



SEAFOOD INDUSTRY WORKFORCE PROFILE

TASMANIAN SEAFOOD INDUSTRY COUNCIL

MAY 2017

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Glossary

Term	Meaning
ABARES	Australian Bureau of Agricultural and Resource Economics and Sciences
ABS	Australian Bureau of Statistics
ANZSCO	Australian and New Zealand Standard Classification of Occupations
ANZSIC	Australian and New Zealand Standard Industrial Classification
DPIPWE	Department of Primary Industries, Parks, Water and Environment
STT	Seafood Training Tasmania
TSIC	Tasmanian Seafood Industry Council
VET	Vocational Education and Training

Disclaimer & Acknowledgments

The information contained in this document has been sourced from various consultations, publications and websites. The final data provided and conclusions reached were validated through discussions and interviews with members of different seafood sectors. Not all within the industry will agree with all data and figures provided, however, it represents the best available information.

This project was produced with the support of Stenning and Associates.

1. Introduction

The Tasmanian seafood industry workforce profile (the 'workforce profile') has been developed in response to Action 1 of the Tasmanian Seafood Industry Workforce Plan, developed in 2013 and reviewed in 2014 by the Tasmanian Seafood Industry Council.

Action 1: Develop a detailed workforce profile, inclusive of a 5 to 10 year strategic profile

For the Tasmanian seafood industry to develop and implement a solid plan for its workforce, a clear picture of the industry needs to be articulated. This requires good data on the characteristics of the current industry workforce, and the estimation of future demand for labour for a firm or industry. Data that is currently available from the ABS, ABARES and other government and industry agencies does not provide the required level of detail needed to accurately profile the current industry workforce.

Consequently, the development of a detailed workforce profile is required to provide an evidence base for the development of future workforce strategies. This will require detailed stakeholder consultation (including employee and employer bodies), desktop research and data collection that examines a range of elements for each industry sector:

- Occupational profile
- Worker age profile
- Regional profile
- Labour turnover rates and issues
- Source of workforce
- Literacy and numeracy levels
- Levels of industry funded and government funded training
- Worker skills profile
- Training needs and gap analysis
- The main drivers of workforce skills
- Gaps in current training delivery
- Current barriers to taking on leadership roles.

The scope of this workforce profile includes the ANZSIC level 3 categories:

- A020: Aquaculture
- A041: Fishing
- C112: Seafood Processing.

1.1 Data Sources

Data for the workforce profile was initially collected from the Australian Bureau of Statistics (ABS) and the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES). The following publicly available data sources were used:

- ABS, 2006 Census of Population and Housing
- ABS, 2011 Census of Population and Housing
- ABARES, Australian Fisheries and Aquaculture Statistics 2013 (2014)
- ABARES, Australian Fisheries and Aquaculture Statistics 2014 (2015)
- ABARES, Australian Fisheries and Aquaculture Statistics 2014 (2016).

As the publicly available data does not provide a complete picture of the industry's current workforce, further up-to-date data was collected from the following sources:

- The Tasmanian Department of Primary Industries, Parks, Water and Environment (DPIPWE) provided data in relation to wild-catch licences.
- Seafood Training Tasmania (STT) provided demographic information regarding training participants between 2010 and 2016.
- Aquaculture and processing businesses.

It is important to note that data pertaining to wild-catch is referred to by the ABS as 'fishing'. For the purposes of this report, the term wild-catch is used throughout.

2. Setting the Scene

2.1 The Tasmanian Seafood Industry

Tasmania is the largest producer of seafood by value in Australia and is a supplier of high quality fresh and frozen seafood produce to both domestic and valuable export markets, principally in South-east Asia.

The Tasmanian seafood industry comprises three primary sectors: wild-catch, aquaculture and seafood processing. Aquaculture cultivates aquatic species under controlled conditions and wild-catch captures aquatic species from natural environments. The seafood processing sector involves the processing and packing of wild-catch and aquaculture produce.

The key wild-catch fisheries within Tasmania are:

- Abalone (blacklip, greenlip)
- Commercial dive (urchins, periwinkles, clams and seaweed)
- Giant crab
- Rock lobster (Southern rock lobster)
- Scalefish (various species)
- Scallop (commercial).

The key aquaculture sectors within Tasmania are:

- Farmed abalone
- Salmonids (Atlantic salmon and ocean trout)
- Shellfish (Pacific oysters and mussels).

2.2 Resource Ownership Creates Complexity

Tasmanian (and Australian) Government policy, with respect to fishery management, is based on the principle that our marine resources are owned by 'the community'. Although access rights to a wild-catch fishery can be privately owned, the marine resources remain the property of the community. This is also the case with water that is used by a private entity for aquaculture. That is, the community retains ownership of the water, but the Government provides exclusive access rights to utilise the water for the purpose of aquaculture.

The Marine Resources Group of the Tasmanian Department of Primary Industries, Water and Environment (DPIPWE) manages all marine resources in waters adjacent to Tasmania. Under Offshore Constitutional Settlements, the major wild-catch fisheries are managed solely under the authority of the State for all waters adjacent to Tasmania within the Australian Exclusive Economic Zone (i.e. out to 200 nautical miles).

The major objective of DPIPWE is to achieve sustainable use of the marine resources, whilst ensuring the proper protection of fish stocks and the marine habitat, as well as generating an appropriate return to the community for the exploitation of the resource.

The whole Tasmanian marine system is regulated by the Living Marine Resources Management Act 1995 and a range of subordinate legislation. Subject to this Act, the

Minister for Primary Industries, Water and Environment has the responsibility for the development and control of the industry.

In the wild-catch fishery, commercial fishers access the marine resources through the allocation of statutory fishing rights. Statutory fishing rights are defined as a right to a specified quantity or proportion of fish; a right to use a boat in a managed fishery; a right entitling a person to use specified type or quantity of fishing boats or equipment; or any other right in respect of a managed fishery. These rights include fish quota and boats and/or gear units. They are freely transferable, unless otherwise specified in the management plan. The term of the right, if not otherwise specified in the management plan, will continue until it is surrendered, cancelled or the plan revoked. By allowing the right to be permanent, the owner of the right has a planning horizon that is relatively secure, which provides better incentives to make efficient investments in harvesting techniques and in developing new markets. Fishing operations can also occur under the authority of a fishing permit or scientific permit.

With respect to marine farming, access to water is via a lease arrangement with the Government. This system provides a lower level of 'ownership' by a private entity, which in turn provides a lower level of security in comparison to statutory fishing right arrangements.

Overlaying the commercial access rights are recreational access rights.

The marine resource management and licensing systems in place for the sustainable management of our marine resources create a level of operational complexity for the Tasmanian seafood industry.

2.3 Gross Production

Gross production in the Tasmanian seafood industry increased by 5,500 tonne between 2013-14 and 2014-15 to approximately 55,500 tonnes (Table 1).

The aquaculture sector produced an average of 89% percent of the total gross production between 2012-13 and 2014-15, with the most recent figures showing aquaculture accounted for 93% production (or 51,569 tonnes).

Table 1: Gross production of seafood industry, Tasmania, 2012-13 to 2013-15¹

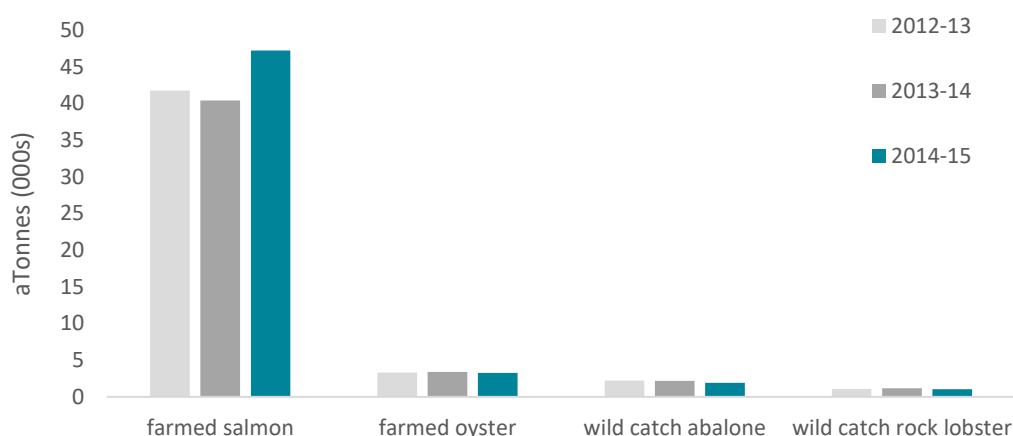
Gross Production	2012-13 (tonne)	2013-14 (tonne)	2014-15 (tonne)
Aquaculture	46,227 (86%)	44,604 (89%)	51,469 (93%)
Wild-catch	7,338 (14%)	5,476 (11%)	4,139 (7%)
Total	53,564	50,080	55,609

¹ ABARES, Australian Fisheries and Aquaculture Statistics 2015 (2016).

Figure 1 shows the comparative growth or decline in gross production for the top four seafood sectors from 2012-13 to 2014-15. The data shows that:

- Salmon aquaculture accounted for approximately 80% of seafood production.
- All other fisheries account for less than 7% production.
- Salmonid fisheries had an increase in production in 2014-15.
- Oyster fisheries maintained steady gross production over the four-year period.
- Wild-catch abalone fishery experienced slightly decreased gross production over the three-year period.
- Rock lobster fisheries remained stable over the three year period.

Figure 1: Gross production of top four fisheries, Tasmania, 2010-11 to 2013-14²



2.4 Gross Value

The Tasmanian seafood industry gross value increased by \$131 million from 2012-13 to 2014-15, and \$89 million (or 12%) between 2013-14 and 2014-15 to a current value of \$825 million.

Over this three-year period, the aquaculture sector accounted for approximately 77% of the total gross value of the Tasmanian seafood industry (Table 2)

Table 2: Gross value of the seafood industry, Tasmania, 2012-13 to 2014-15³

Sector	2012-13 (million)	2013-14 (million)	2014-15 (million)
Aquaculture	\$540 (78%)	\$559 (76%)	\$650 (79%)
Wild-catch	\$154 (22%)	\$177 (24%)	\$175 (21%)
Total	\$694	\$736	\$825

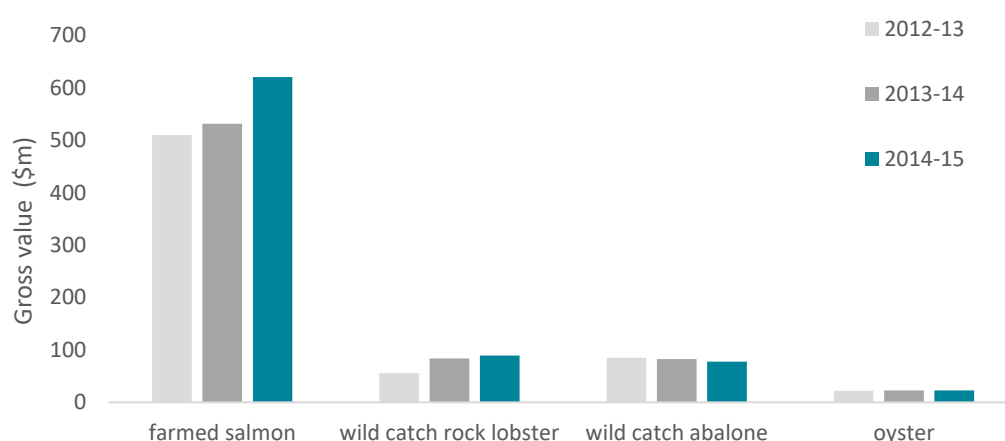
² ABARES, Australian Fisheries and Aquaculture Statistics 2015 (2016).

³ ABARES, Australian Fisheries and Aquaculture Statistics 2015 (2016).

Figure 2 compares the gross value for the top four seafood sectors from 2012-13 through to 2014-15. The data shows that:

- The salmonid sector experienced an increase in gross value between 2012-13 and 2014-15, increasing by \$110.5 million to a total value of \$650 million.
- The Southern rock lobster sector had a \$33.5 million increase in gross value from 2013-14 to 2014-15 (\$89 million).
- The abalone sector had a \$7.1 million decreased in gross value between 2012-13 and 2014-15 (\$78 million).
- The gross value of the oyster sector has remained constant over the three year period (\$23 million).

Figure 2: Gross value of the top four fisheries, Tasmania, 2012-13 to 2014-15⁴



Salmon aquaculture contributed \$620 million, or 75% of the total gross value of seafood, with rock lobster, abalone and oysters being other significant contributors (Table 3).

Table 3: Gross value of the top four fisheries, Tasmania, 2014-15⁵

Fishery Type	Gross Value (million)	Percentage of Total Seafood Industry	Seafood Industry Sector
Salmonids	\$620	75%	Aquaculture
Southern rock lobster	\$89	11%	Wild-catch
Abalone	\$78	9%	Wild-catch
Oysters	\$23	3%	Aquaculture
All others fisheries ⁶	\$15	2%	Aquaculture and wild-catch

⁴ ABARES, Australian Fisheries and Aquaculture Statistics 2015 (2016).

⁵ ABARES, Australian Fisheries and Aquaculture Statistics 2015 (2016).

⁶ Other fisheries include blue mussel, other molluscs, other fish, giant crab, banded morwong, wrasse, octopus, scallops, garfish, striped trumpeter, eastern school whiting, shark, not elsewhere included, bastard trumpeter, elephant fish, southern rock cod, jackass morwong, and other crustaceans.

2.5 Seafood Industry Businesses

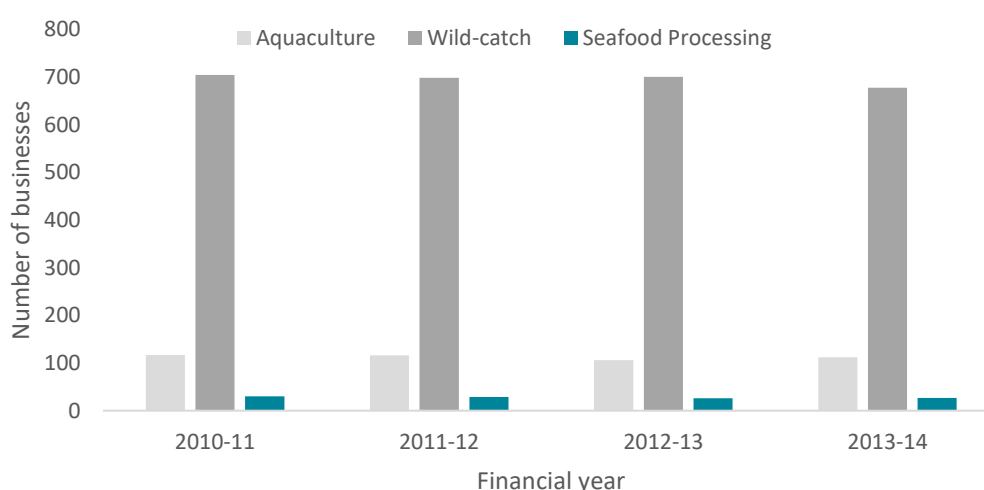
Despite the growth in both production and value of the seafood industry, data from the ABS indicates that the number of seafood industry businesses decreased slightly from 851 to 816 between 2010 and 2014 (Table 4).

Table 4: Total number of businesses in the Tasmanian seafood industry, 2010-11 to 2013-14⁷

Year	Total Number of Businesses
2010-11	851
2011-12	843
2012-13	832
2013-14	816

The wild-catch sector represents 83% of all Tasmanian seafood industry businesses. The majority of these businesses are small, single person or family business structures based around ownership/operation of a single fishing vessel. The wild-catch sector also had the greatest decrease in the number of businesses, falling from 704 in 2010-11 to 677 in 2013-14 (**Figure 3**)

Figure 3: Number of businesses in the seafood industry, Tasmania, 2010-11 to 2013-14⁸



⁷ Australian Bureau of Statistics, Counts of Australian Businesses, including Entries and Exits, Jun 2010 to Jun 2014.

⁸ Australian Bureau of Statistics, Counts of Australian Businesses, including Entries and Exits, Jun 2010 to Jun 2014.

3. Seafood Industry Workforce Overview

3.1 Census Data

The most recent ABS data is five years old. Furthermore, the Fisheries Research and Development Corporation (FRDC), in an analysis of ABS employment data, suggest that the data provides a highly conservative estimate of employment in the commercial fishing industry:

*'In the Corporation's view, data collected by the ABS are not disaggregated in sufficient detail to be useful for planning and strategic purposes. These data tend to 'under-report employees, including through attribution of some fishing industry activities to other industries such as transport and generalised food processing' (FRDC 2005). Furthermore, ABS employment data do not appear to be consistent with data collected in connection with fishing vessels, fishing licences and other forms of fishing regulation. However, the latter sources are not sufficiently comprehensive to provide a substitute for ABS data.'*⁹

To ensure that ABS data does not influence the Tasmanian seafood industry workforce profile knowledge and patterns detailed in this report, the 2006 and 2011 ABS workforce patterns for the Tasmanian seafood industry are presented separately in Appendix1.

3.2 Workforce Overview

Data presented in this reports shows the Tasmanian seafood industry directly employs an estimated 3,439 FTE positions.

75% of the seafood workforce is employed in the aquaculture sector (including salmon processing) and 25% in wild catch / other processing sectors.

The estimated size of the seafood workforce was double that indicated by the Census data collected in 2011.

⁹ ABARES, *Australian Fisheries Statistics 2010*, Canberra, p33

4. Aquaculture Sector

Key points

1. An estimated 2,595 Full Time Equivalent (FTE's) are employed in the Tasmanian aquaculture sector (inclusive of salmonid processing).
2. The estimated size of the aquaculture sector workforce was double that indicated by the Census data collected in 2011.
3. Almost half of the aquaculture sector workforce is aged under 40 years.
4. The aquaculture sector workforce is predominately male.
5. Three quarters of the workforce live and work in Hobart and South East Tasmania.
6. Salmon processing constitutes approximately 35% of the aquaculture workforce.
7. 67% of the workforce is employed full-time.

The Tasmanian aquaculture industry can be grouped into three major sectors:

- Salmon
- Shellfish
- Abalone.

Each sector relies on the production of larvae within a hatchery, then on-growing of animals within a nursery and/or a marine farm lease. Once harvested, the seafood product is processed in a variety of ways.

The Tasmanian aquaculture industry is governed by the Aquaculture Award (Fairwork Australia).

4.1 Salmonid Aquaculture

Key points

1. Largest employer in the Tasmanian seafood industry, with 2,090 FTE positions.
2. 75% of the workforce is male.
3. Over 50% of the workforce is less than 40 years of age.
4. Most workers are employed full time.
5. Most workers live and work in the South/South-east region of Tasmania.

The Tasmanian salmonid aquaculture sector is made up of three main companies, Tassal, Huon Aquaculture and Petuna (which includes Van Diemen Aquaculture). These companies are fully vertically integrated, with hatcheries, nurseries, marine grow-out, processing, value adding and retail all part of the company structure.

The salmonid aquaculture sector is the Tasmanian seafood industry's largest sector in terms of both production and value, and therefore holds the majority of the seafood and aquaculture workforce.

4.1.1 Data source

The following analysis of the salmonid aquaculture workforce has been estimated using various data sources, including:

- Industry provided data on the salmon industry workforce

The Australian Institute: Intensive salmon farming in Tasmania – Briefing note – August 2016 (<http://www.tai.org.au/sites/default/files/Brief-Aug2016-TasmanianSalmonFarming.pdf>)

- Tasmanian Salmonid Growers Association: Submission to the Marine Fisheries and Aquaculture Productivity Commission 2016¹¹
- Tassal: Sustainability Report 2015 (<http://www.tassal-sustainability.com/>)
- Huon Aquaculture: Sustainability Dashboard 2016 (<http://dashboard.huonaqua.com.au/>)
- Petuna Seafood: Creating a Sustainable Future in Aquaculture (<http://www.petuna.com.au/wp/wpcontent/themes/petuna/img/Petuna-Sustainable-Living-Book-SML.pdf>).

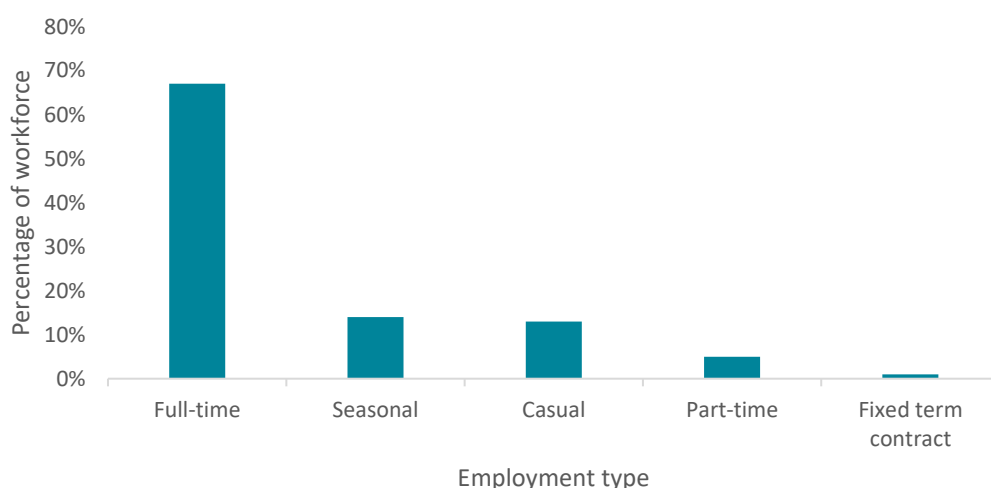
4.1.2 Workforce Size

In 2015, salmonid aquaculture contributed 1.2% of Tasmania's total employment.¹⁰ The Tasmanian Salmonid Growers Association has indicated that salmonid aquaculture creates approximately 2,090 direct full-time equivalent (FTE) jobs in Tasmania.¹¹

4.1.3 Employment Type

Approximately 67% of the salmon aquaculture workforce is employed on a full-time basis, 16% on a part-time basis and 17% on a casual/seasonal/fixed term basis. Data suggests that different companies have different strategies in terms of part-time versus casual employment (see Figure 4).

Figure 4: Salmonid aquaculture employment type



¹⁰ DPIPWE, Salmon Industry Changes FAQs (<http://dipwe.tas.gov.au/sea-fishing-aquaculture/marine-farming-aquaculture/changes-to-salmon-industry-regulation/salmon-industry-changes-faqs>)

¹¹ Tasmanian Salmonid Growers Association, History (<http://www.tsga.com.au/history/>)

4.1.4 Age and gender

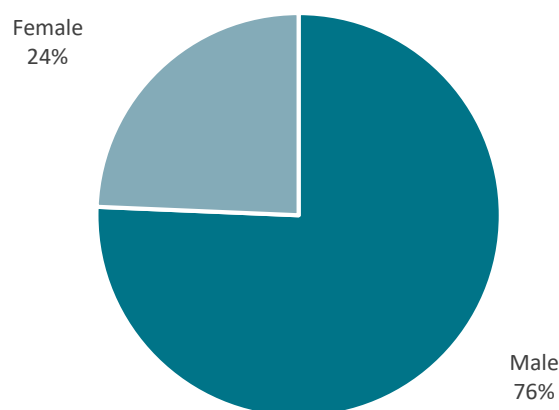
25% of the salmonid aquaculture sector workforce is aged under 30 years, and 53% of the workforce is aged under 40 years, Table 5.

The vast majority of the salmonid aquaculture sector workforce is male (Figure 5).

Table 5: Workforce age in aquaculture sector

Age Range	Workforce Percentage
<20	2%
20-29	23%
30-39	28%
40-49	24%
50-59	18%
60+	6%

Figure 5: Workforce gender in aquaculture sector

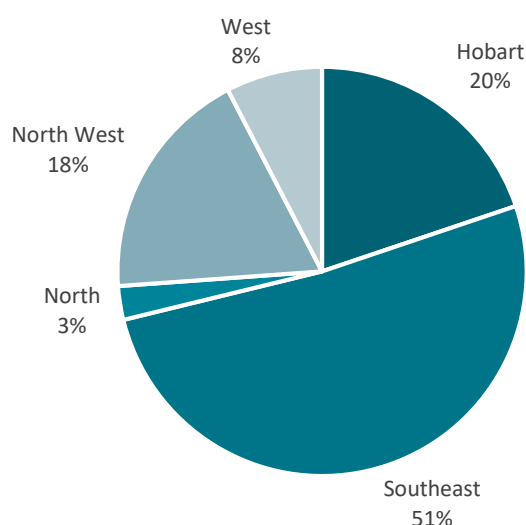


4.1.5 Place of Work

The salmonid aquaculture sector workforce is primarily employed in Southern Tasmania, with 71% of the workforce operating out of Hobart and the South East (which includes the Tasman Peninsula, Margate, Huonville and Dover). 18% of the workforce operate out of the North West. Majority of these North West workers are processor workers based at Devonport or Parramatta Creek, near Devonport.

The 3% workforce located in the North represent workers at the Van Diemen Aquaculture farm and salmonid hatcheries located in the North of the state.

Figure 6: Place of work in aquaculture sector



4.1.6 Place of Usual Residence

72% of the salmonid aquaculture workforce live in the same general location as they work (Refer to Attachment 1). Of the 28% of the workforce who travel, a large proportion live in or around Hobart and travel to farm locations to the South/South East of Hobart. The majority of the remaining workers who live outside their work location travel from Hobart, Launceston or the North West to work on the West coast.

4.1.7 Citizenship and Residency

In excess of 98% of the salmonid aquaculture workforce are Australian citizens or permanent residents.

4.1.8 Other information

A 1 provides further information about the income, educational attainment and field of study relevant to the aquaculture industry. This information is based on the ABS data for 2011.

4.1.9 Occupational Profile

The Tasmanian salmonid aquaculture sector provides a diverse range of careers (see Table 6), which require a diverse range of skills and training. The skills and training requirements for such positions will form the basis of further research, and will be incorporated within a Seafood Industry Career Pathway Map in future work by TSIC.

77% of the salmonid industry workforce operate at the processor or marine farmer level, 18% within the management, administration, HR level and 5% within hatcheries (**Figure 7**).

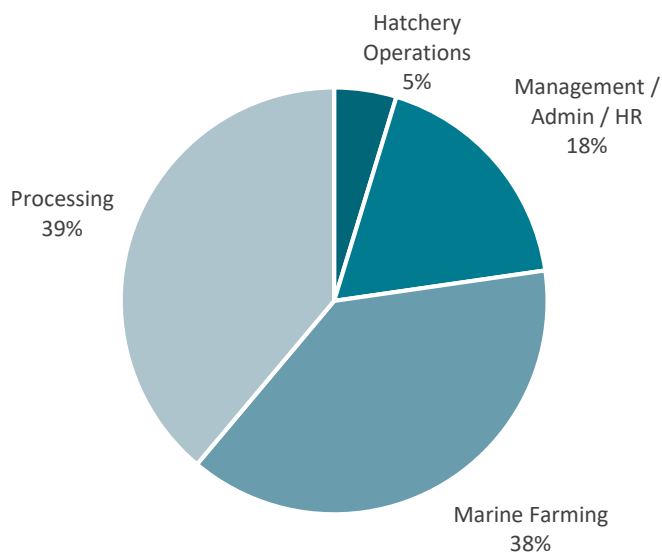
Table 6: Diversity of careers available within the Tasmanian salmonid aquaculture sector.

Job Area	Job / Title
Accounts & Finance	
	Accounts Payable Officer
	Accounts Receivable Officer
	Administration
	Chief Financial Officer
	Financial Accountant
	Financial Services Officer
	Group Financial Controller
	Senior Manager – Commercial
Environment and Sustainability	
	Community Engagement Officer
	Environmental Advisor
	Environmental Certification Officer
	Environmental Officers
	Fish Health – Field Officer
	Fish Health – Laboratory Technician
	Head of Sustainability
	Senior Environmental Officer
	Senior Manager Fisher Health
	Wildlife Management Officer
Hatcheries	
	Assistant Manager
	Farm Attendants
	Farm Manager
	Hatchery Attendants
	Hatchery Manager
	Senior Technical Officer
	Technical Assistants
	Technicians
Human Resources	
	HR Advisor
	HR Coordinator
	HR Manager
	HR/Payroll Administrator
	Payroll Manager
	Payroll/Admin
	Senior Manager – HR
IT	
	Business Intelligence Manager
	Database Administrator
	Head of Logistics and IT
	Infrastructure Services Manager
	IT Support Officer
	Senior Analyst
	Senior Manager – IT Consulting Services
	Senior Manager – IT Operations
	Senior Systems Administrator

Maintenance	
	Maintenance Coordinators
	Maintenance Electrician
	Maintenance Managers
	Maintenance Officers
	Maintenance Team Leaders
	Refrigeration Mechanic
	Senior Manager – Maintenance Processing
	Treatment Plant Operators
Marine Farms	
	Divers
	Farm Attendants
	Maintenance Managers
	Maintenance Officers
	Operations Managers
	Regional Managers
	System Team Leaders
	Team Leaders (bath, feed, dive)
	Technical Officers
Processing	
	2IC Processing Managers
	Cleaners
	Cost Analysts
	Despatch Attendants
	Despatch Manager
	Processing Attendants
	Senior Managers
	Senior Processing Attendants
	Shift Supervisors
	Team Leaders
Purchasing	Inventory Manager
	Purchasing Manager
	Purchasing Officers
	Senior Manager Commercial and Purchasing
Quality	
	Lab Assistants
	Lab Manager
	Product Quality Manager
	QA Advisors
	QA Officers
	Quality Systems Managers
	Technical Manager QA
Research and Development	Corporate Services Officer
	Fish Performance Manager
	Planning Manager
	Project Officer
Retail	
	Apprentice Chef
	Assistant Managers

	Chef de Partie
	Front House Supervisor
	Head Chef
	Kitchen Hands
	National Account Managers
	Retail Category Support
	Retail Staff
	Senior Manager Retail
	Shop Managers
	Sous Chef
Safety	
	Induction and Training Coordinator
	Senior Manager WHS
	WHS Administrator
	WHS Advisor Injury Management
	WHS Advisors
Sales and Marketing	
	Assistant Brand Manager
	Customer Service Manager
	Customer Service Officers
	Innovation Coordinator
	Marketing Coordinator
	National Business Manager Retail
	Sales Analyst
	Seafood Development Technician
	Senior Manager Marketing
	Senior Manager – Seafood Development
	Senior Sales Analyst

Figure 7: Percentage of the salmonid workforce in different operational areas.



4.2 Farmed Shellfish

Key points

1. The farmed shellfish industry employs approximately 520 individuals in 445 FTE positions.
2. Majority of staff are employed on a full-time basis.
3. Key farming regions are the South/ South East, North East and North West.
4. Oyster workers tend to live in the regional communities where they work.
5. Pacific Oyster Mortality Syndrome (POMS) saw a 60% reduction in workforce on impacted farms.
6. The future impact of POMS (2016-17 and 2017-18) will define future oyster workforce needs.

4.2.1 Introduction

The Tasmanian shellfish industry is based primarily on the Pacific oyster (*Crassostrea gigas*). The Pacific oyster industry produces around 4 million dozen oysters each year, with an estimated farm gate value of \$24 million. Hatchery-reared juveniles are grown in one of five hatcheries. The spat is then grown to market size on a licensed marine farm, with the majority of the product being sold live to domestic markets. Oysters are grown on marine farms around the North, East and South-east coasts of Tasmania – from the far North-west coast through to the Southern part of the D’Entrecasteaux Channel, south of Hobart.

4.2.2 Pacific Oyster Mortality Syndrome (POMS)

In late January 2016, the first signs of Pacific Oyster Mortality Syndrome (POMS) were observed in Tasmania. This devastating disease impacted the vast majority of growing areas and oyster businesses in the South East and Central East Coast of Tasmania. POMS has a devastating impact on oyster survival, with over 90% mortality observed in some regions. Since the discovery of POMS, the entire oyster industry has been impacted, if not by direct mortality, by biosecurity restrictions placed on the movement of oysters between growing areas, from hatcheries, as well as to other parts of the Australian mainland.

In the months following the POMS outbreak, the Tasmanian oyster industry was fighting for survival.

4.2.3 Data source

Information about the oyster industry workforce was obtained from:

- A survey conducted by TSIC to determine the impact of POMS on oyster production and employment, which included pre and post – POMS employment data for impacted and non-impacted farms. The survey was conducted over February and March 2016 and is available via the TSIC office.
- Licence data from the Marine Farming Branch, DPIPWE
- TSIC, Oysters Tasmania and key industry member knowledge of the Tasmanian oyster industry.

4.2.4 Workforce Size and employment type

There are 113 active shellfish marine farm leases in Tasmania, which are operated by approximately 70 business enterprises. Prior to the outbreak of POMS, it is estimated that the Tasmanian oyster industry supported 520 individual employees in 445 FTE positions. Approximately 72% of the oyster workforce was employed on a full-time, 22% on a casual and 6% on a part-time basis (see **Figure 8**).

4.2.5 Impact of POMS on the oyster industry workforce

Cash flow is paramount to oyster businesses. Revenue from oyster sales is essential for purchasing new stock and paying staff. The loss of stock or loss of sales opportunity will rapidly lead to staff redundancy and inability to restock a farm. This scenario was observed in the weeks and months following the outbreak of POMS.

The change in the oyster workforce since the February 2016 POMS outbreak was captured as part of a survey conducted by TSIC on behalf of Oysters Tasmania. Data was obtained from 26 oyster businesses (i.e. approximately a third of all oyster businesses). Surveyed businesses represented a mix of large and small business, which were located within both impacted and non-impacted regions.

Data from these 26 businesses indicates that 47 full-time, 25 casual and 9 part-time positions were made redundant following the POMS outbreak. For impacted farms, on average 60% of the pre-POMS workforce was laid off.

Extrapolating these figures out to the entire oyster industry, it is estimated that between 120 and 150 FTE positions were made redundant in the wake of the POMS outbreak.

Leading into the 2016-17 summer period, most businesses had rehired, however, many previous staff had been lost to other seafood sectors, notably the salmonid aquaculture sector.

The future short-term workforce needs of the oyster industry remain uncertain, and will depend greatly on the impact of POMS during the 2016-17 and 2017-18 summer periods.

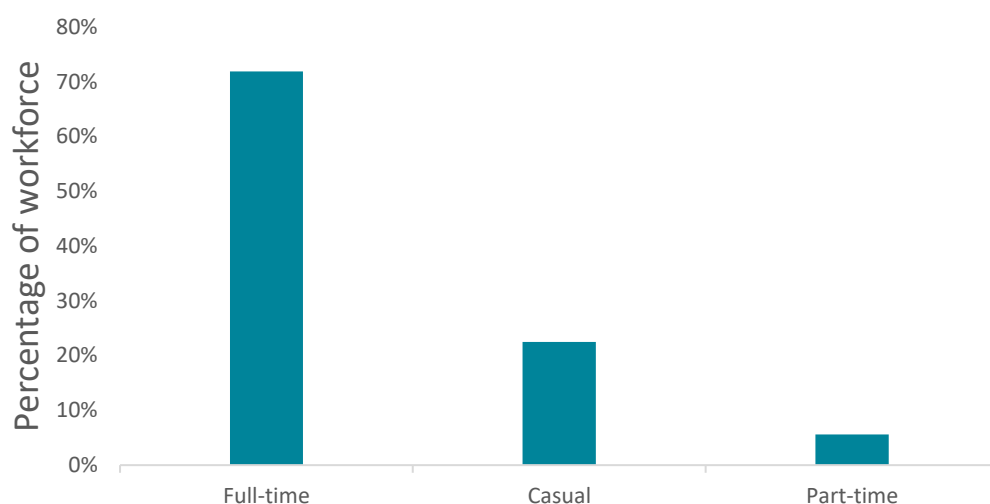
4.2.6 Gender

The Tasmanian oyster industry workforce is dominated by males (approximately 90%, refer to Attachment 1. Anecdotal information suggests greater gender balance within oyster hatcheries (Ian Duthie pers. comm.).

4.2.7 Place of usual residence and place of work

Given the nature of oyster farm work, the majority of the oyster workforce live within the community they work. Contact information about oyster farms shows the majority of oyster farms are located in the South (Hobart, South East region) of the state, hence it is assumed that the majority of the oyster workforce resides and works in this location.

Figure 8: Shellfish aquaculture employment type



4.2.8 Occupational Profile

The Tasmanian oyster industry offers a diverse range of employment options. While larger companies rely on a number of management level positions, smaller family structured businesses tend to rely more on farm-hand/labor positions. In such family business structures, management roles and responsibilities are overseen by family members.

A list of key employment opportunities within the Tasmanian shellfish industry are identified in **Table 7**.

Table 7: List of available jobs and careers within the shellfish industry.

Job Area	Job / Title
Management	Operations manager
	Assistant operations manager
	Sales manager
	Purchasing manager
	Office Manager
	Hatchery Manager
Farms	Farm hands
	Casual workers
Processing	
	Splitters

4.3 Farmed Abalone

Key points

1. Farmed abalone is a relative small industry, employing an estimated 30 FTEs.
2. The four farms are located in the North West, North, North East and South East.
3. Employees live in the communities where they work.
4. There is capacity for expansion in this sector.

There are currently four active abalone farms in Tasmania, located in the North West, North, North East and South East. The industry has undergone significant reinvestment and growth in the recent 12 months, with the farms in the North West and South East reopening after a period of closure. This reopening matches growth trends for farmed abalone on mainland Australia and other parts of the world.

4.3.1 Workforce Size and Employment Type

The farmed abalone industry supports an estimated 40 people in 30 FTE positions (Nick Savva pers. comm.).

4.3.2 Place of Usual Residence and Place of Work

Given the nature of farmed abalone work, the majority of the workforce live within the communities they work. This is a similar trend to the oyster sector, with farm labor jobs.

4.3.3 Occupational Profile

The majority of jobs available on abalone farms are farm-hand, labor type positions.

5. Wild-catch Sector

Key points

1. The Tasmanian wild-catch sector is estimated to employ 674 individuals.
2. There are approximately 860 wild-catch licences issued in Tasmania of which 520 are associated with an active fisher (i.e. holder of a Fishing Licence Personal).
3. The average age of wild-catch fishers is 50 years old.
4. 54% of the wild-catch workforce is older than 50 years of age.
5. The wild catch sector is relatively evenly spread throughout Tasmania.

5.1 Introduction

To actively catch and sell wild caught species in Tasmania requires an individual to hold a Fishing Licence Personal and own or be a supervisor of a relevant species/gear licence type. For some fisheries, further licences and quota may be required.

Key Tasmanian wild-catch sectors and required fishing licences are illustrated in Table 8.

Table 8: Key wild-catch sectors and associated fishing licences.

Wild-catch sector	Fishing Licence requirement
Abalone	Fishing Licence (abalone dive)
Commercial dive	Fishing Licence (commercial dive)
Giant crab	Fishing Licence (giant crab)
Rock lobster	Fishing Licence (rock lobster)
Scalefish	Fishing Licence (scalefish A) or Fishing Licence (scalefish B) or Fishing Licence (scalefish C)
Scallop	Fishing Licence (scallop)

5.2 Data Source

This section used wild-catch licence data obtained from the Tasmanian Department of Primary Industries, Parks, Water and Environment (DPIPWE). Given the complexity of wild-catch data, and format the data was received, the raw wild-catch dataset took considerable filtering. Furthermore wild-catch licences change hands on a regular basis, subsequently, the wild-catch demographics identified in this report are reflective of the dataset obtained from DPIPWE.

Finally, wild-catch licence data does not include data or information about wild-catch sector deckhands. As information about deckhands was not readily available, estimates of number of deckhands was the only data included in this analysis, based on informed calculations and supported by industry consultation.

A summary of wild-catch workforce data can be found in **Appendix B**.

5.3 Wild-catch Workforce Overview

5.3.1 Wild-catch Workforce Size

The real size of the wild-catch sector is estimated to be 674 workers. This figure is based on the number of active fishing licences, the core crew complement¹² requirements of fishing vessels used under active wild-catch licences and knowledge of industry structure and operational dynamics.

Given the working dynamics of the wild-catch sector, including the fact that deckhands are in general paid on a share of catch arrangement, it is difficult to estimate the true number of FTE positions.

5.3.2 Wild-catch Licences

Wild-catch licence owners and supervisors change hands on a regular basis. The most recent available data indicates there are 861 fishing licences in the wild-catch fishery, of which approximately 520 are actively fished. There are currently 533 individuals with a fishing licence personal (i.e. can fish these licences).

The following factors must be considered when calculating the number of people employed in the wild-catch industry.

- One individual may hold several licences
- One licence may have multiple supervisors
- Deckhands are not incorporated within the licence figures.

5.3.3 Fishing Vessels

A diverse range of fishing vessels are used in the wild-catch sector, from small (<6m) dinghy style vessels through to large (>20m) fishing boats. Minimum crewing requirements for different vessel sizes is defined in legislation. In general, vessels <12 meters require one person (skipper only), while vessels >12 metres but <24 meters require at least two persons (skipper and deckhand)¹². This information allows insight into the number of deckhands operating in a fishery.

5.3.4 Age profile

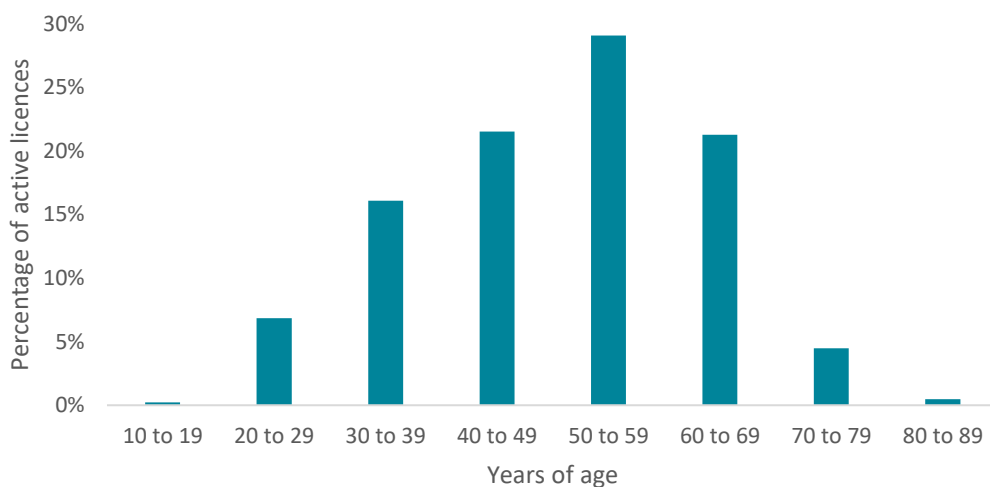
The average age for a wild-catch licence holder or supervisor is 50 years. The youngest wild-catch fisher is 19 and the oldest is 89 years old. There is only one wild-catch licence holder fisher aged under 20 years and two fishers aged over 80 years.

76% of all active wild-catch fishers or supervisors are aged forty years or older and 54% are aged 50 or older (Figure 9).

No age information is available for wild-catch fishery deckhands.

¹² Minimum crewing is defined in NSCV Part E, Schedule 2, 6(9). It is described as core complement. Australian Maritime Safety Authority (AMSA), National Law Act 2012

Figure 9: Age of wild-catch licence users¹³



5.3.5 Gender

Data held by TSIC shows that the wild-catch sector is male dominated, with 99.6% of active wild-catch licence holders or licence supervisors being male and only 0.04% (or 2 individuals) being female. Anecdotal information from fishers suggests there are very few female deckhands in the fleet.

5.3.6 Place of Usual Residence and Place of Work

53% of wild-catch licence holders or supervisors reside in the South of Tasmania (Hobart/South East), while 28% reside in Launceston and the North East (Figure 10). Most of the wild-catch sector will travel away from their place of residence to conduct fishing trips.

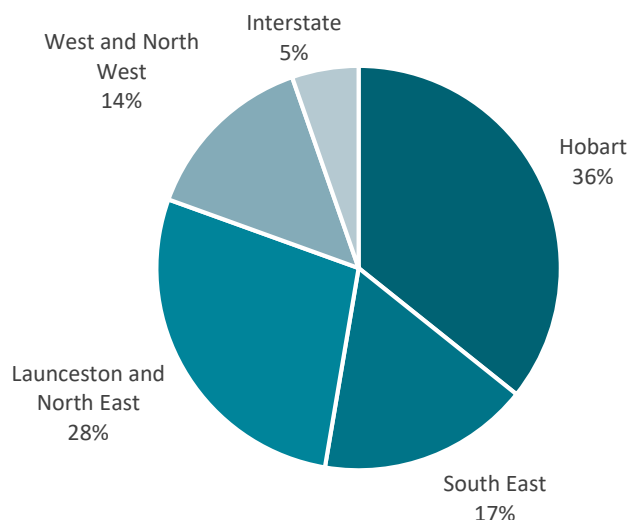
5.3.7 Occupational Profile

Wild catch fisheries require a vessel skipper and deckhands. Skipper qualifications vary from Coxswain 2 to Master 4 Certificates of Competency, depending on the vessel length.

Sales and marketing is in general conducted by the vessel skipper. In most instances, sales are to a licenced fish holding or processing facility.

¹³ Wild-catch licence information provided by DPIPWE.

Figure 10: Place of usual residence for wild-catch licence holders¹⁴



5.4 Abalone Dive Fishery

The Tasmanian wild-catch abalone fishery is the largest wild abalone fishery in the world, providing around 25% of the annual harvest.

In recent years, a number of dynamics have impacted abalone stocks in Tasmanian waters. In particular, increasing water temperatures, the impacts of a 'marine heatwave' on Tasmania's East Coast and unprecedented storm events have all impacted East Coast abalone stocks.

In response, the Government and abalone industry have implemented significant cuts to the abalone Total Allowable Catch (TAC) by almost a half, to the current level of approximately 1,500 tonnes.

Some abalone divers have recently questioned the financial sustainability of the abalone dive sector, which has had no decline in the number of divers despite the dramatic decline in TAC.

5.4.1 Abalone fishery Workforce Size

The real size of the Tasmanian abalone dive fishery workforce is estimated to be 170 workers. Of these workers, approximately 110 workers are believed to be employed on a full time basis. This figure comprises approximately 60-70 divers and 40 deckhands. The remaining 30-40 divers and deckhands work on a part-time basis, supplementing their income with other forms of employment.

5.4.2 Abalone fishery Licences

To actively dive for abalone in Tasmania requires a Fishing Licence Personal and a Fishing Licence (abalone dive). Furthermore, the holder of an abalone dive licence must also have access to abalone quota.

¹⁴ Wild-catch licence information provided by DPIPWE.

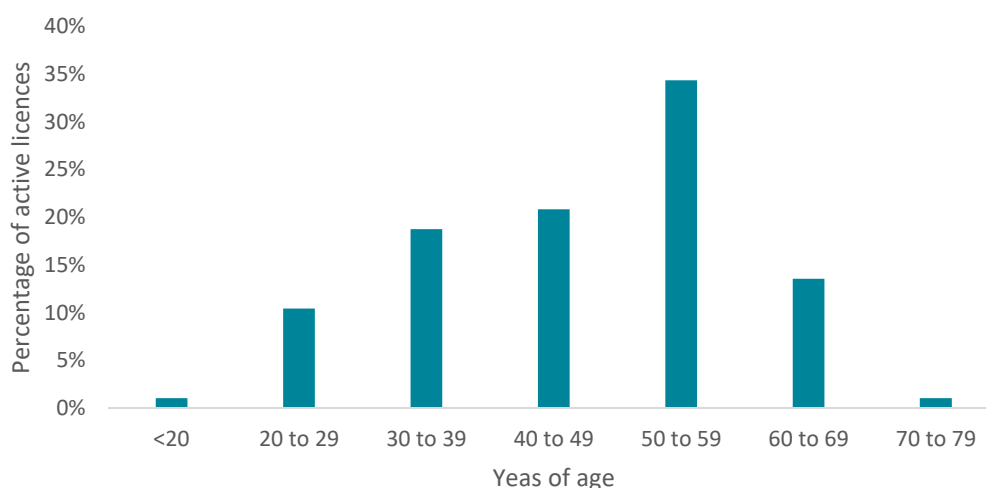
There are 121 Fishing Licence (Abalone Dive) licences in Tasmania, with recent data showing that 109 of these dive licences are active.

5.4.3 Age Profile

The average age of an abalone dive licence holder or dive licence supervisor is 47 years of age. The youngest diver is 19 while the oldest is 77. Figure 11 shows that 70% of divers are older than 40 and almost 50% are older than 50.

No information on the age profile of deckhands is available.

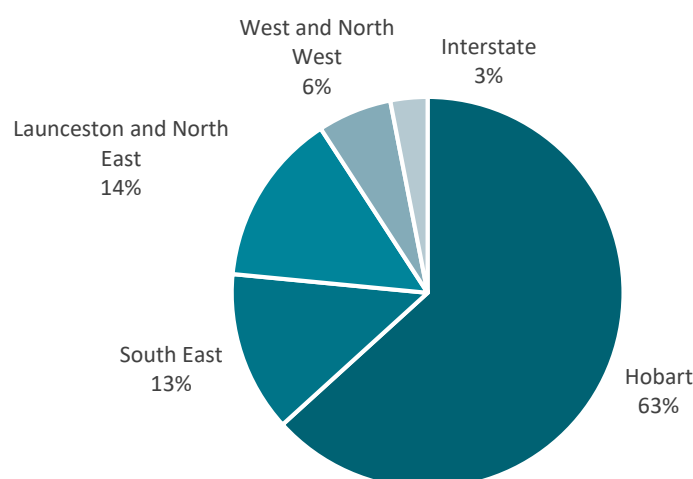
Figure 11: Age structure of abalone dive fishers



5.4.4 Place of Usual Residence

66% of abalone divers reside in Hobart and the South/South East (see Figure 12). Abalone divers travel via car or mother boat to the fishing grounds.

Figure 12: Place of usual residence for wild-catch abalone divers.



5.4.5 Vessels

Abalone divers use relatively small, trailer size vessels as a platform for harvesting abalone. These vessels may be towed to the dive location or used from a larger mother boat operation.

5.5 Commercial Dive

The commercial dive fishery is predominately made up of small owner operated businesses. Commercial divers target periwinkles and sea urchins. The commercial dive fishery also provides access to some developing fisheries such as clams and other fisheries based on exotic or unwelcome species, notably the long-spined sea urchin and the introduced Japanese kelp undaria. Commercial dive catches come from all Tasmanian waters, but are restricted to diveable depths (generally <25 metres). Species are harvested manually by licenced commercial divers using 'hookah' dive gear.

5.5.1 Commercial dive fishery Workforce Size

The real size of the Tasmanian commercial dive fishery workforce is estimated to be 55 people employed. This figure comprises of 32 divers and approximately 23 deckhands.

5.5.2 Commercial dive fishery Licences

There are 46 Fishing Licence (Commercial Dive) licences in Tasmania, with recent data showing that 32 commercial dive licences are actively fished. 13 commercial dive fishery licence holders also participate in the abalone fishery.

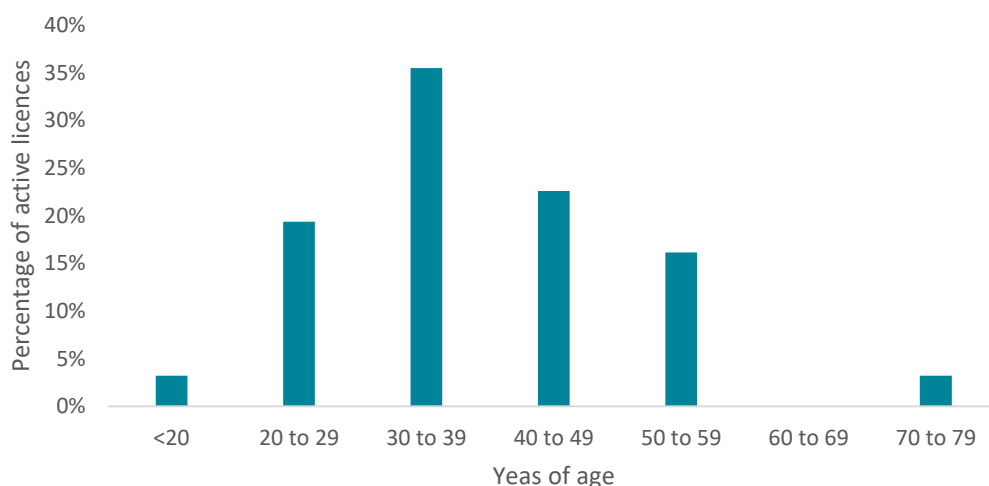
Information suggests there would be approximately 23 deckhands involved with the commercial dive fishery. Many deckhands would also operate within the abalone dive fishery.

5.5.3 Age Profile

The commercial dive sector is in general a younger demographic, with an average age of 39. The youngest commercial diver is 19 while the oldest is 73. **Figure 13** shows that almost 60% of commercial dive fishers are less than 40 years old, and 19% are greater than 50 years old.

This younger demographic is driven by the lower entry costs associated with the commercial dive fishery.

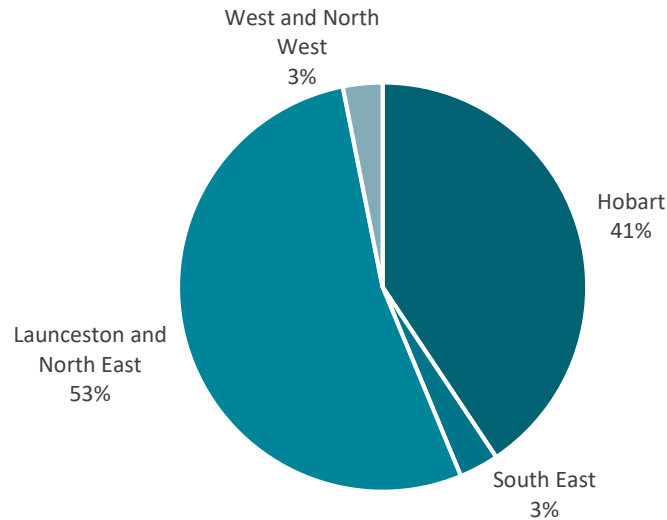
Figure 13: Age structure of commercial dive fishers



5.5.4 Place of Usual Residence and Place of Work

Commercial diver's place of usual residence is fairly evenly split between the Launceston/North East and Hobart regions (see **Figure 14**). Commercial divers in general, will travel to the fishing grounds.

Figure 14: Place of usual residence for wild-catch commercial divers.



5.5.5 Vessels

Commercial dive operators in general use small dinghy style vessels, which are <10 m in length.

5.6 Giant Crab Fishery

The giant crab fishery operates in deeper water off the West and East Coasts of Tasmania. In recent years, there has been a considerable decline in fishing effort in this fishery as a consequence of a declining TAC.

5.6.1 Giant crab fishery Workforce Size

The real size of the Tasmanian giant crab fishery workforce is estimated to be 16. This figure consists of 6 skippers and 10 deckhands.

5.6.2 Giant crab fishery Licences

To actively fish within the Tasmanian Giant Crab fishery, an individual is required to hold a Fishing Licence Personal, and be the owner or supervisor of a Fishing Licence (Rock Lobster) and a Fishing Licence (giant crab). There are currently 82 Fishing Licence (Giant Crab) licences in Tasmania. Only 22 of these licences have been actively fished in recent years. There are only 6 active boats in the fleet.

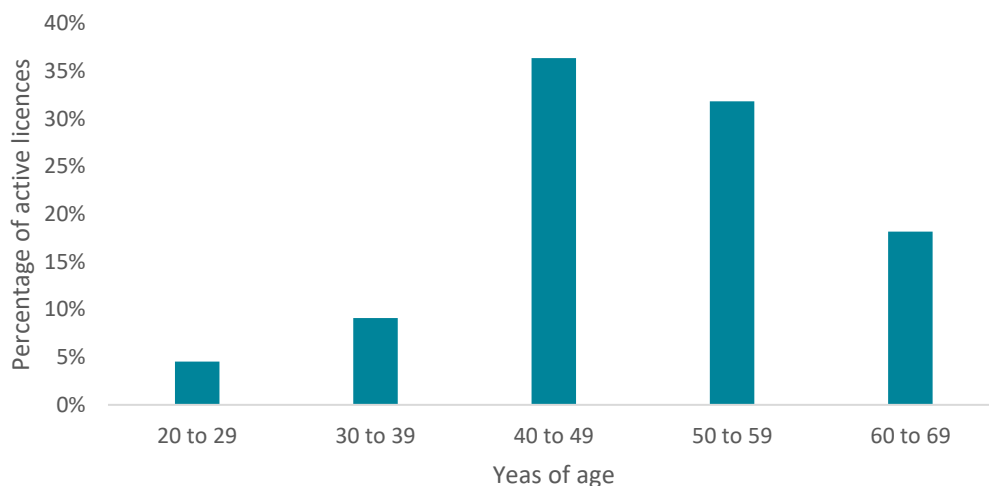
All giant crab operators also participate in the rock lobster fishery.

5.6.3 Age Profile

The average age for a giant crab fisher (licence holder or supervisor) is 49.5 years of age. The youngest fisher is 26 while the oldest fisher is 69. Figure 15 shows that 86% of giant crab fishers are over 40 years old, and 50% are over 50 years old.

No age data for deckhands is available.

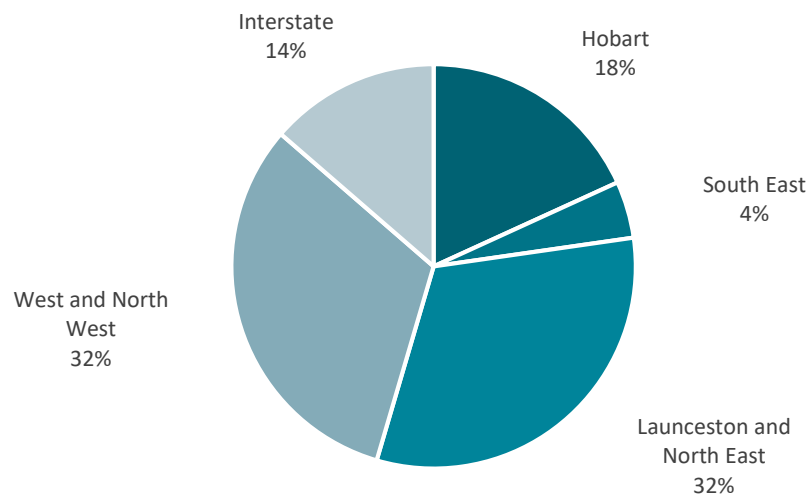
Figure 15: Age structure of giant crab fishers



5.6.4 Place of Usual Residence and Place of Work

64% of giant crab fishers live in the north of Tasmania (Launceston, North East, North West and West Coast), while 23% live in the south (see **Figure 16**). Giant crab fishers travel via boat to their fishing grounds.

Figure 16: Place of usual residence for wild-catch giant crab licence holders



5.6.5 Vessels

Given the giant crab fishery operates in deeper, offshore exposed waters, participating vessels are > 12 m in length and require at least one deckhand.

5.7 Rock lobster fishery

The Tasmanian rock lobster fishery operates around the entire Tasmanian coastline, with the exception of the central North coast.

In recent years, the impact of warmer waters on the East coast, combined with below average recruitment, has impacted lobster stocks on the East Coast. This has resulted in a reduction in the state-wide TAC from 1,500 tonnes to just over 1,000 tonnes, and the implementation of an 'East Coast Catch Cap', which limits the amount of lobster that can be taken from this region. The East coast fishery has been further impacted by closures resulting from the increasing occurrence of Harmful Algal Blooms (HAB's).

5.7.1 Rock Lobster fishery Workforce Size

The real size of the Tasmanian rock lobster fishery workforce is estimated to be 383 people employed. This figure consists of 233 owners/supervisors who skipper vessels and approximately 150 deckhands. This makes the rock lobster fishery the largest employer within the wild-catch sector.

5.7.2 Rock lobster fishery Licences

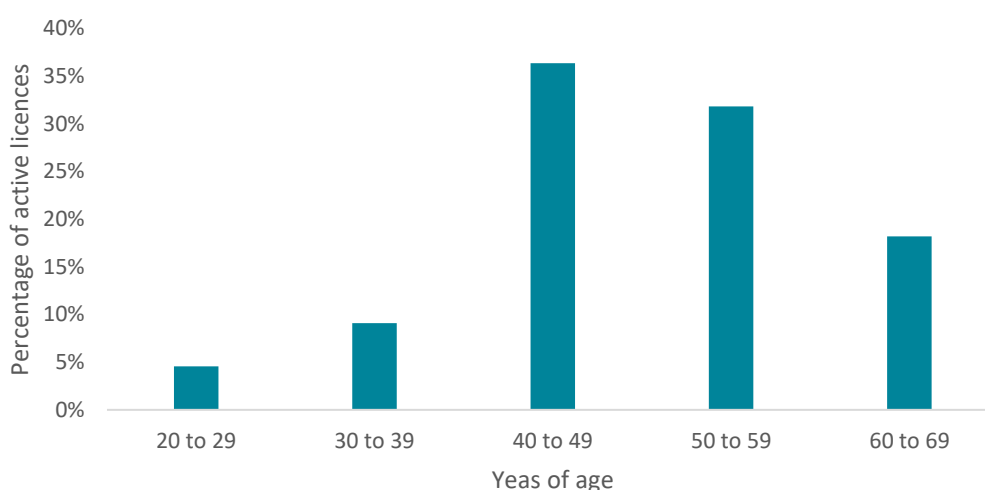
There are 311 Fishing Licence (rock lobster) licences in Tasmania and 233 active fishers of these licences. These licences are fished from approximately 200 – 205 fishing vessels.

5.7.3 Age Profile

The average age of a rock lobster licence holder or supervisor is 50 years of age. The youngest fisher was 22 while the oldest fisher was 89. Figure 17 shows that nearly 80% of rock lobster fishers are over 40 years of age, 57% are over 50 years of age and 30% are over 60 years of age.

No age profile data is available for deckhands.

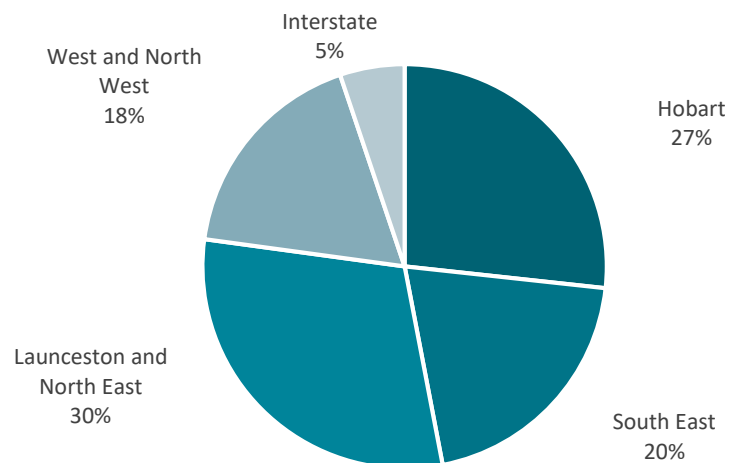
Figure 17: Age structure of rock lobster fishers



5.7.4 Place of Usual Residence and Place of Work

The rock lobster fleet is relatively evenly spread throughout the state, with 47% of fishers based in the South and 48% in the North of the state (see **Figure 18**). Rock lobster fishers generally travel via boat to their fishing grounds, although some fishers conduct day trips from their home ports.

Figure 18: Place of usual residence for wild-catch rock lobster licence holders



5.7.5 Vessels

Approximately 75% of the rock lobster fleet is greater than 12 metres in length. By law, these vessels are required to have a skipper and a deckhand, however, there are some exemptions in place, meaning no crew is required. Majority of the remaining vessels are in the 10 – 12 m size range.

5.8 Scalefish Fishery

The Tasmanian scalefish fishery includes a diverse array of licences, fishing gears and target species. The fishery includes small dinghy operators who conduct part-day fishing trips and target multiple species; through to large vessels who fish over multiple days and target individual species.

5.8.1 Scalefish Fishery Workforce Size

The real size of the Tasmanian scalefish fishery workforce is estimated to be 90 individuals. This figure consists of between 65 and 70 active fishers (licence owners or supervisors) and an estimated 20 deckhands.

5.8.2 Scalefish fishery Licences

The Tasmanian scalefish fishery licencing system is complex. To actively fish within the Tasmanian scalefish fishery, an individual is required to hold a Fishing Licence Personal, and be the owner or supervisor of a Fishing Licence (Scalefish A) and/or a Fishing Licence (Scalefish B) and/or a Fishing Licence (Scalefish C). Fishing Licence (Scalefish C) licence types are non-transferable, meaning they will over time be removed from the fishery as holders retire.

There are approximately 225 scalefish A, B and C licences in the Tasmanian fishery. Only 114 of these licences are associated with an active fisher or supervisor (i.e. a person holding a Fishing Licence Personal) (see Table 9).

There is significant latent effort within the Tasmanian scalefish fishery.

Of the 15 non-transferable Fishing Licence (Scalefish C) licences associated with an active fisher it is believed that very few, if any, are fished independent of another scalefish licence type (A or B), or other wild-catch licence type.

There are 29 individuals who hold at least one Scalefish A or Scalefish B licence and one other wild-catch fishing licence type. Of these 29 individuals, 22 hold a Fishing Licence (Rock Lobster). Information suggests that majority of these 29 individuals holding another wild-catch licence have no or very limited fishing operations against their scalefish licence. Many individuals hold one or more Fishing Licence (Scalefish A) and (Scalefish B) licence types.

There are a number of other species and gear licences within the scalefish fishery which must be used in association with a Fishing Licence (Scalefish A or Scalefish B) (see Table 10). 56% of active scalefish fishers operate under the authority of a Scalefish A, B or C only, while 46% of operators have one or more additional scalefish species and/or gear licences types.

When taking this information into account, it is estimated there are only 65 to 70 active licence holders or supervisors in the Tasmanian scalefish fishery.

There are a number of other licence types associated with the Tasmanian scalefish fishery, but also associated with other fisheries and/or jurisdictions (Mackerel A, Mackerel and Rock lobster). Furthermore, there are a number of Endorsements, the majority of which are non-transferable, within the fishery.

Table 9: Total number and active number of scalefish licences in Tasmania.

Licence Type		Total	Active
Fishing licence (scalefish A)	FLA	63	31
Fishing licence (scalefish B)	FLB	147	68
Fishing licence (scalefish C)	FLC	65	15

Table 10: a) Total number and number of active gear and b) species licences associated with the Tasmanian scalefish fishery.

a) Scalefish Gear Licence Type		Total	Active
Fishing licence (beach seine A)	FLBSA	25	12
Fishing licence (beach seine B)	FLBSB	24	12
Fishing licence (purse seine net)	FLPSN	10	0
Fishing licence (small mesh gillnet)	FLSMG	10	10
Fishing licence (automatic squid jig)	FLASJ	7	6
Fishing licence (Danish Seine limited trawl)	FLLT	1	0
Fishing licence (Danish Seine general trawl)	FLGT	6	4

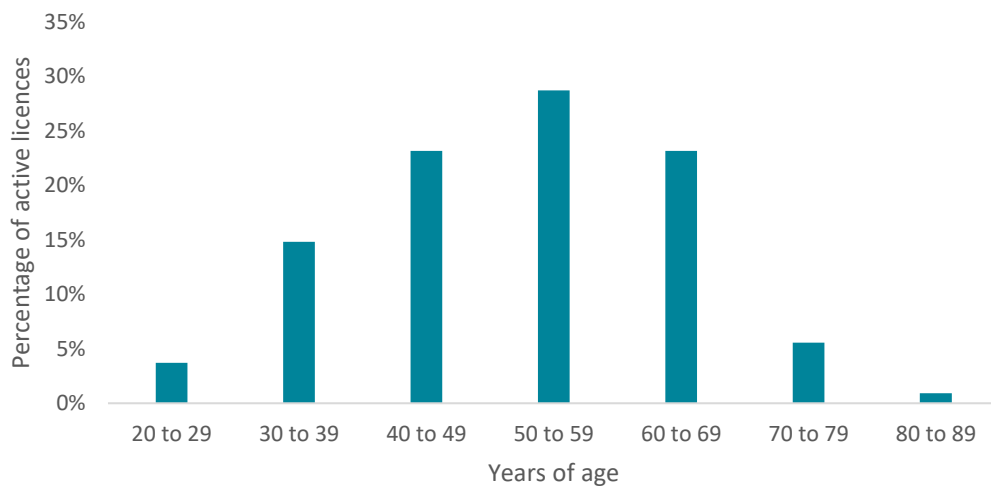
b) Scalefish Species Licence Type		Total	Active
Fishing Licence (Australian salmon)	FLAS	7	1
Fishing licence (banded morwong)	FLBM	26	26
Fishing licence (octopus)	FLO	2	1
Fishing licence (southern calamari)	FLSC	17	16
Fishing licence (wrasse)	FLW	61	44

5.8.3 Age Profile

The average age for an active scalefish licence holder or supervisor is 52 years. The youngest fisher was 23 while the oldest fisher was 83. Figure 19 shows that 81% of scalefish fishers are aged over 40, and 58% are over 50 years of age.

There is no available data for the age profile of deckhands.

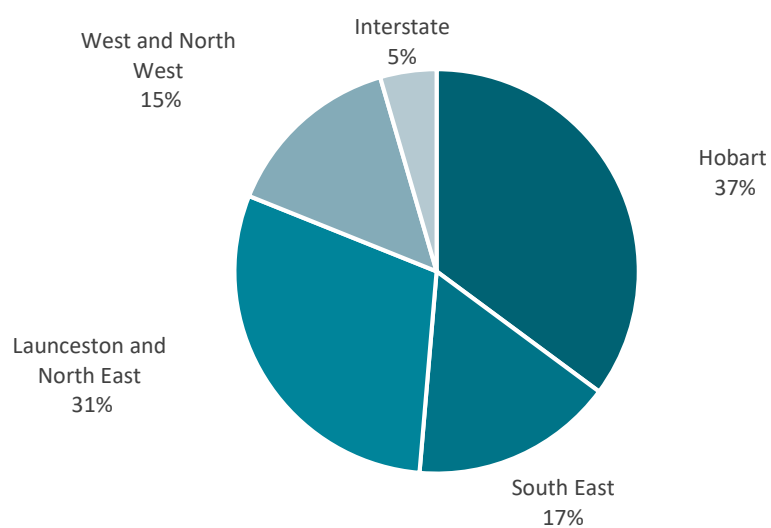
Figure 19: Age structure of Tasmanian scalefish fishers.



5.8.4 Place of Usual Residence and Place of Work

54% of scalefish fishers reside in the south of Tasmania (Hobart and the South East), while 31% reside in Launceston and the North East (see Figure 20).

Figure 20: Place of usual residence for scalefish licence holders¹⁵



5.8.5 Vessels

The vast majority of scalefish fishing vessels are <10 m in length. As such there is no legislative requirement for a deckhand.

¹⁵ Wild-catch licence information provided by DPIPWE.

5.9 Scallop fishery

The Tasmanian scallop fishery is historically referred to as ‘boom and bust’, with year/s of high catches followed by year/s of very low or no catches. Recent information suggests that this is an artefact of the sporadic and unpredictable nature of scallop recruitment dynamics.

The unpredictability of the Tasmanian scallop fishery has seen a significant contraction of the Tasmanian scallop fleet from 25 vessels in the mid-2000’s to a Tasmanian based fleet of less than 10 active boats in any given season. Given the sporadic nature of the fishery, all scallop vessels also participate in other wild-catch fisheries.

Since 2012, the Tasmanian scallop fishery has also been impacted by closures resulting from the increased frequency of Harmful Algal Blooms on Tasmania’s East coast.

Majority of the Tasmanian scallop fleet also operate in the Central Bass Strait Scallop Zone fishery, a Commonwealth fishery managed by the Australian Fisheries Management Authority (AFMA).

5.9.1 Scallop fishery Workforce Size

The real size of the Tasmanian scallop fishery workforce is estimated to be 30 individuals. This figure equates to 6 skippers and 24 deckhands, operating from 6 active scallop vessels.

5.9.2 Scallop fishery Licences

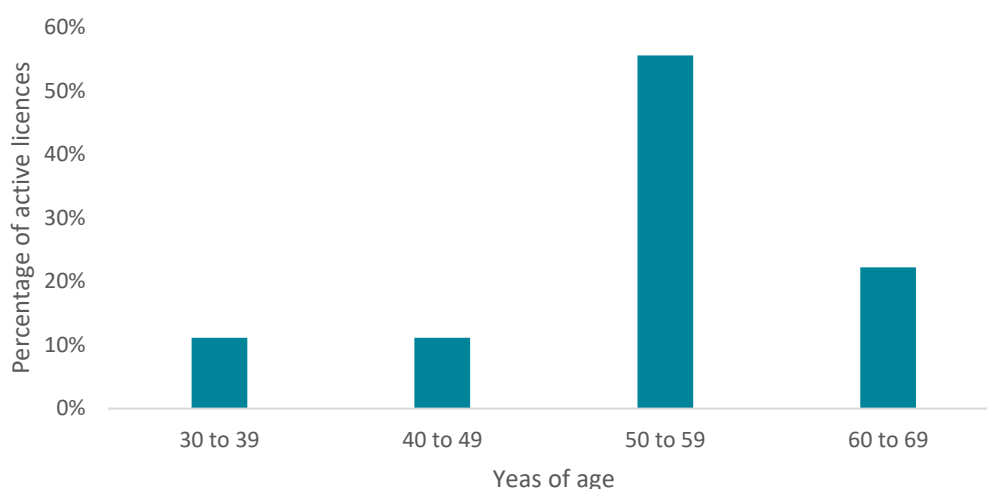
There are 69 Fishing Licence (scallop) licences in Tasmania, which are fished by 10 active fishers (owners / supervisors with a FLP). In recent years there has only been 5 – 8 active boats in the Tasmanian fishery, 2 – 3 of which are based in Victoria.

5.9.3 Age Profile

The average age of a scallop fisher or supervisor is 54 years of age. The youngest fisher was 37 while the oldest fisher was 66. Figure 21 shows that nearly 90% of rock lobster fishers are over 40 years of age, 80% over 50 years of age and 22% over 60 years of age.

No information on the age profile of scallop deckhands is available.

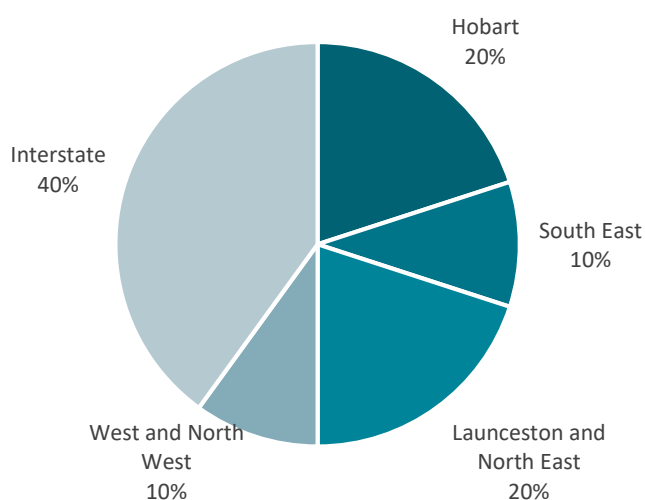
Figure 21: Age structure of scallop fishers



5.9.4 Place of Usual Residence and Place of Work

40% of scallop fishers live interstate. The locally based scallop fishers are evenly spread between the North and South of the state (see **Figure 22**). Scallop fishers travel via boat to their fishing grounds and all vessels must land Tasmanian jurisdiction scallops within Tasmania.

Figure 22: Place of usual residence for wild-catch scallop fishers



5.9.5 Vessels

Given the nature of scallop fishing, and the requirement to sort and hold significant abundances of scallops on a fishing trip, scallop vessels are >12 metres in length. Legislation requires at least 1 deckhand, however, the fishery is labor intensive, so more deckhands are required per vessel.

5.10 Other minor fisheries

There are several other minor fisheries, which are subsidiary to other wild capture fisheries undertaken by participants and captured within previous sections. Notably, the Seaweed Fishery, Shellfish Fishery and Developmental Fishery.

6. Seafood Processing Sector

Key points

1. The seafood processing sector is seasonal and influenced by the seasonal and unpredictable nature of wild-catch fisheries.
2. There are approximately 311 people employed in the processing sector.
3. 56% of the workforce is older than 40.
4. There is a relatively even gender ration within the sector.

6.1 Introduction

Seafood harvested in Tasmania will in general pass through a licenced seafood processor or fish handling facility. At a processor, product may be stored, packaged live for transport to mainland and export markets, processed for delivery to markets and/or value added.

The seafood processing sector provides work which is often seasonal in nature. Furthermore, some processing requirements come from fisheries which are not only seasonal in nature, but unpredictable. For example, the scallop season requires significant processing capacity, however, the scallop fishery can often be closed or have small take.

There are currently 57 licenced processors in Tasmania.

This section includes data for seafood processing facilities, including rock lobster and abalone handling facilities, but excludes data for the salmonid processing sector. Salmonid processing makes up a large portion of the Tasmanian processing workforce, please refer to Section 4.1 of this report for data on the salmonid aquaculture processing.

6.2 Data source

Data for this chapter was obtained from the following sources:

- 2011 Census Data and
- TSIC knowledge of the industry.

Subsequently, this section provides an indication of the wild-catch processing workforce size.

This chapter does not include salmon processing workforce.

6.3 Workforce Size

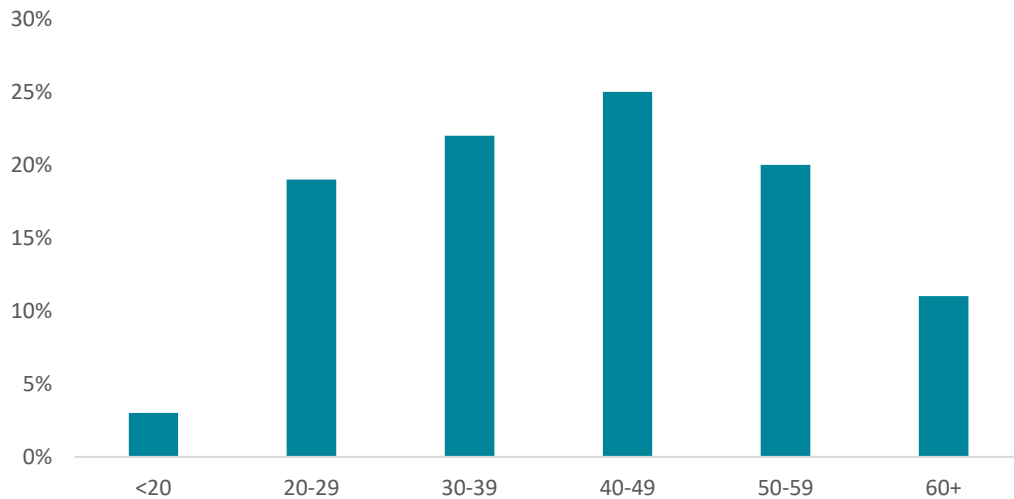
Data from the 2011 Census shows that the processing workforce size is 310 workers. This figure decreased from an estimated 386 seafood processing workers in 2006¹⁶.

¹⁶ Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011.

6.4 Age Profile

2011 Census Data shows that 56% of the seafood processing workforces was aged 40 or greater, and 78% if the processing workforce was older than 30 years of age (**Figure 23**).

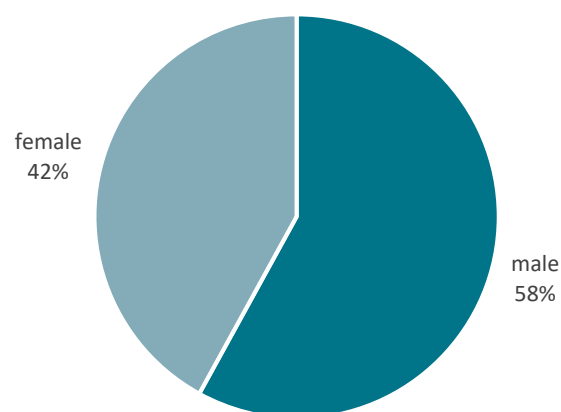
Figure 23: Age of seafood processing workers (2011 Census data).



6.5 Gender

There is far greater gender balance within the seafood processing workforce compared to the aquaculture and wild catch sectors, with 58% male and 42% females (**Figure 24**).

Figure 24: Gender balance in the seafood processing sector (2011 Census Data)



Specific information regarding the characteristics of the Seafood Processing sector is not available.

6.6 Occupational profile

The Tasmanian processing sector relies on a number of workforce professions, including: Management, Process Supervisor, Leading Hand, Process Worker and Truck Drivers.

7. Seafood Training

Key points

1. Participation in training courses is predominately male, and the gender discrepancy is much higher in these training courses than the overall Tasmanian seafood industry.
2. The average age at which a person undertook training is 35 years.

The information provided in this section is based on data provided by Seafood Training Tasmania.

Seafood Training Tasmania is the largest provider of vocational education and training for the Tasmanian seafood industry. Table 11 provides a summary of seafood training participants from 2010 to 2015.

Comparing the training demographic information with Tasmanian seafood industry workforce demographics shows the following:

- The average age of people who completed a training course is reflective of the average age of the industry.
- The gender discrepancy is much higher in these training courses than the overall Tasmanian seafood industry.
- Forty-eight percent of training course participants lived in Hobart in comparison to thirty percent of the overall industry workforce.
- Training courses had the same percentage of indigenous participants as there were industry workers (refer to Attachment 1).

7.1 Areas of Training

First aid and safety training, and training in operating a vessel comprise 67% of the training delivered between 2011 and 2015.

A summary of the types of training delivered is presented in Table 12.

Table 11: Demographic summary of Seafood Training Tasmania participants, 2010 to 2015¹⁷

Demographic	Summary
Number of training courses	33
Numbers registered to undertake training courses	6,431
Average age across all training courses	35 years
Gender	Male: 94% Female: 6%
Course with youngest average age	Small Vessel Handling (18 years)
Course with oldest average age	Pre-USL Radar (62 years)
Place of usual residence	Hobart: 48% Launceston and North East: 8% South East: 28% West and North West: 15% Interstate: 1%
Have a disability	5%
Indigenous status	6%
Year that training course was completed	2010: 1% 2011: 20% 2012: 19% 2013: 15% 2014: 20% 2015: 25%
Were employed at the time of completing the training	91%
Born in Australia	94%
Other top countries of birth	Canada, Chile, China, Czech Republic, England, Ethiopia, France, Germany, India, Ireland, Netherlands, New Zealand, Papua New Guinea, South Africa, United Kingdom, United States of America

¹⁷ STT demographic information supplied by Seafood Training Tasmania.

Table 12: Areas of Training Delivery, 2011-2015

Area of training	# of participants 2011-2015	% of participants 2011-2015
First aid and safety	2237	35
Vessel operation	2052	32
Equipment and machinery operation	1417	22
Seafood industry operations	468	7
Other ¹⁸	257	4

¹⁸ Pre-Employment Training Program, Small Vessel Handling, TSQAP Sampling Course, VMAC

Appendix A – Wild-catch Sector

Table 13: Demographic data on the holders of active wild-catch licences in Tasmania¹⁹

Fishery Type	Licence Types	Active Licences	Boat (metres)				Age (years)								Region				
			0-<6	0-<10	0-<20	0>20	<20	20-29	30-39	40-49	50-59	60-69	70-79	80-89	Hobart	South East	Launceston and North East	West and North West	Interstate
Scalefish Fishery		31	10	9	13	-	-	1	5	10	6	6	2	-	12	3	11	2	3
	FLB	68	29	14	30	2	-	3	11	15	18	16	3	1	24	14	17	11	2
		15	7	-	7	4	-	1	-	1	8	3	1	-	5	1	6	3	-
	FLBSA	12	7	2	5	-	-	-	2	2	2	3	2	-	2	1	7	1	1
		12	4	4	7	-	-	1	3	3	3	1	1	-	5	1	4	1	1
	FLPSN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		11	8	3	2	-	-	-	-	3	1	6	1	-	-	-	5	5	1
	FLASJ	6	-	1	4	2	-	-	1	1	2	1	-	-	1	2	-	2	1
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	FLGT	15	7	-	7	4	-	1	-	1	8	3	1	-	5	1	7	2	-
		1	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-
	FLBM	26	17	6	10	-	-	3	5	4	5	8	1	-	10	6	9	1	-
		1	-	-	1	1	-	-	1	-	-	-	-	-	-	-	-	1	-
	FLSC	16	8	4	6	-	-	2	3	6	4	1	-	-	13	2	1	-	-
		44	17	7	21	3	-	1	9	10	7	12	3	1	14	9	18	2	1
Giant Crab Fishery	FLGC	22	-	1	16	5	-	1	2	8	7	4	-	-	4	1	7	7	3
Rock Lobster Fishery		233	4	22	185	16	-	13	37	49	64	53	14	2	62	47	70	41	12

¹⁹ Wild-catch licence information provided by DPIPWE.

Scallop Fishery	FLS	10	-	-	5	3	-	-	1	1	5	2	-	-	2	1	2	1	4
Abalone Fishery		99	13	9	32	38	1	10	18	20	33	13	1	-	62	13	14	6	3
Commercial Diver Fishery	FLOD	32	11	10	6	1	1	6	11	7	5	-	1	-	13	1	17	1	-
Shellfish Fishery		6	1	3	-	-	-	-	2	2	2	-	-	-	1	-	4	1	-
Seaweed Fishery	FLMP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Legend (licence types):

FLA	Fishing licence (scalefish A)	FLB	Fishing licence (scalefish B)	FLC	Fishing licence (scalefish C)	FLBSA	Fishing licence (beach seine A)	FLBSB	Fishing licence (beach seine B)
FLPSN	Fishing licence (purse seine net)	FLSMG	Fishing licence (small mesh gillnet)	FLASJ	Fishing licence (automatic squid jig)	FLLT	Fishing licence (limited trawl)	FLGT	Fishing licence (general trawl)
FLAS	Fishing licence (Australian salmon)	FLBM	Fishing licence (banded morwong)	FLO	Fishing licence (octopus)	FLSC	Fishing licence (southern calamari)	FLW	Fishing licence (wrasse)
FLGC	Fishing licence (giant crab)	FLRL	Fishing licence (rock lobster)	FLS	Fishing licence (scallop)	FLAD	Fishing licence (abalone dive)	FLCD	Fishing licence (commercial dive)
FLMS	Fishing licence (minor shellfish)	FLMP	Fishing licence (marine plant)						

Definitions:

- Client – is a person and / or business that is identified by DPIPWE as a licence owner and / or licence user.
- Licence owner – a client who holds a licence that grants permission for wild-catch fishing, whether or not they use that or any other licence.
- Licence user – a client who does not hold a licence but leases one from a licence owner.
- Inactive licence – a wild-catch licence that is held but not currently in use.
- Active licence – a wild-catch licence that was in use at the time that the data was collected.
- Licence type – the type of wild-catch fishing allowed by a licence.

Appendix B – Seafood Training Tasmania: Training Activity 2011-2015

Table 14: Summary of Seafood Training Tasmania courses and participants²⁰

Training Course	Clients	Gender	Clients Average Age	Clients Place of Usual Residence	Disability	Indigenous Status	Year	Employed	Top Countries of Birth (other than Australia)
Certificate 1 in Transport and Distribution (Maritime Operations)	19	Male: 19 Female: 0	20	Hobart: 17 South East: 2	3	1	2011: 10 2012: 4 2013: 5	8	N/A
Chemical Handling	79	Male: 70 Female: 9	36	Hobart: 22 Launceston and North East: 20 South East: 15 West and North West: 22	4	3	2011: 8 2014: 5 2015: 66	76	New Zealand France Germany
Coxswain Deck	617	Male: 594 Female: 23	35	Hobart: 292 Launceston and North East: 59 South East: 97 West and North West: 9 Interstate: 160	36	34	2011: 101 2012: 124 2013: 120 2014: 123 2015: 149	573	Canada Germany New Zealand South Africa United Kingdom
Coxswain Engineering (Diesel)	371	Male: 356 Female: 15	37	Hobart: 160 Launceston and North East: 28 South East: 113 West and North West: 66 Interstate: 4	14	21	2011: 77 2012: 85 2013: 58 2014: 74 2015: 77	345	Germany New Zealand Papua New Guinea United Kingdom
Coxswain Navigation	220	Male: 204 Female: 16	41	Hobart: 133 Launceston and North East: 27 South East: 38 West and North West: 21 Interstate: 1	14	10	2011: 49 2012: 56 2013: 34 2014: 36 2015: 45	194	Canada France New Zealand United Kingdom

²⁰ Information supplied by Seafood Training Tasmania.

									United States of America
Deck Machinery and Lifting Appliances	414	Male: 403 Female: 11	33	Hobart: 168 Launceston and North East: 11 South East: 194 West and North West: 40 Interstate: 2	21	25	2011: 69 2012: 90 2013: 83 2014: 88 2015: 85	398	Canada Chile Germany New Zealand United Kingdom
Diploma: Seafood Industry (Aquaculture)	55	Male: 55	40	Hobart: 24 Launceston and North East: 12 South East: 3 West and North West: 16	0	0	2011: 55	55	N/A
Dogging	17	Male: 28	38	Hobart: 3 South East: 14	0	1	2013: 8 2014: 9	17	N/A
Elements of Shipboard Safety	1053	Male: 966 Female: 87	37	Hobart: 559 Launceston and North East: 91 South East: 255 West and North West: 128 Interstate: 22	52	49	2011: 237 2012: 229 2013: 163 2014: 220 2015: 206	956	Canada China Germany New Zealand United Kingdom United States of America
Finfish Husbandry	268	Male: 261 Female: 7	36	Hobart: 56 Launceston and North East: 14 South East: 86 West and North West: 112	7	18	2011: 23 2012: 28 2013: 33 2014: 78 2015: 106	262	Germany New Zealand United Kingdom
First Aid	615	Male: 563 Female: 52	39	Hobart: 333 Launceston and North East: 42 South East: 205 West and North West: 32 Interstate: 4	21	30	2011: 172 2012: 135 2013: 101 2014: 111 2015: 97	571	Canada France New Zealand Papua New Guinea United Kingdom
Food Safety and WHS	328	Male: 307 Female: 21	32	Hobart: 95 Launceston and North East: 35 South East: 93 West and North West: 105 Interstate: 1	17	19	2011: 48 2012: 34 2013: 49 2014: 57 2015: 142	291	Germany New Zealand United Kingdom

Forklift	329	Male: 312 Female: 17	33	Hobart: 141 Launceston and North East: 17 South East: 121 West and North West: 50	15	16	2011: 61 2012: 44 2013: 60 2014: 81 2015: 83	318	Chile Germany New Zealand United Kingdom
Long Range Operators Certificate of Proficiency (Marine Radio)	406	Male: 379 Female: 27	37	Hobart: 206 Launceston and North East: 25 South East: 143 West and North West: 30 Interstate: 2	22	20	2011: 57 2012: 88 2013: 101 2014: 86 2015: 74	374	Canada New Zealand Papua New Guinea United Kingdom
Marine Engine Driver 2 NC	29	Male: 28 Female: 1	35	Hobart: 17 Launceston and North East: 1 South East: 4 West and North West: 4 Interstate: 3	0	2	2013: 4 2014: 16 2015: 9	26	England France Germany
Marine Engine Driver 3	116	Male: 112 Female: 4	36	Hobart: 58 Launceston and North East: 6 South East: 47 West and North West: 5	11	9	2011: 21 2012: 28 2013: 20 2014: 25 2015: 22	111	New Zealand United Kingdom
Master <24m NC (M5)	378	Male: 348 Female: 30	33	Hobart: 226 Launceston and North East: 2 South East: 107 West and North West: 36 Interstate: 7	20	32	2014: 199 2015: 179	366	France Germany India Ireland New Zealand United Kingdom
Master <35m NC (M4)	66	Male: 65 Female: 1	39	Hobart: 30 Launceston and North East: 1 South East: 3 West and North West: 3 Interstate: 29	0	2	2012: 30 2013: 16 2014: 10 2015: 10	53	Papua New Guinea
Master 5 / Skipper 3 Option 1 Enrolments	160	Male: 148 Female: 12	39	Hobart: 89 Launceston and North East: 24 South East: 33 West and North West: 14	17	17	2011: 58 2012: 79 2013: 23	160	Netherlands United Kingdom

Master 5 / Skipper 3 Option 2 Enrolments	240	Male: 240	39	Hobart: 140 Launceston and North East: 11 South East: 71 West and North West: 18	21	7	2010: 1 2011: 89 2012: 114 2013: 36	226	New Zealand United Kingdom
Non Slew Crane	27	Male: 26 Female: 1	31	Hobart: 4 Launceston and North East: 2 South East: 9 West and North West: 12	0	1	2013: 20 2014: 7	27	United Kingdom
Pre-Employment Training Program	133	Male: 118 Female: 15	36	Hobart: 59 Launceston and North East: 19 South East: 8 West and North West: 46	9	15	2011: 99 2012: 34	19	United Kingdom
Pre-USL Radar	6	Male: 6	62	Hobart: 6 South East: 2	0	0	2011: 3 2012: 3	6	N/A
Radar	13	Male: 13	36	Hobart: 1 South East: 12	0	2	2011: 1 2015: 12	13	N/A
Shellfish Husbandry	72	Male: 70 Female: 2	29	Hobart: 33 Launceston and North East: 6 South East: 15 West and North West: 18	8	6	2011: 22 2012: 8 2013: 13 2014: 13 2015: 16	72	Czech Republic
Slew Crane	4	Male: 4	30	Hobart: 1 South East: 3	1	0	2013: 4	4	New Zealand
Small Vessel Davit and Capstan Safety	6	Male: 4 Female: 2	40	Hobart: 5 South East: 1	0	0	2015: 6	6	United States of America
Small Vessel Handling	25	Male: 20 Female: 5	18	Hobart: 21 South East: 4	1	1	2011: 5 2014: 7 2015: 13	10	Ethiopia
Tassal Fish Health	54	Male: 53 Female: 1	33	Hobart: 34 Launceston and North East: 2 South East: 15 West and North West: 5	1	0	2015: 56	56	Canada Chile New Zealand Papua New Guinea United Kingdom
TSQAP Sampling Course	17	Male: 16	42	Hobart: 16	1	0	2011: 17	17	New Zealand

		Female: 1		South East: 1					
Vehicle Loading Crane	56	Male: 55 Female: 1	38	Hobart: 29 Launceston and North East: 4 South East: 17 West and North West: 6	1	1	2014: 37 2015: 19	56	Canada Papua New Guinea
VMAC	82	Male: 50 Female: 32	22	Launceston and North East: 8 West and North West: 74	0	8	2015: 82	82	N/A
Wader Safety	156	Male: 131 Female: 25	28	Hobart: 92 Launceston and North East: 26 South East: 21 West and North West: 17	12	4	2011: 19 2012: 26 2013: 50 2014: 32 2015: 29	141	Canada New Zealand United Kingdom

Tasmanian Seafood Industry

Census Profile Report

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Introduction

The Tasmanian Seafood Industry Workforce Profile report stated:

The most recent ABS data is five years old. Furthermore, the Fisheries Research and Development Corporation (FRDC), in an analysis of ABS employment data, suggest that the data provides a highly conservative estimate of employment in the commercial fishing industry:

*'In the Corporation's view, data collected by the ABS are not disaggregated in sufficient detail to be useful for planning and strategic purposes. These data tend to 'under-report employees, including through attribution of some fishing industry activities to other industries such as transport and generalised food processing' (FRDC 2005). Furthermore, ABS employment data do not appear to be consistent with data collected in connection with fishing vessels, fishing licences and other forms of fishing regulation. However, the latter sources are not sufficiently comprehensive to provide a substitute for ABS data.'*¹

To ensure that Census identified trends and patterns do not influence real seafood workforce trends and patterns, the Census data analysis is presented in this Attachment report.

A summary of the Census Data analysis can be found in Appendix A.

1. Key points

Key points

1. The size of the Tasmanian seafood workforce increased between 2006 and 2011.
2. The Tasmanian seafood industry workforce is an ageing workforce.
3. Seventy-four percent of the workforce was male in 2011.
4. In 2011, the majority of workers lived in either Hobart or South East Tasmania.
5. In 2011, six percent of workers were of indigenous descent.
6. In 2011, English was the primary language spoken by ninety-six percent of the workforce.
7. In 2011, ninety-two percent of the workforce were Australian citizens.
8. Meat, poultry and seafood process workers was the occupation with the largest percentage of workers in 2011.
9. Seventy-three percent of workers were employed full-time in 2011.
10. The average number of hours worked by those in the seafood industry increased between 2006 and 2011.
11. The income of the workforce increased between 2006 and 2011.
12. The majority of the workforce in 2006 and 2011 do not hold formal qualifications.
13. The percentage of workers who held a qualification increased between 2006 and 2011, from 39 percent to 45 percent.
14. Three quarters of all qualifications held in 2011 were VET level qualifications.

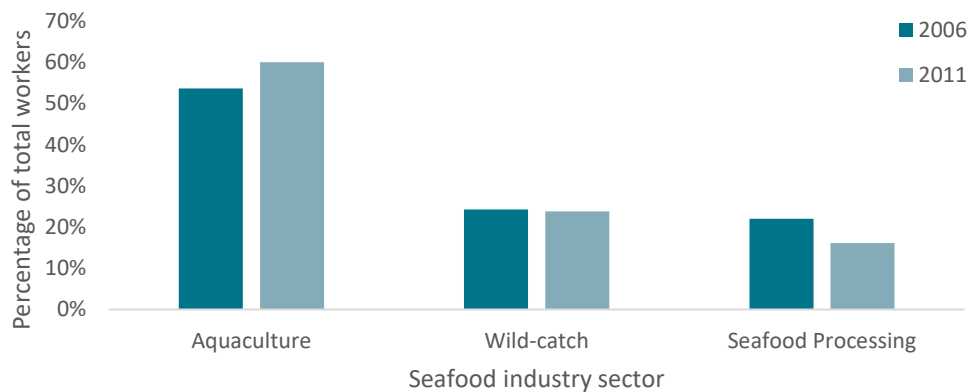
¹ ABARES, *Australian Fisheries Statistics 2010*, Canberra, p33

2. Workforce Size

Census data indicates that the size of the Tasmanian seafood industry workforce increased from 1,750 workers in 2006 to 1,920 workers in 2011.

Over this time, the percentage of the workforce in the aquaculture sector increased; the percentage in the wild-catch sector remained stable; and the seafood processing sector experienced a six percent decrease in its workforce between 2006 and 2011 (Figure 1).

Figure 1: Percentage of total workers in the seafood industry by sector, 2006 to 2011²

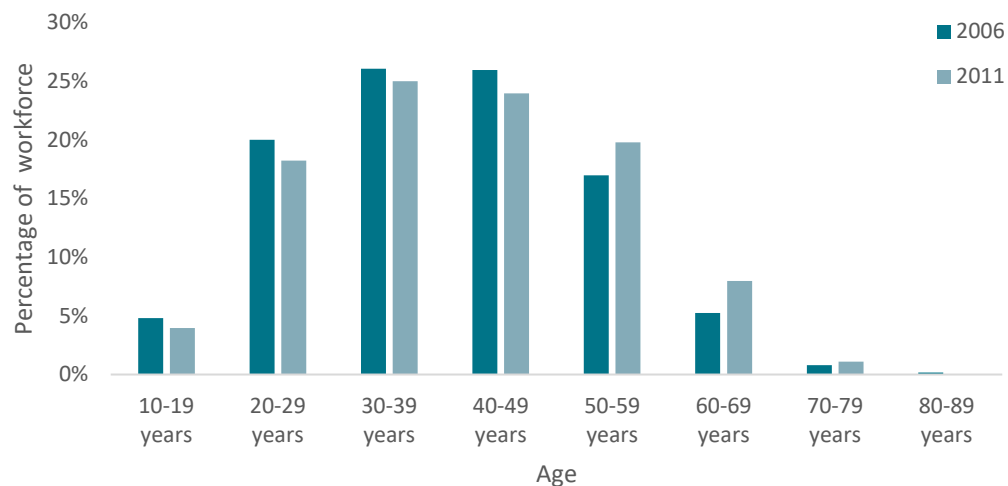


² Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011.

3. Age

Census data indicates that approximately 50% of the workforce in both 2006 and 2011 were aged between 30 and 50 years (Figure 2~~Error! Reference source not found.~~). From 2006 to 2011, the number of workers in the 50-59 years and 60-69 years grouping increased while younger age groups decreased (Figure 2).

Figure 2: Percentage of total number of workers by age, 2006 to 2011³

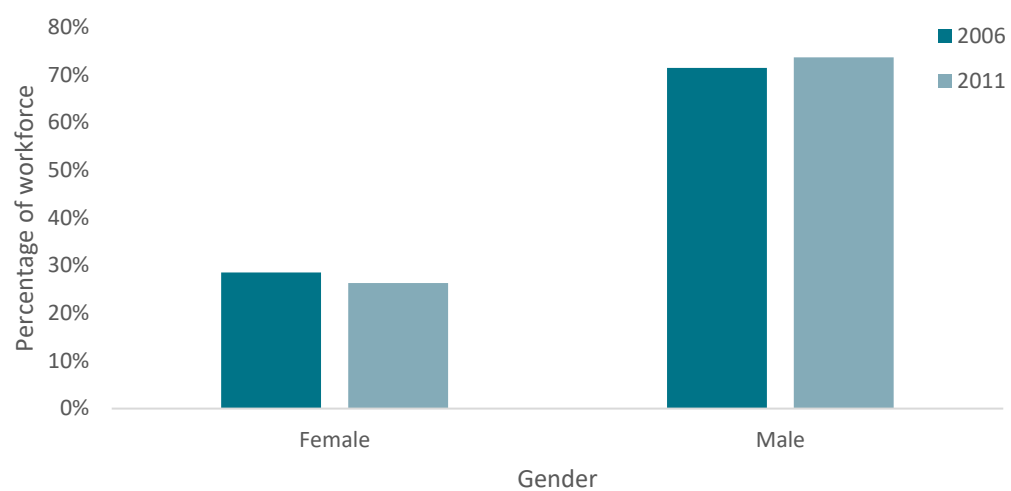


4. Gender

Census data indicates that the gender discrepancy in the workforce increased slightly between 2006 and 2011, with males making up 71% of the workforce in 2006 and 74% in 2011 (Figure 3~~Error! Reference source not found.~~). This pattern of increasing percentage of male workers is reflected in all three sectors (aquaculture, wild-catch and seafood processing); however the gap is somewhat lower in the seafood processing sector.

³ Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011.

Figure 3: Percentage of total number of workers by gender, 2006 to 2011⁴



⁴ Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011.

5. Place of Usual Residence

Census data indicates that 69% of the seafood industry workforce live in southern Tasmania (Hobart and South East), as illustrated in Figure 4.

Figure 4: Place of usual residence of the seafood industry workforce, 2011⁵

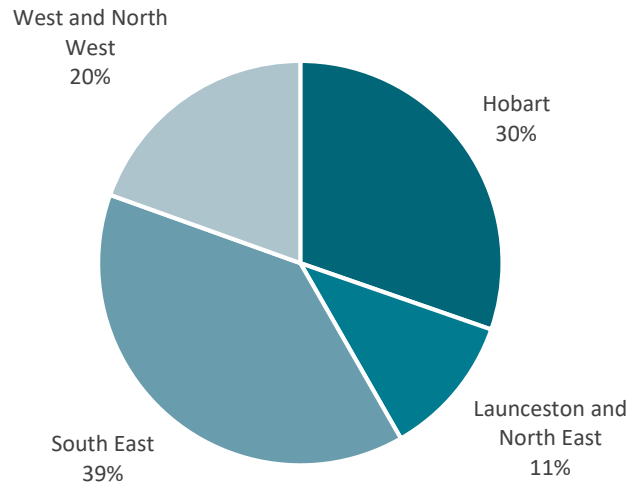


Figure 5 shows the breakdown of place of residence by industry sector. It reveals that:

- Nearly half of all aquaculture workers (84%) live in South East Tasmania.
- Hobart residents are split between all three sectors.
- The largest percentage of workers in the seafood processing sector (44%) live in the West and North West of Tasmania.

Figure 5: Place of usual residence of the seafood industry workforce by sector, 2011⁶



⁵ Australian Bureau of Statistics, Census of Population and Housing 2011.

⁶ Australian Bureau of Statistics, Census of Population and Housing 2011.

6. Place of Work

Figure 6 illustrates the places of work for the seafood industry workforce, as identified in the Census data. It shows that:

- 52% of the aquaculture workforce work in South East Tasmania.
- 21% of the total workforce work in Hobart, meaning that there is a 9% difference between residence and work percentages.
- 43% of workers in the seafood processing sector work in West and North West Tasmania.
- 28% of the Tasmanian seafood industry workforce do not have a fixed address for their place of work, which may reflect the nature of work in the wild-catch sector. 27% of the seafood industry workforce did not specify their place of work.

Figure 6: Place of work of the seafood industry workforce, 2011⁷



7. Indigenous Status

The 2011 Census data indicates that 6% of the Tasmanian seafood industry workforce identified as being of Aboriginal or Torres Strait Islander descent.⁸

8. Language

The 2011 Census data indicates that English was the primary language spoken by 96% of the Tasmanian seafood industry workforce.⁹

The remaining 4% was divided between twelve other languages, the majority of which come from Pacific and Asian regions. These languages were Chinese, Korean, Southeast Asian Austronesian Languages, Iberian Romance, German and Related Languages, Japanese, Mon-Khmer, Dutch and Related Languages, Sign Languages, Tai, and Pacific Austronesian Languages.

⁷ Australian Bureau of Statistics, Census of Population and Housing 2011.

⁸ Australian Bureau of Statistics, Census of Population and Housing 2011.

⁹ Australian Bureau of Statistics, Census of Population and Housing 2011.

9. Occupational Profile

Census data indicates that the most common occupations in the Tasmanian seafood industry in 2011 were (see Figure 7):

1. Meat, poultry and seafood process workers (29%)
2. Aquaculture farmers (21%)
3. Deck and fishing hands (19%)
4. Aquaculture workers (14%).

The top 3 occupations for each seafood industry sector are shown in Table 1.

Figure 7: Top 10 occupations, 2011¹⁰

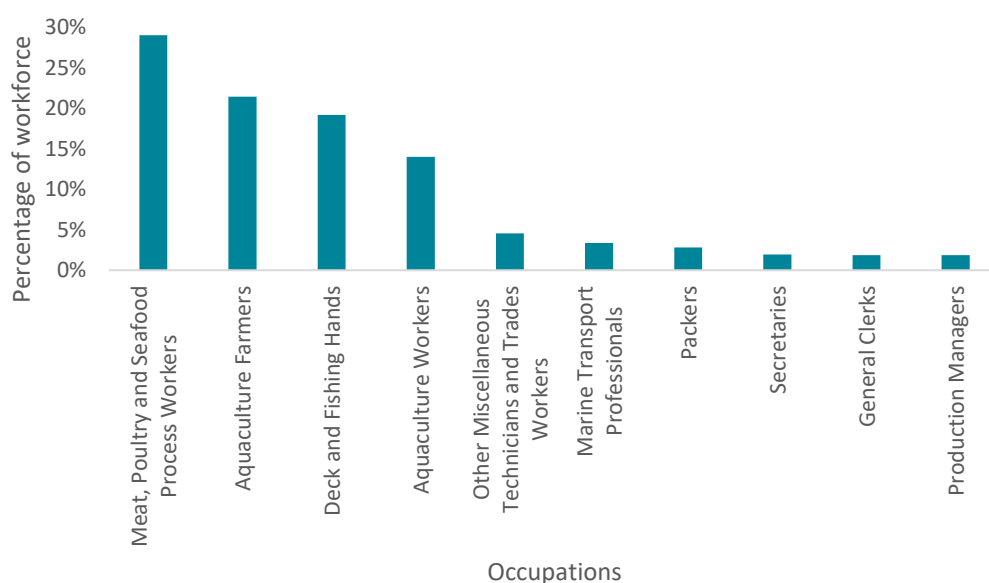


Table 1: Top 3 occupations by seafood industry sector, 2011

	Aquaculture	Wild-catch	Seafood processing
1)	Aquaculture farmers (thirty-eight percent)	Deck and fishing hands (sixty-two percent)	Meat, poultry and seafood process workers (fifty-four percent)
2)	Meat, poultry and seafood process workers (twenty percent)	Other miscellaneous technicians and trades workers (nine percent)	Packers (eleven percent)
3)	Aquaculture workers (twenty percent)	Marine transport professionals (nine percent)	Production managers (five percent)

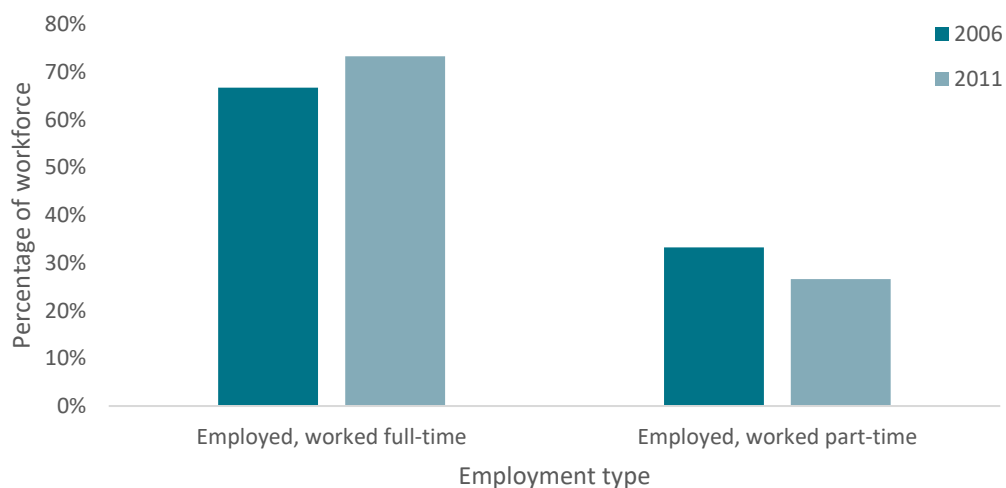
¹⁰ Australian Bureau of Statistics, Census of Population and Housing 2011.

10. Employment Type

Census data indicates that the majority of the Tasmanian seafood industry workforce were employed on a full time basis in 2006 and 2011. Figure 8 shows that the number of full time workers increased by six percent between 2006 and 2011.

Analysis of Census data reveals that there is an increasing number of workers within the seafood industry, a decreasing number of businesses and the increasing percentage of workers being employed in a full-time capacity. This may indicate that Tasmanian seafood industry businesses becoming larger in terms of both employees and production.

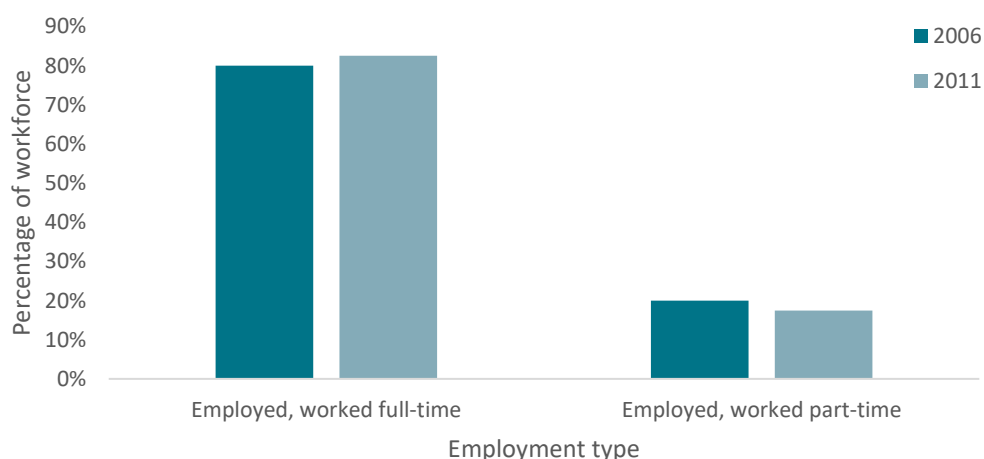
Figure 8: Percentage of total number of workers by employment type, 2006 to 2011¹¹



Breaking down the total workforce into sectors shows that the percent of full-time and part-time employees differs between the three sectors.

Figure 9 shows that the aquaculture sector employed eighty percent of its workforce on a full-time basis in 2006, with this number increasing to eighty-three in 2011.

Figure 9: Percentage of aquaculture workers by employment type, 2006 to 2011¹²

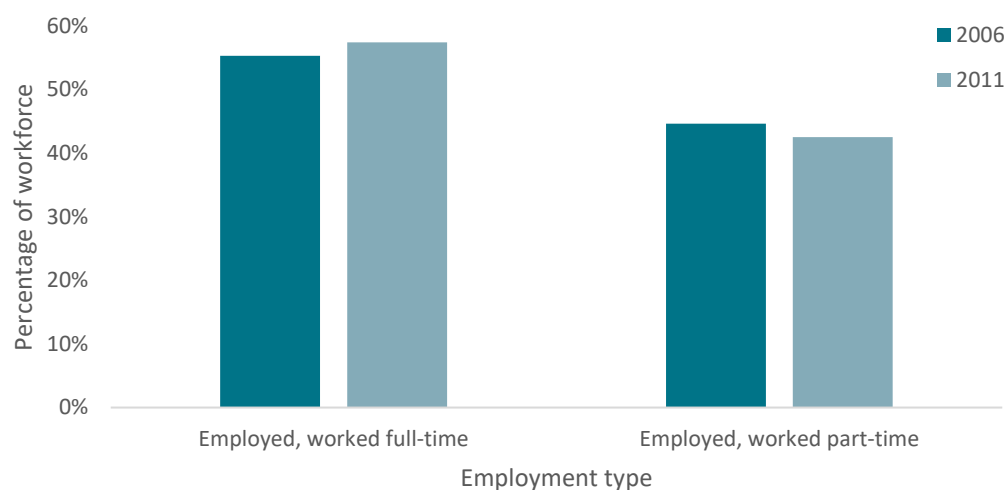


¹¹ Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011.

¹² Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011.

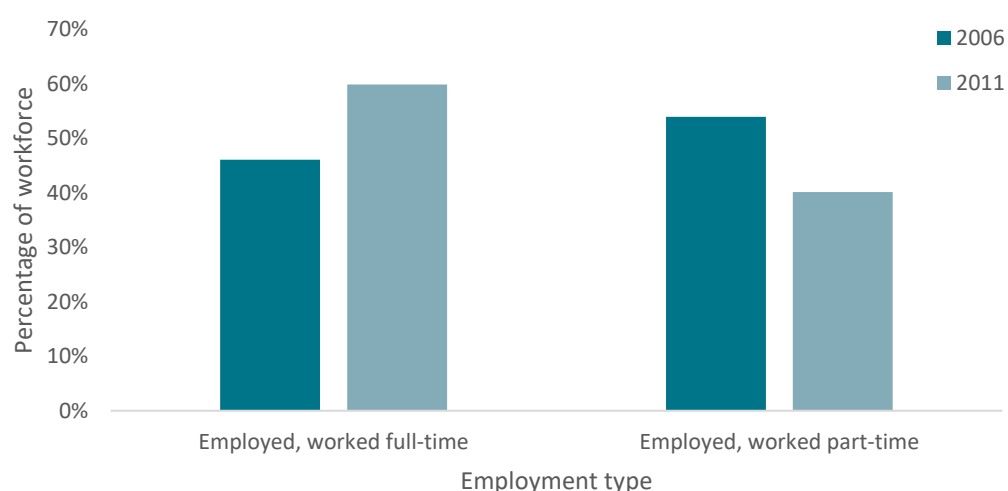
Figure 10 shows that the wild-catch sector had a more even split between types of employment. There was a ten percent difference between employment types in 2006 and a fourteen percent difference in 2011. This indicates that there is a shift towards more full-time employment in the wild-catch sector.

Figure 10: Percentage of wild-catch workers by employment type, 2006 to 2011¹³



The seafood processing sector was unique, as the 2006 Census showed a greater number of workers employed part-time than full-time. This changed in 2011, with a fourteen percent shift in favour of full-time employment (Figure 11).

Figure 11: Percentage of seafood processing workers by labour force, 2006 to 2011¹⁴



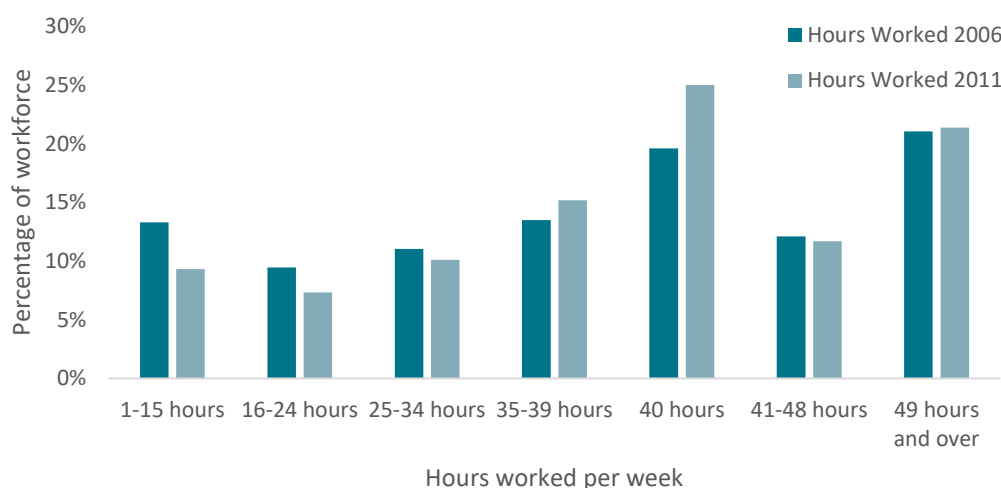
¹³ Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011.

¹⁴ Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011.

11. Hours Worked

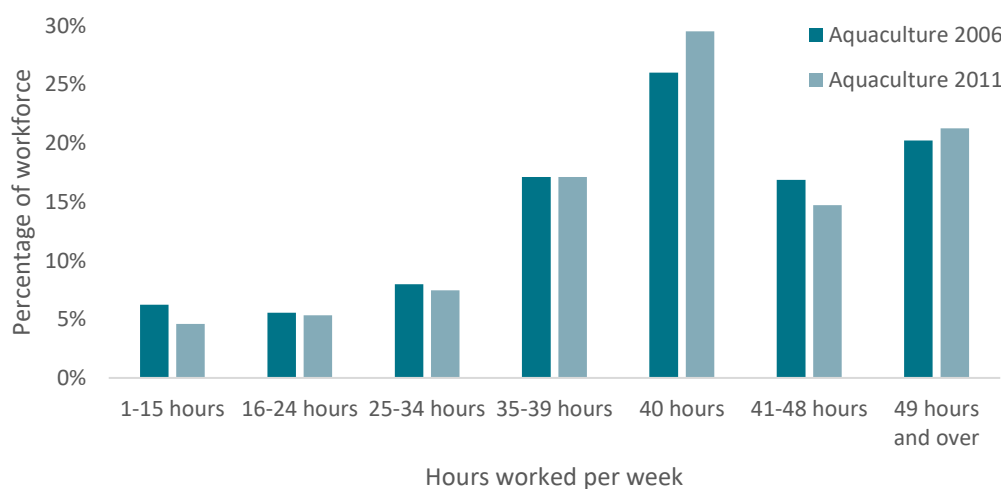
Census data indicates that the average number of hours worked per week by the seafood industry workforce increased between 2006 and 2011 (Figure 12). The percentage of the workforce that worked 40 or more hours per week increased from 53% in 2006 to 58% in 2011.

Figure 12: Hours worked per week by the Tasmanian seafood workforce, 2006 to 2011¹⁵



The hours worked per week by aquaculture workers is consistent with the hours worked by the total workforce, as shown in Figure 13.

Figure 13: Percentage of hours worked per week by aquaculture workers, 2006 to 2011¹⁶

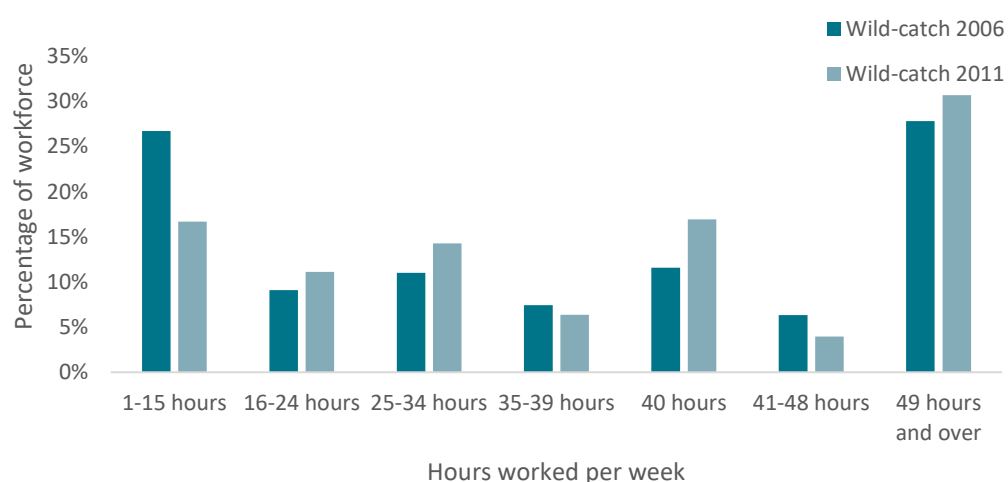


The hours worked per week in the wild-catch sector were lower on average. Figure 14 shows that in 2006, 27% worked less than 16 hours per week. This percentage was 17% in 2011. There are subsequent increases in higher hour groupings, with the largest increases in the 40 hour grouping (5%) and 49 hours and over grouping (3%).

¹⁵ Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011.

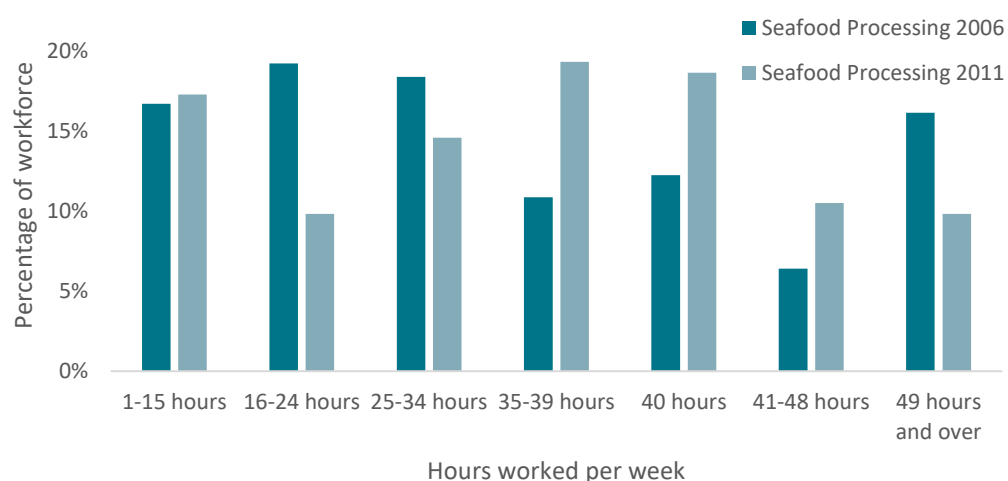
¹⁶ Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011.

Figure 14: Percentage of hours worked per week by wild-catch workers, 2006 to 2011¹⁷



The percentage of seafood processing workers who worked between 16 and 34 hours per week decreased between 2006 and 2011, as shown in Figure 15. This coincides with an increase of workers stating that they worked 35 to 48 hours per week. The percentage of workers employed to work one to 15 hours per week remained steady.

Figure 15: Percentage of hours worked per week by seafood processing workers, 2006 to 2011¹⁸



12. Income

Census data indicates that the weekly income for the Tasmanian seafood industry workforce increased between 2006 and 2011. Figure 16 shows that there was an increase of 14% of the workforce who were paid \$1,000 – \$1,999 per week, and a decrease in workers being paid less than \$600 per week.

This pattern reflects an increase in the number of hours worked per week (Figure 12).

¹⁷ Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011.

¹⁸ Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011.

Figure 16: Total weekly income for Tasmanian seafood industry workers, 2006 to 2011¹⁹



The weekly income for workers in the aquaculture sector also shows a significant increase in those paid \$1,000 – \$1,999 per week and a decrease in those paid under \$600 per week between 2006 and 2011 (Figure 17).

Figure 17: Weekly income for aquaculture workers, 2006 to 2011²⁰



The weekly income of the wild-catch workforce does not show the same dramatic decrease in lower incomes (less than \$600 per week). There is a low percentage decrease in all incomes under than \$1,000, as shown in Figure 18. The wild-catch workforce still showed a fourteen percent increase in those earning \$1,000 – \$1,999.

¹⁹ Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011.

²⁰ Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011.

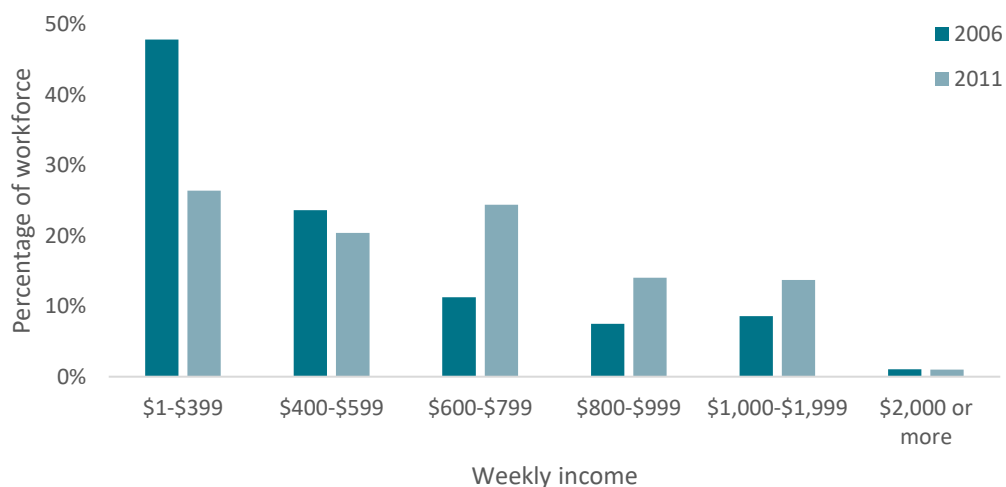
Figure 18: Weekly income for wild-catch workers, 2006 to 2011²¹



Figure 19 shows that in 2006, forty-eight percent of the seafood processing workforce earned less than \$400 per week. This was a largest percentage all three sectors in this pay bracket. Between 2006 and 2011, there was a twenty-two percent drop in this pay bracket, with a subsequent increase in workers earning more than \$600 per week.

This corresponds with an increase in the hours worked per week, as indicated above in Figure 12.

Figure 19: Weekly income for seafood processing workers, 2006 to 2011²²



²¹ Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011.

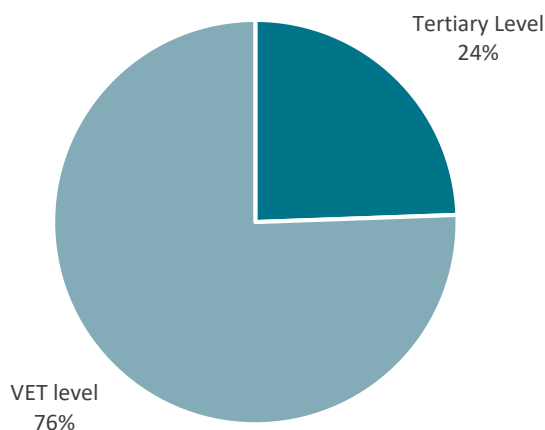
²² Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011.

13. Educational Attainment

Census data indicates that between 2006 and 2011, there was an increase of workers with tertiary and vocational education and training (VET) qualifications. 39% of the seafood industry workforce stated in the 2006 Census that they held a post-school qualification. In the 2011 Census, 45% of the workforce held a post-school qualification.

Three quarters of the qualifications held by the seafood industry workforce were VET level qualifications, as illustrated in Figure 20.

Figure 20: Tertiary and VET qualifications in the Tasmanian seafood industry, 2011²³

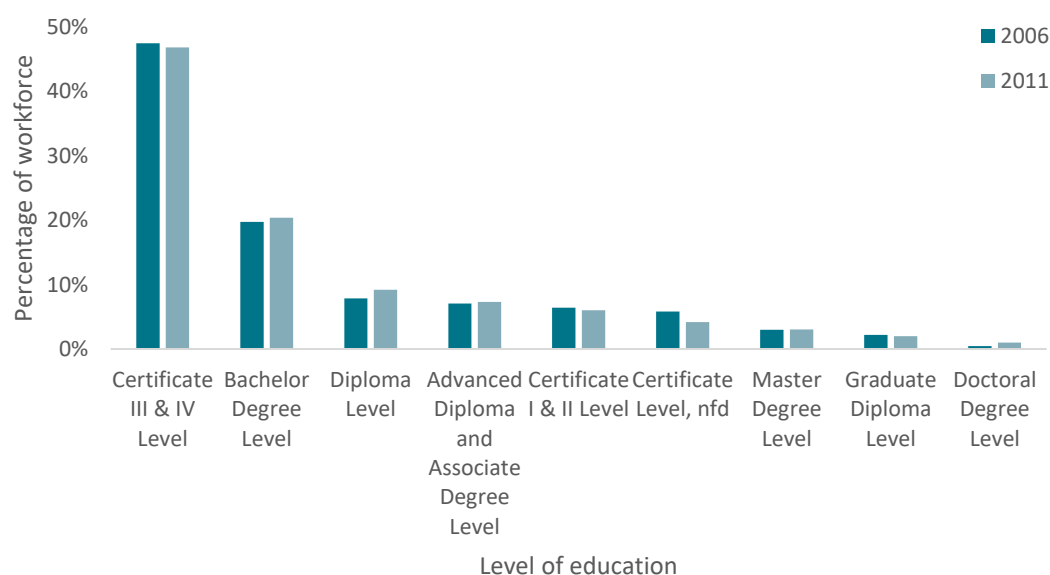


Analysis of the level of qualification attained revealed that Certificate III and Certificate IV qualifications were the most common, being held by 47% of the seafood industry workforce. A Bachelor degree was the second most common qualification, held by 20% of the workforce (Figure 21).

The educational attainment across the three seafood industry sectors showed similar patterns to the total workforce, in terms of percentage of those who held an equalisation and the level of qualification.

²³ Australian Bureau of Statistics, Census of Population and Housing 2011.

Figure 21: Percentage of total number of workers by level of education, 2006 to 2011²⁴



14. Field of Study

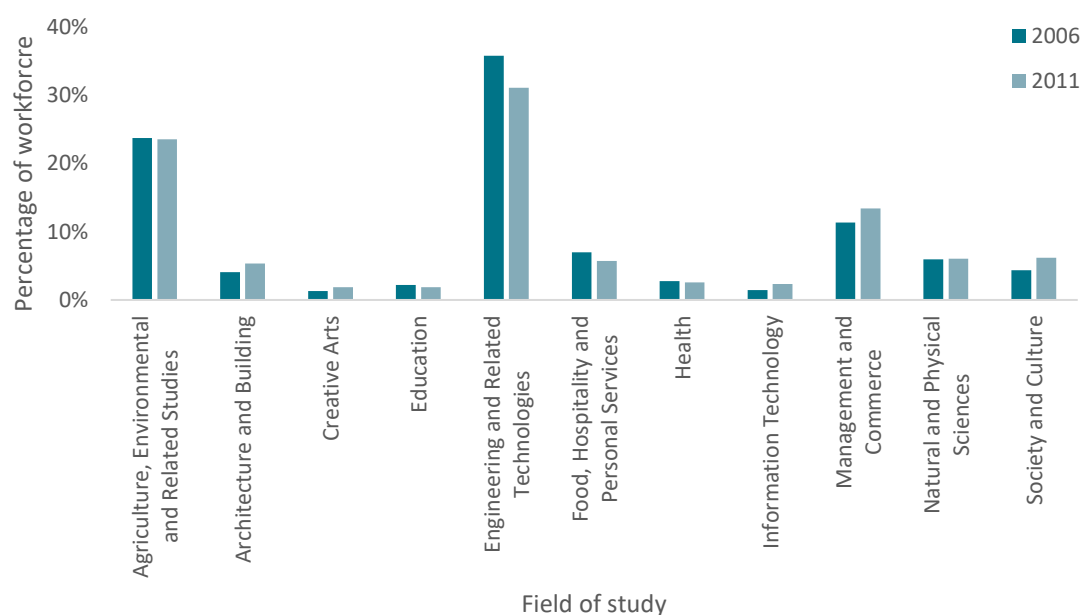
Figure 22 shows that the qualifications held by workers within the Tasmanian seafood industry are broad and cover eleven fields of study. The predominate fields of study for both 2006 and 2011 are (in order):

5. Engineering and Related Technologies
6. Agriculture, Environmental and Related Studies
7. Management and Commerce.

Engineering and Related Technologies has the highest percentage in both years, with 36% and 31% of workers who had obtained a qualification studying in this field.

²⁴ Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011.

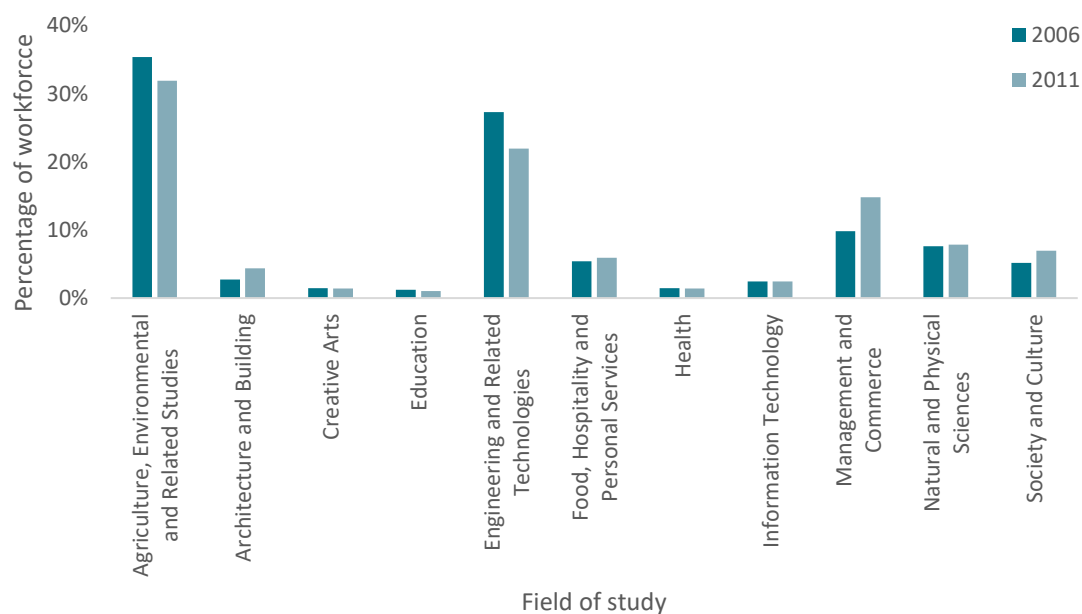
Figure 22: Percentage of total number of workers by field of study, 2006 to 2011²⁵



The top three fields of study for the aquaculture workforce were consistent with the total workforce. However, Agriculture, Environmental and Related Studies were the most commonly studied area, as shown in Figure 23.

Between 2006 and 2011 there was also a 5% increase in aquaculture workers with Management and Commerce qualifications, which may indicate that the number of management level positions within the aquaculture sector has increased.

Figure 23: Percentage of aquaculture workers by field of study, 2006 to 2011²⁶



²⁵ Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011.

²⁶ Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011.

More than half of the wild-catch workforce (54% in 2006 and 56% in 2011) indicated that they had a qualification, and that their field of study had been within Engineering and Related Technologies, as demonstrated in Figure 24.

Figure 24: Percentage of wild-catch workers by field of study, 2006 to 2011²⁷

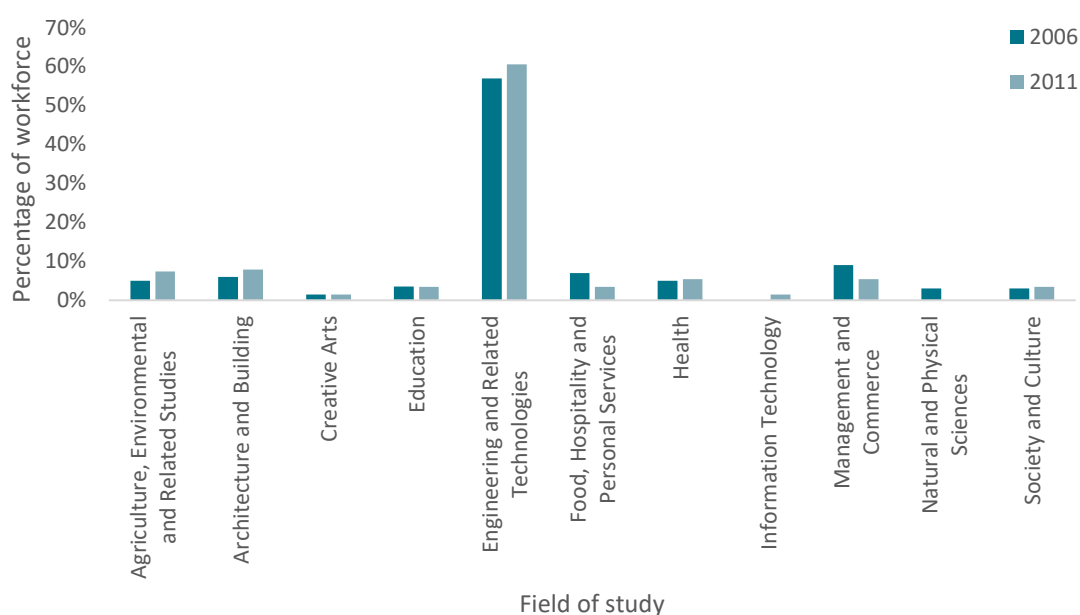
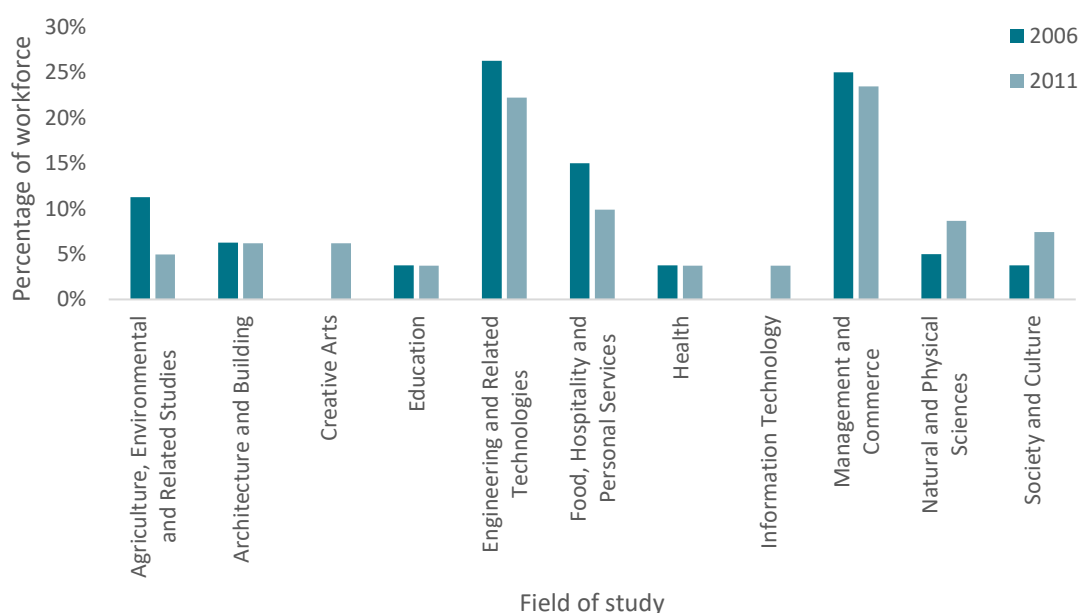


Figure 25 shows that Engineering and Related Technologies and Management and Commerce were the most popular areas of study for the seafood processing workforce.

Figure 25: Percentage of seafood processing by field of study, 2006 to 2011²⁸



²⁷ Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011.

²⁸ Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011.

Appendix A – Summary of Publicly Available Data

Table 2: Seafood industry workforce profile based on publicly available data

Summary Area	Aquaculture	Wild-catch	Seafood Processing
Seafood Industry Production (2013-14)	44,488 tonnes	5,516 tonnes	N/A
Seafood Industry Value (2013-14)	\$560 million	\$176 million	N/A
Seafood Industry Businesses (2013-14)	112	677	27
Workforce Size (2011)	1,153	457	310
Age (2011)	10-19 years: 5% 20-29 years: 21% 30-39 years: 28% 40-49 years: 23% 50-59 years: 17% 60-69 years: 5% 70-79 years: 1%	10-19 years: 3% 20-29 years: 10% 30-39 years: 20% 40-49 years: 25% 50-59 years: 26% 60-69 years: 14% 70-79 years: 2%	10-19 years: 3% 20-29 years: 19% 30-39 years: 22% 40-49 years: 25% 50-59 years: 20% 60-69 years: 11%
Gender (2011)	Female: 24% Male: 76%	Female: 22% Male: 78%	Female: 42% Male: 58%
Place of Usual Residence (2011)	South East: 48% Hobart: 32% West and North West: 11% Launceston and North East: 9%	South East: 26% Hobart: 30% West and North West: 26% Launceston and North East: 18%	South East: 21% Hobart: 23% West and North West: 44% Launceston and North East: 12%
Place of Work (2011)	South East: 52% Hobart: 23% West and North West: 10% Launceston and North East: 7% Undefined: 6% No Fixed Address: 2%	South East: 15% Hobart: 18% West and North West: 18% Launceston and North East: 10% Undefined: 15% No Fixed Address: 24%	South East: 19% Hobart: 21% West and North West: 43% Launceston and North East: 10% Undefined: 6% No Fixed Address: 2%
Indigenous Status (2011)	Aboriginal: 6% Torres Strait Islander: 0 Both: >1%	Aboriginal: 3% Torres Strait Islander: 0 Both: 0	Aboriginal: 7% Torres Strait Islander: 1% Both: 0
Speaks English at Home (2011)	94%	97%	94%
Top Three Occupations (2011)	1. Aquaculture farmers 2. Meat, poultry and seafood process workers 3. Aquaculture workers	1. Deck and fishing hands 2. Other miscellaneous technicians and trades workers 3. Marine transport professionals	1. Meat, poultry and seafood process workers 2. Packers 3. Production managers

Employment Type (2011)	Full-time: 83% Part-time: 17%	Full-time: 57% Part-time: 43%	Full-time: 60% Part-time: 40%
Hours Worked (2011)	1-15 hours: 5% 16-24 hours: 5% 25-34 hours: 7% 35-39 hours: 17% 40 hours: 30% 41-48 hours: 15% 49 hours and over: 21%	1-15 hours: 17% 16-24 hours: 11% 25-34 hours: 14% 35-39 hours: 6% 40 hours: 17% 41-48 hours: 4% 49 hours and over: 31%	1-15 hours: 17% 16-24 hours: 10% 25-34 hours: 15% 35-39 hours: 19% 40 hours: 19% 41-48 hours: 11% 49 hours and over: 10%
Income (2011)	\$1-\$399: 7% \$400-\$599: 13% \$600-\$799: 24% \$800-\$999: 18% \$1,000-\$1,999: 32% \$2,000 or more: 6%	\$1-\$399: 12% \$400-\$599: 15% \$600-\$799: 15% \$800-\$999: 13% \$1,000-\$1,999: 36% \$2,000 or more: 9%	\$1-\$399: 26% \$400-\$599: 20% \$600-\$799: 24% \$800-\$999: 14% \$1,000-\$1,999: 14% \$2,000 or more: 1%
Holds Formal Qualification (2011)	48%	37%	25%
Field of Study (2011)	Agriculture, Environmental and Related Studies: 32% Architecture and Building: 4% Creative Arts: 1% Education: 1% Engineering and Related Technologies: 22% Food, Hospitality and Personal Services: 6% Health: 1% Information Technology: 2% Management and Commerce: 15% Natural and Physical Sciences: 8% Society and Culture: 7%	Agriculture, Environmental and Related Studies: 7% Architecture and Building: 8% Creative Arts: 1% Education: 3% Engineering and Related Technologies: 61% Food, Hospitality and Personal Services: 3% Health: 5% Information Technology: 1% Management and Commerce: 5% Society and Culture: 3%	Agriculture, Environmental and Related Studies: 5% Architecture and Building: 6% Creative Arts: 6% Education: 4% Engineering and Related Technologies: 22% Food, Hospitality and Personal Services: 10% Health: 4% Information Technology: 4% Management and Commerce: 23% Natural and Physical Sciences: 9% Society and Culture: 7%