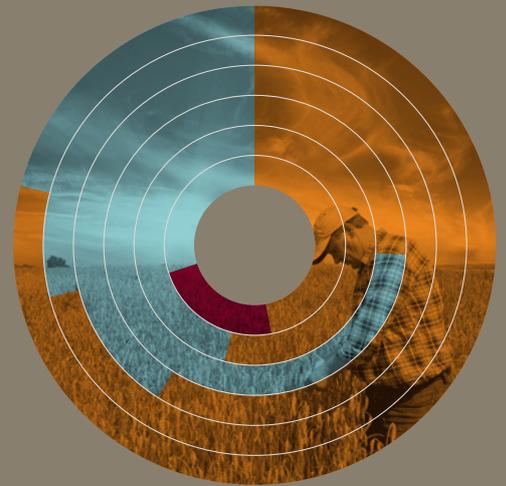




February  
2015

# Diversity in Australia's forestry industry workforce



## About this information sheet

The Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) has developed this information sheet to inform policy and decision makers, and forestry industry stakeholders, about the diverse people and communities that contribute to the Australian forestry industry.

Unless otherwise specified, this information sheet uses data from the 2006 and 2011 Australian Bureau of Statistics' Census of Population and Housing. For further information or assistance, interpreting the statistics presented here, please contact ABARES.

## Who are Australia's forestry employees?

This information sheet defines the forestry industry as<sup>1</sup>:

- Forestry and logging (includes native and plantation forests)
- Wood product manufacturing
- Pulp, paper and converted paper manufacturing
- Timber wholesaling
- Forestry support services.

Between 2006 and 2011, the number of people directly employed in the forestry industry fell by 14 per cent to 73 267 people. This may be the result of:

- the closure of large scale processing facilities
- reduced investment in new plantations
- reduced international demand for wood and paper products.

Most forestry employees live in New South Wales (30 per cent), Victoria (30 per cent) and Queensland (18 per cent). 5 per cent of forestry employees live in Tasmania (Map 1).

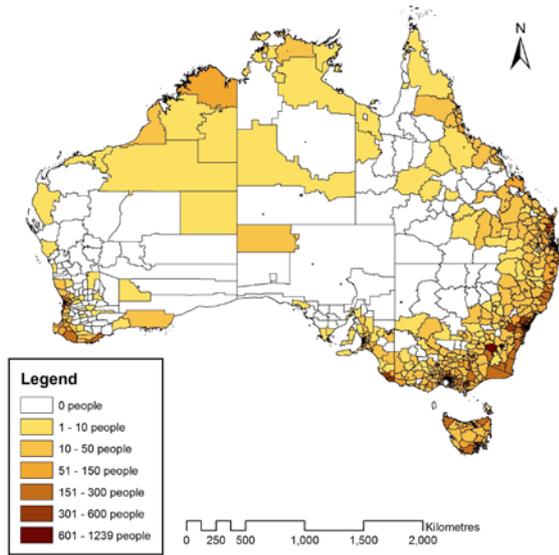
## Statistics of interest

In 2011:

- People who identify as Indigenous represent two per cent of forestry industry workers, which is consistent with their representation in the general Australian workforce.
- 14 per cent of forestry industry employees (10 788 people) were from a culturally and linguistically diverse background.
- 18 per cent of forestry industry employees were female.
- Young people account for 21 per cent of forestry industry workers.

<sup>1</sup> Industry categories are classified by Australian Bureau of Statistics (ABS) using the Australian New Zealand Standard Industrial Classification (ANZIC) 2006, Revision 1.

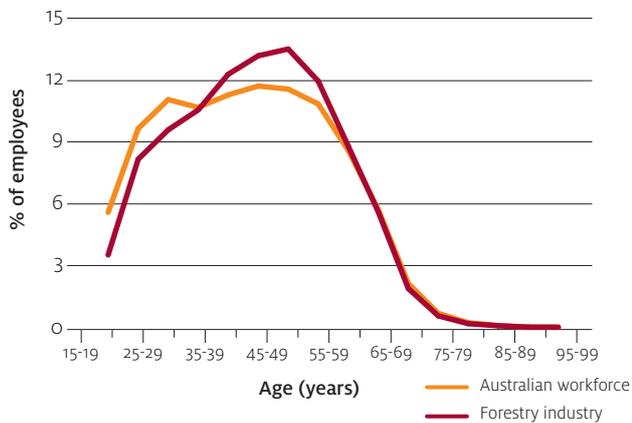
**MAP 1** Place of usual residence of all forestry employees, 2011



Note: Data incorporate employees from all forestry sub-industries and are presented by Statistical Local Area.  
 Source: ABS Census of Population and Housing

The largest percentage of forestry industry workers are aged between 45-49 years old (Figure 1). The median age of forestry industry employees is 42 years, which is slightly older than the median age of the general Australian workforce (40 years).

**FIGURE 1** Age distribution of forestry industry employees and the general Australian workforce, 2011



Source: ABS Census of Population and Housing

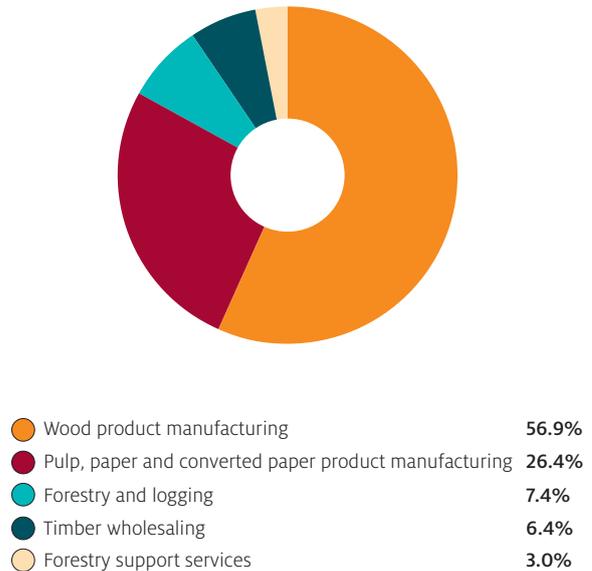
### Sub-industry and occupation

Most forestry industry employees were employed in manufacturing: wood product manufacturing employed 57 per cent of all forestry workers, and pulp and paper manufacturing employed 27 per cent of forestry workers (Figure 2).

Across the entire forestry industry, most people are employed as:

- Technicians and trades workers (28 per cent; 20 314 people)
- Machinery operators (21 per cent; 15 352 people)
- Labourers (16 per cent; 11 653 people)

**FIGURE 2** Employment in forestry sub-industries, 2011

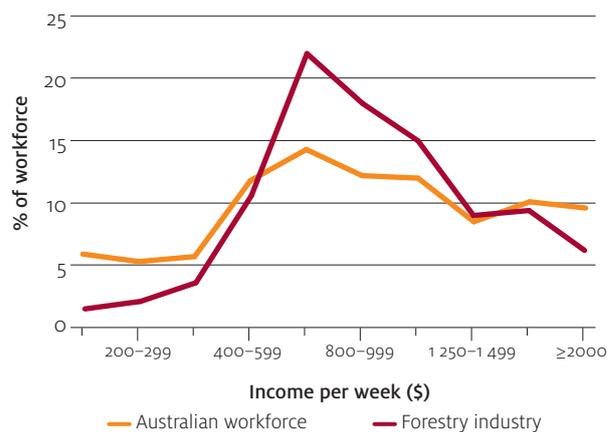


Source: ABS Census of Population and Housing

### Income and work status

A greater proportion of forestry industry workers (56 per cent) earn between \$600 and \$1 249 a week, than those in the general workforce (41 per cent) (Figure 3). Fourteen per cent of forestry employees indicated they work on a part-time basis.

**FIGURE 3** Weekly personal income of forestry industry employees and the general Australian workforce, 2011



Source: ABS Census of Population and Housing

## Education

Forestry industry employees tend to have slightly lower levels of formal education than the general Australian workforce (Table 1) reflecting the importance of on-the-job training. In 2011, 40 per cent of forestry employees had completed year 12 or equivalent, and 49 per cent held a post-school qualification

**TABLE 1** Completed formal qualifications of forestry employees and the general Australian workforce, 2011

Completed qualification	% of forestry employees	% of Australian workforce
Year 12 or equivalent	40	59
Certificate	34	22
Advanced diploma/Diploma	6	10
Bachelor degree	7	18
Graduate diploma/Graduate certificate	1	2
Postgraduate degree	1	5

Source: ABS Census of Population and Housing

## Indigenous people in the forestry industry

The term 'Indigenous' refers to both Aboriginal and Torres Strait Islanders.

An Indigenous person is someone who (ABS 2010):

- is of Aboriginal or Torres Strait Islander descent
- identifies as being of Aboriginal or Torres Strait Islander origin and
- is accepted as such by the Indigenous community with which the person associates.

### Indigenous employees in forestry

Although the written history is sparse, oral history details the employment of Aboriginal people in sawmills and forestry in the mid-20th century. This included (Feary 2005):

- clearing forests for agriculture in Western Australia and Queensland
- burning charcoal and stripping wattle bark in Victoria
- cutting timber for firewood and ringbarking trees.

There were 1 115 Indigenous forestry industry employees in 2011, which is similar to 2006 employment levels (1 073 people). Although Indigenous people represent only two per cent of forestry industry workers, this is consistent with their representation in the general Australian workforce (two per cent).

13 per cent of Indigenous forestry workers are women. This is lower than the percentage of Indigenous women in agricultural (22 per cent) and forestry industries (25 per cent).

Indigenous workers tend to be younger than other forestry workers. In 2011, the median age of Indigenous employees was 33 years, compared with 42 years for the entire forestry industry median age.

## Sub-industry and occupation

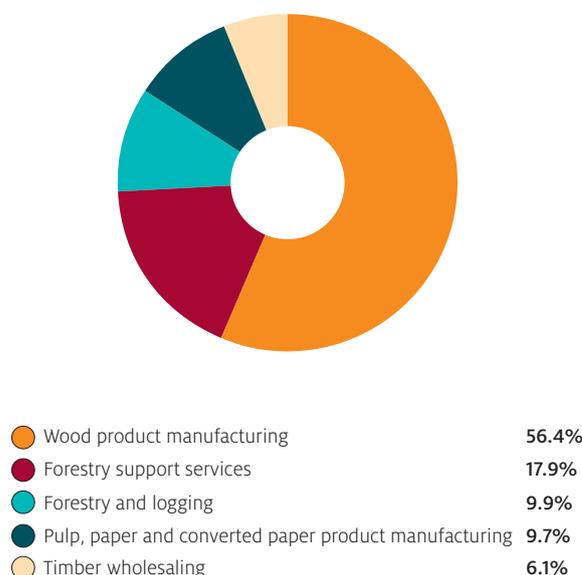
More than half of all Indigenous forestry industry employees (630 people) worked in wood product, paper and pulp manufacturing (Figure 4). However, Indigenous people were most strongly represented in forestry support services, where they made up nine per cent of the total workforce in this sub-industry.

Indigenous people are also employed in a range of forestry related occupations that are not classified as forestry by ABS data, such as ranger positions (Ganesharajah 2009), arts and crafts and cultural tourism (Feary et al. 2010).

Most Indigenous workers identified their roles as:

- Labourers (33 per cent; 370 people)
- Machinery operators and drivers (23 per cent; 258 people)

**FIGURE 4** Indigenous employment in forestry sub-industries, 2011

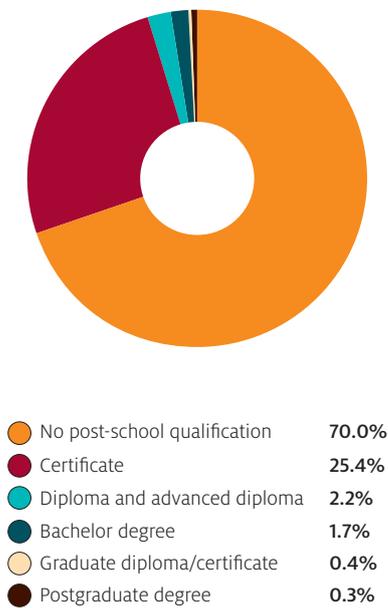


Source: ABS Census of Population and Housing

## Education

In 2011, approximately 24 per cent of Indigenous forestry industry workers indicated they had completed Year 12 or equivalent. Thirty per cent of Indigenous forestry industry employees had completed a form of post-school education. Most of these workers hold certificate level qualifications (Figure 5).

**FIGURE 5** Educational attainment of Indigenous forestry industry employees, 2011



Source: ABS Census of Population and Housing

### Indigenous cultural values

Many Indigenous people have a cultural connection to native forests, especially where the forest is part of the country for which a particular community has customary responsibility (Feary 2005). Using native forests for traditional activities, such as hunting and social ceremonies, allows Indigenous people to connect with ancestral landscapes, teach new generations and maintain cultural identity (Ganesharajah 2009).

### People from CALD backgrounds in the forestry industry

*A person from a Culturally and Linguistically Diverse (CALD) background is someone who identifies '...as having a cultural or linguistic affiliation by virtue of their place of birth, ancestry, ethnic origin, religion, preferred language(s) spoken at home, or because of their parents' identification on a similar basis'.*

#### Victorian Multicultural Strategy Unit, 2002 in (The Australian Psychological Society Ltd 2008)

It is a personal judgement whether people identify themselves as being from CALD backgrounds. This information sheet uses language spoken at home as an indicator of a CALD background<sup>2</sup>. This method captures both first and second generation Australians.

<sup>2</sup> Based on the 2011 Census question 'Does the person speak a language other than English at home?' The analysis excludes English and Indigenous Australian languages (for Indigenous peoples participation in the forestry industry, see Indigenous employees in forestry).

### Forestry employees from CALD backgrounds

People from CALD backgrounds played crucial roles establishing Australia's forestry industry. In particular, Europeans migrating to Australia provided much of the labour necessary to expand the industry after World War II. These people were heavily involved in large reforestation programs in Queensland (HQ Plantations nd) and timber cutting in Western Australia (Calwell 1948; Iuliano 2010; Kancans, Stenekes & Benedictos 2010; Pickering Brook Heritage Group nd).

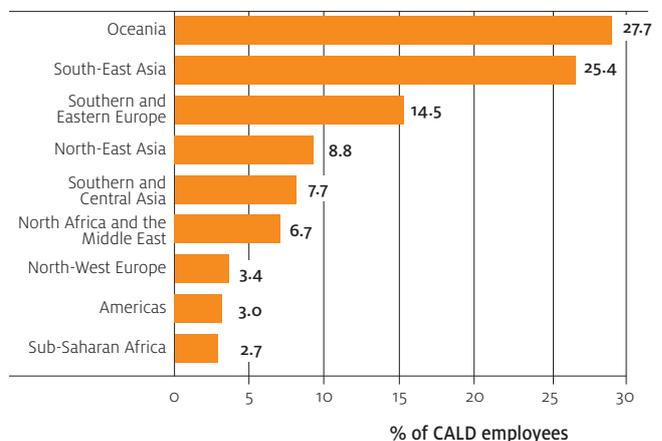
Based on the number of employees who speak a language other than English at home, people from CALD backgrounds represented approximately 14 per cent (10 788 people) of forestry industry employees in 2011.

This figure is an underestimate because ABS data do not capture the contributions of seasonal and temporary workers in forestry and logging.

CALD people's representation in the forestry industry is greater than their representation in the agriculture industry (eight per cent), but lower than their representation in the fishing industry (17 per cent). Women represent 20 per cent of forestry industry workers from CALD backgrounds.

While people from across the globe work in the Australian forestry industry, the majority of CALD employees were born in Oceania<sup>3</sup> and South-east Asia (Figure 6).

**FIGURE 6** Place of birth of CALD employees in the Australian forestry industry, 2011



Note: Country of birth categories are classified by ABS using the Standard Classification of Countries (SACC) Second Edition, Revision 1. Source: ABS Census of Population and Housing.

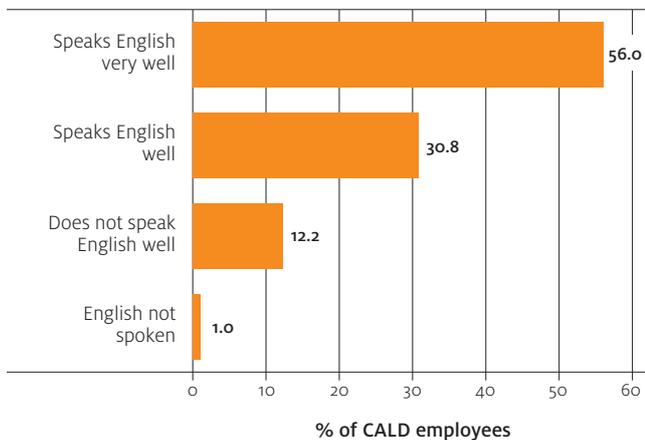
### English proficiency

9 291 CALD forestry industry employees (87 per cent) indicated that they were proficient in spoken English (Figure 7). Proficiency in English can influence a person's participation rates, employment and income levels. CALD workers in the

<sup>3</sup> ABS classifies Oceania as including Australia, New Zealand, Melanesia, Micronesia and Polynesia.

forestry industry may not be literate in their native language or English, which can affect their ability to access information about the forestry industry and employment opportunities.

**FIGURE 7** Proficiency in spoken English by CALD forestry industry employees, 2011



Source: ABS Census of Population and Housing

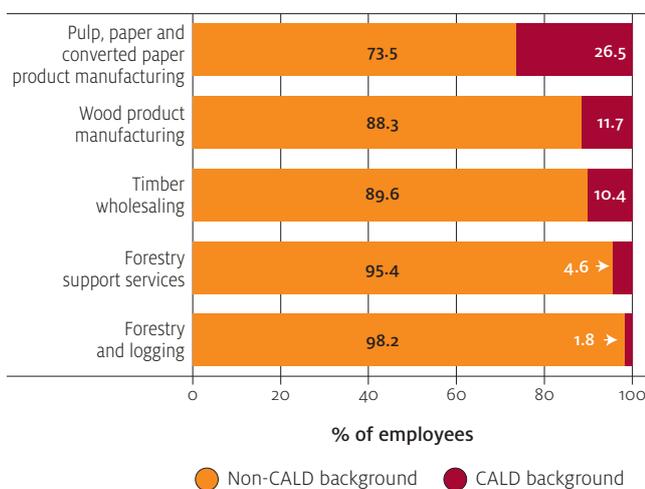
### Sub-industry and occupation

Almost all employees from CALD backgrounds work in the manufacturing sector (92 per cent). CALD workers are best represented in the pulp and paper manufacturing sector, where they make up 26.5 per cent of all employees (5 136).

The majority of CALD people employed in the forestry industry reported their occupation as:

- Machinery operators and drivers (28 per cent; 2 930 people)
- Technicians and trades workers (26 per cent; 2 709 people)

**FIGURE 8** CALD employment in forestry sub-industries, 2011



Source: ABS Census of Population and Housing

## Women in the forestry industry

Forestry has traditionally been dominated by male workers. Little literature exists about the contribution of women to the forestry industry.

### Women in the forestry industry

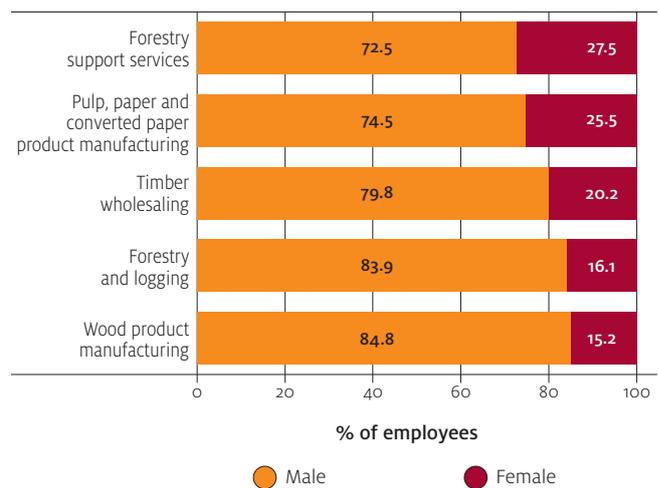
In 2011, women made up 47 per cent of the general Australian workforce, but only 19 per cent (13 669 people) of forestry industry employees. This ratio is similar to that of 2006.

The median age of female forestry industry employees (43 years) is similar to their male counterparts (41 years).

### Sub-industry and occupation

Most women worked in wood product manufacturing. However, female employees are most strongly represented in forestry services, where they make up 28 per cent of all workers in this sub-industry (Figure 9).

**FIGURE 9** Women's representation in forestry industry sectors, 2011



Source: ABS Census of Population and Housing

There is a difference in the roles men and women perform in the forestry industry. Most female employees work as:

- Clerical and administrative workers (44 per cent of women)
- Labourers (14 per cent of women)

Whereas most male forestry workers are employed as:

- Technicians and trades workers (32 per cent of male employees)
- Machinery operators and drivers (24 per cent of male employees)

The proportion of managers was similar between the genders: approximately 13 per cent of males and 10 per cent of women.

## Education

Female and male employees have different education completion rates. In 2011, proportionally more female employees held Bachelor degrees, whereas more male employees held Certificate qualifications (Table 2). These differences in qualifications may contribute to gender differences in occupation.

**TABLE 2** Comparison of completed formal qualifications of female and male forestry industry employees, 2011

Completed qualification	% of female workers	% of male workers
Certificate	16	38
Advanced diploma/diploma	10	5
Bachelor degree	13	6
Graduate diploma/graduate certificate	1	1
Postgraduate degree	2	1

Source: ABS Census of Population and Housing

## Young people in the forestry industry

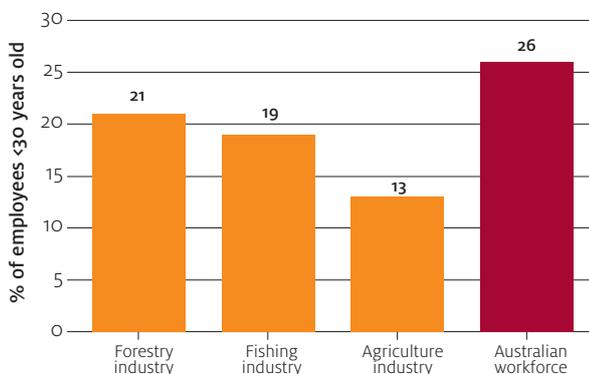
In this information sheet young people are defined as those aged between 15 and 29 years.

### Young people in the forestry industry

In 2011, young people represented 21 per cent of the forestry industry (15 598 people), which is lower than their representation in the general Australian workforce (26 per cent). The ratio of young forestry employees has decreased marginally since 2006, when they represented 25 per cent of forestry industry workers.

Young people have a higher representation in the forestry industry than in fishing and agriculture (Figure 10). Female workers make up 14 per cent of young forestry workers.

**FIGURE 10** Comparison of young people's representation in agriculture, fishing and forestry industries, 2011

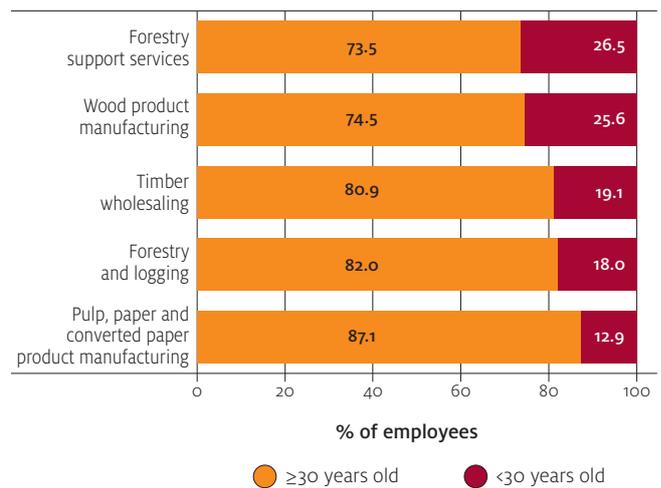


Source: ABS Census of Population and Housing

## Sub-industry and occupation

Sixty eight per cent of young people (10 672 people) work in wood product manufacturing. However, young people are most strongly represented in forestry support services, where they account for 27 per cent of workers in this sub-industry (Figure 11).

**FIGURE 11** Young people in forestry sub-industries as a percentage of all young employees in the forestry industry, 2011



Source: ABS Census of Population and Housing

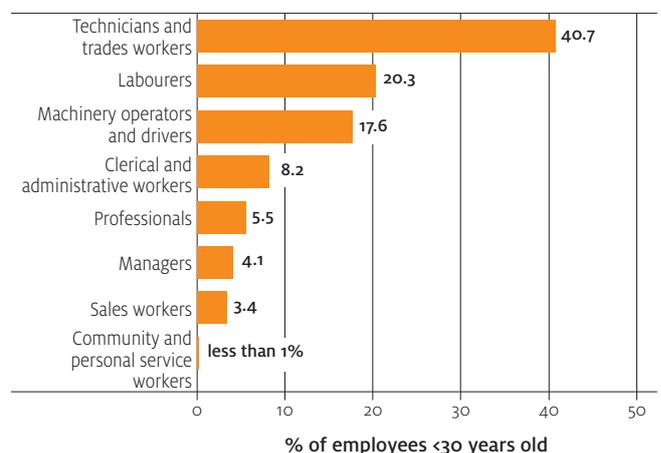
Most young people described their roles as (Figure 12):

- Technicians and trades workers (41 per cent; 6 296 people)
- Labourers (20 per cent; 3 142 people).

## Education

Forty eight per cent of young forestry industry workers (7 242 people) have completed a post-school qualification (Figure 13). Most of these employees hold a certificate level qualification (37 per cent), while six per cent have completed a bachelor degree.

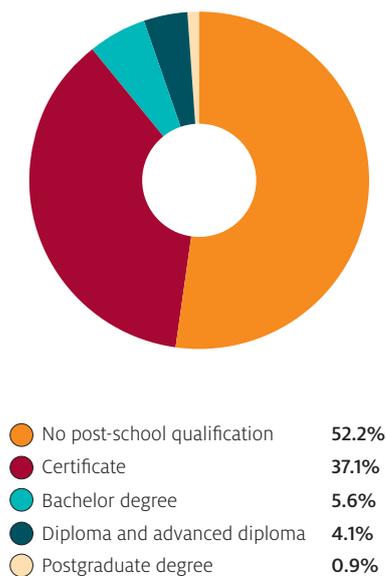
**FIGURE 12** Occupation of young people in the forestry industry, 2011



Source: ABS Census of Population and Housing

The forestry industry acknowledges the challenge of attracting young people to the industry and developing the skills required by the workforce in the future (Victorian Association of Forest Industries 2011). In 2011, Forest and Wood Products Australia launched the Growing Careers Campaign to give young people information about forest careers (Forest and Wood Products Australia 2011).

**FIGURE 13** Educational attainment of young people working in the forestry industry, 2011



Source: ABS Census of Population and Housing

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