



Australian Government

**Department of Agriculture,
Water and the Environment**



**GIPPSLAND
FORESTRY HUB**

Promoting the Forestry Industry



GIPPSLAND FORESTRY HUB

Skills, Employment and Education Report



Table of Contents

List of tables	4
List of figures	5
Key terms and acronyms	6
Executive summary.....	8
Impact of the Operating Environment on Industry Skill Needs.....	8
Prevalence of Forestry Employment in Gippsland	9
Workforce Demographics.....	9
Workforce Development and Career Pathways.....	10
Education and Training Programs	10
Access to Skills and Training	10
Skills Gaps	11
Promoting Forestry to Young People	11
Summary of Recommendations.....	12
Introduction.....	13
Methodology for industry engagement for this report	15
Operating environment for the industry in Gippsland – impact on forestry skills and training... 18	
Challenges and Opportunities.....	19
Prevalence of Forestry Employment in Gippsland	23
Industry Employment Projections – Australia.....	25
Workforce Characteristics	28
Workforce Diversity.....	28
Working Conditions.....	31
Educational Attainment.....	34
Language, Literacy and Numeracy	35
Workforce development planning	36
Workforce Development Planning	36
Career pathways	36
Pathways into new roles.....	37
Recruitment difficulties	38
Entry level and non-entry level jobs.....	38
Specific job roles	38
Reasons for difficulties in recruitment	39
Attracting young people	40
Relationships with local high schools	42
Training needs	44
Training used by the industry.....	44
Apprenticeships and Traineeships	49
Availability of Training.....	52
Vocational Education.....	52
University Education	58
Access to education, skills and training	59
Relationship with Training Being Conducted	61
Removing Barriers to Training	61
Skills shortages	64
Recommendations.....	68

1. GFHub to promote and support workforce development planning and provide access to workforce development tools	68
2. GFHub to support access to nationally recognised accredited training.....	68
3. GFHub to support and promote the co-development of training and assessment material	68
4. GFHub to conduct a feasibility study to establish a purpose-built forestry training centre in the Latrobe Valley.	68
5. GFHub to develop a program for identifying and supporting industry experts to undertake Training and Assessment Education (TAE) training.....	69
6. GFHub to support the development of RTO models which would support multiple training providers with industry experts to mentor training delivery.	69
7. GFHub to promote opportunities for the Gippsland Industry to contribute to training package development.....	69
8. GFHub to promote and assist its members to build the skills of existing employees.....	69
9. GFHub to adapt successful projects already underway to attract young people to the industry in Gippsland.....	70
10. GFHub to facilitate linkages between industry and local high schools.....	70
11. GFHub could assist in the promotion of the industry within the school curriculum.....	71
12. GFHub to facilitate schools and industry to work together to document pathways into, and out of, a variety of job roles	71
13. GFHub could further promote the industry's successes	71
14. GFHub to provide leadership in encouraging diversity in the workplace	71
15. GFHub to facilitate a series of activities to support greater engagement with the Gunaikurnai people. 71	
16. GFHub to promote awareness of the need for appropriate work housing and infrastructure near job sites 71	
17. GFHub to support industry to pursue government funding opportunities such as those arising as a result of the closure of the hardwood native forest resources	72
Bibliography	73
Appendix A – GFHub survey questions	75
Appendix B – Additional questions for high schools	89
Appendix C – International Experience	90
Scotland.....	90
England and Wales	91
Maine, United States of America	92
New Zealand	93
North-North West Tasmania Regional Forestry Hub	94
Appendix D – Full results of GFHub survey Question 23	96
Appendix E – Full results of GFHub survey Question 25.....	97
Appendix F – Full results of GFHub survey Question 27	98
Appendix G – Full results of GFHub survey Question 12	99
Appendix H – Forest and Wood Products Training Package, Enrolments in Units of Competency, Latrobe-Gippsland SA2, 2016-2019	100
Appendix I – Top 50 Apprentices and Trainees, Latrobe-Gippsland SA2, 2016-2019	103
Appendix J – FWP Qualifications and Victorian Registered Training Organisations.....	105
Appendix K - FWP and PPM Skill Sets proposed to OVSC for subsidised training	114

List of tables

Table 1: Challenges and Opportunities in Gippsland.....	20
Table 2: Employment in selected local government areas, by industry, 2016	23
Table 3: Employment in the forest industry, 2016, 2017, by local government area	24
Table 4: Gippsland workforce by gender composition and industry sector	28
Table 5: Aboriginal and Torres Strait Islander participation in workforce by industry sector	29
Table 6: Gippsland Workforce Age Profile by Industry Sector	31
Table 7: Full-time, part-time and casual work in the softwood plantation industry, 2017	32
Table 8: Total personal weekly income by sector in Gippsland	33
Table 9: Workers who would benefit from LLN support	35
Table 10: Job roles most difficult to fill.....	39
Table 11: Type of training used for all areas of operation.....	44
Table 12: Number of enrolments in FWP and PPM Training Packages 2015-2019 by SA2	47
Table 13: Apprenticeship enrolments 2016-2019, Australia	50
Table 14: Apprentices and Trainees enrolments 2016-2019, Latrobe - Gippsland SA2	51
Table 15: Forest and Wood Products Training Package - Correspondence between Qualification Level, Industry Sector and Occupational Outcomes.....	53
Table 16: Forest and Wood Products Training Package - Correspondence between Qualification Level, Industry Sector and Occupational Outcomes.....	54
Table 17: Funded Courses in Victoria	56
Table 18: Number of Registered Training Organisations (2019).....	57
Table 19: Difficulty in accessing training versus Training conducted	61
Table 20: Skills areas ranked by net shortage	66
Table 21 Recommendations for the Tasmanian forestry sector (adapted).....	94

List of figures

Figure 1: Representativeness of Survey Respondents– Industry Sector	15
Figure 2: Representativeness of Survey Respondents– Location of Respondent	16
Figure 3: Representativeness of Survey Respondents - Business Size.....	16
Figure 4: Occupations as a proportion of the Forestry and Logging industry workforce and the projected employment growth for each occupation to 2024, Australia.	25
Figure 5: Occupations as a proportion of the Forestry Support Services industry workforce and the projected employment growth for each occupation to 2024, Australia.	26
Figure 6: Occupations as a proportion of the Log Sawmilling and Timber Dressing industry workforce and the projected employment growth for each occupation to 2024, Australia.....	26
Figure 7: Occupations as a proportion of the Other Wood Product Manufacturing industry workforce and the projected employment growth for each occupation to 2024, Australia.....	27
Figure 8: Country of Birth of Person (excluding Oceania and Antarctica) by industry sector, Gippsland	30
Figure 9: Gippsland Workforce Age Profile by Industry Sector.....	31
Figure 10: Working hours in Gippsland by industry sector	32
Figure 11: Total personal weekly income by sector in Gippsland	33
Figure 12: Highest level of educational attainment rates by industry sector for Gippsland compared to all industries in Gippsland and all industries in Victoria	34
Figure 13: Highest level of educational attainment rates by industry sector for Gippsland compared to all industries in Gippsland and all industries in Victoria	35
Figure 14: How do you undertake workforce development planning?	36
Figure 15: Common entry pathways	37
Figure 16: Difficulty in recruitment	38
Figure 17: Reasons for difficulty when recruiting staff.....	40
Figure 18: Influences on young people's decision to work in the forest industry.....	41
Figure 19: Top 20 Vet in Schools Program Enrolments, Gippsland 2016-2019.....	43
Figure 20: Enrolments in Units of Competency, SA2 Latrobe Gippsland, 2016-2019	46
Figure 21: Victorian Trainee/Apprenticeship Commencements (FPI, FWP)	50
Figure 22: Skills First	55
Figure 23: In the last three years how easy or difficult has it been to access the following education skills and training required in your area of work?.....	60
Figure 24: What barriers, if any, are there to accessing necessary or desired training, skills or education opportunities?	62
Figure 25: What would help remove or reduce barriers to training, skills, or education?	62
Figure 26: What skills do you consider to be in short supply in your organisation, your sector, or in the forest industry as a whole?	65

Key terms and acronyms

ABS	Australian Bureau of Statistics
AISC	Australian Industry and Skills Committee
AQF	Australian Qualifications Framework
ASQA	Australian Skills Quality Authority
ATSI	Aboriginal and Torres Strait Islander
EfW	Energy from Waste
ERF	Emissions Reduction Fund
FGM	Forest Growing and Management
FOR/Maine	Forest Opportunity Roadmap/Maine
FSC	Forest Stewardship Council
FSF	Forestry Skills Forum of England and Wales
FWP	Forest and Wood Products
FWPA	Forest and Wood Products Australia
GFHub	Gippsland Forestry Hub
HH	Harvesting and Haulage
IFA	Institute of Foresters of Australia
IRC	Industry Reference Committee
IT	Information Technology
LGA	Local Government Area
LLN	Language, Literacy and Numeracy
LVTAC	Latrobe Valley Training and Assessment Centre
NCVER	National Centre for Vocational Education Research
PPM	Pulp and Paper Manufacturing
OVSC	Office of the Victorian Skills Commissioner
Qualification	Aligns with the AQF – Certificate I to Advanced Diploma, Graduate Certificate and Graduate Diploma
RTO	Registered Training Organisation
SACE	South Australian Certificate of Education
SFTT	Scottish Forest and Timber Technologies
SMP	Sawmilling and Processing

SOP	Standard Operating Procedure
SSO	Skills Services Organisation
TAE	Training and Assessment Education
TAFE	Technical and Further Education
TMP	Timber Manufactured Products
Training Package	Occupational skills standards defining skills and knowledge needed to effectively perform workplace job
Thin markets	Thin markets in VET have been defined as those in which the actual and potential number of learners may be too small to attract training providers (Ferrier et al, 2008).
Units of competency	Specifies standard of performance required in the workplace
VCAL	Victorian Certificate of Applied Learning
VET	Vocational Education and Training
VR	Virtual Reality
WHS	Workplace Health and Safety

Executive summary

The Gippsland Forestry Hub (GFHub) was established in 2020 with a focus on constructively and effectively engaging the community, industry, educators, and government. The Hub's goal is to contribute to the development of a strong, deliverable strategy and action plan that will guide the sustainable growth of the forest industry in Gippsland for decades to come. The hub is one of nine that have been established throughout Australia as part of the Federal Government's 2018 National Forest Industries Plan to meet our future needs for wood and fibre: Growing a Better Australia – A Billion Trees for Jobs and Growth.¹

As part of the GFHub's 30-year strategic plan, currently under development, it was identified that "the Hub has an opportunity in the short term to focus on better understanding what education, skills and training are required to support the changing industry needs".² ForestWorks was engaged in February 2021 to conduct this Skills and Employment Assessment Project to inform the hub's future work.

The information to inform this report was sourced through an online industry survey of companies, associations and high schools in Gippsland, desktop research and one-on-one interviews with training providers. These interviews were conducted as part of ForestWorks' (2020) Improving Enrolments Project.

This report analyses data on the industry's training and skills needs in Gippsland. The report considers 'where to from here.' and recommends how the hub can improve training availability which in turn could generate employment.

Impact of the Operating Environment on Industry Skill Needs

A range of skills needs have been identified to support the changing and uncertain operating environment in Gippsland:

- Sawmilling and processing Optimisation
- Adapting native forest harvesting skills to plantation and farm forest harvesting
- Innovation skills
- Communication and stakeholder engagement skills
- Farm forestry skills
- Environmental and land management skills
- Cultural awareness training
- Carbon accounting skills
- Bioprocessing skills
- Truck driver training

Needs have also been identified:

- To recruit, retain, and train staff to meet the increasing demand for wood products
- To provide training in new technologies for existing workers

¹ Department of Agriculture and Water Resources, *Growing a better Australia – A billion trees for jobs and growth* (Canberra: Federal Government Australia, 2018)

² Greenwood Strategy Solutions, *Gippsland Forestry Hub 30 Year Strategy* (Canberra: Federal Government Australia, 2021)

- To undertake workforce development planning and skills forecasting at an industry and individual business level
- To document career pathways to support attraction and retention
- For a shared training facility to address the challenges of a thin market and to facilitate greater cooperation between industry and training providers.

Prevalence of Forestry Employment in Gippsland

The Forestry industry is the fourth largest industry in Gippsland. The industry's workforce are located primarily in Latrobe and Wellington Shires with significant additional workforces in Baw Baw and East Gippsland.

Nationally, growth is expected in the following occupations:

- Machine operators
- Truck drivers
- Forestry scientists
- Forestry and logging workers
- Plant operators
- Environmental scientists
- Metal fitters and machinists.

The forestry industry in Gippsland is well placed to meet these increased demands, comparing favourably to key competitor industries for talent, on a number of dimensions, with competitive incomes and opportunities for full-time work. Perceptions of the industry need to be addressed to be able to fully capitalise on these advantages.

Workforce Demographics

Diversity

The industry in Gippsland is lacking in diversity relative to the community. The industry is predominantly male, of Australian or New Zealand birth and over 40 years of age. These trends have not improved over the last decade.

The data suggests that 1-5 per cent of the forestry workforce in Gippsland identifies as Aboriginal and/or Torres Strait Islander, more than the industry in other parts of Victoria. This may provide a foundation for engagement with traditional owners.

The educational profile of the industry sectors varies considerably but the majority are educated to Year 10 and above or Certificate III and IV. There is evidence to suggest a need for language, literacy and numeracy support.

Conditions

Workers in the forestry industry in Gippsland are more likely to be working full time than their counterparts in other industries, with particularly long hours being worked in Forestry and Logging.

Workforce Development and Career Pathways

Workforce projections and current government policy indicate significant changes are going to occur in the forestry industry for Gippsland and the importance of workforce development planning, including skills forecasting, has never been greater.

Formal workforce development planning is engaged in by most of the industry, however this poses challenges for small businesses. Career pathways are also present in the industry, however again, this is more of a challenge for smaller organisations.

Organisations are experiencing difficulty recruiting staff and only a fraction of the industry successfully fills roles through advertising publicly. Most organisations who had recruited in the last 12 months experienced some or a lot of difficulty with more difficulty in non-entry level jobs. The specific job roles that were most difficult to recruit were:

- Wood Machinist
- Electrician
- Maintenance workers
- Truck Drivers

The main difficulties in recruiting were as a result of limited (appropriate) applicants and a lack of skilled workers in the industry or being skilled up in the industry.

Education and Training Programs

Training in the industry is reasonably evenly distributed between in-house training and training by RTOs. Generally, the larger the business, the greater the use of experts and other staff for in-house training. Smaller businesses are reliant on RTOs. For the industry as a whole, the maintenance of RTO capability to deliver for the industry is critical.

Generally, RTOs were used for activities where safety and/or regulatory compliance was an overarching objective (for example work health and safety, machinery training, fire-fighting and first-aid). In-house training tended to be used for business activities (eg financial management, software, marketing and sales).

Access to Skills and Training

Over five years less than 1 per cent of enrolments in Gippsland were in forest and wood product qualifications. There are only three RTOs delivering vocational forestry training in Gippsland and the local University offers no forestry qualifications.

The breadth of training requirements combined with the small number of RTOs poses challenges for industry access to quality specialised training.

Unexpectedly it is easier to access training for generic skills than industry specific skills. Key areas where it was somewhat or very difficult to obtain training are:

- Road transport
- Heavy machinery operation
- Forest ecology and silviculture
- Forest operations planning and management

- Saw technician
- Chainsaw and other handheld machinery
- IT training specialised to the industry.

The most significant barriers to training from the industry perspective were:

- The location of training
- The time commitment to training
- The lack of suitable trainers.

The key solutions identified by the industry were:

- A purpose built training centre for industry in Latrobe
- Industry endorsed training and assessment material
- Awareness of training funding options
- Coordinated training to achieve economies of scale.

Skills Gaps

As reflected in access to training, the greatest skills shortage areas identified by the industry are in industry specific skills:

- Wood machining
- Saw technician
- Information technology skills specialised to the industry
- Heavy machinery
- Hand-held machinery.

There are two areas where the industry has not identified a skills shortage, but where the current operating environment suggests consideration could be given:

- Cultural awareness or cultural competency
- Community and stakeholder engagement.

Promoting Forestry to Young People

Key reasons identified by the industry for difficulties in recruiting young people primarily related to a poor understanding of the industry and the career paths available. Additional difficulties were seen as perceptions of the industry related to the physicality of the work, low pay, and the job location.

Only a third of survey respondents has relationships with schools, but those who did considered the engagement valuable.

There are currently no opportunities to pursue forestry qualifications in school. In Gippsland, the most common offerings to young people in schools are sport fitness and recreation, tourism travel and hospitality, creative arts and culture, and hairdressing and beauty services.

Summary of Recommendations

1. GFHub to promote and support workforce development planning and provide access to workforce development tools.
2. GFHub to support access to nationally recognised accredited training.
3. GFHub to support and promote the co-development of training and assessment material.
4. GFHub to conduct a feasibility study to establish a purpose-built forestry training centre in the Latrobe Valley.
5. GFHub to develop a program for identifying and supporting industry experts to undertake Training and Assessment Education (TAE) training
6. GFHub to support the development of RTO models which would support multiple training providers with industry experts to mentor training delivery.
7. GFHub to promote opportunities for the Gippsland Industry to contribute to training package development
8. GFHub to promote and assist its members to build the skills of existing employees
9. GFHub to adapt successful projects already underway to attract young people to the industry in Gippsland
10. GFHub to facilitate linkages between industry and local high schools
11. GFHub could assist in the promotion of the industry within the school curriculum.
12. GFHub to facilitate schools and industry to work together to document pathways into, and out of, a variety of job roles
13. GFHub could further promote the industry's successes.
14. GFHub to provide leadership in encouraging diversity in the workplace
15. GFHub to facilitate a series of activities to support greater engagement with the Gunaikurnai people.
16. GFHub to promote awareness of the need for appropriate work housing and infrastructure near job sites.
17. GFHub to support industry to pursue government funding opportunities such as those arising as a result of the closure of the hardwood native forest resources.

Introduction

The Federal Government has funded nine Regional Forestry Hubs across Australia to support the research and development objectives of the \$20 million National Forest Industries Plan. The Gippsland Forestry Hub (GFHub) was formed in 2020 with a focus on constructively and effectively engaging the community, industry, educators, and government. The GFHub's goal is to contribute to the development of a strong, deliverable strategy and action plan that will guide the sustainable growth of the forest industry in Gippsland for decades to come.

The Gippsland forestry industry includes forest growers, forest managers, contractors, sawmill operators, and manufacturers. GFHub aims to identify opportunities to sustainably grow the industry into the future; to support local regional communities to thrive; to improve public perceptions of the industry; and to raise awareness in Gippsland of the career opportunities and job pathways available within the industry.

The priorities of the hub are:

- Facilitating a stakeholder forum on growing the future of the industry
- Exploring value-adding opportunities
- Defining the boundaries of the region
- Exploring opportunities for expanding wood supply, including from farm, private native, and Indigenous forestry
- Developing a skills needs framework and conducting a skills audit
- Facilitating innovation and regional research
- Building stakeholder communications.

The GFHub is currently undertaking the development of a “30-year strategy to provide a clear and deliverable framework for ensuring that the industry is set up to meet these aims. It will provide an important basis to guide the sector in its journey to adapt, survive and thrive so that it can continue its role at the centre of Gippsland's economy and community.”³ As part of this plan, GFHub established the need for skills and employment assessment to be undertaken to identify the challenges and opportunities regarding education, skills and employment in the Gippsland region. Expressions of interest were called for from parties interested in undertaking the project and in February 2021 ForestWorks was engaged to undertake the assessment and provide this report.

The project scope was to respond to 9 key topics:

- Operating environment for the industry in Gippsland
- Prevalence of Forestry employment in Gippsland
- Workforce demographics
- Education, training programs, workforce development, and career pathways
- Industry engagement regarding the current situation
- Accessing skills and training
- Constraints on the labour market
- Education and training programs to address skills gaps in the sector
- Promoting forestry to younger people.

ForestWorks is an industry-owned not-for-profit organisation offering skills development services for industry covering forest, wood, paper, timber product, furnishing, and frame and truss manufacturing industries.

³ Greenwood Strategy Solutions, *Gippsland Forestry Hub 30 Year Strategy* (Canberra: Federal Government Australia, 2021)

This project and its objectives are complementary to ForestWorks' purpose: "to serve our industry and our people by fostering and facilitating skills development."

Methodology for industry engagement for this report

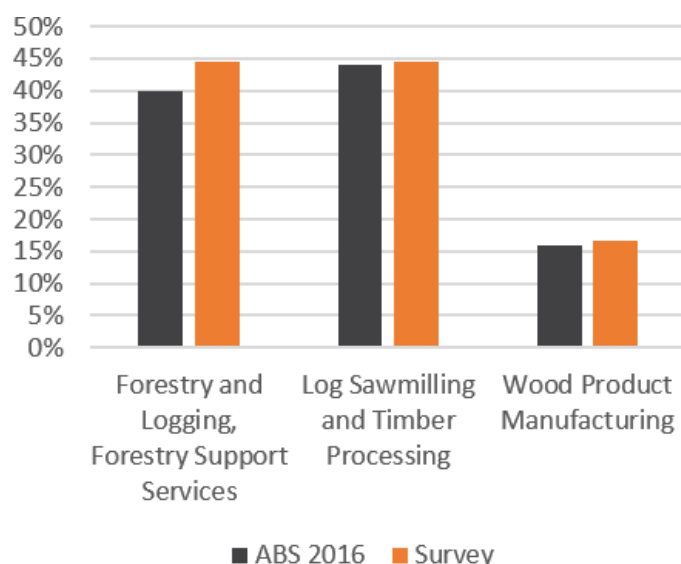
Industry engagement and desktop research were the two main methods used to inform this report.

Industry engagement activities included an online survey for companies, associations, and schools⁴ and one-on-one interviews with training providers and RTOs. The survey questions are at Appendix A of the report.

The online survey was distributed on 9 March 2021 and was open until 18 March 2021 to 41 organisations identified by the GFHub. The short survey timeframe was a result of the short project timeframe. Follow-up phone calls were made in the days leading up to the closure of the survey to ensure as many responses were received as possible. In total 18 responses were received from forestry businesses. Additional responses were received from local government (3), from schools (2) and industry bodies (3).

The industry respondents were broadly representative of the industry in terms of the sector of operation (See Figure 1). Some survey respondents operated in more than one sector.

Figure 1: Representativeness of Survey Respondents– Industry Sector



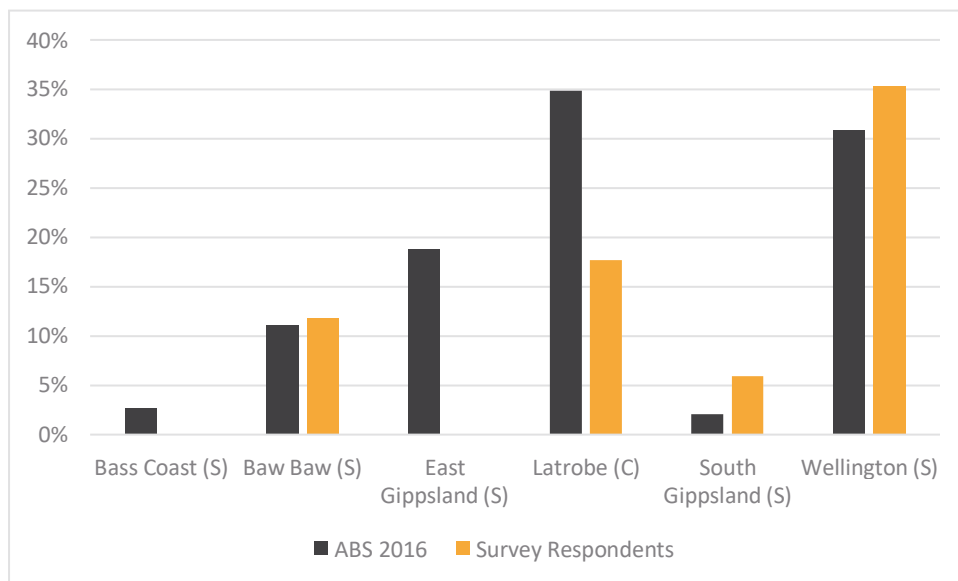
Data Source: Census of Population and Housing, 2016, TableBuilder and GFHub survey, 2021

Most survey respondents were Sawmilling and Processing companies (50 per cent) followed by Forest Owner or Grower and/or Forest Management companies (28 per cent). Timber Manufactured Products companies comprised the next largest group (22 per cent). Two Harvesting and Haulage companies responded, as well as one Timber Frame and Truss Manufacturer and one Silviculture contractor. One respondent also had a nursery. The sole Pulp and Paper Manufacturer in the region also responded.

The survey is also representative of some of the Gippsland Regions, most notably Wellington and Baw Baw Councils. However, East Gippsland and Latrobe respondents have not reached a level so as to be representative of the industry in those areas (see Figure 2).

⁴ Schools were emailed a link to the online survey and asked to complete as much of the survey as was relevant to them as well as answering four additional questions specific to high schools – See Appendix B

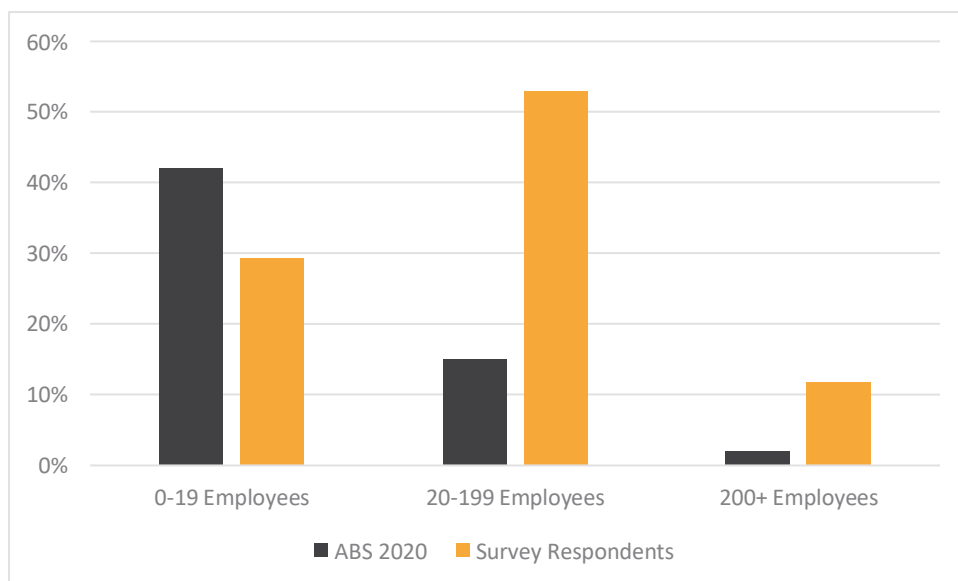
Figure 2: Representativeness of Survey Respondents– Location of Respondent



Data Source: Census of Population and Housing, 2016, TableBuilder and GFHub survey, 2021

The survey is less representative of the industry in respect of business size, with an overrepresentation of larger businesses and an under-representation of smaller operators (see Figure 3).

Figure 3: Representativeness of Survey Respondents - Business Size



Data Source: Census of Population and Housing, 2016, TableBuilder and GFHub survey, 2021

The survey collected both qualitative and quantitative data. The qualitative data aims to gain a contextualised understanding from the participant's point of view of problems or issues that may be quite complex. The quantitative data allows for numerical analysis of data to identify trends, patterns, and relationships between variables however with a small sample size this type of data cannot be relied on solely.

All survey respondents will receive a copy of this report. Ongoing feedback will be managed by the GFHub.

Formal interviews were conducted with industry and Registered Training Organisation (RTOs) stakeholders in 2020 as part of ForestWorks' (2020) Improving Enrolments Project. Five of the companies interviewed for the project operated in the GFHub region. All the RTOs operating in the region were also interviewed.

The responses from the interviews have informed this report.

Desktop research was conducted to establish and document the current situation and establish trends with the available data. Sources are listed in the bibliography and referenced throughout.

The latest information was used wherever possible however in some instances the data is a few years out of date. Particularly Australian Bureau of Statistics (ABS) census data as the next census is due this year (2021) meaning the latest available census data is 2016, which is now 5 years old. Where possible ABS Data is provided for the Gippsland Region as defined by the Local Government Areas of Bass Coast, Baw Baw, East Gippsland, Latrobe, South Gippsland and Wellington.

Data has also been obtained from the NCVER database. Where possible this data is provided for Statistical Area Level 2 (SA2) – Latrobe Gippsland. This is comprised of the Statistical Areas Level 1 of Baw Baw, Gippsland–East, Gippsland–South West, Latrobe Valley and Wellington. LGAS boundaries are considered in the design of SA2s and a reasonable degree of concordance could be expected between the Gippsland Region LGAs and the Latrobe Gippsland SA2.

AISC data is also used in the report, but this is only available at the National level for the industry.

Information was gathered from recent research, reports and/or surveys completed by the N-NW Tasmanian Forestry Hub and commenced by the NE NSW Forestry Hub. In some cases, the questions used in the stakeholder survey for this project were in keeping with other surveys that have been conducted and will also be applied in the NE NSW Forestry Hub to allow for comparative analysis. The Office of the Victorian Skills Commissioner (OVSC) sector snapshots have been utilised.

Where information is not available for the Gippsland Region, Victoria-wide data has been used. In some instances only National data is available.

Operating environment for the industry in Gippsland – impact on forestry skills and training

The Gippsland Forestry Industry is experiencing significant uncertainty due to the intersection of factors including Government policy, bushfires, and COVID-19. While the operating environment is covered extensively in the 30-year strategy for the hub, it is worth highlighting a few factors which are likely to have the most significant impact on the forestry skills and training.

A major change for the forest industry was the 2018 Victorian Government's decision to cease native forest harvesting by 2030. A \$120 million support package, the Victorian Forestry Plan, is currently in operation to support industry transition to a plantation-based timber supply,⁵ however, there is a lot of uncertainty in the sector with the requirement for adaptation for a sustainable future. For example, VicForests no longer has Forest Stewardship Council (FSC) certification as it failed to achieve the Controlled Wood Standard within the required timeframe.⁶ The flow-on effect of this is that major retailer Bunnings will no longer accept raw material input into their supply chain from VicForests.⁷

Nearly three-quarters of respondents to the survey used plantation grown timber as their main forest resource (72 per cent). Eight respondents (44 per cent) indicated that they used public native forests, and of these six (33 per cent) only used public native forests. All of these companies were sawmilling and processing companies. As one respondent indicated:

"I would be happy to process Plantation Timber but there is none and never will be. All native forest is essentially plantation because it is all regrowth and not old growth..."

Sawmilling and Processing Company (0-19 employees)

Sawmilling and processing survey respondents have indicated that the uncertainty of the future of the industry without access to native forest harvesting prevents them from investing in training.

The Victorian Government is offering assistance to the forestry industry in the form of the Gippsland Plantations Investment Program⁸ to establish the Victorian Forest Nursery to increase the eucalypt seedling supply chain and create jobs, and the Timber Innovation Grants which "will offer up to \$100,000 to help timber mills and harvest and haulage businesses explore shifting to plantation fibre or other timber manufacturing opportunities."⁹

A new Biomanufacturing Training Centre has been opened at TAFE Gippsland's Yallourn campus.¹⁰ This centre will support the BioPathways Partnership Project between Opal Australian Paper and Federation Training. It will be used to develop courses and research programs in biomanufacturing, including the delivery of new State accredited Certificate III, Certificate IV and Diploma level qualifications in BioManufacturing Operations.¹¹

⁵ Department of Jobs, Precincts and Regions, *Victorian Forestry Plan*, (Melbourne: State Government of Victoria, 2021), <https://djpr.vic.gov.au/forestry/forestry-plan>

⁶ "VicForests not eligible for FSC membership", *TimberBiz*, April 17, 2020, <https://www.timberbiz.com.au/vicforests-not-eligible-for-fsc-membership/>

⁷ Willingham, Richard. "Bunnings stops selling native timber from state-owned VicForests after court ruling" *ABC News*, July 1, 2020. (2020) - <https://www.abc.net.au/news/2020-07-01/bunnings-stops-selling-victorian-native-timber/12412328>

⁸ J. Symes, *New Nursery to Grow More Timber and Gippsland Jobs* (Melbourne: Premier of Victoria Daniel Andrews, 2020) <https://www.premier.vic.gov.au/new-nursery-grow-more-timber-and-gippsland-jobs>

⁹ J. Symes, *Innovation the Key to The Future of Our Timber Industry*, (Melbourne: Agriculture Victoria, 2020), <https://www.jaclynssymes.com.au/media-releases/innovation-the-key-to-the-future-of-our-timber-industry/>

¹⁰ Tierney, G., *Major TAFE Gippsland Upgrades to Grow Job Opportunities*, (Melbourne, 2021), <https://www.premier.vic.gov.au/major-tafe-gippsland-upgrades-grow-job-opportunities>

¹¹ Skills Impact, PPM, *Annual Update to Industry Skills Forecast and Proposed Schedule of Work 2021*, (unpublished)

This need for adaptation has underpinned the need for the retraining of forestry workers.

Challenges and Opportunities

As identified in the GFHub's 30 year strategy, there are a variety of challenges and opportunities facing the forestry industry in Gippsland. There are clear implications for skills and training resulting from the changes in the operating environment in Gippsland. These are summarised in Table 1.

Table 1: Challenges and Opportunities in Gippsland

Area of change in operating environment	Challenges	Opportunities	Skills and Training Needs Arising
Resource availability and expansion	Changes to the total regional wood flows (which are currently matched to processing capacity) due to Government policy changes and bush fires. Limits on expansion due to plantation land availability, cost of suitable land, mixed community attitudes towards appropriate land use and support for industry	State Government's Gippsland Plantation Investment Program, expansion of plantation estate, existing resource management framework to support pursuit of small-scale farm forestry, integration of trees for harvest into farming systems, development of models to improve water catchment quality, traditional landowners in Gippsland are interested in working with industry for economic development.	Sawmilling and processing optimisation Adapting native forest harvesting skills to plantation and farm forest harvesting Innovation skills Communication and stakeholder engagement skills Farm forestry skills Environmental and land management skills Cultural awareness training
Policy and regulation	Policy changes in regard to resources (ceasing public native forest harvesting by 2030) and carbon emissions reductions present challenges, as does the regulatory environment in Victoria.	Opportunity for private native forest supply and participation in Emissions Reduction Fund (ERF). Improved support at the Commonwealth government level also provides opportunity.	Carbon accounting skills Environmental and land management skills
Forest products market	Limited market depth in Gippsland, dominance of pulp and paper and ongoing issues with import/export of log and processed wood products present challenges for Gippsland.	Expansion and housing development in Melbourne increases wood product demand and improved access to the Port of Melbourne via rail link provides opportunity for export markets.	Need to retain, recruit and train staff to meet rising demand for wood products.

Area of change in operating environment	Challenges	Opportunities	Skills and Training Needs Arising
Primary and downstream processing	Transition of resources and a lack of certainty does not encourage investment in/funding for the industry, and there are supply gaps between primary processing and advanced manufacturing.	Potential to transition to alternative operations, smaller-scale processing and implementation of industrial hubs, and Gippsland is appealing for downstream processing due to its available skills, operational costs, existing infrastructure and proximity to Melbourne.	Innovation skills Bioprocessing skills Sawmilling and processing optimisation
Contractor and services availability	Reluctance for investment in uncertain environment and the ability for a substitution from one resource to another makes it hard to attract and retain staff and secure debt funding.	Potential to transition to alternative operations and adopt a wide range of new technologies.	Provide training in new technologies for existing workers, including a focus on dexterity and fine motor skills for operating increasingly sophisticated and high-cost machinery Innovation skills Undertake workforce development planning, including skills forecasting. Document career pathways to support attraction and retention
Integrating trees with agriculture	Poor track record of past initiatives, a lack of robust information and negative perceptions may prevent landowners from participating in planting commercial species. Can also be difficult to reach levels that are of value to both farmer and mill.	Opportunity to work with farmers, focusing on their needs, to develop the mechanisms and schemes required to achieve success.	Farm forestry skills Communication and stakeholder engagement skills Environmental and land management skills

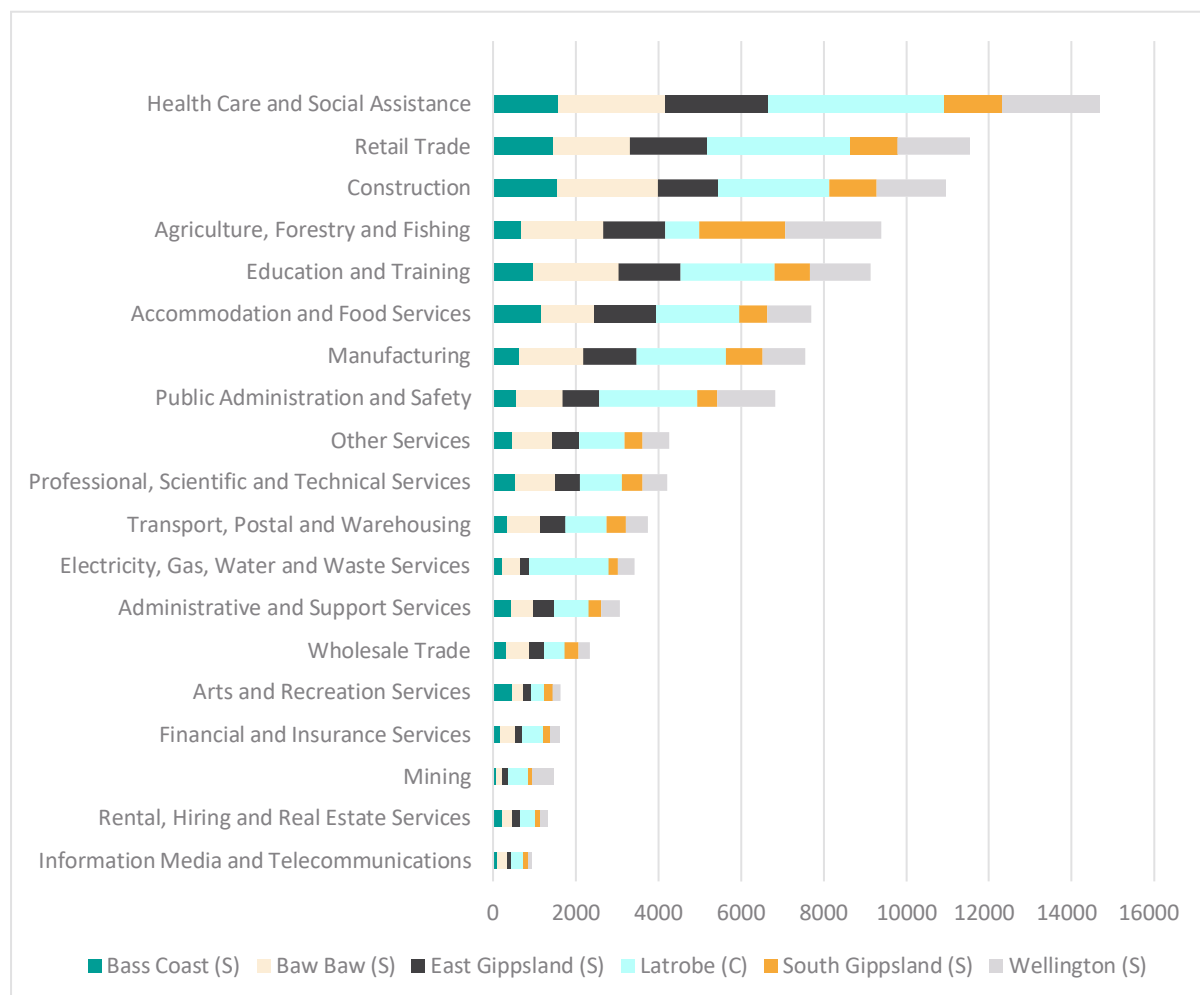
Area of change in operating environment	Challenges	Opportunities	Skills and Training Needs Arising
Regional infrastructure	<p>Greenfield plantations may not be in proximity to existing plantations creating pressure on roads and other infrastructure which may also cause friction with other local road users.</p> <p>Gippsland TAFE training facility, designed for native forest plantation harvesting, is situated outside the expanding plantation estate area. Along with closure of the LVTAC training facility in Latrobe, infrastructure to support plantation harvesting training is not easily accessible.</p>	<p>Increased traffic volumes may provide the justification required to re-think current infrastructure planning and secure investment in infrastructure projects.</p> <p>The establishment of a shared training facility in close proximity to the plantation estate and private native forest area.</p> <p>Tertiary education capability is available in Federation University located in the region along with the home of the National Institute for Forest Products Innovation (NIFPI) Centre</p>	<p>Truck driver training</p> <p>Communication and stakeholder engagement skills</p> <p>Shared facility would create opportunities for training providers, schools and industry to address the challenge of a thin market.</p> <p>Cooperation with existing organisations located in region for higher education opportunities tailored to future needs of industry in the region.</p>
Community sentiment	<p>Challenges exist with current community and special interest group views around koalas in plantations, appropriate use of agricultural land, and views regarding forest operations (road use, air and noise pollution and use of chemicals). Lack of engagement with Traditional Owners and Industry.</p>	<p>Fire protection issues and promoting the skills held in the forestry industry to assist in fire protection create positive community engagement opportunities. There are also promotional opportunities regarding koalas in plantations, plantations make good neighbours and integrating trees into farming.</p>	<p>Communication and stakeholder engagement skills</p> <p>Cultural awareness training</p> <p>Environmental and land management skills</p>

Source: Greenwood Strategy Solutions, *Gippsland Forestry Hub 30 Year Strategy* (Canberra: Federal Government Australia, 2021)

Prevalence of Forestry Employment in Gippsland

Table 2 shows the prevalence of employment in various industries in the Gippsland region by Local Government area. Overall in the region, Agriculture, Forestry and Fishing is the fourth largest industry behind Health Care and Social Assistance, Retail Trade and Construction.

Table 2: Employment in selected local government areas, by industry, 2016



Data Source: Census of Population and Housing, 2016, TableBuilder

Looking at the data by industry sub-sector, (see Table 3), it is clear that the Latrobe area had the largest employment in the forest industry, followed by Wellington and East Gippsland. Employment is primarily in pulp and paper manufacturing, followed by log sawmilling and processing and forestry and logging.

The reason for the difference in estimates in Table 3 are primarily as a result of jobs in harvest and haulage being recorded as part of the transport industry in the census. There is also an increase in processing employment in Wellington Shire in 2017 due to the opening of the Radial Timber mill in Yarram.¹²

¹² Schirmer, J., et. al. *Socio-economic impacts of the forestry industry Victoria (exc. The Green Triangle)*, 2018, https://www.fwpa.com.au/images/OtherReports/Vic_Report_FINAL.pdf

Table 3: Employment in the forest industry, 2016, 2017, by local government area

Local Government Area	Forestry and Logging ¹	Forestry Support Services ¹	Log Sawmilling and Timber Dressing ¹	Other Wood Product Manufacturing ¹	Pulp and Paper Manufacturing ¹	Total ¹	% employed labour force working in industry ²	Total forest industry jobs, 2017 (including secondary processing) ²	% employed labour force working in industry ²
Bass Coast	4	17	4	14	0	39	0.3%	19	0.2%
Baw Baw	73	11	54	65	46	249	1.2%	337	1.6%
East Gippsland	96	37	107	36	6	282	1.7%	363	2.1%
Latrobe	201	23	181	57	718	1180	4.0%	1384	4.7%
South Gippsland	13	7	11	30	14	75	0.6%	81	0.7%
Wellington	106	15	223	27	62	433	2.4%	567	3.2%
Total	497	112	572	226	850	2257	0.8%	2751	1.0%

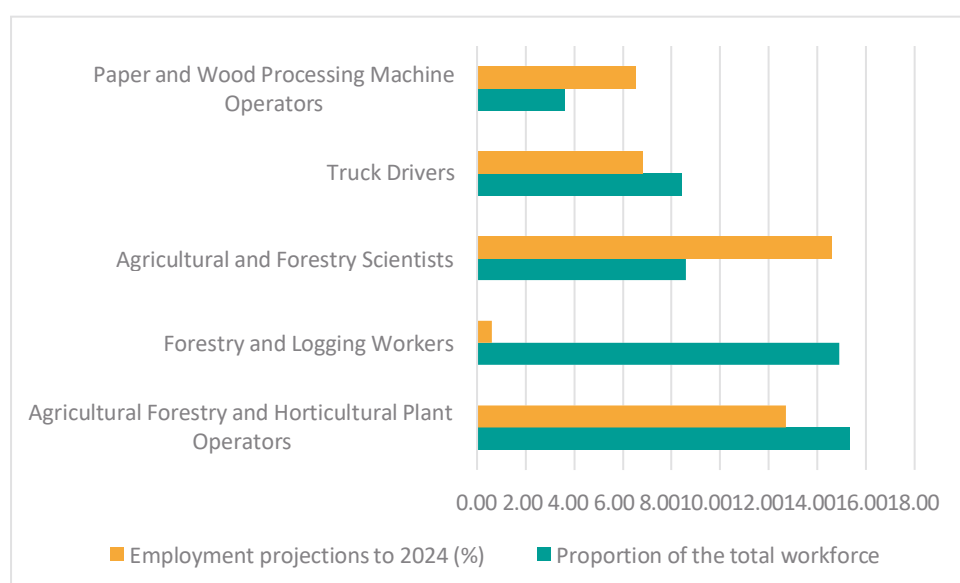
Data Source: Census of Population and Housing, 2016, TableBuilder, Schirmer et al, Table 6

Industry Employment Projections – Australia

In Latrobe-Gippsland SA2, employment in Agriculture, Forestry and Fisheries is expected to shrink by 0.6 per cent over the five years to May 2024, compared to -1.5 per cent for Victoria as a whole. Sectoral workforce projections are not available for Gippsland, AISC workforce projections for Australia show how occupations are projected to change over the next 4 years.

The AISC breaks down each industry sector into VET-related occupations. In Forestry and Logging these occupations are described in Figure 4. Overall the AISC anticipates that employment in this sector is expected to increase nationally from around 3,400 in 2020 to 5,300 by 2024. Within this, the biggest increases are expected in Forestry Scientists (15 per cent), Plant Operators (13 per cent) and Truck Drivers (7 per cent).¹³

Figure 4: Occupations as a proportion of the Forestry and Logging industry workforce and the projected employment growth for each occupation to 2024, Australia.



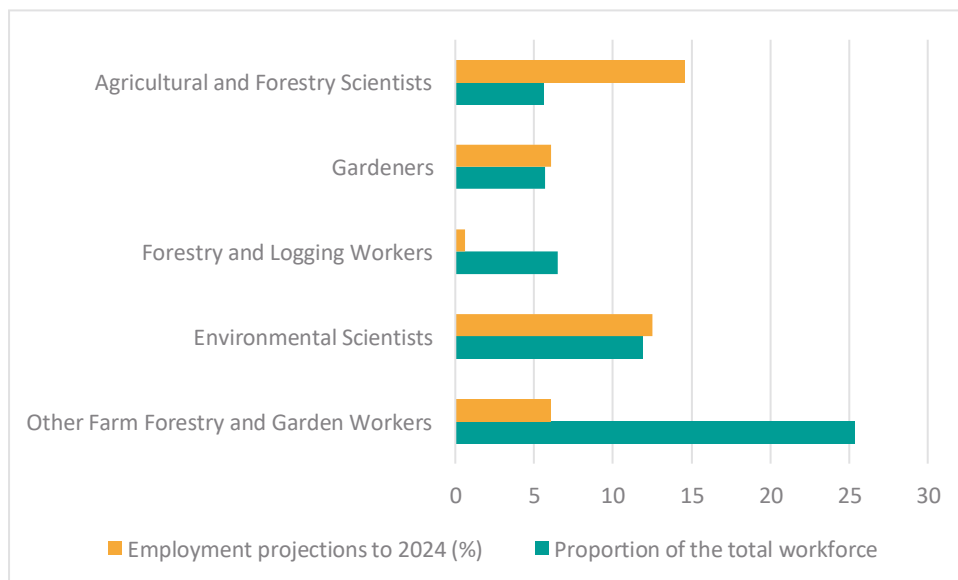
Source: AISC Employment Trends

In Forestry Support Services, these occupations are described in Figure 5. The AISC is projecting that employment in Forestry Support Services will decline, from around 4,900 in 2020 to 4,500 in 2024. Within this industry sector, Forestry scientists are expected to grow the most, by around 15 per cent, closely followed by Environmental Scientists.¹⁴

¹³ "Forest and Wood Products", National Industry Insights, (November 5, 2020)
<https://nationalindustryinsights.aisc.net.au/industries/forest-and-wood-products/forestry>

¹⁴ "Forest and Wood Products", National Industry Insights, (November 5, 2020)
<https://nationalindustryinsights.aisc.net.au/industries/forest-and-wood-products/forestry>

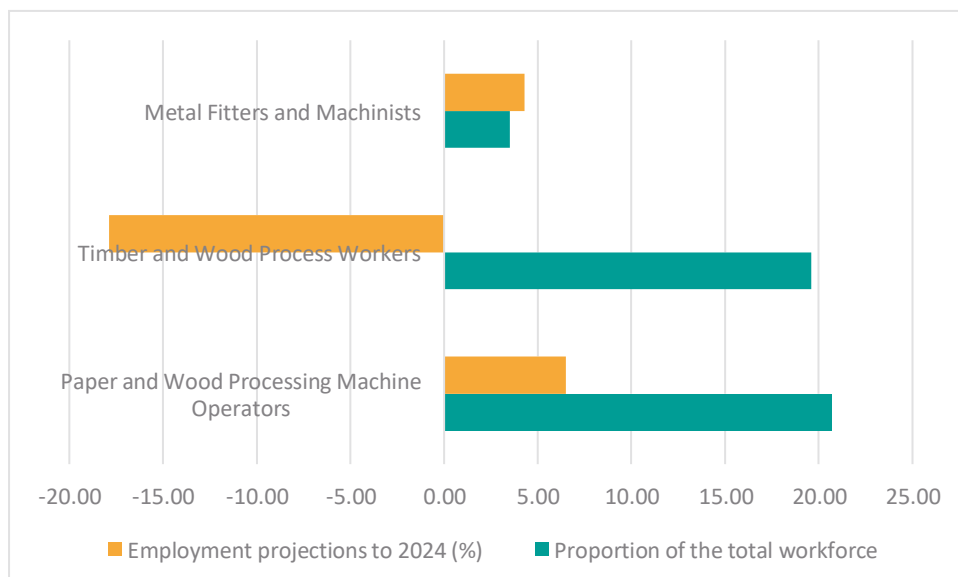
Figure 5: Occupations as a proportion of the Forestry Support Services industry workforce and the projected employment growth for each occupation to 2024, Australia.



Source: AISC Employment Trends

In relation to wood processing, declines in employment are expected in Log Sawmilling and Timber Dressing between 2020 and 2024. Consistent with this overall decline Timber and Wood Process Workers are expected to decrease significantly, however increased employment for Machine Operators and Metal Fitters and Machinists is expected (see Figure 6).

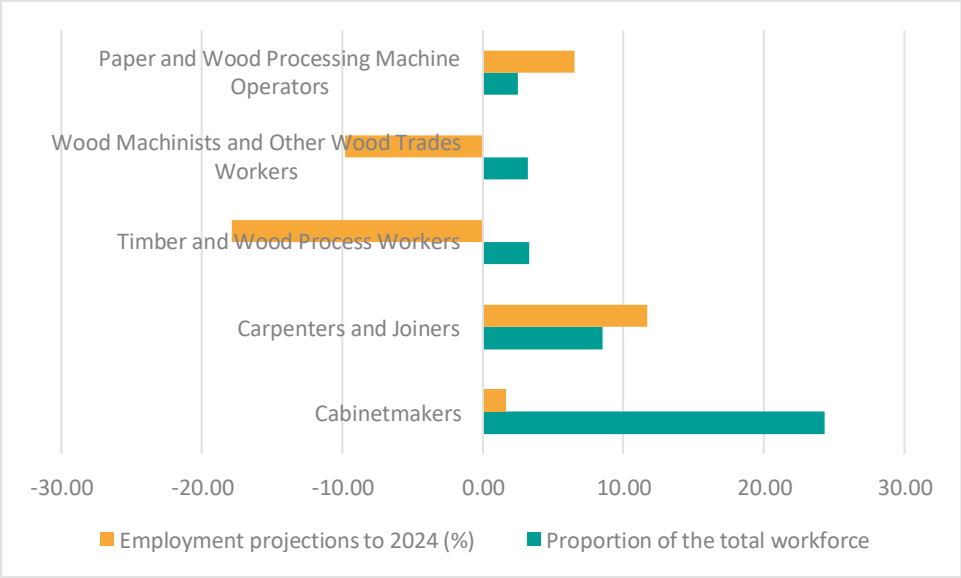
Figure 6: Occupations as a proportion of the Log Sawmilling and Timber Dressing industry workforce and the projected employment growth for each occupation to 2024, Australia.



Source: AISC Employment Trends

For other Wood Product Manufacturing, the AISC expects employment to increase significantly to 2024, with the largest increase in employment for carpenters and joiners. (see Figure 7).

Figure 7: Occupations as a proportion of the Other Wood Product Manufacturing industry workforce and the projected employment growth for each occupation to 2024, Australia.



Source: AISC Employment Trends

Workforce Characteristics

This section examines workforce diversity (gender, ethnicity and age) and working conditions (hours and income).

Workforce Diversity

The importance of diversity in a workplace is well-established, not least of all because it broadens the pool of potential recruits to the industry. However, across a range of dimensions, the industry in Gippsland lacks diversity. The one area where the industry may be leading the way is in employment of people of Aboriginal or Torres Strait Islander background, however it is difficult to be definitive about this given the small sample sizes.

Gender

As expected, a significantly higher percentage of the employees of respondent companies were male (83 per cent). This is consistent with the ABS data from 2016. As Schirmer et al observed, it is also largely unchanged since 2006, while overall Victorian industries have seen an increase in the proportion of women in the labour force (from 46 per cent to 48 per cent).

Table 4: Gippsland workforce by gender composition and industry sector

Industry Sector	% Male	% Female
Forestry & Logging	86	14
Forestry Services	79	21
Pulp & Paper Manufacturing	94	6
Wood Product Manufacturing	89	11
GFHub survey (average)	83	19

Data Source: Census of Population and Housing, 2016, TableBuilder and GFHub survey, 2021

As shown in Table 4, Forestry Services have the highest percentage of female workers (21 per cent) and Pulp and Paper Manufacturing have the least (6 per cent).

It is worth noting that the industry has fewer part-time workers than other industries in Gippsland (see Figure 10). This may be a contributing factor to the small number of women working in the industry.

Aboriginal and Torres Strait Islander (ATSI)

Three organisations (18 per cent) indicated they had workers of Aboriginal and/or Torres Strait Islander descent. Two organisations that responded to the survey reported they have 5 per cent of workers of Aboriginal or Torres Strait Island descent, and 1 organisation reported they have 25 per cent of workers of Aboriginal and Torres Strait Island descent.

The Census suggests that around 1.5 per cent of the Gippsland workforce are of Aboriginal and Torres Strait Islander descent. The industries with the most significant employment of people of Aboriginal and Torres Strait Islander descent are Public Administration (1.6 per cent), Health Care and Social Assistance (1.5 per cent) and Arts and Recreation (1.4 per cent). In the Agriculture, Forestry and Fishing Industry 0.7 per cent of people have indicated that they are of Aboriginal and/or Torres Strait Islander Descent. The ABS data suggests that between 1-5 per cent of people in the industry are of Aboriginal descent, however it is worth noting that cells can be randomly

adjusted by the ABS to avoid the release of confidential data which means no reliance should be placed on small cells. This may mean that the data in relation to Forestry Services overstates the number of people in the workforce of Aboriginal or Torres Strait Islander background (see Table 5).

It is also worth noting that caution should be exercised in relying on the census in relation to counts of Australia's Indigenous population, which may be significantly understated.¹⁵

Table 5: Aboriginal and Torres Strait Islander participation in workforce by industry sector

Industry Sector	% Workforce identifying as Aboriginal and/ or Torres Strait Islander	
	Gippsland	Victoria
Forestry & Logging	0.8%	0.7%
Forestry Services	4.6%	2.8%
Pulp & Paper Manufacturing	1.3%	0.5%
Wood Product Manufacturing	1.4%	0.5%

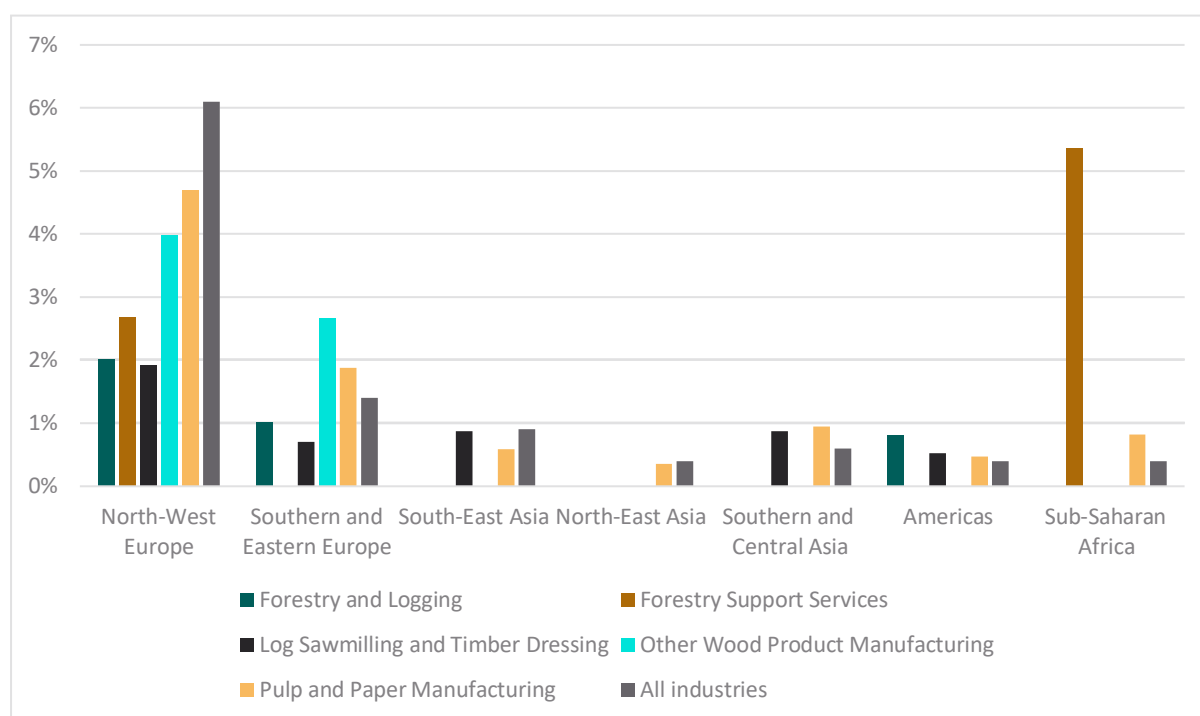
Data Source: Census of Population and Housing, 2016, TableBuilder

Ethnic Diversity

People who were born in the region described as Oceania and Antarctica (which includes Australia and New Zealand) comprise 81 per cent of the Gippsland region, however they are over-represented in the Forest and Wood Products industry where between 90 per cent and 96 per cent are born in Oceania. The greatest ethnic diversity is in the Pulp and Paper Manufacturing industry and the least is in Forestry Support Services. See Figure 8.

¹⁵ Moran, A., "Census 2016: Indigenous population could have been undercounted again", 28 June 2017, <https://www.abc.net.au/news/2017-06-28/concerns-over-undercount-of-indigenous-population-in-census/8660972>

Figure 8: Country of Birth of Person (excluding Oceania and Antarctica) by industry sector, Gippsland



Data Source: Census of Population and Housing, 2016, TableBuilder

Age

As seen in Table 6 and Figure 9, the industry generally has an aging workforce.

More than half of the employees of survey respondents were over 40. This is consistent with the ABS data which shows more than half of workers in forestry and logging and wood product manufacturing are over 40. In relation to pulp and paper manufacturing three quarters of workers are over 40.

This is a trend which has been exacerbated over time. The Schirmer report found that overall in the Central Highlands and Gippsland region, the proportion of workers aged under 35 declined from 31 per cent in 2006 to 27 per cent in 2016, while the proportion aged over 55 increased from 16 per cent to 25 per cent.

Around one third (35 per cent) of those surveyed had workforces where the majority of people were under 40. These businesses worked across the forestry supply chain – in forest growing and management, harvesting and haulage, sawmilling and processing and timber manufactured products. This is slightly different to the region as a whole, where the youngest group in the industry is in forestry services.

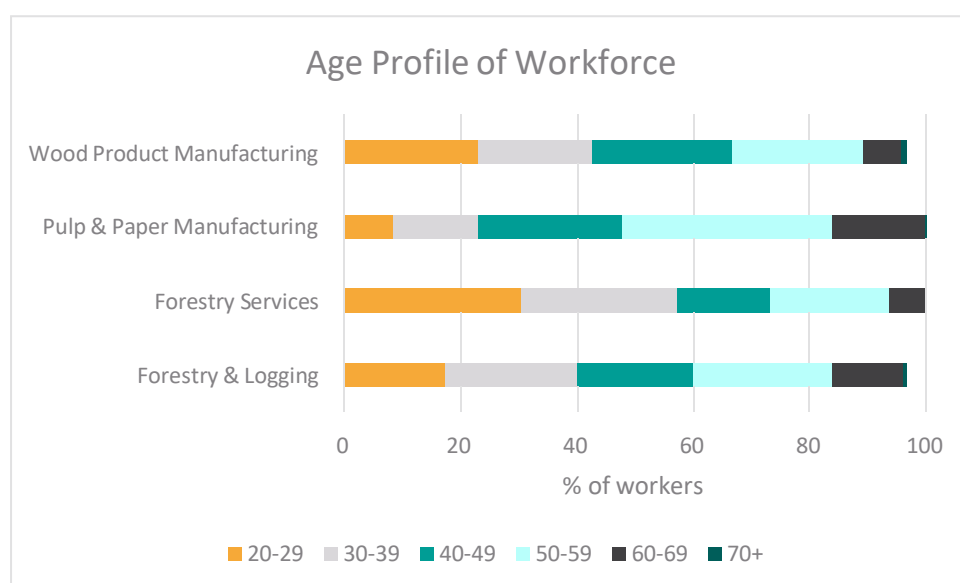
These “younger” businesses were small (0-19 employees) and medium sized (20-199 employees) businesses and on average also had a higher proportion of women working for them (26 per cent compared to 19 per cent for all survey respondents).

Table 6: Gippsland Workforce Age Profile by Industry Sector

Industry Sector	% aged						
	15-19	20-29	30-39	40-49	50-59	60-69	70+
Forestry & Logging	4	17	22	21	24	11	1
Forestry Services	0	30	27	16	21	6	0
Pulp & Paper Manufacturing	1	8	15	24	36	15	0
Wood Product Manufacturing	3	23	20	24	22	7	1
GFHub survey respondents (average)	3	20	27	23	26	19	2

Data Source: Census of Population and Housing, 2016, TableBuilder and GFHub survey, 2021

Figure 9: Gippsland Workforce Age Profile by Industry Sector



Data Source: Census of Population and Housing, 2016, TableBuilder

This is likely to reflect a number of factors including low attrition rates. Difficulties in recruiting young people is covered later in the report.

The region wide statistics suggest that this may reflect a willingness for younger people to enter forestry services jobs where they would not consider other job roles. However, the survey responses also suggest that it is possible to bring young people into a range of roles (see *Entry level and non-entry level jobs*, below).

Working Conditions

Hours of Work

Survey respondents indicated that on average there are a higher percentage of full-time workers (79 per cent) than part-time (9 per cent), casual (8 per cent) or sub-contractors (2 per cent).

This can be compared with the 2017 Industry Survey conducted by Schirmer et al for Forest & Wood Products Australia ("the 2017 Industry Survey") see Table 7.

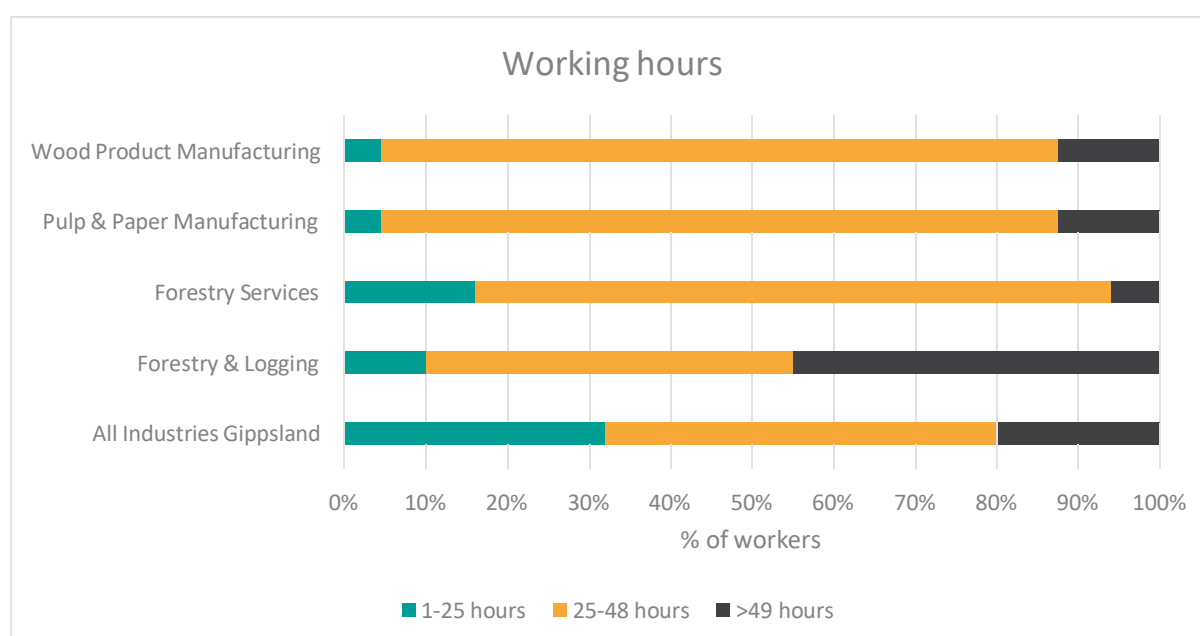
Table 7: Full-time, part-time and casual work in the softwood plantation industry, 2017

	Full-time	Part-time	Casual
Growers	70%	9%	20%
Harvest and haulage contractors	87%	6%	7%
Processors	93%	2%	5%
Silvicultural contracting and nurseries	71%	19%	10%
Whole industry	88%	4%	7%

Source: 2017 Industry Survey. Data are reported for all Victoria regions as many businesses operated across more than one region, and there were also a few differences by region or by industry sector.

This is consistent with the ABS Data for Gippsland which shows that the majority of people working in the industry are employed 25-48 hours (79-83 per cent) or more – see Figure 10 for details.

Figure 10: Working hours in Gippsland by industry sector



Data Source: Census of Population and Housing, 2016, TableBuilder

People in the forestry industry are more likely to be working full time than other industries, which may make the industry more attractive to some potential new workers. However, there is a higher percentage of workers working long hours (44 per cent) in the Forestry & Logging sector than all other sectors, which may lessen the attractiveness to potential new workers.

Further, lack of access to part-time work (compared to all industries in Gippsland) may make the industry less attractive to women or other people seeking flexible work options.

Income

Workers in the Forest and Wood Products sector are most likely (21 per cent) to be earning \$800-\$999/week whereas workers in the Pulp and Paper sector are most likely (34 per cent) to be earning \$2,000-\$2,999 as shown in Table 8, remembering that hours worked in PPM are also more likely to be higher than those in Forestry & Logging and Forestry Services as shown in Figure 10.

Table 8: Total personal weekly income by sector in Gippsland

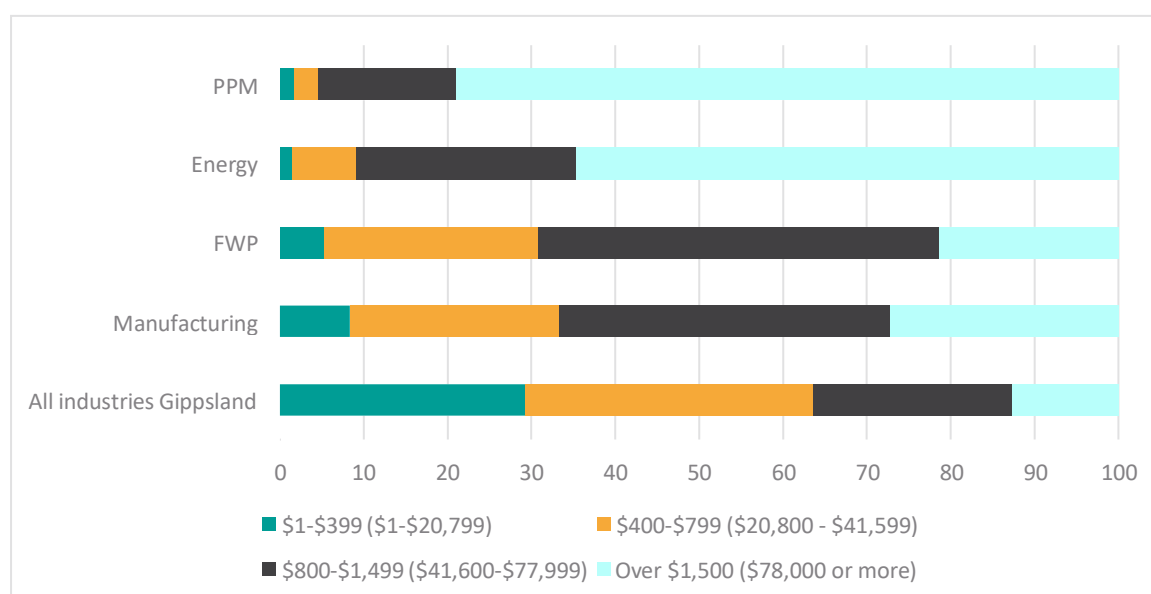
INCP Total Personal Income (weekly)	Manufacturing	Energy	FWP	PPM
\$1-\$149 (\$1-\$7,799)	2	0	1	0
\$150-\$299 (\$7,800-\$15,599)	3	0	2	1
\$300-\$399 (\$15,600-\$20,799)	3	1	2	0
\$400-\$499 (\$20,800-\$25,999)	4	1	4	0
\$500-\$649 (\$26,000-\$33,799)	8	3	7	1
\$650-\$799 (\$33,800-\$41,599)	13	4	14	2
\$800-\$999 (\$41,600-\$51,999)	16	7	21	2
\$1,000-\$1,249 (\$52,000-\$64,999)	15	9	17	6
\$1,250-\$1,499 (\$65,000-\$77,999)	9	10	9	9
\$1,500-\$1,749 (\$78,000-\$90,999)	9	10	8	15
\$1,750-\$1,999 (\$91,000-\$103,999)	7	10	6	25
\$2,000-\$2,999 (\$104,000-\$155,999)	9	28	7	34
\$3,000 or more (\$156,000 or more)	2	17	1	5

Data Source: Census of Population and Housing, 2016, TableBuilder

In comparison to other industries in the Gippsland region, PPM workers have similar wages to those in the Energy sector and more than in the Manufacturing and FWP sectors (see Figure 11). The earning potential in PPM should be attractive to potential new workers.

In comparison to other industries in the Gippsland region, FWP workers have similar wages to those in the Manufacturing sector and less than in the Energy and PPM sectors.

Figure 11: Total personal weekly income by sector in Gippsland



Data Source: Census of Population and Housing, 2016, TableBuilder

Educational Attainment

Victoria-wide the highest educational attainment level for most people is Year 10 and above (34 per cent), followed by a Bachelor degree or above (28 per cent) and then a Certificate III or IV (17 per cent). See Figure 12.

Looking at all industries across Gippsland there is a higher proportion of people Year 10 and above (37 per cent) followed by a Certificate III or IV (25 per cent). The same proportion of workers in Gippsland finished Year 9 or below as obtained a Bachelor degree or above (14 per cent).

Figure 12: Highest level of educational attainment rates by industry sector for Gippsland compared to all industries in Gippsland and all industries in Victoria

Highest Educational Attainment Level	All industries		Gippsland			
	Victoria	Gippsland	Forestry Logging	Forestry Services	Pulp & Paper Manufacturing	Wood Product Manufacturing
Years 9 and below	10	14	11	4	5	8
Years 10 and above	34	37	40	35	29	41
Cert III & IV	17	25	35	27	48	43
Bachelor degree level or above	28	14	8	25	10	2
Advanced Diploma and Diploma Level	11	10	6	9	6	6

Data Source: Census of Population and Housing, 2016, TableBuilder

The educational profile for the industry varies considerably by sector.

Most people in forestry and logging have a secondary education (51 per cent – the same as Gippsland as a whole), followed by a Certificate III or IV level qualification (35 per cent).

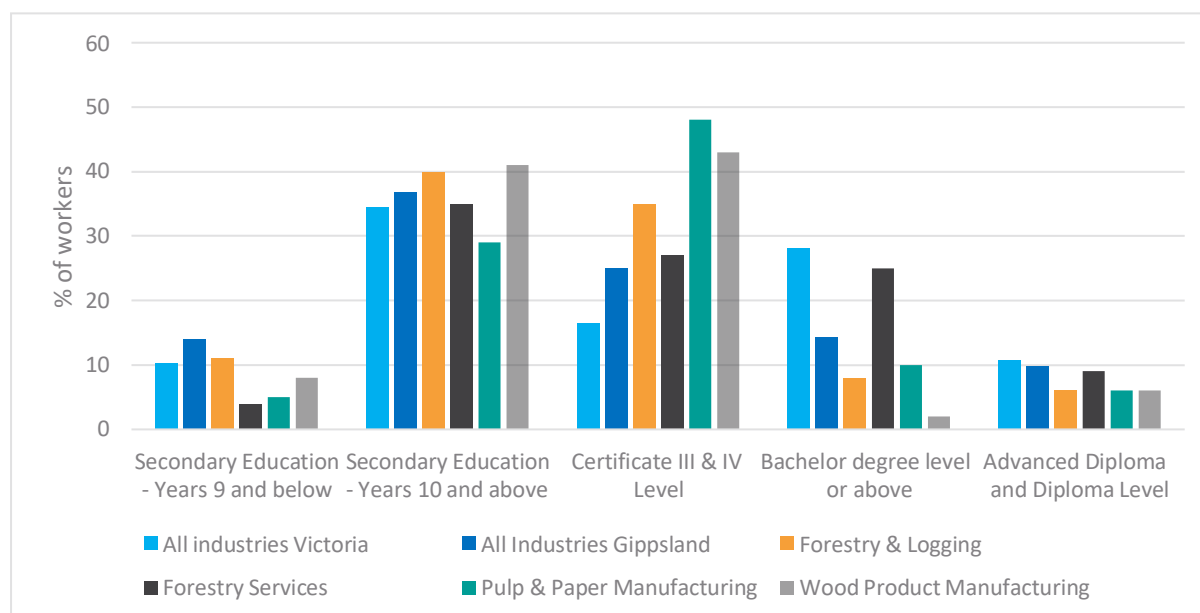
Wood product manufacturing has the next highest number of people with a secondary education (49 per cent) and a higher proportion of people with a Certificate III or IV (43 per cent).

People in pulp and paper manufacturing mostly have a Certificate III or IV qualification (48 per cent) followed by secondary education (34 per cent).

Forestry Services have a higher proportion of people with a Bachelor degree or above.

There are a number of opportunities apparent from this educational profile. First, it is clear that there are a range of opportunities for people to enter the industry irrespective of their education level. Second, there may be scope to improve industry performance, and the community's perception of the industry by investing in skills development.

Figure 13: Highest level of educational attainment rates by industry sector for Gippsland compared to all industries in Gippsland and all industries in Victoria



Data Source: Census of Population and Housing, 2016, TableBuilder

Language, Literacy and Numeracy

The high proportion of people in the industry in Gippsland with a formal education of Year 9 or below may be an indicator of the need for LLN training and support.

There were 4 respondents who indicated that a percentage of their workers would benefit from LLN training or support in their organisation – see Table 9.

The survey responses indicating 5 per cent and 10 per cent of workers who would benefit from LLN training or support is in keeping with the statistics for the forestry industry in Gippsland – see Table 9. However, the survey responses indicating 20 per cent & 27 per cent are much higher than the statistics for the region.

Table 9: Workers who would benefit from LLN support

Respondent	% of workers who would benefit from LLN training & support	Size of organisation
1	5%	20-99
2	10%	200+
3	20%	0-19
4	27%	0-19

Data Source: GFHub survey, 2021

Workforce development planning

The demographic profile of the industry in Gippsland shows the urgent need for industry-wide workforce development planning and the need for businesses to establish clear career pathways for new entrants. This issue, as well as others identified and discussed in this report, are common to other forestry regions in Australia, and internationally (see Appendix C – International Experience).

Workforce Development Planning

Respondents to the survey were asked about the extent to which they undertook workforce development planning. Respondents were provided the following definition of workforce development planning:

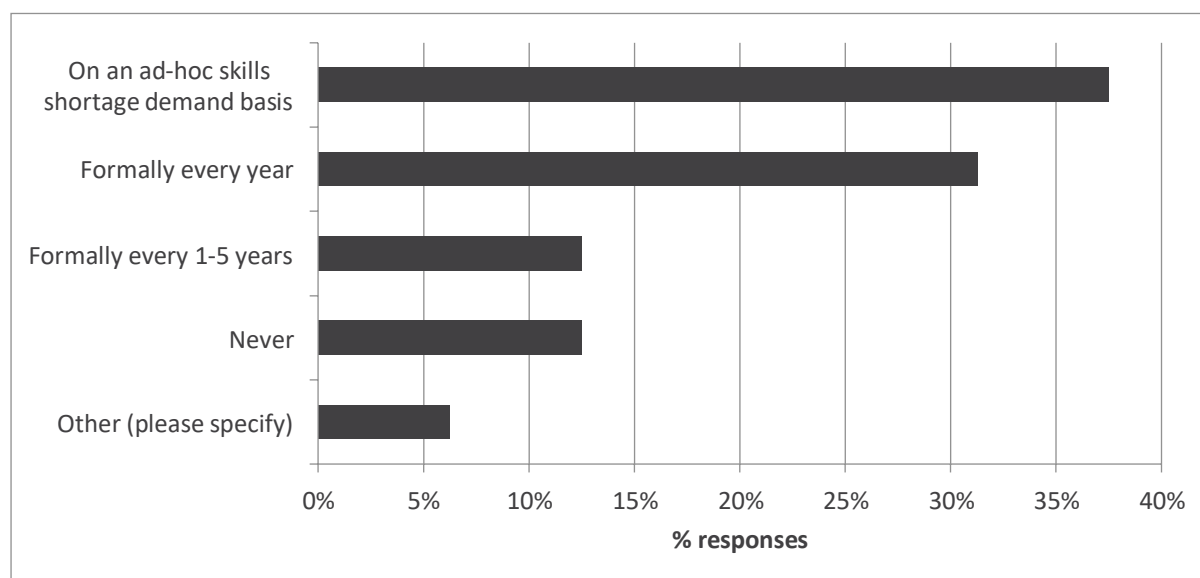
“Workforce development planning is a process of identifying the workforce capacity and capability your organisation needs to meet its objectives, now and into the future.”

Most of the industry respondents indicated that they undertook formal workforce development planning, however a sizeable minority only conducts workforce development planning on an ad-hoc skills shortage basis (38 per cent), see Figure 14.

As might be expected smaller businesses were less likely to engage in workforce development planning – only one business indicated they undertook formal planning (on a 1-5 year basis). For medium and larger businesses the majority undertook formal planning annually.

Despite the Government decision to remove access to hardwood native forest resources, companies operating in public native forests were still as likely as not to engage in formal workforce development planning.

Figure 14: How do you undertake workforce development planning?



Data Source: GFHub survey, 2021

Career pathways

Overall, GFHub survey respondents indicated that just over half (56 per cent) of their organisations have clear career pathways. As one might expect, scale made it easier for organisations to provide

clear career pathways, with all businesses employing over 100 people indicating they had such pathways.

For businesses employing less than 100 people, half of the survey respondents indicated they had clear career pathways.

This suggests smaller and medium businesses in the GFHub region may benefit from support to facilitate workforce development planning and the development of career pathways for their employees.

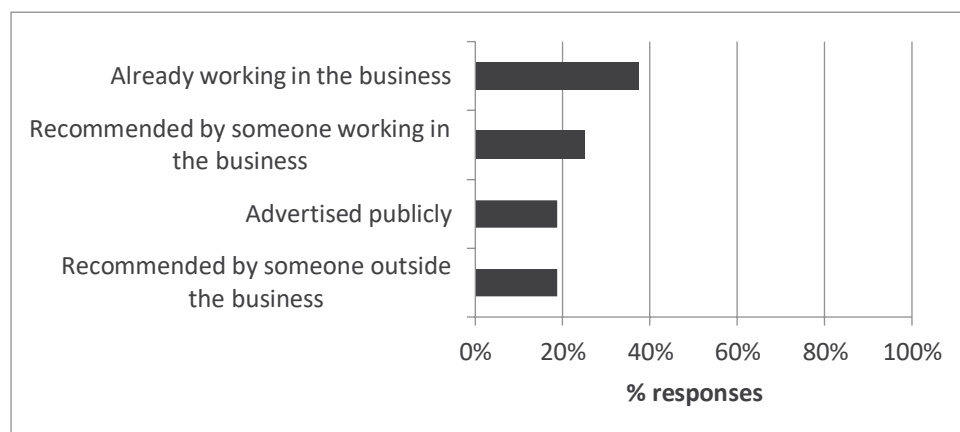
Pathways into new roles

The most common pathway into the forestry industry is by word of mouth (81 per cent) with most people already working in the business.

Consistent with the answers to the career pathways question, smaller businesses were less likely to recruit internally, but still relied on word of mouth rather than advertising publicly. Medium sized businesses were most likely to recruit internally.

The answers to these questions are also consistent with the challenges associated with recruitment that are detailed below. It is not clear, however, whether the recruitment challenges lead to less jobs being filled after public advertisement, or whether a lack of public advertisement contributes to recruitment challenges.

Figure 15: Common entry pathways



Data Source: GFHub survey, 2021

Recruitment difficulties

There is a clear need for industry to develop new ways of attracting new workers to this sector. The results for both entry and non-entry level recruitment reinforce the need to focus on attracting young people to the industry and promoting pathways for skilled workers to enter this industry.

Entry level and non-entry level jobs

Around three quarters of survey respondents (76 per cent) indicated they had recruited or attempted to recruit staff in the last 12 months.

Organisations were then asked how much difficulty, if any, their organisation had experienced in recruiting for entry-level and non-entry level jobs. Of those with recent recruiting experience, only one had no difficulty in recruiting for entry level jobs. Most (77 per cent) had some difficulty in recruiting. When it came to recruiting for other (non-entry level) roles, most businesses still experienced some difficulty in recruiting (54 per cent), but more businesses experienced a lot of difficulty in recruiting (38 per cent). See Figure 16

Figure 16: Difficulty in recruitment



Data Source: GFHub survey, 2021

Specific job roles

GFHub survey respondents provided commentary around the roles that were most difficult to fill. These have been grouped and responses are shown below in Table 10.

The job roles of Wood Machinist, Electricians, Maintenance Workers and Truck Drivers were identified by more than one respondent as difficult to recruit. The breadth of responses may, however, indicate a difficulty in industry recruitment rather than difficulty in recruiting for specific job roles.

Table 10: Job roles most difficult to fill

Trade-based	General	Heavy machinery	Hand-held machinery	Supervisory roles	Other
Wood machinist - (3)	Maintenance – (2)	Truck driving – (2)		Mechanical superintendents – (1)	Marketing and Sales – (1)
Electricians – (2)	Benchmen – (1)	General process / machine operator – (1)	Field operations (chainsaw, fencing, brush cutting, pruning) and plant operation – (1)	Electrical superintendents – (1)	Specialised education curriculum writers for forestry and school engagement with forest industries – (1)
Saw bench operator – (1)	General mill hands – (1)	Experienced machine operator – (1)		Forest supervisor – (1)	
Sawmiller / timber grader – (1)	Carriage operators – (1)	Experienced CNC operator – (1)		Managers – (1)	
Experienced mechanical engineers – (1)	Nursery staff – (1)				
Experienced electrical engineers – (1)	Production – (1)				
	Foresters – (1)				

Source: GFHub survey, 2021

Reasons for difficulties in recruitment

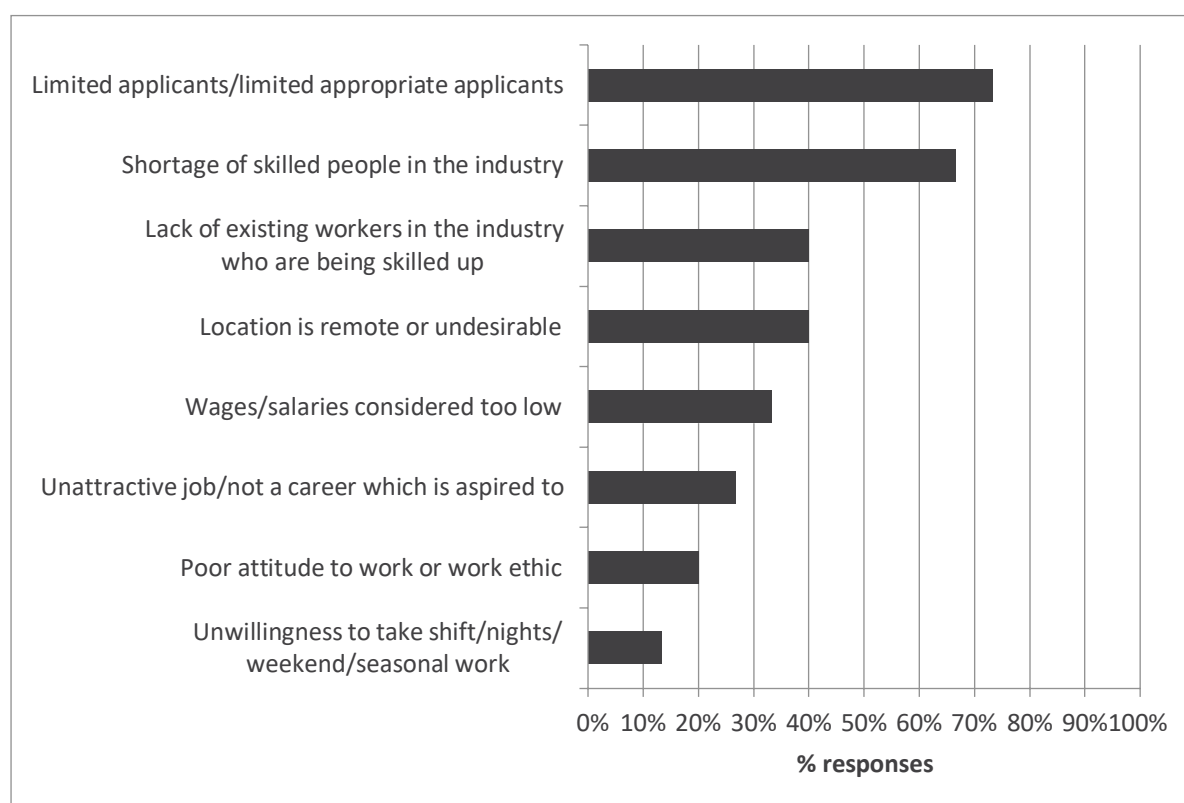
Gippsland stakeholders have indicated the reasons why they have difficulty recruiting staff is largely due to limited applicants/limited appropriate applicants (73 per cent), a shortage of skilled people in the industry (67 per cent), a lack of existing workers in the industry who are being skilled up (40 per cent), and a remote or undesirable location (40 per cent) (see Figure 17).

Possible reasons for the lack of applicants could include the “*negative perception of forestry mean it is not seen by many as a preferred career.*”¹⁶ This negative perception can stem from family backgrounds, assumptions about long working hours and low incomes, and a lack of diversity in the workforce.

As discussed in the Workforce Profiles section, income for forestry roles compares to other popular sectors in the Gippsland region. PPM workers have similar wages to those in the Energy sector and FWP workers have similar wages to those in the Manufacturing sector. Forestry also offers full-time positions which should all help make the industry attractive to potential new workers. See Figure 11, above.

¹⁶ Anderson, N. Stewart, H. & Keenan, R., *Culture, Training and Skills Assessment Report Prepared for the North-North West Tasmania Regional Forestry Hub*, (Melbourne: The University of Melbourne, November 17, 2020) https://www.tffpn.com.au/wp-content/uploads/2020/11/4.-NNWRFH_CultureSkillsTraining_FinalReport_171120.pdf

Figure 17: Reasons for difficulty when recruiting staff



Data Source: GFHub survey, 2021

Again, this is a common theme internationally. Goals and strategies of our international counterparts include attracting new entrants and developing skills within the industry. For example, two of the four areas of focus of Scotland's Skills Action Plan 2020 are Talent Attraction and Supporting New Entrants.¹⁷ Two of the four key themes of England and Wales' Forestry Skills Forum's (FSF) 'Forestry Skills Plan' are Talent Attraction and Skills and Technical Knowledge.¹⁸ One of New Zealand's focus areas in their Forestry and Wood Processing Workforce Action Plan 2020-2024 is 'Attraction: the forestry and wood processing sector inspires and attracts a larger, more diverse workforce.'¹⁹

Attracting young people

GFHub survey respondents were asked why they thought the industry had difficulties in recruiting for entry-level jobs or young people in particular. Consistent with the reasons provided above, respondents identified issues around a poor understanding of the industry, in particular about the future of the industry (including the industry's use of technology) and the training and career pathways available in the industry.

Issues were also identified around other perceptions of the industry related to the physicality of the work, low pay, and the need to work in regional and remote locations.

¹⁷ Scottish Forest and Timber Technologies Initiative, *Skills Action Plan 2020* (2020),

<http://www.forestryscotland.com/media/405913/sftt%20forestry%20skills%20action%20plan%202020%20final%20ilg.pdf>

¹⁸ Forestry Skills Forum, *Forestry Skills Plan 2019-2024* (2019), <https://www.confor.org.uk/media/247374/forestry-skills-plan-2019-2024.pdf>

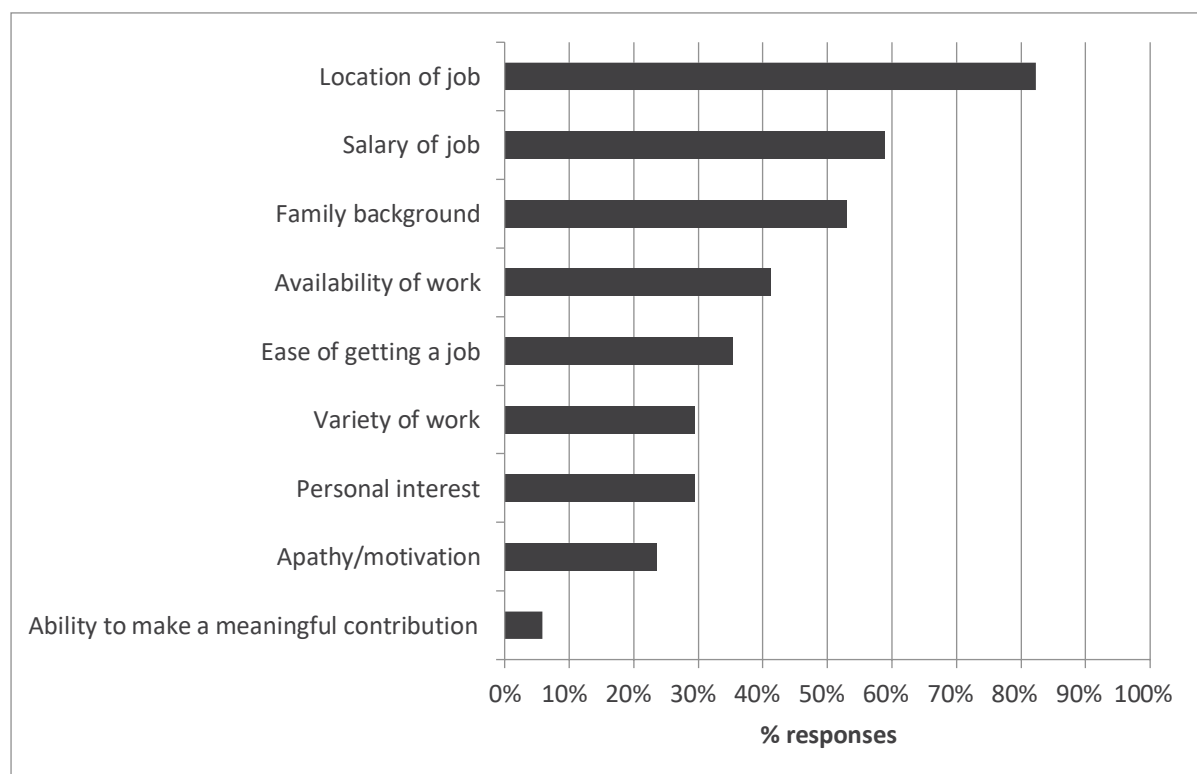
¹⁹ Forestry New Zealand (The Forestry and Wood Processing Workforce Action Plan Working Group) *Forestry and Wood Processing Workforce Action Plan 2020 – 2024* (2020), <https://www.mpi.govt.nz/dmsdocument/40366/direct>

One respondent identified a lack of willingness within the industry to invest in training. The detailed responses to this question are at Appendix D – Full results of GFHub survey Question 23 .

The industry's views about the reasons for difficulties in recruiting for entry-level jobs are broadly consistent with their views of the factors influencing young people's decision to work in the industry.

These results show that the industry's perception is that the two key factors affecting young people's decision to work in the forestry industry are the location and salary of the job. See Figure 18.

Figure 18: Influences on young people's decision to work in the forest industry



Data Source: GFHub survey, 2021

Interestingly the lack of understanding about the industry and career paths did not come into consideration as influences on a young person's decision to work in the industry.

It did arise, however, as key to attracting young people into the industry with respondents focusing on the training and career options within the industry as well as a broader sense that the public perception of the industry needed to be tackled. For the detailed responses, see Appendix E.

One employer explained that it is possible to recruit and retain young people, but that it takes time and hard work:

Within our business we try to make all of our roles fairly varied so an individual worker is involved in a wide range of tasks and throughout the production process so they see (and work on at many of the stages) a product go from being a raw log into a finished product (often a finished building frame). That is a satisfying thing to work at and we try to get that story out to prospective employees. It is a long and slow process but we have recruited and retained excellent employees so I think it works for us.

(Sawmilling and processing company, 0-19 employees, Question 25 response)

Relationships with local high schools

Respondents were also asked if they had any relationships with local high schools, to which just over one third (37.5 per cent) indicated that they did have such a relationship. The proportion of businesses engaged with schools increased with business size.

Only two organisations (medium sized businesses) indicated that they thought a relationship with local high schools would help remove or reduce barriers to training, skills or education. However, the vast majority (93 per cent) of the organisations who answered the follow-up question “Do you see any benefit in doing this or have any other ideas to attract young people to careers in forestry” were positive about engaging with schools. For full responses, see Appendix F – Full results of GFHub survey Question 27

In particular, people were positively disposed to the careers expo held at Yarram Secondary College and other career days and work experience opportunities.

“The Careers Expo held at Yarram Secondary College was a great initiative to attract young people into careers in forestry. More events like this would benefit, in my opinion.”

Respondents indicated for industry-led programs that “highlight the opportunities within the forestry sector” in relation to “awareness and pathways”, that provide “information on what’s out there” and that:

“... educate students about the industry, potential pathways, and careers and to attract not only the typical jobs (harvesters, machine operators) but also the vast range of jobs available in Forestry like marketing & sales, operations and logistics, management, etc.”

This was seen as particularly relevant “if the schools have a high proportion of kids who don’t know anyone in the industry”.

Some employers looked at the question of school engagement within the context of their own future recruitment needs rather than as a broader industry initiative, however, given the challenges faced by the industry it may be necessary to take a more coordinated approach for the industry as a whole.

One respondent highlighted the key success factors for developing impactful school programs:

“Coordinated and collaborative programs work best between industry organisations willing to put their hand up to offer young people training and employment opportunities as well as the education department to open school doors more generally in a partnership approach. The availability and accessibility of providing Australian Curriculum-aligned teaching and learning resources for teachers to provide forest and wood product contexts for learning in a variety of subject areas are also important. Working with teacher associations and other peak education groups imperative for cut through and trust in these resources. Working with ForestLearning to share successful models is also a good thing to save duplication of wheels through the National Forest Education Alliance.”

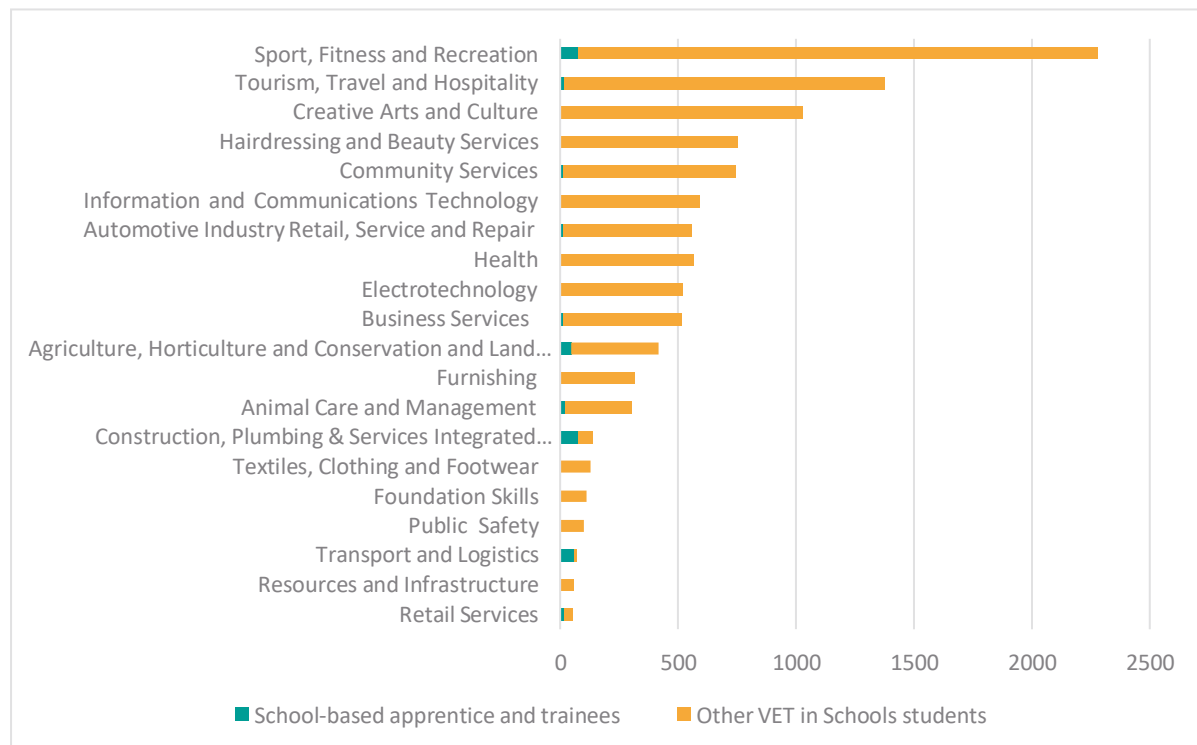
Three Gippsland high schools were emailed an additional 4 questions (see Appendix B – Additional questions for high schools), and responses indicated that;

- no students are currently undertaking a school-based apprenticeship/traineeship in the forestry industry, however “*plenty are interested in looking at opportunities*”
- the most popular school-based apprenticeship/traineeships are mechanics, electricians, and boiler makers

- the reason students are attracted to careers in the forestry industry is that “*plenty like the opportunity to work outdoors*”
- the reason students are NOT attracted to careers in the forestry industry is that “*they find the positions they have been given an opportunity to trial as very physical.*”

This is consistent with the NCVER data on Vet in Schools in Gippsland (see Figure 19). It may be that schools are presently choosing their Vet in Schools programs based on existing staffing capability, or student’s short-term employment interests. They do not seem closely related to occupational skills shortages which Victoria are in Automotive Trades, Construction Trades and Engineering Trades.²⁰

Figure 19: Top 20 Vet in Schools Program Enrolments, Gippsland 2016-2019



Source: NCVER Vocstats, ViS program enrolments, Tablebuilder

²⁰ Department of Education, Skills and Employment, “Victoria occupational cluster reports”, <https://www.dese.gov.au/collections/victoria-occupational-cluster-reports>

Training needs

Training used by the industry

Results of surveys and interviews conducted as part of ForestWorks improving enrolments project indicates that there is a training need within the forestry sector and that training is occurring, however it is often being done outside of the VET system.

The key reasons for this include the challenges of training in thin markets and a need for training to be able to be adapted to individual organisations to meet their requirements whilst still meeting nationally accredited training requirements. For PPM there is no alternative as there are no RTOs with PPM qualifications and units of competency on scope.

The survey responses are consistent with the national ForestWorks research.

In general terms the survey responses suggested that use of an RTO for accredited training decreased with the size of a business. The larger the business, the greater use of experts and other staff for in-house training. See Table 11.

Table 11: Type of training used for all areas of operation

Business Size	% of all categories of training delivered by each mode					
	By staff	By experts	Total in-house	Accredited	Non-accredited	Total RTO
0-19	42	8	50	50	0	50
20-99	18	26	44	43	13	56
100-199	22	22	44	36	19	56
200+	38	17	55	38	7	45

Data Source: GFHub survey, 2021

GFHub survey respondents indicated that when training is done in a particular area of work, the types of training they use for various areas of operation are mostly spread across accredited training delivered by RTOs and training conducted by in-house staff, noting respondents could select more than one training option for an area of work and not all respondents made a selection for all areas of work. Appendix G shows the full results for this question.

Vocational (Accredited) Training

The VET system is often used by the forestry industry to meet their compliance requirements for high-risk activities, workplace health and safety, and essential skills. For example, the Safe and Skilled industry program provides minimum standards of nationally accredited training that forestry operators must hold to conduct certain activities.²¹ Once forestry operators have achieved these skills, they will be transferable should the operator change employers, they will be recognised by future employers and the skill outcomes will be consistent as they are based on a unit of competency.²²

Table 12 shows the challenges of delivering a wide-range of industry specific training with the levels of enrolments that exist in the region. Over five years there have been a total of 684 enrolments in

²¹ "Safe and Skilled", AFCA, 2018, <https://www.afca.asn.au/news-projects-2/safeskilld>

²² Skills Impact, FWP, *Annual Update to Industry Skills Forecast and Proposed Schedule of Work 2021*, (unpublished), p12

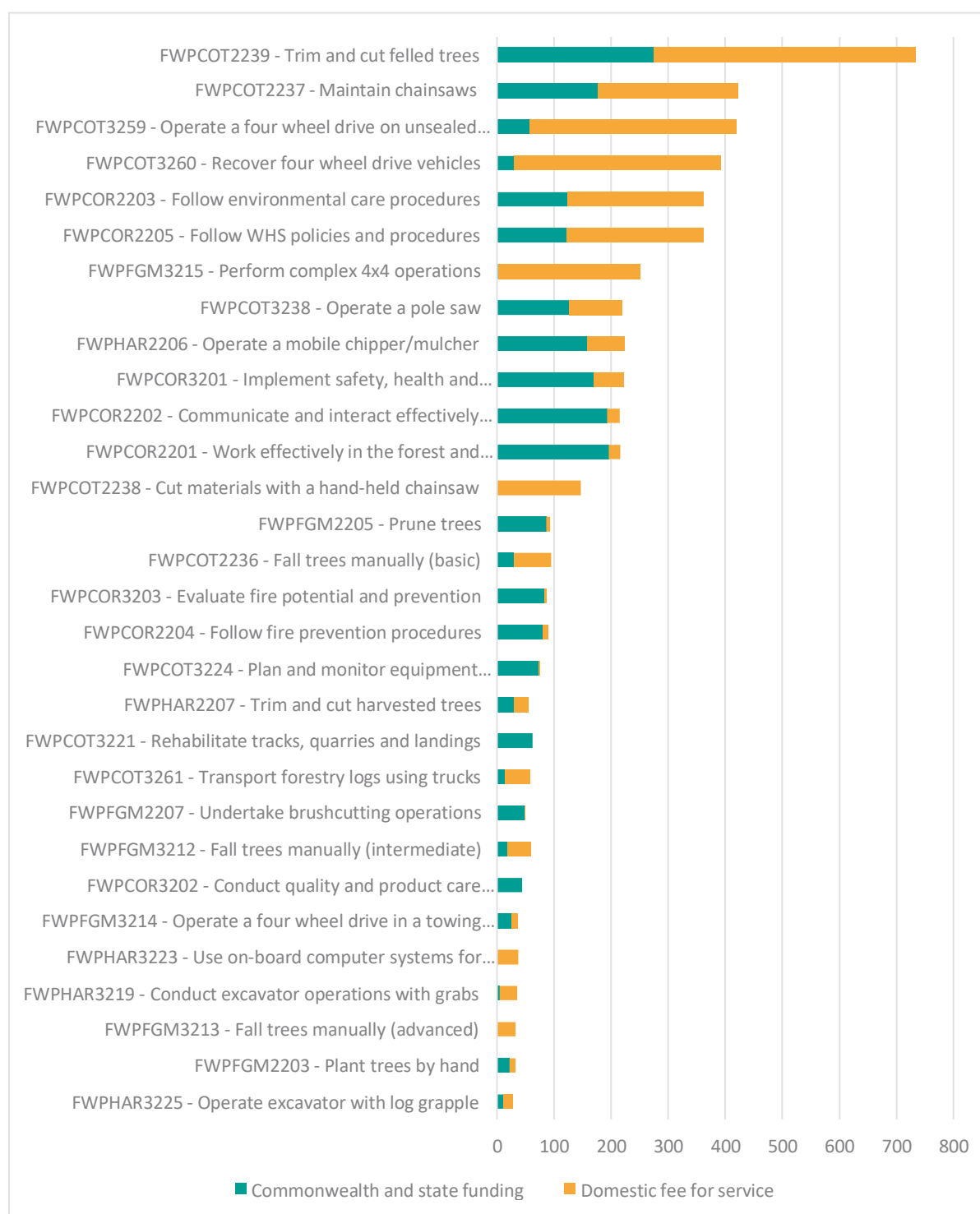
qualifications²³ of which over half (57 per cent) were in the Latrobe Valley, but spread from Gippsland South West to Gippsland East. This is 0.7 per cent of all enrolments in Gippsland over the period, and the 25th most commonly used training package (out of 54).

More than half of the qualifications enrolled in over that period were in Forest Growing and Management (60 per cent) of which most were in the Certificate II (56 per cent).

There were 89 units of competency delivered across 12 qualifications over the same period. The 30 units with the highest enrolment numbers are at Figure 20. The complete list of units at Appendix H – Forest and Wood Products Training Package, Enrolments in Units of Competency, Latrobe-Gippsland SA2, 2016-2019. It is likely that a number of the units are only in the Top 30 because they are being used outside the industry. Others are, for example, likely to be associated with the forest industry requirement to obtain a FOLS and in particular the units of competency related to environmental care and work health and safety, or to be reassessed regularly for the faller qualifications. Other units might be common core units to a number of qualifications, for example the unit *Work Effectively in the Forest and Forest Products Industry* which is in six forest and wood products qualifications.

²³ Generally, people will enrol in qualifications even if they wish to only complete a number of units as this is the basis on which funding is attracted.

Figure 20: Enrolments in Units of Competency, SA2 Latrobe Gippsland, 2016-2019



Source: NCVER VOCSTATS, TVA program enrolments 2016-2019

Table 12: Number of enrolments in FWP and PPM Training Packages 2015-2019 by SA2

Discipline	Level	Baw Baw	Gippsland - East	Gippsland - South West	Latrobe Valley	Wellington	Total
Forest Growing and Management	Cert II	8	7	9	171	38	228
	Cert III	8	15	5	145	17	181
Harvesting and Haulage	Cert II	4	0	2	6	6	19
	Cert III	21	19	1	51	30	108
Sawmilling and Processing	Cert II	0	8	5	4	11	33
	Cert III	0	5	0	2	7	20
Sawdoctoring	Cert III	0	3	0	10	0	14
Woodmachining	Cert III	2	0	5	5	23	28
Timber Truss & Frame Design & Manufacture	Cert III	0	20	0	8	0	25
Timber Processing	Cert IV	0	0	0	0	16	16
Total		37	80	23	388	156	684

Source: NCVER VOCSTATS, TVA program enrolments 2016-2019

The National Centre for Vocational Education and Research (NCVER) surveyed employers between February and June 2019 and found that in the 12 months preceding their interview, the main reasons employers choose nationally accredited training over unaccredited training is for legislative, regulatory or licensing requirements (55 per cent). In effect this relates to the point made above about enrolments.

The second reason identified was to provide the skills required for the job (49 per cent). In our industry, which has a strong preference for on-the-job training, this is most often seen in relation to trades qualifications. These are discussed in more detail below.

The third key reason identified was to support staff career development (40 per cent). Responses received during one-on-one interviews indicated that providing staff with qualifications and experience increases skill portability within the industry, maintains the standard within industry, and is important to the staff that receive the qualification. As noted by a Gippsland-based harvesting and haulage company interviewed, *“we want to empower people who are doing training, so they know they have a ticket that will stay with them forever.”*

Industry cite the reasons for not pursuing nationally accredited training as:

- Belief that in-house training is good enough
- Perceived difficulty in navigating the VET system
- Views that national competencies are not specific to the needs of the business
- Too costly to have employees off the job to undertake training
- RTOs are unable to offer the flexibility that businesses require
- RTOs cannot attract and maintain assessors with the high degree of technical knowledge required for some areas.²⁴

Types of Training Mainly Delivered by Registered Training Organisations

First Aid Training was predominantly accredited training delivered through an RTO (86 per cent) with one small and one medium sized company using in-house training by experts.

Hand held machinery training was delivered most often by an RTO, as accredited training (81 per cent) with three organisations using in-house training, one in conjunction with accredited training.

Heavy machinery operation was also mostly delivered by an RTO (75 per cent) with some organisations using a combination of accredited and non-accredited training and some using a combination of in-house training and RTO accredited training. Three organisations used only in-house training – all medium or large companies.

Similarly compliance training was mainly delivered by an RTO as accredited training (73 per cent).

Work Health and Safety training was most often provided as accredited training by an RTO (69 per cent). Only one small employer used an RTO to deliver WHS training.

Fire-fighting training was delivered by an RTO as accredited training for half of the organisations for whom this training was relevant, the other half used in-house training.

Seven organisations considered training for road transport and drivers to be relevant and most (57 per cent) used accredited training with three larger companies using in house training only.

²⁴ Skills Impact, FWP, *Annual Update to Industry Skills Forecast and Proposed Schedule of Work 2021*, (unpublished), p14

The trades qualifications of saw technician and wood machinist were all delivered by RTOs although for one company this was also supplemented by in-house expertise.

Timber grading was also identified as a training need for RTO delivery by one organisation.

Types of Training Mainly Delivered In-house

Of the six organisations who used business and financial management training, five used in-house training with two of these companies also using accredited RTO training.

Only five organisations indicated they used IT/software training specialised to the industry and all used in-house training, although three used it in combination with non-accredited training by an RTO.

Marketing and sales were also all delivered in-house.

Interestingly community relations training was selected as “not-applicable” to most organisations and those who did use community relations training delivered it in-house. Only one RTO used non-accredited RTO training in addition to in-house training.

Five organisations considered forest operations planning and management training as relevant and all relied on in-house training, although two larger organisations also used RTO training. Only a subset of these organisations (three) also considered forest ecology and silviculture to be relevant and all used in-house training. Again, the larger organisations also used RTO training.

As identified in ForestWorks’ (2020) Improving Enrolments project, Training Package materials are used by some organisations to develop their Standard Operating Procedures (SOPs) and position descriptions and are used as a basis for determining individual career pathways and workforce development plans. Internal training based on Training Package qualifications and units of competency is occurring in the forestry industry suggesting the reason enrolments are not happening has less to do with the content and more to do with the current delivery and assessment structure.²⁵ As there is no RTO with the PPM Training Package on their scope, there are no enrolments in nationally accredited PPM training however, informal training is still occurring in the industry outside the VET system as the industry is still committed to training.²⁶

Apprenticeships and Traineeships

Apprenticeships and traineeships involve a combination of on-the-job training and formal education. Over 74,000 people are currently undertaking an apprenticeship or traineeship in Victoria. Apprenticeships are generally available in traditional skilled trades whereas traineeships are offered across many vocations.²⁷

The two apprenticeships in the FWP training package are Saw Technicians and Wood Machinists. Both these qualifications require the learner to complete nationally accredited Certificate III training. Enrolments nationally in these qualifications have been consistent over the four years 2016-2019 – see Table 13.

²⁵ ForestWorks, *Improving Enrolment Research: Interim Report*, (2020), (unpublished), Flexibility in Course and Curriculum Development

²⁶ Skills Impact, PPM, *Annual Update to Industry Skills Forecast and Proposed Schedule of Work 2021*, (unpublished), Qualification utilisation

²⁷ Victorian Registrations and Qualifications Authority, “About apprenticeships and traineeships,” <https://www.vrqa.vic.gov.au/apprenticeships/Pages/about.aspx>

Of those surveyed, 2 businesses had at least one Saw Technician (Saw Doctor) apprentice, three businesses had at least one Woodmachining apprentice and six businesses had another apprentice or trainee.

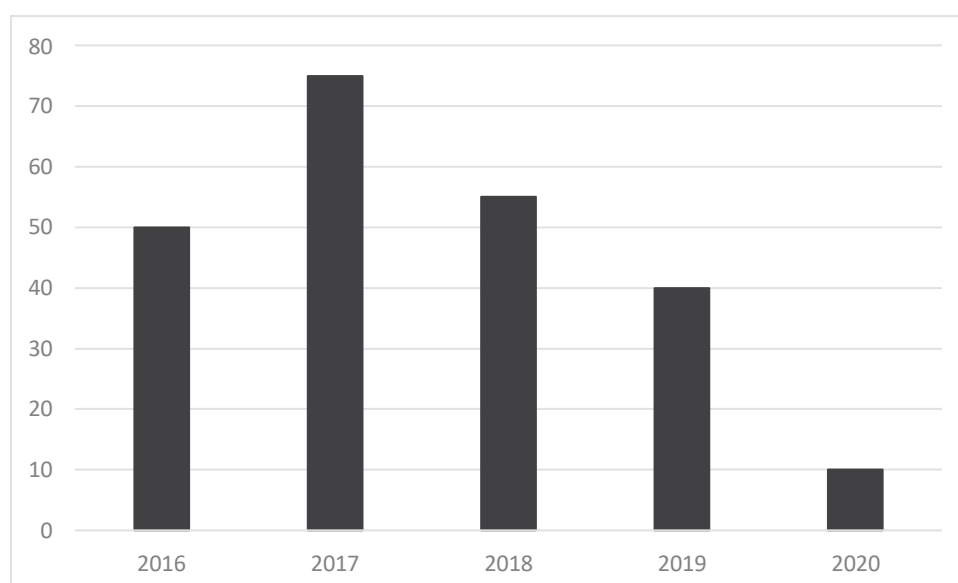
Table 13: Apprenticeship enrolments 2016-2019, Australia

Certificate III	2016	2017	2018	2019
Saw Technology (formerly Saw Doctor)	45	36	24	31
Wood Machining	43	51	40	41

Source: NCVER VOCSTATS, TVA program enrolments 2016-2019

All qualifications in the FWP Training Package are available as traineeships, however thin markets, regional locations, and difficulty in attracting young people to the industry are all factors inhibiting the uptake of these traineeships.²⁸ Data shows commencements in FWP traineeships and apprenticeships steadily falling in Victoria – see Figure 21, although it is likely that the significant drop off in commencements in 2020 was covid-related rather than due to industry specific factors.

Figure 21: Victorian Trainee/Apprenticeship Commencements (FPI, FWP)



Source: VOCSTATS: Apprentices and trainees

In Gippsland, however, this trend seems to be reversed with a steady increase in apprentice and trainee enrolments (see Table 14). Given the small numbers though, caution should be exercised.

For context, Appendix I – Top 50 Apprentices and Trainees, Latrobe-Gippsland SA2, 2016-2019 provides a list of the Top 50 most enrolled apprentices or trainees. The Woodmachining qualification (our industry's largest number of apprentices) would be ranked 94th.

²⁸ Skills Impact, FWP, *Annual Update to Industry Skills Forecast and Proposed Schedule of Work 2021*, (unpublished), p24

Table 14: Apprentices and Trainees enrolments 2016-2019, Latrobe - Gippsland SA2

Certificate III/IV	2016	2017	2018	2019	Total
Wood Machining (III)	9	6	6	5	28
Timber Truss & Frame Design & Manufacture (III)	2	4	12	13	25
Timber Processing (IV)	0	8	6	11	16
Saw Technology (formerly Saw Doctor) (III)	1	2	0	3	14
Harvesting and Haulage (III)	5	0	4	3	6

Source: NCVER VOCSTATS, TVA program enrolments 2016-2019

All qualifications in the PPM Training Package are also available as traineeships however as there is no RTO with the qualifications on scope, industry are not able to hire new staff on a traineeship.²⁹

²⁹ Skills Impact, PPM, *Annual Update to Industry Skills Forecast and Proposed Schedule of Work 2021*, (unpublished), Barriers to apprenticeships and traineeships

Availability of Training

Vocational Education

The VET system is designed to provide Australians with the skills they need for their current or future work, to keep workers safe and to allow employers to grow their business.

The Honourable Steven Joyce stated in the Expert Review of Australia's Vocational Education and Training System:

*"For decades, vocational education and training (VET) has been one of the key pillars of Australia's economic success story. Generations of tradespeople and skilled workers have successfully developed their skills and knowledge in a practical work-based learning environment."*³⁰

State and federal governments are responsible for funding, policies, regulation, and quality assurance, however vocational education and training in Australia is based on a partnership between industry and governments. The key components are:

- Industry Stakeholders
- Industry Reference Committees (IRCs)
- Registered Training Organisations (RTOs)
- Skills Service Organisations (SSOs)
- State-based departments of education and training (including state-based skills and training engagement bodies).

Through their involvement with Industry Stakeholders, IRCs identify where skills are required within industry and assist with the development of these into units of competency, and the packaging of these units into qualifications and training packages. SSOs are an independent professional service organisation that provides support to IRCs.

Infrastructure

The Forest and Wood Products industry has two Training Packages: Forest and Wood Products and Pulp and Paper Manufacturing.

Each training package relates to specified occupational outcomes. These are described in detail at Table 15 for Forest and Wood Products and at Table 16 for Pulp and Paper Manufacturing. Appendix J provides a comprehensive list of all nationally accredited qualifications and skills sets currently available to the forestry industry.

The content of these training packages is overseen by four IRCs:

- Forest Management and Harvesting
- Timber and Wood Processing
- Timber Building Solutions
- Pulp and Paper Manufacturing.

Each year these IRCs determine what changes need to be made to a training package. Updates are then developed in consultation with the broader industry. Changes can take 12-18 months to make.

³⁰ Steven Joyce, *Strengthening Skills Expert Review of Australia's Vocational Education and Training System* (Commonwealth of Australia: Department of the Prime Minister and Cabinet, 2019) <https://pmc.gov.au/sites/default/files/publications/strengthening-skills-independent-review-australia-vets.pdf>

Table 15: Forest and Wood Products Training Package - Correspondence between Qualification Level, Industry Sector and Occupational Outcomes

Industry Sectors and Occupational Outcomes of Qualifications							
AQF Level	Forest Growing and Management	Harvesting and Haulage	Sawmilling and Processing		Engineered Wood Panel Production	Timber Manufactured Products	Timber Supply
II	<ul style="list-style-type: none">Arboriculture WorkerFarm Forestry WorkerForestry WorkerNursery WorkerPlantation Establishment WorkerPlantation Forest OfficerSilviculturist	<ul style="list-style-type: none">Bulldozer OperatorChainsaw OperatorExcavator OperatorForest HarvesterForwarder OperatorGraderHarvesting TechnicianMobile Equipment OperatorRigging SlingerSkidder Operator	<ul style="list-style-type: none">Kiln WorkerTimber GraderTreatment Plant WorkerProduction WorkerSawmill WorkerWood MachinistSaw Technician		<ul style="list-style-type: none">Production Worker (Laminates)Production Worker (Engineered Wood Panel)Production Worker (Veneer)	<ul style="list-style-type: none">GraderManufacturing Assistant (Timber Products)Saw OperatorTimber Manufacturing WorkerEngineered Wood Product Manufacturing WorkerTimber Products WorkerTimber Puller	<ul style="list-style-type: none">Customer Service / Sales Assistant (Retail or Wholesale)
III	<ul style="list-style-type: none">Arboriculture TechnicianFarm Forestry TechnicianForestry TechnicianNursery TechnicianSupervisor (Forestry Operations)Tree PlanterSilviculturist	<ul style="list-style-type: none">Bulldozer OperatorExcavator OperatorFeller Buncher OperatorForest HarvesterForwarder OperatorHarvesting TechnicianIn-field Chipper OperatorLoader OperatorLog truck driverMobile Equipment OperatorSkidder Operator	<ul style="list-style-type: none">BenchmanChipper OperatorHead Rig OperatorKiln OperatorMachine Operator (e.g. Finger Jointing, Moulding, Planning)Production Technician	<ul style="list-style-type: none">Timber GraderTimber Products TechnicianTreatment Plant OperatorSaw TechnicianOptimisation TechnicianWood MachinistTechnicianSawyer	<ul style="list-style-type: none">Production Technician / Operator (Laminates)Production Technician / Operator (Engineered Wood Panel)Production Technician / Operator (Veneer)Timber Fabricator (Laminates)	<ul style="list-style-type: none">Press OperatorJig SetterMachine Operator (e.g. Finger Jointing, Moulding, Planning)Saw OperatorKiln OperatorTimber Manufactured Products TechnicianEngineered Wood Products TechnicianTimber Fabricator (Truss & Frame)Timber Systems Designer / Estimator (Truss & Frame)	<ul style="list-style-type: none">Customer Service / Sales Assistant (Retail or Wholesale)Customer Service OfficerSales and Merchandising Team LeaderSales and Merchandising Team Leader (Timber Products)Timber Advisor
IV	<ul style="list-style-type: none">Arboriculture SupervisorFarm Forestry SupervisorForestry SupervisorForestry Operations Supervisor	<ul style="list-style-type: none">Harvesting SupervisorHarvesting Team LeaderPropagation and Stand Health SupervisorTree Farm Supervisor	<ul style="list-style-type: none">Customer Service Manager (Wholesale)Sawmill SupervisorProduction SupervisorTreatment Plant SupervisorOptimisation Manager		<ul style="list-style-type: none">Timber Advisor SupervisorTimber Manufacturing SupervisorTimber Supervisor (Wholesale)Timber Systems Designer / Detailer (Truss & Frame)		
V	<ul style="list-style-type: none">Arboriculture ManagerForest ManagerForestry ManagerHarvesting Manager	<ul style="list-style-type: none">Nursery ManagerPlantation Establishment ManagerPlantation ManagerProduction Manager	<ul style="list-style-type: none">Sawmill ManagerTimber Advisory ManagerTimber Manufacturing ManagerTree Farm Manager			<ul style="list-style-type: none">Production Manager	N/A
VI	<ul style="list-style-type: none">Community Liaison OfficerDesigner (Manufacturing and Engineered Wood Products)Environmental ManagerEnvironmental Planner		<ul style="list-style-type: none">Forest / Timber HarvesterForest Auditor (e.g. certification provider)Forest PlannerForest Sustainability Manager		<ul style="list-style-type: none">Forestry ManagerGeneral ManagerPlantation ManagerSustainability Manager	<ul style="list-style-type: none">Technical ForesterTechnical Services OfficerTechnical Services ManagerValue Recovery Officer	

Table 16: Forest and Wood Products Training Package - Correspondence between Qualification Level, Industry Sector and Occupational Outcomes

Occupational outcomes for industry sectors

Qualification	PPM20116 Cert II Pulping Operations	PPM20216 Certificate II in Papermaking Operations	PPM30116 Certificate III in Pulping Operations	PPM30216 Certificate III in Papermaking Operations	PPM40116 Certificate IV in Pulping Operations	PPM40216 Certificate IV in Papermaking Operations	PPM50116 Diploma of Pulp and Paper Process Management
Level	Operator/production support		Operator/technician		Senior operator/production specialist		Supervision, line & function management.
Focus	Monitor & control equipment & processes		Start-up & shut down equipment & processes		Troubleshoot & rectify		Oversee & supervise/ manage operations
Job roles	Production support employee in: <ul style="list-style-type: none"> hydrapulping pulping machine operations machine operations pulp handling bale handling fibre preparation stock preparation 	Production support employee in: <ul style="list-style-type: none"> machine operation fibre preparation stock preparation winding operations dryer operation bale handling folder operation rewinding operations wrapping machine ops plant support wet end support; dry end support paper products 	Production operator or technician in: <ul style="list-style-type: none"> pulping operations waste paper recycling primary resources stock preparation & handling fibre preparation 	Production operator or technician in: <ul style="list-style-type: none"> stock preparation & handling fibre preparation wet end operations dry end operations finishing & converting coating systems operator winder/reel & roll operations packaging/folding dry end testing 	Production specialist in: <ul style="list-style-type: none"> pulping operations waste paper recycling primary resources operations stock preparation & handling fibre preparation 	Production specialist in: <ul style="list-style-type: none"> fibre/stock preparation & handling wet end operations dry end operations coated paper treatments finishing & converting winding & rewinding quality testing 	Supervisor, manager or coordinator, such as: <ul style="list-style-type: none"> line supervisor production manager senior operator (all sections) crew/team leader support operations coordinator quality assurance specialist sustainability coordinator/ manager project coordinator / manager training coordinator
	Common specialisations Electricity generation/turbine operations assistant Steam generation/boiler assistant Water services assistant Chemical recovery assistant		Common specialisations Electricity generation/turbine operator Steam generation/boiler operator Water services operator Chemical recovery operator		Common specialisations Electricity generation/turbine senior operator Steam generation/boiler senior operator Chemical recovery senior operator		

Once changes to the training package are made RTOs have 12 months to change to the new qualifications if they have them on scope. In order for an RTO to have a qualification on scope there are required to submit their learning and assessment materials to ASQA for approval. They are also required to have suitably qualified people to deliver the relevant qualification. For example someone with a background in sawmilling and processing cannot teach someone how to use a skidder.

Other Skills Needs

Where training occurs within the forestry industry under other Training Packages, for example, first aid training, that training is developed through the same process, but other industries and industry reference committees are responsible for determining changes. For example the Community Services and Health Industry Skills Council oversees the Health Training Package which contains the first aid unit of competency.

Funding

In Victoria, the Government's Skills First policy is the result of a series of reforms in the training and TAFE sector. See Figure 22

Figure 22: Skills First



Skills First is made up of:

- high-quality training that students and industry can trust, aligned to industry and workforce needs
- a real voice for industry in training
- funding for high needs learners who need additional support to engage with and succeed in education and training
- access to targeted, relevant training for students in regional areas.

As a result of extensive consultation with industry by the Victorian Skills Commissioner (VSC) a new funded course list was introduced in 2016. The funded course list is regularly reviewed, and courses added as required to meet industry demand. The VSC works with industry, employers, union and government to ensure a framework of industry engagement provides input to this process. Industry stakeholders, including associations that represent Gippsland industry and workers, are represented in this engagement framework via industry advisory groups, regional skills task forces, industry and sector skills task forces and ongoing consultation.

The funded status of the courses used by the industry in Gippsland is in Table 17.

Table 17: Funded Courses in Victoria

Qualification	Maximum Nominal Hours	Non-Apprenticeship/ Traineeship	Traineeship/ Apprenticeship
Course in Timber Systems Design	206	\$8.00	
Certificate II in Forest Growing and Management	493	\$7.00	
Certificate II in Sawmilling and Processing*	460	\$8.00	
Certificate III in Forest Growing and Management	1,053	\$10.00	
Certificate III in Harvesting and Haulage	1,233	\$10.00	\$10.00
Certificate III in Sawmilling and Processing	725	\$10.00	\$10.00
Certificate III in Timber Merchandising	500		\$10.00
Certificate III in Timber Truss and Frame Design and Manufacture	655		\$10.50
Certificate III in Saw Technology (formerly Saw Doctor)	1,045		\$14.00
Certificate III in Woodmachining	1,005		\$14.00
Certificate IV in Timber Processing	770	\$10.00	\$10.00
Certificate IV in Timber Truss and Frame Manufacture	1,051	\$10.50	\$10.50
Certificate IV in Timber Truss and Frame Design	1,116		\$10.50
Diploma of Forest and Forest Products	1,430	\$7.00	

Source: Victorian Department of Education and Training, Funded course list, (State Government Victoria, 2021)

* This qualification was removed in 2021 without industry support and has been requested to be reinstated by the Industry Advisory Group.

Skills First is managed through the Victorian Funded Skills List and contracted Skills First approved RTOs. RTOs are responsible for the development and delivery of training and assessment materials that allow them to determine learner's competency and issue learners with nationally accredited documentation.

Table 18 shows that in 2019 there were 6 TAFE networks, 26 Adult Community Education and 43 private training providers delivering government funded training in the Gippsland region. However not all training providers deliver all qualifications, or all units of competency within a qualification. Decisions about what to deliver are generally based on commercial decisions.

Table 18: Number of Registered Training Organisations (2019)

Provider type	Gippsland	Victoria
TAFE Network	6	16
Adult Community Education (ACE)	26	250
Private	43	208

Source: Department of Education and Training, 2020

Note: The number of training providers encompasses all government funded training such as Adult, Community and Further Education, Skills First or other government funded training.

The availability of Registered Training Organisations (RTOs) to deliver nationally accredited training to the forestry sector in the Gippsland region is a challenge. Whilst the government website training.gov.au lists multiple training providers with FWP qualifications and units of competency on scope for Victoria, in practice there are only three delivering in Gippsland. Two are registered for subsidised FWP training (TAFE Gippsland and Timber Training Creswick) and 1 can deliver non-subsidised FWP training (TABMA/FITEC). See Appendix J.

Other RTOs who are listed to deliver training may be delivering four-wheel drive training or chainsaw skills to people outside the industry and do not deliver to or for the industry.

Skills Sets

In 2021, the Victorian Government has included a number of new accredited short courses (also known as skill sets) that can be delivered as subsidised training by Skills First training providers.

The Office of the Victorian Skills Commissioner (OVSC) is currently collating potential skills sets for government funding including from the FWP and PPM skills sets. GFHub members have provided significant input to this process. Current skills sets are also being reviewed nationally with input from IRCs and proposals for new nationally accredited skills sets are being assessed.

There are 6 proposed new skills sets for FWP which have been submitted to the OVSC for government funding support covering areas such as;

- *Essential Skills* forestry standards
- Sawmilling
- Harvesting and haulage
- Single-grip harvester
- Forwarder operators
- Silviculture.

There are 5 proposed new skills sets for PPM, still in the development stage at the national level, covering areas such as;

- Production assistant and operator roles
- Manufacturing management or leadership roles
- De-inking operations
- Sorting/handling and grading of recovered paper
- Recovered paper operations.

Details of these proposed skills sets can be found in Appendix K - FWP and PPM Skill Sets proposed to OVSC for subsidised training.

Other forms of short course, part qualifications and training support available

There is scope to work with the Victorian Government to develop industry specific part qualifications, in addition to the skills sets process described above.

In 2020, the OVSC and ForestWorks worked with the Timber Truss and Frame sector to address the employers' needs concerning current qualifications. Enrolments were low to non-existent in most Timber Truss and Frame related courses as employers felt the combining of Timber Truss and Frame Design and Manufacture did not meet their needs as they are very separate roles. Industry identified the need for standardised training and assessment material that was more suitable to the business environment. The result of this work is a new subsidised, short course in Victoria, 22522VIC - Timber Systems Design along with a full suite of training and assessment materials.³¹

Bio-processing qualifications have been developed at a Victorian state level. There is a Victorian specific Certificate III in Biomanufacturing Operations (22546VIC), and a Course in Biomanufacturing Pathways (22545VIC). These are currently not incorporated into a national training package however this is being addressed during the National Review of the PPM Training Package.³²

Industry partnerships in waste recovering and bioprocessing are beginning to occur. Citywide, a major waste management company, has recently signed an MOU to participate in a state-of-the-art Energy from Waste (EfW) facility in Maryvale Victoria which is being developed by a consortium which includes Opal Australian Paper.³³ Industry and the IRC are considering the development of new Skill Sets, units of competency or a short course to ensure training is available in these new emerging areas.

University Education

There are now only two Australian Universities offering Bachelors degrees for the Forest Industry. Southern Cross University has a Bachelor of Forest Science and Management with two streams: production forestry and conservation forestry. Melbourne University also has a Bachelor of Ecosystem Science with specialisation in Forest Ecosystems.

The Gippsland-Churchill Campus of Federation University offers a Bachelor of Environmental and Conservation Science. The subjects offered do not reflect forestry to the extent that the other identified degrees do. There may be some scope to discuss this further with Federation University.

The Culture, Training and Skills Assessment Report prepared for the North-North West Tasmania Regional Forestry Hub identified that graduates entering the industry as foresters or equivalent have typically undertaken areas of study within tertiary forestry courses that include:

- Forest science
- Environmental science and management
- Biodiversity conservation
- Forest silviculture

³¹ Victorian Skills Commissioner, *Sector Snapshot Timber Frame and Truss Sector*, (Melbourne: State Government of Victoria, December 2020), <http://www.vsc.vic.gov.au/wp-content/uploads/2021/02/Sector-Snapshot-Timber-Frame-and-Truss.pdf>

³² Skills Impact, PPM, *Annual Update to Industry Skills Forecast and Proposed Schedule of Work 2021*, (unpublished)

³³ CityWide, *Media Release: Citywide enters MoU for Energy from Waste project to fuel growing circular economy and reshape waste disposal landscape* (December 10, 2020) <https://opalan.com/app/uploads/2020/12/2020-12-10-Citywide-MOU-Suez-EfW-Maryvale-Media-Release-FINAL.pdf>

- Forests, carbon, and climate change
- Biosecurity, pests, and diseases
- Fire management and planning
- Ecology.³⁴

Access to education, skills and training

The industry was asked how easy or difficult it had been to access a variety of education, skills and training in the last three years. Respondents could select more than one training option for an area of work and not all respondents made a selection for all areas of work.

Figure 23 shows the different areas of training ranked by their net difficulty. The areas where it was somewhat or very difficult to obtain relevant training were heavy machinery operation (57 per cent); road transport drivers for haulage (43 per cent); chainsaw and other hand held machinery (40 per cent); and IT/software training specialised to the industry (36 per cent).

These results indicate there is a degree of difficulty to access training for industry-specific skills whereas access to more generic cross-sector training is easier to access and are reflective of research conducted by ForestWorks in its Improving Enrolments Project.

The forestry sector is considered a ‘thin market’ as there is no economy of scale for training providers. Training is required in regional areas so training providers often have to travel to regional areas to train a small number of learners. They may also need to purchase and maintain expensive equipment to keep the training on their scope for minimal return. Thin markets in VET have been defined as those in which the actual and potential number of learners may be too small to attract training providers (Ferrier et al, 2008).

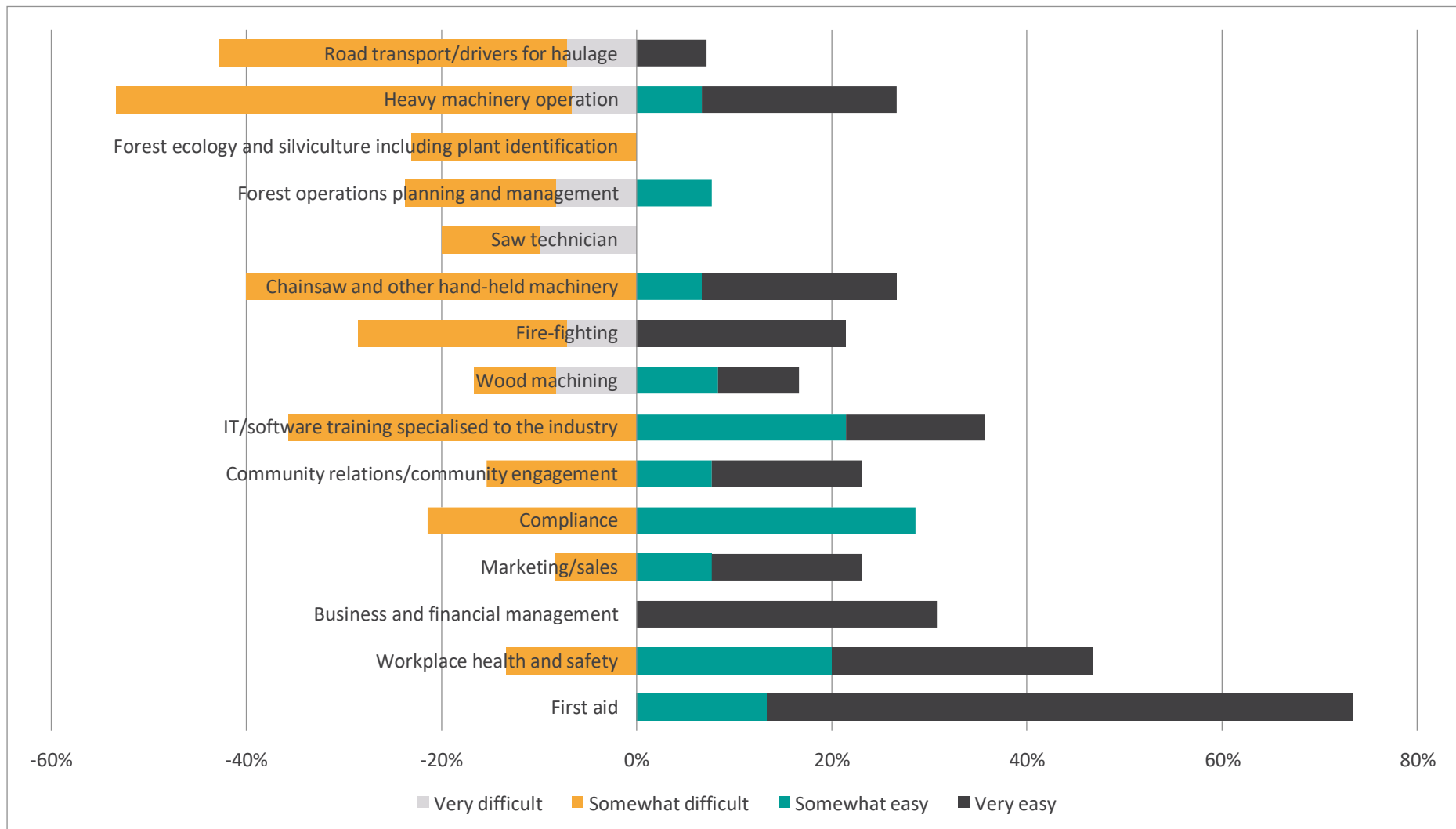
During one-on-one interviews as part of the ForestWorks Improving Enrolments Project, RTOs expressed the challenges they face including profitability. One RTO that operates in Gippsland, expressed how difficult it is to remain profitable particularly with government-funded training. Often the funding price paid by the government does not reflect the complexity of the task or the student/teacher ratios. Trainers need to train multiple learners to maintain profitability however employers are reluctant to release learners as it negatively affects their productivity. The regional nature of training for the forestry sector also affects profitability. Trainers often involve a full day of travel each way and this costs money. RTOs have expressed their concern that additional TAE requirements have resulted in a loss of good trainers and assessors and are now a barrier to recruiting new trainers and assessors.

Employees in the forestry industry tend to stay in the forestry industry resulting in a low attrition rate. Once they have been trained in the early stage of their employment, there is often little nationally accredited training that takes place after that. This further exacerbates the thin market issue and RTOs having to train small numbers of learners.³⁵

³⁴ Anderson, N. Stewart, H. & Keenan, R., *Culture, Training and Skills Assessment Report Prepared for the North-North West Tasmania Regional Forestry Hub*, (Melbourne: The University of Melbourne, November 17, 2020) https://www.tffpn.com.au/wp-content/uploads/2020/11/4.-NNWRFH_CultureSkillsTraining_FinalReport_171120.pdf

³⁵ Skills Impact, FWP, *Annual Update to Industry Skills Forecast and Proposed Schedule of Work 2021*, (unpublished), p20

Figure 23: In the last three years how easy or difficult has it been to access the following education skills and training required in your area of work?



Source: GFHub survey, 2021

Relationship with Training Being Conducted

When compared to the responses to the difficulty in accessing training for particular areas of work in question 11, it is interesting to note who is conducting training – see Table 19. RTOs feature highly for both accredited and non-accredited training followed by in-house training. There is a clear need for RTOs to continue to conduct training in the forest industry. There is a clear need to establish a better working model between industry and RTOs to ensure the industry's ability to access accredited training in key skills needs.

Table 19: Difficulty in accessing training versus Training conducted

Difficulty in accessing training (highest to lowest)	Training conducted by (highest)
Heavy machinery operation	69% RTOs (accredited training) 38% In-house experts
Road transport/drivers for haulage	25% In-house experts
Chainsaw and other hand-held machinery	64% RTOs (accredited training)
IT/Software training	45% 'Other' in-house staff 36% RTOs (non-accredited training) 27% In-house experts
Fire-fighting	36% RTOs (accredited training)

Source: GFHub survey, 2021

Removing Barriers to Training

Survey respondents were asked what barriers, if any, there are to accessing necessary or desired training, skills or education opportunities (see Figure 24). They were also asked what would help remove or reduce barriers (see Figure 25) Respondents were able to select as many responses as applied.

The location of training and the time commitment to training were seen as the most significant barriers (71 per cent), followed by the lack of suitable trainers (53 per cent).

Figure 24: What barriers, if any, are there to accessing necessary or desired training, skills or education opportunities?

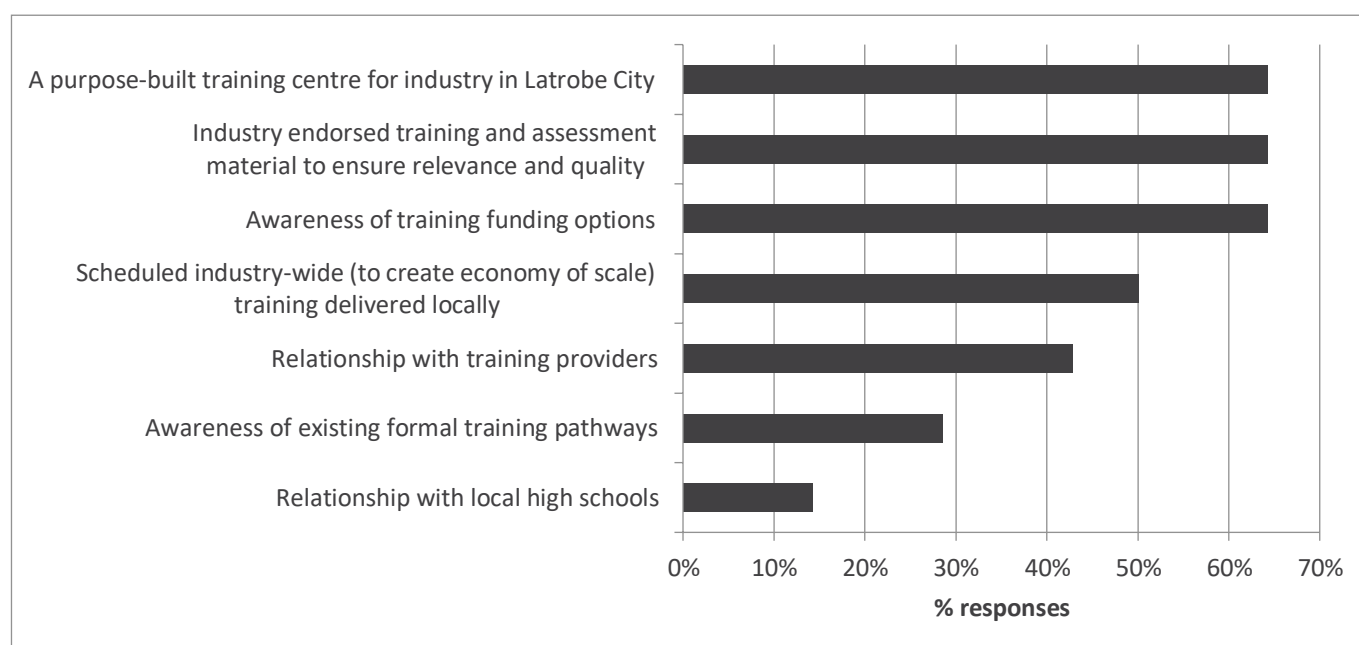


Source: GFHub survey

Nearly two thirds of respondents (64 per cent) identified the need for a purpose-built training centre for the industry in Latrobe City. This would directly address the concern raised about the location of training. It may also address the cost of training and/or the time commitment of training.

The same proportion of respondents identified a need for industry endorsed training and assessment material to ensure relevance and quality and the need for awareness of training funding options.

Figure 25: What would help remove or reduce barriers to training, skills, or education?



Source: GFHub survey

These results highlight the need for industry to work with existing RTOs to establish a model which allows for both workplace learning to reduce lost time and travel costs, as well as the identification of an appropriate training venue within the local region.

It could be worthwhile to investigate funding opportunities to establish a purpose-built forestry training centre in Latrobe City to help remove barriers to training. With the impending closure to the availability of hardwood resources and consequent expansion in plantation resources largely affecting the Latrobe and Wellington LGAs, it would make sense to have the centre located in Latrobe City.

A purpose-built centre could allow for the use of and training in specialised simulators, provide training opportunities to school students and the unemployed as well as existing industry employees looking to expand their skill set. It could also allow for multiple training providers to utilise the space and equipment and undertake training in the centre and raise the awareness of training available through local channels.

Skills shortages

Respondents to the GFHub survey were invited to indicate the key skills shortages they were experience, whether at the organisational, sector, or industry level.

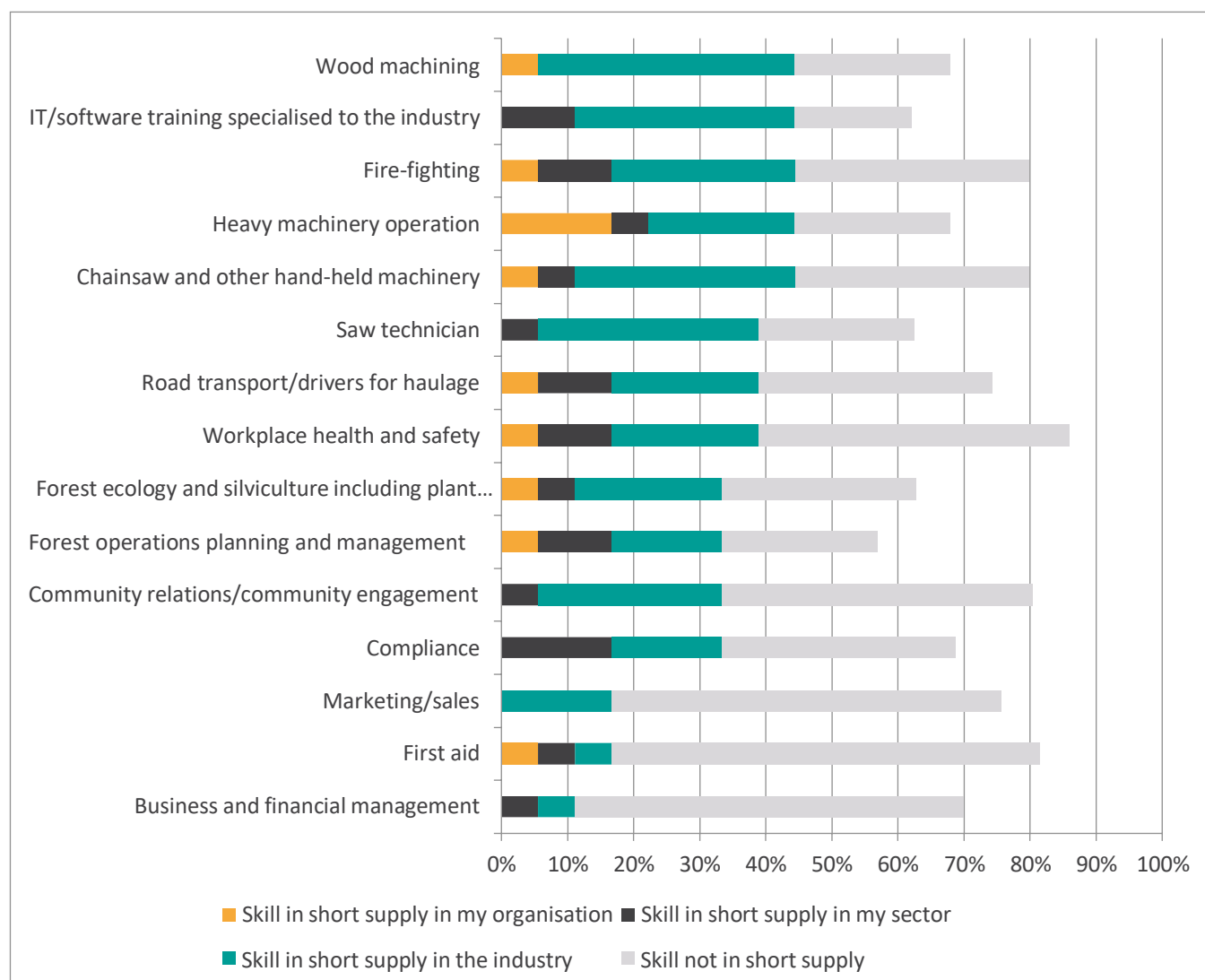
In general it can be observed that the greatest shortages are in industry specific skills.

It is apparent from Figure 26 that two of the key areas of skills shortage are in the trade qualifications of wood machining and saw technician. The former was identified as a shortage in the respondent's organisation (6 per cent) and the industry (39 per cent), whereas the latter was identified as a shortage in the sector (6 per cent) and the industry (33 per cent). Unsurprisingly, all the respondents who indicated there was a shortage of saw technicians and wood machinists were working in sawmilling and/or timber manufactured products. Of more interest is the fact that other sectors of the industry did not recognise this skills need as an industry need. This suggests a possible lack of awareness of the overall impact of skills shortages in particular sectors on the industry as a whole.

A second category of skills shortage area is in information technology skills which are specialised to the industry. Interestingly no company identified this as a skills shortage for themselves, but did identify it as a shortage for the sector (11 per cent) or the industry (33 per cent).

Heavy machinery and hand-held machinery skills were also considered to be in shortage, with particular issues for organisations themselves in respect of heavy machinery skills.

Figure 26: What skills do you consider to be in short supply in your organisation, your sector, or in the forest industry as a whole?



Source: GFHub survey

One survey respondent from the sawmilling and processing sector commented that there is a lack of “people with general skills and knowledge pertaining to the sawmilling, grading, packing and handling of timber. We have trained all of our staff over the years from basically a zero knowledge base.”

A survey respondent from the harvesting and haulage sector commented that there is “a lack of forestry graduates coming into the industry.”

In most cases, respondents indicated a higher skills shortage within the industry rather than in their sector or their organisation.

These results indicate the need for increasing skills training in the forestry industry in Gippsland.

Using a net score (those who believe there is a skills shortage compared to people who do not believe there is a skills shortage), the need for IT training specialised to the industry rises to the top of the issues the industry faces. See Table 20.

Table 20: Skills areas ranked by net shortage

Skill Area	Net shortage
IT/software training specialised to the industry	5
Heavy machinery operation	4
Wood machining	4
Saw technician	3
Forest operations planning and management	2
Chainsaw and other hand-held machinery	2
Fire-fighting	2
Forest ecology and silviculture including plant identification	1
Road transport/drivers for haulage	1
Compliance	0
Workplace health and safety	-1
Community relations/community engagement	-2
Marketing/sales	-7
Business and financial management	-8
First aid	-8

Source: GFHub survey

The AISC has approached the question from the perspective of generic skills; industry and occupational skills; and workforce skills. The following five generic skills have been identified as a top priority for the industry:

- Technology
- Environmental sustainability
- Language, Literacy and Numeracy (LLN) Foundation Skills
- Design mindset/Thinking critically/System thinking/Solving problems
- Communication/Virtual collaboration/Social intelligence.

Industry and occupation skills that have been identified as top priority are:

- Information and communication technology skills
- Middle management skills
- High level financial skills
- Specialised skills

Specialist priority skills for sawmill timber and process optimisation are focused on supporting productivity and technological development³⁶ whilst the forestry industry have to “prepare for and meet new demands for forest sustainability and timber product markets in Australia.”³⁷

The Forest and Wood Products IRC’s 2019 Skills Forecast has highlighted priority skills needs, in support of the AISC top priority skills, as;

- Specialised skills such as specialist engineers, scientists, mechanics, mobile and fixed-plant operators
- High level financial skills

³⁶ AISC, Industry overview, Timber Processing and Products, <https://nationalindustryinsights.aisc.net.au/industries/forest-and-wood-products/timber-processing-and-products>

³⁷ AISC, Industry overview, Forest and Wood Products, <https://nationalindustryinsights.aisc.net.au/industries/forest-and-wood-products>

- Middle management staff
- Transport workers
- Finance managers
- Heavy machinery operators.³⁸

The AISC and the IRC highlight the importance of forestry operators having effective bushfire-related skills as they are increasingly involved in bushfire management (including mechanical thinning), mitigation and firefighting.

These roles are distinct from their forestry operations roles and include;

- Defending resource and forestry assets
- Salvage operations after the fire has passed
- Fire suppression efforts in land use such as farms and national parks
- Make-safe operations and road clearing
- Re-establishing plantations.³⁹

³⁸ Skills Impact, FWP, Annual Update to Industry Skills Forecast and Proposed Schedule of Work 2021, (unpublished)

³⁹ AISC, Industry overview, Forest and Wood Products, <https://nationalindustryinsights.aisc.net.au/industries/forest-and-wood-products>

Recommendations

Developing the Skills for the Future

1. GFHub to promote and support workforce development planning and provide access to workforce development tools.

With major changes occurring now and in the near future in Gippsland's forestry industry, and workforce projections predicting even further changes may be on the way, the importance of workforce development planning cannot be underestimated. GFHub could promote why and how workforce development planning should be undertaken, and the importance of including skills forecasting, to ensure local businesses keep up with the changes and remain viable into the future.

Some organisations in the region may require assistance with their planning and GFHub could make themselves available to support these organisations and provide access to existing tools.⁴⁰

2. GFHub to support access to nationally recognised accredited training.

The current thin market situation in the Gippsland area, as with other areas across Australia, is a real concern for RTOs. The forestry industry does not have thousands of VET placements as is the case with some other industries. They struggle to remain viable while training very small numbers for a workforce that is often located in regional and remote areas which drives up training costs. Work needs to be done to develop an RTO delivery model that works for the RTO and for the industry.

Regardless of the solution, design, delivery, and effectiveness of training require greater coordination which can only be brought about by greater interaction and communication between industry and RTOs.

- GFHub could facilitate this interaction and communication which could result in planning to smooth out the cyclical nature of training and increase RTO viability
- GFHub could provide information to the industry about what training currently exists and how to access it
- GFHub could document existing industry pathways that could be used to promote the industry to potential workers as well as to encourage existing workers to upskill by undertaking formal VET training.

3. GFHub to support and promote the co-development of training and assessment material.

This will ensure industry and RTO needs are being met, increase the likelihood that staff will be supported to attend training that is considered to be relevant and of value to their business. These materials need to address the LLN requirements in Gippsland and facilitate LLN training and support.

4. GFHub to conduct a feasibility study to establish a purpose-built forestry training centre in the Latrobe Valley.

A purpose-built training centre for the forestry industry in Latrobe City could help to promote training and education for the forest industry in Gippsland, for existing and potential workers as well as secondary students.

It could help to support viable RTOS by supporting multiple employers to send learners to scheduled training sessions. These sessions may be able to include the use of specialised simulators to make the training more doable for providers as well as to help reduce training costs.

⁴⁰ ForestWorks, "Workforce Development Tools", 2021, <https://forestworks.com.au/services/learning-resources-and-tools/workforce-development-tools/>

Industry and manufacturers have concerns about the shortage of training providers and the closure of Latrobe Valley Training and Assessment Centre (LVTAC) has exacerbated this shortage. Bringing trainers in from other areas, even interstate in some cases, affect the industry's willingness to upskill and train workers due to the costs involved.

GFHub could consider Latrobe City as a suitable location taking into consideration the reduction in hardwood resources and consequent expansion of plantation resources in the Latrobe and Wellington LGAs.

5. GFHub to develop a program for identifying and supporting industry experts to undertake Training and Assessment Education (TAE) training.

To provide quality nationally accredited training to Gippsland's forestry industry there needs to be trainers with a high level of industry experience and knowledge. There are industry experts working in the Gippsland region, some already conducting in-house training, that could transition to providing nationally accredited training. However, to do so they must obtain a TAE qualification.

GFHub could work with industry to develop a program for the sector to identify suitable candidates in the field and support them to complete the required TAE qualification. The forestry businesses could then provide the accredited training and form a relationship with RTOs who could complete the assessment and issue a Statement of Attainment.

This would increase the number of quality trainers accredited to conduct Training Package qualifications for the forestry industry in Gippsland and provide learners with transferrable qualifications.

6. GFHub to support the development of RTO models which would support multiple training providers with industry experts to mentor training delivery.

Where training is occurring outside the VET system, for example in PPM, work is underway to find a way to ensure the training package is up to date and fit for purpose and to also find a way RTOs can deliver the training following a model that suits both their needs and the needs of industry.⁴¹

This model involves workplace assessors that are currently conducting in-house training and assessment working with RTOs to develop consistent learning and assessment materials for use across the industry that will provide the basis for assessments. Workplace assessors would be supported to undertake the required TAE qualification then they would deliver on-site nationally accredited training and assessment resulting in the learners receiving a Statement of Attainment.

7. GFHub to promote opportunities for the Gippsland Industry to contribute to training package development.

This will facilitate industry input into the development of training to emerging technologies and skills requirements. These reviews ensure the development of appropriate units of competency and qualifications to meet these new needs.

8. GFHub to promote and assist its members to build the skills of existing employees.

Given the prevalence of internal recruitment and low attrition rates, it makes sense to develop the skills of existing employees. This can be achieved by:

- Enhancing the mentoring skills of experienced, respected workers

⁴¹ Skills Impact, PPM, *Annual Update to Industry Skills Forecast and Proposed Schedule of Work 2021*, (unpublished), Qualification utilisation

- Promoting career pathways, linked to training, fair pay, stable work, positive employment experiences, and a sense of pride in their work
- Engaging with training providers to develop training plans that:
 - Meet the needs of the employer and employee, for their current job role
 - Anticipate skills needs for changing technology
 - Have the flexibility to meet the needs of remote and rural areas, thin markets (low volume), and seasonality of work.

Attracting Young People

9. GFHub to adapt successful projects already underway to attract young people to the industry in Gippsland.

There are projects already underway across the country in the forestry industry and GFHub could leverage off work already done. One example is listed below.

OneFortyOne, in partnership with The Department of Education and Child Development in South Australia, has launched a pathway program at Mount Gambier High School which will provide students from Year 8 to Year 12 from Limestone Coast Secondary schools with an articulated pathway in the forest and timber industry.

The Ultimate Renewable Forest Learning Pathway Program, a South Australian program for Year 10, 11 & 12 students, provides the education and skills, in theory, and in practice, necessary for them to join the forest and timber industry with a Certificate III and South Australian Certificate of Education (SACE) credit points. It is anticipated that students who successfully complete the program will transition into either further study at the Diploma, Advanced Diploma, or Bachelor Degree level, or transition into employment as an apprentice.

Students who complete all units within a module will graduate with a Certificate III. GFHub could take an interest in the initiative.

The GFHub could also consider supporting existing, and future, funding maintaining and expanding funding for school-based programs.

10. GFHub to facilitate linkages between industry and local high schools.

It is critical to the forestry industry to attract young people into the forestry workforce. One of the ways to promote forestry careers to young people is through local high schools and for this to happen there needs to be a connection made and maintained.

GFHub could facilitate the linkages between industry and high schools by encouraging, coordinating and supporting industry participation in careers days, expos, providing short taster courses to students, visiting and encouraging employers to visit high schools to improve students awareness of the range of job roles available in the industry, and promoting the benefits of forestry careers.

Organising expos to showcase the full range of job roles and career opportunities available in forestry to expand students' knowledge could be considered by GFHub.

GFHub could act as the conduit between employers and education staff and provide networking opportunities for the development of working relationships

11. GFHub could assist in the promotion of the industry within the school curriculum.

GFHub could work closely with FWPA Forest Learning and the industry to support high schools to access materials that are up to date and fit for purpose to the region and the forestry industry as a whole.

To help attract young people to the industry high school teachers require Australian Curriculum-aligned teaching and learning resources to be able to include forestry-related learning in their subjects.

12. GFHub to facilitate schools and industry to work together to document pathways into, and out of, a variety of job roles.

This work would involve working across the industry to identify requisite personal attributes and transferable skills. These skills may have been acquired in other industries.

It would also identify entry level job roles and the appropriate qualification and training requirements.

Opportunities to fill those roles with more diverse workforce would be explored.

13. GFHub could further promote the industry's successes.

It is proposed that further work be done with the employers in Gippsland who are successful in attracting young and diverse people into their businesses to determine their success factors and to share those factors with the broader industry.

Addressing Perceptions of the Industry

14. GFHub to provide leadership in encouraging diversity in the workplace.

GFHub could promote a culture supportive of diversity and the benefits of diversity across the forestry sector in their engagements with industry as well as encouraging greater participation by women and other under-represented minority groups when liaising with young people and potential new workers.

Messaging to industry and community could promote the ways to improve and benefit from a diverse and inclusive workplace.

15. GFHub to facilitate a series of activities to support greater engagement with the Gunaikurnai people.

These activities should be developed in discussions with the Gunaikurnai people but could start with:

- Industry-wide cultural awareness training
- Support for the development and delivery of FWPCOT3257 Follow cultural heritage requirements

16. GFHub to promote awareness of the need for appropriate work housing and infrastructure near job sites.

To encourage workers into regional and remote work locations, there needs to be appropriate housing and infrastructure to support not only them but also their families. Potential workers may be discouraged from applying for jobs in areas that require a long commute, sometimes measured in hours. To be able to live close to their workplace and eliminate the commute they need to have access to housing and be able to bring their families with them.

GFHub could promote the understanding of the critical need to provide housing in regional and remote areas when trying to address skills gaps.

Support for Innovation

17. GFHub to support industry to pursue government funding opportunities such as those arising as a result of the closure of the hardwood native forest resources.

As a result of the Victorian Government's decision to cease native forest harvesting by 2030, there are funding opportunities available to industry. These include the Victorian Forestry Plan to support industry during the transition. \$120 million will help support workers, businesses and communities over the long term

As part of the Victorian Forestry Plan, grants of up to \$100,000 are available "for innovation that supports businesses to transition from native timber to plantation fibre or investigate manufacturing opportunities."⁴²

GFHub could gain a full understanding of all funding opportunities available to industry in Gippsland and provide guidance on eligibility and assistance accessing funding wherever possible.

⁴² Department of Jobs, Precincts and Regions, "Timber Innovation Grants Program", Regional Development Victoria, October 2020, <https://www.rdv.vic.gov.au/grants-and-programs/timber-innovation-grant-program>

Bibliography

Australian Forest Contractors Association, "Safe and Skilled", 2018, <https://www.afca.asn.au/news-projects-2/safeskilled>

Anderson, N. Stewart, H. & Keenan, R., *Culture, Training and Skills Assessment Report Prepared for the North-North West Tasmania Regional Forestry Hub*, (Melbourne: The University of Melbourne, November 17, 2020) https://www.tffpn.com.au/wp-content/uploads/2020/11/4.-NNWRFH_CultureSkillsTraining_FinalReport_171120.pdf

Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES)

Australian Bureau of Statistics, *Labour Force Status (LFSP)*, (Canberra: Australian Bureau of Statistics, October 23, 2016) <https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/2901.0Chapter38602016>

CityWide, *Media Release: Citywide enters MoU for Energy from Waste project to fuel growing circular economy and reshape waste disposal landscape* (December 10, 2020) <https://opalanz.com/app/uploads/2020/12/2020-12-10-Citywide-MOU-Suez-EfW-Maryvale-Media-Release-FINAL.pdf>

Department of Agriculture and Water Resources, *Growing a better Australia – A billion trees for jobs and growth* (Canberra: Federal Government Australia, 2018)

Department of Jobs, Precincts and Regions, "Timber Innovation Grants Program", Regional Development Victoria, October 2020, <https://www.rdv.vic.gov.au/grants-and-programs/timber-innovation-grant-program>

Department of Jobs, Precincts and Regions, *Victorian Forestry Plan*, (Melbourne: State Government of Victoria, 2021), <https://djpr.vic.gov.au/forestry/forestry-plan>

ForestWorks, "Workforce Development Tools", 2021, <https://forestworks.com.au/services/learning-resources-and-tools/workforce-development-tools/>

ForestWorks, *Improving Enrolment Research: Interim Report*, (2020), (unpublished), Flexibility in Course and Curriculum Development

GFHub, *30 year strategy for a growing, sustainable industry supporting communities to thrive*, (unpublished)

IFA, "Forestry education: courses and pathways", 2019, https://www.forestry.org.au/Forestry/About/Forestry_education/Forestry/Forestry_education/Education_pathways.aspx?hkey=3f0eef78-b116-4a17-9feb-9c6b1616eb56

Labour Market Information Portal, (Australian Federal Government) <https://lmip.gov.au/>

Mirage News, "Major Event Review for Victoria's Fire Impacted Forests", December 2, 2020, <https://www.miragenews.com/major-event-review-for-victoria-s-fire-impacted-forests/>

National Industry Insights, "Forest and Wood Products", (November 5, 2020) <https://nationalindustryinsights.aisc.net.au/industries/forest-and-wood-products/forestry>

NCVER, *Survey of Employer Use and Views of the VET System 2019: additional tables*, (2019), Table 10 <https://www.ncver.edu.au/research-and-statistics/data/all-data/survey-of-employer-use-and-views-2019-additional-tables>

Regional Forest Agreement Joint Engagement, Department of Agriculture and Cloud Catcher, 2019, Gippsland <https://www.agriculture.gov.au/sites/default/files/documents/consultation-summary-report-gippsland.pdf>

Regional Forest Agreement Joint Engagement, Department of Agriculture and Cloud Catcher, 2019, East Gippsland <https://www.agriculture.gov.au/sites/default/files/documents/consultation-summary-report-east-gippsland.pdf>

Schirmer, J., et. al. *Socio-economic impacts of the forestry industry Victoria (exc. The Green Triangle)*, 2018, https://www.fwpa.com.au/images/OtherReports/Vic_Report_FINAL.pdf

Skills Impact, FWP, *Annual Update to Industry Skills Forecast and Proposed Schedule of Work 2021*, (unpublished)

Skills Impact, PPM, *Annual Update to Industry Skills Forecast and Proposed Schedule of Work 2021*, (unpublished)

Steven Joyce, *Strengthening Skills Expert Review of Australia's Vocational Education and Training System* (Commonwealth of Australia: Department of the Prime Minister and Cabinet, 2019) <https://pmc.gov.au/sites/default/files/publications/strengthening-skills-independent-review-australia-vets.pdf>

Symes, J. *Innovation the Key to The Future of Our Timber Industry*, (Melbourne: Agriculture Victoria, 2020), <https://www.jaclinsymes.com.au/media-releases/innovation-the-key-to-the-future-of-our-timber-industry/>

Symes, J. *New Nursery to Grow More Timber and Gippsland Jobs* (Melbourne: Premier of Victoria Daniel Andrews, 2020) <https://www.premier.vic.gov.au/new-nursery-grow-more-timber-and-gippsland-jobs>

Tierney, G., *Major TAFE Gippsland Upgrades to Grow Job Opportunities*, (Melbourne, 2021), <https://www.premier.vic.gov.au/major-tafe-gippsland-upgrades-grow-job-opportunities>

TimberBiz, "VicForests not eligible for FSC membership", April 17, 2020, <https://www.timberbiz.com.au/vicforests-not-eligible-for-fsc-membership/>

Victorian Skills Commissioner, *Sector Snapshot Timber Frame and Truss Sector*, (Melbourne: State Government of Victoria, December 2020), <http://www.vsc.vic.gov.au/wp-content/uploads/2021/02/Sector-Snapshot-Timber-Frame-and-Truss.pdf>

Willingham, Richard. "Bunnings stops selling native timber from state-owned VicForests after court ruling" *ABC News*, July 1, 2020. (2020) - <https://www.abc.net.au/news/2020-07-01/bunnings-stops-selling-victorian-native-timber/12412328>

Gippsland Forestry Hub Survey

INTRODUCTORY

1. Please provide your contact details

Name

Organisation Name

Address

Address 2

City/Town

State/Province

ZIP/Postal Code

Country

Email Address

Phone Number

Gippsland Forestry Hub Survey

BUSINESS PROFILE

2. What category best describes your participation in the forest industry? Tick as many as apply.

- | | |
|---|--|
| <input type="checkbox"/> Forest owner or grower | <input type="checkbox"/> Silvicultural contractor |
| <input type="checkbox"/> Forest management company | <input type="checkbox"/> Harvesting and haulage service provider |
| <input type="checkbox"/> Sawmilling and processing company | <input type="checkbox"/> Wood panel and board production company |
| <input type="checkbox"/> Timber manufactured products company | <input type="checkbox"/> Timber truss and frame design and manufacture company |
| <input type="checkbox"/> Timber merchandising company | <input type="checkbox"/> Nursery |

Other (please specify)

3. Which best describes the main forest resources for your organisation? Select as many that apply.

- ☐ Plantation grown timber
- ☐ Private native forests
- ☐ Public native forests
- ☐ Farm forestry

Other (please specify)

Gippsland Forestry Hub Survey

WORKFORCE PROFILE

4. What is the size of your organisation?

- ☐ 0-19 employees
- ☐ 20-99 employees
- ☐ 100-199 employees
- ☐ 200+ employees

5. What percentage and/or number of your workers are:

*For percentage, please include % symbol

Male

Female

Other

6. What percentage and/or number of your workers are aged:

*For percentage, please include % symbol

15-19

20-29

30-39

40-49

50-59

60-69

70+

7. What percentage and/or number of your workers are:

*For percentage, please include % symbol

Full-time

Part-time

Casual

Sub-contractor

Saw technician
apprentice/trainee

Wood machining
apprentice/trainee

School-based trainee

Other apprentice/trainee

8. What percentage and/or number of your workers are of Aboriginal or Torres Strait Island descent?

*For percentage, please include % symbol

9. What percentage and/or number of your workers would benefit from LLN (literacy or numeracy) training or support?

*For percentage, please include % symbol

Gippsland Forestry Hub Survey

SKILLS SHORTAGES

10. What skills do you consider to be in short supply in your organisation, your sector, or in the forest industry as a whole?

	Skill in short supply in my organisation	Skill in short supply in my sector	Skill in short supply in the industry	Skill not in short supply
Workplace health and safety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
First aid	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chainsaw and other hand-held machinery (eg. brush cutter, pruning)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Compliance (eg. needed for regulatory or <input type="radio"/> certification bodies)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Heavy machinery operation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fire-fighting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
IT/software training specialised to the industry (eg. for plant operation, in-field survey)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Marketing/sales	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community relations/community engagement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business and financial management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Forest operations planning and management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Forest ecology and silviculture including <input type="radio"/> plant identification	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Road transport/drivers for haulage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Saw technician	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wood machining	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[illegible]

	Very difficult	Somewhat difficult	Neither easy nor difficult	Somewhat easy	Very easy	Not applicable
Road transport/drivers for haulage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Saw technician	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wood machining	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other new or emerging technology, please give details below	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Other, please give details below	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)						
<div></div>						

Gippsland Forestry Hub Survey

TRAINING NEEDS

12. Which type of training do you use for the following areas of operation?

	In-house training by other staff	In-house training by experts	Registered training organisation (accredited training)	Registered training organisation (non- accredited training)	Not applicable
Workplace health and safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
First aid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chainsaw and other hand-held machinery (eg. brush cutter and pruning)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compliance (eg. needed for regulatory or certification bodies)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heavy machinery operation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fire fighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IT/software training specialised to the industry (eg. for plant operation, in-field survey)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marketing/sales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Community relations/community engagement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Business and financial management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Forest operations planning and management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Forest ecology and silviculture including plant identification	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Road transport/drivers for haulage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Saw technician	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wood machining	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	In-house training by other staff	In-house training by experts	Registered training organisation (accredited training)	Registered training organisation (non- accredited training)	Not applicable
Other new or emerging technology, please give details below	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other, please give details below	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-------------------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Other (please specify)

13. What barriers, if any, are there to accessing either necessary or desired training, skills or education opportunities in your area of work?

- | | |
|--|---|
| <input type="checkbox"/> Cost of training | <input type="checkbox"/> Accredited training doesn't meet my needs |
| <input type="checkbox"/> Time commitment of training | <input type="checkbox"/> Lack of awareness of training options |
| <input type="checkbox"/> Location of training | <input type="checkbox"/> Lack of knowledge of how to enrol in formal training |
| <input type="checkbox"/> Lack of suitable trainers | |

☐ Other (please specify)

14. What would help remove or reduce barriers to training, skills or education?

- | | |
|---|--|
| <input type="checkbox"/> Awareness of existing formal training pathways | <input type="checkbox"/> Scheduled industry-wide (to create economy of scale)
training delivered locally |
| <input type="checkbox"/> Awareness of training funding options | <input type="checkbox"/> Industry endorsed training and assessment material to
ensure relevance and quality |
| <input type="checkbox"/> Relationship with training providers | <input type="checkbox"/> A purpose-built training centre for industry in Latrobe City |
| <input type="checkbox"/> Relationship with local high schools | |

☐ Other (please specify)

WORKFORCE DEVELOPMENT PLANNING

Workforce development planning is a process of identifying the workforce capacity and capability your organisation needs to meet its objectives, now and into the future.

15. How do you undertake workforce development planning?

- ☐ Formally every year
- ☐ Formally every 1-5 years
- ☐ On an ad-hoc skills shortage demand basis
- ☐ Never
- ☐ Other (please specify)

16. Are there clear career pathways in your organisation?

- ☐ Yes
- ☐ No

RECRUITMENT

17. In the last 12 months, has your organisation recruited, or attempted to recruit, any staff?

☐ Yes

☐ No

Gippsland Forestry Hub Survey

RECRUITMENT ISSUES

18. How much difficulty, if any, has your organisation experienced in recruiting for entry level jobs?

- ☐ A lot of difficulty
- ☐ Some difficulty
- ☐ No difficulty
- ☐ Don't know/can't say

19. How much difficulty, if any, has your organisation experienced in recruiting staff for non-entry level jobs?

- ☐ A lot of difficulty
- ☐ Some difficulty
- ☐ No difficulty
- ☐ Don't know / hard to say

20. In relation to the occupations you have had a lot of difficulty recruiting staff, what job roles have been most difficult?

21. What are the reasons for your difficulties in recruiting staff?

- | | |
|--|--|
| <input type="checkbox"/> Shortage of skilled people in the industry | <input type="checkbox"/> Lack of existing workers in the industry who are being skilled up |
| <input type="checkbox"/> Limited applicants/limited appropriate applicants | <input type="checkbox"/> Unattractive job/not a career which is aspired to |
| <input type="checkbox"/> Location is remote or undesirable | <input type="checkbox"/> Wages/salaries considered too low |
| <input type="checkbox"/> Poor attitude to work or work ethic | <input type="checkbox"/> Unwillingness to take shift/nights/weekend/seasonal work |
| <input type="checkbox"/> Other (please specify) | |

Gippsland Forestry Hub Survey

ATTRACTIVENESS OF INDUSTRY TO YOUNG PEOPLE

22. What is the most common pathway into your business?

- ☐ Already working in the business
- ☐ Recommended by someone working in the business
- ☐ Recommended by someone outside the business
- ☐ Advertised publicly
- ☐ Other (please specify)

23. What do you think are the reasons for difficulties in recruiting for entry level jobs/young people?

24. What do you think influences young peoples' decisions to work in the industry?

- | | |
|---|--|
| <input type="checkbox"/> Salary of job | <input type="checkbox"/> Ability to make a meaningful contribution |
| <input type="checkbox"/> Location of job | <input type="checkbox"/> Apathy/motivation |
| <input type="checkbox"/> Ease of getting a job | <input type="checkbox"/> Personal interest |
| <input type="checkbox"/> Availability of work | <input type="checkbox"/> Variety of work |
| <input type="checkbox"/> Family background | |
| <input type="checkbox"/> Other (please specify) | |

25. How do you think we could attract more young people into the industry?

26. Does your company have any relationships with local high schools?

- ☐ Yes
- ☐ No

27. Do you see any benefit in doing this or have any other ideas to attract young people to careers in forestry?

Appendix B – Additional questions for high schools

- a) How many students in your school are undertaking school-based apprenticeships/traineeships in the forestry industry?
 -
- b) What are the most popular school-based apprenticeships/traineeships at your school?
 -
- c) Can you provide any reasons why students are attracted to careers in the forest industry?
 -
- d) Can you provide any reasons why students are not attracted to careers in the forest industry?

Appendix C – International Experience

Scotland

The Scottish Forest and Timber Technologies (SFTT) initiative is a Scottish Enterprise and industry-supported group which aims to grow and promote the sector. Comprised of the Industry Leadership Group, four Regional Groups and a wide range of delivery colleagues, the SFTT work collaboratively to encourage and promote sustainable development and meet the needs of the sector. In 2018, the SFTT published *Roots for Further Growth: An Economic Strategy for Scotland's Forest & Timber Technologies Sector to 2030*⁴³. The strategy identified and described five immediate strategic priorities for the forest and timber technologies sector:

- 1) Maximise the economic outputs of Scotland's forest and fibre resource.
- 2) Improve the safety and productivity of the wood fibre supply chain.
- 3) Expand markets and add value.
- 4) Develop a work force with skills for the future which support inclusive growth.**
- 5) Understand and communicate the forest and wood-based industries' contributions to Scotland's economy.

The industry has articulated the need for talented people who are enterprising and ambitious, willing to learn and work hard to continuously improve the sector. This theme was explored further and reported on in the SFTT *Skills Action Plan 2020*⁴⁴ under four areas that require intervention:

Talent attraction	<ul style="list-style-type: none">• Develop a strong pipeline of talent.• Improve the perception of the sector among young people and their key influencers.• Awareness of the breadth and depth of different entry points and career pathway opportunities.
Supporting new entrants	<ul style="list-style-type: none">• Support new entrants and existing workers to remain and progress within the sector (retention and succession planning). This involves providing and signposting career pathways that are attractive and rewarding.• Embedding and linking apprenticeship frameworks to industry training• Supporting the sector to enhance mentoring skills.
Workforce development	<ul style="list-style-type: none">• Existing and future workforce will require technical, operational and leadership skills development.• Workforce development requirements are not static, and need to be refreshed and developed in line with employer and employee needs, technological progress, legislation and new ways of working.• Ensure that the workforce develop and improve their skills to match those requirements and to support business resilience and growth, and employee satisfaction.
Curriculum Review	<ul style="list-style-type: none">• A flexible approach to the delivery of education, skills and training is required.• One of the main challenges identified was around geography and accessibility of provision. Work will focus on how to support access across Scotland, in particular for more provision in remote and rural areas, which can be low volume both for health and safety, as well as reasons related to location and seasonality of work. This leads to costly and challenging training arrangements.• There are issues around the provision of continuing professional development training and stimulating demand among micro business and self-employed.

⁴³ *Roots for Further Growth: An Economic Strategy for Scotland's Forest & Timber Technologies Sector to 2030* (2018), Scottish Forest & Timber Technologies.

⁴⁴ *Skills Action Plan 2020* (2020), Scottish Forest and Timber Technologies initiative.

England and Wales

The Forestry Skills Forum (FSF) of England and Wales, supported by the Forestry Commission of England, is dedicated to promoting education, skills learning and development across the forestry sector of their region⁴⁵. FSF is an independent group made up of training providers, employers, trade associations, education providers, funders, research centres, and include specialists in all age groups: early years, primary, secondary, further and higher education. The FSF research into forestry skills identified the following challenges:

- The availability and skills of machine operators. Employers need operators who are more technically competent and able to work in more demanding situations.
- The availability of chainsaw operators, especially those able to fell larger hardwoods.
- The supply of competent tree planters.
- The practical and business skills of graduate recruits.
- The absence of British forestry related content in both the primary and secondary school national curricula.
- The decline in the number of students enrolling in forestry degree courses in England and Wales (although some universities report higher enrolment in the 2017/18 cohort).
- The lack of focus on forestry related skills training in further education colleges.
- A lack of female and racial minority recruits to the industry.

A number of these challenges are shared with the Australian forestry industry. For example, the availability of machine operators and the decline in numbers of students enrolling in forestry degree courses.

The FSF developed a *Forestry Skills Plan* around four key themes:

Talent attraction	<ul style="list-style-type: none">• Promote forestry careers to a diverse audience• Increase forestry awareness in primary and secondary schools
Skills and technical knowledge	<ul style="list-style-type: none">• Machine operator training• Technical skills of new entrants and mid-career managers• More skills planting contractors• Promote forestry skills in other sectors eg. Planting / establishment
Education provision	<ul style="list-style-type: none">• Improve further education provision• Engage with Government reforms• Liaise with higher education providers• Support the delivery of apprenticeships• New higher/degree apprenticeship• Support PhD provision
Employer support	<ul style="list-style-type: none">• Promote informal professional development within and between organisations• Improve employers understanding of education• Influence funding for skills

⁴⁵ *Forestry Skills Plan 2019-2024* (2019), Forestry Skills Forum.

Maine, United States of America

The Maine forest industries collaborated with communities, government, education providers and non-profit organisations with the support of the United States Government and Maine Timberlands Charitable Trust to create the Forest Opportunity Roadmap/Maine (FOR/Maine). The objective was to assess Maine's current industry, assets and readiness, and determine a strategy to capitalize on new opportunities.

Like the Scottish experience, the 5 overarching goals of FOR/Maine were:

1. Sustain and grow Maine's existing and emerging forest products economy.
2. Manage the wood resource using sustainable and responsible forest management practices.
- 3. Prepare workforce for the future of the forest products economy.**
4. Increase prosperity in Maine forest economy communities, especially those in rural Maine, including those affected by mill closures.
5. Organise the forest products industry with committed public sector partners, including the University of Maine, to implement the vision and goals.

Like forest industries in other parts of the world, there was recognition of the need to attract new entrants to the industry, providing incumbent workers with new skills to replace retirees, and fill new jobs in emerging products manufacturing. The three strategies identified by FOR/Maine are:

Attract young people into the industry	<ul style="list-style-type: none">• Inform young people of forest products career opportunities by partnering with school guidance counsellors, teachers, community colleges and technical schools.• Establish a forestry education programme for K-12.• Provide industry with resources to market career opportunities requiring post-secondary training and education.
Ensure that new, replacement and incumbent workers have the skills needed for existing jobs	<ul style="list-style-type: none">• Assess the need for replacement workers in the industry based on expected retirements.• Develop a plan for recruiting new workers that includes:<ul style="list-style-type: none">○ identifying the skills needed for employment and○ working with education and training providers.
Prepare workforce for emerging products/technologies in the forest products industry	<ul style="list-style-type: none">• In some cases, new and emerging forest products manufacturing will require new skills. We need to:<ul style="list-style-type: none">○ identify the skills and competencies needed to support emerging products, e.g. chemists, and○ work with educators and trainers to develop and deliver curriculum that address the new requirements.

New Zealand

In 2020, the New Zealand Forestry and Wood Processing Workforce Council published their *Forestry and Wood Processing Workforce Action Plan 2020–2024*⁴⁶. The Action Plan aims to support the development of a workforce that meets the current and future needs of the forestry and wood processing sector. It does this by delivering on the following focus areas:

The forestry and wood processing sector makes good workforce decisions based on robust information and data	<ul style="list-style-type: none"> • Forestry and wood processing workforce requirements are anticipated through robust analysis and forecasting. • The sector has a good understanding of programmes that eliminate barriers and prepare people for working in the sector.
The forestry and wood processing sector inspires and attracts a larger, more diverse workforce	<ul style="list-style-type: none"> • A diverse range of people want to study and work in the forestry and wood processing sector. • Potential new employees understand the range of career paths available and the prerequisites for their areas of interest. • Employers easily fill vacancies with quality, skilled employees. • New recruits ready to be upskilled. • The public views the forestry and wood processing sector as a respected and attractive career choice.
People have the right skills, knowledge and capabilities to be successful in the forestry and wood processing sector	<ul style="list-style-type: none"> • The education and training system meets the needs of the sector and of trainees and employees with specific learning requirements. • Individuals on different career pathways are supported to train and gain relevant credentials at any stage of their careers and lives. • Young people, particularly Māori rangatahi, see forestry and wood processing as viable career choices that are compatible with their cultural values and worldviews.
People thrive in forestry and wood processing workplaces with good practices and conditions	<ul style="list-style-type: none"> • All contractors and forestry employers run sustainable businesses and provide fair pay, stable work, and positive employment experiences. • Forestry is seen as a safe industry to work in. • Employees remain in the sector because of good conditions and a sense of pride in their work.

Similar to the impending situation in Gippsland, native forest operations on Crown land have essentially ceased, however there is a regulated harvesting industry in native forests on private land. The forestry industry is therefore effectively based on plantation softwood, *Pinus radiata*. In this respect, the conversation around social licence of forest industries relates to the use of plantation forestry competing with and affecting the productivity of cleared agricultural land.

⁴⁶ *Forestry and Wood Processing Workforce Action Plan 2020 – 2024* (2020), Forestry New Zealand (The Forestry and Wood Processing Workforce Action Plan Working Group).

North-North West Tasmania Regional Forestry Hub

The North-Northwest Tasmania Regional Forestry Hub was established in 2019 as part of the Australian Government's 2018 National Forest Industries Plan: *Growing a Better Australia – A Billion Trees for Jobs and Growth* to support growth in the renewable timber and wood fibre industry. This Hub, in consultation with industry, community and government stakeholders, identified four priority themes aimed at delivering against the Commonwealth's objectives under the Plan. One priority theme related to "Culture, skills and training" and this theme was researched by Melbourne University⁴⁷.

The analysis found that although those leading Tasmania's forest sector aspire for it to be a high-quality, high-technology industry employing more highly skilled workers, a major transformation in the current workforce is required. Workers in the Tasmanian forestry industry are generally older, less educated and lower skilled than the workforces in other states and Tasmanian industries. Highly skilled, knowledge-based staff are increasingly more mobile with evolving expectations of their workplace. Recognition of the contribution the sector makes to the state economy does not receive public recognition. The sector is challenged by negative community perceptions around the science of native forest management and the conversion of agricultural land to timber plantations.

Additional challenges that were identified included:

- Younger workers had limited career progression due to the retention of older workers and their delayed retirement.
- Uncertainty over the future of the sector meant that skilled operators transferred to jobs that they perceived to be more stable in mining or construction.
- Workers with low literacy and numeracy skills faced barriers when trying to access skills and training opportunities to improve productivity and performance.
- The industry is not effectively promoting the benefits of forest-relevant training as a set of transferable skills that can be taken to other workplaces and industries. This contributes to problems in attracting young people to the industry.

The recommendations from the report have been reviewed for relevance to the Gippsland sector and adapted into Table 21 below.

Table 21 Recommendations for the Tasmanian forestry sector (adapted).

Objective	Action
<ul style="list-style-type: none">• Improve the profile of forestry	Identify and engage with key stakeholders to: <ul style="list-style-type: none">• promote the sustainability of wood and timber products• demonstrate commitment to continuing improvement based on evidence and positive public engagement• use alumni to promote the benefits of forest training for a broad skill set applicable to other workplaces• support training for rural landowners and others in agribusiness about the financial and farm benefits of integrating trees on farms.
	<ul style="list-style-type: none">• Encourage industry awareness of community attitudes towards forestry and the need for compliance with environmental care and sustainability principles• active promotion of training in these areas in forest management and harvesting.

⁴⁷ Anderson, NM, H Stewart and RJ Keenan. 2020. *Culture, Training and Skills Assessment Report*. Prepared for the North-North West Tasmania Regional Forestry Hub. 17 November 2020. School of Ecosystem and Forest Sciences, Faculty of Science, University of Melbourne, Melbourne. 110p.

Objective	Action
<ul style="list-style-type: none"> Address the lack of diversity in the workforce 	<ul style="list-style-type: none"> Promote the benefits of diversity across the forestry sector Develop a culture within the industry that is supportive of diversity Encourage greater participation by women Promote the forest industry within the wider community as a diverse, inclusive and innovative workplace.
Inform industry decisions on employment and skills needs, and to identify factors leading to loss of skilled operators.	Support the collection of more contemporary data on workforce and employment
<p>Ensure that training:</p> <ul style="list-style-type: none"> is relevant to industry needs aligns with career pathways. 	<p>Support:</p> <ul style="list-style-type: none"> the development of an industry Workforce Development Plan a review of the curriculum and provision arrangements for the vocational training sector the provision of more flexible training delivery arrangements, including modular training programs and remote learning staff participation in programs to develop leadership skills. <p>Within the industry Workforce Development Plan:</p> <ul style="list-style-type: none"> align training to future jobs and export markets involving more local processing, innovation and sale of value-added products potentially, develop skills and training pathways that do not currently exist support the case for more investment in qualified trainers support the integration of training in people management, commerce, financial literacy and business management.
Address the projected demand for forestry workers with high level tertiary skills	<ul style="list-style-type: none"> Investigate options for embedding forestry relevant units and streams within allied degrees within [local tertiary providers] Investigate options for introducing graduate certificate level qualifications in forestry, especially given the scarcity of tertiary undergraduate places Support the incorporation of farm forestry and basic forestry concepts in university agricultural degrees and investigate options to introduce graduate certificate level qualifications in forestry.
Improve understanding of the breadth of employment opportunities in the sector and to build a connection to future employees at all levels	<ul style="list-style-type: none"> Support maintaining and expanding funding for school-based programs, pre-vocational programs with primary and secondary schools Support development of a website where information about forests and forest careers is attractive and easy to access.

Appendix D – Full results of GFHub survey Question 23

What do you think are the reasons for difficulties in recruiting for entry level jobs/young people?

Pathways

“Most young people are lazy and see no future in this industry”

“Poor promotion and understanding of the industry and limited academic pathways”

“No awareness of the industry as a sector and the career pathways possible, lack of willingness within industry in some sectors to train up young people (they want them already trained in some organisations), not enough school programs on the ground active in schools to attract the right candidates”

“Lack of career path understanding”

“Poor work ethic, perception of low pay and lack of knowledge of pathways”

Remote locations

“Nobody wants to get up at 5 in the morning to drive 3 hours to work all day and then drive 3 hours home then do it all again the next morning”

“Non-desirable industry – Location (regional country areas) – Manual labour aspect – Lack of knowledge about industry and pathways”

Requires hard work

“It’s pretty hard work, also not much of an industry in our area so working in a sawmill is not likely to be on the radar of many young people looking for a job”

“Hard work and perceived low pay”

“The industry is considered too hard, not high tech enough, not enough variation, old school, they have higher aspirations”

“Too easy other places”

High schools

“Links to local high schools and resource pool in the location”

Perception

“Lack of knowledge about industry and poor public perception (parents) of industry”

Other

“Not many young people apply for positions with us when we advertise”

Appendix E – Full results of GFHub survey Question 25

How do you think we could attract more young people into the industry?

Raising awareness – career opportunities, education, variety of work

“Awareness of opportunities in local education facilities, career opportunities in a national organisation”

“Understanding and clarity about the industry and its opportunities”

“Advertising the long-term opportunities it may lead to, in terms of training and career options”

“More broadly I really don't know, it (the timber and forestry industry) seems to not have a very good public perception. Within our business we try to make all of our roles fairly varied so an individual worker is involved in a wide range of tasks and throughout the production process so they see (and work on at many of the stages) a product go from being a raw log into a finished product (often a finished building frame). That is a satisfying thing to work at and we try to get that story out to prospective employees. It is a long and slow process but we have recruited and retained excellent employees so I think it works for us.”

“Promote industry and education on roles involved in industry”

“Education about industry and perception it is a dead-end job, promote pathways within industry”

“Understanding of the industry”

“Information and knowledge of what the industry has to offer”

“Provide better understanding of career paths and type of equipment within industry”

“Promotion broadly of the industry”

Education, skills and training

“With strategic, coordinated activities and programs within schools located around industry hubs who are willing to take on and participate in the program and provide a clear pathway. e.g. Green Triangle ForestLearning Career pathway program. Lack of industry input into career days and other school programs and promotion of careers available for young people. Training of industry mentors is also important to upskill industry in how to work with young people and support them in their careers.”

“Provide additional skills training, improve technology add a bit more high tech, multi-skilled roles, improve the industries perception as environmentally sustainable, become closed loop with waste conversion to energy”

“- More education about industry, - Easy access to training providers, - Easier access to working in regional areas (no rentals in our town means harder to attract workers)”

Government policy

“Lobby government to secure the industry's future”

Other

“More flexible hrs say a 3 day week of 12 hrs/day vs 5 days of 7.25 hrs”

“Young professional networks”

Appendix F – Full results of GFHub survey Question 27

Do you see any benefit in doing this or have any other ideas to attract young people to careers in forestry?

Provide a hands-on, positive experience

"I have thought about it and at some point (not ready for more apprentices just yet) I will approach the local high school to see if we could show interested students what we are doing and potentially take on a VCAL student from that. I don't think the students at the local high school would have any positive exposure to the timber industry and I have heard reports of the opposite, exposure to negative information about the industry."

"Maybe there needs to be a bit more crossover with manufacturing and forest processing production. A forest learning centre with VR and virtual operating models, drone use, etc would be a big step."

"Great benefit as it creates awareness and pathways"

"Yes, it is important to educate students about the industry, potential pathways and careers and to attract not only the typical jobs (harvesters, machine operators) but also the vast range of jobs available in Forestry like marketing & sales, operations and logistics, management, etc."

"There definitely needs to be an industry led high school program that highlights the opportunities within the forestry sector."

"Yes I see benefit in doing it particularly if the schools have a high proportion of kids who don't know anyone in the industry, would give them some exposure."

Negative past experiences

"We have had a relationship with local community house and employed many through this avenue, all have proven to have a poor work ethic and high absence rate."

Events/Programs

"Yes, certainly there is a big impact. Coordinated and collaborative programs work best between industry organisations willing to put their hand up to offer young people training and employment opportunities as well as the education department to open school doors more generally in a partnership approach. The availability and accessibility of providing Australian Curriculum-aligned teaching and learning resources for teachers to provide forest and wood product contexts for learning in a variety of subject areas are also important. Working with teacher associations and other peak education groups imperative for cut through and trust in these resources. Working with ForestLearning to share successful models is also a good thing to save duplication of wheels through the National Forest Education Alliance."

"The Careers Expo held at Yarram Secondary College was a great initiative to attract young people into careers in forestry. More events like this would benefit, in my opinion."

"Yes. Work experience and presentations at school career days have proved beneficial."

Appendix G – Full results of GFHub survey Question 12

Which type of training do you use for the following areas of operation?

Gippsland Forestry Hub Survey

	IN-HOUSE TRAINING BY OTHER STAFF	IN-HOUSE TRAINING BY EXPERTS	REGISTERED TRAINING ORGANISATION (ACCREDITED TRAINING)	REGISTERED TRAINING ORGANISATION (NON- ACCREDITED TRAINING)	NOT APPLICABLE	TOTAL RESPONDENTS
Workplace health and safety	50.00% 7	21.43% 3	64.29% 9	21.43% 3	0.00% 0	14
First aid	0.00% 0	14.29% 2	85.71% 12	0.00% 0	0.00% 0	14
Chainsaw and other hand-held machinery (eg. brush cutter and pruning)	7.14% 1	14.29% 2	64.29% 9	0.00% 0	21.43% 3	14
Compliance (eg. needed for regulatory or certification bodies)	16.67% 2	16.67% 2	66.67% 8	16.67% 2	8.33% 1	12
Heavy machinery operation	23.08% 3	38.46% 5	69.23% 9	15.38% 2	7.69% 1	13
Fire fighting	18.18% 2	18.18% 2	36.36% 4	0.00% 0	27.27% 3	11
IT/software training specialised to the industry (eg. for plant operation, in-field survey)	45.45% 5	27.27% 3	0.00% 0	36.36% 4	45.45% 5	11
Marketing/sales	50.00% 5	20.00% 2	0.00% 0	0.00% 0	50.00% 5	10
Community relations/community engagement	40.00% 4	10.00% 1	0.00% 0	10.00% 1	60.00% 6	10
Business and financial management	30.00% 3	30.00% 3	30.00% 3	0.00% 0	40.00% 4	10
Forest operations planning and management	33.33% 4	25.00% 3	8.33% 1	16.67% 2	50.00% 6	12
Forest ecology and silviculture including plant identification	25.00% 3	8.33% 1	8.33% 1	16.67% 2	75.00% 9	12
Road transport/drivers for haulage	16.67% 2	25.00% 3	33.33% 4	0.00% 0	41.67% 5	12
Saw technician	0.00% 0	0.00% 0	12.50% 1	12.50% 1	75.00% 6	8
Wood machining	0.00% 0	10.00% 1	40.00% 4	10.00% 1	50.00% 5	10
Other new or emerging technology, please give details below	0.00% 0	0.00% 0	0.00% 0	0.00% 0	100.00% 7	7
Other, please give details below	0.00% 0	0.00% 0	16.67% 1	0.00% 0	83.33% 5	6

Appendix H – Forest and Wood Products Training Package, Enrolments in Units of Competency, Latrobe-Gippsland SA2, 2016-2019

Unit of Competency	Commonwealth and State Funding	Domestic Fee for Service	Total
FWPCOT2239 - Trim and cut felled trees	275	459	732
FWPCOT2237 - Maintain chainsaws	178	245	427
FWPCOT3259 - Operate a four wheel drive on unsealed roads	57	362	422
FWPCOT3260 - Recover four wheel drive vehicles	30	362	397
FWPCOR2203 - Follow environmental care procedures	124	238	363
FWPCOR2205 - Follow WHS policies and procedures	122	239	361
FWPFGM3215 - Perform complex 4x4 operations	2	249	257
FWPCOT3238 - Operate a pole saw	127	92	225
FWPHAR2206 - Operate a mobile chipper/mulcher	157	66	224
FWPCOR3201 - Implement safety, health and environment policies and procedures	169	53	221
FWPCOR2201 - Work effectively in the forest and forest products industry	196	20	217
FWPCOR2202 - Communicate and interact effectively in the workplace	193	22	217
FWPCOT2238 - Cut materials with a hand-held chainsaw	0	147	147
FWPCOT2236 - Fall trees manually (basic)	30	65	99
FWPFGM2205 - Prune trees	86	7	99
FWPCOR2204 - Follow fire prevention procedures	80	9	87
FWPCOR3203 - Evaluate fire potential and prevention	83	4	87
FWPCOT3224 - Plan and monitor equipment maintenance	73	2	73
FWPCOT3221 - Rehabilitate tracks, quarries and landings	62	0	62
FWPHAR2207 - Trim and cut harvested trees	30	25	62
FWPCOT3261 - Transport forestry logs using trucks	14	44	57
FWPFGM2207 - Undertake brushcutting operations	48	1	55
FWPFGM3212 - Fall trees manually (intermediate)	18	41	53
FWPCOR3202 - Conduct quality and product care procedures	44	0	51
FWPFGM3214 - Operate a four wheel drive in a towing situation	25	10	39
FWPHAR3223 - Use on-board computer systems for single grip harvester	0	37	37
FWPHAR3219 - Conduct excavator operations with grabs	5	30	35
FWPFGM3213 - Fall trees manually (advanced)	0	33	33
FWPFGM2203 - Plant trees by hand	22	11	32
FWPHAR3225 - Operate excavator with log grapple	11	17	26
FWPHAR3210 - Conduct mechanical processor operations	7	9	22
FWPHAR3218 - Conduct loader operations	3	9	20
FWPHAR3226 - Operate feller buncher	7	5	19

Unit of Competency	Commonwealth and State Funding	Domestic Fee for Service	Total
FWPHAR3217 - Conduct skidder operations	4	12	15
FWPCOR4203 - Monitor quality and product care procedures	14	0	14
FWPCOR3204 - Visually assess materials	13	0	13
FWPCOT3201 - Hand sharpen knives and blades	13	0	13
FWPCOR4201 - Monitor safety, health and environment policies and procedures	12	0	12
FWPCOT2235 - Assess timber for manufacturing potential	12	0	12
FWPCOT3202 - Navigate in remote or trackless areas	12	0	12
FWPCOT3233 - Sharpen and align blades and knives	12	0	12
FWPHAR3206 - Conduct forwarder operations	0	10	12
FWPCOT3205 - Dress boards using multi-headed machines	11	0	11
FWPCOT3213 - Manufacture cutting tools	11	0	11
FWPTMM2203 - Read and interpret timber truss, floor and/or frame fabrication plans	11	0	11
FWPCOT2207 - Dress boards and timber	10	0	10
FWPCOT3212 - Replace saws, blades and guides	4	1	9
FWPCOT3217 - Assess and maintain cutter performance	9	0	9
FWPCOT3235 - Machine material using CNC machining and processing centres	9	0	9
FWPHAR3214 - Operate a single grip harvester	0	5	9
FWPHAR3230 - Operate skidder	10	4	9
FWPCOT3204 - Prepare and interpret sketches and drawings	8	0	8
FWPCOT3210 - Sharpen cutting tools	8	0	8
FWPCOT3234 - Cut material using CNC sizing machines	8	0	8
FWPCOT3237 - Produce templates	8	0	8
FWPHAR3224 - Operate crawler tractor	4	5	8
FWPTMM2202 - Machine material	8	0	8
FWPCOT3242 - Lay up timber roof trusses	7	0	7
FWPSAW3228 - Apply principles of blade design to sawing procedures	7	0	7
FWPCOT2208 - Resaw boards and timber	6	0	6
FWPCOT2229 - Dock material to length	6	0	6
FWPCOT3244 - Cut material to profile	6	0	6
FWPCOT3270 - Grade and mark logs	4	1	6
FWPHAR3207 - Conduct feller buncher operations	0	6	6
FWPHAR3216 - Conduct forestry operations using crawler tractor	4	2	6
FWPHAR3221 - Harvest trees manually (advanced)	2	4	6
FWPCOT2215 - Visually stress grade hardwood	3	7	5
FWPCOT2223 - Segregate and sort logs	7	2	5

Unit of Competency	Commonwealth and State Funding	Domestic Fee for Service	Total
FWPCOT3223 - Grade and mark logs	5	0	5
FWPCOT3239 - Create drawings using computer aided design systems	5	0	5
FWPCOT3243 - Operate a truss press	5	0	5
FWPTMM3201 - Convert timber	5	0	5
FWPCOT2216 - Visually stress grade softwood	8	2	4
FWPCOT3214 - Take off material quantities	4	0	4
FWPCOT3216 - Assess and maintain saw performance	4	0	4
FWPSAW3203 - Break down logs	0	4	4
FWPSAW3205 - Dry hardwood	2	3	4
FWPSAW4203 - Coordinate timber drying operations	0	3	4
FWPTMM3203 - Estimate and cost job	4	0	4
FWPTMM4202 - Diagnose and calculate production costs	4	0	4
FWPCOT3247 - Select timber for forestry operations	3	0	3
FWPCOT5206 - Implement forestry chain of custody certification system	0	3	3
FWPHAR3228 - Operate loader	0	3	3
FWPSAW3201 - Treat timber	0	3	3
FWPCOT2219 - Use hand-held tools	2	0	2
FWPCOT2241 - Apply wood and timber product knowledge	0	6	2
FWPCOT3211 - Maintain sawdoctoring tools	2	0	2
FWPCOT3241 - Assemble timber wall frames	2	0	2
FWPCOT3248 - Dry timber in solar assisted kilns	2	3	2
FWPCOT3257 - Follow cultural heritage requirements	0	2	2
FWPCOT3258 - Comply with soil and water protection	0	2	2
FWPCOT4206 - Plan and coordinate boiler operations	2	0	2
FWPFGM5214 - Develop a native forest regeneration plan	0	2	2
FWPFGM5216 - Manage coupe planning	0	2	2
FWPHAR3227 - Operate forwarder	0	1	2
FWPHAR5201 - Design harvesting plans	2	0	2
FWPSAW3210 - File and set saws	2	0	2
FWPSAW3212 - Sharpen tipped circular saws	2	0	2
FWPTMM3209 - Install prefabricated timber building systems on-site	0	2	2
FWPCOT2242 - Segregate and sort logs	3	3	1
FWPCOT5201 - Implement sustainable forestry practices	0	0	1

Appendix I – Top 50 Apprentices and Trainees, Latrobe-Gippsland SA2, 2016-2019

Apprentices and trainees undertaking off-the-job training	2016	2017	2018	2019	Total
Cert III in Carpentry	317	334	403	415	1469
Cert III in Electrotechnology Electrician	252	287	298	346	1183
Cert III in Plumbing	226	283	279	312	1100
Cert III in Commercial Cookery	268	251	229	208	956
Cert III in Light Vehicle Mechanical Technology	148	205	194	191	738
Cert III in Engineering - Fabrication Trade	153	138	143	163	597
Cert III in Hairdressing	143	131	126	129	529
Cert III in Engineering - Mechanical Trade	101	105	92	103	401
Cert III in Retail/Retail Operations	125	129	78	32	364
Cert III in Heavy Commercial Vehicle Mechanical Technology	61	98	92	102	353
Cert III in Business	62	77	78	105	322
Cert III in Cabinet Making	64	63	72	85	284
Cert III in Civil Construction	46	60	85	85	276
Diploma of Early Childhood Education and Care	71	70	49	70	260
Cert III in Painting and Decorating	60	67	60	68	255
Cert III in Agriculture	31	58	45	51	185
Cert II in Construction Pathways	26	56	59	40	181
Cert III in Community Pharmacy	46	84	32	13	175
Cert II in Warehousing Operations	2	26	73	71	172
Cert III in Hospitality	0	51	72	47	170
Cert III in Meat Processing (Retail Butcher)	38	55	34	43	170
Cert IV in Leadership and Management	42	42	40	38	162
Cert III in Business Administration	38	55	31	27	151
Cert II in Meat Processing (Abattoirs)	0	9	63	75	147
Cert III in Early Childhood Education and Care	29	30	38	45	142
Cert III in Bricklaying/Blocklaying	34	41	31	31	137
Cert III in Air-conditioning and Refrigeration	31	33	31	35	130
Cert III in Sport and Recreation	0	39	31	51	121
Cert III in Financial Services	22	23	34	32	111
Cert III in Flooring Technology	27	23	25	26	101
Cert III in Individual Support	31	30	16	23	100
Cert III in Retail Baking (Bread)	23	32	32	9	96
Cert III in Glass and Glazing	20	22	24	23	89
Cert III in Dental Assisting	7	22	25	33	87
Cert III in Mobile Plant Technology	0	24	32	30	86
Cert III in Wall and Ceiling Lining	21	16	22	23	82
Cert III in Education Support	16	13	22	29	80
Cert III in Retail Baking (Combined)	27	26	21	6	80
Cert III in Automotive Body Repair Technology	0	27	26	25	78
Cert III in Agricultural Mechanical Technology	0	22	24	31	77
Cert III in Automotive Electrical Technology	0	22	28	25	75
Cert III in Landscape Construction	0	13	31	28	72
Cert III in Roof Tiling	21	21	19	11	72
Cert III in Agriculture (Dairy Production)	0	11	21	38	70
Cert III in Companion Animal Services	1	18	50	0	69
Cert III in Instrumentation and Control	23	14	11	18	66
Cert III in Warehousing Operations	0	14	21	31	66
Cert III in Print Communications	0	12	51	0	63

Apprentices and trainees undertaking off-the-job training	2016	2017	2018	2019	Total
Cert III in Food Processing	24	24	12	0	60
Cert IV in Hospitality	9	11	25	14	59
Cert III in Automotive Refinishing Technology	0	22	21	13	56
Cert IV in Community Recreation	56	0	0	0	56
Cert II in Meat Processing (Abattoirs)	40	12	0	0	52
Cert IV in Business	15	15	9	12	51

Source: NCVER VOCSTATS, TVA program enrolments 2016-2019

Appendix J – FWP Qualifications and Victorian Registered Training Organisations

	Forest Growing and Management Qualifications					
	Certificate II in Forest Growing and Management FWP20116	Certificate III in Forest Growing and Management FWP30116	Certificate IV in Forest Operations FWP40116	Diploma of Forest and Forest Products FWP50116	Advanced Diploma of Forest Industry Sustainability FWP60116	
	Traineeship Yes	Traineeship No	Traineeship No	Traineeship No	No No	
Apprenticeship / Traineeship						
Option for school-based delivery						
Delivered						
FITEC Australia (TABMA Training)	Yes	Yes	Yes	Yes	-	4
Timber Training Creswick	Yes	Yes	Yes	Yes	-	4
MTO Group/HS Business School	-	Yes	-	Yes	Yes	3
Intrain National Training Academy	Yes	Yes	-	-	-	2
Southern Training Organisation	Yes	Yes	-	-	-	2
TAFE Gippsland	Yes	Yes	-	-	-	2
Total Height Safety (THS Training)	Yes	Yes	-	-	-	2
Tocal College	Yes	-	-	-	-	1

	Harvesting & Haulage Qualifications		
	Certificate II in Harvesting and Haulage FWP20216	Certificate III in Harvesting and Haulage FWP30216	
	Traineeship	Traineeship	
	Yes	No	
Apprenticeship / Traineeship			
Option for school-based delivery			
Delivered			
Timber Training Creswick	Yes	Yes	2
Alan Bartlett Consulting (ABC Training & Consulting)	Yes	Yes	2
FITEC Australia (TABMA Training)	-	-	0
Intrain National Training Academy	Yes	Yes	2
MTO Group/HS Business School	-	Yes	1
National Workplace Services Group	Yes	Yes	2
Southern Training Organisation	Yes	Yes	2
TAFE Gippsland	Yes	Yes	2
LITA Training	-	Yes	1
Total Height Safety (THS Training)	Yes	-	1

Sawmilling & Processing Qualifications

	Certificate II in Sawmilling and Processing FWP20316	Certificate III in Sawmilling and Processing FWP30316	Certificate III in Saw Technology FWP31019	Certificate III in Wood Machining FWP30816	Certificate IV in Timber Processing FWP40216	
Apprenticeship / Traineeship Option for school-based delivery	Traineeship Yes	Traineeship No	Apprenticeship No	Apprenticeship No	Traineeship No	
Delivered						
Timber Training Creswick	Yes	Yes	Yes	Yes	Yes	5
FITEC Australia (TABMA Training)	-	Yes	-	-	Yes	2
Southern Training Organisation	-	Yes	-	-	Yes	2
TAFE Gippsland	Yes	Yes	-	-	-	2
MTO Group/HS Business School	-	-	-	-	-	0
TAFE NSW	Yes	-	-	-	-	1

Timber Manufactured Products Qualifications

Certificate II in Timber
Manufactured Products
FWP20516

Certificate III in Timber
Manufactured Products
FWP30516

Apprenticeship / Traineeship
Option for school-based delivery

Traineeship
Yes

Traineeship
No

Delivered

FITEC Australia (TABMA Training)	Yes	Yes	2
Timber Training Creswick	Yes	Yes	2
MTO Group/HS Business School	-	-	0
Southern Training Organisation	-	-	0

Timber Merchandising Qualifications

Certificate III in Timber Building Products
Supply FWP30620

Apprenticeship / Traineeship
Option for school-based delivery

Traineeship
No

Delivered

FITEC Australia (TABMA Training)
Timber Training Creswick (Vic)

Yes
No

Anticipate adding to scope

		Timber Truss and Frame Qualifications							
		Certificate II in Timber Truss and Frame Design and Manufacture FWP20716*	Short Course in Timber Systems Design 22522VIC	Certificate III in Timber Frame or Truss Manufacture FWP30920	Certificate III in Timber Systems Design FWP31220	Certificate IV in Timber Systems Design FWP40420	Certificate IV in Timber Truss and Frame Manufacture FWP40316* Deleted	Diploma of Timber Truss and Frame Design FWP50316* Deleted	Diploma of Timber Truss and Frame Manufacture FWP50216* Deleted
Apprenticeship / Traineeship Option for school-based delivery	Traineeship	?	Traineeship	Traineeship	Traineeship	No	No	No	
	No	Yes	?	?	?	No	No	No	
No RTOs have this on scope									
Delivered									
FITEC Australia (TABMA Training)			Yes	Yes	Yes	Yes			
Timber Training Creswick		Currently applying to have on scope							

* Denotes deleted qualification

Wood Panel & Board Products Qualifications

Certificate II in Wood Panel

Products

FWP20416*

Deleted

FWP20716*

Certificate III in Wood

Panel Products

FWP30416*

Deleted

FWP20716*

Apprenticeship / Traineeship

-

-

Option for school-based delivery

-

-

Delivered

No RTOs have this on scope - deleted qualifications

Name of Skill Set	Alan Bartlett Consulting (ABC Training & Consulting)	FITEC Australia (TABMA Training)	Gippsland TAFE	Intrain National Training Academy	MTO Group (HS Business School)	National Workplace Services Group	Southern Training Organisation	Timber Training Creswick	TAFE NSW	THS Training	FIST	South Regional TAFE	TasTAFE
Skill set for managing change in the forest and wood products industry					Yes								
Skill set for off road four wheel drive operations - also see below	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Skill Set for Pneumatic Maintenance of Saw Technology - No RTOs have this on scope													
Skill set for soil and water protection (roading)		Yes							Yes			Yes	
Skill set for supporting business development in the forest and wood products industry - no RTOs have this on scope													
Skill set for supporting forest and wood products innovation - also see below									Yes				
Skill set for supporting workplace engagement in the forest and wood products industry					Yes								
Stacking and Storing Timber Frames and Trusses Skill Set		Yes	Yes					Yes	Yes				
Timber Floor Truss Manufacture Skill Set		Yes											
Timber Roof Truss Manufacture Skill Set		Yes											
Timber Wall Frame Manufacture Skill Set		Yes											

Name of Skill Set	PNL 4WDDriving	Down Under Training	Box Hill Institute	Gordon Institute	Holmesglen Institute	NMIT
Skill set for a native forest operator*		Yes				
Skill set for a plantation forest operator*		Yes				
Skill set for fire salvage operations		Yes				
Skill set for off road four wheel drive operations	Yes	Yes				
Skill set for supporting forest and wood products innovation			Yes	Yes	Yes	Yes

Appendix K - FWP and PPM Skill Sets proposed to OVSC for subsidised training

Forest and Wood Products – Skills Sets proposed to the OVSC via the Industry Advisory Group (IAG)

Occupation in demand	Units of Competency required
Forestry - Essential Standards Skills Set	FWPCOR2203 - Follow environmental care procedures FWPCOR2205 - Follow WHS policies and procedures Level 3 relevant machinery unit dependent on job role
Sawmilling	FWPCOR2205 - Follow WHS policies and procedures FWPTMM5206 - Plan Production FWPCOR2202 - Communicate and interact effectively in the workplace FWPHAR3218 - Conduct loader operations FWPCOT2238 - Cut materials with a hand-held chainsaw FWPCOT2239 - Trim and cut felled trees FWPCOT3248 - Dry timber in solar-assisted kilns FWPOT3245 - Grade, sort and mark materials HLTAID003 - Provide first aid
Harvest & Haulage	FWPHAR3223 - Use on-board computer systems for single grip harvester FWPCOR2205 - Follow WHS policies and procedures HLTAID003 - Provide first aid FWPHAR3229 - Operate single grip harvester

Harvest & Haulage	<p>FWPHAR3222 - Use on-board computer systems for forwarder</p> <p>FWPHAR3227 - Operate forwarder</p> <p>FWPCOR2203 - Follow environmental care procedures</p> <p>FWPCOR2205 - Follow WHS policies and procedures</p> <p>HLTAID003 - Provide first aid</p>
Silviculture	<p>FWPCOR2203 - Follow environmental care procedures</p> <p>FWPCOR2205 - Follow WHS policies and procedures</p> <p>FWPCOR2239 - Trim and cut felled trees</p> <p>FWPCOT3259 - Operate a four-wheel drive on unsealed roads</p> <p>FWPCOT3260 - Recover four-wheel drive vehicles</p> <p>FWPCOT3238 - Operate a pole saw</p> <p>HLTAID003 - Provide first aid</p>
Haulage	<p>FWPCOR2203 - Follow environmental care procedures</p> <p>FWPCOR2205 - Follow WHS policies and procedures</p> <p>HLTAID003 - Provide first aid</p> <p>FWPCOT3261 - Transport forestry logs using trucks</p> <p>TLIF2010 - Apply fatigue management strategies</p>

Pulp & Paper Manufacturing – Skills Sets under consideration

Occupation in demand	Units of Competency required
Production Assistant and operator roles	PPMINDXXX Work effectively in the pulp and paper industry PPMINDXXX Apply principles of pulp and papermaking to work practices.
Manufacturing Management or Leadership roles	PPMIND5XX Research and evaluate emerging technologies and processes PPMQAS5XX Evaluate regulatory and quality requirements
De-inking operations	PPMDIK2XX Monitor and control de-inking operations PPMDIK3XX Perform de-inking operations PMWHS3XX Contribute to work health and safety processes
Sorting/handling and Grading of Recovered Paper	PPMHWP250 Store and dispatch waste paper PPMHWP260 Store and dispatch waste paper PPMHWP270 Store and dispatch waste paper
Recovered Paper Operations	PPMWHS210 Participate in WHS processes PPMWPO210 Monitor and control waste paper operations PPMWPO320 Prepare and start up waste paper operations