metres of log, an average recovery of 45 per cent. The actual recovery rates achieved by the sawmills varied considerably, with the smaller mills averaging 53 per cent, the medium sized mills averaging 47 per cent, and the large mills 45 per cent. The high recovery rate for the smaller mills is due to the greater care taken in sawing their logs. The lower volume of log enables them to mill each log more intensively, to work around defects and maximise the sawn output from the logs. The larger mills utilise equipment capable of cutting much larger volumes of timber per operator, which does not always allow the maximum recovery from each individual log. Figure 4b shows individual mill recovery rates and average across each mill class.

On average, sawn timber production by small mills was 173 cubic metres (see table 4b). Over half of the sawn timber production was paling and pallet grade timber. A further 17 per cent was scantling, 17 per cent other unseasoned sawn timber products such as batons and survey pegs, and 7 per cent was unseasoned structural timber. The remaining 3 per cent was green sawn timber for further processing, which was not carried out by any of the small mills surveyed. Small mills sold a significant proportion of their residues as firewood, sawdust and a small amount of woodchips, leaving a relatively low amount of waste.

FIGURE 4B: INDIVIDUAL MILL RECOVERY RATES AND AVERAGE PER MILL CLASS



Note: * Mills are in a random order in their respecitive groups

TABLE 4B: AVERAGE PRODUCTION BY MILL CLASS

	Small (<1 000 m^3/yr)	Medium (1 000 - 5 000 m^3/yr)	Large (>5 000 m^3/yr)	All mills
	m3	**m3**	**m3**	**m3**
Seasoned	0	0	7	2
Green for further processing	6	1	804	284
Unseasoned				
- structural	12	60	0	22
- scantling	30	433	2 090	872
- palings & pallets	95	728	4 632	1 873
- other sawn products	29	269	1 415	586
Total sawn timber	173	1 490	8 949	3 640
Woodchips	1	68	4 801	1 701
Sawdust & fines	37	576	4 196	1 681
Firewood	47	352	171	182
Strips & bearers	0	90	150	52
Waste	68	610	1 563	754
Total residues	154	1 696	10 879	4 370
Total production	**326**	**3 186**	**19 828**	**8 010**

For medium mills, the average sawn timber production was approximately 1 500 cubic metres. Palings and pallets accounted for just under half of their sawn timber with a further 29 per cent scantling, 18 per cent other sawn timber products and 4 per cent was unseasoned structural timber. A very small amount of green sawn timber for further processing was produced, while there was no seasoned sawn timber production. Medium mills were also able to sell a large volume of their residues as firewood, sawdust, woodchips and fines, leaving only a small volume of waste.

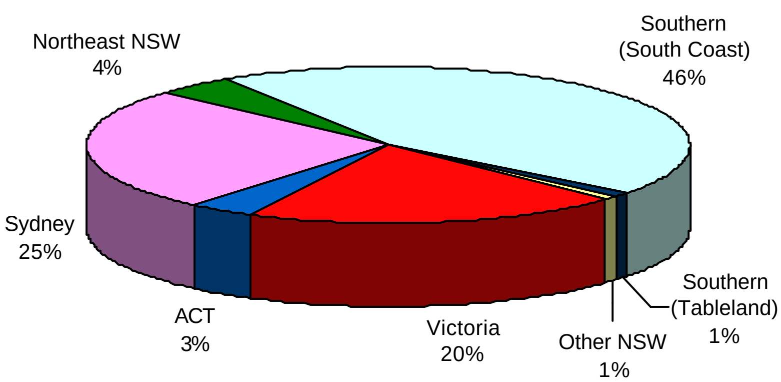
The average sawn timber production for large mills was approximately 8 950 cubic metres. Over half of this production was fencing, paling and pallets, while nearly one-quarter was scantling. A further 16 per cent was other unseasoned sawn timber products, while 9 per cent was green sawn timber for further processing. A very small amount of seasoned sawn timber was also produced by the large mills. These mills did not produce any unseasoned structural timber. Large mills had very little waste material, with significant volumes of residues sold as woodchips, sawdust and fines. They also produced a very small volume of firewood and strips and bearers.

4.1.3 Sales

The total volume of sales of sawn timber and residue in 1997-98 was estimated to be 134 600 cubic metres. The total value of this was just over $23.6 million (see table 4c). Sales of palings, pallets and fencing generated $9.9 million (42 per cent of total revenue), while $7.2 million (31 per cent) was derived from sales of scantling. A further $2.7 million (11 per cent) was generated from sales of green sawn timber on sold for further processing, and $2.3 million (10 per cent) from other unseasoned sawn timber products. Woodchip sales earned a further $1.2 million (5 per cent) in revenue. Sales of unseasoned structural timber generated $208 000 (1 per cent), while revenue from seasoned sawn timber were very low ($47 000). Revenue from residue sales such as sawdust, firewood and fines was also small ($139 000) due to their low unit values.

Just under half of all sales were within the Southern NSW RFA region itself, mostly to the South Coast zone. A further 25 per cent went to the Sydney market, 20 per cent to Victoria, 4 per cent to Northeast NSW and 3 per cent to the ACT (see figure 4c). Sales to markets in other parts of NSW were very small. The region itself was a key market for most products, particularly the higher valued products.

FIGURE 4C: MARKET SHARE



All seasoned sawn timber was sold within the region, as well as a significant proportion of the green sawn timber on sold to value adding mills for further processing. A significant volume was also on sold to value adding mills in Northeast NSW. The majority of the unseasoned structural and scantling was also sold within the region. Palings, pallets and fencing were distributed fairly evenly between the region, Sydney and Victorian markets, while the majority of other sawn timber products were sold to the Sydney market. The majority of woodchips sold domestically within the region and a small amount to the Victorian market. Most of the other residues such as firewood and sawdust were sold within the region, while all fines went to the ACT market.

TABLE 4C: ESTIMATED TOTAL SALES VOLUME AND VALUE

SALES VOLUME (m3)								
	Southern		Sydney	NE NSW	OTHER NSW	VIC	ACT	TOTAL
	STH COAST	TABLE-LAND						
Veneer	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Seasoned	48	0	0	0	0	0	0	48
Green	2 458		744	1 482	475	517		5 676
Unseasoned								
-structural	411	0	0	33	0	0	0	444
-scantling	9 813	254	3 995	533	0	2 116	727	17 438
-pallet/fencing/palings	12 510	285	10 044	55	0	13 346	1 356	37 596
-other	2 478	17	7 161	33	190	1 358	486	11 723
Residues								
- chips	19 112	0	0	0	0	15 516	0	34 628
- firewood	3 436	0	0	202	0	0	0	3 638
- fines	0	0	0	0	0	0	992	992
- sawdust	18 317	0	4 091	0	0	0	0	22 408
Total sales volume	**68 584**	**555**	**26 035**	**2 338**	**665**	**32 854**	**3 562**	**134 592**

SALES VALUE ($'000)								
	Southern		Sydney	NE NSW	OTHER NSW	VIC	ACT	TOTAL
	STH COAST	TABLE-LAND						
Veneer	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Seasoned	47.0	0	0	0	0	0	0	47.0
Green	1 202.1	0	333.1	697.9	168.6	252.1	0	2 653.8
Unseasoned								
-structural	186.8	0	0	21.4	0	0	0	208.2
-scantling	4 038.6	107.8	1 613.5	243.6	0	888.8	328.1	7 220.3
-pallet/fencing/palings	3 628.0	44.2	2 705.9	13.8	0	3 115.3	372.9	9 879.9
-other	530.8	3.7	1 356.3	3.3	48.5	247.2	116.5	2 306.2
Residue								
- chips	879.8	0	0	0	0	308.1	0	1 188.0
- firewood	53.2	0	0	6.7	0	0	0	60.0
- fines	0	0	0	0	0	0	7.9	7.9
- sawdust	62.8	0	8.2	0	0	0	0	71.0
Total sales value	**10 629.2**	**155.7**	**6 017.0**	**986.7**	**217.1**	**4 811.4**	**825.4**	**23 642.4**

4.1.4 Costs

Total operating costs in 1997-98 were around $23 million (see box on calculation of costs for definitions). Wood costs were the largest component of this, including log royalties (22 per cent of total operating costs), and falling, snigging and haulage (21 per cent) (see figure 4d). Other mill costs represented a further 27 per cent, while the remaining costs were wages (25 per cent) and other employee costs (6 per cent). Total operating costs for small mills averaged $62 000, while medium and large mills cost on average $446 000 and $2.842 million respectively to operate (see table 4d).

CALCULATION OF COSTS

Total wood costs refer to the cost of wood inputs, and include log royalties, falling, snigging and haulage, and other wood costs. Other wood costs refer to the purchase of green sawn timber for further processing or on selling, and are a significant component of costs for value adding mills.

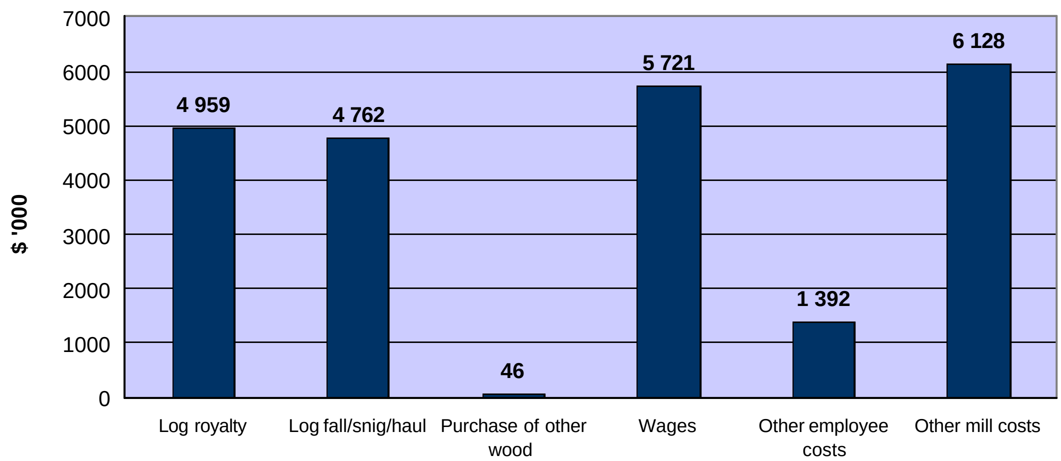
Total labour costs includes both employee wages and other employment costs such as superannuation and workers compensation. Because mills differ in how they treat payments to owner operators and partners, a consistent approach has been adopted to estimate this type of expenditure. Estimates were obtained of the amount of time that owner operators and partners spent working at the mill, and labour costs were then estimated at the rate of around $22 000 a year.

Other mill costs are non-wood and non-labour costs such as fuel, administration, repairs and maintenance, depreciation on plant and machinery, interest payments, telephone, electricity and licenses.

Total operating costs = total wood costs + total labour costs + other mill costs.

Average processing costs = (total operating costs – total wood costs) / log processed.

FIGURE 4D: TOTAL INDUSTRY OPERATING COSTS



Average processing costs (see box for definition) were significantly higher for small mills, $152 per cubic metre. For medium mills, the average processing costs were $99 per cubic metre, while the large mills spent $79 per cubic metre on processing costs. As the mills become larger, average unit processing costs become smaller, showing evidence of economies of scale in the industry.

Mills operated on average 170 days of the year – this low number reflects the number of small mills operating for only a few weeks per year. The medium and large mills operated on a full time basis.

TABLE 4D: AVERAGE OPERATING COSTS BY MILL CLASS

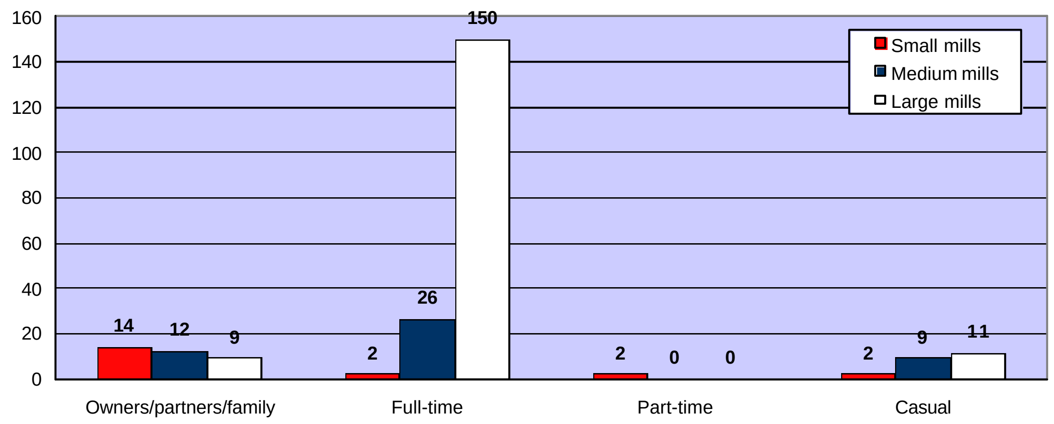
Item	Small (<1 000 m^3/yr)	Medium (1 000 - 5 000 m^3/yr)	Large (>5 000 m^3/yr)	All mills
Log royalty ($)	7 848	66 371	643 729	247 963
Falling, sniggage, haulage ($)	4 287	64 861	620 335	238 076
Other wood costs ($)	611	0	6 000	2 315
Total wood costs ($)	12 746	131 232	1 270 064	488 354
Wages **(a)** ($)	27 741	164 101	648 841	286 034
Other employee costs ($)	4 300	25 002	173 115	69 596
Total labour costs ($)	32 041	189 103	821 956	355 630
Other mill costs ($)	17 421	125 697	750 212	306 380
Total operating costs ($)	62 208	446 032	2 842 232	1 150 364
Annual mill operating days	65	219	220	170

Note: **(a)** Wages are imputed at award rates (see box on calculation of costs for details).

4.1.5 Employment

In 1997-98 a total of 237 people were employed in the hardwood mills that received logs from the Southern NSW RFA region (see figure 4e). Around three-quarters of these were permanent full time employees. Owners and partners, and other family members constituted a further 15 per cent of employment, casual employees 9 per cent, while the remaining 1 per cent were part time employees. The majority of workers were employed by the large mills (72 per cent). Medium mills employed 20 per cent and the remaining 8 per cent were employed by the small mills. Given that small mills made up a very small proportion of the logs processed from the region, this higher share of employment shows that small mills are relatively labour intensive compared to the larger mills. Average employment in small mills was three employees. Medium mills employed eight workers on average, while large mills employed 24 workers (see table 4e).

FIGURE 4E: ESTIMATED TOTAL INDUSTRY EMPLOYMENT



The total wage bill of these employees was $5.7 million. Other employment costs such as superannuation and workers compensation totalled $1.4 million, bringing the total cost of labour to $7.1 million.

TABLE 4E: ESTIMATED AVERAGE EMPLOYMENT BY MILL CLASS

	Small (<1 000 m ^{3}/yr)	**Medium** (1 000 - 5 000 m ^{3}/yr)	**Large** (>5 000 m ^{3}/yr)	**All mills**
Owners/partners/family	2.0	2.0	1.3	1.8
Full-time	0.3	4.3	21.4	8.9
Part-time	0.3	–	–	0.1
Casual	0.3	1.5	1.6	1.1
Total	2.9	7.8	24.3	11.9

TOTAL SOUTHERN RFA MILL EMPLOYMENT

It is estimated that 250 people are employed in processing the total log sourced from the Southern NSW RFA region. This is based on proportioning the employment of the chipmill and pole mill excluded from the above analysis.

4.1.6 Value of production

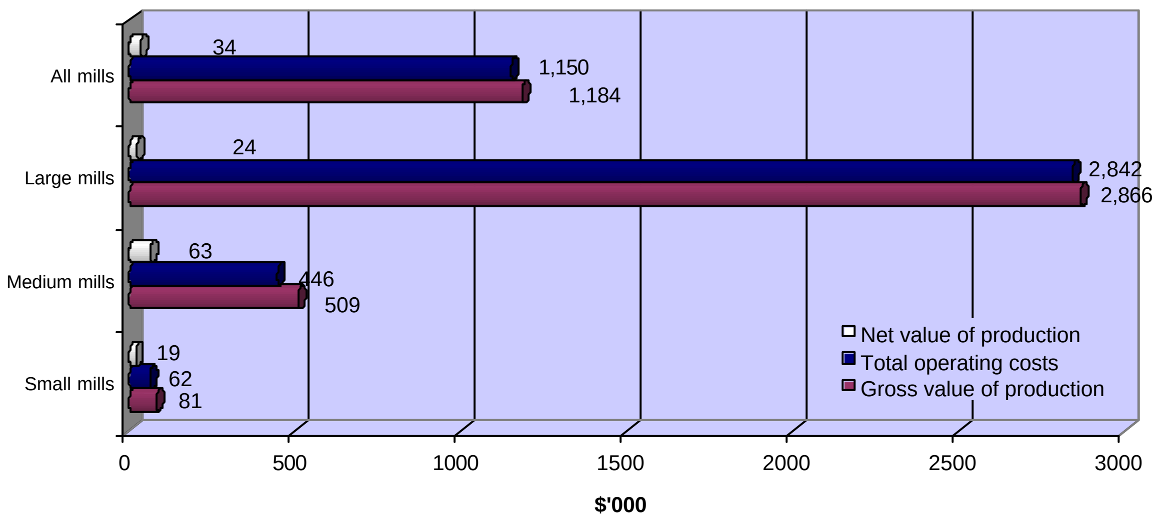
In 1997-98, the total revenue, or the Gross Value of Production (GVP), from all mills receiving logs from the Southern NSW RFA region was just under $23.7 million. Small mills had an estimated GVP of $81 000 on average, while medium and large mills each averaged $509 000 and $2.9 million respectively (see figure 4f).

TOTAL SOUTHERN RFA GROSS VALUE OF PRODUCTION

It is estimated that the gross value of production generated by mills processing log sourced from the Southern NSW RFA region was $31 million. This is based on proportioning the gross value of production of the chipmill and pole mill excluded from the above analysis.

The net value of production (NVP = GVP minus total operating costs), or profit, for all mills in 1997-98 was $678 000. Small mills averaged an NVP of $19 000, medium mills averaged $63 000, while the large mills netted an average of $24 000 (figure 4.f). Average profit was low in all mills due to a very small number of mills that experienced a significant loss in the 1997-98 financial year. Low NVP may also be due in part to the use of imputed wages for owners and partners when calculating total operating costs. Some of the mill owners and operators may pay themselves at a rate lower than award wages or as a percentage of mill profits.

FIGURE 4F AVERAGE NET VALUE OF PRODUCTION



5. SUMMARY

Wood processing in the Southern NSW RFA region is concentrated around sawn timber production. All the mills located in the region and receiving logs from the region were sawmills. The chipmill and pole mill that received logs from the region were located outside the region, did not produce sawn timber, and were therefore excluded from the analysis of the sawn timber industry.

The total log purchases by sawmills in 1997-98 was approximately 159 700 cubic metres, a significant proportion of which were quota logs. The industry is dominated by large sawmills, which received the majority of the resource. The small and medium mills received little State forest logs, sourcing most of their log intake from private forests within the region. On the other hand, the large mills received most of their logs from State forest.

Approximately 160 200 cubic metres of logs were processed by sawmills in the region, indicating that some of the mills had logs in stockpile from previous years ready to process. Total sawn timber production in 1997-98 was approximately 72 800 cubic metres, giving an average recovery of 45 per cent. Recovery rates averaged higher for the medium and small mills.

TABLE 5A: SUMMARY OF KEY MILL STATISTICS, EXCLUDING CHIP AND POLE

Average per mill					
Feature	**Unit**	**Small**	**Medium**	**Large**	**All**
Logs purchased	*m^3*	328	3 103	19 821	7 983
Logs processed	*m^3*	326	3 186	19 829	8 010
Sawn timber production	*m^3*	173	1 490	8 949	3 640
Sawn timber recovery rate	*%*	53	47	45	45
Sales volume (a)	*m^3*	240	2 288	17 027	6 730
Sales value (a)	*$'000*	81.3	508.6	2 860.2	1 182.1
Total operating costs	*$'000*	62.2	446.0	2 842.2	1 150.4
Gross value of production	*$'000*	81.3	509.2	2 865.8	1 184.2
Net value of production	*$'000*	19.1	63.1	23.6	33.9
Employment	*No.*	2.9	7.8	24.3	11.9
Sawn timber industry total					
Feature	**Unit**	**Small**	**Medium**	**Large**	**All**
Mill population	*No.*	7	6	7	20
Logs purchased	*m^3*	2 294	18 619	138 748	159 661
Logs processed	*m^3*	2 284	19 115	138 800	160 199
Sawn timber production	*m^3*	1 209	8 940	62 644	72 793
Sales volume (a)	*m^3*	1 679	13 727	119 186	134 592
Sales value (a)	*$'000*	569.2	3 051.8	20 021.4	23 642.4
Total operating costs	*$'000*	435.5	2 676.2	19 895.6	23 007.3
Gross value of production	*$'000*	569.2	3 055.1	20 060.6	23 684.8
Net value of production	*$'000*	133.7	378.9	165.0	677.5
Employment	*No.*	20	47	170	237

Note: (a) from sawn timber and residue processed at the mill.
Averages may not expand to match totals due to rounding errors.

Over half of the sawn timber production in the region was fencing, paling and pallet grade material. A key feature of the region was the low level of further processing and value adding. Very little seasoned sawn timber and no veneer was produced by the mills in the survey. However, there was some green sawn timber on sold to value adding mills for further processing in the region and to Northeast NSW.

The total volume of sales in 1997-98 from sawn timber and residue was approximately 134 600 cubic metres, which was valued at just over $23.6 million. Key markets for these mills included locally within the region, Sydney and Victoria.

In 1997-98, total employment by the sawmills was 237. Total operating costs across the sawn timber industry were just over $23 million. While the large mills were significantly more costly to operate, there was evidence of economies of scale being realised with lower average unit processing costs as the mill size increased. The gross value of production in 1997-98 was approximately $23.7 million, and the industry netted a profit of $677 500.