Technical Report 206

Tasmania's forest industry: trends in forest industry employment and turnover, 2006 to 2010

J Schirmer[1,2]

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[1] Cooperative Research Centre for Forestry, Project 4.3 'Communities'
[2] Fenner School of Environment and Society, Australian National University

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COOPERATIVE RESEARCH CENTRE FOR FORESTRY
College Road, Sandy Bay, Tasmania
Private Bag 12, Hobart, Tasmania 7001 Australia

www.crcforestry.com.au

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- most importantly, I would like to thank those who so willingly took part in the survey—the effort and time contributed by survey respondents is greatly appreciated.

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Executive summary

Tasmania's forest industry is experiencing ongoing change. A period of growth from 2006 to 2008 driven by the expansion of the hardwood plantation sector and increased investment in the processing sector has been followed in 2008 to 2010 by a significant downturn.

Changes in the forest industry have important impacts on those who depend on the industry for their livelihood, and the communities in which they live. Understanding these impacts requires accurate, robust information about how the forest industry is changing. This report examines change in Tasmania's forest industry over the period from 2006 to 2010, using data from the Forest Industry Survey (a comprehensive survey of forest industry businesses conducted in 2006, 2008 and 2010), together with other available statistics.

The Forest Industry Survey (FIS) is a research project in which data is regularly gathered from all Tasmanian forest industry businesses engaged in:

- growing and managing native forest and plantations
- wood and paper processing
- contracting services, including harvest and haulage contractors, silvicultural contractors, nurseries and seed suppliers
- consultants providing expert advice
- industry representative organisations
- regulatory authorities.

The survey did not include firewood cutters and sellers, non-industrial private forest growers (farm foresters), or businesses involved in activities beyond the stage of producing wood and paper products.

In 2008, 55.9 per cent of Tasmania's forest industry businesses responded to the survey, including all large businesses and most medium-sized businesses, with responding businesses employing an estimated 88.7 per cent of all people working in the industry. In 2010, a briefer update survey achieved response from 41.1 per cent of businesses, employing 86.1 per cent of workers in the industry. These high response rates enabled accurate estimation of total employment in the industry, and together with results of the 2006 survey (reported in Schirmer 2008) provide a detailed understanding of recent trends in the industry. Some revisions were made to the estimates for 2006 as updated data was received from businesses in response to subsequent surveys; as such, this technical report should be referred to for information on the industry in 2006 together with Schirmer (2008).

Between 2006 and 2008, employment in Tasmania's forest industry rose by 7.0 per cent, from 6510 to 6960 people. This growth resulted from an increase in the rate of new plantation establishment, increases in roundwood removals from native forest and plantations, and increased investment in new and expanded processing facilities during this period.

Employment has since fallen substantially, with a decline of 33.3 per cent, or 2310 jobs, between 2008 and 2010. This downturn has been driven by multiple factors, including:

- reduced demand for wood and paper products as a result of the global financial crisis
- a strong Australian dollar reducing the competitiveness of exported wood and paper products
- successful campaigns by environmental non-government organisations to reduce demand for native forest woodchips
- reduced investment in new plantations
- closure of older processing facilities that had become uncompetitive.

The largest number of jobs lost (1240) has been in the processing sector where—after employment growth of 3.3 per cent between 2006 and 2008, largely due to establishment of new processing facilities by Ta Ann—the number of jobs declined by 39.5 per cent from 2008 to 2010. Of the 1240 jobs lost in this sector between 2008 and 2010, 61.2 per cent (760 jobs) resulted from the closure of three processing facilities: Tasmanian Paper's Burnie and Wesley Vale processing facilities, closed in 2010, and Gunns Ltd's Tonganah softwood sawmill in Scottsdale, closed in 2008. The planned closure of Gunns Ltd's second softwood sawmill in Scottsdale, announced in October 2010, will result in up to 140 more jobs being lost. The remaining 480 jobs lost resulted from closure of some smaller processing sites and reduced employment at several other processors. While employment fell at many processing facilities, more than 35 per cent of small and medium-sized processing businesses increased or maintained employment between 2006 and 2010.

In the harvest and haulage sector, a total of 420 jobs (27.1 per cent of jobs) have been lost since 2008. Many managers of harvest and haulage businesses reported that their remaining workers are underemployed, often working three or four days per week, or are expected to leave the industry in the near future.

A substantial reduction in establishment of new plantations resulted in a decline of 49.8 per cent in the number of people employed in silvicultural contracting businesses, and 54.2 per cent in nursery and seed supply businesses between 2008 and 2010, with 457 jobs lost across these two sectors.

Small businesses have been somewhat less likely to experience decline in employment, with 61.2 per cent reporting a drop in job numbers compared with 80.4 per cent of medium-sized businesses, and 100 per cent of large businesses.

When the native forest and plantation sectors are examined, the greatest fall in employment has occurred in businesses that depend on native forests, both in terms of absolute numbers of jobs lost and percentage change in jobs. Jobs declined 41 per cent in the native forest sector between 2006 and 2010, with 1426 jobs lost, compared with 26 per cent of jobs dependent on hardwood plantations (145 jobs) and 18 per cent of jobs dependent on softwood plantations (217 jobs). As a result, in 2010 native-forest-based jobs make up 54.8 per cent of employment in the industry, compared with 63.6 per cent of jobs in 2006. In 2006, 18.7 per cent of jobs relied on hardwood plantations and 26.0 per cent on softwood plantations.

The jobs lost in the industry since 2008 represent 0.97 per cent of Tasmania's employed labour force. Between 2008 and 2010, the Tasmanian unemployment rate rose 2.1 per cent—much higher than the 1.0 per cent increase in unemployment Australia-wide. Although other factors also influence unemployment, change in the forest industry appears to have contributed significantly to this higher-than-average growth in unemployment.

Industry turnover has declined at a faster rate than jobs, with many businesses retaining workers as long as possible despite decreased business activity. While total expenditure by the industry grew by between 5 per cent and 8 per cent during 2006 to 2008, from \$1.42 – \$1.60 billion to \$1.49 – \$1.73 billion[1], it has declined by at least 35 per cent subsequently, and more likely by 40 to 45 per cent. Overall, 79.1 per cent of businesses reported a decline in turnover since 2006, and 85.8 per cent reported decline since 2008. The exceptions to this trend were a small number of sawmills who reported successfully maintaining or expanding their business since 2008, usually through targeting markets not affected by the downturn or otherwise adapting their business to achieve continued turnover.

The downturn has had a range of impacts on forest industry businesses. The brief discussions held with business managers in the course of undertaking the 2010 survey identified that critical issues for many businesses across the industry include:

- lack of access to finance to invest in new capital or to maintain and finance existing capital equipment
- difficulty downsizing businesses due to lack of markets for capital equipment
- loss of skilled workers
- difficulty attracting new workers when businesses do expand after downsizing
- lack of certainty about the future of the industry.

Adaptive strategies used by businesses to cope with the downturn included targeting new markets; shifting to work in other industries; downsizing the business in the hope of 'riding out' the downturn before expanding again; and taking out loans to keep the business running in the hope of future expansion of work opportunities. Several processors also reported strategies such as better utilising by-products, value-adding to their production, and targeting niche markets.

The downturn has many impacts on forest industry workers, their families, and the communities in which they live. Although not examined in detail in this study, unemployment, underemployment, and ongoing uncertainty about the future of the industry create a range of stresses for those who depend on the industry for their livelihood. More work is needed to identify how many workers who have lost jobs in the forest industry have found alternative employment, and to understand how the recent changes in the industry have affected their lives and their families.

[1] Expenditure figures are given as a range to reflect the level of uncertainty in the estimates presented.

While forest industry businesses are widely distributed around Tasmania, there are some regional differences. In 2010, 39.0 per cent of forest industry workers were located in Tasmania's NRM North region[2], 35.5 per cent in the NRM South region[3], and 25.5 per cent in the NRM Cradle Coast region[4].The downturn has affected employment in the Cradle Coast region more than the other regions, with 43.6 per cent of forest industry jobs lost in this region since 2008, compared with 31.4 per cent of jobs in the Northern region and 27.9 per cent in the Southern region. The higher decline in jobs in the Cradle Coast is largely due to the closure of Tasmanian Paper's two mills in 2010, which resulted in several hundred workers losing employment.

The local government areas (LGAs) in which the largest numbers of jobs have been lost since 2008 are Burnie, Latrobe, Launceston, Dorset and Derwent Valley, all with more than 150 jobs lost. The LGAs experiencing the highest percentage of forest industry jobs lost were Latrobe, Burnie, Central Highlands, Dorset, Waratah–Wynyard, West Tamar, Southern Midlands, Glenorchy, Meander Valley, Dorset, Derwent Valley and Glamorgan–Spring Bay. In all of these LGAs, forest industry jobs have declined by more than 35 per cent.

The impacts of this change vary depending on the size of the forest industry workforce compared with the total labour force in a LGA. The LGAs experiencing loss of a high proportion of their employed labour force as a result of the downturn are Central Highlands, Dorset, Glamorgan–Spring Bay, Derwent Valley, Burnie and Latrobe. In all of these, the loss of employment in the forest industry represents more than 3 per cent of the total jobs in the region. This study did not examine how these changes are impacting each of these regions, about which there is currently little information.

In October 2010—as this report was being prepared—a statement of principles signed by key forest industry groups and environmental non-government organisations (ENGOs) set forward proposals for significant change in Tasmania's forest industry. The data in this report provides a basis for predicting the likely impacts of these changes, once their nature is identified in more detail.

More detailed work is needed to understand how different communities are coping with and adapting to the change currently occurring in the forest industry. This type of work can inform the design of strategies aimed at assisting those experiencing the negative impacts of the downturn. It can also provide a better basis for predicting the likely impacts of the ongoing changes that appear likely for Tasmania's forest industry.

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[2] The NRM (natural resource management) North region comprises the local government areas (LGAs) of Break O'Day, Dorset, Georgetown, Launceston, Meander Valley, Northern Midlands and West Tamar.

[3] The NRM South region comprises the LGAs of Brighton, Central Highlands, Clarence Derwent Valley, Glamorgan–Spring Bay, Glenorchy, Hobart, Huon Valley, Kingborough, Sorell, Southern Midlands and Tasman.

[4] The NRM Cradle Coast region comprises the LGAs of Burnie, Central Coast, Circular Head, Devonport, Kentish, Latrobe, Waratah–Wynyard, and West Coast.

Introduction

Tasmania's forest industry is experiencing ongoing change. In the decade to 2008, these changes largely involved expansion of the hardwood plantation sector, some changes to the availability of native forests for timber harvest, the closure of some older processing facilities, and investment in new or modernised processing facilities.

Since 2008, the industry has experienced a major downturn. The downturn has been driven by a number of factors, including reduced demand for export woodchips from Japan, and substantial reduction in establishment of plantations.

Change in the forest industry has important impacts on those who depend on the industry for their livelihood, and the communities in which they live. This downturn has impacted many workers in Tasmania through loss of jobs or reduced work hours, and has significant flow-on effects on many rural communities. Understanding these impacts requires accurate, robust information about how the forest industry is changing.

This report examines the employment and turnover generated by Tasmania's forest industry, and how these have changed since 2006. This information is used to examine the impacts of the downturn on forest industry workers and rural communities in Tasmania. The data in the report are drawn from a survey of Tasmanian forest industry businesses conducted in 2006, 2008 and most recently September 2010. The Forest Industry Survey is the only comprehensive survey of forest industry businesses currently undertaken in Tasmania, and provides detailed data on the forest industry not available from any other source.

The Tasmanian forest industry is first examined for Tasmania as a whole, examining how employment is changing in different sectors of the industry, the proportion of jobs that depend on native forest and plantations, and how industry turnover is changing. The impacts of the 2008 to 2010 downturn on forest industry businesses and workers are then examined, together with how the downturn has impacted unemployment levels in Tasmania. The second part of the report then examines regional and local trends, identifying how forest industry employment is changing in different Tasmanian communities.

Methods

The data in this report are primarily drawn from the Forest Industry Survey (FIS), a survey of Tasmanian forest industry businesses undertaken in 2006, 2008 and 2010. In addition, some data from sources such as the Australian Bureau of Statistics (ABS) are used as part of analysing the contributions of the forest industry to different Tasmanian communities. These other data sources are described throughout the report.

The methods used to gather and analyse data from the FIS are described briefly below, and in more detail in Appendix 1.

Forest Industry Survey methods

Data was gathered for the FIS in 2006 and 2008 using a mail questionnaire sent to all businesses directly dependent on the forest industry in Tasmania. In 2010, an update was conducted through an email and phone-based survey, to ensure the impact of rapid change occurring in the industry over 2009 and 2010 was documented. The methods used in 2006 were reported in detail in Schirmer (2008). Methods used in 2008 and 2010 are described below.

Survey questions

The questionnaire sent to forest industry businesses in 2008 is provided in Appendix 2. Each business was asked to provide information on:

- the location and nature of their business, including the type and extent of forest industry related work undertaken during the 2007–08 financial year
- the number of people the business employed during 2007–08 by employment status (full-time, part-time, casual), and turnover in employment
- demographic characteristics of employees, including gender and age
- the local government area/s (LGAs) in which their workers lived and worked
- business expenditure by expenditure category, and LGA.

In 2010, businesses were asked a smaller subset of questions, namely:

- the number of people and full-time equivalents employed in their business at the time of survey (September 2010)
- how employment had changed since 2008. Some businesses who had not provided data in 2008 provided both 2008 and 2010 data in response to this question, enabling comparison over time
- the proportion of their work undertaken in the native forest, softwood plantation and hardwood plantation sectors
- the type of work activities undertaken
- how business turnover had changed since 2008 and 2006 respectively, with businesses asked to indicate whether turnover had increased, stayed the same, or decreased
- the location of the business and individual sites/offices from which it operates.

Who was surveyed?

The following types of forest industry businesses undertaking activities specific to the forest industry were included in the survey:

- 'growers'—businesses that manage native forest or plantations for wood production
- 'processors'—processing facilities which process harvested roundwood into wood products, or products such as woodchips or rough sawn timber into secondary products. Direct dependence on the forest industry ends where wood products are mixed with other materials such as plastics and cloth in the process of making end products
- 'harvest and haulage contractors'—businesses that harvest and transport logs to processors
- 'nurseries and seed suppliers'—nurseries growing seedlings for planting in commercial forestry activities, and seed collectors and suppliers
- 'silvicultural contractors'—businesses who engage in activities including site preparation, planting seedlings, fertilising, weed and pest control, pruning, and other activities involving management and maintenance of trees
- 'roading and earthmoving contractors'—businesses that maintain, build, and upgrade/rehabilitate roads into forestry areas, and that undertake earthmoving activities as part of ground preparation
- 'other businesses'—other businesses dependent on the forest industry including industry lobby groups, associations, government regulators who have staff whose job is to oversee and regulate industry, and researchers focused full time on forestry research.

All businesses known to undertake these types of work were sent surveys in 2008. In 2010 all growers and processers were surveyed, but resources did not enable survey of all contractors, and instead a sample of contractors were contacted and asked to answer the survey questions (see 'Response rates' (over page) for details of this sample). Forestry businesses were identified through (a) surveying those who had been involved in the industry in 2005–06 (see Schirmer [2008] for details of how these were identified); and (b) identifying new businesses through a brief survey of large growers and processors and forest industry experts, and including these new businesses in the survey.

Businesses not included in the survey were:

- contractors who provide services not specific to the forest industry
- processors who utilise wood and paper products to make products for a purpose other than wood and paper production (such as adding ink to make specialised stationery products)
- firewood cutters and sellers
- non-industrial private forest (NIPF) growers
- activities beyond the 'mill door', including transport of finished products to market, except where that market involves another stage in wood or paper processing
- 'secondary' processing, which often involves adding non-timber products to timber products, such as production of kit homes, kitchen cabinets, and so on.

Survey delivery

In 2008, the FIS questionnaire was delivered by mail, with follow-up reminder cards used to increase response rate. The survey delivery methods followed the ‘Dillman’ approach (Dillman 2007), as described in Schirmer (2008). In 2010, the survey was undertaken by phone or email, depending on the preference of each business surveyed. This option was chosen because the small number of questions asked in 2010 could be readily answered by businesses over the phone.

Response rates

Response rates achieved in the 2010, 2008 and 2006 surveys are summarised in Table 1, by forest industry business type.

Overall, data were obtained from 41.1 per cent of Tasmanian forestry businesses in 2010. While less than half of businesses provided data, those surveyed employ an estimated 86.1 per cent of people working in the forest industry, with all large businesses, 70.2 per cent of medium sized businesses, and 33.4 per cent of small businesses providing information.

In 2008, responses were obtained from 55.9 per cent of Tasmanian forestry businesses. These respondents employed an estimated 88.7 per cent of all workers in the industry, with 100 per cent of large businesses, 82.8 per cent of medium sized businesses and 49.9 per cent of small businesses responding to the survey.

Table 1. Forest Industry Survey response rate: 2010, 2008, 2006

	Response rate		
	2010	**2008**	**2006**[1]
Growers	100%	100%	100%
Processors	71.0%	76.1%	93.8%
Harvest and haulage contractors	58.2%	66.9%	50.0%
Silvicultural contractors	28.2%	50.7%	42.0%
Roading and earthmoving contractors	16.7%	48.1%	46.0%
Nurseries and seed suppliers	54.5%	60.0%	57.0%
Other businesses	12.1%	28.0%	39.0%
Total (all types of business)	**41.1%**	**55.9%**	**42.0%**
Confidence interval based on overall response rate	± 3.4%	± 2.4%	± 3.0%
Proportion of total forest industry workforce employed by responding businesses	**86.1%**	**88.7%**	**88.6%**

Response rates are for individual business sites. Where a business operates multiple sites (for example, multiple processing facilities), the response from each was counted as an individual response.

[1] *Response rates have been updated since 2006 data were reported in Schirmer (2008), based on new information on total numbers of businesses in the industry, and data received in response to the 2008 and 2010 surveys.*

Overall, the survey achieved a very high response from large businesses in the forest industry, a high response from medium-sized businesses, and a lower response from small businesses. The response rate was high enough to enable accurate estimation of total employment in the industry.

Response rates by location are shown in Table 2. The response rate from businesses in individual local government areas (LGAs) ranged from 10 per cent to 86 per cent, with response rates for most LGAs between 30 per cent and 50 per cent.

Table 2. Forest Industry Survey response rate by LGA

	Response rate			Total estimated number of businesses operating in the forest industry (2010)
	2006[1] %	2008 %	2010 %	
Break O'Day	44	63	38	8
Brighton	55	60	60	10
Burnie	58	42	32	37
Central Coast	28	33	10	21
Central Highlands	75	86	86	7
Circular Head	56	67	50	24
Clarence	33	33	33	6
Derwent Valley	50	64	54	13
Devonport	63	62	38	13
Dorset	53	67	50	36
George Town	86	100	67	6
Glamorgan–Spring Bay	57	75	50	16
Glenorchy	19	27	27	15
Hobart	46	61	41	27
Huon Valley	43	57	52	23
Kentish	36	43	17	12
Kingborough	80	40	40	5
Latrobe	45	60	40	10
Launceston	52	57	37	70
Meander Valley	26	50	36	33
Northern Midlands	39	69	50	16
Sorell & Tasman	40	55	27	11
Southern Midlands	70	73	64	11
Waratah–Wynyard	27	33	31	16
West Coast	33	50	33	6
West Tamar	40	67	50	12
Unknown	0	33	33	3
Outside Tasmania	86	60	80	5

[1] *Response rates have been updated since 2006 data were reported in Schirmer (2008), based on new information on total numbers of businesses in the industry, and data received in response to the 2008 and 2010 surveys.*

Estimating total employment

As a 100 per cent response rate was not achieved from all types of forest industry businesses, it was necessary to identify appropriate methods for estimating total employment in the forest industry based on the responses received. The methods used are described in Appendix 1.

Results

Results of the study are presented in three sections:

- state-wide trends: changes for the state as a whole are examined, including how employment in the forest industry changed from 2006 to 2010, the causes of change, and trends in different sectors of the forest industry. Impacts of these changes on workers and rural communities are then examined
- regional trends: data is provided on forest industry employment for each of Tasmanian's natural resource management (NRM) regions (NRM North, NRM Cradle Coast and NRM South)
- local trends: information on employment is provided at the LGA scale, and the impacts of changing forest industry employment on different LGAs are examined.

State-wide trends

Employment

The number of people working in the Tasmanian forest industry rose by 7.0 per cent between 2006 and 2008, from 6510[5,6] people (±3.0 per cent) to 6960 people (±2.4 per cent). The number of people working full time in the industry increased in line with this growth: full-time equivalent (FTE) employment grew by 7.7 per cent, from 6000 FTE jobs in 2006 to 6460 in 2008.

Employment then declined by 33.3 per cent over the following two years (2008–2010), with 4650 people (±3.4 per cent)[7] employed in September 2010 (4340 FTE) (Figure 1).

When the number of businesses operating in the industry was examined, a different trend was identified. The number of businesses operating in the forest industry declined between 2006 and 2008, from 514 to 464 businesses. Between 2008 and 2010 another 54 businesses either amalgamated or closed, with 410 businesses operating in the industry in September 2010. This reduction in business numbers was sometimes a result of the takeover of some businesses by others within the industry (for example, Gunns Ltd's purchase of Auspine in 2008), but more commonly resulted from business closure. Most business closures occurred in the contracting sector, although some processors have closed down—in particular, the closure of Tasmanian Paper's[8] sites at Burnie and Wesley Vale in 2010 resulted in the loss of a large number of jobs (discussed further subsequently).

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[5] Estimates of employment in 2006 have been updated since previous estimates of 6300 people employed were produced by Schirmer (2008). In the 2008 and 2010 surveys some errors in 2006 data were identified when comparing survey returns across the different periods. The businesses involved were asked to provide corrected data for 2006, resulting in the revised estimate of 6510 people employed in Tasmania's forest industry in 2006.

[6] Estimates of total employment are rounded to the nearest 10 people throughout text in this report; in figures and tables more specific numbers are given but should only be considered accurate to within the confidence intervals specified in Table 1.

[7] The estimated range of confidence was calculated based on a 95% confidence interval. Throughout the report, data on total employment for the different years should be considered accurate to within these intervals.

[8] Tasmanian Paper was named Australian Paper prior to 2009.

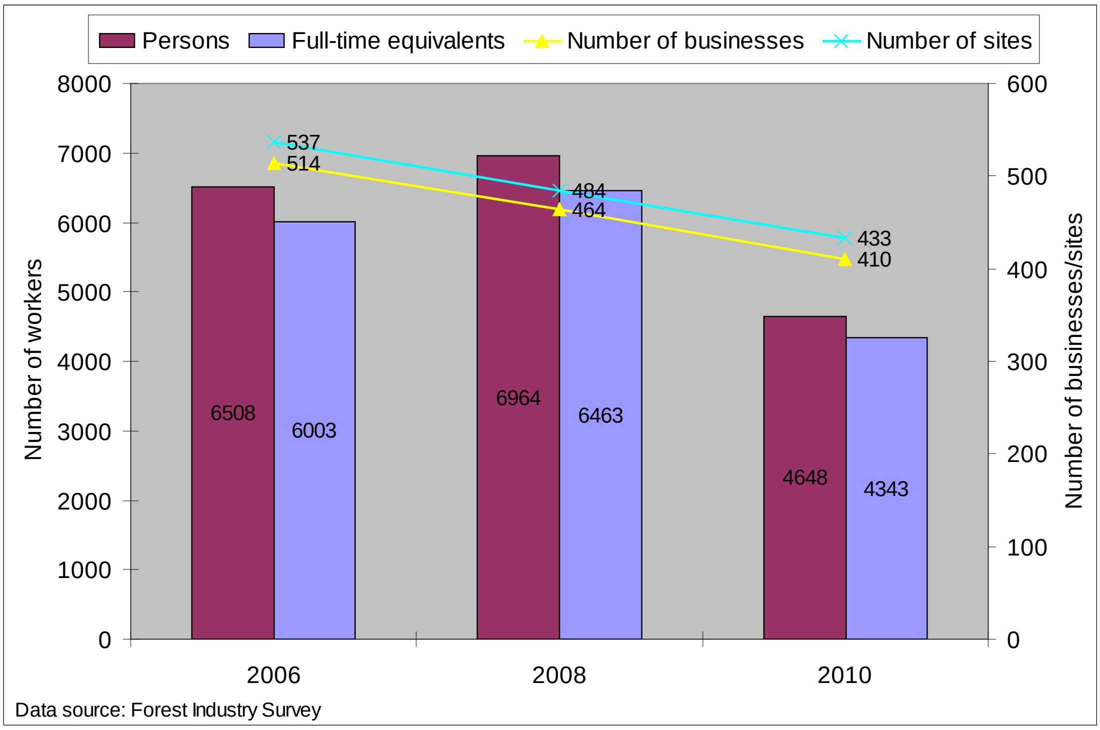


Figure 1. Trends in forest industry jobs and business numbers: 2006, 2008, 2010

Factors driving change in the forest industry, 2006 to 2010

Growth in employment from 2006 to 2008 was driven by two key factors: an increase in roundwood removals (see Figures 2 and 3), and an increase in the area of new plantations established in 2007 compared with the previous year[9] (Figure 4). In addition, the opening of the first of Ta Ann's two rotary veneer mills and expansion of Forest Enterprises Australia's Bell Bay sawmill generated growth in processing jobs in 2008, and contributed to the increased demand for roundwood.

The downturn since 2008 is the result of a combination of factors, including a significant reduction in roundwood harvest (Figures 2 and 3), closure of some large processing facilities, and reduction in the area of new plantations established.

Reduction in roundwood harvest has been associated with declining employment in the harvest, haulage and processing sectors. It has been driven by both the global financial crisis (GFC), and campaigns by environmental non-government organisations (ENGOs) against the use of native forest woodchips.

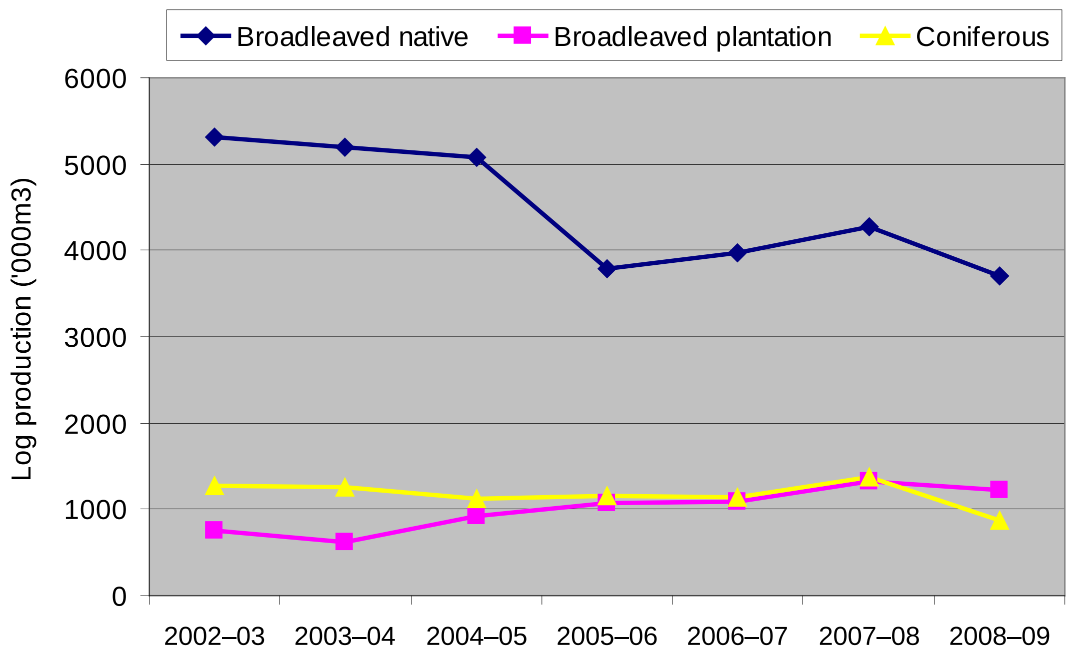
The GFC reduced demand for many wood and paper products worldwide in 2009, and the effects of this subsequently filtered through to the Tasmanian forest industry. At the same time, the strong Australian dollar reduced competitiveness of exported wood and paper products. The GFC affected a number of the key markets supplied by the industry. However, it did not affect all of them: some businesses have maintained or grown their markets, depending on their ability to target markets not affected by the GFC. It was not

[9] Forest industry employment data for 2008 are based on average employment over July 2007 to June 2008, and therefore include the employment generated by establishment of new plantations in the second half of 2007. Seven thousand more hectares of plantation were established in 2007-08 compared with 2005-06, the period covered by the 2006 survey.

possible to review the impacts of the GFC on specific markets in detail for this study, but the GFC did reduce demand for woodchips globally. Nationwide, exports of woodchips to Japan fell 19 per cent between 2007–08 and 2008–09 (Figure 5). Tasmania is a major Australian supplier of the Japanese market, and this downturn has therefore had a large impact on the Tasmanian forest industry. The choice of Japanese customers to reduce supply from Tasmania was also a result of campaigns by ENGOs that encouraged Japanese buyers to reduce their use of native forest woodchips from Tasmania.

Of the 2310 jobs lost between 2008 and 2010, almost one-third (760 jobs) resulted from the closure of three processing facilities: Tasmanian Paper's Burnie and Wesley Vale processing facilities, closed in 2010; and Gunns Ltd's Tonganah softwood sawmill in Scottsdale, closed in 2008. The planned closure of Gunns Ltd's second softwood sawmill in Scottsdale, announced in October 2010, will result in up to 140 more job losses. These closures largely reflect the age of the facilities involved, with older and less efficient plant and equipment making it difficult to produce products that were competitive in the marketplace.

In the plantation sector, meanwhile, several factors have led to a decline in establishment of new plantations. Key amongst these has been the withdrawal of funding from managed investment schemes (MIS) that had been the principal sources of funding for plantation expansion. The collapse of Great Southern Plantations, and later Forest Enterprises Australia, together with Gunns Ltd's decision to withdraw from the MIS market, resulted in substantial decline in the area of first-rotation plantations established (Figure 4). Prior to the withdrawal of MIS funding, however, there had already been a decline in establishment of first-rotation plantations, resulting from both cessation of conversion of native forest to plantations, and from rising agricultural land prices that reduced availability of land for plantation establishment.



Data source: ABARE (2010a)

Figure 2. Log production trends, Tasmania

In addition, reduction in demand for woodchips and the associated decline in harvesting of eucalypt plantations reportedly reduced the area of second-rotation plantation sites being established[10]. These changes have resulted in falling employment in nurseries and silvicultural contracting businesses.

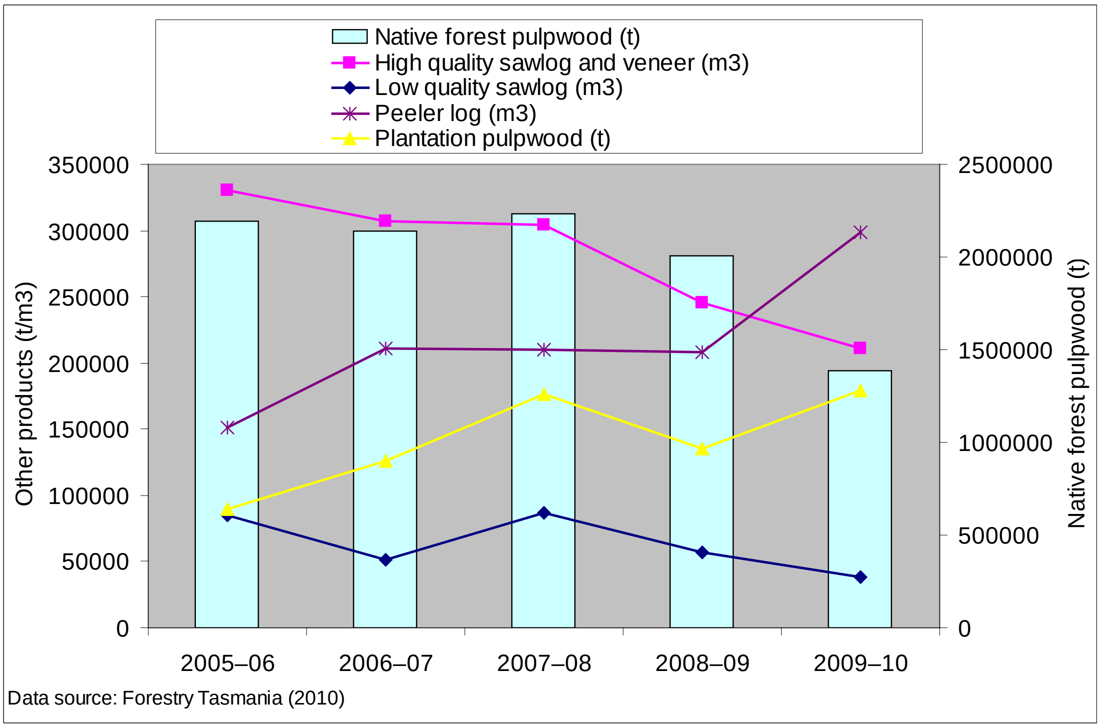


Figure 3. Wood products produced from publicly owned forests, Tasmania

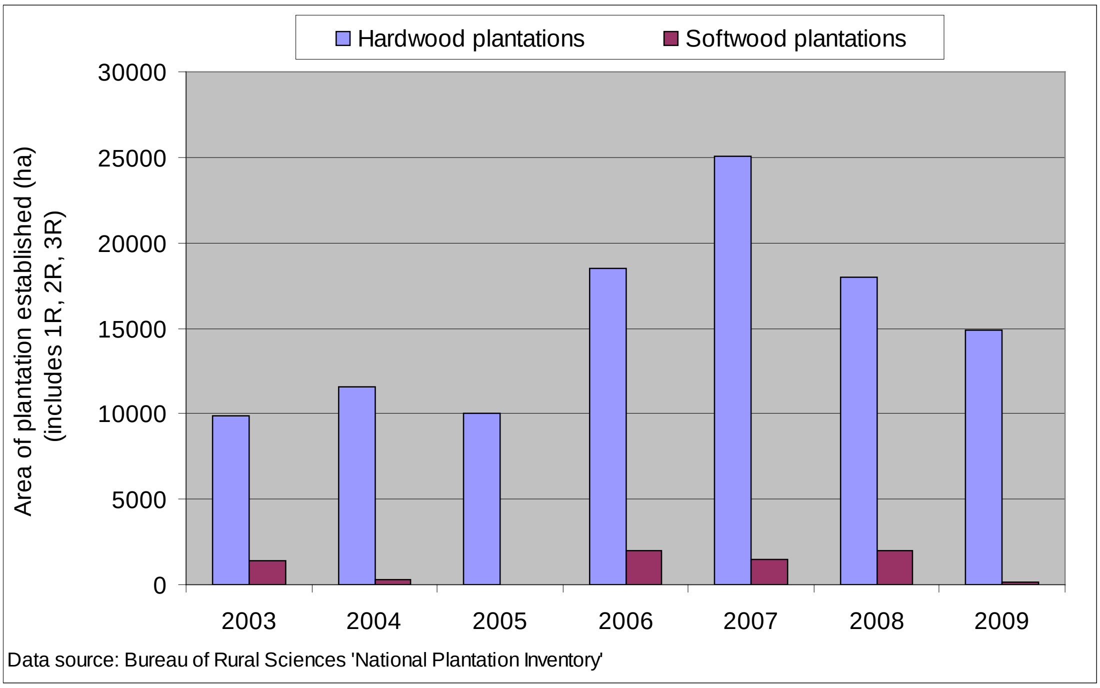


Figure 4. Area of new plantation established (all rotations—1R, 2R, 3R), Tasmania

[10] Unfortunately no data could be sourced that identified exactly how much of the decline in establishment of new plantations involved first-rotation plantations versus second- and subsequent-rotation plantations.

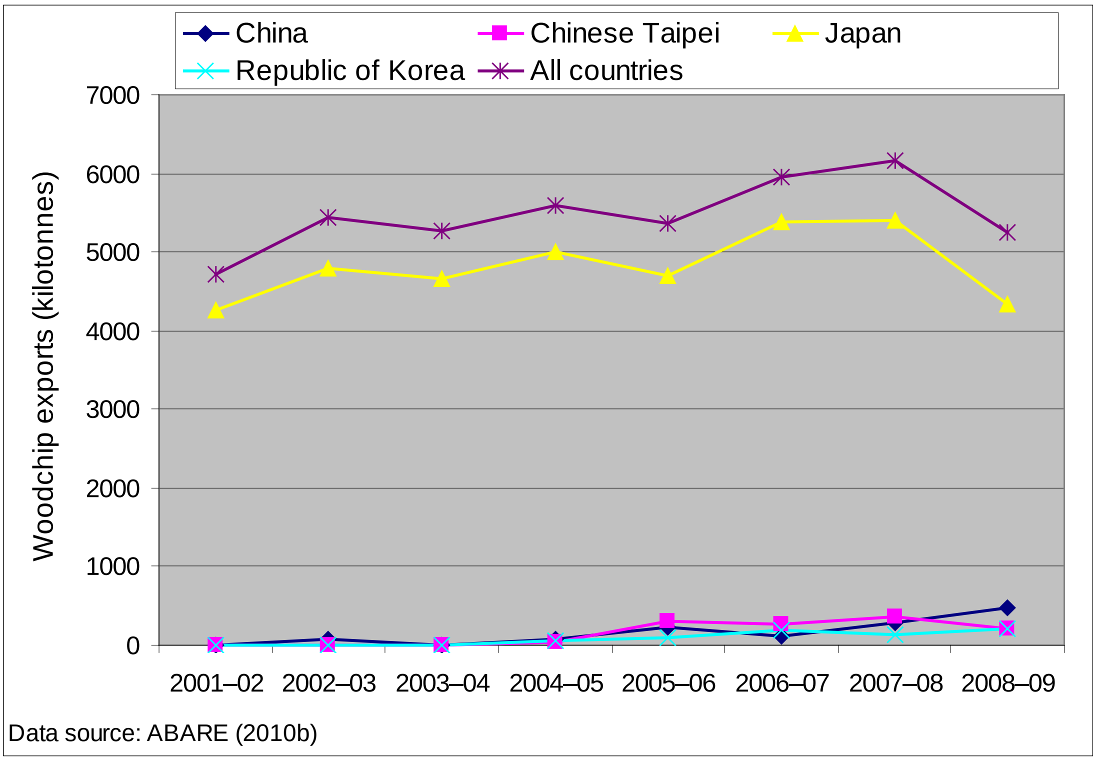


Figure 5. Australian woodchip exports, by destination country

Employment by business type

Although jobs have declined in every sector of the forest industry since 2008, the extent of decline depends on the type of business (Table 3).

The largest number of jobs were lost in the processing sector between 2008 and 2010, with 1240 people losing work, and a total decline of 1157 FTE jobs. Of these jobs, 760 were lost due to the closure of Tasmanian Paper's facilities at Burnie and Wesley Vale in 2010, and the 2008 closure of one of Scottsdale's softwood sawmills. At the time of writing, Gunns Ltd had announced the forthcoming closure of Scottsdale's second softwood sawmill, likely to result in up to 140 additional job losses. The remaining 480 jobs lost between 2008 and 2010 in the processing sector occurred as a result of reductions in the number of people employed at processing facilities that stayed open. Between 2006 and 2010 there was a decline of 37.5 per cent in employment at processing facilities. This was the net result of growth followed by decline during this period, with employment growth of 3.3 per cent between 2006 and 2008—largely due to establishment of new processing facilities by Ta Ann and expansion of Forest Enterprises Australia's Bell Bay Sawmill—followed by a 39.5 per cent decline between 2008 and 2010.

Not all processing businesses have experienced a downturn: more than 35 per cent of small and medium-sized processing businesses increased or maintained employment between 2006 and 2010. The reasons for this are discussed further in later sections of this report.

In 2010, 70 per cent of processing sites employed fewer than 20 people (slightly up from 69 per cent in 2008); while 25 per cent employed between 20 and 99 people (an increase from 19 per cent in 2008), and 5 per cent employed 100 or more people (down from 12 per cent in 2008).

Table 3. Forest industry employment by business type

	Jobs – Estimated number of people employed				Jobs – Estimated full-time equivalent employment			
	2006	2008	2010	Change, 2006–2010	2006	2008	2010	Change, 2006–2010
Growers	733	697	601	–18.0%	691	631	551	–20.3%
Processors	3034	3135	1895	–37.5%	2819	3004	1847	–34.5%
Silvicultural contractors	668	763	383	–42.7%	619	645	332	–46.3%
Nurseries & seed suppliers	139	142	65	–53.6%	88	95	48	–45.5%
Harvest & haulage contractors	1394	1556	1134	–18.6%	1295	1462	1052	–18.7%
Roading & earthmoving contractors	Unknown[1]	198	187	N/A	Unknown[1]	183	173	N/A
Other (includes land survey, expert advice, research, government regulators)	441	472	384	–12.8%	404	443	340	–15.8%

Data source: Forest Industry Survey

[1]The 2006 survey did not separate roading and earthmoving contractors from broader groups, so it is not possible to accurately calculate the rate of growth in roading and earthmoving contractors between 2006 and 2010.

In the harvest and haulage sector, an increase of 162 jobs between 2006 and 2008, representing 11.6 per cent growth in employment in this sector, has been followed by the loss of 422 jobs between 2008 and 2010, equating to 410 FTE, or 27.1 per cent of harvest and haulage jobs. This decline reflects the reduction in harvest shown in Figures 2 and 3. The net decline of almost 20 per cent in jobs between 2006 and 2010 does not indicate the full extent of the downturn in this sector: many managers of harvest and haulage businesses reported that their remaining workers are underemployed, often working a three- or four-day week, or that they expect to exit the industry in the near future. With at least 33 businesses having already exited between 2008 and 2010, this points to the significant level of stress in this sector. These stresses are affecting a large number of businesses, with the majority of harvest and haulage contractors operating as small enterprises: in 2010, 91.8 per cent of harvest and haulage businesses employed between one and 19 workers, and 9.2 per cent 20 or more workers. The majority of those who employed less than 20 workers employed either between one and four people (38.8 per cent of harvest and haulage businesses) or five to nine people (35.7 per cent of businesses).

Nurseries, seed suppliers and silvicultural contractors had the highest rates of decline in employment, with more than 40 per cent of jobs lost in these sectors since 2006 (growth of 14.2 per cent in silvicultural contracting and 2.2 per cent in nurseries and seed supply businesses between 2006 and 2008 was followed by a decline of 49.8 and 54.2 per cent respectively between 2008 and 2010). In total, 457 jobs were lost in these two sectors between 2008 and 2010. Because many workers are employed on a casual, part-time basis in these sectors, this equated to loss of 360 FTE jobs since 2008. This large loss reflects the significant decline in establishment of new plantations discussed earlier. Similar to the harvest and haulage sector, these job losses are spread across a large number of small businesses with 94.3 per cent of silvicultural contracting businesses employing less than 20 people, and only 5.7 per cent 20 or more people. The majority employ between one and four people (57.1 per cent of all silvicultural contractors).

Not all businesses reported the same types of trends. Although a majority of businesses surveyed reported a decline in workers at each of their operating sites over 2008 to 2010, growers, processors and possibly roading and earthmoving contractors were somewhat less likely to report decline[11] (Figure 6).

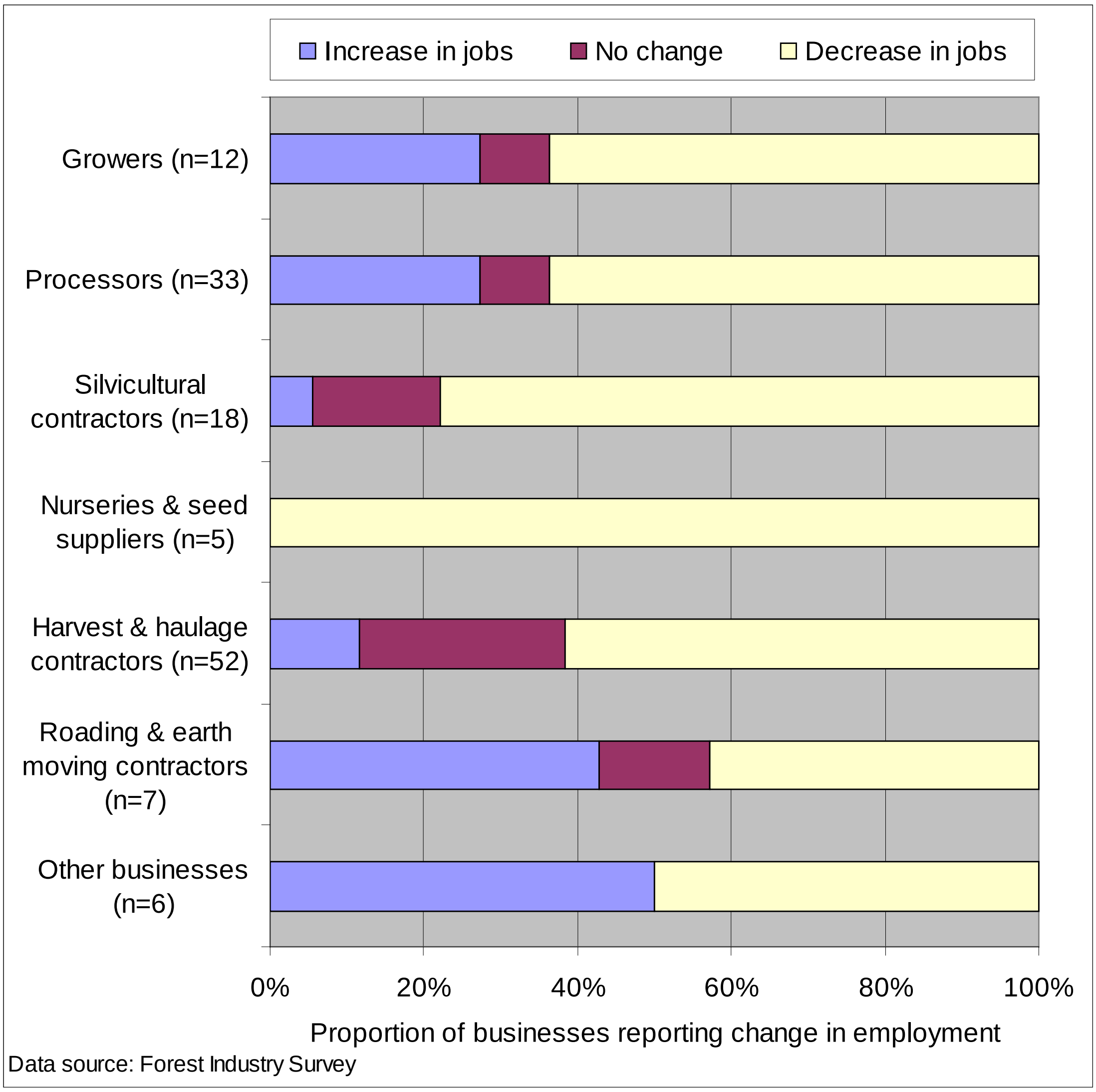


Figure 6. Proportion of businesses reporting increase, decrease and no change in jobs by business type, 2008 to 2010

[11] Some roading and earthmoving contractors may have reported an increase in jobs due partly to work obtained outside the forest industry, although every effort was made to ensure only information on work undertaken in the industry was included in these figures. There is therefore likely to have been a larger decline in this sector than is indicated in Figure 6.

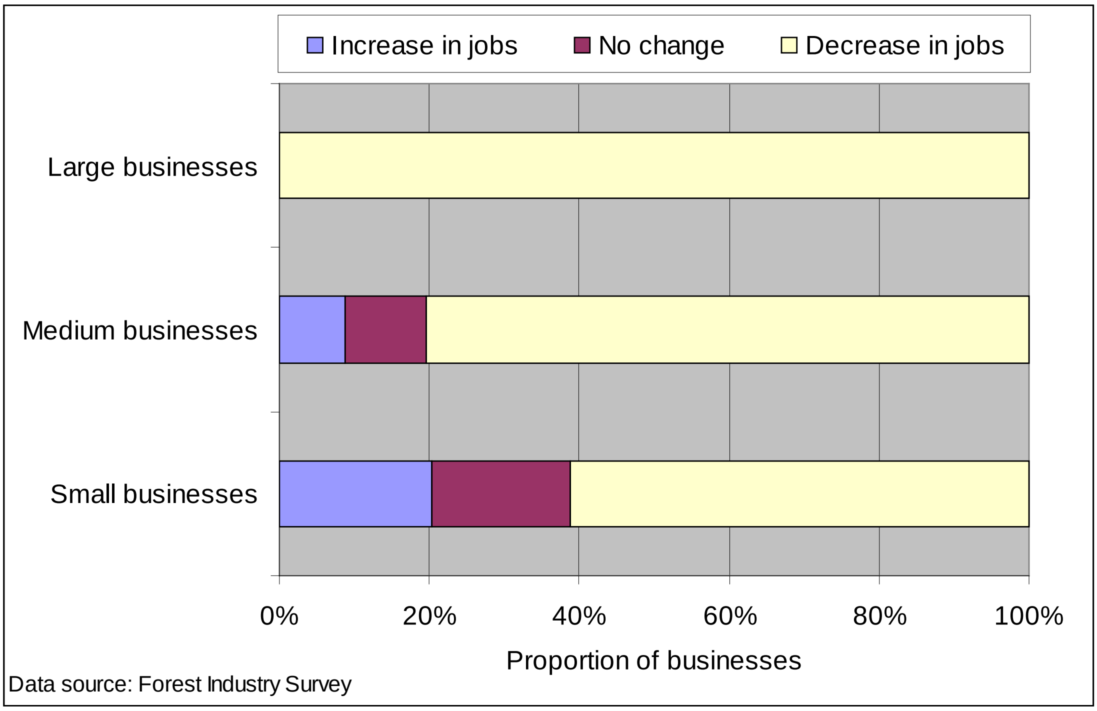


Figure 7. Proportion of businesses reporting increase, decrease and no change in jobs by business size, 2008 to 2010

Small businesses employing fewer than 20 people were somewhat less likely to report a decline in the number of people working in their business over 2008 to 2010 than medium-sized businesses employing between 20 and 99 people or large businesses employing 100 or more workers (Figure 7). However, a majority still reported decline, with 61.2 per cent of small businesses reporting a decrease in employment in their business compared with 80.4 per cent of medium-sized businesses and 100 per cent of large businesses.

These small businesses are dominated by contracting businesses. One forester with extensive experience in the industry commented that he believed small businesses were somewhat less likely to report a decline in jobs because:

> *Often the smaller businesses have lower overheads and the owner works hands-on in the business, for example as a machine operator, taking out a wage. They seem more willing to reduce their business margin so as to ride out the rough patch, relying on just their wage to "feed the family". They therefore win more work when contractor supply outstrips demand. Larger operators have more admin, workshop and supervisor staff and it's not so easy to "mark time".*

Employment dependent on native forest and plantations

The majority of employment in the Tasmanian forest industry is based on wood sourced from native forests (2033 jobs in 2010), although this dependence has declined over time (Table 4). In 2006, 63.6 per cent of jobs were generated by native forests[12], declining to 55.3 per cent by 2010 (Figure 8).

[12] Schirmer (2008) estimated that up to 68.3% of forest industry jobs were dependent on native forests in 2006, but pointed out that this calculation assumed that the sample of survey responses received in 2006 was representative of the industry. Subsequent data collection enabled more precise calculation of the proportion of businesses dependent on native forests versus plantations, resulting in revision of the 2006 estimate to 63.6%.

While the proportion of jobs dependent on softwood plantations and hardwood plantations rose over 2006 to 2010, this was not a result of job growth in these sectors, but occurred because jobs declined at a slower rate in these sectors compared with the native forest sector, as can be seen in Figure 9.

Table 4: Forest industry employment dependent on native forest and plantations

	Jobs – Estimated number of people employed				**Jobs – Estimated full-time equivalent employment**			
	2006	**2008**	**2010**	**Change, 2006–2010**	**2006**	**2008**	**2010**	**Change, 2006–2010**
Native forest	3459	3172	2033	–41.2%	3204	3023	1937	–39.6%
Hardwood plantation	831	1188	686	–26.3%	732	1031	686	–17.6%
Softwood plantation	1174	1397	957	–18.4%	1102	1292	910	–17.4%
Unknown	1044	1207	972	–6.9%	965	1117	811	–16.0%

Data source: Forest Industry Survey

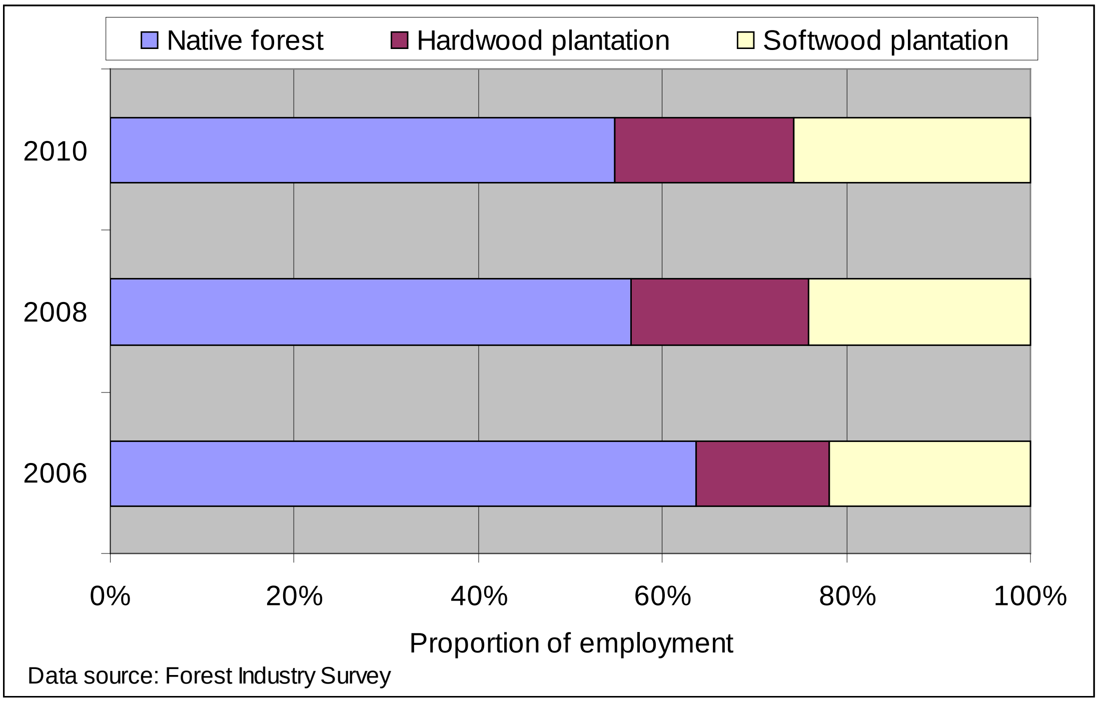


Figure 8: Proportion of employment dependent on native forests, hardwood plantations and softwood plantations

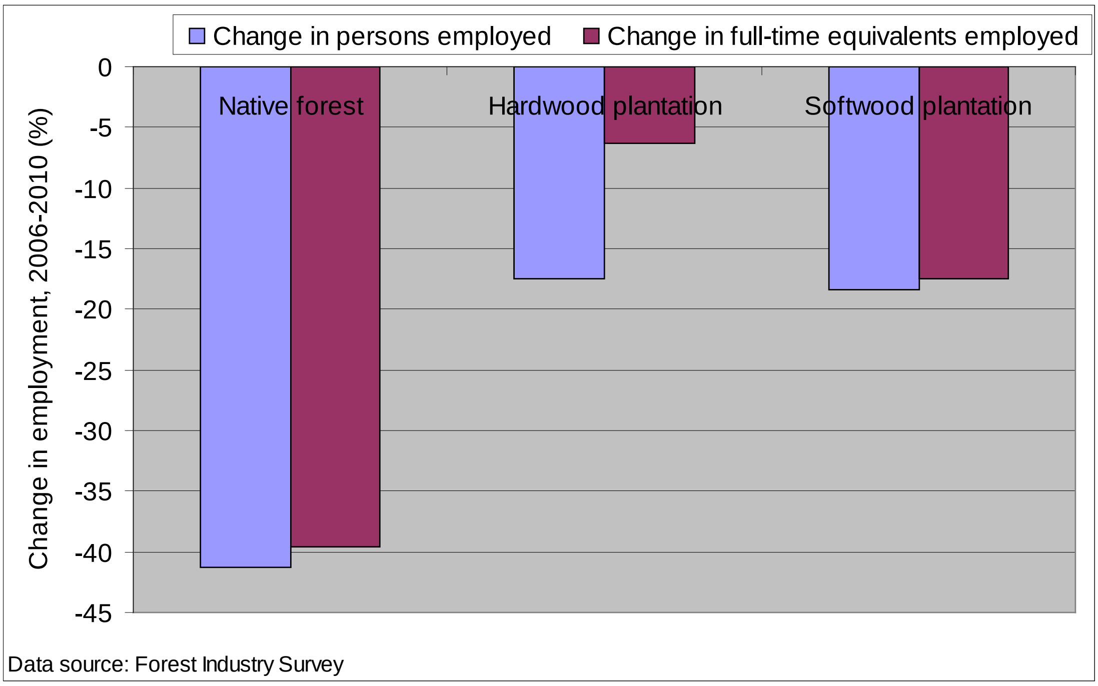


Figure 9: Change in dependence on native forests, hardwood plantations and softwood plantations, 2006 to 2010

The downturn in the forest industry has therefore been strongest in the native forest sector, with 41.2 per cent of jobs dependent on native forests lost since 2006, compared with loss of 17.4 per cent and 18.4 per cent of jobs generated by the hardwood plantation and softwood plantation sectors respectively. In each sector, the percentage of people who have lost jobs is greater than the full-time equivalent employment lost. This suggests that many businesses have initially shed casual and part-time employees while retaining their full-time workers as long as possible. This is particularly the case in the hardwood plantation sector, where decline in casual and part-time workers in silvicultural contracting and nursery and seed collection businesses made up a large proportion of the jobs lost between 2008 and 2010 (Figure 10).

Businesses were asked to identify if they relied on native forest, softwood plantations, hardwood plantations, or a mix of these, and to specify the proportion of their activities dependent on each sector. This information was used both to generate the information in Figure 10, and to examine whether dependence on native forest or plantations was associated with differing types of changes in the processing, harvesting and haulage, and silvicultural sectors.

Between 2008 and 2010, the following trends occurred:

- processors: employment declined by an average of 14.6 per cent at processors using native forest inputs, compared to 35.5 per cent at those using softwood plantation inputs (with the latter largely influenced by the closure of one of Scottsdale's softwood sawmills)

- silvicultural contractors: employment declined by an average of 69.4 per cent for those businesses dependent on hardwood plantations, and 42.4 per cent for those that work in both hardwood and softwood plantations[13]
- harvest and haulage contractors: businesses operating solely in native forests reported average employment decline of 26.8 per cent, compared with 11.7 per cent decline for those operating solely in hardwood plantations, 19.8 per cent decline for those operating in softwood plantations, 5.4 per cent for those operating in both hardwood and softwood plantations, and 8.9 per cent for those operating in both native forests and plantations. While the 51 per cent of harvest and haulage businesses working exclusively in native forests have experienced greater average decline in employment than those that work in plantations, the drop in employment has still been large for some contractors operating in the plantation sector.

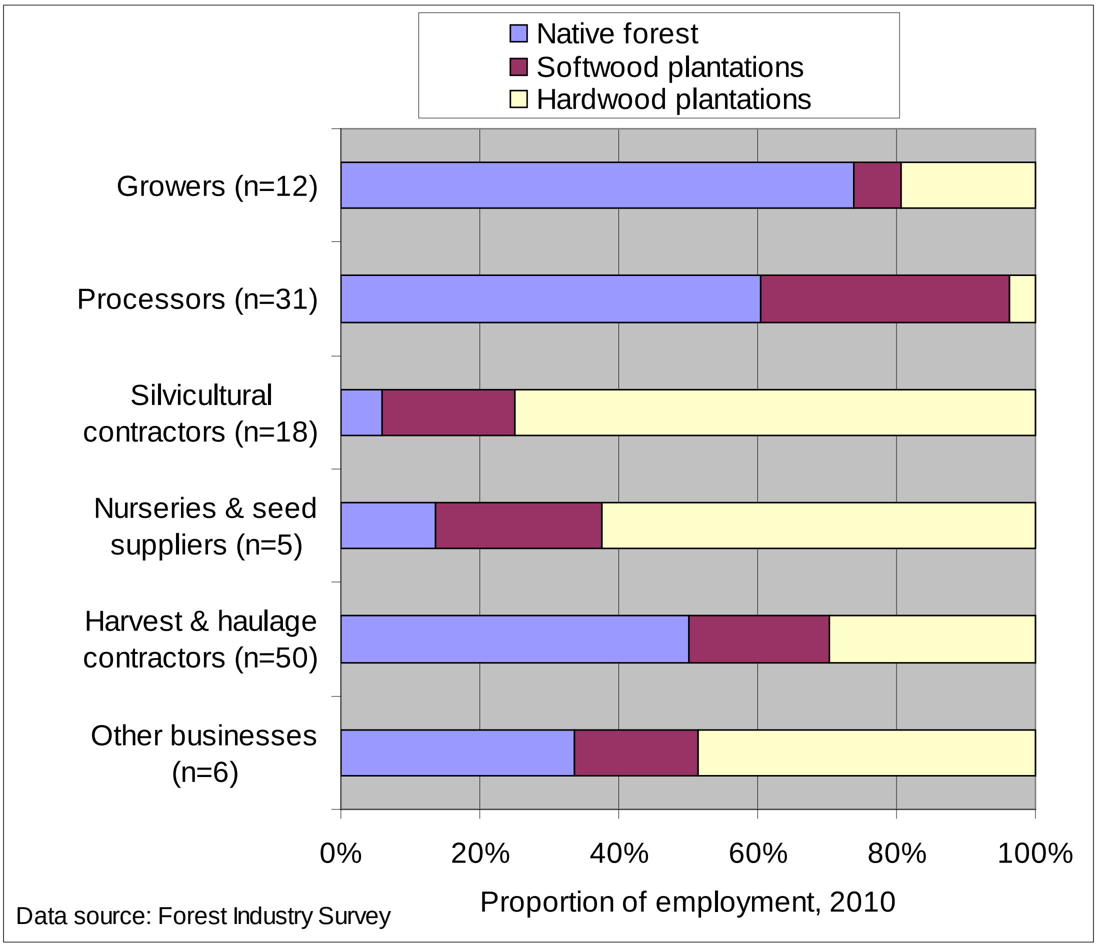


Figure 10: Dependence of different business types on native forest, softwood plantations and hardwood plantations, 2010

[13] Figures are not reported for silvicultural contractors who focus solely on softwood plantations, as a very small sample was obtained (due to the low number of silvicultural contractors focused solely on softwood plantations).

Influence of change in the forest industry on unemployment rates

The 2310 jobs lost in the forest industry since 2008 represent 0.97 per cent of Tasmania's employed labour force in August 2010. The proportion of Tasmania's labour force employed in the forestry industry declined from 3.08 per cent in 2006[14] to 1.97 per cent in 2010, a consequence of both loss of jobs in the forest industry, and growth in the total size of the labour force (Figure 11).

Job loss on this scale is likely to affect unemployment rates in Tasmania, particularly when the flow-on job losses likely to occur as a result of forest industry decline are considered. For every job lost in the forest industry, it is likely that one or two further jobs are lost as a result of declining spending on goods and services by forest industry workers, and reduced spending by forest industries. Previous studies examining the flow-on impact of spending by the forest industry have typically identified that between one and two jobs are generated indirectly for every direct job in the industry. The exact amount of indirect employment generated depends on a number of factors, including the size of the region examined, the sector of the forest industry and how much downstream and upstream activity it generates, and the spatial location of spending by the industry (Schirmer et al. 2008). While in recent years a common 'rule of thumb' has been to assume two indirect jobs are generated for every direct job in the industry (Schirmer et al. 2008), this is not necessarily the case; in some recent studies the indirect flow-on has ranged from as low as 0.65 indirect jobs for every direct job in a Western Australian region with an immature plantation industry (Schirmer et al. 2005a) to between 0.8 and 1.3 jobs in the South West Slopes of NSW where an extensive softwood plantation industry is established (Schirmer et al. 2005b). In Tasmania, a figure of between one and two jobs is likely to be reasonable, given that the region is relatively large—and hence more indirect jobs will be captured within it than in the studies by Schirmer et al. (2005 a, b), and the forest industry is mature with significant processing established.

To examine whether the downturn has affected unemployment in Tasmania, change in unemployment rates was analysed. Between August 2008 and August 2010, Tasmania's unemployment rate rose by 2.1 per cent, compared with 1.0 per cent growth in unemployment across Australia. This compares to a fall of 1.8 per cent in unemployment during the previous two years in Tasmania, when forest industry employment was growing; during 2006 to 2008 unemployment fell 0.6 per cent across Australia (ABS 2010).

While many factors influence unemployment rates at a given point in time, and decline in the forest industry is only one of these, the downturn in the forest industry is likely to be a significant influence on the higher-than-average growth in unemployment in Tasmania since 2008.

[14] The 3.08 per cent estimate is based on the ABS estimate of labour force produced from the 2006 *Census of Population and Housing*. In their longer term series of labour force estimates, the ABS has a slightly different estimate for the Tasmanian labour force in 2006, which if used would result in an estimated 2.94 per cent of the Tasmanian labour force having been employed in the forest industry at this time (as shown in Figure 11).

This was further confirmed by analysing trends in unemployment for male and female workers. With men making up more than 88 per cent of workers in the forest industry (Appendix 3), the majority of people who have lost jobs are likely to be male. If change in the forest industry has had a significant influence on unemployment, higher growth in unemployment would be expected for males than females.

Between August 2008 and August 2010, unemployment rose by 2.8 per cent amongst male members of the labour force compared with 1.2 per cent amongst female members of Tasmania's labour force. This compares to a drop of 3.2 per cent in unemployment for males and no change in unemployment rates for females over 2006 to 2008 (ABS 2010). This confirms that loss of jobs in the forest industry is likely to have made a major contribution to the rise in unemployment across the state since 2008.

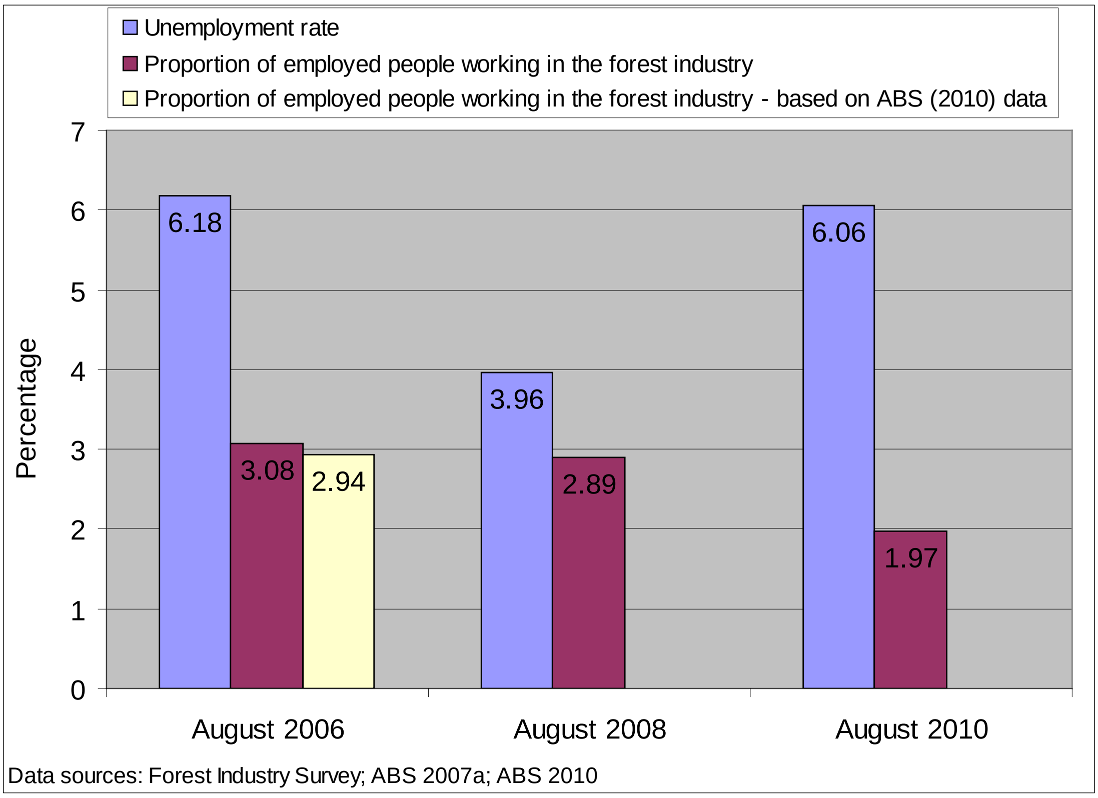


Figure 11: Change in Tasmania's unemployment rate, and in the proportion of employed people working in the forest industry, 2006 to 2010

Business expenditure and turnover

The 2006 and 2008 Forest Industry Surveys asked businesses for information on their business expenditure. A relatively low proportion of businesses provided this information, as expenditure is an often sensitive topic that many business managers prefer to keep confidential, and also because many business managers found it difficult to provide precise expenditure figures broken down into the categories requested in the survey.

In 2006, based on this data, total expenditure by the Tasmanian forest industry was estimated to be between $1.42 and $1.60 billion[15]. A more precise estimate could not be made due to the low response rate received to questions about business spending. In 2008, with a similarly low response rate, change in expenditure since 2006 was estimated using two methods: the method used by Schirmer (2008) in which the expenditure of non-responding businesses was imputed based on typical spending reported by businesses of the same type and size; and by identifying change in expenditure reported by those businesses who provided expenditure information in both 2006 and 2008.

Both these approaches suggest that expenditure by the industry increased between 2006 and 2008, by between five per cent and eight per cent. The change in expenditure reported by businesses who responded in both 2006 and 2008 was relatively commensurate with change in employment: if employment in a business had grown, expenditure had grown in a relatively similar proportion. Fifteen businesses with the same employment in both 2006 and 2008 also reported an increase in expenditure, of between two per cent and eight per cent.

Forest industry expenditure in 2008 was therefore estimated to be between $1.49 billion and $1.73 billion.

In the 2010 update survey, rather than ask about expenditure, businesses were asked to indicate whether their business turnover had increased, decreased or stayed the same since (a) 2008 and (b) 2006. Overall, 79.1 per cent of businesses reported a decline in turnover since 2006, and 85.8 per cent since 2008 (Figure 12). More businesses reported decline in turnover than decline in jobs since 2008 (85.8 per cent compared with 68.8 per cent). Discussions with business managers in the course of undertaking the survey identified that many were retaining workers as long as possible despite falling turnover, with employment in their business therefore declining more slowly than business turnover. Many had, however, been forced to reduce the hours worked by their employees in order to continue employing them.

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[15] 'Expenditure' refers to spending by forest industry businesses up to a defined point in the chain of production, excluding transfers within the industry up to that point to avoid double counting of spending. In this case, expenditure was measured up to the point at which finished goods were produced by wood and paper product manufacturers. It includes all expenditure incurred in the process of growing, harvesting, transport of logs to processors, and processing, excluding transfers between these sectors such as payments made by growers and processors to contractors, and payments for log inputs made by processors to growers.

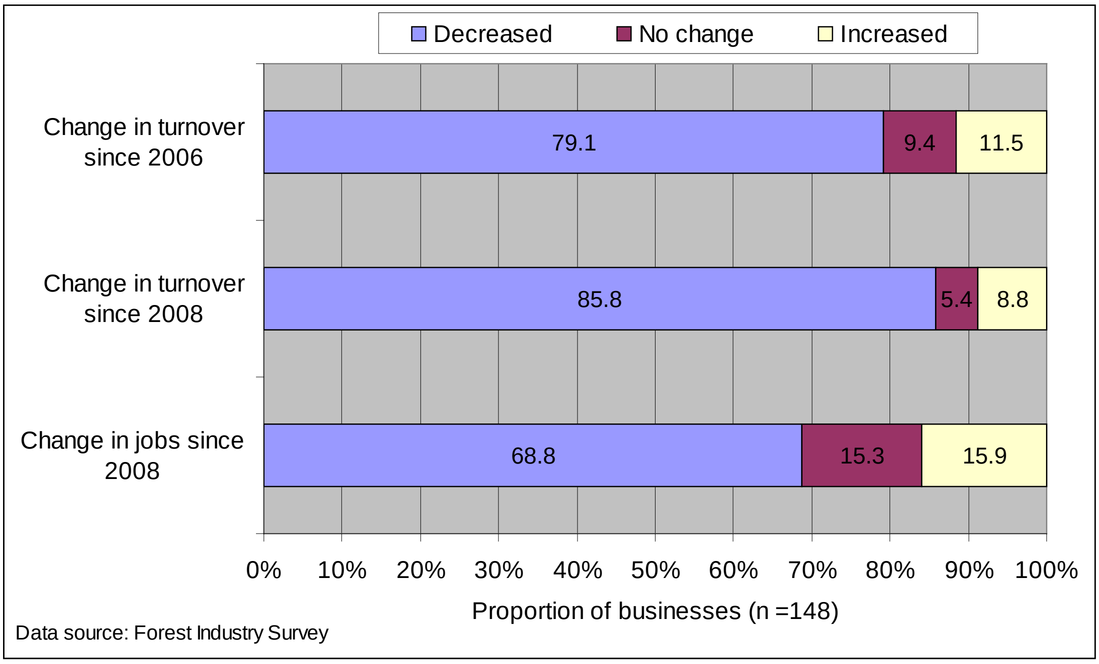

Figure 12: Change in turnover reported by forest industry businesses, 2010

Silvicultural contractors, harvest and haulage contractors, and nurseries and seed suppliers were the businesses most likely to report a decline in business turnover since 2008 (Figure 13). Processors reported the most varied outcomes: 28.6 per cent of processing sites reported growth in turnover since 2008, and 14.3 per cent no change. Those reporting no change or growth were typically sawmills, often in the native forest sector, who had experienced continued demand for their products since 2008, or who had successfully diversified into new markets in response to falling demand in their previous target markets. Several of these had significant concerns about the security of future resource supply.

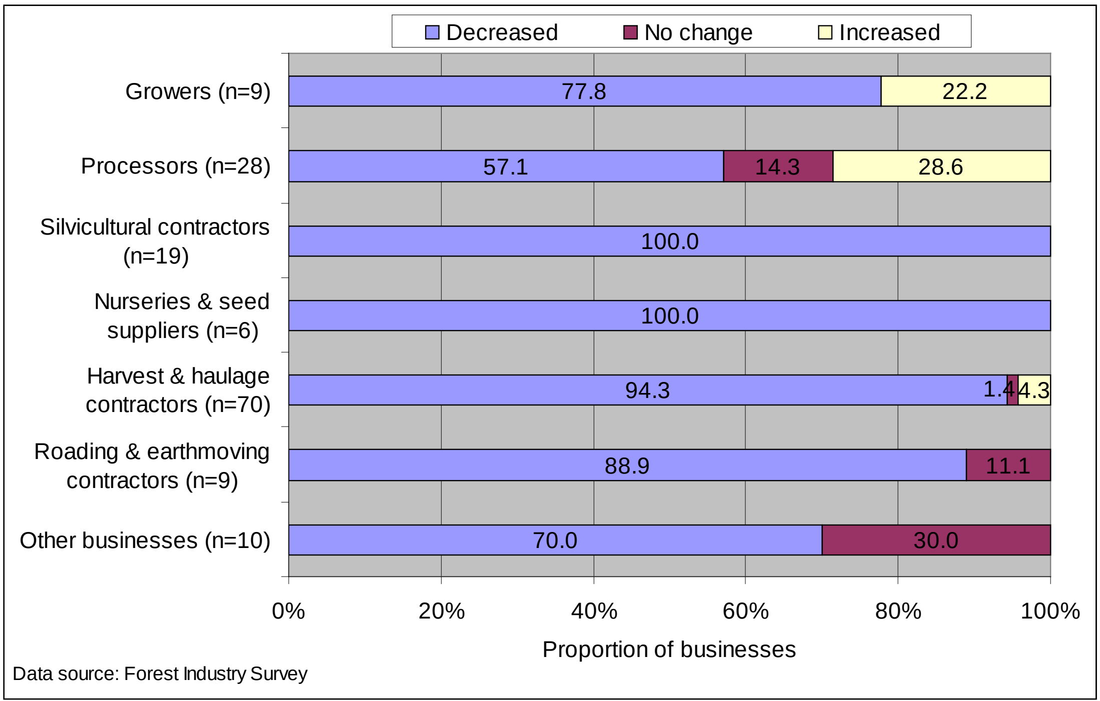

Figure 13: Change in turnover reported by different types of forest industry business, 2008 to 2010

Despite employment in the native forest sector falling more rapidly than employment dependent on hardwood or softwood plantations, slightly fewer businesses dependent on native forests reported a decline in turnover compared with those dependent on hardwood plantations (Figure 14). However, businesses dependent on native forests who did report decreased turnover were more likely than others to report a decline in employment. The native forest businesses who reported an increase in turnover were largely the processors discussed above.

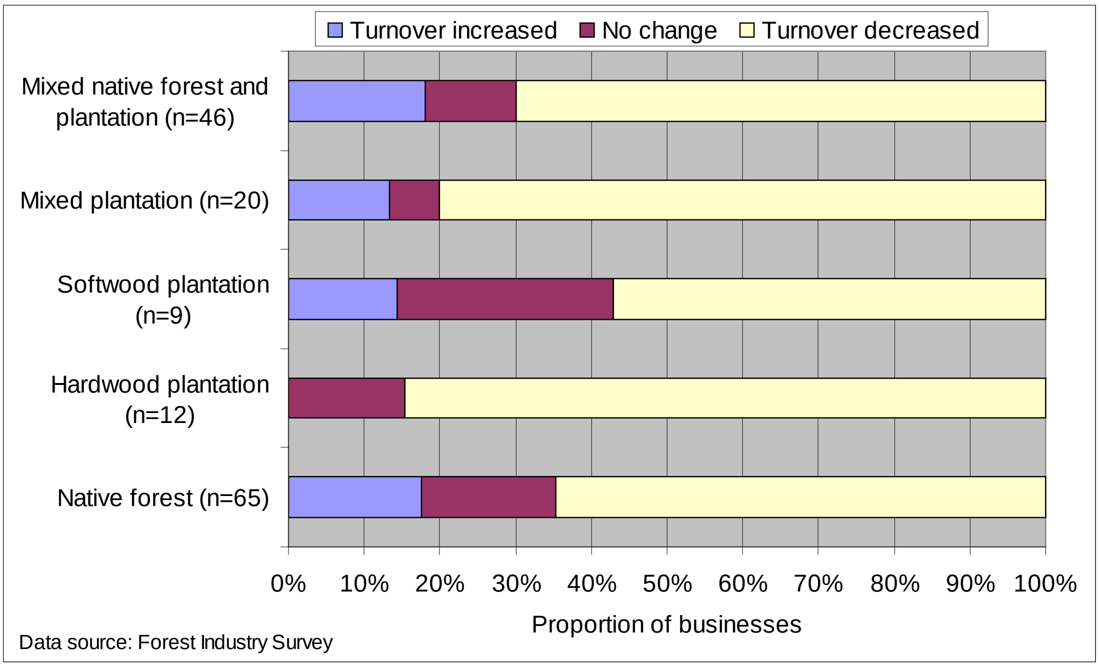

Figure 14: Change in turnover reported by forest industry businesses dependent on native forest and plantations, 2008 to 2010

The trends in turnover identified in the 2010 survey suggest that forest industry expenditure declined substantially over 2008 to 2010, and at a faster rate than decline in employment. This means expenditure fell by a minimum of 35 per cent across the industry, and more likely by 40 per cent to 45 per cent. It is not possible to be more precise, with these estimates based on identifying that turnover fell at a greater rate than job numbers, but not on any more detailed data.

Impacts of the downturn on businesses and workers

The downturn in employment and turnover in the forest industry since 2008 has impacted workers and businesses in a range of ways. These impacts include both the short-term and long-term impacts of loss of work and income on families and communities, and also longer term considerations such as loss of skilled workers from the industry.

The following sections briefly discuss some of these issues, using data collected during the course of surveying businesses in 2010. The impacts of the downturn on regional and local communities are discussed in later sections of the report.

The discussion below is based on information gathered while surveying forestry businesses in 2010. Sixty-four businesses provided comments on impacts of the downturn on their business and workers, and gave permission for these comments to be reproduced (another 34 provided some comment but did not give permission for comments to be reproduced). The discussion also draws on previous work examining the impacts of downturns in other industries and regions. While this does not represent a comprehensive analysis of the impacts of the downturn, it highlights some key issues, as well as the need for more detailed examination of the consequences of the downturn for forest industry businesses and the workers and families who depend on them. The information provided here reflects the personal opinions of those who took part in the survey, not all of whom agree about some of the issues discussed.

Impacts on businesses

Loss of business turnover has a range of consequences for forest industry businesses. In addition to the loss of employment documented in this report, businesses responding to the survey highlighted lack of access to finance for investment in capital equipment and maintenance of that equipment, lack of flexibility to downsize, loss of access to skilled workers, and lack of certainty about the future as key issues. Business managers also described using a range of adaptation strategies to maintain their business during the downturn.

Several businesses, particularly contracting businesses, reported that the downturn reduced their access to finance, preventing them investing in replacing or upgrading older capital equipment. Relatively regular replacement is often required for equipment such as excavators, harvesting equipment, and vehicles, as well as other capital equipment. Lack of replacement will in the long run reduce the competitiveness and efficiency of businesses as their capital equipment becomes outdated or requires increasingly costly maintenance.

A related issue is that of equipment maintenance and servicing requirements. Harvesting, haulage, silviculture, earthmoving and roading contractors, as well as processors, need to make significant investments in ongoing maintenance in order to maintain safety and efficiency of their equipment. With reduced income, several businesses reported that they were unable to pay specialised mechanics and engineers to maintain their equipment. Some reported taking on most of the servicing work themselves; others reported reducing maintenance to the bare minimum required or less; and others had retired relatively new machinery to avoid maintenance costs:

> *We can't afford to keep our maintenance up to where we should, we're not purchasing services from machinery dealers because we can't replace machinery, and we can't afford mechanics*—harvest and haulage contractor
>
> *I've got six trucks parked unused in the yard at the moment. It costs money to go to work as costs have gone up but we've received no increase in returns*—haulage contractor

Some of those finding it difficult to maintain equipment had sought to downsize their business, but struggled to do so. Downsizing often requires selling equipment in order to repay financing commitments, but the downturn has significantly reduced prices paid for equipment on the market. This means some contractors cannot recoup adequate value to cover their financing commitments:

> *We can keep people on but maintaining our capital costs is impossible, we can't maintain our equity in it and can't sell it in a depressed market, so you sell it as a loss and finance it personally—we're putting our own money in it to survive. A lot of people aren't worried about their payments on what they owe with equipment, they are worried about groceries. Our biggest issues are needing to get rid of equipment*

> *so we can downsize to the current size of the industry, and meeting creditors around the place—everyone owes creditors. People's equipment value is down so much they have no equity in their business. We owe more than the machinery is worth*—harvest and haulage contractor

> *We used to have six people all up, now we're down to four. My husband has four machines but this year to date we've only worked [the] equivalent of two—it makes paying the machines really hard. We have excavators on the market, our hands are tied and we can't get enough for them to get the bank to release them. We're worried about the flow-on effects—the maintenance on the four machines we can't get done any more, and that's mechanics out of work, as well as our employees. We need financial help to downsize the business and get rid of the two machines we don't need*—harvest and haulage contractor

> *Turnover has dropped—it all happened in one phone call, no more work for you, no correspondence, just the work's not there and you've got blokes and utes and ATV motorbikes that you have to try to hang onto until you find some other work. With my machinery sitting around I lost a lot in repayments while they were sitting around doing nothing for eight months*—silvicultural contractor

Some described staying in business and working for a loss because they could not find a way to downsize their business, others using bankruptcy to exit business when they would have preferred to downsize, and still others exited the industry but were unable to realise any value from their capital:

> *I can't get enough hours of work to cover insurance premiums and repayments on the gear, and its devaluing as it sits there. Repairs are 10 to 20 per cent of value every year once machinery is three years old and you need to have the hours to cover those costs plus fuel and travel to and from the jobs. We travel two hours each way each day just to avoid cost of camping where we're working. We don't want handouts for nothing, we'd rather have the work—but I don't know what to do because next year I think we'll be going under*—earthmoving and roadworks contractor

> *[The owner of a business now closed] worked in the industry 30 years and now there's not even a business he can sell. He's offered to give his machines and men and quota to someone else and that bloke said no, so you can't even give your business away. It all flows on to the little businesses, the mechanics and suppliers and grocery stores—even the ones still working earn half the money so there's less flowing on*—harvest and haulage contractor

Loss of skills is a key issue for many businesses that have downsized. Some contractors had found it difficult to rehire workers when they obtained new contracts in recent months, with previous workers having found alternative employment or left the area, or simply being unwilling to return to an industry they view as having an uncertain future. Others worry that loss of skilled workers will result in a significant skills shortfall in the future, putting pressure on them when they have to train new workers:

> *Our biggest problem is continuity of work, you know as soon as we have to put most guys off our most experienced people move on to other jobs, and we lose quite a bit of experience in silviculture, and then if we expand again we'll have to build those skills again*—silvicultural contractor

> *My big worry is that we have lots of people here with really good skills, and a lot of them have moved on, particularly some of the best casuals. So when things pick up we'll be retraining people and that will take a lot of time. The businesses that do survive through to the next cycle of the forest industry—we're hoping it will pick up again—lots of businesses will then have to invest a lot in retraining*—nursery manager

> *It's been a real battle in the last 12 to 18 months, we had three months off but it's starting to pick up in the last month. We sold vehicles and increased our overdraft to pay the bills. Trying to get people back is really hard as they have got work in other industries and do not want to come back into the industry due to the uncertainty and lack of security*—harvest and haulage contractor

> *We're losing skilled employees and there's no young ones coming in to learn skills from the old fellas*—sawmiller

Lack of certainty about the future is a critical issue for all businesses, whether or not they wish to stay in the industry. Contractors and sawmillers reported that their ability to plan ahead was constrained by the considerable uncertainty around future supply of wood and the short-term nature of much contracting work. Cash-flow difficulties also presented constraints for some businesses who had shut down temporarily and then gained enough work to open the business again:

> *We're running on a weekly quota at the moment, there's no certainty and we're barely able to cover the men's wages. We're only still here because we like doing it, we're hoping it might become worth our while again. We sold two excavators but got barely anything for them, it's all firesales at the moment, and we have machinery we don't use sitting around in the yard*—harvest and haulage contractor

> *The last couple months we're back into full production again, but we had been right down—we got out completely for a while and have just gone back in. Coming back in has been hard too, it's two months before you get paid so you have to be able to get through those*—harvest and haulage contractor

Some felt deeply that the nature of the current contracting system prevented them being able to invest and develop a quality business, although others felt that the concerns raised here represented common issues raised for many years, rather than resulting specifically from the downturn:

> *There's no loyalty, you get someone who comes along and undercuts your price but does a crappy job, then they go out of business and they come back begging you to do the work*—silvicultural contractor

> *The contracts are only job by job which is hard because they expect you to buy equipment to do the work but this year you might have 300 hectares of planting and pruning and fertilising and next year nothing, and there's no loyalty and no way to build up a business*—silvicultural contractor

Businesses reported undertaking a number of adaptive strategies to cope with the downturn. Some sawmillers have sought niche or alternative markets to ensure they maintain demand. Where supply is a critical issue, some have sought alternative wood supplies for the mill, including experimentation with plantation timber by some native forest sawmillers, albeit with very limited success reported by the three who discussed this. Others have sought to change the focus of their business to further utilise by-products such as kindling and sawdust. Some also reported seeking to differentiate their product, usually by ensuring a higher quality product than that produced by competitors, to improve competitiveness of their business. This has resulted in a mix of outcomes: some sawmillers have maintained employment and a small number increased it (particularly those reporting utilising these strategies), while others have seen significant decline in employment.

Some contracting businesses have shifted their focus away from the forest industry in response to the downturn. In particular, some silvicultural contractors reported shifting into landscaping or other alternative industries. As well as needing to have adequate business skills to shift focus to a new industry, the ability of a business to shift to work in other industries depends on the flexibility of their skill and equipment base. Where equipment is largely suited to forestry and has few if any other uses, business owners felt there was little possibility of targeting alternative sources of income:

> *I'm doing a lot more civil work now, not so much in forestry, so I'm not travelling too badly*—silvicultural contractor
>
> *I'd be shut if I hadn't diversified into a lot of civil work in the last few months*—silvicultural contractor
>
> *Our turnover is down quite a bit, we had nothing for a while. Luckily we've limped through and picked up work in other areas outside forestry, but we've had to send our workers a fair distance away to do that, but at least they're still employed*—roading and earthmoving contractor
>
> *My gear is only really suited for forestry work, I've looked into work in other industries but I just can't regear for them*—roading and earthmoving contractor

Others have downsized their operations as far as possible in the hope of 'riding out' the downturn with as little loss as possible, taken on work that has lower returns, or reported borrowing against their home or other assets to keep their business afloat in anticipation of a future upturn in business:

> *We had to sell one dozer and truck and I'm hoping to keep going with the one left*—roading and earthmoving contractor
>
> *We're not going places, put it that way. We haven't had to lay off staff but we don't ever get our quota in because the bush we're working isn't crash hot, so we get stuck with the bad blocks but at least we're in work and can keep going*—harvest contractor
>
> *I'm staying at home most of the time now just to keep the other blokes employed, and we've shifted to working three-day weeks. We hope we can ride it out this way and keep the blokes on*—harvest and haulage contractor
>
> *We're working to about three-quarters capacity at the moment, where in previous years we always worked to capacity. These things come and go in cycles and we hope it will come back up again*—haulage contractor

These issues likely represent a subset of the full range of impacts and adaptive strategies used by businesses to cope with the downturn, given they are based on the brief comments provided by business managers in the course of responding to the 2010 survey. Nevertheless, they point to a number of critical issues faced by businesses in both the short and long term as a result of the downturn.

Impacts on workers

The impacts of the downturn on workers in the industry will vary considerably for different individuals. Factors such as a person's financial resources, skills, personality and ability to find alternative work (human capital), as well as availability of support from family, friends and communities (social capital), are critical to understanding how they cope with changes such as unemployment, underemployment or an uncertain future (McArdle et al. 2007, Winkelmann 2009).

Relatively little information was gathered on how workers are coping with the changes the downturn has brought to their work, as the survey process involved talking primarily to business managers. This section therefore draws on work undertaken elsewhere on the impacts of similar changes to identify likely impacts on workers, as well as on the limited information gathered while surveying forest industry businesses in 2010.

The following types of change to employment were reported by business managers:

- unemployment, with many workers laid off
- underemployment, with several businesses reporting that their employees were working three- or four-day weeks, and receiving lower income as a result
- uncertain future employment for those currently employed, with some reporting that workers have chosen to take up alternative job opportunities due to concerns that they would lose their forest industry work in the future.

Unemployment has a range of well-documented impacts on workers and their families. Those who become unemployed and their families are likely to experience significant loss of income, and loss of self-esteem and pride. The stress created by loss of a job is associated with higher rates of depression, mental illness, family breakdown and other negative impacts (Harris and Harris 2009, Winkelmann 2009):

> *Unemployment is consistently associated with poor mental health, anxiety, depression, suicide and parasuicide, and less consistently associated with cardiovascular disease, respiratory disease and musculoskeletal problems (Harris and Harris 2009: 119)*

The extent to which these negative impacts occur depend in part on the ability of workers to obtain alternative employment. There is no detailed information on how many forest industry workers who have lost their jobs are finding alternative employment. Business managers reported stories of some of their ex-workers who had found new jobs and some who had not, and the proportion in each group is not known. Finding alternative employment is often in itself stressful, particularly if it requires shifting to a new town or community to seek work due to lack of job opportunities in a worker's local area (Weller 2007). Forest industry workers are typically younger than the average Tasmanian worker (see Appendix 3), something often associated with better prospects of gaining new employment. Some have relatively low levels of formal education, which is associated with decreased ability to find alternative employment, while others have higher levels of education than the Tasmanian average (Christensen et al. 2000, Edwards et al. 2002, Schirmer et al. 2008). Adjusting to new types of work can be difficult, especially if the new job is not one the worker finds desirable compared with their previous work in the forest industry.

One 2010 survey respondent had closed his business and subsequently found work, but the change in job was difficult to adjust to:

> *I went from being a business owner employing men to a wage earner, it's been a pretty hard transition*—harvest and haulage contractor who had exited the industry

Underemployment also has significant impacts on workers and their families (McKee-Ryan et al. 2009). Workers who are put on reduced hours experience loss of income, and considerable uncertainty and stress as a consequence of both this reduced income and concern about whether work will continue. Several contracting businesses reported that they were only able to provide their workers with week-to-week certainty about their work hours; this type of uncertainty is highly stressful for workers.

It is important to recognise the negative impacts of ongoing stress and uncertainty on those who remain in the industry, as well as the impacts of underemployment and unemployment. Those who currently have work in the industry are commonly experiencing significant stress and uncertainty about the future. This results both from concerns about whether their business will survive, and the stress of reduced business turnover and associated loss of income, changes to work hours, and for some, pressure resulting from increased debts. These pressures have a range of consequences, discussed by some survey respondents:

> *The guys who've stuck with us have children and its really hard on them, as well as us. I'm worried about my husband's health—he's taking on blocks of four or six hectares just to keep some work in and travelling a long way to them, then doing all the servicing on the machines himself, and working 80 hours or more a week for less money than what we used to get, and we're looking to borrow more money against the house just to stay afloat*—harvest and haulage contractors

> *We've taken out loans against the house to keep going. The house is hanging by a thread*—haulage contractor

> *Our plantation contract finishes at Christmas time and then we're likely to finish up completely, after 30 years in the industry we'll be gone. Our sons are in their twenties and thirties with young families and it's a big impact on them*—harvest contractor

> *Our turnover is massively down, and the business will be closing down soon. We used to have 11 people and slowly it's just gone down and down and down. We've had marriage break ups and all sorts flowing on from the stress, it's been awful*—harvest and haulage contractors

> *Turnover is down, we had a few shut downs earlier in the year. I have lost about five employees over last year but things picked up [in the] last couple months and we got a couple of those back on. It's hard because we don't have enough work to get the others back on, and these guys have a mortgage and car payment and we can't put them back on. We've had to delay payment to a lot of our suppliers and they're struggling as well*—harvest contractor

Uncertainty of future employment, underemployment and unemployment create a range of potential negative impacts for workers. However, what isn’t known is how well workers are coping with these stresses. Further work is needed to identify how current and ex-forest industry workers are adapting to the challenges of unemployment, underemployment and uncertain futures, so as to design strategies that can best help them cope with and adjust to these changes.

Regional trends

In 2010, 39.0 per cent of forest industry employment was located in Tasmania's NRM North region[16], 35.5 per cent in the NRM South region[17], and 25.5 per cent in the NRM Cradle Coast region[18] (Figure 15). These proportions have changed since 2006, with a higher proportion of employment now located in the NRM South and NRM North regions and less in NRM Cradle Coast than was the case in 2006.

The change over 2006 to 2010 evident in Figure 15 largely reflects differing regional patterns of job losses in the past two years: a higher proportion of jobs have been lost in the Cradle Coast region compared with the other two regions (Figure 16). The larger proportion of jobs lost in the Cradle Coast is largely due to the closure of Tasmanian Paper's two facilities in 2010, both of which were located in this region, and associated flow-on effects from the loss of demand for resource inputs by these mills. If Tasmanian Paper had not closed, the Cradle Coast region would have experienced a 13.9 per cent decline in employment between 2008 and 2010, rather than the 43.5 per cent decline that actually occurred. In the other two regions, job losses resulted from a mix of closure and decline in employment at processing facilities, and loss of jobs across the growing and contracting sectors.

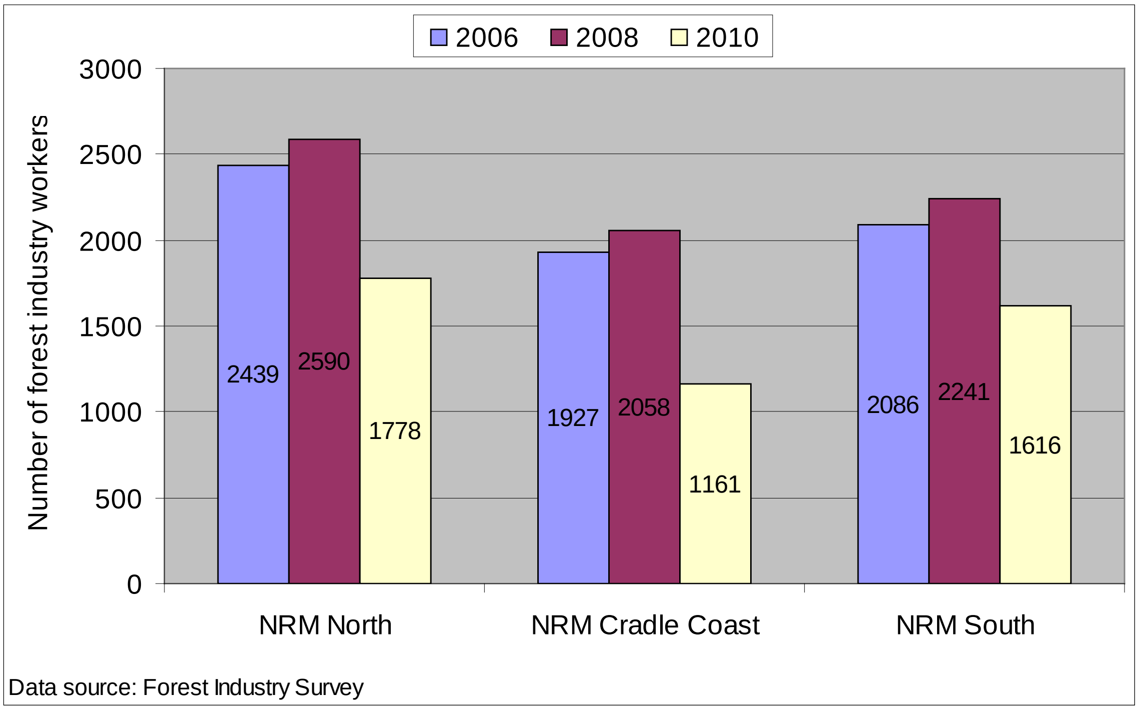

Figure 15: Forest industry employment by NRM region, 2006 to 2010

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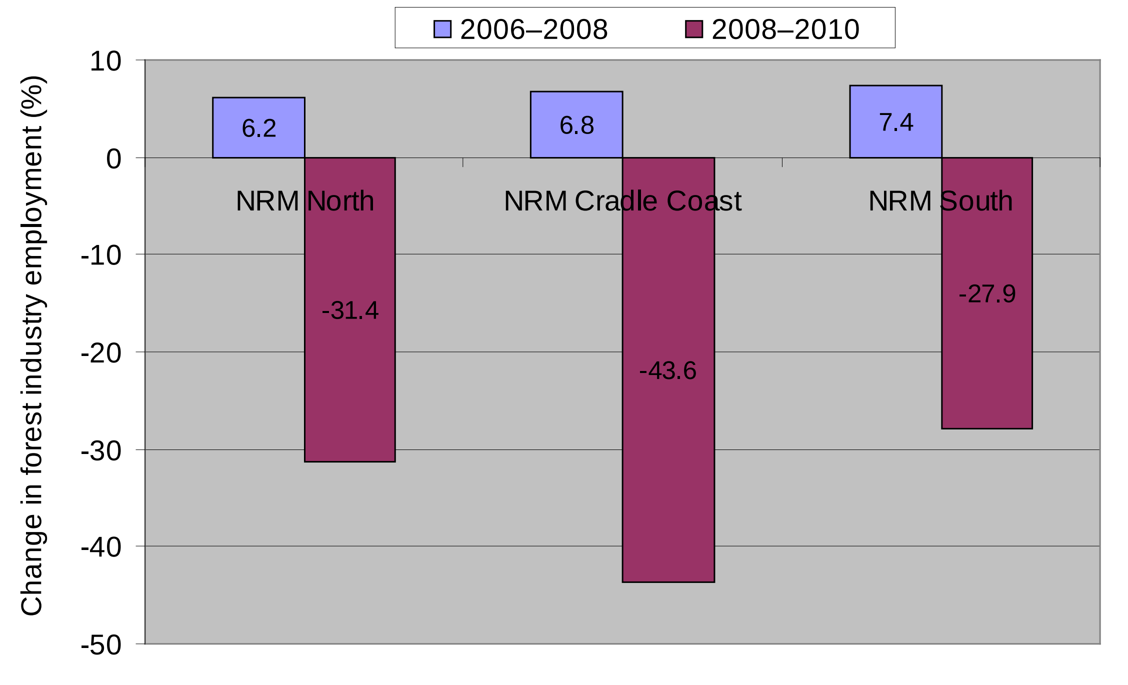
16 The NRM North region comprises the LGAs of Break O'Day, Dorset, Georgetown, Launceston, Meander Valley, Northern Midlands and West Tamar.

17 The NRM South region comprises the LGAs of Brighton, Central Highlands, Clarence Derwent Valley, Glamorgan–Spring Bay, Glenorchy, Hobart, Huon Valley, Kingborough, Sorell, Southern Midlands and Tasman.

18 The NRM Cradle Coast region comprises the LGAs of Burnie, Central Coast, Circular Head, Devonport, Kentish, Latrobe, Waratah–Wynyard, and West Coast.



Data source: Forest Industry Survey

Figure 16: Change in forest industry employment by NRM region: 2006 to 2008, and 2008 to2010

Regionally, there is some variation in the structure of the forest industry. Dependence on native forest versus plantations varies, with less reliance on softwood plantations and more on native forests and hardwood plantations in the Cradle Coast region compared with the other two (Figure 17). Over 2006 to 2010, the Cradle Coast experienced greater decline in employment based on native forest and softwood plantations compared with the other two regions (Figure 18).

Overall, the impacts of the downturn are currently greatest in the Cradle Coast region, largely as a result of the closure of Tasmanian Paper. Significant decline in forest industry employment has occurred in all regions of Tasmania, however. Excluding the impact of Tasmanian Paper's closure, the North and South regions have experienced the greatest impact from the downturn.

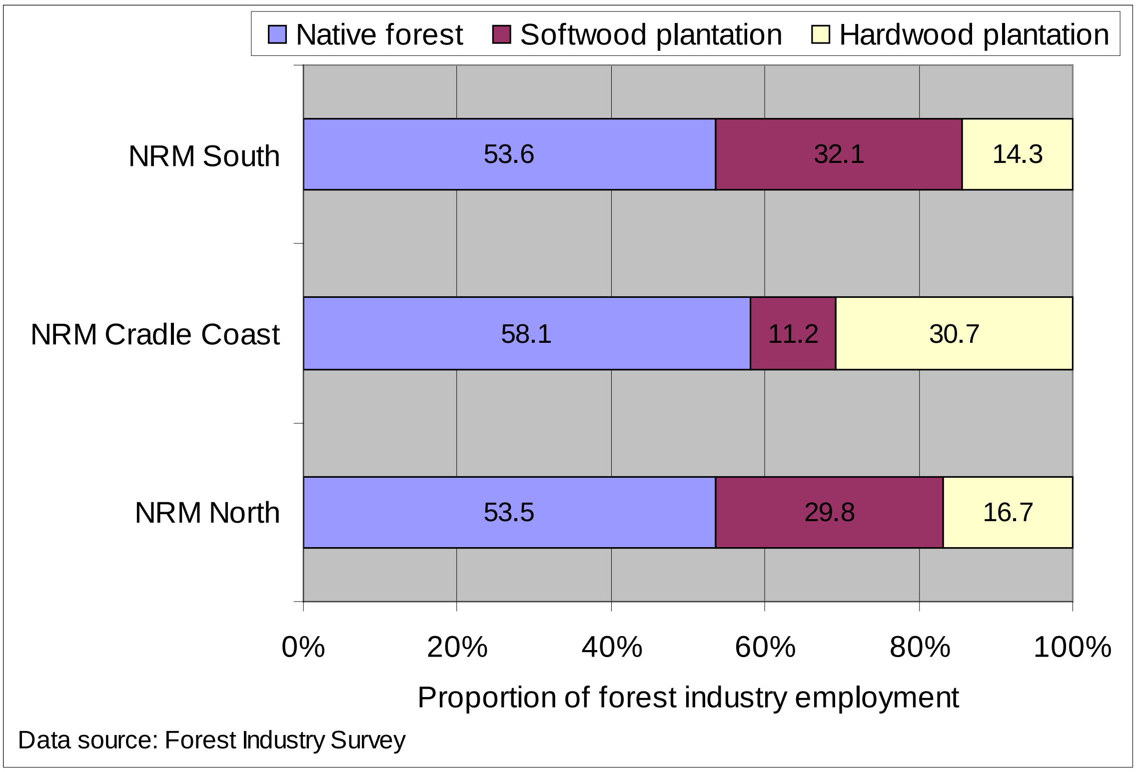


Figure 17: Estimated proportion of forestry industry employment dependent on native forest, softwood plantations and hardwood plantations, by NRM region, 2010

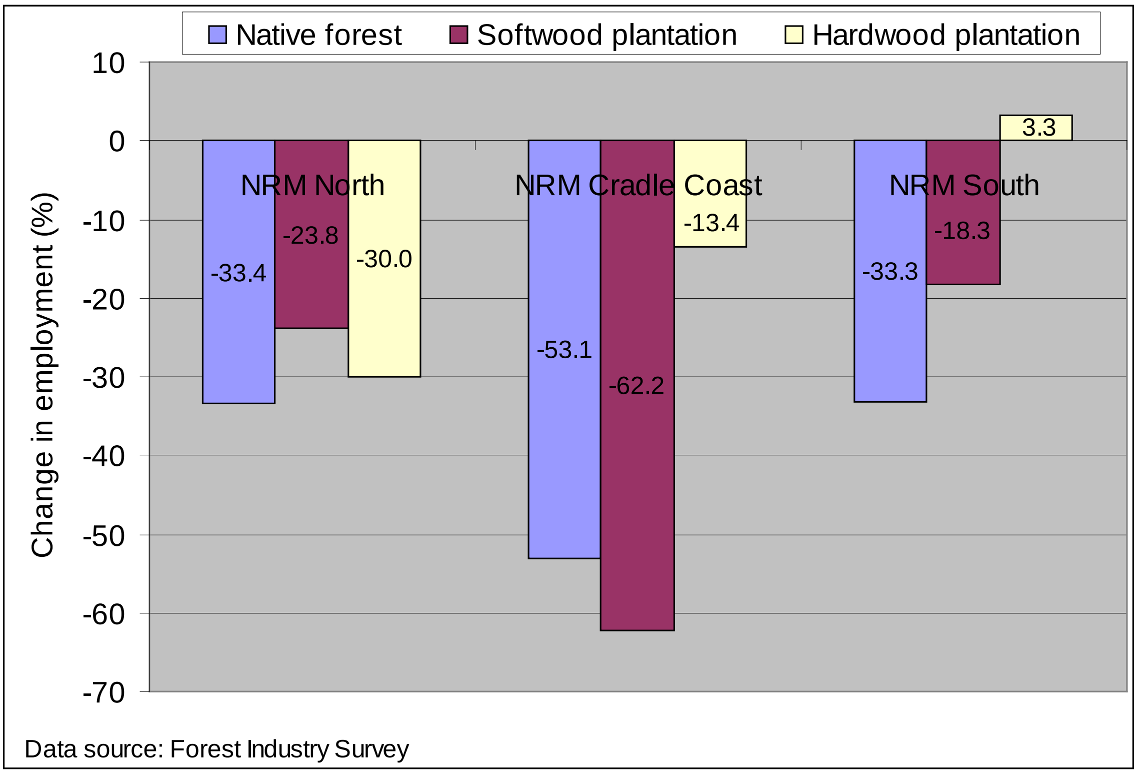


Figure 18: Change in forest industry employment dependent on native forest, softwood plantations and hardwood plantations, by NRM region, 2008 to 2010

Local trends

Employment in the forest industry varies considerably by local government area (LGA). When examined by the work location of those employed in the industry, the LGAs with the most employment in the forest industry in 2010 were Launceston, Dorset, Derwent Valley, Burnie, Circular Head, Hobart and surrounding LGAs, and Huon Valley, with more than 200 forest industry workers located in each. The information in Table 5 shows numbers of workers based on where their business is located (e.g. where the main office of a silvicultural contractor is based, or the location of a processing site).

Table 5: Number of people employed in the forest industry by LGA—based on location of workplace

	Estimated number of people in the labour force employed in the forest industry			Change in employment, 2006–2010	95% confidence interval[2]
	2006[1]	2008	2010		
Break O'Day	36	45	41	13.9%	± 12.5%
Brighton	82	91	86	4.9%	± 5.3%
Burnie	706	735	340	–51.8%	± 2.7%
Central Coast	114	128	121	6.1%	± 6.2%
Central Highlands	114	70	55	–51.8%	± 3.3%
Circular Head	314	337	317	1.0%	± 2.9%
Clarence	109	123	80	–26.6%	± 12.3%
Derwent Valley	570	593	380	–33.3%	± 4.5%
Devonport	179	202	167	–6.7%	± 4.5%
Dorset	639	674	417	–34.7%	± 2.3%
George Town	230	176	174	–24.3%	± 3.9%
Glamorgan–Spring Bay	201	217	143	–28.9%	± 2.9%
Glenorchy	266	299	178	–33.1%	± 8.6%
Hobart	337	306	278	–17.5%	± 3.2%
Huon Valley	225	308	264	17.3%	± 3.7%
Kentish	47	60	39	–17.0%	± 7.0%
Kingborough	25	28	12	–52.0%	± 11.9%
Latrobe	359	371	28	–92.2%	± 5.3%
Launceston	1067	1129	795	–25.5%	± 2.2%
Meander Valley	206	246	152	–26.2%	± 3.3%
Northern Midlands	131	137	110	–16.0%	± 3.4%
Sorell & Tasman	110	128	103	–6.4%	± 5.6%
Southern Midlands	47	79	38	–19.1%	± 4.7%
Waratah–Wynyard	185	197	123	–33.5%	± 7.5%
West Coast	24	28	27	12.5%	± 8.7%
West Tamar	130	182	89	–31.5%	± 4.2%
Unknown	12	9	8	N/A[3]	± 19.5%
Outside Tasmania	44	66	86	N/A[3]	± 4.9%

Data source: Forest Industry Survey

[1]2006 figures differ in some LGAs to those reported in Schirmer (2008). This is a result of (a) some mistakes in data analysis being corrected, and (b) greater data being accessed from businesses regarding 2006, enabling more accurate estimation of employment.

[2]Confidence intervals refer to the extent of confidence in the accuracy of the estimates. These confidence intervals have been calculated based on the maximum response received to the survey in any year.

[3]No rate of change is provided for these regions, as it is possible that in 2006 the numbers recorded represent an undercount of actual employment.

It is important to recognise that in the growing and contracting sectors, much of the work a business undertakes is often located in LGAs other than the one in which the business office is located. For example, several contractors based in Hobart, Clarence, Glenorchy and Brighton undertake the majority of their work activities in nearby LGAs such as the Derwent Valley. Identifying the linkages between native forest and plantation resources and the people who depend on them requires additional analysis beyond that provided in this report. Ideally, the data presented here should be further linked to information on the native forests and plantations on which businesses depend for a living—something not possible within the resources available for this report.

The impacts of the downturn have varied by LGA, with change in employment over 2006 to 2008 and 2008 to 2010 shown in Figure 19. A detailed analysis of the exact reasons for the change occurring in each LGA is not provided in this report. While the data gathered in the Forest Industry Survey can support this analysis, in many cases discussing change in a specific LGA requires identifying individual businesses, and not all businesses surveyed have given permission to be identified in this report[19].

It is, however, possible to point to key reasons for trends observed in different LGAs. Employment grew strongly over 2006 to 2008 principally in those LGAs where new or expanded processing facilities were established (Huon Valley), or where new blue gum plantations were being established (Break O'Day). The greatest declines since 2008 have typically occurred in LGAs where major processing facilities have closed or substantially reduced production (Latrobe, Burnie, Dorset), and nearby LGAs in which many of the businesses servicing these processing facilities are located (for example, Waratah–Wynyard). LGAs in which harvest, haulage and silvicultural contractors are concentrated have also typically experienced greater-than-average decline in forest industry employment since 2008. These include:

- Launceston, where 14.6 per cent of harvest and haulage and 13.3 per cent of silvicultural contracting businesses are located
- Burnie, where 12.7 per cent of harvest and haulage and almost 5 per cent of silvicultural contractors are located, most of which reported decline in employment
- Dorset, with 8.9 per cent of harvest and haulage and 9.6 per cent of silvicultural contractors
- Meander Valley, with 7.0 per cent of harvest and haulage and 10.8 per cent of silvicultural contractors
- Glamorgan–Spring Bay, with 7.6 per cent of harvest and haulage contractors.

The high rate of decline in Central Highlands is also largely a result of reduced employment in the harvest and haulage sector, although only 2.5 per cent of these businesses are located in this LGA. This change has had a large impact in this LGA, which has a relatively small labour force.

[19] Individual businesses are only identified in this report where they have given explicit permission, or if the information being reported about the business is already publicly available. In all other cases, the data reported are for multiple businesses to ensure confidentiality of the information provided by survey respondents.

In other LGAs, the explanations for change are more complicated, involving a mix of growth, stability and decline for different businesses. The lower-than-average decline in forest industry jobs in Circular Head, for example, is largely due to two factors: the establishment of Ta Ann's rotary veneer mill in 2008, and strong ongoing employment at Britton Timbers, one of the largest privately owned hardwood sawmills in Tasmania (both processors utilise native forest resources). At the same time, there has been significant decline in employment in the silvicultural contracting sector in this region, and in some harvest and haulage contracting businesses.

While these types of unique changes help explain change in some LGAs, it is important to recognise that decline in forest industry employment has occurred in every LGA since 2008. The downturn in the forest industry is affecting the majority of businesses in the industry, and as forest industry businesses are widely distributed across the state, it has had impacts in every LGA.

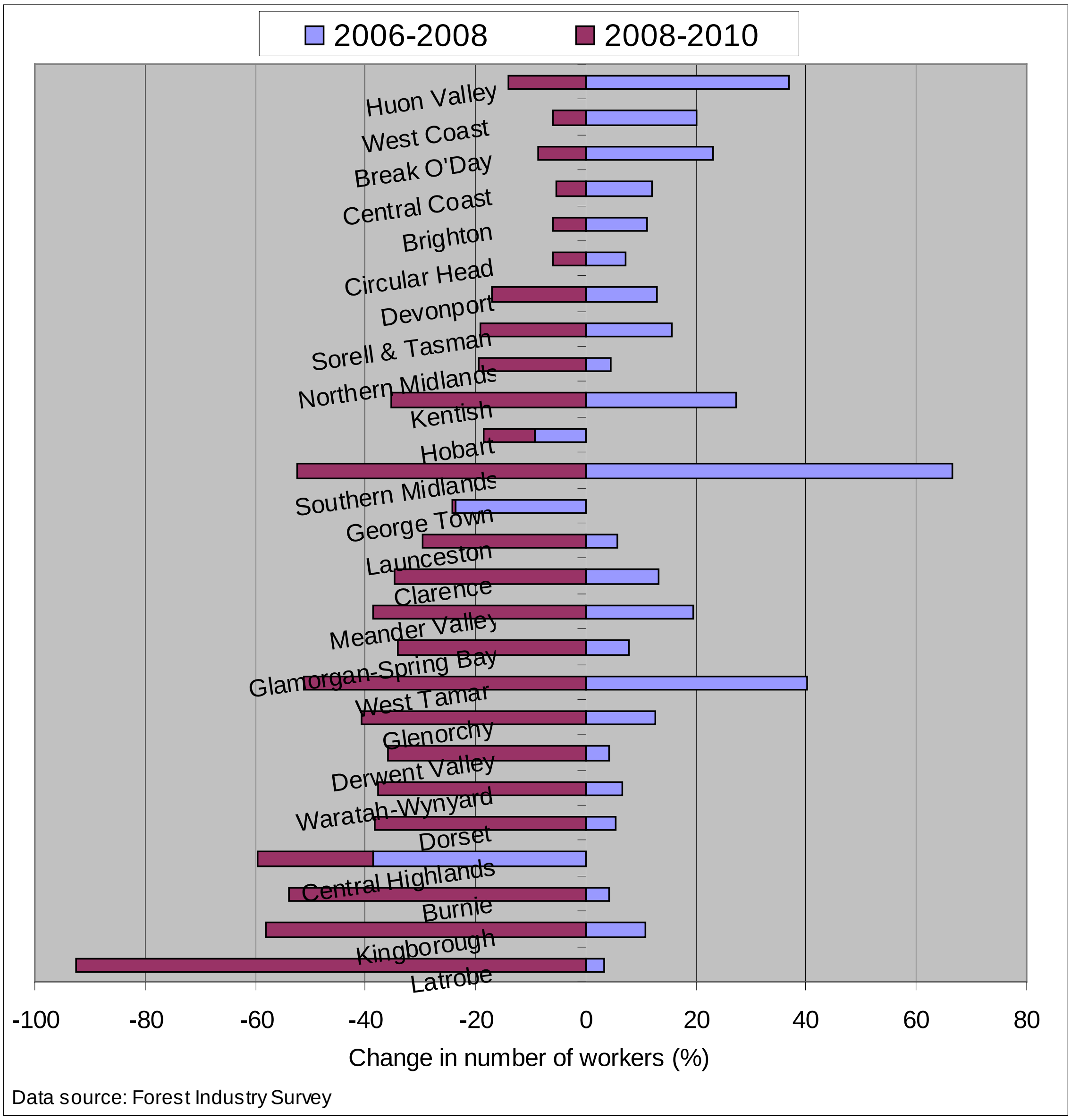


Figure 19: Change in forest industry employment by LGA in which workers were employed, 2006–2010

A similar pattern is seen when the residential location of workers is examined (Table 6, and Figure 20). It is important to examine the residential location of workers as well as their work location, as changes in the industry have significant impacts on the communities in which workers live, and where they therefore spend their wages and access many services. Residential location of workers was estimated based on data from the Australian Bureau of Statistics (ABS) 2006 *Census of Population and Housing*, with the analysis method used detailed in Appendix 1.

Table 6: Number of people employed in the forest industry by LGA—based on estimated place of residence of workers

	Estimated number of residents employed in the forest industry			Change in employment, 2006–2010	95% confidence interval[2]
	2006[1]	2008	2010		
Break O'Day	51	61	54	5.9	± 12.5%
Brighton	197	212	193	–2.0	± 5.3%
Burnie	455	461	206	–54.7	± 2.7%
Central Coast	249	271	248	–0.4	± 6.2%
Central Highlands	222	133	101	–54.5	± 3.3%
Circular Head	270	282	256	–5.2	± 2.9%
Clarence	130	143	90	–30.8	± 12.3%
Derwent Valley	325	329	203	–37.5	± 4.5%
Devonport	273	300	240	–12.1	± 4.5%
Dorset	584	599	357	–38.9	± 2.3%
George Town	116	86	82	–29.3	± 3.9%
Glamorgan–Spring Bay	184	193	123	–33.2	± 2.9%
Glenorchy	242	265	152	–37.2	± 8.6%
Hobart	200	176	154	–23.0	± 3.2%
Huon Valley	237	316	262	10.5	± 3.7%
Kentish	112	139	87	–22.3	± 7.0%
Kingborough	56	60	24	–57.1	± 11.9%
Latrobe	135	135	10	–92.6	± 5.3%
Launceston	919	945	642	–30.1	± 2.2%
Meander Valley	386	449	266	–31.1	± 3.3%
Northern Midlands	150	152	118	–21.3	± 3.4%
Sorell & Tasman	232	260	203	–12.5	± 5.6%
Southern Midlands	128	207	95	–25.8	± 4.7%
Waratah–Wynyard	309	321	193	–37.5	± 7.5%
West Coast	21	25	22	4.8	± 8.7%
West Tamar	270	367	173	–35.9	± 4.2%
Unknown	12	61	54	N/A[3]	± 19.5%
Outside Tasmania	44	212	193	N/A[3]	± 4.9%

Data source: Forest Industry Survey

[1]2006 figures differ in some LGAs to those reported in Schirmer (2008). This is a result of (a) some mistakes in data analysis being corrected, and (b) greater data being accessed from businesses regarding 2006, enabling more accurate estimation of employment.

[2]Confidence intervals refer to the extent of confidence in the accuracy of the estimates. These confidence intervals have been calculated based on the maximum response received to the survey in any year.

[3]No rate of change is provided for these regions, as it is possible that in 2006 the numbers recorded represent an undercount of actual employment.

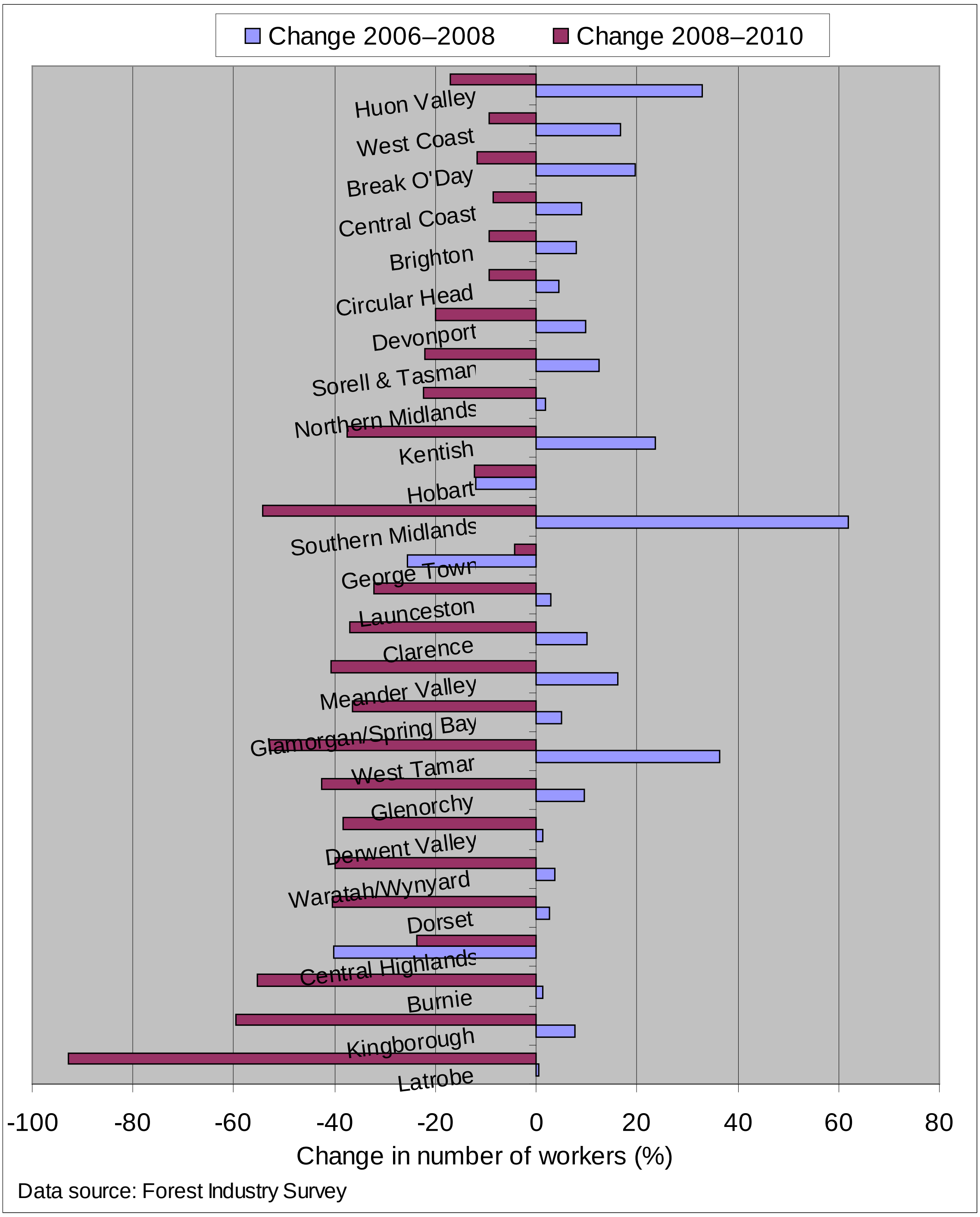


Figure 20: Change in forest industry employment by LGA in which workers live, 2006–2010

While the overall pattern of decline in employment is similar whether analysed based on where workers are employed or where they reside, understanding the differences between place of work and residence does improve understanding of which communities are experiencing the greatest impacts of the downturn.

LGAs where businesses are located will likely experience loss of business spending as a result of the downturn—for example, loss of spending on servicing of equipment by local mechanics and engineers, and reduced purchase of supplies, with flow-on impacts to businesses that service the forest industry and hence to a range of people in that community. LGAs where forest industry workers live will experience somewhat different changes as a result of the downturn: workers who are underemployed or lose work will reduce spending on groceries and local goods and services, and may have to shift elsewhere to find work, reducing demand for local services from both the workers affected and their families. Many LGAs are both places of work and places of residence for forest industry workers, and so will experience all these types of changes simultaneously.

The places of work and places of residence of forest industry workers in 2010 are compared in Figure 21. Based on consultation with members of the forest industry, it is possible to identify the typical commuting patterns of workers who work and live in different LGAs. Several LGAs are dormitory locations, where more forest industry workers live than work, particularly:

- Break O'Day, from which some residents commute to work in other locations such as Dorset, Launceston, Northern Midlands and Glamorgan–Spring Bay
- Brighton, Kingborough, Sorell, Tasman, from which residents commute to work in the Derwent Valley, Hobart, Glamorgan–Spring Bay and the Huon Valley
- Central Coast, from which residents commute to work in Burnie, Devonport and Latrobe
- Central Highlands, with some residents commuting to work in Derwent Valley and possibly some other surrounding LGAs
- Devonport and Kentish, with residents commuting to Latrobe and to a lesser extent Meander Valley and Central Coast
- Meander Valley and West Tamar, with residents commuting to Launceston
- Sorell, Southern Midlands and Tasman, with residents commuting to Hobart, Derwent Valley and Glamorgan–Spring Bay
- Waratah–Wynyard, with residents typically commuting to Burnie and Circular Head.

Other LGAs have many workers depending on the forest industry, but not all of them live in that LGA. In other words, while many workers may work in a business located in a particular LGA, they reside in another LGA. This is particularly the case for:

- Burnie, with many workers employed in Burnie living in Waratah–Wynyard or less commonly Central Coast
- Circular Head, with workers commuting from Waratah–Wynyard
- Derwent Valley, with workers commuting from various Hobart based LGAs, Central Highlands and Southern Midlands
- Dorset, with workers commuting from Launceston and Break O'Day
- Georgetown, with workers typically commuting from Launceston
- Glamorgan–Spring Bay, with workers usually commuting from Break O'Day, greater Hobart, or Sorell
- Hobart and Glenorchy, whose workers usually live in the greater-Hobart LGAs (Clarence, Kingborough, Brighton) or Sorell
- Latrobe, with workers often commuting from Devonport
- Launceston, with workers commuting from Meander Valley, West Tamar and Northern Midlands.

In other LGAs a relatively similar number of workers live and work in the location (Huon Valley, West Coast, Northern Midlands, and Clarence).

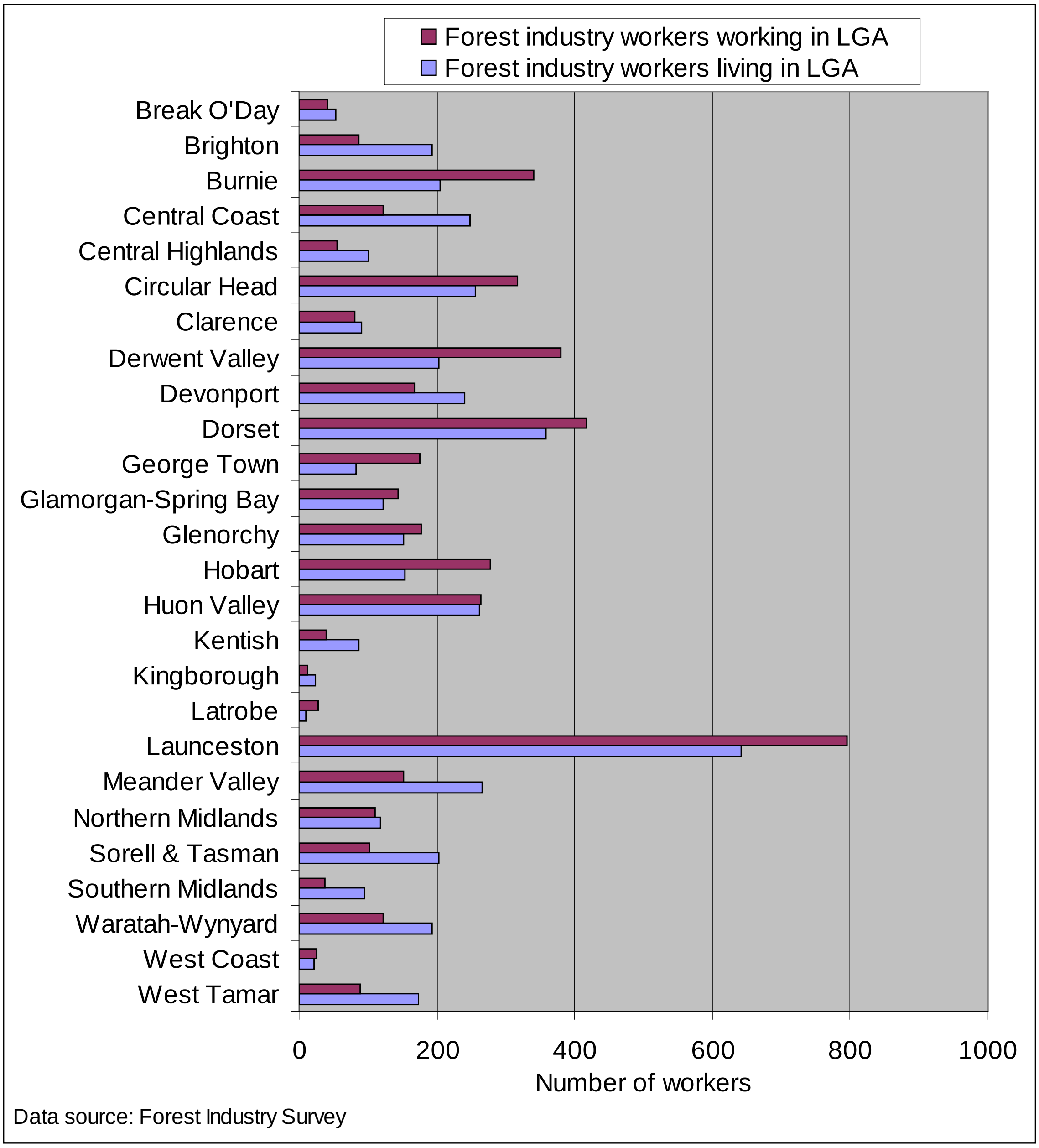


Figure 21: Number of forest industry workers by LGA—comparison based on place of work and place of residence, 2010

Further analysis is needed to identify the linkages between the native forests and plantations, and the businesses that depend on them; as described previously, many businesses undertake work in native forest or plantations spread across multiple LGAs. Contractors often undertake spending on costs such as accommodation and fuel near the native forest or plantations they work in, and extending the information in this report by analysing these spatial linkages would provide a more complete picture of the impacts of change in the industry.

To better understand how change in the forest industry is impacting different LGAs, the proportion of the employed labour force who work in the forest industry was calculated for each LGA, together with how this proportion has changed over 2006 to 2010 (Table 7).

From Table 7, it is clear that some LGAs have experienced significant decline in overall employment as a result of the drop in forest industry employment, particularly:

- Central Highlands, where forest industry employment has dropped from 24.2 per cent to 10.1 per cent of the employed labour force—a fall of 14.1 per cent
- Dorset, where a fall of 8.4 per cent in the proportion of the employed labour force working in the industry has occurred
- Glamorgan–Spring Bay, with a drop of 3.8 per cent
- Derwent Valley, where the proportion of workers dependent on the industry has fallen 3.8 per cent
- Burnie and Latrobe with falls of 3.3 per cent and 3.2 per cent respectively, despite having a large labour force.

These LGAs are likely to be experiencing the greatest direct negative impacts as a result of the downturn, with the loss of employment in the forest industry likely to flow through to the rest of the local economy. The figures provided here indicate only direct job losses; additional impacts would be felt as a result of loss of spending by forest industry businesses and workers. These flow-on impacts were not estimated for this report, as a more detailed study of local economies is needed to accurately estimate the nature and size of flow-on impacts (see earlier discussion on the potential size of flow-on impacts).

While changes in the forest industry will have a range of impacts, these impacts vary considerably depending on a wide range of factors. The impact of job losses in the forest industry will vary depending on the availability of alternative employment in the local community, changes occurring in other industries, the flexibility of workers to shift to new localities to find work, and other less tangible factors such as social capital and adaptive capacity of people living in the communities affected, as described earlier. Understanding these issues requires in-depth examination of local communities to better understand their capacity to adapt to the changes currently occurring in the forest industry.

The importance of understanding these complex relationships is highlighted by the analysis shown in Figure 22, which compares change in the proportion of people working in the forest industry and change in unemployment over 2008 to 2010, by LGA. While a relatively linear relationship might be expected between loss of jobs in the forest industry and growth in unemployment, this is not always the case: regions experiencing forest industry job losses were somewhat more likely to experience higher than average growth in unemployment, but there were many exceptions to this general trend.

For example, Dorset experienced slower growth in unemployment than many other regions despite high job losses in forestry. This does not mean that loss of forest industry jobs has not had a negative impact, but rather that these impacts need further analysis. For example, this type of trend may occur because some residents have migrated away from the community rather than continuing to live locally while unemployed, or may reflect trends in industries other than forestry. This highlights the importance of undertaking more detailed local analysis in order to understand how changes in the forest industry impact different local communities.

Table 7: Proportion of resident employed labour force working in the forest industry, 2006 to 2010, by LGA

	Proportion of employed labour force working in the forest industry (%)			Change in dependence (%)	Employed labour force (persons)
LGA	2006	2008	2010	2006–2010	2010
Break O'Day	2.4	2.6	2.3	–0.1	2326
Brighton	3.4	3.6	3.2	–0.2	6005
Burnie	5.6	5.5	2.3	–3.3	8805
Central Coast	2.8	2.9	2.5	–0.3	9781
Central Highlands	24.2	13.5	10.1	–14.1	997
Circular Head	6.8	6.8	5.9	–0.9	4311
Clarence	0.5	0.6	0.4	–0.1	25 478
Derwent Valley	8.4	7.9	4.8	–3.6	4229
Devonport	2.7	2.8	2.2	–0.5	11 064
Dorset	19.0	17.6	10.6	–8.4	3380
George Town	4.7	3.1	2.9	–1.8	2813
Glamorgan–Spring Bay	9.9	9.8	6.1	–3.8	2001
Glenorchy	1.2	1.3	0.7	–0.5	20 376
Hobart	0.8	0.7	0.6	–0.2	27 430
Huon Valley	4.1	4.9	4.0	–0.1	6497
Kentish	4.5	5.4	3.2	–1.3	2716
Kingborough	0.4	0.4	0.1	–0.3	16 671
Latrobe	3.4	3.2	0.2	–3.2	4349
Launceston	3.2	3.0	2.0	–1.2	31 470
Meander Valley	4.4	4.6	2.8	–1.6	9558
Northern Midlands	2.7	2.5	2.0	–0.7	6052
Sorell & Tasman	3.6	3.8	2.9	–0.7	7038
Southern Midlands	5.0	7.6	3.4	–1.6	2771
Waratah–Wynyard	5.6	5.5	3.1	–2.5	6211
West Coast	1.0	1.1	0.9	–0.1	2390
West Tamar	2.8	3.4	1.6	–1.2	10 621

Data sources: Forest Industry Survey; ABS 2007b; DEEWR 2010a,b.
Data is based on a person's place of usual residence.

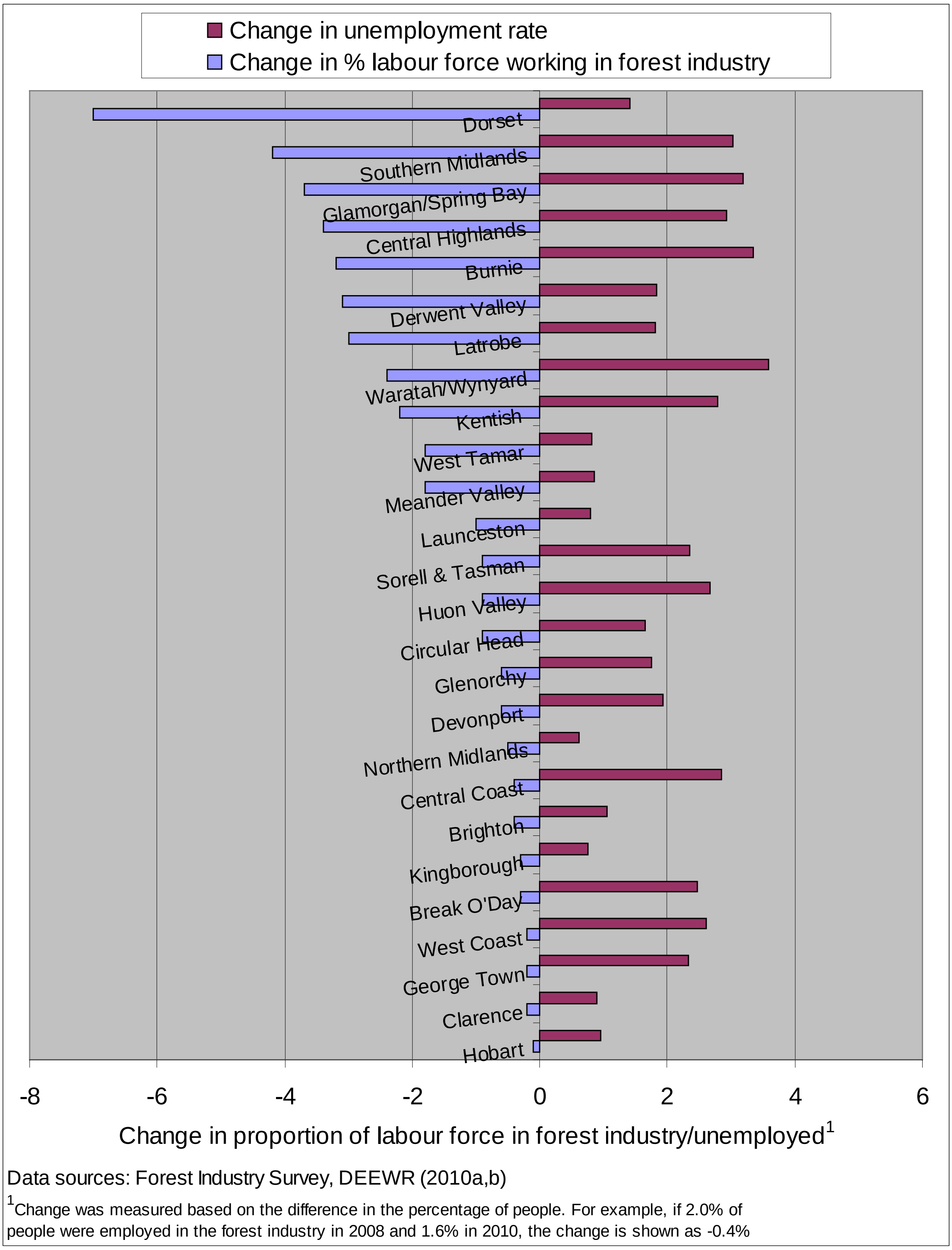


Figure 22: Comparison of change in the proportion of people employed in the forest industry and change in unemployment, 2008 to 2010, by LGA

Future changes to the industry

This report examines change in Tasmania's forest industry between 2006 and 2010. It does not attempt to predict the likely impacts of future changes to the industry. In October 2010—as this report was being prepared—a statement of principles signed by key forest industry groups and environmental non-government organisations (ENGOs) proposed significant changes to Tasmania's forest industry, in particular a transition out of native forest harvesting.

While the data in this report provides a basis for predicting the likely impacts of these changes, no attempt has been made in this report to make such predictions. At the time of writing, it was not possible to predict the impacts of the forthcoming changes to the Tasmanian forest industry in a meaningful way, given the as-yet-uncertain nature of these proposed changes at the time of writing. The impacts of any change will depend on the nature of structural adjustment packages and other assistance provided to businesses, the adaptive strategies put in place by businesses, and many other factors. Any assessment of the impacts of future change needs to consider the impact of the stresses currently occurring in the industry, as the ongoing stress of the downturn experienced over 2008 to 2010 will affect the ability of those in the industry, and communities dependent on the industry, to adapt to further change.

Discussion and conclusions

Tasmania's forest industry is undergoing rapid change. The loss of just over 33 per cent of jobs in the industry since 2008, after a period of expansion in the industry before this, is due to a combination of factors: reduced demand for export woodchips from Japan, collapse of the managed investment schemes that had driven expansion of plantations, and the closure of Tasmanian Paper and flow-on impacts on demand for supply of fibre.

This decline has significant impacts on both those working in the industry and the communities that depend on the industry. These impacts vary, though: some businesses are maintaining employment despite the downturn, while others are experiencing significant decline or exiting the industry. Understanding the impacts of the downturn requires examining the variation of its impacts both within the industry and across Tasmania.

Jobs have been lost across all sectors of the industry, with the greatest decline in employment occurring in the silvicultural contracting and nursery and seed supply sectors—a result of a large reduction in establishment of first- and second-rotation plantations. In the processing sector, closure of Tasmanian Paper, some sawmills, and reduction in employment at many other processors, has led to a decline of 34.5 per cent in employment. The flow-on effects of this can be seen in the 18.7 per cent decline in employment in the harvest and haulage sector. Many of those still employed in harvest and haulage are significantly underemployed, and working short weeks. The magnitude of change in this sector is larger than is suggested by the number of jobs lost to date.

Of the forest industry jobs lost since 2008, just over 1400 were dependent on native forests, 500 on hardwood plantations, and just over 200 on softwood plantations. Jobs dependent on native forestry have declined by approximately 40 per cent compared with 26 per cent or less in the hardwood and softwood plantation sectors.

Not all businesses are experiencing decline, however. Almost a quarter of processing businesses reported that they had increased their employment since 2008, particularly a number of native forest processors. Another 10 per cent had maintained steady employment. Most of these were, however, concerned about the future, particularly about access to adequate supply of resources to maintain their businesses.

Understanding the strategies that have enabled some businesses to maintain or increase employment despite the downturn can provide ideas and strategies for assisting businesses to adapt to rapidly changing circumstances. Some of the processors who had maintained or increased their employment reported targeting niche or high-value markets, or changing the focus of their marketing. Others had diversified into better utilising by-products such as sawdust and residues. These strategies are likely to be only some of those used by these businesses. The survey provided limited opportunity to discuss adaptive strategies with businesses, and a more detailed analysis is needed to better identify what best helps businesses adapt to changing markets and resource availability.

While the majority of businesses reported a decrease in employment, small businesses were less likely to have reduced their number of workers, with almost 40 per cent of small businesses having maintained or increased employment since 2008, compared with 20 per cent of medium-sized businesses, and no large businesses. The exact reasons for these differences could not be identified in this report, but do suggest some variation in how businesses are impacted by and cope with the downturn.

The decline in employment that has occurred to date does not reflect the full extent of the downturn. Many businesses experienced a significant drop in turnover between 2008 and 2010 but managed to retain all their workers despite this decline, or reported that they were keeping employees on but giving them fewer work hours. Businesses often reported high uncertainty about their future viability, with many contractors in particular only able to plan on a week-to-week or month-to-month basis. Reduced turnover and a lack of ability to plan for the future affect business owners in many ways, and result in reduced investment in their businesses, reduced spending on maintenance and day-to-day business activities, and loss of skilled workers from the industry. Workers currently employed in the industry face an uncertain future and may experience high levels of stress as a result. Those who are underemployed also face reduced income and hence lower capacity to cover day-to-day living costs. Those who have lost their jobs must seek alternative work, and no information is currently available on the extent to which workers are successfully finding new employment.

Across Tasmania as a whole, decline in forest industry jobs does appear to be associated with higher-than-average growth in unemployment, with Tasmania's unemployment rate rising from 4.0 per cent to 6.1 per cent between August 2008 and August 2010—the period in which almost a third of jobs were lost in the forest industry. In contrast, Tasmania's unemployment rate had fallen by 1.8 per cent during 2006 to 2008—a time in which forest industry jobs were growing.

The impact of this decline on regional and rural communities varies: the greatest job losses have occurred in the Cradle Coast region, where Tasmanian Paper's facilities closed in 2010, although high job losses were also recorded in other regions. At the LGA scale, job losses in the forest industry resulted in the loss of more than three per cent of jobs since 2008 in the LGAs of Central Highlands, Dorset, Glamorgan–Spring Bay, Derwent Valley, Burnie and Latrobe. Communities living in these regions are likely to be experiencing the greatest direct negative impacts of the downturn in the industry. However, the downturn will have flow-on impacts across the Tasmanian economy. Decreased spending by forest industry businesses flows on to many other businesses distributed throughout the state, including mechanics, engineers, suppliers, and retail businesses depending on the spending of forestry workers.

More detailed work is needed to understand how different communities are coping with the changes brought about by the downturn in the forest industry. This type of work can help inform the design of strategies that help forest industry businesses and workers cope with and adjust to the many changes occurring in the industry. This is particularly critical given the significant changes proposed for the industry in the near future. Understanding what helps and hinders businesses and individuals adapt to change is essential to designing effective strategies that assist both members of the forest industry, and the communities that depend on the industry, during what is likely to be a period of considerable ongoing change in the near future.

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Appendix 1: Data analysis methods

This appendix provides further detail on how the data was analysed to produce accurate estimates of employment in Tasmania's forest industry.

Estimation of total employment from the survey sample

(i) Ensuring only forest industry workers were included in estimates

To ensure only forest industry workers were included in estimates presented in this report, businesses surveyed were asked whether their business focused only on work in the forest industry, or also undertook work in other industries. Where only part of a business's activities took place in the forest industry, survey respondents were asked to indicate the proportion of their activities dependent on the forest industry. This proportion was used to estimate the number of workers dependent on the forest industry, avoiding overestimation of forest industry employment.

(ii) Seasonal variation in employment

Figures presented for 2006 and 2008 represent the average of data on minimum and maximum number of people employed during financial year 2005–06 and 2007–08 or, where possible, employment in August of each of these years. In 2010, data were only gathered for one point in the year—September, rather than reflecting an average of employment across the financial year. While data is comparable across these periods, there would be slight differences in the 2010 data if the averages approach had been used, as employment does fluctuate in many businesses during the year, particularly silvicultural contracting businesses.

(iii) Estimating the employment generated by businesses that did not respond to the survey, did not respond to some questions on employment, or responded in one period but not others

As not all businesses responded to the survey, and some of those who did respond did not answer all questions about employment, or did not respond in all three survey periods, the employment generated by non-responding businesses had to be estimated. The following process was used:

1. All businesses were classified as small (0–19 workers), medium (20–99 workers) or large (100 or more workers), based on consultation with industry experts. This classification was based on the number of workers a business employed in forest-industry-related activities; for example, if a firm had 200 employees in total, but only 10 undertaking work in the forest industry, it was classified as a small forest industry business.

2. All businesses were classified by the type of forestry industry work they undertake (for example, processors, nurseries, silvicultural managers, harvest and haulage contractors), again based on consultation with industry experts who could provide this information for non-responding businesses.

3. Where a business had provided information on only the total number of people they employ or the full-time equivalent employment, rather than both, the missing figure was estimated using the average ratio of people employed to full-time equivalents for businesses of the same type and size that had provided this information.

4. Where a business had not provided information on employment in 2010 or 2008, but had provided information in an earlier period (i.e. 2008 or 2006), employment for the latter period was estimated based on the average change for businesses of the same type and size. For example, if a silvicultural contractors responded to the survey in 2006 but not 2008 and 2010, their employment in the latter two periods was estimated based on assuming they experienced the same direction and magnitude of change in employment reported by those businesses who did respond in all three periods.

5. Where a business did not respond in any of the three periods in which the survey has been undertaken, employment was estimated based on the average employment reported by businesses of the same size and type for each period, after removing outlier businesses (e.g. if all but one small business in a particularly category employed one person with the other business employing 19, the business employing 19 people was removed when calculating the average to avoid skewing estimates upwards).

This method used business size as a key parameter to avoid overestimation of employment. This was essential given the high response rate of large and medium-sized businesses. Matching business types also ensured that trends unique to different parts of the industry were taken into account when estimating employment in businesses that did not respond to the survey.

Estimation of workers by place of residence

Data from the Forest Industry Survey (FIS) provided information on the number of forest industry workers based on their place of work. However, many workers live in a different LGA to that in which they work. Data from the Australian Bureau of Statistics (ABS) was utilised to estimate the residential location of workers.

First, ABS data on the number of forest industry workers who lived and worked in each LGA was analysed. As can be seen in Figure A1.1, some LGAs are ‘dormitory’ regions in which more forest industry workers live than work. These workers then commute to nearby LGAs for work. For example, many forest industry workers whose employer is located in the Derwent Valley live in Greater Hobart (Glenorchy, Clarence, Kingborough, Brighton) and commute to their work in the Derwent Valley.

ABS data, as discussed in Schirmer (2008), significantly underestimates total forest industry employment. However, when 2006 data on number of workers by their place of work was compared for the FIS and the ABS, both recorded a similar proportion of employment in individual LGAs. For example, the ABS estimated that 5.9 per cent of forest industry workers worked in Circular Head, while the FIS estimated 4.9 per cent of workers were employed in this LGA. This means that ABS data can be used as a basis for estimating the residential location of workers using FIS data, as the ratios are likely to be accurate despite the total number of workers being an underestimate.

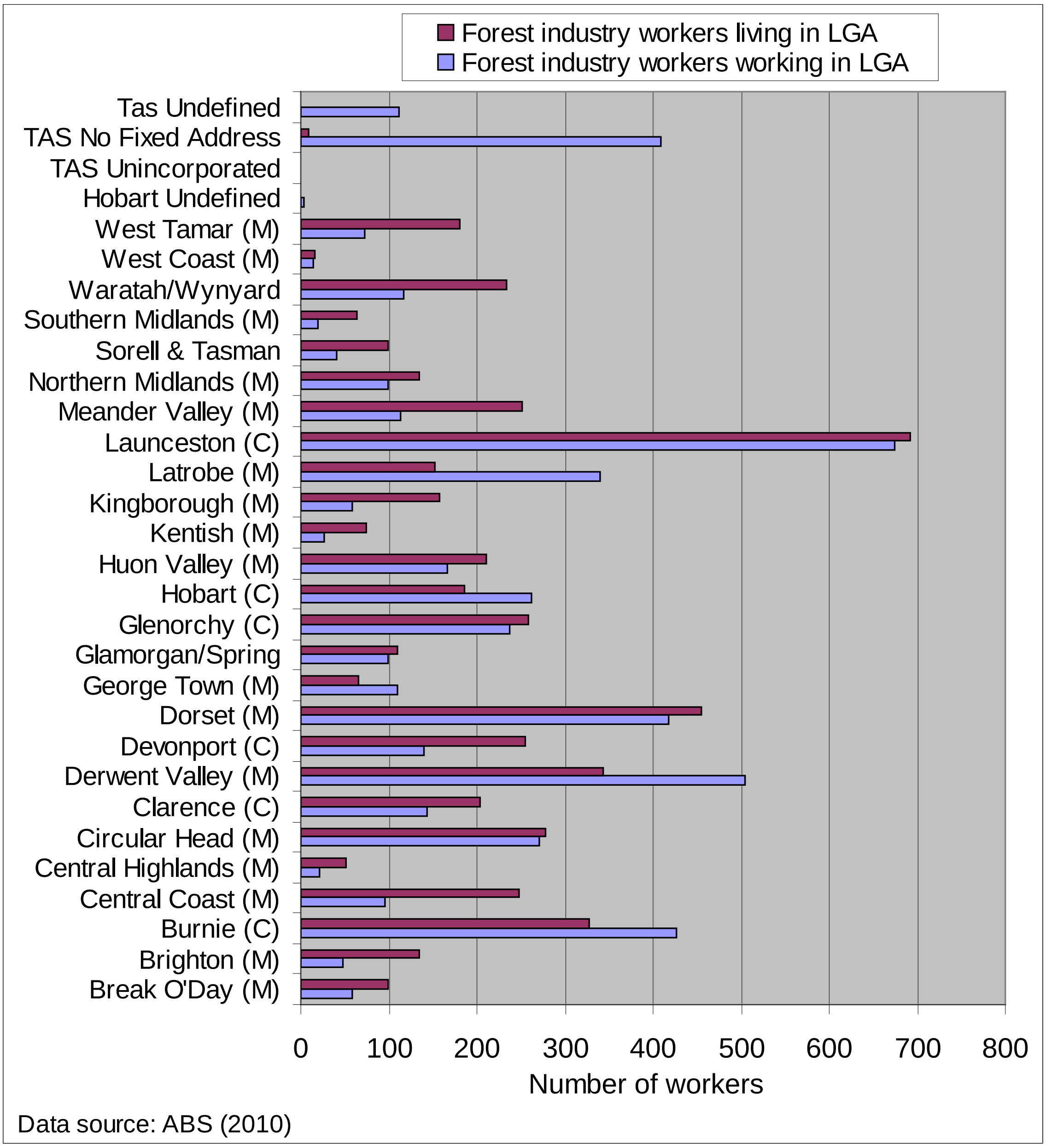

Figure A1.1: ABS estimates of the number of forest industry workers living and working in different LGAs, 2006[20]

[20] ABS estimates of forest industry employment are based on the sum of the following categories of the 2006 Australian New Zealand Standard Industrial Classification: Forestry and logging; Forestry support services; Wood product manufacturing; Pulp and paper product manufacturing. The 'M' and 'C' postfixes after LGA labels are those used by the ABS to designate whether an LGA is a municipality or city.

To use ABS data to calculate the residential location of workers, the proportion of the forest industry workforce the ABS identified as living and working in each LGA was identified (see Table A1.1). This ratio of forest industry workers to residents was then used as a basis for estimating the residential location of workers using FIS data from 2006, 2008 and 2010. First the ratio was used to convert data from place of work to place of residence, and then the resulting figures were adjusted so the total estimates by place of residence equalled estimated total employment based on place of work. The resulting calculations were used as the basis for Table 7 and Figure 21.

Table A1.1: Calculation of ratio of forest industry workers who work and live in different local government areas

	Forest industry workers working in LGA	Forest industry workers living in LGA	Per cent of forest industry workforce working in LGA	Per cent of forest industry workforce living in LGA	Ratio of forest industry workers to forest industry residents
Break O'Day (M)	59	99	1.3	1.9	1.5
Brighton (M)	47	134	1.0	2.5	2.5
Burnie (C)	426	327	9.3	6.2	0.7
Central Coast (M)	95	247	2.1	4.7	2.3
Central Highlands (M)	22	51	0.5	1.0	2.0
Circular Head (M)	271	278	5.9	5.3	0.9
Clarence (C)	143	204	3.1	3.9	1.2
Derwent Valley (M)	505	343	11.0	6.5	0.6
Devonport (C)	140	255	3.1	4.8	1.6
Dorset (M)	418	455	9.1	8.6	0.9
George Town (M)	110	66	2.4	1.3	0.5
Glamorgan–Spring Bay (M)	100	109	2.2	2.1	0.9
Glenorchy (C)	238	258	5.2	4.9	0.9
Hobart (C)	262	185	5.7	3.5	0.6
Huon Valley (M)	167	210	3.6	4.0	1.1
Kentish (M)	26	74	0.6	1.4	2.5
Kingborough (M)	59	158	1.3	3.0	2.3
Latrobe (M)	340	152	7.4	2.9	0.4
Launceston (C)	675	692	14.7	13.1	0.9
Meander Valley (M)	113	252	2.5	4.8	1.9
Northern Midlands (M)	99	135	2.2	2.6	1.2
Sorell & Tasman	40	100	0.9	1.9	2.2
Southern Midlands (M)	20	64	0.4	1.2	2.8
Waratah–Wynyard (M)	117	233	2.6	4.4	1.7
West Coast (M)	15	16	0.3	0.3	0.9
West Tamar (M)	73	180	1.6	3.4	2.1

Data source: ABS (2010).

The 'M' and 'C' postfixes after LGA labels are those used by the ABS to designate whether an LGA is a municipality or city. ABS estimates of forest industry employment are significantly lower than that recorded in the FIS, as the ABS do not include many transport and silvicultural workers in their estimates. The figures in this table should be used only to examine the difference in residential and work location of forest industry workers, with those in the main body of the report providing accurate data on the total number of workers in the industry.

Appendix 2: Questionnaires

This Appendix contains copies of the questionnaires used for the 2008 FIS. Two questionnaires were sent out:

- a grower and processor questionnaire, asking detailed questions enabling separation of expenditure on contractors and transfers between sectors
- a contractor questionnaire, which was shorter as contractors did not need to provide the same level of detail as growers and processors.

(1) Survey sent to growers and processors

TASMANIAN FOREST INDUSTRY SURVEY – 2008

What is this survey?

We've sent you this survey as your business has been identified as undertaking work in the forest industry in Tasmania. The following pages contain questions about (a) your business, (b) employment by your business, and (c) expenditure by your business, during 2007-08. For more information about the survey, including how we ensure confidentiality of your data, please see the accompanying Information Sheet.

Who should complete the survey?

If your business or organisation **has** undertaken work in or for the forest industry since June 2007, ***please complete the survey***.

If you **haven't** undertaken any work in the forest industry since June 2007, you don't need to complete the survey – but please write your business/organisation name below, and send the survey form back, so we know not to contact you again about the survey:

Name of business: ____

Instructions for completing the survey

Please complete those parts of the survey relevant to your business. The accompanying 'terms and definitions' document can assist you to complete the survey.

If you choose not to complete some questions on the survey, we would appreciate you still completing the rest of the questionnaire – simply leave questions you choose not to answer blank.

Please complete the survey in the next **four weeks** and return it in the pre-stamped envelope provided, or alternatively fax it to us on (02) 6125 0746 (c/o Jacki Schirmer). If you need assistance completing the survey, please contact the research team:

Ph: **1800 981 499** (this number is a freecall from most landlines in Australia)

Email: jacki.schirmer@anu.edu.au

PART 1: INFORMATION ABOUT YOUR BUSINESS

This section of the survey asks for background information about your business.

Business/organisation name:	**Name:** ____________________
Number of office locations in Tasmania	**Number of office locations:** __________
Town/postcode of each office location: **Office 1:** **Office 2:** **Office 3:** **Office 4:** **Office 5:**	**Town:** __________ **Postcode:** _ _ _ _ **Town:** __________ **Postcode:** _ _ _ _ **Town:** __________ **Postcode:** _ _ _ _ **Town:** __________ **Postcode:** _ _ _ _ **Town:** __________ **Postcode:** _ _ _ _ If you have more than 5 office locations, please list additional office locations below or attach an additional sheet detailing their locations.

PART 2: EMPLOYMENT & ACTIVITY BY OFFICE LOCATION

Part 2 of the survey asks for information about employment at each of your office locations. If you have only one office location, please fill in the following questions once. If you have multiple office locations, please complete Part 2 for each office location (we have enclosed multiple copies of Part 2 for businesses with more than one office location – please contact us if not enough copies are included).

2a. Office location & forest industry activities

Office location	**Town:** __________________ **Postcode:** __ __ __ __
For all businesses: **In 2007-08, what percentage of worker's time was spent on native forestry, hardwood (eucalypt) plantations, and softwood plantation related activities?**	**Hardwood (eucalypt) plantation:** _______ % **Softwood plantation:** _______ % **Native forestry:** _______ % (refers to native forest managed for timber production)
For forest/plantation growers: **What was the total area of plantation/ native forest managed from this office in 2007-2008?**	**Hardwood plantation:** _______ **ha** **Softwood plantation:** _______ **ha** **Native forest:** _______ **ha** (refers to native forest managed for timber production)
For forest/plantation growers: **What area of harvesting was managed from this office in 2007-08?**	**Hardwood plantation:** _______ **ha** **Softwood plantation:** _______ **ha** **Native forest:** _______ **ha**
For plantation growers: **What area of plantation establishment was managed from this office in 2007-08?**	**First rotation (1R), hardwood plantation:** ______**ha** **First rotation (1R) – softwood plantation:** ______**ha** **Replanting (2R/3R) – hardwood pln:** ______**ha** **Coppicing (2R/3R) – hardwood pln:** ______**ha** **Replanting (2R/3R) – softwood pln:** ______**ha**
For processors/ exporters: **What type of processing/export do you undertake?** (tick all that apply)	**Export:** ☐ **Pole/post production:** ☐ **Sawmilling:** ☐ **Pulp/paper production:** ☐ **Woodchipping:** ☐ **Moulding/dressing:** ☐ **Other (pls. describe):** ________________________
For processors/ exporters: **What volume of logs did you use as inputs to processing, or export, during 2007-08?**	**Volume processing inputs:** _________ **m^3** (include logs & other wood inputs) **Volume of logs exported:** _________ **m^3**
For processors: **What volume of product did you produce during 2007-08?**	**Volume:** ___________ **m^3/tonnes** (circle applicable)

2b. Worker characteristics

Please answer the following question for all people working in your business, whether paid or unpaid, or whether they are an owner-operator or employee.

Over the last 12 months:	Full-time workers	Part-time workers	Casual/seasonal workers
…what was the smallest (minimum) and largest (maximum) number of workers in your business at any time?	Minimum: ______ Maximum: ______	Minimum: ______ Maximum: ______ Avg. months worked per worker: ______	Minimum: ______ Maximum: ______ Avg. months worked per worker: ______
… how many men and women were employed on average?	Male (no.): ______ Female (no.):______	Male (no.): ______ Female (no.):______	Male (no.): ______ Female (no.):______
… how much turnover in staff has occurred in the last 12 months? (indicate how many *new* people came to work in the business, and how many existing staff *left* employment with your business, during the year)	No. new staff: _____ No. staff who left voluntarily: _____ No. staff who left involuntarily (eg through being made redundant): _____	No. new staff: _____ No. staff who left voluntarily: _____ No. staff who left involuntarily (eg through being made redundant): _____	No. new staff: _____ No. staff who left voluntarily: _____ No. staff who left involuntarily (eg through being made redundant): _____
… how many of your workers fell into each of the following age groups?	<25 ☐ 45-49 ☐ 25-29 ☐ 50-54 ☐ 30-34 ☐ 55-59 ☐ 35-39 ☐ 60-64 ☐ 40-44 ☐ 65+ ☐	<25 ☐ 45-49 ☐ 25-29 ☐ 50-54 ☐ 30-34 ☐ 55-59 ☐ 35-39 ☐ 60-64 ☐ 40-44 ☐ 65+ ☐	<25 ☐ 45-49 ☐ 25-29 ☐ 50-54 ☐ 30-34 ☐ 55-59 ☐ 35-39 ☐ 60-64 ☐ 40-44 ☐ 65+ ☐

PART 3: LOCATION OF EMPLOYMENT & SPENDING

You can answer this section either by office location or for your entire business – whichever is easiest for you. Please list the number of workers who *lived* and *undertook work-related activities* in each local government area listed below, and estimate the proportion of your total expenditure occurring in this LGA. **Only fill in information for the LGAs in which your workers lived and worked, or in which business expenditure occurred – leave the others blank.** Your answers to this question will help us identify the extent to which different local government areas receive social and economic benefit from the forest industry.

Local government area If you are not sure what towns are in which LGA, refer to the accompanying 'Definitions and Locations' guide.	**No. of workers who *lived* in this LGA in 2007-08**	**No. of workers from who undertook *work-related activities* in this LGA in 2007-08**	**% of total expenditure occurring in this LGA in 2007-08**
Break O'Day	**No: __________**	**No: ___________**	______%
Burnie	**No: __________**	**No: ___________**	______%
Central Coast	**No: __________**	**No: ___________**	______%
Central Highlands	**No: __________**	**No: ___________**	______%
Circular Head	**No: __________**	**No: ___________**	______%
Derwent Valley	**No: __________**	**No: ___________**	______%
Devonport	**No: __________**	**No: ___________**	______%
Dorset	**No: __________**	**No: ___________**	______%
Georgetown	**No: __________**	**No: ___________**	______%
Glamorgan-Spring Bay	**No: __________**	**No: ___________**	______%
Hobart (inc. Brighton, Clarence, Glenorchy)	**No: __________**	**No: ___________**	______%
Huon Valley	**No: __________**	**No: ___________**	______%
Kentish	**No: __________**	**No: ___________**	______%
Kingborough	**No: __________**	**No: ___________**	______%
Latrobe	**No: __________**	**No: ___________**	______%
Launceston	**No: __________**	**No: ___________**	______%
Meander Valley	**No: __________**	**No: ___________**	______%
Northern Midlands	**No: __________**	**No: ___________**	______%
Southern Midlands	**No: __________**	**No: ___________**	______%
Sorell & Tasman	**No: __________**	**No: ___________**	______%
Waratah-Wynyard	**No: __________**	**No: ___________**	______%
West Coast	**No: __________**	**No: ___________**	______%
West Tamar	**No: __________**	**No: ___________**	______%
Victoria	**No: __________**	**No: ___________**	______%
Other Australia	**No: __________**	**No: ___________**	______%
International	**No: __________**	**No: ___________**	______%

PART 4: EXPENDITURE BY YOUR BUSINESS

Part 4 of the survey asks about expenditure by your business. **You only need to complete Part 4 once for all of your Tasmanian business activities (it does not need to be completed for each office location).**

4a Definition of financial year

Please answer the questions in this part of the survey for the period 1st July 2007 to 30th June 2008 if possible. If this is not possible, please indicate the annual period your 2007-08 financial year data is based on below:

Date	Month	Year	to	Date	Month	Year

4b. Information about your Tasmanian forest industry business activity and value in 2007-8

Please provide data only for that part of your business involving the Tasmanian forest industry.

In financial year 2007-08, what…	
… proportion of your expenditure was on activities in the hardwood (eucalypt) plantation, softwood plantation, and native forestry sectors?	Hardwood (eucalypt) plantation: ____% Softwood plantation: ____% Native forestry: ____%
… was the total capital value of your forestry business (at the end of financial year):	$________________
… was the total debt owed by your forestry business (at the end of the financial year):	$________________
… was the total revenue earned by your business related to forest industry activities:	$________________
… was total expenditure by your business related to forest industry activities:	$________________

4c. Expenditure on Tasmanian forest industry activities in 2007-08

Expenditure category For definitions of categories, see the 'Definitions and locations' guide sent to you with the survey	**Expenditure ($)** Total expenditure by your business related to your Tasmanian activities
Wages/salaries (including superannuation, bonuses and commissions, and workers compensation payments.) Include all workers whose work was dependent on your Tasmanian activities, even if they were located outside Tasmania.	$________
Net GST paid	$________
All taxes paid other than GST (to local, state or federal government, including payroll tax)	$________
Silvicultural and planting contractors (Defined as those who undertake ground preparation, weed/pest/game control, tree planting, pruning, thinning)	$________
Nurseries (seed/seedling supplies)	$________
Consultants	$________
Harvest and log haulage contractors	$________
Haulage contractors – from mill	$________
Roading contractors	$________
Payments to other contractors:	$________
Payments for logs, woodchips, residues or other wood inputs processed by your business[1]	$________
Capital expenditure	$________
Other operating expenditure (exclude the payments already listed above)	$________
Total expenditure If you are a processor, please indicate if you included/ excluded expenditure on log/wood inputs to your mill/s in your total expenditure figure. ☐ Included ☐ Excluded	$________

[1]Leave blank if necessary for confidentiality reasons. If you choose to provide this information it will not be published as a separate category in any project reports, but will be used to remove any double counting in calculation of total impacts of the forest sector through the growing and processing sectors.

The final questions on this page ask about specific types of expenditure *within* and *outside* Tasmania. This enables calculation of the flow-on impacts of spending by the forest industry in the Tasmanian economy. Our apologies if some questions slightly overlap with previous questions.

If you have difficulty answering any of the detailed questions, please complete as much as possible and still return the survey even if incomplete.

4e. Expenditure within Tasmania

	Expenditure ($) Total expenditure by your business related to your Tasmanian activities
TOTAL EXPENDITURE WITHIN TASMANIA (exclude expenditure paid to businesses located outside the State)	$______________
Please provide figures for the following specific purchase areas (note – it is not expected that the below will equal the above total)	
Raw materials used in processing eg logs, chips, residues	$______________
Energy consumed – electricity, gas, other fuels etc.	$______________
Transport costs – expenditure by your business on transport of goods such as logs, seedlings, fertiliser etc	$______________
Services – e.g. legal, accounting and finance, information, IT support, advertising, vehicle and equipment servicing,	$______________
Rental - including all rental/leased machinery and equipment, property including buildings and land.	$______________

3f. Expenditure on imports into Tasmania

	Expenditure ($) Total expenditure by your business related to your Tasmanian activities
TOTAL EXPENDITURE ON IMPORTS INTO TASMANIA (an import is any good or service purchased outside Tasmania which you then use in Tasmania)	$______________
Imported raw materials (used in processing)	$______________
Imported goods (for example: machinery and vehicles)	$______________

Thank you for completing the survey – the time you have spent is greatly appreciated. Please return the completed survey in the pre-paid envelope provided, or alternatively fax it to (02) 6125 0746 (c/o Jacki Schirmer). You will be posted a summary of the study results once the data has been analysed.

(2) Survey sent to contractors

TASMANIAN FOREST INDUSTRY SURVEY – 2008

Form for contractors, nurseries, and other small forestry businesses

What is this survey?

We've sent you this survey as your business has been identified as undertaking work in the forest industry in Tasmania. The following pages contain questions about (a) your business, (b) employment by your business, and (c) expenditure by your business, during 2007-08. For more information about the survey, including how we ensure confidentiality of your data, please see the accompanying Information Sheet.

Who should complete the survey?

If your business or organisation **has** undertaken work in or for the forest industry since June 2007, ***please complete the survey***.

If you **haven't** undertaken any work in the forest industry since June 2007, you don't need to complete the survey – but please write your business/organisation name below, and send the survey form back, so we know not to contact you again about the survey:

Name of business: ____

Instructions for completing the survey

Please complete those parts of the survey relevant to your business. The accompanying 'terms and definitions' document can assist you to complete the survey.

If you choose not to complete some questions on the survey, we would appreciate you still completing the rest of the questionnaire – simply leave questions you choose not to answer blank.

Please complete the survey in the next **four weeks** and return it in the pre-stamped envelope provided, or alternatively fax it to us on (02) 6125 0746 (c/o Jacki Schirmer). If you need assistance completing the survey, please contact the research team:

Ph: **1800 981 499** (this number is a freecall from most landlines in Australia)

Email: jacki.schirmer@anu.edu.au

PART 1: INFORMATION ABOUT YOUR BUSINESS

Business/organisation name:	**Name:** ____________________
Number of office locations in Tasmania	**Number of office locations:** __________
Main office location	**Town:** __________ **Postcode:** _ _ _ _
What types of forest/ plantation services does your business provide (tick all that apply)	**Seedling supply:** ☐ **Seed supply:** ☐ **Site preparation:** ☐ **Land survey:** ☐ **Insect control (ground)** ☐ **Fertilising:** ☐ **Insect control (aerial):** ☐ **Weed control:** ☐ **Planting services:** ☐ **Fencing:** ☐ **Firebreak maintenance** ☐ **Game control:** ☐ **Harvesting:** ☐ **Haulage to mill:** ☐ **Roading:** ☐ **Haulage from mill:** ☐ **Mill/equipment maintenance:** ☐ **Expert advice (e.g. consultant):** ☐ **Industry or related association:** ☐ **Research services:** ☐ **Other (please describe below):** ☐ ____________________
In 2007-08, what % of your business activity was in the forest industry (by dollar value)?	**% of business in forest industry:** ________%
In 2007-08, how much of your forest industry work (by time spent working) was in the native forest, hardwood plantation, and softwood plantation sector?	**Hardwood (eucalypt) plantation:** ____% **Softwood plantation:** ____% **Native forest:** ____%

PART 2: INFORMATION ABOUT YOUR WORKERS

Please answer the following question for all people working in your business, whether paid or unpaid, or whether they are an owner-operator or employee.

Over the last 12 months:	Full-time workers	Part-time workers	Casual/seasonal workers
…what was the smallest (minimum) and largest (maximum) number of workers in your business at any time?	**Minimum:** ______ **Maximum:** ______	**Minimum:** ______ **Maximum:** ______ **Avg. months worked per worker:** ______	**Minimum:** ______ **Maximum:** ______ **Avg. months worked per worker:** ______
… how many men and women were employed on average?	**Male (no.):** ______ **Female (no.):** ______	**Male (no.):** ______ **Female (no.):** ______	**Male (no.):** ______ **Female (no.):** ______
… how much turnover in staff has occurred in the last 12 months? (indicate how many *new* people came to work in the business, and how many existing staff *left* employment with your business, during the year)	**No. new staff:** _____ **No. staff who left voluntarily:** _____ **No. staff who left involuntarily (eg through being made redundant):** _____	**No. new staff:** _____ **No. staff who left voluntarily:** _____ **No. staff who left involuntarily (eg through being made redundant):** _____	**No. new staff:** _____ **No. staff who left voluntarily:** _____ **No. staff who left involuntarily (eg through being made redundant):** _____
… how many of your workers fell into each of the following age groups?	**<25** ☐ **45-49** ☐ **25-29** ☐ **50-54** ☐ **30-34** ☐ **55-59** ☐ **35-39** ☐ **60-64** ☐ **40-44** ☐ **65+** ☐	**<25** ☐ **45-49** ☐ **25-29** ☐ **50-54** ☐ **30-34** ☐ **55-59** ☐ **35-39** ☐ **60-64** ☐ **40-44** ☐ **65+** ☐	**<25** ☐ **45-49** ☐ **25-29** ☐ **50-54** ☐ **30-34** ☐ **55-59** ☐ **35-39** ☐ **60-64** ☐ **40-44** ☐ **65+** ☐

PART 3: LOCATION OF SPENDING & WORKERS

This part of the questionnaire asks you to identify where money from your business was spent during 2007-08, and where your workers lived and worked. This will let us identify the extent to which different local government areas receive economic benefit from the forest industry. It can be difficult to identify where business expenditure occurred; please provide an estimate if you are unsure of the exact figure. If you are not sure which LGA spending or employment occurred in, refer to the *Definitions and Locations* guide accompanying the survey.

Local government area If you are not sure what towns are in which LGA, refer to the accompanying 'Definitions and Locations' guide.	**No. of workers who *lived* in this LGA in 2007-08**	**No. of workers from who undertook *work-related activities* in this LGA in 2007-08**	**% of total expenditure occurring in this LGA in 2007-08**
Break O'Day	**No:** ________	**No:** __________	_____**%**
Burnie	**No:** ________	**No:** __________	_____**%**
Central Coast	**No:** ________	**No:** __________	_____**%**
Central Highlands	**No:** ________	**No:** __________	_____**%**
Circular Head	**No:** ________	**No:** __________	_____**%**
Derwent Valley	**No:** ________	**No:** __________	_____**%**
Devonport	**No:** ________	**No:** __________	_____**%**
Dorset	**No:** ________	**No:** __________	_____**%**
Georgetown	**No:** ________	**No:** __________	_____**%**
Glamorgan-Spring Bay	**No:** ________	**No:** __________	_____**%**
Hobart (inc. Brighton, Clarence, Glenorchy)	**No:** ________	**No:** __________	_____**%**
Huon Valley	**No:** ________	**No:** __________	_____**%**
Kentish	**No:** ________	**No:** __________	_____**%**
Kingborough	**No:** ________	**No:** __________	_____**%**
Latrobe	**No:** ________	**No:** __________	_____**%**
Launceston	**No:** ________	**No:** __________	_____**%**
Meander Valley	**No:** ________	**No:** __________	_____**%**
Northern Midlands	**No:** ________	**No:** __________	_____**%**
Southern Midlands	**No:** ________	**No:** __________	_____**%**
Sorell & Tasman	**No:** ________	**No:** __________	_____**%**
Waratah-Wynyard	**No:** ________	**No:** __________	_____**%**
West Coast	**No:** ________	**No:** __________	_____**%**
West Tamar	**No:** ________	**No:** __________	_____**%**
Victoria	**No:** ________	**No:** __________	_____**%**
Other Australia	**No:** ________	**No:** __________	_____**%**
International	**No:** ________	**No:** __________	_____**%**

PART 4: EXPENDITURE BY YOUR BUSINESS

Please answer the questions in this part of the survey for the period **1st July 2007 to 30th June 2008** if possible. If this is not possible, please indicate the annual period your 2007-08 financial year data is based on below:

Date	Month	Year		Date	Month	Year
			to			

Information about your Tasmanian business activity and value in 2007-08

The following question asks for information about your total business value, revenue and expenditure in financial year 2007-08.

In financial year 2007-08, what…	
… proportion of your expenditure was on activities in the hardwood (eucalypt) plantation, softwood plantation, and native forestry sectors?	Hardwood (eucalypt) plantation: ____% Softwood plantation: ____% Native forestry: ____%
… was the total capital value of your forestry business (at the end of financial year):	$________________
… was the total debt owed by your forestry business (at the end of the financial year):	$________________
… was the total revenue earned by your business related to forest industry activities:	$________________
… was total expenditure by your business related to forest industry activities:	$________________
… was your total expenditure on wages/salaries:	$________________
… was your other operating expenditure:	$________________
… was your capital expenditure:	$________________

Thank you for completing the survey – the time you have spent is greatly appreciated. Please return the completed survey in the pre-paid envelope provided, or alternatively fax it to (02) 6125 0746 (c/o Jacki Schirmer). You will be posted a summary of the study results once the data has been analysed.

Appendix 3: Demographic characteristics of forest industry workers, 2008

Forest industry workers are different from workers in other industries in a range of ways. They are more likely to work full time, be male, and are typically slightly younger than the average member of the labour force. These characteristics provide a window to better understand key issues around recruitment of labour in the industry, whether replacement of the workforce is sustainable, and how vulnerable workers are to change.

In 2006 and 2008, the FIS asked businesses to report how many forest industry workers work full time, part time or are employed casually, what their staff turnover rate was, and the gender and age distribution of their workers. These questions were not asked in 2010, when a much shorter set of survey questions were included.

Full-time, part-time and casual employment

In 2008, 83 per cent of the forestry workforce was employed full time, five per cent part time and 12 per cent on a casual basis. This represents growth in full-time employment as a proportion of the forestry workforce since 2006, when 74 per cent of workers were employed full time, while 12 per cent worked part time and 14 per cent as casual staff. This is likely to reflect the growth in employment in the industry recorded over 2006 to 2008. These overall trends mask large variation across different sectors. As can be seen in Figure A3.1, growers, processors and harvest and haulage contractors all typically employ more than 80 per cent of their workforce full time. Silvicultural and roading contractors, and nursery and seed suppliers, meanwhile, typically employed less than 50 per cent of their workforce full time, and the rest on a part-time or casual basis.

As reported in 2006, workers in the forest industry are more likely to work full time than the average working Tasmanian, and less likely to work part time. In 2006, 64.6 per cent of the Tasmanian workforce was employed full time and 35.4 per cent part time or on a casual basis. The only exceptions to this trend are (a) silvicultural and roading contractors, and (b) nurseries and seed suppliers, who have a higher rate of part-time employment than the Tasmanian average, and a lower rate of full-time employment. This is largely due to the seasonal nature of much of the work carried out by these types of contractors.

On average, part-time workers worked a total of 7.9 months a year in 2008, a slight drop from the average of 8.2 recorded in 2006. Casual workers, meanwhile, worked an average 8.8 months a year, higher than the 6.4 months recorded in 2006. Given the relatively small numbers of workers employed on a part-time or casual basis, the differences between 2006 and 2008 figures may reflect typical variation over time and the different businesses responding to the survey.

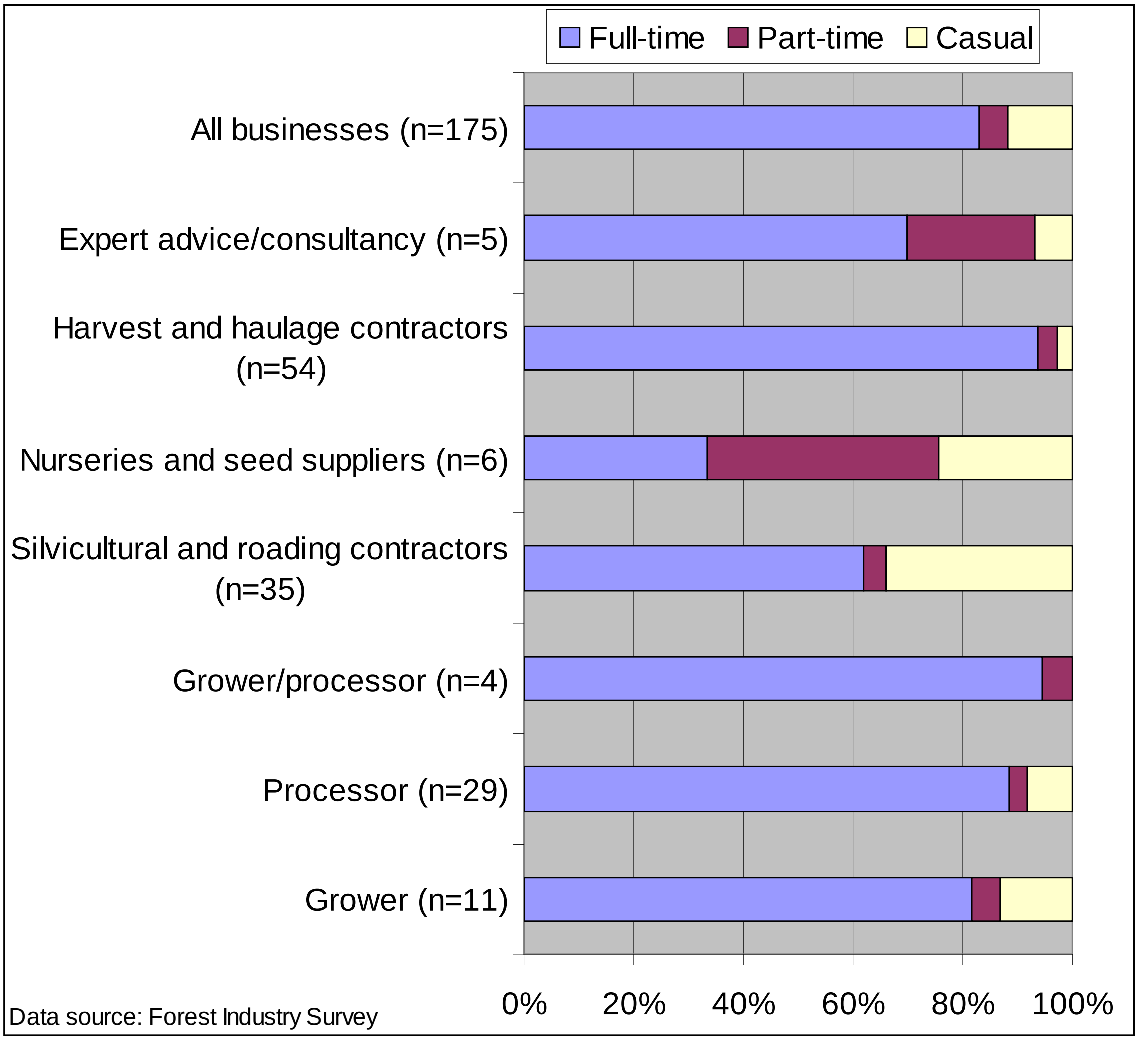

Figure A3.1: Proportion of workers working full time, part time and on a casual basis, 2008

Over 2006 to 2008, change in the proportion of the workforce employed full time, part time or on a casual basis differed by industry sector (Figure A3.2).

The only two sectors with growth in the proportion of people employed full time were the harvest and haulage and processing sectors. In both of these, total employment numbers grew over 2006 to 2008. This suggests that growth in jobs is associated with a gain in full-time employment compared with part-time and casual employment.

In other sectors, there was growth in the proportion of people employed on a casual, or less commonly, a part-time basis.

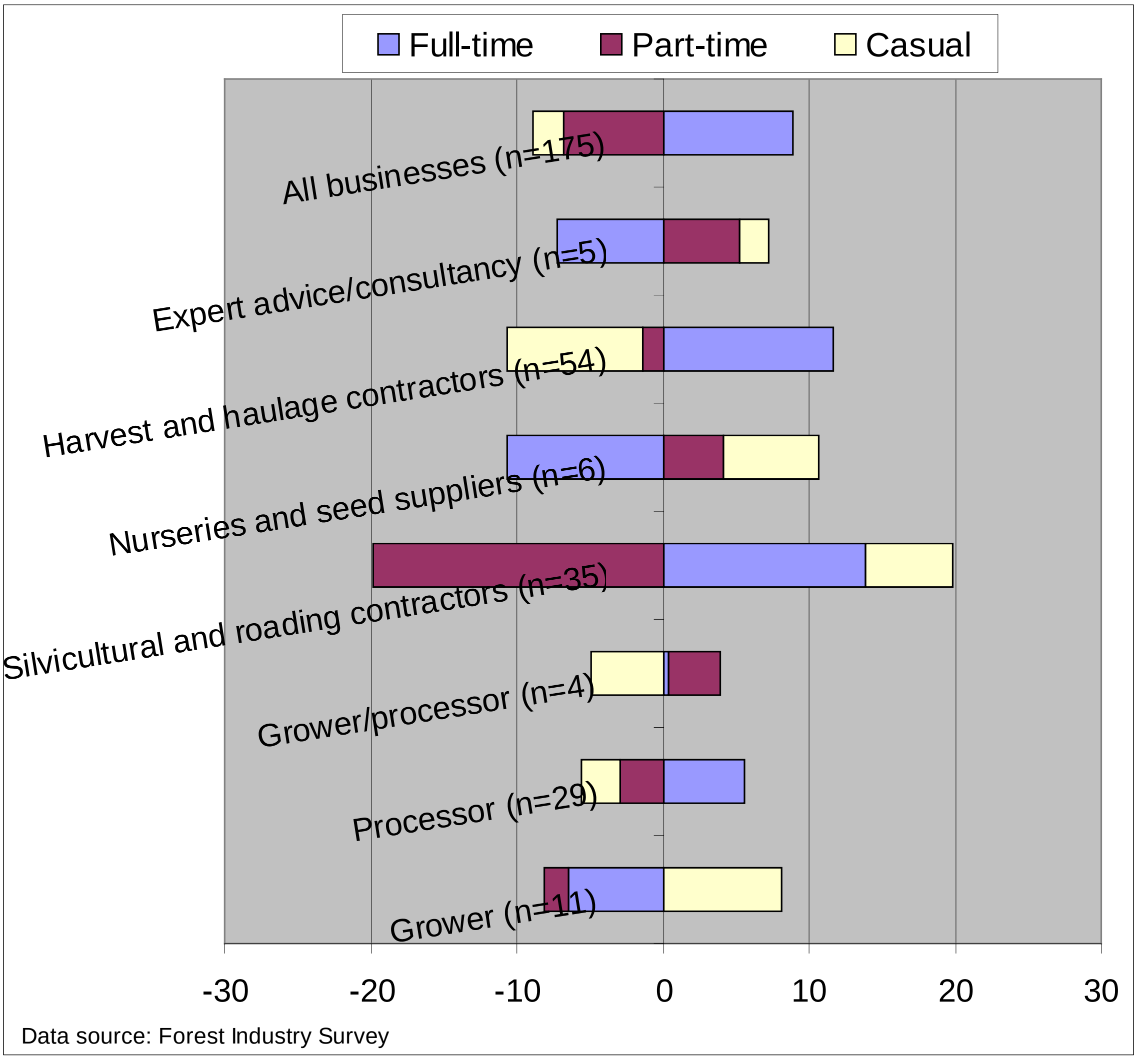

Figure A3.2: Change in proportion of workers working full time, part time and on a casual basis, 2006–2008

Staff turnover

The rate of staff turnover helps indicate how attractive work is in a particular industry, and the level of investment a business has to make in training new staff.

Staff turnover rates were calculated using the following formula[21]:

$$\textbf{Turnover rate (\%)} = \frac{\text{Number of leavers over 2007–08}}{\text{Average staff employed during 2007–08}} \times 100$$

Of 249 businesses providing data for the survey, only 125 reported any staff turnover (loss of staff or employment of new staff) during 2007–08. The remainder either had no staff turnover or chose not to complete the survey question. Of those who responded, the net balance of the staff leavers and new staff appointments reported across all businesses was a net loss of 50 full-time staff, 9 casual staff and small growth in part-time staff of 12 people. These figures do not include those businesses that closed altogether between 2006 and 2008.

Of those businesses that did not close but did report some staff turnover, 92.2 per cent of staff turnover reported was voluntary, resulting from workers deciding to leave to seek other work, and 7.8 per cent was involuntary, for example workers being laid off.

Figure A3.3 shows the mean turnover rates identified in the forest industry survey for different business types in 2008. Harvest and haulage contractors reported the highest loss of staff as a percentage of total employment, followed by silvicultural and roading contractors, and processors.

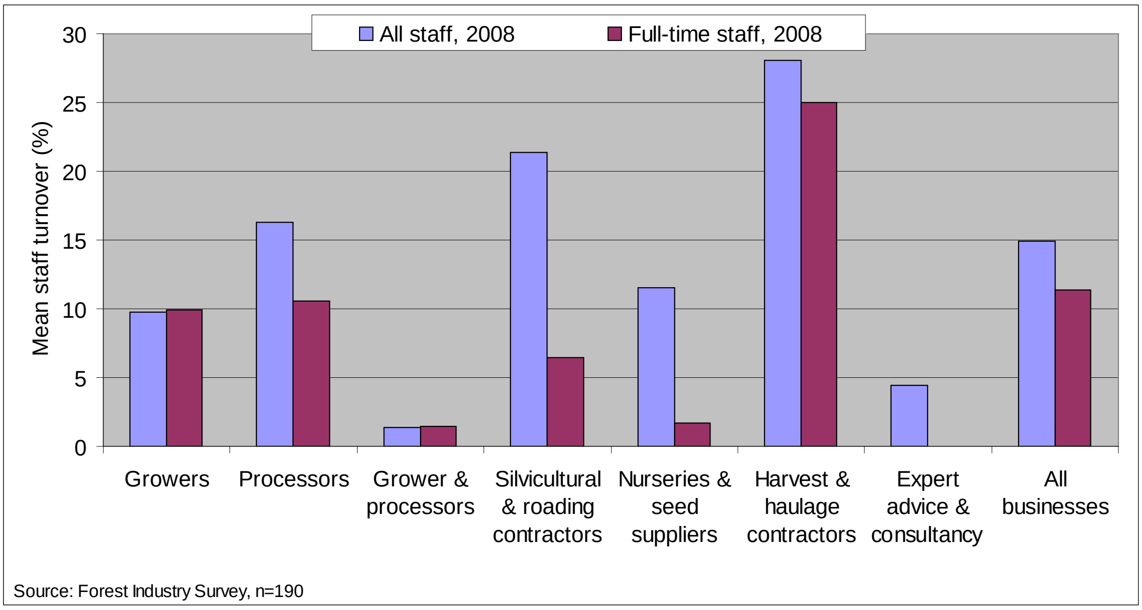

Figure A3.3: Mean staff turnover for different types of forest industry business: all staff and full-time staff, 2008

[21] This calculation is a standard used for calculating turnover, see for example Lashley and Lincoln (2002).

When voluntary and involuntary staff turnover are compared (Figure A3.4), involuntary staff turnover was greatest for harvest and haulage contractors, followed by silvicultural and roading contractors and processors. This may indicate the beginning of stress in these sectors in 2008 prior to the subsequent downturn.

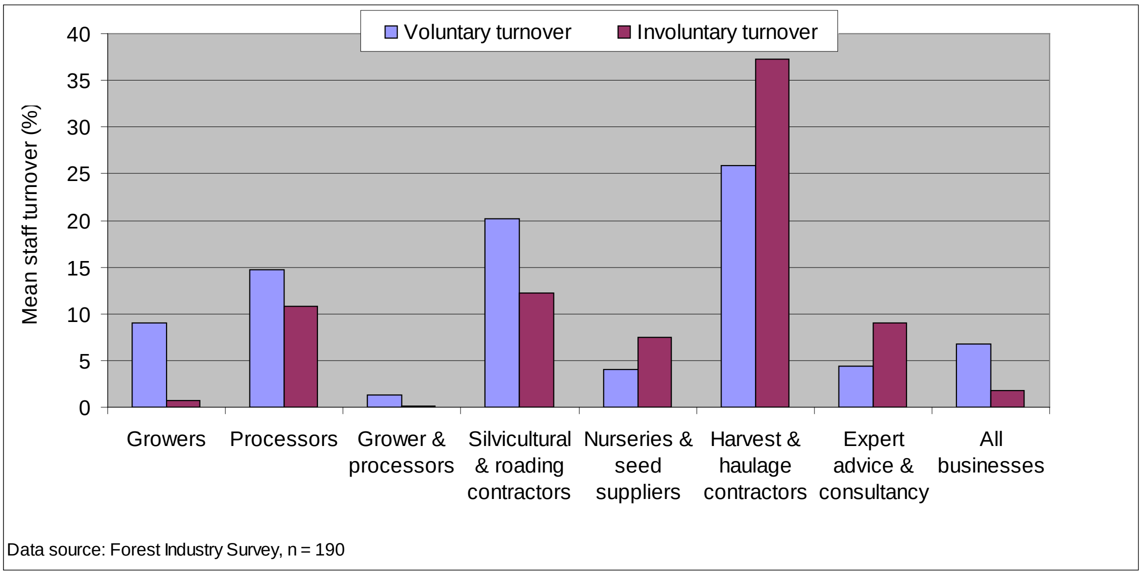

Figure A3.4: Mean turnover rates—voluntary and involuntary, 2008

Turnover data from the 2006 and 2008 surveys were calculated slightly differently, with businesses who did not provide staff turnover figures included in the 2008 calculations and not in 2006 calculations. Comparison could be made between the average rate of turnover reported by those businesses who experienced some turnover in 2006 and 2008, shown in Figure A3.5. Across all types of business, staff turnover rose between 2006 and 2008. This was particularly the case for processors and silvicultural and roading contractors, while a high turnover rate continued for harvest and haulage contractors.

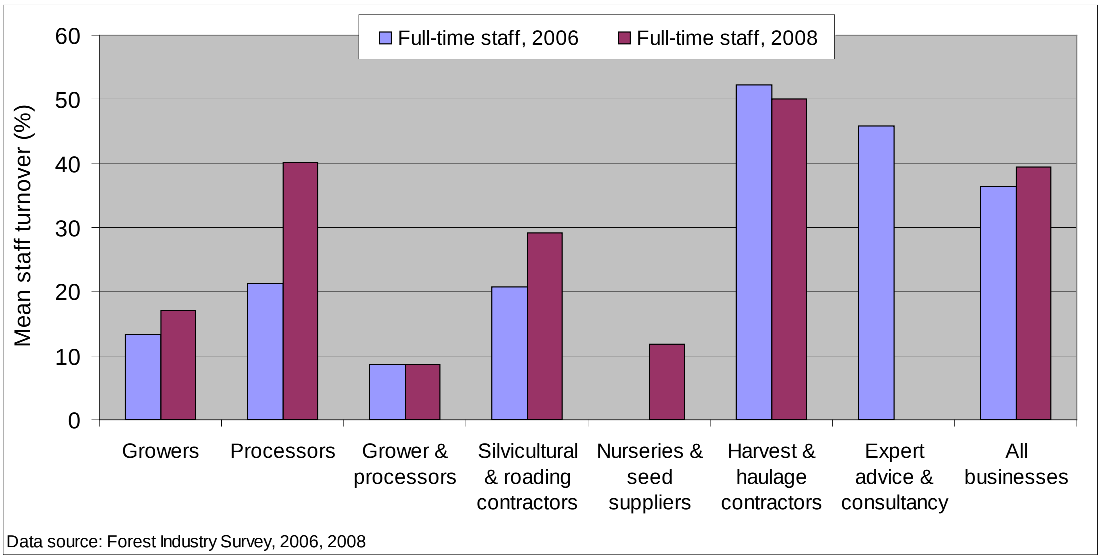

Figure A3.5: Full-time staff turnover for businesses that had greater than zero turnover, 2006 and 2008[22]

Gender

Employment in the Tasmanian forest industry continues to be dominated by male workers. The total estimated proportion of male workers across the industry, with a confidence interval of 95 per cent, was 88.4 per cent ±3.37 per cent in 2008, compared with 86.3 per cent ±4.17 per cent in 2006. This compares to 53.1 per cent male and 46.9 per cent female workers for Tasmania as a whole in 2006 (ABS Census of Population and Housing 2006).

The small difference in the proportion of male and female forest industry workers across 2006 and 2008 falls well within the confidence intervals reported above, meaning it may not represent an actual trend of increasing female employment in the industry. However, as identified below, the sectors in which female employment grew most were those from which a high response rate was obtained, suggesting the small growth may represent a trend to increased female participation as a proportion of the forest industry workforce.

The gender ratio of workers varied depending on whether they were employed full time, part time, or on a casual basis (Figure A3.6). This pattern was the same as that identified in 2006. While 13.7 per cent of the forest industry workforce overall was female, only 9.7 per cent of full-time workers were female, compared with 19.2 per cent of casual workers and 59.1 per cent of the small number of part-time workers reported. There was a small increase in female workers as a proportion of the workforce in 2008 compared with 2006; however, as identified above, the rate of growth (1.4 per cent to 2.1 per cent depending on the type of worker examined) was well within the 95 per cent confidence interval so may reflect variation resulting from the sample that responded to the question rather than an industry trend.

[22] This figure only shows staff turnover for businesses that experienced some turnover, and excludes businesses that experienced no turnover. As such, it exaggerates total turnover rates. It should be used to identify trends over time rather than as a measure of specific turnover rates.

Figure A3.6: Gender of Tasmanian forest industry workers, 2008

Table A3.1 compares the gender and workforce status of forest industry workers to the Tasmanian average in August 2006. Women represented a smaller proportion of the forest industry workforce than the Tasmanian average in both the full-time and part-time workforce, and males a larger proportion.

Table A3.1: Comparison of gender of full-time and part-time/casual workers in the forest industry and Tasmania as a whole

	Forest industry, 2008 (Data source: Forest Industry Survey, 2008)	**Forest industry, 2006** (Data source: Forest Industry Survey, 2006)	**Tasmania, 2006** (Data source: ABS 2006 Census of Population and Housing)
Full-time males (% of total full-time employment)	90.3%	91.7%	65.9%
Full-time females (% of total full-time employment)	9.7%	8.3%	34.1%
Part-time and casual males (% of total part-time/casual employment)	70.1%	75.3%	30.2%
Part-time and casual females (% of total part-time/casual employment)	29.9%	24.7%	69.8%

The gender of workers varied by the type of business, as well as by the type of employment (Figure A3.7). Women are most likely to work for nurseries and seed suppliers (60.2 per cent, almost 10 per cent higher than the 50.8 per cent reported in 2006) and growers (27.3 per cent compared with 19.1 per cent reported in 2006).

A very high response rate was achieved from these two groups (see Table 1), and a large proportion of growth in female employment occurred in these industries, which does indicate that women made up a growing proportion of these parts of the forest industry workforce over 2006 to 2008.

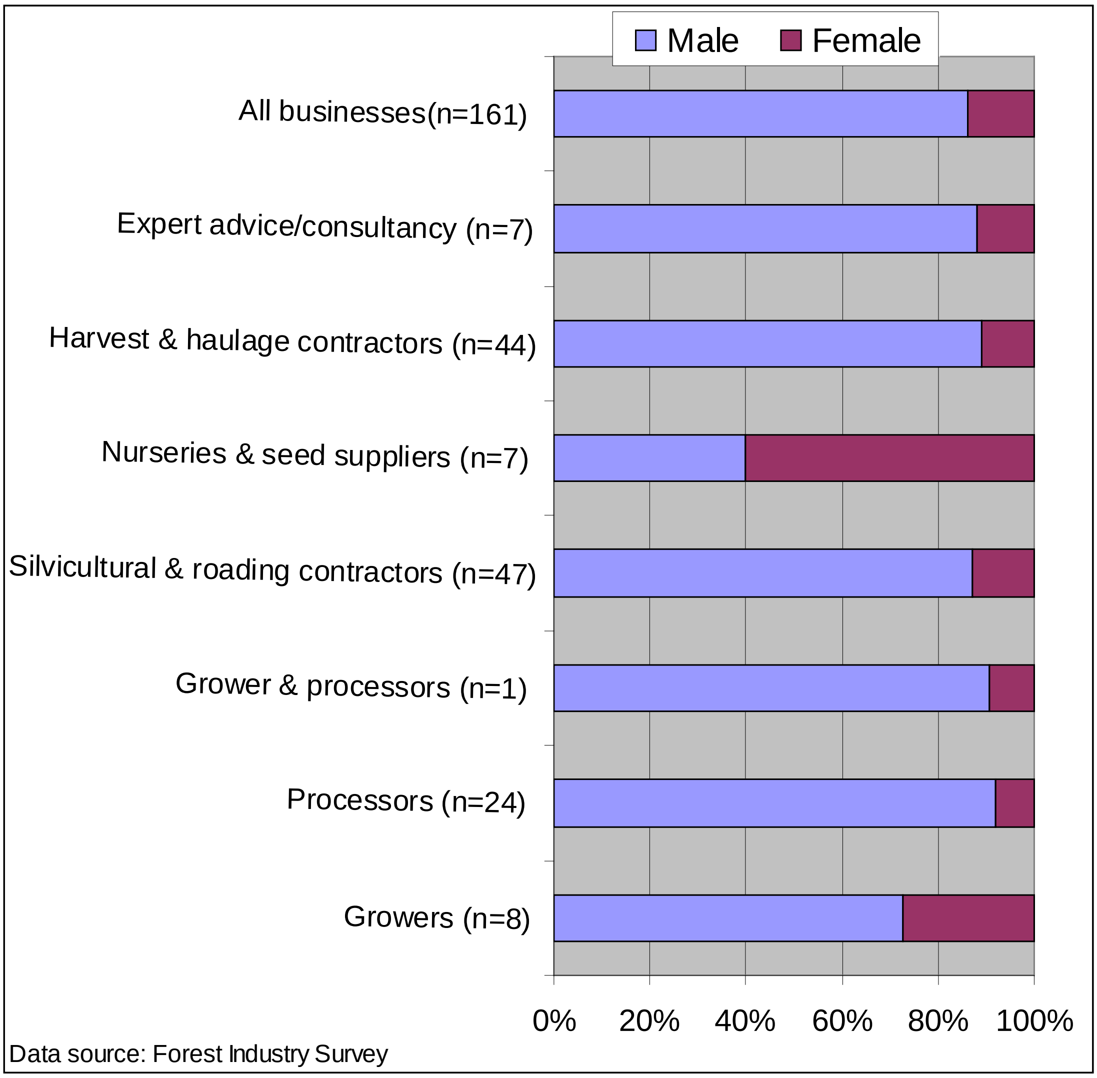

Figure A3.7: Worker gender by forest industry business type, 2008

It is possible that there is some underestimation of female employment in the industry. In particular, women are often described as undertaking key roles in small family businesses which are often unrecognised and unpaid, such as book-keeping or business administration; sometimes respondents may not have included these roles. The extent of this potential undercount is not possible to estimate, as similar underreporting would influence other sources of information on forest industry employment, such as statistics produced by the ABS.

Age distribution

The age distribution of forestry workers did not change significantly between 2006 and 2008. Overall, workers in the forest industry are younger than those in Tasmania as a whole, with a higher proportion of workers aged 25 to 44 than the Tasmanian average, and fewer aged 45 years and over. However, the forest industry had a slightly lower proportion of workers aged under 25 than the state average (Figure A3.8).

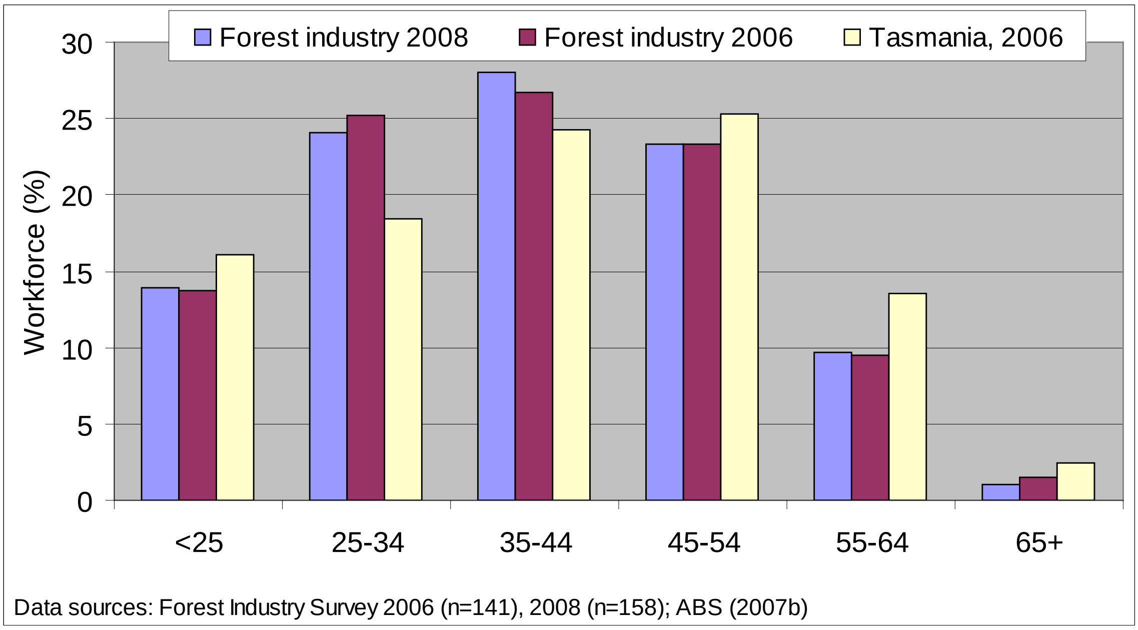

Figure A3.8: Age distribution of employed people in the forest industry and the Tasmania labour force

Younger workers are much more likely to be employed on a casual or part-time basis than older workers, with more than 60 per cent of casual workers aged under 35 compared with less than 40 per cent of part-time workers and less than 35 per cent of full-time workers. This is particularly the case for workers aged under 25, who make up almost 40 per cent of the casual workforce in the industry compared with 12.0 per cent of part-time workers and 8.7 per cent of full-time workers (Figure A3.9).

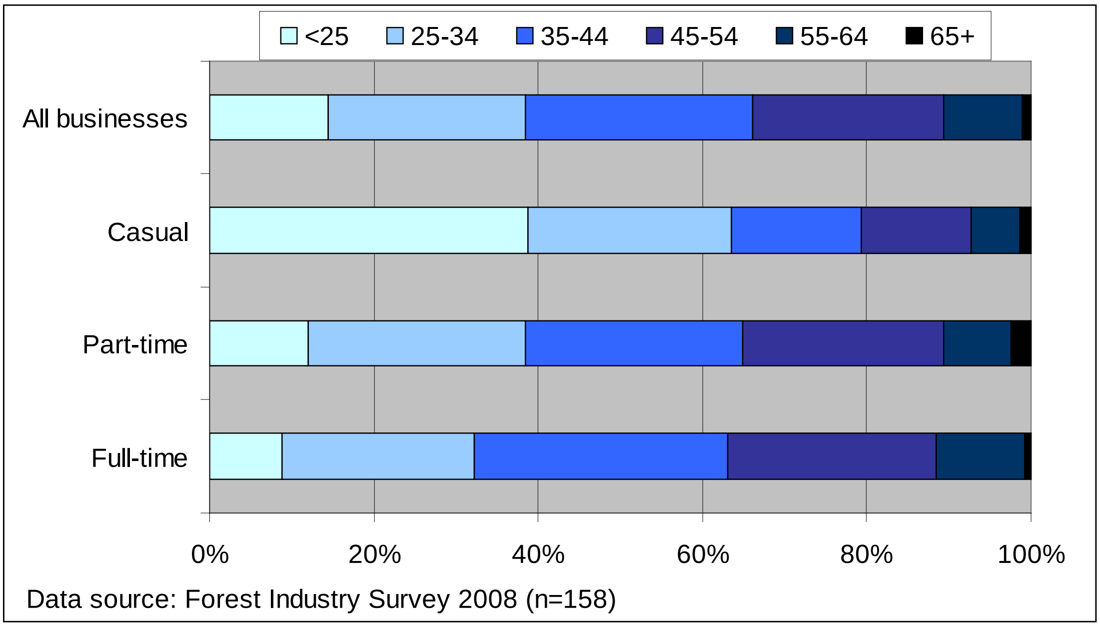

Figure A3.9: Age distribution of full-time, part-time and casual workers in the forest industry, 2008

The age distribution of workers varies considerably by type of forest industry business (Figure A3.10). Quite different patterns are apparent:

- growers employ mostly people aged 35–54, and fewer people aged under 34 compared with processors and contractors/consultants
- processors employ a higher proportion of people aged under 34 than others, with just under 50 per cent of workers aged under 34
- silvicultural and roading contractors are more likely to employ people aged under 25 than other types of contractor
- harvest and haulage contractors employ fewer people aged under 30 than other types of contractors, and workers are typically aged 30–44.

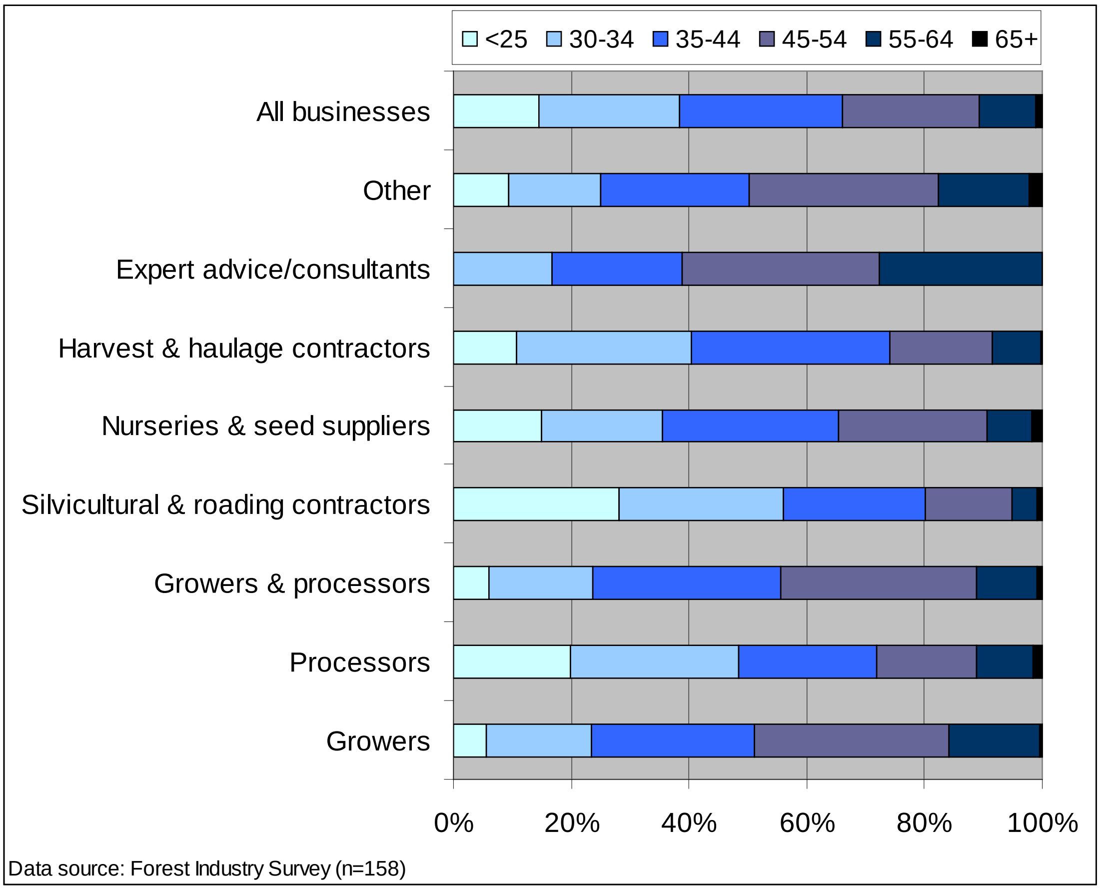

Figure A3.10: Age distribution of forest industry workers employed in different types of business

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