

AUSTRALIAN SEAFOOD INDUSTRY SECTOR

# **IRC Skills Forecast and Proposed Schedule of Work**

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## **2018–2021**

Prepared on behalf of the Aquaculture and Wild Catch Industry Reference Committee for the Australian Industry Skills Committee

**[skillsimpact.com.au](http://skillsimpact.com.au)**

# IRC SKILLS FORECAST AND PROPOSED SCHEDULE OF WORK 2018–2021

## Purpose

This *IRC Skills Forecast* represents the latest industry intelligence and resulting schedule of work of the Aquaculture and Wild Catch Industry Reference Committee (IRC). It was developed through research of national and industry data sources and ongoing input from IRC members and key stakeholders. The report is designed to provide industry intelligence to support the Australian Industry Skills Committee (AISC) on the four-year rolling National Schedule of training product development and review work.

The industry intelligence component covers the following topics:

**Sector Overview** – examining the depth and breadth of the industry and identifying the macro environment that currently challenges and/or provides opportunities for the industry

**Employment** – reviewing the employment projections by the Department of Employment and outlining the current workforce profile and supply for the industry

**Skills Outlook** – identifying the key priority skills for the industry and how they can benefit from improvement or development of national skill standards

**Training Product Review Work Plan** – establishing the scope and timeframe of proposed training package development in line with industry priority skills.

## Administrative Information

<b>Name of Applicable Industry Reference Committee (IRC):</b>	Aquaculture and Wild Catch Reference Committee
<b>Name of Applicable Skills Service Organisation (SSO):</b>	Skills Impact Ltd

This IRC Skills Forecast and Proposed Schedule of Work 2018–2021 has been produced with the assistance of funding provided by The Commonwealth Government through the Department of Education and Training.

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## Executive Summary

This report provides an overview of workforce development and skills needs for the Australian seafood industry sector. The report was commissioned to support the Australian Industry Skills Committee (AISC) in developing the four-year rolling *Skills Forecast and Proposed Schedule of Work*. The report is structured, as per the AISC template, in four main sections as follows: sector overview, employment, skills outlook, and training product review plan. Methods of analysis include research of published national and industry data sources and input from Industry Reference Committee (IRC) members and key stakeholders.

Australia's aquaculture, wild catch and seafood processing industry supports a rising seafood consumption domestically and internationally. Increasing health-consciousness and disposable incomes of consumers drive demand for healthier sources of protein, such as fish and seafood.

The industry has an international reputation for technical expertise and the integrity of its biosecurity system. Detecting and deterring deliberate or inadvertent failures to implement biosecurity risk management policies effectively sets up the top priority on the Australian and Federal State Government's and industry's agenda. Outbreaks of debilitating and fatal diseases to aquatic animals put the industry's global and domestic reputation at risk, with rapid biosecurity consequences and subsequent compliance and regulation implications for containment, control or eradication – whatever the case may be.

The industry makes a significant contribution to Australia's economy and regional communities. It is present across Australia in coastal centres near seaports and as offshore farms. The industry is dominated by a small number of significant businesses, generally vertically integrated into hatchery, aquaculture, processing and sales operations. The Australian seafood industry maintains a consistent supply of popular species such as salmon, trout, tuna, oysters, crustaceans and other fish and molluscs to local and export food supply chains.

Over the last ten years, industry's employment levels have been consistent with the economic growth of the aquaculture and wild catch sectors, but the future sets out serious labour supply challenges. An ageing workforce, skills shortages, the ability to attract and recruit young people, and current restrictions on working holiday and seasonal worker visa programs for skilled migration are all contributing factors impacting on industry's capacity to fulfil its future labour demand.

The level of industry's workforce development declined considerably in 2013 when reductions in national funding programs for training occurred. From 2013, accredited training activity has remained at low levels due to the high cost of training and limited options for subsidised training. The cost of training and upskilling industry's workforce is determined by geographical and regional dispersion of business, small scale operations and limited access or unavailability of registered training organisations. The industry values strategies that involve workplace cultures that support young, savvy workers who value training, mature-age traineeships for employees with unique skills and a lower turnover risk, promotion of industry's careers and career pathways, and third-party arrangements between enterprises and registered organisations to alleviate training limitations.

For over a decade, the industry has argued that a further critical impact on training has been the quality of the industry training package itself. As technology, job roles and functions adapt to the fast pace in many sectors of the seafood industry, it has been apparent that the SFI11 Training Package has been inadequate in keeping up with the needs of industry; thus adding a rather significant impediment to its overall workforce and skills development agenda.

One piece of welcome news: in less than two years under the new arrangements for training product development, and less than a year since the establishment of the Aquaculture and Wild Catch Industry Reference Committee, three significant projects for the industry were approved for completion in 2018 to address known deficiencies within the national training instrument.

# Summary of key points in each section

## Sector overview

- The seafood industry can be described as having five sectors: aquaculture (offshore and onshore), fishing (commercial), seafood processing, fishery compliance and seafood wholesaling.
- The industry includes more than 7,186 commercial businesses that collectively employ between 12,715 people. Nearly 70 per cent of these businesses focus on fishing. In addition, the sector involves about 3.4 million Australians in recreational fishing each year, and many Indigenous Australians in customary fishing activities; however, these are not considered sectors for the purpose of vocational skills and training.
- Over 60 per cent of commercial businesses are non-employing operations, and over 30 per cent employ fewer than 20 people. Small businesses generally sell to local markets. Large operators are generally vertically integrated and dominate the larger markets.
- Total sales turnover of the combined aquaculture, commercial fishing and seafood processing sectors increased by 6 per cent (or \$275 million) to \$4.8 billion between 2014–15 and 2015–16.
- The industry is represented by over 60 peak organisations at a national and state level, including industry associations and a number of other representative organisations, such as recreational fishing organisations, national regulatory bodies and sustainability certification organisations.
- Key regulations for the industry include or are related to: international instruments concerning fisheries, federal and state government regulations for the management of Australia's fisheries resources, commercial fishing permits, industry codes of conduct, sustainability certification programs, Food Standards Australia New Zealand, marine safety legislation, workplace safety regulations, environmental regulations and export/import legislations.
- The industry has the following regulated occupations<sup>1</sup> specific to this industry: skippers, officers in charge of a navigational watch, and engineers on a fishing vessel (who must hold a licence according to the *Marine Order 51 [Fishing vessels] 1989* in order perform duties and functions in relation to a fishing vessel on an overseas voyage), and operators in high-risk jobs, particularly in processing/filleting (who must have licences to perform those work functions as an industry requirement).
- Key macro forces that currently challenge and provide opportunities for the industry sectors include:
  - Federal government's regional plan for developing Northern Australia and Free Trade Agreements, which provide access to a diverse range of overseas markets. Such policies are important enabling factors for seafood export development and development of large-scale aquaculture farms.
  - Climate change, which generates negative effects on the productivity of reef fisheries.
  - A growing demand for seafood both nationally and globally, which provides opportunities to increase domestic seafood supply.
  - Seafood imports with less red tape than our local industries, increasing biosecurity risk for Australian local wild catch and aquaculture industries.
  - Layers of legislation and compliance across national government, states and territories.

<sup>1</sup> Regulated occupations have legal (or industry) requirements or restrictions to perform the work. Regulated occupations require a license from, or registration by, a professional association or occupational licensing authority.

- Proximity to Asian markets and the world-leading quality of Australian seafood, which offer a competitive advantage to the Australian seafood producers.
- Aquaculture skills in Australia, which allow a competitive edge in high-value aquaculture products.
- Indigenous Australians, who have managed and practised aquaculture over thousands of years, wanting to participate across training, employment, investment and R&D activities across the growing sector.
- Access to suitable production areas (both land and water), which represents a challenge for the industry due to competing users for available water and land resource base – i.e. arising conflict between the industry, local communities and recreational users of the waterways.
- Existing and ongoing development of enabling technologies, which allow fishers and fish farmers to reduce seafood production costs and improve Australia's future stock supplies for more resistant species. These developments enable Australian seafood to be a more competitive industry both nationally and globally.

## Employment

- Moderate employment growth is forecast in line with improved seafood production and import volumes.
- About 24 per cent of the industry workforce is likely to retire over the next five years.
- A significant number of the workforce occupies roles specific to the industry, including deck crew, aquaculture workers, marine transport professionals, seafood process workers, wholesalers (including importers and exporters), and sales representatives. A significant part of the workforce is also employed to undertake more general roles such as clerical and administrative work, packing, and delivery vehicle and truck driving.
- Seasonal and overseas workers play an important role in the sector, particularly in the low-skilled work area, remote regional employment and at peak harvest times.

## Skills outlook

- Priority skills in the seafood industry in the short term are summarised for 2018–2019; however, the longer term has yet to be finalised. The IRC has always advocated that the review of the current training package required urgent attention, and with the recent approval of projects to address a significant portion of the training package, they are presently content with the priority being the outstanding compliance units. This is a unique and temporary position for the seafood industry.

PRIORITY SKILL	DRIVERS	TRAINING PACKAGE SOLUTION <sup>2</sup>
<b>Industry-Specific Skills</b>		
Interpretation and application of compliance requirements by commercial operators and enforcement officer	The complexity of legislation and regulations, coupled with changes and updates, make it difficult for fisheries officers, commercial operators, especially small operators, to comply with the legislative and regulatory environment.	Review of 29 compliance units of competency to determine scope to modify to cater for the commercial operator.  Development of specific units of competency to

<sup>2</sup> Refer to Attachment C for full list of relevant qualifications and units of competency.

PRIORITY SKILL	DRIVERS	TRAINING PACKAGE SOLUTION <sup>2</sup>
	Changing legislation and regulations across the Commonwealth, state and territory domains.	address skill need as required (number to be determined through Case for Change).

## A. SECTOR OVERVIEW

### Sector Description

The seafood industry sector integrates all businesses and agencies that operate in the following sub-sectors:

- Aquaculture (offshore and onshore)
- Fishing (commercial)
- Seafood processing
- Fisheries compliance
- Seafood wholesaling.

In 2016, the industry sector included 7,186 commercial businesses (a 1.8 per cent drop from 2015), employing 12,715 people particularly in regional areas.<sup>3,4</sup> Of these businesses, 63 per cent were non-employing operations and 34 per cent employed fewer than 20 people. Also, nearly 70 per cent were fishing companies.

The combined contribution of commercial aquaculture, fishing and seafood processing to the Australian economy includes:<sup>5</sup>

- Total sales turnover, which increased by 6 per cent (or \$275 million) to \$4.8 billion between 2014–15 and 2015–16.
- Industry value added (IVA), which increased by 6 per cent (or \$106 million) to \$1.8 billion over the same period.

### Relevant Training Package Qualifications

The training package for the seafood industry is *SFI11 Seafood Industry Training Package*. SFI11 comprises 24 qualifications, 14 skill sets and 182 units of competency. Some units are imported from the *MAR Maritime Training Package*.

#### SFI11 QUALIFICATIONS

##### **Qualification Level: Certificate I**

Certificate I in Aquaculture

Certificate I in Fishing Operations

Certificate I in Seafood Processing

##### **Qualification Level: Certificate II**

Certificate II in Aquaculture

Certificate II in Fishing Operations

<sup>3</sup> ABS, 2017, Counts of Australian Businesses, including Entries and Exits, Jun 2012 to Jun 2016. [www] <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/8165.0Jun%202012%20to%20Jun%202016?OpenDocument>

<sup>4</sup> Census 2016

<sup>5</sup> ABS, 2017, Australian Industry, 2014–15. [www] <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/8155.02014-15?OpenDocument>

Certificate II in Seafood Processing

Certificate II in Fisheries Compliance Support

Certificate II in Seafood Industry (Sales and Distribution)

**Qualification Level: Certificate III**

Certificate III in Aquaculture

Certificate III in Fishing Operations

Certificate III in Fisheries Compliance

Certificate III in Seafood Processing

Certificate III in Seafood Industry (Environmental Management Support)

Certificate III in Seafood Industry (Sales and Distribution)

**Qualification Level: Certificate IV**

Certificate IV in Aquaculture

Certificate IV in Fishing Operations

Certificate IV in Seafood Processing

Certificate IV in Fisheries Compliance

Certificate IV in Seafood Industry (Environmental Management)

Certificate IV in Seafood Industry Sales and Distribution

**Qualification Level: Diploma**

Diploma of Aquaculture

Diploma of Fishing Operations

Diploma of Seafood Processing

Diploma of Fisheries Compliance

## Sector Analysis

### Sub-sector description and analysis of businesses involved

SUB-SECTOR NAME	AQUACULTURE
<b>SCOPE OF WORK</b>	<p>The sector consists of businesses that breed and farm fish, molluscs and crustaceans, both onshore and offshore.</p> <p>The aquaculture sector has a wide variety of farming operations and processes, mostly related to individual species and location. Aquaculture industry includes fish hatcheries, shellfish hatcheries, marine-based farming systems and land-based farming systems. The largest sector is the marine-based farming sector. Aquaculture farms operate under licensing systems that require strict environmental management conditions. Marine-based farms also operate under maritime regulations.</p>

<b>FARMS</b>	<p>There were 1,152 aquaculture farms in Australia in 2016, with the majority operating as small-scale family businesses or businesses employing fewer than 20 people.<sup>6</sup> The sector also has a small number of large operators. These large operators are generally vertically integrated, involving hatchery, aquaculture, processing and sales operations; and dominating the product output in the large markets.</p> <p><b>Major aquaculture business<sup>7</sup></b></p> <ul style="list-style-type: none"> <li>• Tassal Group Limited (Australian listed company)</li> <li>• Huon Aquaculture Group Limited (public Australian company)</li> <li>• Paspaley Pearling Group (private Australian company)</li> <li>• Clean Seas (public Australian company)</li> <li>• Sarin Group (private Australian company)</li> <li>• Seafarms Group (Australian listed company)</li> <li>• Mainstream Aquaculture (Australian listed company)</li> </ul>
<b>GEOGRAPHICAL LOCATION</b>	<p>The sector spreads across most of Australia, with a large number of businesses in New South Wales, South Australia, Queensland and Victoria. The majority of large aquaculture operators are concentrated in Tasmania, South Australia and Western Australia.</p>
<b>AUTOMATION AND DIGITISATION</b>	<p>Businesses use a range of computer-based technologies in managing their operations, as well as such equipment as automatic feeders, water quality monitoring and testing equipment, laboratory equipment for fish health, grading and sorting, and machinery and complex processing equipment. Many operations also have cold storage facilities (which are temperature controlled) and integrated logistics operations.</p>

<b>SUB-SECTOR NAME</b>	<b>FISHING</b>
<b>SCOPE OF WORK</b>	<p>Commercial businesses in this sector are involved in capturing inshore and estuarine, offshore and freshwater fish and seafood products, including finfish, molluscs, crustaceans, prawns, rock lobsters, oysters and also pearls. Products are sold direct to domestic and international customers as well as seafood processors and seafood wholesalers.</p>
<b>BUSINESSES</b>	<p>There were 4,990 commercial fishing businesses in Australia in 2016.<sup>8</sup> The majority are small-scale family businesses, typically employing fewer than 20 people. There are also several medium-size operators in the sector, including the following examples:<sup>9</sup></p> <ul style="list-style-type: none"> <li>• Craig Mostyn Group Pty Ltd</li> <li>• A Raptis &amp; Sons Pty Ltd (Australian private company)</li> <li>• MG Kailis Group (Australian private company)</li> </ul>

<sup>6</sup> ABS, 2017, Counts of Australian Businesses, including Entries and Exits, Jun 2012 to Jun 2016. [www] <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/8165.0Jun%202012%20to%20Jun%202016?OpenDocument>

<sup>7</sup> Enterprises listed according to their relative market share or significance in the sector.

<sup>8</sup> ABS, 2017, Counts of Australian Businesses, including Entries and Exits, Jun 2012 to Jun 2016. [www] <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/8165.0Jun%202012%20to%20Jun%202016?OpenDocument>

<sup>9</sup> Enterprises listed according to their relative market share or significance in the sector.

	<ul style="list-style-type: none"> <li>• Ocean Fresh Fisheries Pty Limited and Racovolis Amalgamated Fish Agents Pty Ltd (subsidiaries of NZ-based Sanford Limited)</li> <li>• Stehr Group Pty Ltd (Australian public company)</li> <li>• Australian Fishing Enterprises Pty Ltd (Australian private company)</li> </ul>
<b>GEOGRAPHICAL LOCATION</b>	Fishing businesses are present in all Australian states and are prevalent in Western Australia and Queensland. These states have the largest number of fishing businesses, due to the large area of coastline and number of seaports surrounding them.
<b>AUTOMATION AND DIGITISATION</b>	The commercial fishing industry operates with advanced vessel design and technologies that include GPS global positioning systems (GPS) and colour sounders, providing real-time updates on tides, weather conditions and indications of good fishing/catching areas. Internet via satellite is also used to communicate with other vessels and staff on land.

<b>SUB-SECTOR NAME</b>	<b>SEAFOOD PROCESSING</b>
<b>SCOPE OF WORK</b>	The sector consists of businesses that process fish or other seafood, both on on-board vessels and land-based. Processes include handling animals for live scale, skinning or shelling, grading, filleting, boning, crumbing, battering and freezing of the seafood. This class also includes units mainly engaged in operating vessels that gather and process fish or other seafood.
<b>PRODUCERS</b>	<p>In 2016 there were 203 businesses in the sector, with the majority being small-size operators who were non-employing or employing fewer than 20 people.<sup>10</sup> The sector also includes a small number of large, vertically integrated seafood companies or diversified food companies with global operations and multiple production sites across Australia; and a number of medium-size operators with a level of vertical integration into aquaculture and/or fishing and distribution. Some processing does commence on vessels at the time of the catch.</p> <p><b>Major seafood processors<sup>11</sup></b></p> <ul style="list-style-type: none"> <li>• Tassal Group Ltd (Australian public company)</li> <li>• Huon Aquaculture (Australian public company)</li> <li>• Geraldton Fishermen's Co-operative</li> <li>• Simplot Australia (Holdings) Pty Ltd (subsidiary of US-based JR Simplot Company)</li> <li>• Craig Mostyn Group Pty Ltd</li> <li>• A Raptis &amp; Sons Pty Ltd (Australian private company)</li> <li>• MG Kailis Group (Australian private company)</li> <li>• Safcol Australia Pty Ltd (foreign-owned company)</li> <li>• Angelakis Brothers (Australian private company)</li> </ul>

<sup>10</sup> ABS, 2017, Counts of Australian Businesses, including Entries and Exits, Jun 2012 to Jun 2016. [www]  
<http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/8165.0Jun%202012%20to%20Jun%202016?OpenDocument>

<sup>11</sup> Enterprises listed according to their relative market share or significance in the sector.

	<ul style="list-style-type: none"> <li>Austral Fisheries (toothfish and icefish)</li> </ul>
<b>GEOGRAPHICAL LOCATION</b>	Seafood processing operations occurs in all Australian states, with processing mainly taking place in plants located in coastal centres close to the fisheries, which are their main domestic suppliers. Some Australian companies operate offshore to reduce costs and to gain greater access to raw materials. Some fish is sent offshore for processing.
<b>AUTOMATION AND DIGITISATION</b>	The sector comprises a large number of traditional land-based processing businesses, but technology is increasingly beginning to impact on a range of processes, particularly for the larger processors. Cryo-vac technology is common for the larger processors, and processors are increasingly using more specialised equipment for a variety of products, such as portion packs. Cold storage and logistics operations are typically computer controlled.

<b>SUB-SECTOR NAME</b>	<b>Fishery Compliance</b>
<b>SCOPE OF WORK</b>	This sector consists of national and state regulatory bodies / agencies managing Australia's fisheries.
<b>PLAYERS</b>	Australia Fisheries Management Authority Department of Primary Industries and Regions (SA) Department of Primary Industries (VIC) Department of Resources (NT) Department of Employment, Economic Development and Innovation (QLD) Department of Primary Industries, Parks, Water and Environment (TAS) Department of Fisheries (WA) NSW Department of Primary Industries Australian Maritime Safety Authority
<b>GEOGRAPHICAL LOCATION</b>	Fishery compliance covers the commonwealth and across every state and territory level within 200 nautical miles off the coastline.
<b>AUTOMATION AND DIGITISATION</b>	Growth in technology and emergence of social media requires management agencies to adapt their systems and processes, including faster response times, flexible compliance options for different operating environments, monitoring challenges emerging across different compliance jurisdictions. Ways to simplify and streamline management systems through the sharing of services and processes in a consistent approach will require upskilling and training of workers.

<b>SUB-SECTOR NAME</b>	<b>FISH AND SEAFOOD WHOLESALING</b>
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<b>SCOPE OF WORK</b>	This sector includes businesses that wholesale fresh, frozen or processed fish or other seafood, including imported product. They purchase fish and seafood from the aquaculture and fishing sectors, and from seafood processors. These products may be repackaged or sold straight to specialist fish and seafood retailers, supermarkets, food catering companies, cafes, hotels and restaurants.
<b>PLAYERS</b>	In 2016 there were 841 fish and seafood wholesalers in Australia. Over 90 per cent of these businesses employ fewer than 20 people, or no staff at all. A number of businesses specialise in export products such as live rock lobsters, whilst others source product through cooperative supply arrangements or through local fish markets, the largest of which is the Sydney Fish Market.
<b>GEOGRAPHICAL LOCATION</b>	Most seafood wholesaling operations occur in New South Wales, Victoria and Queensland.
<b>AUTOMATION AND DIGITISATION</b>	Increasingly, wholesalers are reviewing the best ways of providing products, information and services to the customers, and are adapting to new ways of using collaborative logistics (computerised inventory control systems, tracking and reporting technologies) and digital communication. Selling seafood online, including selling into international markets, is seeing considerable growth.

## Relevant Stakeholders

The seafood industry sector is represented by over 60 peak organisations at a national, state or regional level. These organisations include 52 industry associations and a number of other representative organisations, including recreational fishing organisations, national regulatory bodies, sustainability certification organisations, industry services bodies and networks, and the union for industry workers.

**Table 1: Peak industry organisations**

CATEGORIES – PEAK INDUSTRY ORGANISATIONS	GEOGRAPHICAL REPRESENTATION
<b>INDUSTRY SUB SECTOR ASSOCIATIONS</b>	
<b>AQUACULTURE &amp; FISHING</b>	
Seafood Industry Australia (SIA)	NATIONAL
National Aquaculture Council	NATIONAL
Australian Abalone Growers Association (AAGA)	NATIONAL
Australian Barramundi Farmers Association (ABFA)	NATIONAL
Australian Marine Finfish Farmers Association (AMFFA)	NATIONAL
Australian Mussel Industry Association (AMIA)	NATIONAL
Australian Prawn Farmer's Association (APFA)	NATIONAL

CATEGORIES – PEAK INDUSTRY ORGANISATIONS	GEOGRAPHICAL REPRESENTATION
Australian Southern Bluefin Tuna Industry Association	NATIONAL
Australian Trout & Salmon Farmer's Association	NATIONAL
Commonwealth Fisheries Association	NATIONAL
Fisheries Research and Development Corporation	NATIONAL
Great Australian Bight Fishing Industry Association	NATIONAL
Northern Prawn Fishery Industry Inc	NATIONAL
Oysters Australia	NATIONAL
Pearl Producer's Association	NATIONAL
Small Pelagic Fishery Industry Association (SPFIA)	NATIONAL
South East Trawl Fishing Industry Association	NATIONAL
Southern Shark Industry Alliance	NATIONAL
Sustainable Shark Fishing Association (SSFAssn)	NATIONAL
The Master Fish Merchants' Association of Australia (MFMA)	NATIONAL
NSW Aquaculture Association Inc	NSW
NSW Professional Fishermen's Association	NSW
Freshwater Native Fish Association	NSW
NSW Farmers Association – Oyster Branch	NSW
Aquaculture Association of Queensland Inc	QLD
Queensland Aquaculture Industries Federation Inc (QAIF)	QLD
Queensland Crayfish Farmer's Association	QLD
Australian Freshwater Crayfish Grower's Association SA	SA
SA Mussel Grower's Association (SAMGA)	SA
SA Oyster Growers Association (SAOGA)	SA
South Australian Aquaculture Council (SAAC)	SA
Wildcatch Fisheries South Australia	SA
Scallop Fishermen's Association of Tasmanian	TAS
Tasmanian Abalone Grower's Association (TAGA)	TAS
Tasmanian Salmonid Growers Association (TSGA)	TAS
Tasmanian Shellfish Executive Council (TSEC)	TAS
Australian Freshwater Crayfish Grower's Association VIC	VIC
Victorian Abalone Industry Committee	VIC
Victorian Rock Lobster Association	VIC
Victorian Bays and Inlet Fisheries Association	VIC

CATEGORIES – PEAK INDUSTRY ORGANISATIONS	GEOGRAPHICAL REPRESENTATION
Victorian Abalone Grower's Association	VIC
Victorian Eel Fishermen's Association	VIC
Victorian Trout Association	VIC
Victorian Scallop Fishermen's Association (VSFA)	VIC
Aquaculture Council of West Australia (ACWA)	WA
Western Rock Lobster Council	WA
Western Australian Fishing Industry Council	WA
<b>SEAFOOD PROCESSING</b>	
Seafood Importers Association of Australia (SIAA)	NATIONAL
Seafood Processors and Exporters Council (SPEC)	NATIONAL
NSW Seafood Industry Council	NSW
Northern Territory Seafood Industry Council	NT
Queensland Seafood Industry Association (QSIA)	QLD
Queensland Seafood Marketers Association (QSMA)	QLD
Tasmanian Seafood Industry Council	TAS
Seafood Industry Victoria	VIC
Western Australian Fishing Industry Council (WAFIC)	WA

## REGULATORY BODIES

Australian Fisheries Management Authority (AFMA)	NATIONAL
Australian Maritime Safety Authority	NATIONAL
Department of Agriculture and Water Resources – Fisheries	NATIONAL
The Great Barrier Reef Marine Park Authority	NATIONAL
Department of Primary Industries – Fisheries	NSW
Department of Primary Industry and Fisheries	NT
Department of Agriculture and Fisheries	QLD
Primary Industries and Regions SA	SA
Department of Primary Industries, Parks, Water and Environment – Sea Fishing and Aquaculture	TAS
Victorian Fisheries Authority (VFA)	VIC
Department of Primary Industries and Regional Development	WA

## UNION

National Union of Workers (NUW)	NATIONAL
Maritime Union of Australia	NATIONAL

## INDUSTRY NETWORKS AND SERVICES BODIES

Fisheries Research and Development Corporation (FRDC)	NATIONAL
Women's Industry Network Seafood Community (WINSC)	NATIONAL

# Industry and Occupational Regulations and Standards

## Industry regulations and standards

Australian seafood industry operates under a high level of regulation. Key regulatory obligations are outlined below.

### International instruments

Australia is a signatory to a range of international instruments concerning fisheries. The *United Nations Convention on the Law of the Sea* (UNCLOS), 1982, sets out detailed rules in relation to Australia's and other state's sovereign rights in the Exclusive Economic Zone (EEZ), including in relation to fisheries. Key supporting instruments are the non-legally binding Food and Agriculture Organization (FAO) *Code of Conduct for Responsible Fisheries*<sup>12</sup>, and *International Plans of Action*<sup>13</sup>

<sup>12</sup> FAO, 2018, Fisheries & Aquaculture - Code of Conduct for Responsible Fisheries. [www] <http://www.fao.org/fishery/code/en>

<sup>13</sup> FAO, 2018, Fisheries & Aquaculture - International Plans of Action. [www] <http://www.fao.org/fishery/code/ipoa/en>

- Prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing
- Reduce fishing (over) capacity
- Reduce the incidental catch of seabirds
- Conserve and manage sharks.

### **Federal and state government regulation**

Aquaculture and fishing in Australia is managed under strict environmental guidelines. Federal and state governments have shared responsibility for the management of Australia's fisheries resources. The Offshore Constitutional Settlement (OCS) is a formal agreement that deals with Commonwealth and individual state fisheries jurisdictions that manage arrangements for specific fisheries within a single jurisdiction or a joint authority (Commonwealth or state). There are presently three joint authorities, involving the Commonwealth and the Northern Territory, Queensland and Western Australia.

The Australian Government has no direct management responsibility for aquaculture. However, multiple national programs for research, quarantine, aquatic animal health, food safety, environmental management, and market access and trade are available for the aquaculture industry.

The state governments regulate domestic fisheries and aquaculture production in their jurisdiction through the issuing of licences, permits, leases and quotas; and through regulations, which cover the environment, animal welfare, water supply and wastewater, monitoring and compliance.

Aquaculture occurs almost exclusively in state/territory waters, although there is likely to be increasing interest in undertaking aquaculture in Commonwealth offshore waters as technology allows aquaculture operations in further offshore areas.

### **Legislative frameworks**

There are two fields of legislation relevant to the Australian seafood industry: Commonwealth and state. The primary legislation governing Commonwealth fisheries management is the *Fisheries Management Act 1991* (FMA) and the *Fisheries Administration Act 1991* (FAA).

The Australian Fisheries Management Authority (AFMA) was originally established under the *Fisheries Administration Act 1991* as a statutory authority to be responsible for the efficient management and sustainable use of Commonwealth fish resources. AFMA is now a Commission under the Department of Agriculture and Water Resources. They appoint Commissioners with a high level of expertise in the fields, including fisheries management and fishing industry operations, who are responsible for domestic fisheries management.

The *Fisheries Management Act 1991* sets out the legislative parts of the Commonwealth's fisheries management framework, including the regulation of fisheries, preparation of fisheries management plans, allocation and management of statutory fishing rights and other concessions, determination of allowable catch, fish receipt, compliance and foreign fishing controls, cooperation with the states and the Northern Territory, and satisfying international obligations. The Act enables AFMA to prepare and determine a Plan of Management for each Commonwealth fishery.

Fisheries under state management are governed by various state Fisheries Acts, with some states (e.g. South Australia and Tasmania) also having established specific aquaculture Acts/legislation to facilitate growth and streamline management in this sector.

The fishing and aquaculture sector interacts with other national and international legislation, including:

- *Torres Strait Fisheries Act 1984*, which governs fisheries between Australia and Papua New Guinea

- *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*, involving accreditation of a plan of management and risk assessment for a fishery; and components that seek to protect listed threatened species and ecological communities; as well as to regulate the international movement of wildlife specimens
- *Navigation Act 2012*, regulating ship and seafarer safety
- *Customs Act 1901*, concerning border controls
- *Biosecurity Act 2015*, regarding biosecurity threats from transportation of species across borders and from foreign fishing vessels
- *Migration Act 1958*, regulating detention of illegal foreign fishers
- *FAO Compliance Agreement*
- *United Nations Convention on the Law of the Sea*
- *United Nations Fish Stocks Agreement*
- *Native Title Act 1993*
- Food standards rules
- Workplace safety legislation.

### **Commercial fishing permits**

The *Fisheries Management Act 1991* enables AFMA to allocate statutory fishing rights or permits to all commercial fishing operators for access to the resources of each Commonwealth fishery. Many fishers have individually tradable quotas (ITQs) or shares of the resource assigned as a proportion of the total allowable catch determined by AFMA each year. Where ITQs are not used, AFMA uses a direct permit system to specify the amount of catch each concession holder can take in a fishing season.

Other provisions of the Act deal with fish receiver permits (receivers are typically those who accept fish from a boat at landing); scientific fishing permits; foreign fishing; illegal foreign fishing; fishing on the high seas; treaty licences; surveillance and enforcement; and the procedures AFMA must follow in implementing these things.

The issuance of licences, permits and quotas required for aquaculture and fishing in state and territory jurisdictional waters is the responsibility of state and territory governments; however the responsibility for the jurisdiction of domestic commercial vessels is transitioning to the Australian Maritime Safety Authority (AMSA) effective from 1 July 2018. Most state governments require annual reports on sustainability of the target stocks, adherence to regulatory conditions and environmental monitoring programs. State aquaculture legislation and regulations cover the environment, disease prevention, water supply and wastewater, monitoring and compliance, and prevent uncontrolled or extensive development.

A sector-specific legislative example is pearl production in Western Australia, currently managed under the *Pearling Act 1990*, with regulations involving state government licensing and quota systems for taking wild stock, leases for establishing a pearl farm and permits for a hatchery.

### **Industry codes of conduct**

The *Code of Conduct for Responsible Fisheries* (the Code), initiated by the United Nations Food and Agriculture Organization Committee on Fisheries, is adopted by over 170 countries, including Australia. The Code is voluntary and provides operators with principles and standards applicable to the conservation, management and development of all fisheries. It also covers the capture, processing and trade of fish and fishery products, fishing operations, aquaculture, fisheries research and integration of fisheries into coastal area management.

The *Australian Aquaculture Code of Conduct*, initiated by the Australian Aquaculture Forum, provides principles aimed at maintaining ecological and economic sustainability for the aquaculture industry. The Code of Conduct requires compliance with regulations, respect for the rights and safety

of others, humane treatment of aquatic animals, and promotion of the safety of seafood for human consumption.

Further examples of codes of conduct in the sector include:

- *Aquatic Animal Welfare Overarching Principles*
- *WA Fishing Industry Occupational Health and Safety Code*
- *Environmental Code of Practice for Australian Prawn Farmers*
- *Pearl Diving Industry Code of Practice*
- *EMS for Oyster Farmers in NSW.*

### **Sustainability certification programs**

Fisheries and seafood businesses voluntarily seek independent certification to recognise their sustainable fishing practices and to influence the choices made by people when buying seafood. The Marine Stewardship Council oversees two certification schemes: the *MSC Fisheries Standard* and the *MSC Chain of Custody Standard*. The *MSC Fisheries Standard* measures the sustainability of wild-capture fisheries and is open to all fisheries globally. The Western Rock Lobster Fishery was the world's first MSC certified fishery in March 2000. The *MSC Chain of Custody Standard* ensures that MSC products handled through the supply chain are traceable and identifiable from fishery to plate. The MSC's ecolabel can be used on packaging to demonstrate the sustainability of the fishery product against third-party certification requirements. The aquaculture sector can be certified by the Aquaculture Stewardship Council.

In addition, the Australian Barramundi Farmers Association (ABFA) is rolling out a Sustainability Certification Program to ensure that the farming of barramundi in Australia is ecologically sustainable, eco-efficient and produces a quality product that is internationally competitive.

Many other certification bodies, including Global Aquaculture Alliance and Global Reporting Initiative, offer standards and mechanisms for independent assessment against sustainability standards.

The tuna industry in SA was the first fishery in the world to be ISO14001 accredited. ISO14001 is the International Standard for environmental management and overrides all other systems in scope and coverage.

### **Food Standards Australia New Zealand**

Strict food health standards apply to both aquaculture and wild-capture products. The sector is subject to national food standards and food safety assurance systems enforced by Food Standards Australia New Zealand (FSANZ). Requirements that apply to seafood products include labelling of ingredients, country of origin, nutrition, directions for use, best before date, supplier name and details, maximum residue limits for agricultural chemicals, contaminants and natural toxins, and maximum levels of foodborne micro-organisms.

### **Export/import legislation**

Fish and fish products are 'prescribed' goods under Australian legislation, and as a result the export of fish and products for human consumption is regulated by Australian's Export Control legislation. The legislation supports the production of safe food and ensures that all food exported complies with Australian Food Standards and any additional importing country requirements. Depending on what part of the export chain the business falls within, exporters and importers of fish and fish products must meet differing requirements.

### **Regulated occupations in the industry**

Australia is a signatory to the International Maritime Organization (IMO), which governs maritime safety and standards for credentials.

Regulated occupations have legal (or industry) requirements or restrictions to perform the work. Regulated occupations require a license from, or registration by, a professional association or occupational licensing authority.

Maritime Certificates apply to all persons operating vessels either inshore or offshore and are part of the maritime regulatory (licenced) system. Qualifications in training packages must meet the minimum licence standards.

*Marine Order 51 (Fishing vessels) 1989* sets out the minimum licences required by a person to perform duties and functions in relation to a fishing vessel. Crew members who are required to hold appropriate qualifications include skipper, officer in charge of a navigational watch and engineer on a fishing vessel. Criteria used to determine the licence required for deck and engineer officers include the size of the fishing vessel, where it is operating, and the experience and qualifications of the seafarer.<sup>14</sup>

This sector has a number of other activities for which high-risk licences are required, particularly in the processing/filleting area, and operators must have licences to perform those work functions. The industry also employs a range of regulated occupations, including vehicle, mobile equipment, and crane and forklift operators.

## Challenges and Opportunities in the Sector

The Australian seafood industry sector operates in a dynamic environment, largely in a publicly owned resource space, shaped by a range of natural factors and policy frameworks at state, national and international levels, resulting in ramifications for trade, compliance, skills and training. Access to free trade and knowledge of market requirements have become increasingly important, along with developing new and innovative technologies in order to adapt to changes in land and water availability, biosecurity, and changing climatic conditions. The outlook for the Australian seafood industry sector is positive, with the world's demand for sustainable sources of fish and seafood rising. The challenges and the industry's opportunities for growth are discussed below.

### GOVERNMENT POLICIES

Aquaculture, fishing and seafood processing are integral parts of the agribusiness and food processing sectors, which are at the forefront of the Australian government policy agenda. Federal Government plans, such as *Our North Our Future: White Paper on Developing Northern Australia*, and other initiatives, including further global trade liberalisation through new Free Trade Agreements, have the potential to support the sector, to provide opportunities for expanding its economic activity in key regions (such as Northern Australia) and to provide access to key markets.

Increasing access to a diverse range of overseas markets is an important enabling factor for export developments. Similarly, development of large-scale aquaculture, incorporating the world's best environmental practices, can benefit from more efficient and streamlined management of fisheries and aquaculture operations. A simpler, risk-based regulatory system supporting investments through longer tenure for licence/lease periods, export approvals and environmental approvals would provide stability and further opportunities for investments and for increasing the sector's economic competitiveness in the global markets.

The introduction of numerous marine parks in Commonwealth and state waters has had the effect of restricting the areas commercial fishing and aquaculture can take place. This has led to the

<sup>14</sup> Australia Maritime Safety Authority, 2018, Marine order 51 - Fishing vessels. [www] <https://www.amsa.gov.au/vessels-operators/regulations-and-standards-vessels/marine-order-51-fishing-vessels>

contraction in some commercial fisheries and slowed investment in the industry due to uncertainty relating to marine park priorities and management. The Commonwealth Fisheries Policy Statement sets out the guiding principles by which the government ensures our fisheries are carefully and sustainably managed for future generations, with an emphasis on credible and scientific data.<sup>15</sup>

State governments have also seen the seafood sector, alongside agricultural and food sectors, as a critical contributor to regional growth and exports, supporting it with policies based on state-based industry strategies, investments and action programs.

The challenge for individual companies is to unlock commercial benefits from these government programs and agreements, by becoming export ready, culturally literate and market-savvy.

This is illustrated by Seafarms Group Limited, which plans to develop, with state and federal government support, the largest aquaculture development in Australia and one of the biggest ventures of its type in the world – a \$1.45 billion prawn aquaculture project on Legune Station pastoral lease near the Western Australia and Northern Territory border. The company expects to deliver the first shipment to Asian markets by 2018.<sup>16</sup>

## CLIMATE CHANGE

Climate change is a challenge that fisheries and aquaculture operators will have to increasingly deal with if they are to maintain or improve the current levels of productivity.

Future weather and climate scenarios projected by CSIRO, including temperature, ocean currents, winds, nutrient supply, rainfall, ocean chemistry and extreme weather conditions, have the potential to impact significantly on the sector.<sup>17</sup> Changes in sea surface temperature have the potential to present threats for offshore aquaculture and wild fishing, by increasing infestations of fouling organisms, pests and nuisance species. Currently, aquatic animal health is a challenge for this sector, with disease outbreaks continuing to be a major risk. The Australian salmon industry is potentially at risk of the effects of global warming, as evidenced by the marine heatwave in 2016.<sup>18</sup>

Productivity of reef fisheries may be reduced by the El Niño–Southern Oscillation effects, such as changed ocean temperature and bleached coral. Changes in precipitation and water availability have created competition between this industry and other water users, and as a result generated higher costs in maintaining pond water levels. Lower water quality and salinity changes in freshwater supply caused by drought conditions have also resulted in increased production costs and loss of stock. Increases in the frequency and intensity of storms have also impacted on wild fish catch and stock.

While climate change presents potential threats to aquaculture and wild fishing, it also presents opportunities for developing mitigation planning through diversification and expansion of water resources and more resistant species. A range of options to improve resilience to climate change are provided in the *National Climate Change Action Plan for Fisheries and Aquaculture* and the *National Marine Science Plan*.

## BIOSECURITY

<sup>15</sup> <http://www.agriculture.gov.au/fisheries/domestic/fisheries-policy-statement>

<sup>16</sup> Seafarms Group, 2015, Project Sea Dragon: Article – Sunday Times – 20 December 2015. [www] <https://seafarms.com.au/category/news/>

<sup>17</sup> CSIRO, 2016, Climate Change in Australia. [www] <https://www.climatechangeinaustralia.gov.au/en/>

<sup>18</sup> Department of the Environment and Energy, Climate change impacts in Australia. [www] <https://www.environment.gov.au/climate-change/climate-science/impacts/tas>

The 2016–17 white spot disease outbreak in seven Queensland prawn farms carried a significant cost for Australia's prawn aquaculture industry, governments and other seafood industries.

Australia relies heavily on prawn imports, which means that the importation of uncooked seafood presents significant biosecurity risks due to the numerous complex, variable international production systems and trade pressures.

Import conditions for prawns and prawn products had remained unchanged since 2010. For biosecurity risk management, the 2010 import conditions relied heavily on sampling and testing uncooked imported prawn batches at the border before they were released from quarantine into the domestic supply chain. The extent to which all importers could be trusted, and the complexity of internal information flow and risk governance, meant that emerging risks were not seen in their entirety.

A recent Australian Government biosecurity review report for uncooked prawn imports<sup>19</sup> concludes that the department and other stakeholders quickly addressed many of the problems caused by the white spot disease outbreak in Queensland, but more needs to be done to manage the biosecurity risks of prawn imports in the future. The review identified a real shortage of expertise and experience in aquatic diseases affecting prawns in Australia, outside of the government system. The review also suggests that communication between national and state departments, and communication and cooperation with stakeholders in planning future biosecurity arrangements for Australia's aquaculture industries, needs to improve to ensure a better understanding of needs, roles and responsibilities to achieve agreed solutions.

The first Australian case of Pacific Oyster Mortality Syndrome (POMS) was recorded in 2010 in New South Wales. Since the NSW outbreak, general restrictions on importing oysters into SA have been in place to prevent disease introduction and safeguard South Australia's \$32 million oyster growing industry. POMS was then detected in Tasmania on 1 February 2016. The detection led to a ban on the movement of live Pacific Oysters, oyster spat and used farming equipment originating from Tasmania into South Australia. At the time, oyster farmers in SA relied on oyster spat from well-established hatcheries in Tasmania, and the movement ban resulted in a shortfall of spat to the South Australian industry. The negative effect on the workforce was enormous and impacted across both states. The SA government and the SA Oyster Growers Association quickly worked together to address the spat supply shortage as the movement ban remained in place. However, in Feb 2018, confirmation of the presence of POMS in SA was detected for the first time in the Port River.

## MARKET AND TRADE

Australia is a net importer of seafood products, as consumer demand for seafood continues to grow nationally and globally. In this context, the sector has the potential and opportunity to expand to help meet domestic and international demand. There are several factors that drive the sector's trade, including the exchange rate, the proximity to the growing fisheries and aquaculture market in Asia, trends and preferences in the domestic and main export markets, and the macroeconomics of Australia and competing exporting countries. These are all important factors contributing to the sector's growth and overall competitiveness in the global market.

The gross value of Australia's fisheries and aquaculture production increased 9 per cent to \$3.0 billion in 2015–16, driven by a rise in value of salmonid, rock lobster and prawn production. Wild-

<sup>19</sup> Inspector-General of Biosecurity, 2017, Uncooked prawn imports: effectiveness of biosecurity controls, Department of Agriculture and Water Resources, Canberra. [www] <http://www.igb.gov.au/Pages/uncooked-prawn-imports-effectiveness-biosecurity-controls.aspx>

caught products accounted for 57 per cent (\$1.75 billion) and aquaculture products accounted for 43 per cent (\$1.31 billion) of the total gross value production.<sup>20</sup>

Tasmania remained the largest Australian producer of fisheries and aquaculture products, accounting for 30 per cent of the gross value of production in 2015–16. It was followed by Western Australia (20 per cent), South Australia (17 per cent) and Queensland (11 per cent). Commonwealth fisheries accounted for 13 per cent.

The volume of Australian fishery production also increased by 12 per cent to 267,094 tonnes, with wild-caught species accounting for 64 per cent (174,247 tonnes) and aquaculture products accounting for 36 per cent (97,046 tonnes) of total production.

Domestic seafood supply remained steady during the last decade as exports increased. In 2016, the value of Australian fisheries products exports raised to the highest value since 2008. Imports have also increased to fill the gap between consumption and available domestic supply. Australia's apparent consumption of seafood increased at an average annual rate of 1 per cent between 2006 and 2016.

Australia remains a net importer of fisheries and aquaculture products. In 2015–16, the total value of fishery and aquaculture product imports increased by 4 per cent to \$2.09 billion. Imports largely consist of lower unit value products such as frozen and canned fish and frozen prawns.

The growth in fish and seafood consumption has led Tasmanian salmon farmers, including Tassal Group, Huon Aquaculture Group and Petuna Aquaculture, to explore further offshore expansions into Storm Bay.

Australia exports a range of high-value fisheries and aquaculture products to Japan, and increasingly to Hong Kong, China and Vietnam, being a leading supplier of southern bluefin tuna, rock lobster and abalone in these regions. The increasing demand for Australian native species and the proximity to Asian markets, together with world-recognised seafood quality and standards, means Australian aquaculture is competitively positioned to take on high-value aquaculture products. It is expected that the Australian seafood export market will increase.

The global fish and seafood market has grown steadily in recent years, as recently revealed by a market report, and is forecast to grow by the same rate (3.9 per cent) through 2020, aided by increased health consciousness and the desire for quality seafood among newly affluent consumers in Asia-Pacific.<sup>21</sup>

The Food and Agriculture Organization of the United Nations (FAO) has predicted that by 2018, farmed fish production will exceed wild fisheries production for human consumption, and that by 2021, more than half of the fish consumed globally will be produced by aquaculture.<sup>22</sup> In Australia, a major impediment to the increase of aquaculture is access to suitable production areas (both land and water). This is mostly a concern in coastal regions close to residential areas, where conflict can arise between the industry, local communities and recreational users of the waterways. Also, an additional challenge is the cost of seafood production, which has been relatively high in Australia compared to other countries.<sup>23</sup>

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<sup>20</sup> ABARES, 2017, Australian fisheries and aquaculture statistics 2016. [www]

[http://data.daff.gov.au/data/warehouse/9aam/afstad9aamd003/2016/AustFishAquacStats\\_2016\\_v1.0.0.pdf](http://data.daff.gov.au/data/warehouse/9aam/afstad9aamd003/2016/AustFishAquacStats_2016_v1.0.0.pdf)

<sup>21</sup> Industry News Food & Beverage, 2016, Global fish and seafood market set to grow through to 2020 (Posted 30 Sep 2016). [www] <https://foodmag.com.au/global-fish-and-seafood-market-set-to-grow-through-to-2020/>

<sup>22</sup> Department of Agriculture and Water Resources, 2016, Aquaculture industry in Australia. [www] <http://www.agriculture.gov.au/fisheries/aquaculture/aquaculture-industry-in-australia>

<sup>23</sup> Fisheries Research and Development Corporation, 2014, Aquaculture Sector. [www] <http://frdc.com.au/sitecore/content/frdc/environment/aquaculture>

Like many agricultural companies, fishing and aquaculture businesses see opportunities to expand overseas in the coming years. However, their five most significant challenges include:<sup>24</sup>

- High domestic costs in Australia
- Adverse exchange rate movements
- Increased international competition
- Risk of financial or economic crisis in key overseas markets
- 'Red tape' in Australia.

## RESEARCH, INNOVATION AND APPLIED TECHNOLOGY

Research and development remains the sector's greatest opportunity to build knowledge and improve production from fishing and aquaculture operations.

This is especially the case for aquaculture species through integrated studies of genetics, physiology, health, aquafeeds, environments and food science. Particularly, the Australian oyster industry identified breeding as its highest priority research programs, and secured Federal Government funding in 2016 for a national Pacific Oyster Mortality Syndrome (POMS)-resistant oyster breeding program. The program will ensure that Australia's future stock is POMS-resistant.<sup>25</sup>

The opportunity to improve aquatic animal health through further research on disease diagnostic capability, surveillance and treatment would also be beneficial for the industry.

Although a great deal of research is generated in the sector through funding grants from the Fisheries Research and Development Corporation and the work of major institutions (e.g. CSIRO, IMAS, SARDI), the challenge is to bridge the gap between research results and application on vessel or farm site, to realise improvements in quality of catch through handling, breeding, disease management and technological advances that can increase yield while reducing environmental impact.

Greater application of advanced production techniques and technology from research have the potential to reduce seafood production costs and make the Australian seafood industry a more competitive industry, both domestically and internationally; and to 'grow' seafood with the smallest impact on the environment of any primary production sector.

<sup>24</sup> Australia's International Business Survey, 2015, Industry Profile Report. Agriculture, Forestry and Fishing. [www] <https://www.austrade.gov.au/ArticleDocuments/1358/AIBS-2015-agricultural-forestry-fishing-industry-profile.pdf.aspx>

<sup>25</sup> ABC News, 2016, Funding secured for Australian Seafood Industries' POMS resistant oyster breeding program (Posted 31 May 2016). [www] [http://www.abc.net.au/news/2016-05-31/oyster-poms-resistance/7462816?WT.mc\\_id=newsmail](http://www.abc.net.au/news/2016-05-31/oyster-poms-resistance/7462816?WT.mc_id=newsmail)

## B. EMPLOYMENT

### Employment Update

Industry employment has grown over the last ten years due to rising fish and seafood consumption. The rise in disposable incomes and increasing health consciousness nationally and internationally have contributed to the industry growth and will continue to boost demand for fish and seafood and a higher labour demand over the next five years.

Despite its growth, the aquaculture and wild catch industry faces serious labour supply challenges. Working conditions, wages and the remote nature of workplaces generate an adverse public perception of careers in the industry, which challenge the industry's ability to attract and recruit young people into training and employment. The challenges also lie in developing the skills of these people through on-the-job learning and formal training, and providing them with career opportunities and sustainable remunerations that enable workforce retention in the industry.

Labour demand and industry's need to attract more people is also intensified by the ageing workforce, which is reaching retirement age in excessive numbers and taking with them years of valuable experience and skills not necessarily replaced. Access to labour is particularly challenging for aquaculture and wild catch businesses with operations in remote locations or offshore. Skill shortages also exist for skippers.

Current restrictions on working holiday and seasonal worker visa programs for skilled migration also exacerbate the industry capacity to fulfil its labour demand. The labour supply challenge is only going to get worse, because the current visa options do not provide a holistic and comprehensive response to producers. The expansion is difficult for many businesses because they are not sure they have enough workers to meet expectations. Other companies remove themselves from this industry.

#### **Total employment**

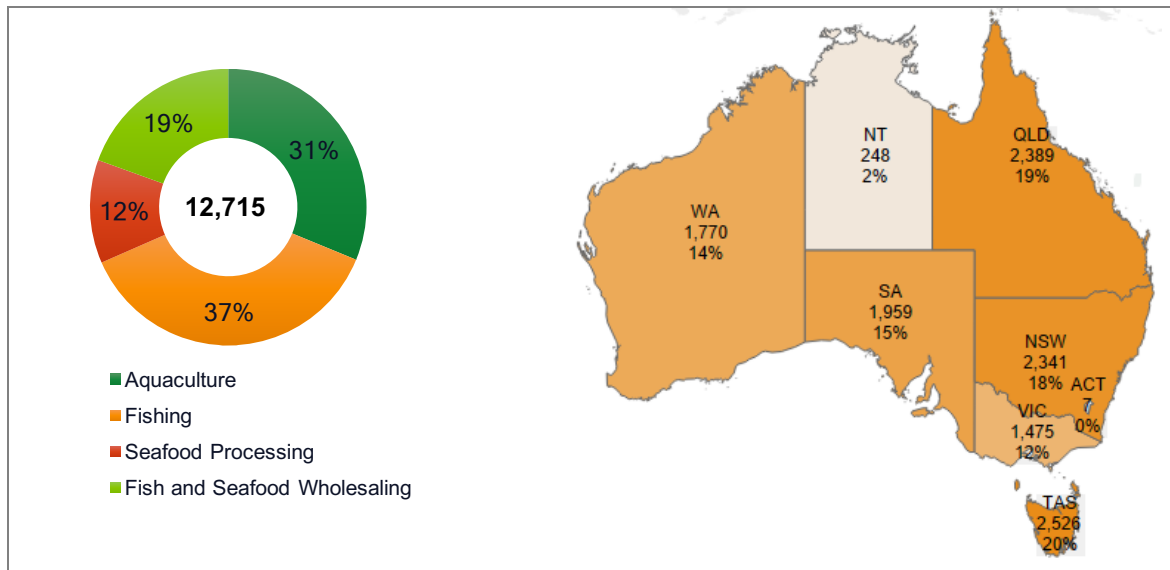
Based on the 2016 Census, the Australian aquaculture and wild catch industry employed 12,715 people in 2016.<sup>26</sup> This covers aquaculture, fishing, seafood processing and fish and seafood wholesaling activities. About 62% of these people were employed full-time.

Aquaculture and fishing activities provided just above two-thirds (68%) of this industry's employment. The industry was concentrated in Tasmania, Queensland and New South Wales, which in total provide 57% of the industry employment.

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<sup>26</sup> All employment data is sourced from the ABS Census datasets via the TableBuilderPro product.

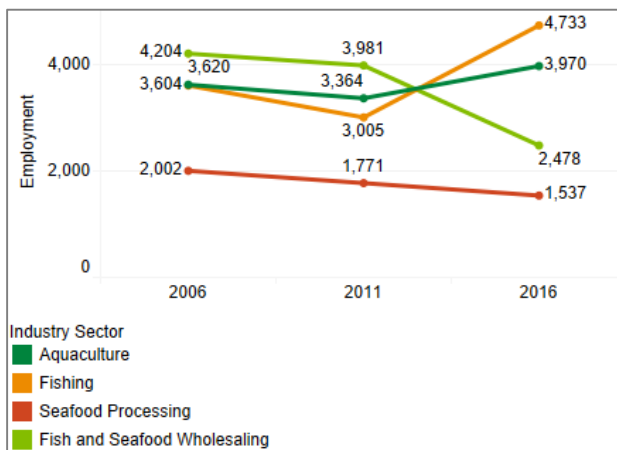
**Figure 1: Industry employment by subsectors and states and territories, 2016**



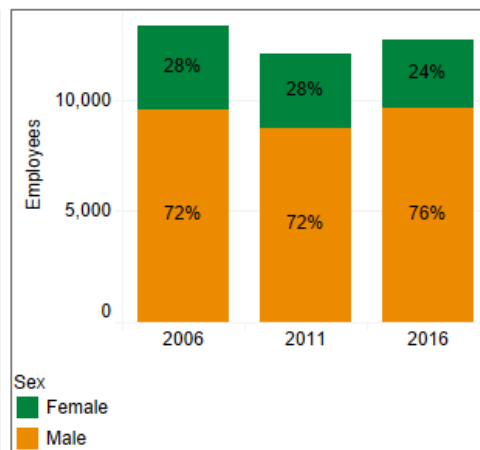
## Changes in employment, 2006 to 2016

From 2006 to 2016, the aquaculture and wild catch industry experienced an overall decline in employment due to a sharp downward trend in wholesaling and seafood processing. A sub-sector analysis shows that fishing and aquaculture recorded a positive employment growth (31% and 10% respectively) between 2006 and 2016, although some level of decline occurred in 2011.

**Figure 2: Employment trends, 2006–2016**



**Figure 3: Industry employment by gender, 2006–2016**



## Gender composition of the workforce

The industry is male-dominated, with men representing 76% of all industry's employees, and women 24%. The proportion of women in the industry decreased by 4% in 2016, when compared with the year 2006.

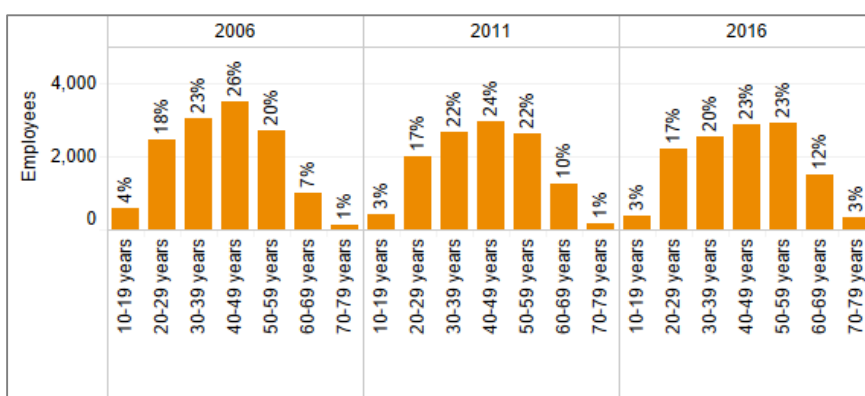
A sub-sector analysis indicates that fishing recorded the highest proportion of men (84%) of all industry sectors, and seafood processing the lowest (60%). From 2006 to 2016, women's participation increased slightly only in some parts of aquaculture

## Age levels of the workforce

The industry workforce is ageing. The proportion of employees in each age group category over 50 years old increased by up to 5% in 2016 when compared with 2006.

Among the four industry sub-sectors, aquaculture employed a higher proportion of people in the age groups 20 to 29 and 30 to 39 years, and a lower proportion in the older age groups.

**Figure 4: Industry employment by age level, 2006–2016**



## Changes in occupation of employment, 2006 to 2016

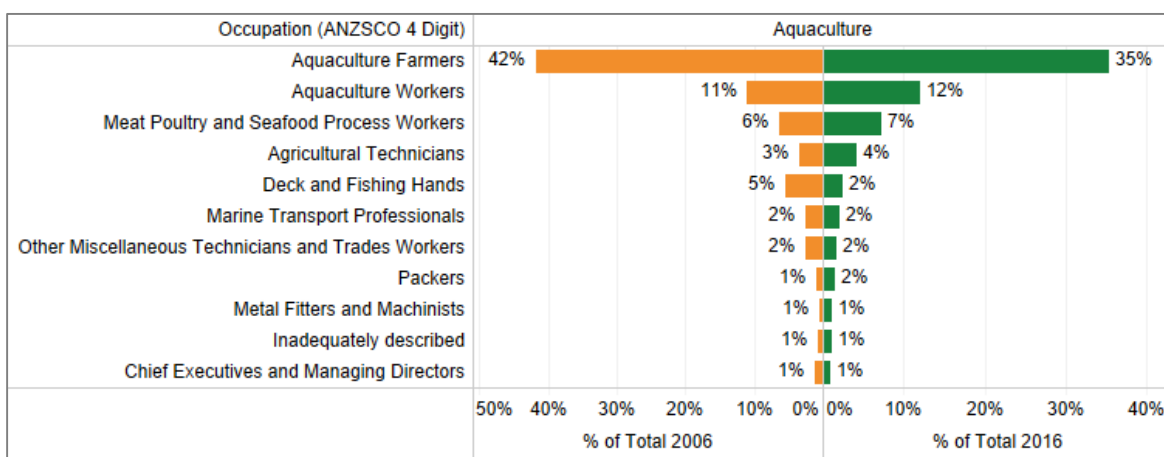
The most common occupation in the industry is deck and fishing hand. In 2016, people employed in this occupation represented 22% of total industry employment.

Other top occupations in the industry include: aquaculture farmers; meat, poultry and seafood process workers; marine transport professionals; aquaculture workers; packers; and importers, exporters and wholesalers.

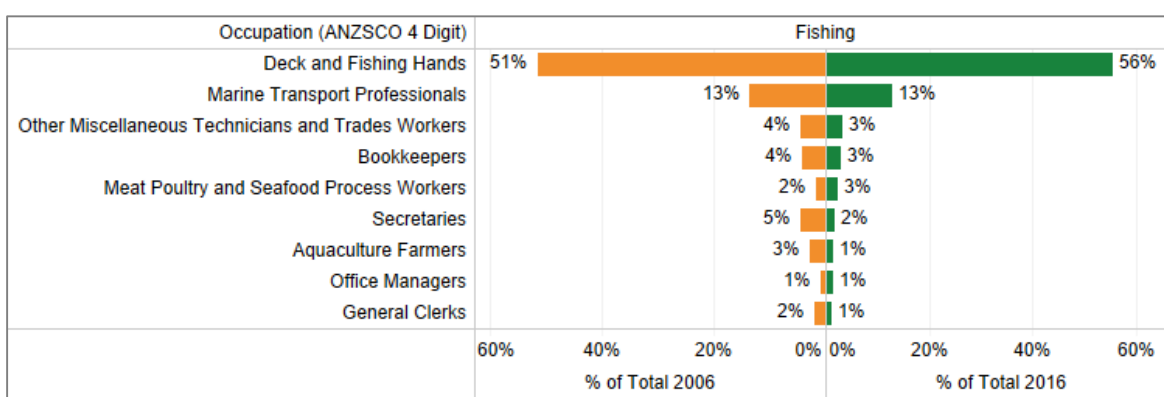
In terms of occupational dynamics, the proportion of people working as aquaculture farmers and deck and fishing hands in the aquaculture sector decreased by 7% and 3% respectively from 2006 to 2016. However, deck and fishing hands increased by 5% in the fishing sector. Similarly, the proportion of seafood processing workers decreased by 6% in the fish and seafood wholesaling sector.

Conversely, the proportion of advertising and sales managers, supply distribution and procurement managers, retail managers, sales assistants and delivery drivers increased by up to 3% across seafood processing and wholesaling sectors. All other occupations remained relatively stable over the time.

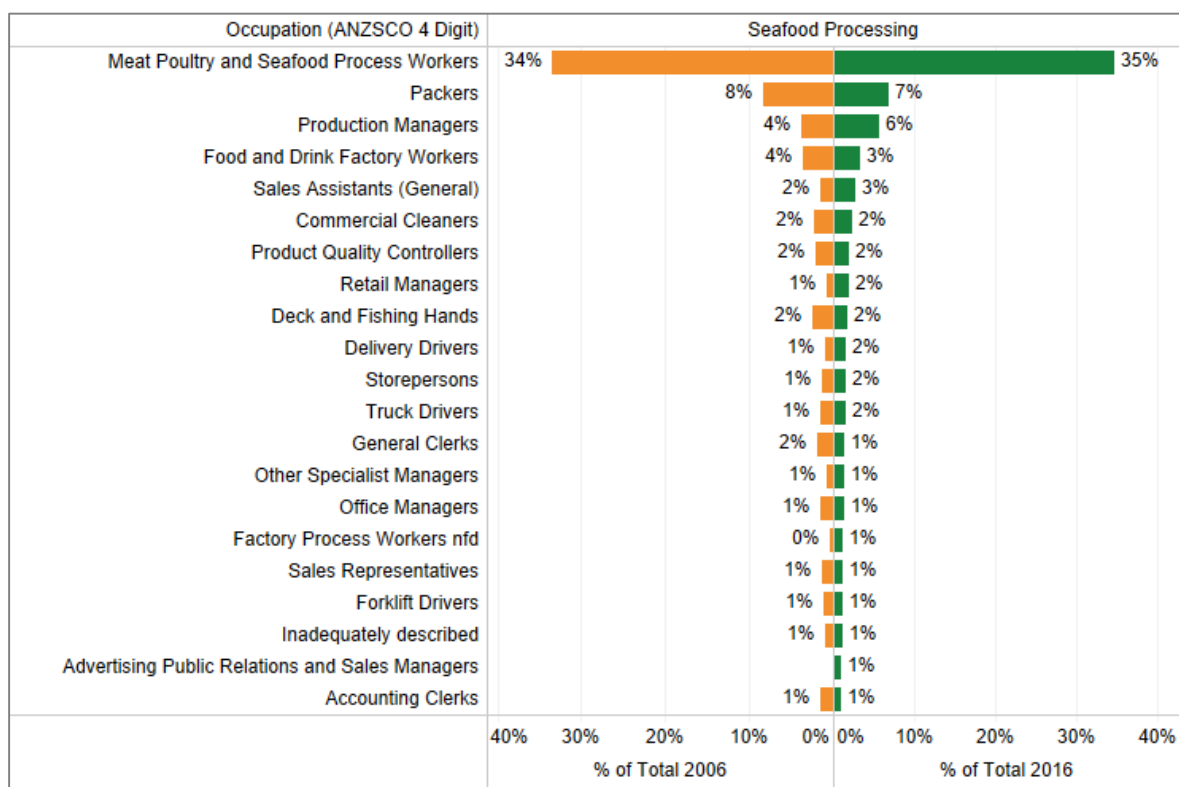
**Figure 5: Changes in aquaculture occupations, 2006–2016**



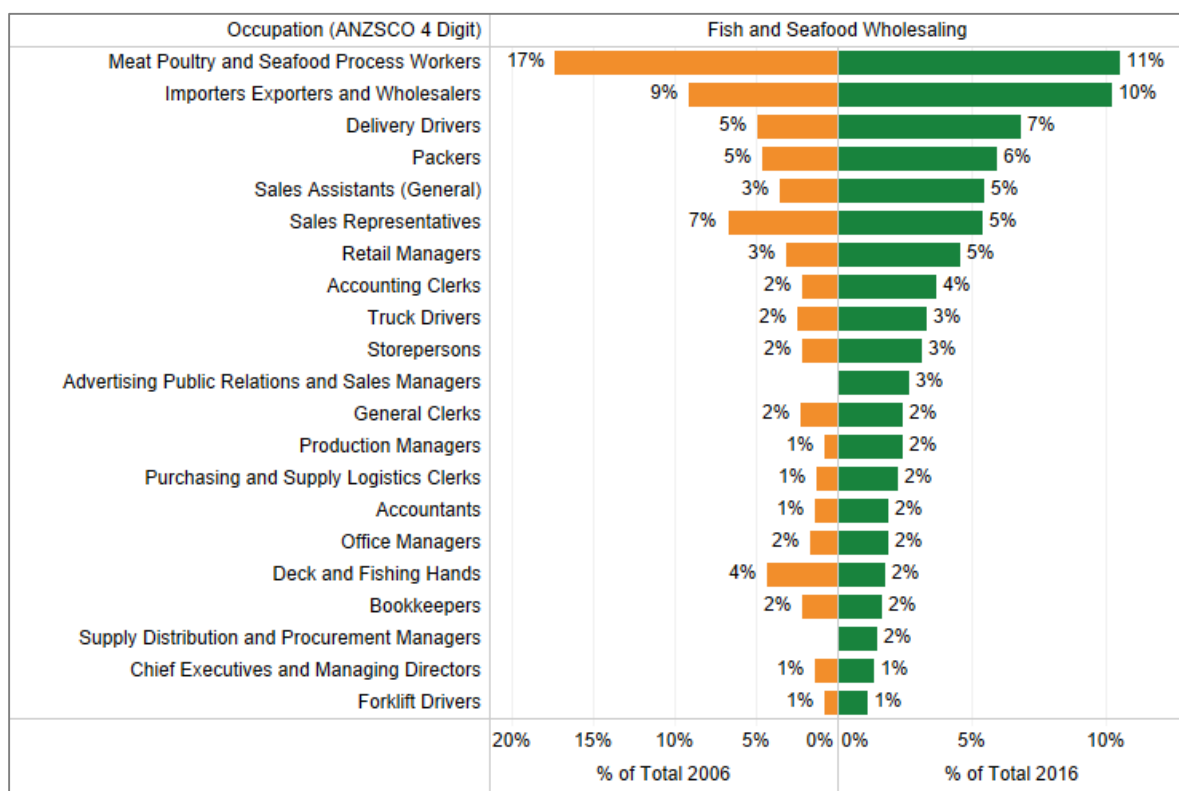
**Figure 6: Changes in fishing occupations, 2006–2016**



**Figure 7: Changes in seafood processing occupations, 2006–2016**



**Figure 8: Changes in fish and seafood wholesaling occupations, 2006–2016**



## Employment Outlook

The Department of Employment projects that total employment in the seafood industry sector will grow by about 4 per cent from 2017 to 2022.<sup>27</sup> A significant positive employment growth is anticipated in the fishing sector (12.8 per cent) over the next five years. A projected decline in employment is anticipated in the seafood processing sector.

**Table 2: Department of Employment Industry Projections – five years to May 2022<sup>28</sup>**

INDUSTRY SECTOR	EMPLOYMENT LEVEL	EMPLOYMENT PROJECTIONS		
	May 2017 ('000)	May 2022 ('000)	Growth ('000)	Growth (%)
Aquaculture	6.3	6.4	0.1	1.9
Fishing	7.5	8.4	1.0	12.8
Seafood Processing	5.5	5.3	-0.2	-3.3
<b>Total</b>	<b>19.3</b>	<b>20.1</b>	<b>0.8</b>	<b>4.1</b>

<sup>27</sup> Department's projections are based on the forecasts and projections set out in the Mid-Year Economic and Fiscal Outlook (MYEFO).

<sup>28</sup> Department of Employment, 2016, Industry Employment Projections – Five years to November 2020. [www]  
<http://lmp.gov.au/default.aspx?LMIP/EmploymentProjections>

## C. SKILLS OUTLOOK

Anticipating future skills needs in the seafood industry is crucial to prepare for and to meet the new demands of aquatic resource sustainability and seafood product markets in Australia. Leading indicators of the current and future skills needs in the sector include:

- Trends and/or estimates of workforce supply, skill shortages, employment growth or growing occupations
- Future changes in workplace and job design, which are driven by innovation at the business and/or industry level as a result of economic, technological, social and environmental factors, as well as introduction of new policies and legislations.

This section identifies the priority skills needs in seafood processing over the next four years (2018–2021) through an analysis of new and estimated future demands placed upon the industry. The section focuses on the skill needs that can benefit from improvement or development of national skill standards as opposed to market adjustment mechanisms designed to balance the supply and demand for a skilled workforce.

### Training update

The level of nationally accredited training delivered to the industry declined significantly in 2013 when the Federal Government reduced the national funding programs for training. From 2013, total vocation and education training activity in the industry has fallen further, which demonstrates that state-based government subsidies are also inadequate to support industry's training needs and the cost of training.

In the aquaculture and wild catch industry, training and upskilling the current and future workforce involves high costs for employers and employees alike. Geographical and regional dispersion of businesses, and unavailability of registered training organisations (RTOs) with SF111 qualifications on scope, contribute to the challenge of high-cost training. Vast distances from workplaces to peoples' residence, and access to training providers for professional development, also impact on staff turnover.

Other factors impacting on the industry training activity include the new requirements for all workers on a vessel to be trained and skilled in managing environmental compliance. The industry suggests that the SF111 Seafood Industry Training Package should not be affected, while the MAR Maritime Training Package covers the skills. Perhaps the captain or persons responsible for the crew, rather than all personnel on the boat, need to meet the new requirements.

The industry also identifies a range of strategies that could benefit its workforce development and training. Opportunities exist for businesses to cultivate a workplace culture that supports the young, savvy workers who value training and have higher expectations than their predecessors from employers. Keeping these young people engaged in learning could also mean higher retention. There is also scope for businesses to involve older employees, with unique skills and a lower turnover risk, in mature age traineeships.

Capacity to develop strategic plans and promote industry's careers are also viewed as a real opportunity for the industry and could involve promotion of Certificate I in Aquaculture in schools, and demonstration of how progression through qualifications provides students with a pathway to further their career in aquaculture and wild catch.

An insufficient number of training providers currently service the industry and its training needs, particularly in regions where businesses expand. The expansion of Tassal and Huon Aquaculture's offshore farming sites in Storm Bay is expected to generate new jobs for employees in the Tasman area, and 50 new apprentices and 120 trainees in Certificate III in Aquaculture. There are opportunities for auspicing arrangements (partnerships) between enterprises and RTOs to deliver training and alleviate training limitations. When working with enterprises, RTOs can also consider to integrate and align in-house customised training with training package units and qualifications.

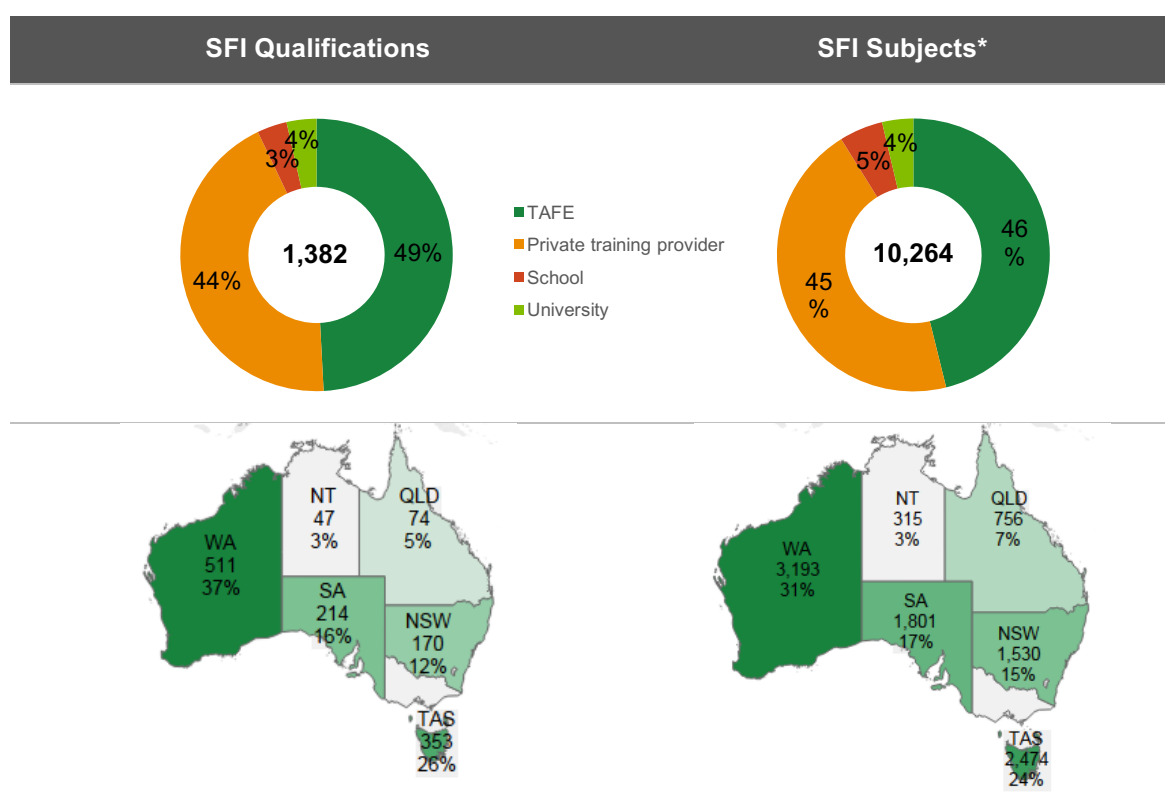
## Number of training providers

Currently, there are 262 registered training organisations with SFI11 training components in scope servicing the Australian seafood industry sector.<sup>29</sup>

## Number of student enrolments

In 2016, there were 1,382 student enrolments in SFI qualifications and 10,264 in SFI units of competency. Most students were attracted by TAFE organisations and private training providers in Western Australia and Tasmania.<sup>30</sup>

**Figure 9: Student enrolments, 2016**

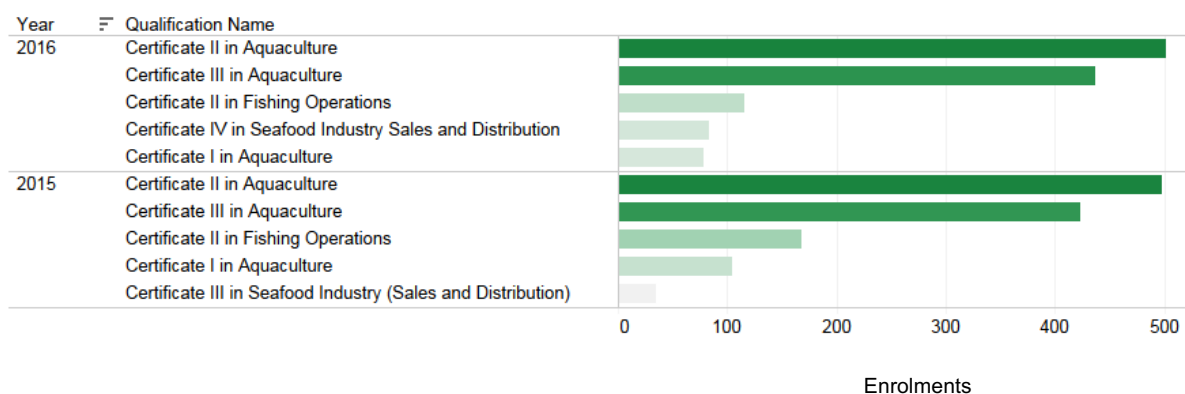


\* Units of competency prefixed SFI

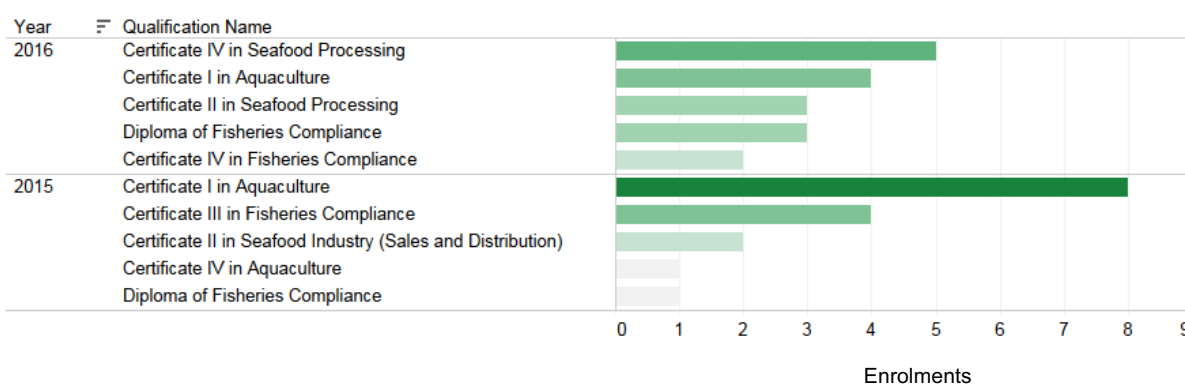
<sup>29</sup> From Training.gov.au

<sup>30</sup> All training data in this report is sourced from VOCSTATS.

**Figure 10: Top five most popular qualifications**



**Figure 11: Least popular qualifications**



**Figure 12: Qualifications with no enrolments**

Year	Qualification Name
2016	Certificate I in Seafood Processing
	Certificate II in Seafood Industry (Sales and Distribution)
	Certificate II in Seafood Processing
	Certificate II in Seafood Industry (Environmental Management Support)
	Certificate IV in Aquaculture
	Certificate IV in Fishing Operations
	Certificate IV in Seafood Industry (Environmental Management)
	Diploma of Fishing Operations
	Diploma of Seafood Processing

## Qualification enrolments

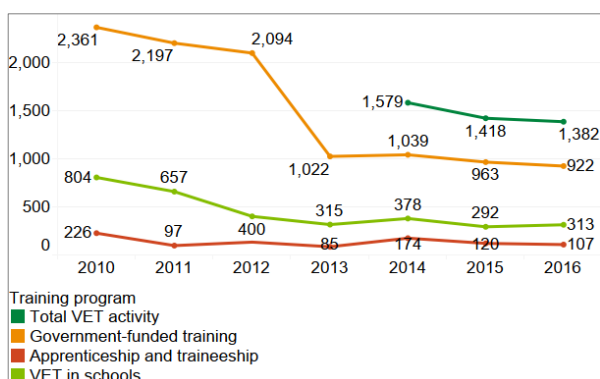
**Total VET enrolments** in SFI qualifications declined by 12% from 1,579 in 2014 to 1,382 in 2016. This includes enrolments from all types of providers and combines government-funded, apprentices, VET in schools and fee-for-service training from private and other training providers.

**Apprenticeships and traineeships** for seafood trade and non-trade occupations remained relatively steady between 2011 and 2016. There were 107 commencements for seafood apprenticeships and traineeships in 2016.

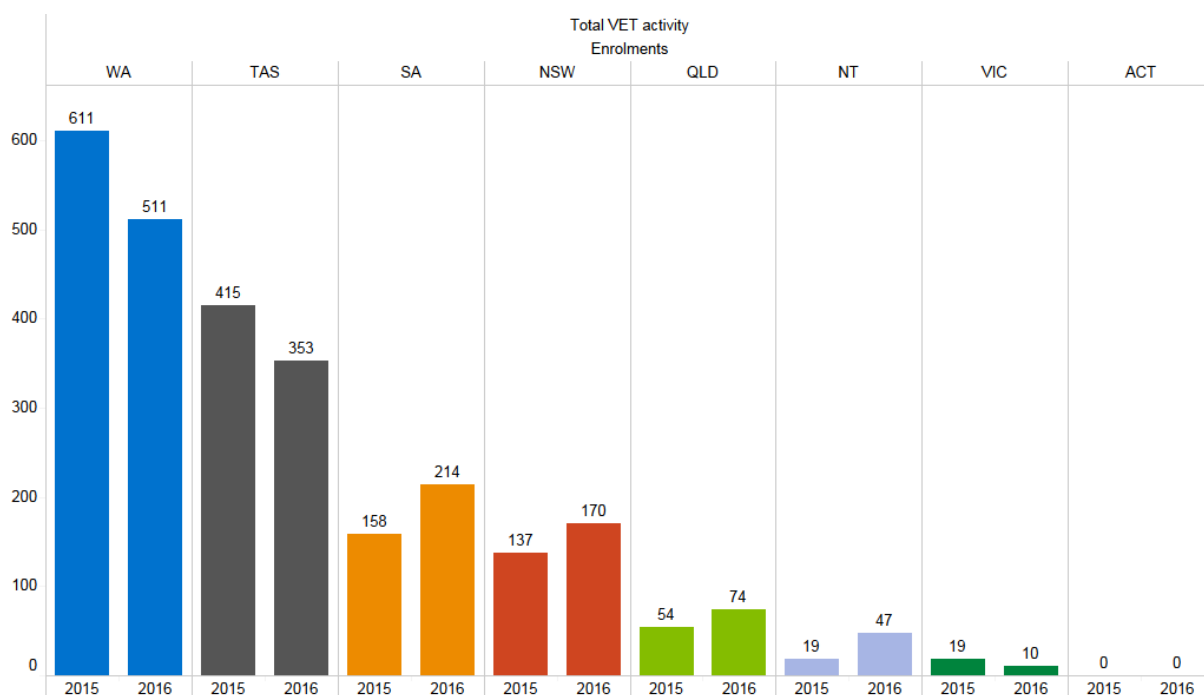
**Government-funded enrolments** for SFI qualifications declined 51% from 2,094 in 2012 to 1,022 in 2013. These declined further during the following years, reaching 922 enrolments in 2016.

**VET in schools** activity regarding SFI qualifications delivered to school students fell by 61% between 2010 and 2013. Enrolments remained relatively steady after 2013. In 2016 there were 313 enrolments.

**Figure 13: Trends in enrolments – SFI qualifications, 2010–2016**



**Figure 14: State-level comparison for total VET enrolments in SFI qualifications, 2015–2016\***



\* State/territory of training organisation. Uncategorised data for state/territories (reported as 'Not known') is not included.

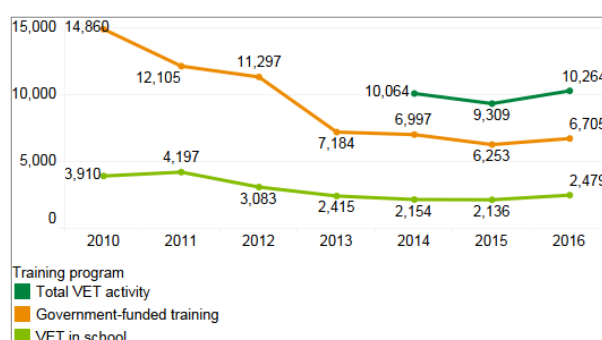
## Subject enrolments

**Total VET enrolments** for SFI subjects dropped by 8% (or 755 enrolments) from 2014 to 2015 and increased by 10% to 10,264 in 2016.

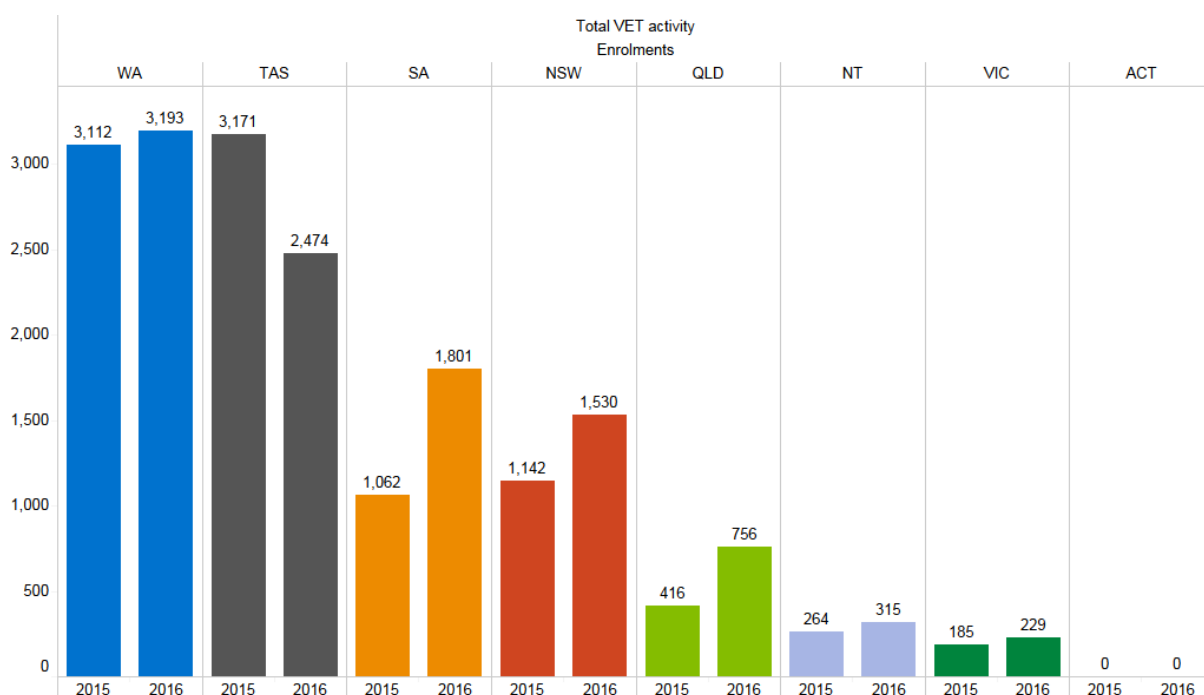
**Government-funded enrolments** declined by 52% from 2010 to 2013 and fell further during 2014 and 2015, reaching a low of 6,253. Enrolments recovered slightly in 2016.

**VET in schools** activity regarding SFI subjects delivered to school students declined steadily from a high of 4,197 enrolments in 2011 to 2,479 enrolments in 2016. This represents a 41% drop in enrolments over 2011–2016.

**Figure 15: Trends in enrolments for SFI units of competency, 2010–2016**



**Figure 16: State-level comparison for total VET enrolments in SFI units of competency, 2015–2016\***

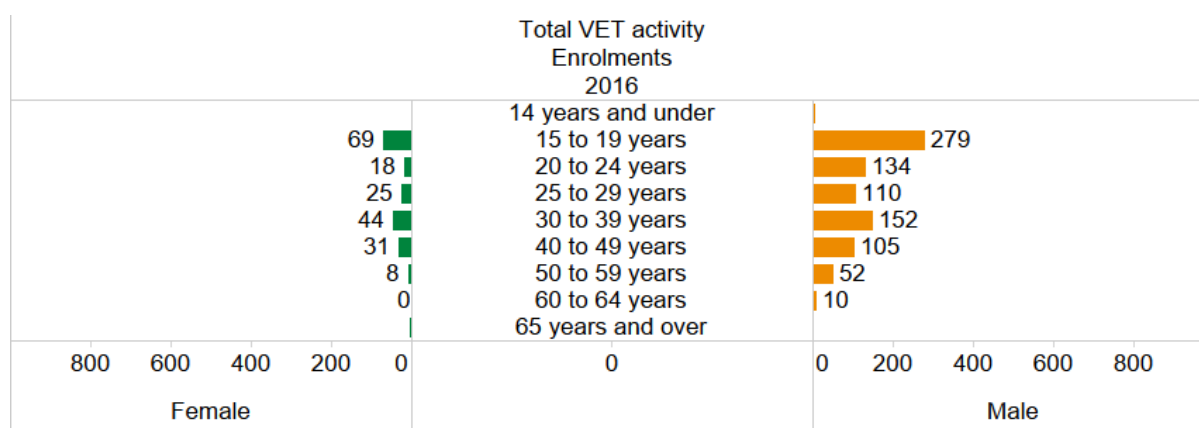


\* State/territory of training organisation. Uncategorised data for state/territories (reported as 'Not known') is not included.

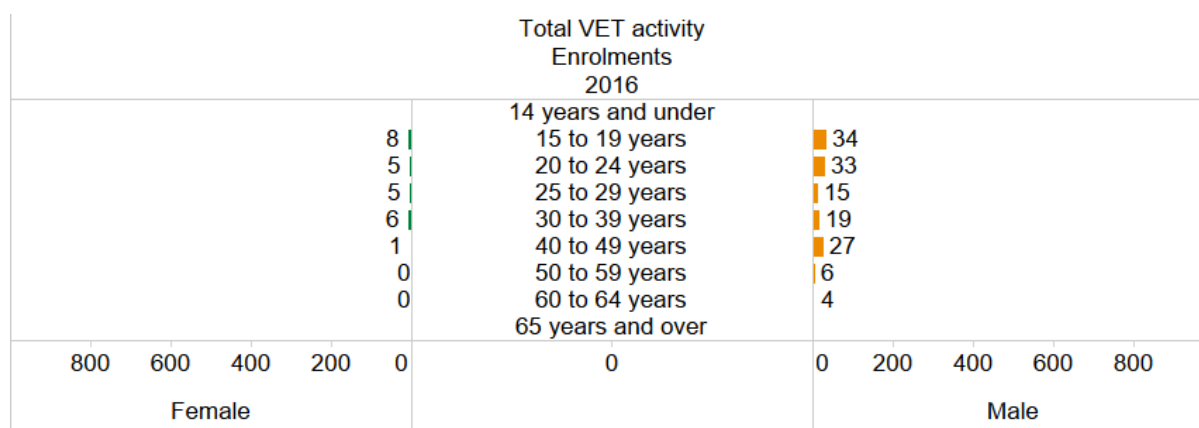
## Student profile

Total student cohort enrolled in SFI qualifications was represented by 81% male and 19% female in 2016. The highest proportion of students (33%) was in the age group 15 to 19 years. There was a small representation of Indigenous students (1,049). Over 60% of students lived in outer regional, remote and very remote Australia. About 1% of students resided overseas.

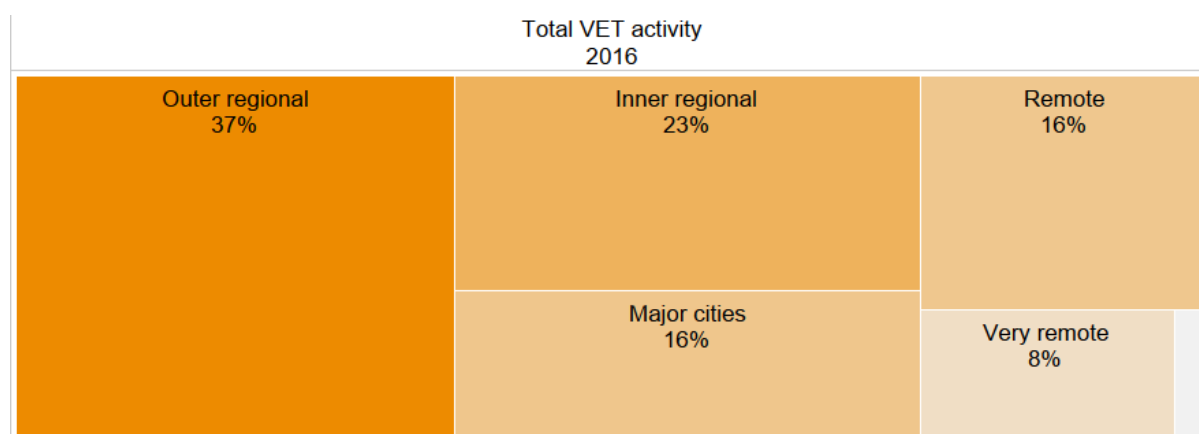
**Figure 17: Student personal characteristics: GENDER AND AGE\***



**Figure 18: Student personal characteristics: INDIGENOUS STATUS\***



**Figure 19: Student personal characteristics: REMOTENESS\***



\* Uncategorised data (reported as 'Not known') is not included.

## Industry Priority Skills

The 2018–2021 outlook for skills needs and priorities in the seafood industry is shaped by a range of development trends and factors, as outlined below.

Priority skill	
<b>INDUSTRY COMPLIANCE SKILLS</b>	<p><b>Skill description</b></p> <p>The complexity of legislation and regulations, coupled with changes and updates, make it difficult for fisheries officers, commercial operators, especially small operators, to comply with the legislative and regulatory environment. Skills required include:</p> <ul style="list-style-type: none"><li>• understanding of compliance requirements by fisheries officers, commercial operators</li><li>• understanding changing regulations as a result of native title</li><li>• capability to source, read and interpret legislation and regulations in order to ensure compliance</li><li>• application of compliance framework for enforcement purposes.</li></ul>
<b>Relevant occupations</b>	
Fisheries Officers, Marine Park and Transport Officers, Aquaculture workers, , seafood process workers and wholesalers.	
<b>Drivers</b>	
<ul style="list-style-type: none"><li>• The seafood industry in Australia is managed under strict regulatory and environmental guidelines. The complexity of legislation and regulations, coupled with changes and updates, make it difficult for commercial operators, especially small operators, to comply with the legislative and regulatory environment. Each operator is required by law to ensure they fully understand relevant legislation and regulation and cannot rely on third-party advice as a defence. As such, tailored programs are required to assist operators in identifying relevant legislations and regulations, interpreting them and modifying their operation in order to comply.</li><li>• Changing legislation and regulations across the Commonwealth, state and territory domains adds a layer of complication to a multi-jurisdictional issue with a connectedness to biosecurity success.</li><li>• There are multiple and complex regulatory processes across jurisdictions, and variations between licence and lease arrangements across jurisdictions. These can inhibit and negatively impact on the industry's ability to gain approvals for new or existing operations.</li><li>• A desired outcome following on from last year's priorities is to address any deficiencies of the last 15% of the existing <i>SFI Seafood Industry Training Package</i> that was not included in the 2017–18 projects. This will ensure the total training package is current by the end of 2019 and meets the needs of the industry</li></ul>	

### Training package solutions

- Develop up to 2 new skill sets
- Develop up to 10 new units
- Review 4 qualifications
- Review 29 units of competency.

## Industry priority for generic skills

The Industry Reference Committee was consulted on ranking the generic skills priorities for the industry from a list provided by the Department of Education and Training. **Error! Reference source not found.** below table outlines the advice received.

Rank	Generic Skill
1	<b>Learning agility/Information literacy/Intellectual autonomy and self-management skills</b> Ability to identify a need for information. Ability to identify, locate, evaluate, and effectively use and cite the information. Ability to discriminate and filter information for importance. Ability to do more with less. Ability to quickly develop a working knowledge of new systems to fulfil the expectations of a job. Ability to work without direct leadership and independently.
2	<b>Communication/Collaboration including virtual collaboration/Social intelligence skills</b> Ability to understand and apply the principles of creating more value for customers with fewer resources (lean manufacturing) and collaborative skills. Ability to critically assess and develop content that uses new media forms and leverage these media for persuasive communications. Ability to connect with others deeply and directly, to sense and stimulate reactions and desired interactions.
3	<b>Language, Literacy and Numeracy (LLN) skills</b> Foundation skills of literacy and numeracy.
4	<b>Managerial/Leadership skills</b> Ability to effectively communicate with all functional areas of the organisation. Ability to represent and develop tasks and work processes for desired outcomes. Ability to oversee processes, guide initiatives and steer employees toward achievement of goals.
5	<b>Technology use and application skills</b> Ability to create and/or use of technical means understand their interrelation with life, society, and the environment. Ability to understand and apply scientific or industrial processes, inventions, methods, etc. Ability to deal with increasing mechanisation and automation and computerisation. Ability to do work from mobile devices rather than from paper.
6	<b>Design mindset/Thinking critically/System thinking/Solving problems skills</b> Ability to adapt products to rapidly shifting consumer tastes and trends. Ability to determine the deeper meaning or significance of what is being expressed via technology. Ability to understand how things that are regarded as systems influence one another within a complete entity, or larger system. Ability to think holistically.
7	<b>Science, Technology, Engineering and Maths (STEM) skills</b>

Rank	Generic Skill
	Sciences, mathematics and scientific literacy.
<b>8</b>	<b>Entrepreneurial skills</b>
	Ability to take any idea, whether it be a product and service, and turn that concept into reality and not only bring it to market but make it a viable product and/or service. Ability to focus on the very next step to get closer to the ultimate goal. Ability to weather the ups and downs of any business. Ability to sell ideas, products or services to customers, investors or employees etc.
<b>9</b>	<b>Environmental and sustainability skills</b>
	Ability to focus on problem-solving and the development of applied solutions to environmental issues and resource pressures at local, national and international levels.
<b>10</b>	<b>Customer service/Marketing skills</b>
	Ability to interact with another human being, whether helping them find, choose or buy something. Ability to supply customers' wants and needs both via face to face interactions or digital technology. Ability to manage online sales and marketing. Ability to understand and manage digital products.
<b>11</b>	<b>Data analysis skills</b>
	Ability to translate vast amounts of data into abstract concepts and understand data-based reasoning. Ability to use data effectively to improve programs, processes and business outcomes. Ability to work with large amounts of data: facts, figures, number crunching, analysing results.
<b>12</b>	<b>Financial skills</b>
	Ability to understand and apply core financial literacy concepts and metrics, streamlining processes such as budgeting, forecasting, and reporting, and stepping up compliance. Ability to manage costs and resources, and drive efficiency.
	<b>Other generic skills</b>
	Risk assessment and writing Safety Operating Procedures

## D. TRAINING PRODUCT REVIEW PLAN 2018–2021

The Industry Reference Committee Training Product Review Plan 2018–2021 for the seafood industry sector is provided in Attachment A.

### Time-critical issues

The Aquaculture and Wild Catch Industry Reference Committee identified an immediate need to develop a skill set and units of competency around compliance and legislation to ensure the needs of industry are being appropriately reflected.

The subject matter experts (SMEs) established specifically for the *SFI11 Seafood Industry Training Package Release 1.0* review identified a requirement to undertake a more in-depth review of content beyond transition activity; that is, a review for the purpose of updating of existing qualifications, skill sets and units or the development of new ones, particularly related to aquaculture, environmental management systems, fisheries compliance and sales and distribution. These will form priority development work in this Work Plan.

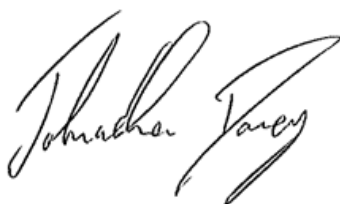
## Interdependencies

Significant interdependencies exist with the Seafood Processing and Fishing Operations projects, as they both contain relevant common units of competency. Beyond this, there are no further interdependencies.

## E. IRC SIGNOFF

**This Work Plan was agreed** as the result of a properly constituted IRC decision.

**Signed** for and on behalf of the **Aquaculture and Wild Catch IRC** by its appointed Chair



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Johnathon Davey

Signature of Chair

Date: 30 April 2018

## ATTACHMENT A

### IRC Training Product Review Plan 2018–2021 for the Aquaculture and Wild Catch Industry Sector

**Relevant training package:** SFI11 Seafood Industry

**Contact details:** Skills Impact Ltd., 559A Queensberry Street, North Melbourne VIC 3051

**Date submitted to Department of Education and Training:** 28 April 2018

2018–2019	
<b>INDUSTRY COMPLIANCE SKILLS</b>	This project addresses the deficiencies in the current qualifications available to an industry with an annual turnover of almost \$5 billion per annum, seeking to address the complex skills required to interpret and apply the range of compliance issues and legislation impacting the industry at any given time.
2019–2021	
<p>Significant support and project approval was received from the AISC in respect to the review of SFI11 Training Package when three Cases for Change were recently approved for the following projects, to be completed in November 2018:</p> <ul style="list-style-type: none"><li>• Aquaculture</li><li>• Biosecurity</li><li>• Post-Harvest.</li></ul> <p>As a result, the projects will review and address a significant amount of the current training package and therefore, at this point in time, the IRC has determined that no alternate priorities can be identified until a full review is completed and industry has time to focus on future priorities.</p>	

## ATTACHMENT B

### Active IRC Projects for the Seafood Industry sector

**Relevant training package:** SFI Seafood Industry

**Contact details:** Skills Impact Ltd, 559A Queensberry Street, North Melbourne, VIC, 3051

**Date submitted to Department of Education and Training:** 27 April 2018

YEAR	IRC	PRIORITY SKILLS	QUALIFICATION CODE AND NAME
2017	Aquaculture and Wild Catch	Aquaculture	<ul style="list-style-type: none"> <li>Review of 5 qualifications to determine suitability to meet current needs</li> <li>Potential development of up to 5 skill sets</li> <li>Review and edit of 47 units</li> <li>Development of up to 10 units (this figure will need to be confirmed during the functional analysis).</li> </ul>
2017	Aquaculture and Wild Catch	Biosecurity	<ul style="list-style-type: none"> <li>Review of 11 qualifications</li> <li>Potential development of up to 5 skill sets</li> <li>Review and edit of 86* units and development of up to 2 units (this figure will need to be confirmed during the review process).</li> </ul> <p>(*12 of the 86 units are aquaculture units.)</p>
2017	Aquaculture and Wild Catch	Post-Harvest	<ul style="list-style-type: none"> <li>Review of 9 qualifications</li> <li>Review of 1 and potential development of up to 6 new skill sets</li> <li>Review of 54 units across core (4), distribution (6), processing (31), storage (5), fishing (3), and environmental management (5), and development of up to 10 units.</li> </ul>

# ATTACHMENT C

## 2018–2019 Project Details

### Project Title: SEAFOOD INDUSTRY COMPLIANCE

<b>Description</b>	<p><b>Understanding of compliance requirements by fisheries officers and commercial operators.</b></p> <p>Capability to source, read and interpret legislation and regulations in order to ensure compliance.</p> <p>Application of compliance framework for aquaculture and fishery purposes.</p>
<b>Rationale</b>	<p>Improving training and education for the aquaculture and fishing workforces and ensuring future employment needs of the industry are met. The priority identifies a desired outcome following on from last year's priorities to address the last apparent deficiencies of the existing industry training and ensure t the remaining 29 units of competency around compliance inthe <i>SFI11 Seafood Industry Training Package</i> is reviewed.</p> <p>The actions were identified during consultation with stakeholders, including aquaculture operators, suppliers, regulators and environmental non-government organisations. Responsibility for implementing the action is shared between industry and Australian, state and NT governments and assumes continuous industry engagement.</p> <p>Many of these actions are consistent with those found in other strategy and compliance driven documents and will also be implemented under those strategies. Examples include <a href="#">the International Plan of Action in Illegal Unreported and Unregulated (IUU) Fishing</a>, the National Plan of Action in IUU and the National Fisheries Compliance Strategy 2016-2020, <i>Success through Innovation: The National Fishing and Aquaculture Research, Development and Extension Strategy</i> (FRDC 2016), <i>AQUAPLAN 2014–2019: Australia's National Strategic Plan for Aquatic Animal Health</i> (Department of Agriculture 2014) and individual state and NT risk based compliance strategies</p> <p>The seafood industry in Australia is managed under strict regulatory and environmental guidelines. The complexity of legislation and regulations, coupled with changes and updates, makes it difficult for fishery officers, commercial operators, especially small operators, to comply with the legislative and regulatory environment. Each operator is required by law to ensure they fully understand relevant legislation and regulations and cannot rely on third-party advice as a defence. Technology advancement, increasing threats of IUU fishing, responding (and preventing) biosecurity threats are a few examples of the need to improve training opportunities for fisheries officers in particular and, tailored programs are required to assist officers and operators in</p>

identifying relevant legislations and regulations, interpreting them and modifying their operation in order to comply.

While the Australian Government has many important functions regarding aquaculture and fishing, such as national research programs, biosecurity management, food safety, aquatic animal health, environmental management, and market access and trade, most domestic regulation of aquaculture production rests with the states and territories.

Changing legislation and regulations across the Commonwealth, state and territory domains adds a layer of complication to a multi-jurisdictional issue.

There are multiple and complex processes across jurisdictions, and variations between licence and lease arrangements. These can inhibit and negatively impact on the industry's ability to gain approvals for new or existing operations.

The regulatory regime for aquaculture activities in Commonwealth waters is complex in nature and considered by some to be unclear. A simplified framework, which removes duplication of regulations, would assist the industry

**Ministers' Priorities Addressed:**

**Implementing the COAG Industry and Skills Council (CISC) reforms for training packages**

The proposed work will support the implementation of the reforms agreed by CISC in the following ways:

- the project is expected to support changes in regulatory requirements
- the industry has significant penalties when compliance is not adhered to; therefore, there is an economic driver and impact considerations
- providing a focus on the development of skill sets to allow upskilling of existing staff and provide opportunities of new training to be operationally focused
- ensuring industry's expectations of compliance training requirements is made clear to training providers
- improving efficiency of the training system will better support individuals to move between different roles and sectors
- providing units that could potentially be used across other training packages with a need to manage biosecurity risks, e.g. agriculture.

**Consultation Plan**

Members of the Aquaculture and Wild Catch IRC have had discussions across various industry sectors as a function of their industry role regarding the need to ensure fisheries compliance is addressed immediately within the existing training package to ensure it meets the

needs of industry. Consultations have been face-to-face, individually and in group environments and via telephone. Discussions have included organisations and individuals within the aquaculture and wild catch sectors with significant operations across Australia.

Indirect consultation through industry and government activities has highlighted compliance as a key issue for the industry. To support strategies and initiatives highlighted in various reports and industry-specific plans, it will be necessary for training package development work to occur.

Key reports supporting the focus on compliance include:

- [the International Plan of Action in Illegal Unreported and Unregulated \(IUU\) Fishing](#), the National Plan of Action in IUU and the National Fisheries Compliance Strategy 2016-2020,
- *AQUAPLAN 2014–2019, Commonwealth of Australia, 2014*
- *Success through Innovation: The National Fishing and Aquaculture Research, Development and Extension Strategy*
- *National Aquaculture Strategy, Commonwealth of Australia, 2017*
- *Linking Careers Research and Training: A Pilot for the Seafood Industry, 2013.*

## Scope of Project

Review and redevelop 29 compliance units of competency that have not been adequately reviewed in over a decade to determine if there is scope to modify and cater for the commercial operator. Should it be determined that there is no scope to modify, development of specific units of competency to address skill needs will be required (number to be determined through review process).

It is estimated that the project would be completed in twelve (12) months from receipt of approval. Stages and timelines include:

- review of existing qualifications – one month from receipt of approval to proceed
- development work, including update to existing units, development of new units, development of skill sets and changes to qualifications, industry consultation and validation – three months
- Editorial and Equity, Quality Assurance and STA consultation – one month.

## **SFI11 Seafood Industry Training Package SFI11**

### **4 qualifications**

SFI20416 Certificate II in Fisheries Compliance Support

SFI30416 Certificate III in Fisheries Compliance

SFI40416 Certificate IV in Fisheries Compliance

SFI50416 Diploma of Fisheries Compliance

**29 units of competency to be developed/revised:**

SFICOMP201 Undertake a local operation

SFICOMP202 Conduct field observations

SFICOMP203 Promote sustainable use of local marine and freshwater environments

SFICOMP204 Present evidence in a court setting

SFICOMP205 Communicate effectively in cross-cultural environments

SFICOMP302 Exercise compliance powers

SFICOMP308 Monitor fish catches for legal compliance

SFICOMP310 Operate off-road vehicles with towed equipment

SFICOMP315 Support the judicial process

SFICOMP316 Gather, collate and record information

SFICOMP317 Facilitate effective communication in the workplace

SFICOMP318 Perform administrative duties

SFICOMP401 Administer the district office

SFICOMP402 Plan the surveillance operation

SFICOMP403 Operate and maintain surveillance equipment

SFICOMP404 Operate an observation post

SFICOMP405 Perform post-surveillance duties

SFICOMP406 Perform mobile surveillance

SFICOMP407 Undertake prosecution procedures for magistrate's court

SFICOMP409 Plan and undertake patrol operations

SFICOMP410 Promote fisheries management awareness programs

SFICOMP411 Implement aquaculture compliance

SFICOMP412 Operate in remote areas

SFICOMP413 Maintain operational safety

SFICOMP414 Manage own professional performance

SFICOMP415 Board vessel at sea

SFICOMP501 Conduct a fisheries management compliance audit

SFICOMP502 Contribute to fishery management

SFICOMP503 Undertake the prosecution in a trial