Final Report to Agrifood Skills Council

Skills Needs Analysis for the

NT Fishing and Seafood Industry - 2014

Prepared by

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Glossary

Acronym	Description
ANZSCO	Australian and New Zealand Standard Classification of Occupations
ABARES	Australian Bureau of Agricultural and Resource Economics and Sciences
AFMA	Australian Fisheries Management Authority
AMSA	Australian Maritime Safety Authority
AQIS	Australian Quarantine Inspection Service
CRC	Australian Seafood Cooperative Research Centre
CDU	Charles Darwin University
DoB	Department of Business NT
DEEWR	Department of Education, Employment and Workplace Relations
DIAC	Department of Immigration and Citizenship
DPIF	Department of Primary Industry and Fisheries
ESS	Elements of Shipboard Safety
EEZ	Exclusive Economic Zone
FRDC	Fisheries Research and Development Corporation
HACCP	Hazard Analysis and Critical Control Points
IELTS	International English Language Testing System
MED	Marine Engine Driving
MTP	Maritime Training Package
NPF	Northern Prawn Fishery
NTSC	Northern Territory Seafood Council
NTSOPL	NT Skilled Occupation Priority List
OH&S	Occupational Health and Safety
O&G	Oil and Gas
OBT	Onboard Training
OJT	On the Job Training
PD	Personal Development
PISAFE	Primary Industries Safety Advice
PITAC	Primary Industries Training Advisory Council
RPL	Recognition of prior learning
RSMS	Regional Sponsored Migration Scheme
RTO	Registered Training Organisation
STCW	Seafarers' Training, Certification and Watchkeeping
SITP	Seafood Industry Training Package
SWP	Seasonal Worker Program
SIPS	Seafood Industry Partnerships in Schools
SNA	Skills Needs Analysis
PFC	WA Professional Fisherman's Certificate
WRL	Western Rock Lobster
WH&S	Work Health and Safety

Table of Contents

TABLES

1. Executive Summary

This report comes at a critical time for the fishing and seafood industry in the NT. With a national focus on northern development, along with a well managed and sustainable industry with capacity for production increases of up to 100%, skilled, experienced and qualified labour is a critical component. Unless Industry can source additional labour, in a highly competitive labour market, there is a real chance that the potential of this industry will not be reached and, in fact, it may suffer from a protracted decrease in activity. This will lead to a decrease in potential return to the community through lower employment and taxation, reduced food security, as well as missing out on the health benefits associated with the consumption of seafood.

This report provides an assessment on a Skills Needs Analysis (SNA), undertaken during 2014, for the NT fishing and seafood industry's three commercial focused sectors, (wildcatch, aquaculture and seafood processing). AgriFoods Skills Council, NT Primary Industry Training Advisory Council, and the Northern Territory Seafood Council were partners in the project.

During two visits to Darwin, during February and March, 43 people were interviewed, covering over 30 businesses, from wild catch, aquaculture, marketer/processor sectors, Government and RTOs, representing interests that control the vast majority of production and value from the NT. Data was gathered through face to face surveys. Each participant took between one to two hours to go through the extensive survey questionnaire, which utilised open ended questioning techniques to allow participants the opportunity to provide broad and wide ranging responses.

The survey provided a range of valuable information and this is supported by 28 recommendations for industry, service providers and Government to address the issue of the labour and skills shortages identified.

The project aims were to gather NT commercial fishing seafood industry data, and information on workforce participation, barriers to employment, adequacy of current communication processes used, essential industry skills, preferred learning styles, capability of the training system to address skill needs and barriers, and evidence to support a case for additions to the NT Skilled Occupation Priority List (NTSOPL).

The project gathered a large amount of data and this showed commonality across sectors. Findings clearly showed that labour and skill shortages are commonly encountered in the NT across all of the fishing and seafood sectors, with recruitment trends worsening. These shortages are limiters to Industry's current viability and are curtailing growth opportunities.

At a whole of industry level there are common problems nationally and in the NT; an ageing industry with no succession plan, lack of year round or consistent work due to operational or fishery management requirements, low attraction, poor retention and high staff turnover, along with a high, overlapping regulatory burden acting as a major disincentive to employ workers. The situation in the NT is exacerbated by a number of factors; such as the small labour and industry base, competition from other sectors, high cost of living, and other lifestyle and family issued associated with living and working in a remote area like the NT.

It was identified that there are problems linking with potential employees, with engagement between potential employers and employees, and that industry was failing to sell itself as an employer of choice. Vacancies are now seldom widely advertised, so prospective workers only

become available through Word of Mouth, informal networks, or walk-ins. There is no clear means for interested people from outside of the circle to gain easy access in a structured way - the question this raised was how to sell the industry to improve recruitment opportunities.

Another key finding was that industry generally values skills and experience more highly than qualifications, unless they are mandatory (e.g. Master, MED etc). It was found that training was focussed on complying with regulatory requirements, with negligible focus on other personal development. There were strong views that the current training system was not delivering for industry for a number of reasons, such as; issues around poor industry literacy and numeracy and the appropriateness of delivery methods (many can do the practical but not the theory). Literacy and numeracy are not limiters to being able to undertake necessary skills, but they limit the ability of people to get qualifications for tasks they can easily undertake. This suggests a mismatch between job requirements and how these are captured in the training units, which is a role for AgriFood to consider. There was, however, strong support to find means for the training system to adapt so as to better serve industry, with a focus on On-the-Job training, more face to face - one on one engagement, limited class time, greater acknowledgment, and needs to better record industry skills as part of the Recognition of Prior Learning process, with a focus on competency instead of time based requirements or formal examinations. It was also noted that many existing staff may not have been adequately skilled for their roles, and this could be impacting on efficiency and profitability.

Backpackers working under student visas are a critical component of the current industry labour force, but it was noted that if there was a desire to build a long term, sustainable industry, they were not an ideal option. It was felt that building local (and national) labour capacity, along with an expanded skilled migration program, that was adjusted to address the low literacy language requirement of the Industry and addressed the need to increase labour, were critical components of industry survival.

Indigenous Australians are underrepresented in the Industry and there may be options to develop medium to longer term opportunities to better engage with, and employ, this group of people, as current training and mentoring programs are increasing capacity and providing skills for roles in the fishing and seafood industry.

The NT fishing and seafood industry is in an enviable position, nationally and internationally, in that it has extremely well managed sustainable fisheries, many with the opportunity for expansion. This increase, along with potential aquaculture growth, could lead to increased capacity, with the potential for a doubling of production from NT wild and farmed fisheries. This would lead to increased employment, in the production as well as the processing sector. However, without capacity to engage skilled and qualified staff, there is little likelihood of growth taking place, and a slow decline is more likely. Career pathways are unclear, with the Industry not at the forefront of mind as an employment option of choice, and Industry must consider the best approach to addressing this.

The survey highlighted the key priority occupations, both short term and longer term, and supports the ongoing inclusion of a range of fishing and seafood occupations as well as the addition of two additional occupations on the NTSOPL, Seafood Processor Worker and Aquaculture Worker.

2. Recommendations

All of these recommendations would be best considered as part of an industry developed strategic plan to address the broader issue of employment in the industry, and communication will be a critical component. Although some actions can be taken at an individual business level, the issue is a whole of industry matter, and will require resourcing (personnel and funding) to develop a strategic way forward and then oversee implementation.

Employment

The issue of employment would be best considered as part of an industry developed strategic plan, which should consider the recommendations below;

1. Industry needs a front door for potential workers and employees. The development of a more visible employment 'portal' and/or a central register of vacancies and/or potential workers should be considered. This may be a revamp, or slight upscale, of the current system used by the NTSC or as part of a more national approach.

2. Consider bulk listing on a range of national sites that provide employee/employer linking, such as JobSearch, or through a non government link such as Byron Employment.

3. Refine and better utilise social media as individuals, or through whole of industry/sector pages, that list jobs, vacancies, skills and qualifications sought, which potential workers can view and respond to. This will require an upskilling of industry, or an outsourcing of this task.

4. Develop an industry profile, which also maps and highlights career pathways. This could include providing readily available information on the industry by way of YouTube videos, with more focus on potential careers on fishing and seafood industry sites. This could be achieved through a specific 'careers in the seafood industry' page on the NTSC and other suitable websites, and an employment portal on the NTSC website to link job seekers with employers. Again a national approach would be beneficial.

5. Develop partnerships with existing employment connecting processes in the primary industry sector that links job seekers with rural jobs Australia wide. For example, the fruit and vegetable industry's Harvest Trail.

6. Assess the value of developing a transportable industry card (e.g. FISHCARD) similar to other industries, such as banana, melon and mango industries with their Yellow, Melon and Mango Cards.

7. Look to find means to link regional and national industry opportunities to provide increased year round, consistent, and reliable employment.

8. Longer term, start a conversation at school level to attempt to garner interest in the fishing and seafood industry at an early age, and seek to influence curriculum and work programs that appeal to students and those teachers/lecturers delivering the program.

9. Develop a fishing or seafood Industry specific 'exit interview' for school leavers, to gain an understanding of the knowledge or interest in the Industry at schools.

10. From a medium to longer term perspective, better engage with Indigenous people to identify opportunities for employment and seek opportunities to link with current programs that are providing training, mentoring, and increasing capacity to develop fishing and seafood related skills.

Migration

Respondents felt that having a skilled migration option as part of the Industry mix in the NT was paramount. For a skilled migration program to be successful in addressing local needs, the current system would require some changes, such as;

11. Reducing the level of the IELTS to a much lower level than the current 4.5 level, with greater acknowledgment and weighting of Industry experience, skills, and competencies.

12. Simplification of the application and administration process.

13. Implementation of a regional, or concessional 457 Visa scheme, that recognises the challenges of employment in remote regions and the sometimes short or seasonal nature of the Australian fishing and seafood industry, and which also provides an incentive to engage overseas' workers to fill jobs not being taken by Australians.

14. Reconfigure the Seasonal Worker Programs to better meet the ongoing nature of the Aquaculture industry, and expand the current program to include the wild harvest and processing sector, and increase the number of countries that are included.

15. Revise the 417 and 462 Visas to better align with the operational realities of the fishing and seafood industry so as to allow Visa holders to complete full fishing seasons, and possibly move on to other Visa classes to allow for longer term options for Industry.

16. Investigate opportunities to identify migrants who can comply with the current criteria, whilst industry works with Government to seek changes to the current 457 Visa scheme or other migration options.

Training and Development

There were strong views that the current training system was not delivering for industry for a number of reasons, such as; the relevance of existing training packages or the poor structure of them, as well as associated costs. A number of relatively simple steps could be undertaken to address some of the training and development issues identified;

17. Map the training and resourcing process at a national and jurisdictional level, to better explain the system to industry.

18. Identify and document required industry skill sets and opportunities for employment, which can then be delivered as 'short courses'. Specific skills could be ascertained through consultation with peak industry organisations and service providers (perhaps facilitated by AgriFoods), with each sector identifying 3 or 4 basic skill sets from existing training packages, mapping out a process, and packing them into a package for easy and quick delivery.

19. Develop a simple matrix to explain required qualifications and necessary skills for Industry.

20. Focus on skills versus qualifications in the first instance. Get people trained to an industry standard, not necessarily accredited. As new skill sets are mastered, use an RPL process to show evidence of OJT and skills.

21. Establish more formalised recognition of RPL and formalised induction programs, and establish an easy to use 'transportability' of qualifications system.

22. Develop a whole of Industry induction program for new workers, especially backpackers and others with poor literacy skills. The induction models should focus on what skills are critical and the best delivery process. This could include the production of a series of web based DVDs or YouTube videos. The use of an App, deliverable via smart phones or tablets, should also be considered.

23. Reduce reliance on written examination and focus on practical assessment. Seek means to move to a competency (learning through industry work) versus time based approach to achieving maritime and other qualifications. Develop a web or app based program, as well as hard copy, 'Task Books' or an Electronic Work Log (eWorklog), to demonstrate and record skills or experience.

24. Build an industry based training program (comprising shorter courses), based on a set of skills, clustered to meet specific client skill requirements, and endorsed by industry peers, with skippers, processors, aquaculturists etc taking on the role as workplace trainers.

25. Address any breakdown in the current training delivery system, to improve uptake of competency based delivery/assessment by RTOs.

26. Map career pathways and work options and then develop training needs and programs with Industry, RTOs, PITAC and appropriate Federal and Territory departments.

27. Assess the opportunity to seek synergies with the NT DPIF developed training program developed for Indigenous employment in the broader fishing and seafood industry. Many of the methods used would be just as applicable to the broader Industry.

28. Include two additional occupations on the NTSOPL, Seafood Processor Worker and Aquaculture Worker.

3. Introduction

This report provides an assessment on a Skills Needs Analysis[1] (SNA) for the NT Fishing and Seafood Industry.

The research investigated workforce needs across the industry's three commercial focussed sectors, (wildcatch, including the NPF[2], aquaculture, and seafood processing). Three sources of workers were specifically targeted in the consultation phase of the project; local workers, short to medium term international backpacker workers, and foreign workers employed under 457 visas.

This report covers;

- An outline of project methodology
- A Synopsis of Desk-Top Research
- A summary and analysis of data arising from the Consultations, Surveys and Observations undertaken as part of the project
- Recommendations and future actions.

During two five day visits to Darwin (January and February 2014), 41 people were interviewed face to face and two by phone, covering over 30 businesses, from wild catch, aquaculture, marketer/processor sectors, Government and RTO[3]s (see Appendix I for list of interviewees and industry roles). Even though only 30 or so businesses were interviewed, they represent interests that control the vast majority of production and value from the NT fishing and seafood industry.

Each participant took between one to two hours to go through the questionnaire (See Appendix II for questionnaire). This time included providing project introductions and the proposed process, as well as allowing adequate time to cover a range of industry issues, so as to set the tone for the formal process. The effectiveness of this approach was shown when, on completion of each interview, only one participant had a need to add any further information when invited to do so.

4. Projects Aims

The project aims were to gather data and information on:

- workforce participation and needs within the NT Seafood industry;
- barriers for those seeking to work in the seafood industry;
- barriers for those seeking to employ workers in the seafood industry;
- adequacy of current communications used by workers and employers to find work/source workers;

1 Skills Needs Analysis (SNA)
2 Northern Prawn Fishery (NPF)
3 Registered Training Organisation (RTO)

- essential skills, including licenses, required at entry and other levels, for the three sectors
- preferred learning style e.g. distance, face-to-face, college-based, OJT[4]
- capability of the training system to provide courses to address skill needs and barriers (for example: local RTOs with appropriate scope of coverage, course length, delivery mode, flexibility, frequency/timing, cost, literacy and numeracy
- evidence to support a case for any additions to the 2014 NT Skilled Occupation Priority List[5] (NTSOPL) (this was expanded to also see if there was evidence to support the existing occupations)

4 On the Job Training (OJT)
5 NT Skilled Occupation Priority List (NTSOPL)

5. Methods

The data and information was to be obtained in the following way;

- Undertake a desk-top analysis of available reports and studies, including;
    - the 2010 AgriFood project which investigated the need for Fishing Hands and Seafood Process Workers to be added to the NTSOPL
    - the 2012 ABARES[6] report on the Australian seafood industry[7]
    - other relevant reports
- Consultation with stakeholders; including;
    - Darwin-based industry representatives
    - employees from the wildcatch , farming, and processing sectors
    - RTOs
    - NT PITAC[8].

6 Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES)
7 Curtotti, R, et al, 2012. The Australian seafood industry: Workforce information and stakeholder responses. ABARES Report
8 Primary Industries Training Advisory Council (PITAC)

6. Synopsis of Desk-Top Research

A deliverable of this project was to complete desk-top research of a small number of key reports and studies. Overall the reports provided good background and strong support for the questions and approach developed as part of the current industry survey. More detail is provided in Appendix III. Key learnings were;

2010 AgriFood project

- Investigated the need for Fishing Hands and Seafood Process Workers to be added to the NTSOPL
- It found there was an occupational and skills shortage in these two occupations
- This was a long term problem that was impacting on efficiency and profitability
- Current methods of filling vacancies (friends, family, or international backpackers) weren't a long term sustainable industry solution
- The core group of deckhands (who often take on a leading hand/mate's role) are aging and the physical nature of the work means that their longevity is finite.
- The use of overseas workers was seen by a majority as the only means to ensure the industry had a future.
- Experience was considered more important than formal qualifications.
- It provided a starting list of 20 past participants to contact for interviews in this project.

2012 ABARES

- Investigated the 'Australian Seafood Industry - Workforce information and stakeholder responses'
- Commissioned by the FRDC[9] to scope the employment, education and training data needs for the Australian fishing and seafood industry (commercial wildcatch , aquaculture, and post-harvest) to improve information about employment across the industry.
- Showed that a number of factors affect employment, education and training in the Australian industry, such as;
    - increasing competition for labour resources
    - transportability of marine skills
    - major gaps in information
    - uncertainty surrounding industry needs

9 *Fisheries Research and Development Corporation (FRDC)*

- less skilled people applying for positions and difficulty in attracting/retaining suitable workers
- ageing workforce
- smaller fleet sizes
- higher business input costs and subsequent reduced funding for training

- While some of the issues above are far outside the industry's control, many can be addressed through OJT. However in house training resources are likely to be stretched given the current operating environment. It is unclear whether training courses currently on offer are sufficient or adequate to meet the training needs of the industry, with RTO availability and support patchy. The high regulatory burden across the industry is proving a challenge in meeting its training requirements.

- AgriFood Skills, in its submission to the 'Review of Skilled Occupation List for General Migration', identified almost all occupations associated with the seafood industry as being in shortage, and DIAC[10] identified master fishers, ships' engineers, marine biologists and fisheries inspectors as qualifications sought in Australia. However over the last 15 years DEEWR[11] (the key Federal Department responsible for training and employment) has not listed any fisheries related occupations as being in short supply.

- 'The percentage of enrolment completions for all industry training packages has increased over time, yet completed seafood training package courses have been generally low, relative to completions for all training packages.

- The report also provided a summary of a pilot stakeholder survey, undertaken to better understand the employment and training data needs of the industry, which showed;
  - Aquaculture has shortages for both skilled and unskilled workers (trained and qualified staff particularly in peak periods), e.g. farm hands, packers, marketing staff, operations staff, farm managers, hatchery technicians, and divers, with the sector characterised by large turnover of unskilled staff
  - Commercial fishing labour needs encompassed a range of skills, based on type of fishery, vessel size and type, operating environment, and regulatory requirements (specific manning requirements are regulated by Australian maritime regulations which specify the number of crew and minimum crew certification for each vessel, depending on vessel size, type of activity, and areas of operation). There were identified shortages for skippers, deckhands, engineers, divers and process workers with an understanding of food quality, safety, and environmental standards. It is an ageing, shrinking industry, and it is a challenge to acquire and retain young and skilled people in the industry. It is suffering from an Australia-wide shortage of workers across all major fisheries - exacerbated in northern Australia due to remoteness, higher intensity of oil and gas production, and 'southern' workers' reluctance to relocate to remote areas. There is such a lack of skilled workers that there is a strong desire to recruit from overseas through work visa arrangements.

10 Department of Immigration and Citizenship (DIAC)
11 Department of Education, Employment and Workplace Relations (DEEWR)

- Seafood processing and marketing involves a broad range of skills including cleaning, filleting and cutting fish, preparing and cooking seafood, preparing sashimi, freezing fish, opening oysters, grading and packaging seafood, and selling and transporting seafood. There is a lack of skilled and unskilled workers, a lack of young workers, and poor perception of the broader industry's future. Attracting workers is more of an issue for small to medium enterprises

2009 South Australian Seafood Industry Food Plan 2010–2015

- Developed a workforce planning and development strategy to secure workforce capacity to underpin industry needs. This noted the limitations due to shifting regional population balance and strong industry growth, especially in the sea farming sectors.

- The action to overcome the shortage issues involves targeting of labour to regional areas, better industry profiling of jobs, and creating regional migration elements to establish occupational demand and generate skills.

2010 WA Industry Workforce Development Plan

- Published by the WA Food, Fibre and Timber Industries Training Council, noted that the WA industry is characterised by small, two-person fishing vessels that find access to training difficult. There are low levels of post-secondary qualifications, but a relatively high knowledge base and skill levels of a technical nature.

- Trained workers are leaving for better wages and conditions (particularly in regional centres) in the mineral resources sector, and training investment is declining.

- Extensive licensing and compliance requirements in the industry are leading to an abundance of unmet training needs.

- Difficult to attract and retain long-term workers who have the passion and drive to progress to higher levels of training, and where workers are scarce, there is a reliance on 457 visa holders, who understand the sector but generally have limited English language skills.

The information in these reports allowed the consultant to gain a better understanding of the national, and some regional, issues related to employment and training, and to ensure that similar issues were raised and discussed as part of this consultancy. Common themes from these reports were;

- There are shortages of skilled and unskilled labour in the fishing and seafood industry, particularly wild harvest, but also processing and aquaculture

- There is a large turnover of unskilled and skilled staff, with increasing competition for labour resources

- Shortages are exacerbated in remote areas due to high living costs, accommodation and lifestyle issues

- The problem is ongoing and longterm

- It is an ageing industry and skills and expertise are being lost

- The use of backpacker labour doesn't provide an adequate longterm solution to developing industry skills and expertise, and the issue of Industry succession
- Experience was considered more important than formal qualifications
- There are more regulatory requirements in place now that require training resourcing
- Higher business input costs lead to reduced funding for training
- Overseas workers were seen by a majority as the only means to ensure the industry had a future
- Access to adequate training is often difficult.

7. Summary of Consultations, Surveys and Observations

The following sections address the key project aims as outlined in Section 2.

7.1. Background and Method

Prior to the first Darwin visit on 20 January 2014, C-AID Consultants produced two questionnaires, one for industry and the other for potential employees. These were distributed to AgriFoods, PITAC and NTSC[12] for feedback. Based on this, some changes were made to address comments received. Copies of the questionnaires are provided at Appendix II).

The questionnaires are extensive so as to address the project's aims and cover details on;

- The interviewee
- Recruitment and retention (staffing, vacancies, qualifications/skills, age)
- Employment conditions and personal development details
- Shortage(s)
- Formal education/training/licensing requirements/issues with existing training
- Skilled migration option
- Industry outlook
- Reasons for shortages.

Each interviewee was provided with a verbal overview of the project details, process and proposed outcomes, and also advised that they were under no obligation to take part or answer questions, and could stop at any time if they so wished. In all instances there was a strong desire to be a part of this process, and all gave willingly of their time, even though many were in the process of refitting and preparing for the upcoming season (particularly barramundi and NPF).

Early in the year is not an ideal time for interacting with the industry in Darwin. Many owners, operators and crew are on leave, just returning, or burnt out after a hectic festive period. There are preseason refits for the barramundi and NPF fleet, backpacker numbers are down, and the weather is not ideal. Notwithstanding this, there was a good response to the survey from Industry participants, with a strong desire by industry members to be involved. Evidence of this was highlighted as Paspaley Pearls, by far the biggest employer in the industry in the NT, was first in to secure a meeting, and had 6 senior staff involved.

It must be remembered that each industry sector has a commonality in that seafood is involved (catching, growing, processing etc) but also each fishery and sector requires varying degrees of skills and experience, based on regulatory requirements, complexity, level of autonomy or supervision required etc.

12 Northern Territory Seafood Council (NTSC)

Engaging with prospective employees was extremely problematic and alternate survey methods were attempted. These are further outlined in Section 7.

7.2. Workforce Participation and Needs Within the NT Seafood Industry

Industry participants were interviewed to gain an insight into their current levels of employment, the types of roles and qualifications required, vacancies, how staff are employed, adequacy of the existing training system, and whether a formalised migration program was a possible alternative to relying solely on Australian residents.

7.2.1. Current Employment Numbers And Types

Wild Harvest

By way of overall context, there are 209 licences in the NT managed wild harvest fisheries, which include 14 different licence types (see Table 1 for licence types/fisheries). These fisheries cover an extensive water mass, extending from inland waters (such as for the aquarium and mud crab fisheries) out to 200nm seaward of the coast to the edge of the Australian EEZ[13] (e.g. Demersal and Timor Reef). Annually, the NT managed wild harvest fisheries are valued at around $35 million (see NT Fishery Status Report for more details by fishery, http://www.nt.gov.au/d/Content/File/p/Fish_Rep/FR111.pdf or visit the NTSC website, http://www.ntsc.com.au/industry-facts).

The NPF is managed by the Commonwealth through AFMA[14]. The Fishery operates in waters adjacent to the NT, WA and Qld, using 52 vessels that annually land approximately 6-7,000t of prawns, valued at around $90 million (it should be noted that catches can vary significantly based on environmental drivers). Approximately 10 of the 52 vessels operate out of Darwin. More details on the NPF can be found at http://npfindustry.com.au/ or http://www.afma.gov.au.

The NT wild harvest fishery is in an enviable position, nationally and internationally, in that it has extremely well managed fisheries all operating in a sustainable manner, many with the opportunity for expansion and increased production capacity[15]. This increase could lead to further employment in the wild harvest and processing sectors.

A sample of operators from the major fisheries operating out of Darwin provided crewing details based on their current occupancy. Of course each fishing venture works under its own business and operational model, yet there is a relatively high level of consistency across operators as to vessel type and areas of operation, and therefore crew requirements, as outlined by AMSA[16] (see Appendix IV for AMSA manning requirements).

Based on the interviews, Table 1 below provides detail on current average crewing information.

13 Exclusive Economic Zone (EEZ)
14 Australian Fisheries Management Authority (AFMA)
15 For more detail see http://www.abc.net.au/news/2014-05-21/barramundi-fillets/5467464.
16 Australian Maritime Safety Authority (AMSA)

Table 1: Typical Crewing Details by Wild Harvest Fishing Type in the NT

Fishery	Skipper[1]	Engineers[2]	Mates[3]	Deckhands[4]
Aquarium	1			1
Barramundi	1	1		2.5
Coastal Line	1			1
Coastal Net	1			1
Demersal[5]	1	1	1	4
Mackerel	1	1		2.5
Mud Crab	1			
Northern Prawn	1	1	1	4
Offshore Net/Line	1	1		3
Pearling[6]				
Timor Reef	1	1		4
Trepang	1	1		4
Development[7]				

1 Skippers can/must have a range of qualifications, depending on vessel size and range (e.g. skippering a vessel under 6.2m requires no ticket within 5 nm of coast or mother vessel)

2 Engineers must have a range of qualifications, depending on vessel size and range. In some instances the skipper or other crew members may have the relevant engineer's qualification (MED[17]1, 2 or 3) and take on that role as well

3 Mates must have a range of qualifications, depending on vessel size and range and will also often take on other roles

4 Deckhands can/must have a range of qualifications, depending on vessel size and range (e.g. ESS[18], First Aid). On NPF vessels one crew will be Cook/Deckhand

5 Fish Trawling is an approved method under the Demersal Licence type

6 Pearling allows the wild harvest of pearl shells and also the culturing/farming of pearls

7 Development Licence/Permits cover a range of experimental fishing methods/regions - during the interviews only one operator involved in the Small Pelagics Fishery was interviewed. Due to the varying types of operation involved a typical crewing is not possible.

Processing

This section deals with operators who wholesale, retail, process and distribute product, and the Seafood Process Workers they employ. Roles include loading, unloading, cleaning, filleting, cutting fish, preparing and cooking seafood, freezing fish, shucking oysters, grading and packaging seafood, selling and transporting seafood.

There are 36 wholesale/processor licences issued by NT Fisheries, ranging from businesses that deal with hundreds of tonnes of product annually to small 'boutique' operators who deal with small volumes to niche markets.

There are also a number of businesses that deal solely with a single species, e.g. mud crabs, barramundi, mackerel etc. A number of 'single species' operators are also fishers/farmers/family, who also market and distribute all or some of their product.

17 Marine Engine Driving (MED)
18 Elements of Shipboard Safety (ESS)

There is not currently a great deal of onshore processing (cutting, packaging etc) of product in Darwin, with a most catch bulk packaged and shipped interstate (and overseas to a lesser extent) as landed (frozen/chilled fillet, whole, trunked, gilled-gutted or live).

There are a small number of operators who wholesale and/or distribute product nationally, along with a number who process for the local NT market. Operators who distribute locally will also import product from interstate and overseas to supplement local supply and meet demand (e.g. no oysters, mussels or Atlantic salmon are produced in the NT).

Each operation's staffing requirements vary considerably based on species, market, volume, destination, degree of processing, and transport methodology. Workload timing and associated staffing levels must be attuned to vessel unloads or farm harvests, and airfreight product must be packed to connect with interstate flights (mainly Sydney and Melbourne), road freight transport must also be coordinated with interstate distribution services etc. If a connection is missed there is a chance that product will not reach the intended market for a number of days and this is of critical importance to fresh or live product, which forms a large portion of the NT landings.

There are also large seasonal variations in production based around regulatory controls and stock abundance. For example, the entire banana prawn season in the NPF only runs for an eight week period, but during that period, generally in April/May, there are large volumes landed in Darwin. The barramundi season operates from 1 February to 30 September.

With the potential for doubled production from NT wild and farmed fisheries there is opportunity for increased employment in the processing sector[19].

Operators from a number of businesses in and around Darwin were interviewed as to staffing details, based on their current occupancy levels. Information was provided by eight businesses.

Based on the interviews, Table 2 below provides detail as to the types of staff and roles in this sector. Due to the wide variety in size and operating environment, average numbers are not possible, instead the type of roles that each operation might require is shown as an **X**.

Table 2 Staffing Details by Processing Sector in the NT - (Seafood Process Workers)

Type of operation[1]	**Loaders**	**Drivers**	**Filleters**	**Shuckers**	**Packers**	**Front of house**	**Managers**
Wholesale Processor	X	X	X	X	X	X	X
Bulk handlers	X	X					X
Single species	X	X			X		X
Small operator	X	X	X	X	X	X	X

1 the roles will depend on the operation size, species distribution network, degree of processing

19 For more detail see http://www.abc.net.au/news/2014-05-21/barramundi-fillets/5467464).

Aquaculture

This section deals with Aquaculture operators in the NT. There are 13 licences issued for Aquaculture in the NT for a range of species, and a small number of 'developmental permits' for species such as trepang and oysters. The Industry is valued at around $25 million annually, with pearl culture and barramundi farming generating the vast majority of that income.

The NT Aquaculture industry is currently subject to a review to assess its capability to sustainably increase. It is likely that the review will identify growth opportunities, which will lead to increased production and associated employment in the aquaculture sector, and therefore the processing sectors.

Pearl licensees can take shell from the wild as well as culture pearls on farms. This section relates to aquaculture only and the culture side of the operation. Pearl culture is the greatest employer by far, followed by barramundi farming. Of the balance, there are a number of niche/boutique or developmental operators. These have not been covered in this report, but it would be worthwhile reassessing if the scale of these operations increases in the future.

At this stage there are no commercial prawn (there used to be 4 or 5), oyster, redclaw or clam aquaculture operations in the NT, but there is a Government appetite for sustainable and profitable development. Initial work is being undertaken on trepang, native oyster and giant clam production under permit, but this is still in its infancy (both trepang and giant clam involve hatchery production of juveniles and “ranching” or growing out in the wild once hatchery juveniles reach a certain age/size).

The Pearl industry has a long history of operations out of Darwin. Although currently the majority of marine farming takes place between Darwin and Broome, Darwin is still the hub of operations for this iconic industry, including recruitment, training, administration and management.

This industry employs a large number of staff in a wide range of roles, but the focus of this report was on the marine farm based staff, including foremen, skippers with full or restricted coxswains, relief skippers, deckhands and farm hands. One operation can go through up to 250 staff a year as part of their shell cleaning and maintenance program. In addition, there are requirements for skippers with higher qualifications to drive the larger vessels used for transport, seeding etc, and for engineers, mates and crew. The general farm structure sees approximately 100 staff, broken up into three teams of around 30 or so each. Each team has a foreman, coxswain, restricted coxswains, and a number of farmhands/deckhands.

Barramundi farming has been ongoing in the NT for over 20 years, with the number of operators peaking at around 5-6 farms in the early 2000s. There is now only one active operator. The company recently expanded significantly and is scheduled, within the next year or so, to produce in excess of what was previously produced by all the farms. Due to a range of factors, two farms have ceased operation since the 2010 Survey. The remaining operation has staff covering a range of duties, but they can be broken down into a few key areas;

- on-farm administration (one person),
- management levels across different fields and areas of expertise (4),
- leading hands/overseers (7) (experienced and skilled aquaculture farm workers), and

- general farmhands/packers (around 6).

Workload timing and associated staffing levels must be attuned to stocking, growing and the harvesting cycles, and is a 24 hour a day, seven day a week, 52 weeks a year operation.

The operation, as well as growing the product, bulk packs for distribution locally and nationally, and ships out chilled product by road transport weekly.

Due to the small sample size it was not possible to provide details as to current employment across all aquaculturists.

7.2.2. Current Vacancies and Optimal Staffing Levels

All interviewees were questioned as to the current status of vacancies within their businesses, based on what they felt were the available skill sets and qualifications.

As can be seen from Table 3, all sectors had vacancies, with key positions being deckhands, farmhands, skippers, and also a range of positions in the processing sector, including packers, loaders, drivers, graders and processors, including filleters and shuckers). From the sample group there were 164 unfilled positions.

All interviewees were asked what an ideal staffing number would be (if suitably qualified and/or skilled workers were available). This table differs from Table 3 above, as it seeks to gain an understanding of whether operators would have greater levels of employment, including increasing the size or level of their operation, if there were fully trained and capable staff available.

As can be seen from Table 4, most sectors indicated they would employ additional staff if appropriately skilled and qualified people were available.

Most advised that the key to any additional staffing was to have staff that were experienced and could undertake their jobs with minimal supervision. It was noted that, in many instances, additional experienced, or supervisory, crew/staff were only needed now due to inexperienced workers and high turnover rates, which leads to operational inefficiencies. In many cases this lack of experienced workers, both now and in the future, also leads to a hesitancy to grow operations.

In a small number of instances individuals noted that if there were skilled staff available it could lead to a small reduction in overall staffing in their particular setup, as they felt they could run with less staff and operate more efficiently.

One operation needed to keep a pool of staff (10+) on standby to fill the vacancies that occurred each month.

To gain an insight into the level of employment and the types of roles that could be available in the NT fishing and seafood industry if all licences were utilised, and staffed at the average crew rates, analysis was undertaken as shown in Table 5.

Table 3 Current Vacancy Types and Numbers by Operation Type

Fishery	Skipper	Engineer	Mate	Deckhand	Cook	Seafood Process Worker[1]	Farmhand[2]
Aquarium Fish							
Barramundi	1			7			
Coastal Line				7			
Coastal Net				2			
Demersal[4]	4	4	3	13			
Mackerel	1			2			
Mud Crab	4						
Northern Prawn		1	2	10	1		
Offshore Net/Line	3			11			
Development[5]	1	1		5			
Timor Reef	1	1		4			
Trepang	4	4		16[3]			
Aquaculture barra							4
Aquaculture pearl							40
Processors						9	
TOTAL **164**	19	11	5	77	1	9	44

1 staff in processing operations generally multi-task - e.g. load and unload product, clean, grade, sort, prepare and cook, process (including possibly fillet and shuck), freeze, package, sell and transport product

2 aquaculture farmhands have to multi-task e.g. feed fish, harvest, grade, pack and transport product, or drive vessels, check and maintain gear and pearl shells

3 trepang operations have deckhands that are also divers

4 demersal includes trawl, trap and line, under quota

5 Development Fishery only relates to Small Pelagic licences/permits

This shows the number of licences issued, the average staffing levels, and subsequent total employment per sector. It must be understood that this is a hypothetical estimate for a number of reasons;

- There is significant latent effort[20] in the NT. These licences would only operate if the labour, regulatory, infrastructure (i.e. no facilities, such as loading/unloading facilities, fuel outlets, repair & maintenance facilities, etc, beyond Darwin to allow for fishery expansion, especially for fisheries like the Coastal Line Fishery, which has no chance of increasing effort within 150 km of Darwin) and economic climate was conducive to bringing these unused licences into operation

- Some licence holders will never be in a position to utilise them in a profitable manner for a range of internal and external reasons

20 Latent effort is the fishing effort (licences, gear or quota) that are unused but have the capacity to come on line if certain conditions are met

- There is potential for additional licences in the aquaculture sector for new species or existing species, and for the processing sector if production levels increase

- For the non wild harvest sector it is difficult to determine what an 'average' operation is; e.g. an aquaculture operation is staffed to cover its production size, processors are staffed to meet volume, species, and level of processing required etc

- Many positions require multi-tasking; e.g. skippers or mates may also be engineers, cooks can be deckhands, farmhands can act as packers, coxswains etc

- Recent management changes in the NT, including from input to output controls (i.e. from licence numbers allowed to fish, to each operator having a set amount they can catch) have been taken into account for estimates of employment opportunities in the Demersal, Timor Reef and Mackerel fisheries.

Regardless of the degree of confidence with the estimates shown in Table 5, it does show that the industry can be a significant employer in the NT, with over 1142 direct jobs.

Table 4 Additional Vacancies If Qualified and/or Skilled Staff Was Available.

Fishery	**Skipper**	**Engineers**	**Mates**	**Deckhand**	**Cook**	**Seafood Process Worker**	**Farmhand**
Aquarium Fish				1			1
Barramundi				6			
Coastal Line				8			
Coastal Net							
Demersal[1]	4	4	4	18			
Mackerel				2			
Mud Crab	6						
Northern Prawn							
Offshore Net/Line	3			9			
Development[2]	1	1		5			
Timor Reef	2	2	2	8			
Trepang	4	4		16			
Aquaculture barra							4
Aquaculture pearl							100
Processors						8	
TOTAL 223	**20**	**11**	**6**	**73**	**0**	**8**	**105**

1 Demersal includes trawl, trap and line, under quota

2 Development relates to Small Pelagics

Table 5 Potential Employment in NT if all Licences Were Utilised and Staffed at Average Staffing Levels[1]

Fishery/Sector	Licences[2]	Skipper	Engineer	Mate	Deck or Farmhand[3]	Seafood Process Worker[4]	Total
Aquarium	11	1			2		33
Barramundi[5]	14	1	1		3		70
Coastal Line	52	1			1		104
Coastal Net	5	1			1		10
Demersal[6]	20 (7[2])	1	1	1	4		49
Mackerel[7]	16 (8[2])	1	1		3		40
Mud Crab	49	1					49
Northern Prawn	52[8]	1	1	1	4		364
Offshore Net/Line	17	1	1		3		85
Development[9]	1	1	1		4		6
Timor Reef[10]	14 (6[2])	1	1		4		36
Trepang	6	1	1		4		36
Aquaculture barra	1				5		5
Aquaculture pearl	1				100		100
Processors	39					5	195
TOTAL							**1,142**

1 potential employment if all licences utilised at average levels for wild harvest, estimates for other sectors

2 number of licences issued - note that not all are used (latent effort) and some have quota attached, and this has lead to some amalgamation or merging of operations. (*NB numbers in brackets under Licences show estimated operator levels under current management arrangements*)

3 deck and farmhands can undertake a wide range of tasks depending on the type of operation and their levels of skill and experience

4 Seafood Process Worker includes staff who may undertake roles loading, unloading, cleaning, filleting, cutting, preparing and cooking, freezing, shucking, grading, packaging, selling, transporting. Depending on the size of the operation this may be one person who undertakes all tasks, or in larger organisations there may be higher levels of specialisation

5 Not all barramundi licences have the same amount of access, as each licence has a unit allocation ranging from two to 10 units. For the purpose of this exercise each licence operates under the same crew levels

6 The Demersal Fishery now operates under a quota system, with quota allocated to each of the licences. There are, at a maximum, 5 trawl operations permitted for this fishery, and some operators still fish with trap operations. Currently there are 3 trawl operations and approximately 3 trap operations. For the purpose of this exercise crewing rates have been estimated, based on a maximum of seven vessels

7 Catch in the Mackerel fishery is capped at 320t, and based on operational parameters it is not likely that all licences could/would operate. For the purpose of this exercise crewing rates have been estimated, based on a maximum of eight vessels

8 Only about 20% of the NPF fleet operates from Darwin

9 Development includes Small Pelagics

10 The Timor Reef Fishery now operates under a quota system, with quota allocated to each of the licences. Whilst there are 14 licences, this is not reflective of the realistic number of operations. For the purpose of this exercise crewing rates are based on a maximum of six vessels.

7.2.3. Recruitment and Retention

All interviewees were asked what recruitment methods they have used and what were the most successful. Information was also sought as to what percentage of prospective employees were suitable, and if unsuitable, what were the major reasons. Information was also sought as to the trend in obtaining suitable staff.

7.2.4. Recruitment

Area of Recruitment

Interviewees provided information as to where they seek employees from - locally, nationally or internationally. All identified locally sourced staff as the preferred option if and when possible (if they have the correct qualifications, skills, experience, and motivation), but it was acknowledged that it was not always possible to find adequately skilled local staff.

Local staff were preferred as it negates the lifestyle and family change that takes place if, and when, recruiting from interstate or overseas. It was noted that the cost of living and family amenities (i.e. more expensive housing, lack of family support, schooling, weather etc), were often determining reasons for potential interstate employees not taking up opportunities in the NT. The cost associated with bringing staff in from elsewhere was also noted as contributing to a relatively low success rate.

When interviewees were identifying 'local', in some instances they were referring to backpackers recruited in Darwin, but coming from overseas and travelling on various visas.

If a specific, or specialised position was vacant, interviewees indicated that they would look nationally and internationally, in some instances, for someone to fill the position. The complexity of dealing with immigration issues, and the qualifying requirements (especially English tests), was noted as a disincentive for seeking more foreign workers under more permanent arrangements (e.g. 457 Visas).

Backpackers, particularly Europeans, are a critical part of filling the gaps in employment on a very short term basis, in line with their particular visa requirements (these vary depending on their country or origin, reason for travelling and other factors), but in all instances they are not a long term solution, as most visas have a short time stay attached, and this is a disincentive to provide long term succession training.

A small number of Processors use (or intend to) the Prisoner Employment Programs (Sentenced to a Job[21]), run through the Department of Correctional Services. It was noted that this program works well during normal business hours but the hours of operation involved with the fishing and seafood industry make work outside regular work times difficult.

21 For more detail see http://www.correctionalservices.nt.gov.au/AboutUs/BusinessWithUs/Pages/Prisoner-employment-programs.aspx

Time to Fill Vacancies

Interviewees were asked how long it typically took to fill vacancies (if they were able to be filled). Responses varied to some extent, based on the sector and the type of operation/fishery.

Commonly it was noted that it is very difficult to get adequately trained/experienced staff, and in nearly all instances new staff needed some level of OJT, induction, or close supervision. Also there were differences in recruitment periods, depending on the level of skills/experience and qualifications required. For example, deckhands, general farmhands or processors can be recruited more quickly, but may have no skills and need to be closely supervised or trained to be able to carry out their role. More specialised staff, such as skippers, engineers, mates, foremen, etc, must generally have some qualifications, and importantly, skills and experience, and this can mean that it takes far longer to recruit these staff, and in some specialised instances, positions still remain vacant.

Most (around 60%) of wild fishers responded that they had to seek new crew (deckhands) and occasionally skippers, every trip, or it was an ongoing exercise. Most others said they needed staff monthly, as required, on an ongoing basis. Around 15% indicated that they searched for new staff annually or biannually (this was often for skippers, and based around fishing seasons). A small number said they have been unable to fill some specialised roles domestically (e.g. purse seine skipper and crew). All except one interviewee responded that filling crew vacancies was a major issue.

As with wild fishers there is great scale of variation as to volume, species and operating business models amongst processors. Single species processors tended to have longer term staff but often had difficulties in filling those specialised vacancies, in some instances taking up to one year. Larger scale processors noted that they were, in most instances, always seeking some staff

The one active, non-pearl Aquaculture operator generally advertised every 3 or 4 months, but this did vary, depending on a range of internal and external drivers. They always received a large number of enquiries for vacancies, but many applicants were unsuitable.

The Pearl sector advised that it no longer formally advertises in print media, but it is in a situation, as outlined previously, needing to put on hundreds of new staff per year. This means that there are always vacancies and they never reach full staffing for any period of time.

Recruitment Methods

Interviewees were asked what recruitment methods they have used and had success with (or not). Table 6 shows the recruitment methods utilised by the sectors and their views on levels of success or otherwise.

Suitability of applicants

Interviewees were asked what percentage of candidates were suitable for vacant positions, and the reason for the unsuitability of candidates.

Responses varied to some extent, based on the sector and the type of operation/fishery, and the level of experience, qualifications and skills required, and the level of supervision or training

required. As previously outlined, those interviewed restated the difficulty in getting job ready staff, and the ongoing need for OJT, induction, or close supervision.

Table 6 Recruitment Methods Utilised By Sector

Methods	Wild Harvest	Processors	Aquaculture barra	Aquaculture pearl
Word of mouth	Most popular - used by all	Used by 75+% - provides potential staff, but not many with skills or experience.	Used	Used
Newspaper	Used by 40% in past - not successful and no longer used by most	Not successful. No longer used by most	No longer used	Used previously. No longer used
Backpacker Notice Boards	Used 40+% - always provides potential staff but not many with skills or experience.	Used by 15% - helps direct people to site - not many with skills or experience.	Not used	Used
Family, Network	Used by 40% - most successful, as targets workers	Used by >40% - can be successful to target workers	Used	Used
Emails or facebook	Used by very few (less than 10%) but generates interest, but often not quality staff.	Not used	Not used	Not mentioned
Noticeboards	Used by 15% - helps direct people already at wharf.	Not used	Not used	Not mentioned
Gumtree	Just under 15% - generates a lot of interest (too much). Not many quality applicants	Not used	Used - too many applicants, needs a filtering system	Used - generates a lot of interest
Walk ins	30% utilised this recruitment method - often people who are interested and allows a quick assessment	Very common for operators in high visibility areas such as the Duck Pond.	Not used - remote location	Used
Expo or port visits	Fewer than 10% have visited specific areas/town or gone to Expos to seek staff. Not considered value for money	Not used	Not used	Used - Not considered value for money
Labour Hire or other programs	Not mentioned	Used by larger operators; i.e. employment agencies or Prisoner Work Programs	Not mentioned	Not mentioned

Nearly all believed that there were very few job ready applicants, and as such their responses were on the basis of being able to train someone, in a reasonable period of time, to work safely and with some level of efficiency.

Table 7 provides detail of level of suitability of applicants, based on a percentage of suitability (work readiness), i.e. 61-70 indicates that between 6 and 7 in 10 applicants would be considered suitable. For example, in Wild Harvest, 55% of those surveyed indicated that between 41-55% of those who applied for work would be suitable, and 4% believed that between 71-80% would be suitable.

Many specialised staff, such as skippers, engineers, foremen etc, who have experience, were often more likely to be suitable. Some jobs are still vacant as there have been no suitable applicants.

Table 7 Percentage of Applicants Considered by Those Surveyed to be Suitable

% of applicants rated suitable	Wild Harvest (#responses)	Processors (#responses)	Aquaculture barra (#responses)	Aquaculture pearl (#responses)
91-100	-	-	-	-
81-90	-	-	-	
71-80	4	-	-	1
61-70	-	-	-	-
51-60	-	-	-	-
41-50	55	28	1	-
31-40	-	-	-	-
21-30	-	28	-	-
11-20	4	14	-	-
0-10	38	28	-	-

1 with OJT and supervision.

2 with OJT, formal induction and close supervision.

Interviewees were asked to identify the reasons why potential candidates were considered unsuitable for employment - multiple responses could be provided.

Table 8 highlights the reasons and the commonality of reasons for unsuitability across the industry. The reasons fall into a small number of similar categories;

- Don't know how to do the job (unskilled, lack of experience)
- Don't want to do the job (unwilling to work, not committed, lack of motivation, poor work ethic, attitude, no respect)
- Can't do the job (fitness - physical and mental, unhealthy, drug/alcohol issues)
- External factors (lifestyle, family, cultural, moving on).

The responses in Table 8 are ranked based on the number of times a reason was provided as to why applicants were unsuitable.

7.2.5. Recruitment Trends

Interviewees were asked whether they were having difficulty in recruiting for vacant positions, if any trends were evident, and what issues are causing this trend.

All but two interviewees said that it was getting harder to recruit and that it was an ongoing problem. Two said that it was difficult to recruit but didn't think it was getting harder. One person said it should get easier as labour markets worsen, but also noted that they will rely on bringing in overseas crew on appropriate visas to fill crew positions. Reasons for the ongoing problem were varied, as shown in Table 9.

Table 8 Reasons for Unsuitability (ranked by number of reasons given)

Reason	Wild Harvest (ranking)	Processors (ranking)	Aquaculture barra (ranking)	Aquaculture pearl (ranking)
Unskilled	2	1		
Unwilling to Work	8	2		
Lifestyle Doesn't Suit[1]	4	2	1	1
Lack of Fitness, Toughness[2]	5	2	1	
Lack of Experience	1			
Not Committed	6	2		
Unhealthy[3]	5			
Cultural	8		1	
Drug/Alcohol	4			
Lack of Motivation	3	2		
Moving On	7			
Lack of Respect	7			
Poor Attitude	7			
Not a Fisher/Farmer[4]	1	2	1	
Poor Work Ethics		2		

1 this includes family influences and high cost of living

2 relates to physical and mental

3 includes psychological and seasickness

4 this was raised often and it was coined in terms such as 'it must be in your blood'.

To gain an understanding of the turnover rates and reasons for turnovers, interviewees were asked how long current employees had been in the job, what are turnover rates, and reasons for turnovers?

This was not a simple process as some organisations had numerous employees (over 100) and, due to the seasonal nature of the industry, many had people working with them over many years, on and off. A wide range of reasons for turnovers were provided by those being interviewed, as shown in Table 11. Those surveyed could provide multiple responses. These reasons closely mirror the reasons that people were considered unsuitable, shown in Table 8.

Table 10 gives an estimate of employment times in the various sectors in the NT. It shows that there are some long term employees in the Industry, which means an ageing industry, but that there is also a very high turnover rate.

Table 9 Reasons Identified for Ongoing Recruiting Problems

Reason for Problem
Aging workforce and no succession
Cost of living in Darwin makes it more difficult to get people and families to move
Easier jobs with better conditions and pay than fishing and seafood industry
Lack of experience/skills make it hard to find any suitable people
Lifestyle choices make a life at sea or in the industry less palatable
Oil and gas sector hiring many people who were (or could have been) recruited to the seafood industry
Regulatory burdens, such as IR laws, make it more difficult to hire, and AMSA changes add additional complexity and makes it more difficult to find enough people with the necessary qualifications
Shrinking industry nationally leads to less people in the industry so less people to build succession plan - need to build a career path
Small working population base in Darwin to recruit from
Welfare too readily available

A wide range of reasons for turnovers were provided by those being interviewed, as shown in Table 11. Those surveyed could provide multiple responses. These reasons closely mirror the reasons that people were considered unsuitable, shown in Table 8.

Table 10 Time in Employment by Current Staff/Crew

Time Employed	**Number of Responses (%[22])**			
	Wild Harvest	**Processors**	**Aquaculture barra**	**Aquaculture Pearl**
15+ years	6	11	0	15
10+ years	10	0	40	
5 -10 years	22	26	12	
3-5 years	11	7	4	
1-3 years	12	4	4	
1 year or less	15	4	26	85
6 months or less	3	0	15	
One month or less	20	49	0	

7.2.6. Estimated Age of Workforce

The ageing of the industry has been raised a number of times. To gain an insight into the age structure, interviewees were asked to provide details of the age of those working in their business. Accurate detail was not always possible, but best estimates were provided, within a range (see Table 12).

22 May not add up to 100% due to rounding

As can be seen, most skippers are 40+ and there are a large proportion of processors over 40 as well.

Table 11 Reasons Identified for Turnover

Reason for Turnover	How often mentioned as a reason
Bad fishers - not good at job	Sometimes
Disagreement	Seldom
Drug and alcohol use	Often
Family issues	Sometimes
Isolation of working at sea	Often
Dislike of working/living in close quarters	Often
Job unsuitable	Sometimes
Lifestyle choices	Often
Move on after gaining maritime qualifications	Often
New job opportunities	Often
Not what they thought it was going to be	Sometimes
Pay and conditions	Seldom
People move on - especially backpackers	Often
Personal issues	Often
Visa up	Often
Welfare	Sometimes
Work too hard/dirty/smelly	Sometimes

Table 12 Age Breakdown of Workers by Percentage[23]

Age	Wild Harvest		Processors	Aquaculture barra	Aquaculture pearl
	Skipper	Crew/Mates			
Under 25	0%	38%	23%	40%	Range from 18-55 years. Most deck and farmhands 20-30 years.
26-40	37%	48%	40%	40%	
41-55	50%	12%	23%	13%	
56-65	10%	1%	3%	7%	
Over 65	2%	0%	11%	0%	

7.2.7. Identified Highest Priority Occupations

Those interviewed were asked to identify, within their industry area, what occupation is the overall highest priority and why. It was explained that highest priority meant that no other occupation was more critical.

Table 13 shows the identified priority occupations by sectors. Two major ways to look at this became evident - immediate needs and longer term planning.

23 May not add up to 100% due to rounding

Those with immediate needs identified the higher level skills occupations - such as skippers and engineers to ensure that operations could continue. The other school of thought was to build the base (e.g. crew/deckhands, packers/processors) so that there is a greater chance of qualified, skilled and experienced operators coming through the system to take on key roles in the future. It was mentioned that the current system of using international backpackers was a critical, but short term solution, as they could not stay on longer term to develop industry expertise in Australia, or contribute to Industry succession.

Table 13 Priority Occupations[24]

Occupation	Wild Harvest	Processors	Aquaculture barra	Aquaculture - pearl
Administrator			10%	
Aquaculture Farm Overseers			90%	
Aquaculture Tech with Diving	3%			
* Crabber/skipper[1]	7%			
* Crew/deckhands with qualifications[2]	27%			100%
* Crew/deckhands/mates[3]	23%			
+ Experienced skipper[4]	13%			
+ Skipper engineer[5]	13%			
Engineer with refrigeration	10%			
# Packer Processors[6]	3%	43%		
# Filleters		14%		
# Oyster Shuckers		14%		
Drivers - pick up deliveries		14%		
Fork driver		14%		

1 at this stage no maritime ticket required if using a vessel under 6.2m in certain areas. This represented 7% of people interviewed, but those interviewed accounted for approximately 40% of mud crab licences

2 ability to drive vessel with a restricted or full coxswain or better, and use appropriate gear (e.g. mackerel dory, barramundi tender with nets, pearl shell cleaning)

3 with a view to building the industry base

4 skipper with appropriate Master qualifications

5 skipper with appropriate Master and MED qualifications

6 this may include filleters and shuckers - need multi skilling

The key occupation identified (57% for wild harvest and the key priority for Pearl) was for people to operate at a crew/deckhand/crabber/skipper level (see occupations marked with an ***** in Table 13), preferably with some form of maritime qualification (coxswain or restricted coxswain).

Also rated highly were skippers with appropriate maritime qualifications (and experience in the fishing industry), preferably with an engineers' qualification (26%) (see occupations marked with an **+** in Table 13).

24 May not add up to 100% due to rounding

From a Processors perspective, packers/processors and specialised seafood preparation staff, such as filleters and oyster shuckers, also rated highly (71%) (see occupations marked with an **#** in Table 13).

7.2.8. Formal Qualifications Required/Sought From Prospective Workers

Those interviewed were asked to identify what formal qualifications, including tickets, licences etc do they need, or search for, in applicants/workers. Table 14 shows the scope of qualifications, as identified in the survey.

As has been previously mentioned, there are wide variations in qualifications required in each fishery, and across sectors. This is generally determined through a legislative framework, such as requirements under AMSA, and various work health and Industrial relations' legislations. Appendix IV shows the manning requirements under AMSA.

The results show that the vast majority only seek mandatory qualifications so as to allow their operation to continue, if not mandated or not necessary it training is not undertaken (e.g. mud crabber utilising a vessel under 6.2m in certain waters does not currently need a coxswain).

The ongoing need and costs associated with gaining additional tickets to meet these regulatory requirements were raised a number of times. It was also felt that needing to pay for training that they may not use again (e.g. crew needing to undertake a full ESS program)was a limiter for people who wanted to try a role in the fishing industry.

Most interviewees identified that building a base of skills would be beneficial to the industry and prospective workers, but training needed to be easy to access and focus on industry needs.

A number of organisations undertake extensive and comprehensive formal inductions and OJT/OBT[25], and all operations undertake some form of induction and training, including mandatory safety and emergency response plans and inductions.

The need for skills based training and a means to ensure that 'inhouse' and onboard training and skills can be approved and recognised in the overall training system was important - if this is not occurring it could indicate a fault in the current system. A means to ensure that this training is consistently delivered, and can be used as RPL[26] and converted into a range of competency based units, including under AMSA provisions, is needed. This is discussed further in Section 12, Personal Development (PD) and Training.

Interviewees were asked if there were personal development or training opportunities within their organisations, and if so, what pathways were there. They were also asked to consider what, if any, barriers there were to uptake of these opportunities.

As has often been the case, different sectors and industry size determined the level of PD and training that takes place. For example, a single person operation (such as crabbing) has little scope for development as they are both the boss and owner/operator. Operations that have greater numbers of workers and a more hierarchical set up (e.g. prawn trawler that has a

25 On Board Training (OBT)
26 Recognition of Prior Learning (RPL)

skipper, engineer, mate, cook, deckies etc) provide a clearer pathway, as it does for those working in a pearl farm operation.

For Wild Harvest nearly all interviewees identified that there were personal development opportunities to advance from crew to skipper, depending on the type of operation. This could involve moving to deck boss, mate, engineer and skipper. In a couple of instances the opportunity to become fleet master was also identified.

Table 14 Qualification Requirements Identified for Prospective Workers

Wild Harvest	Processors	Aquaculture barra	Aquaculture pearl
Mandatory ○ Maritime tickets as per AMSA requirements ○ Dive tickets (if mandated).	Mandatory ○ Nil	Mandatory ○ Nil	Mandatory ○ Nil
Optional ○ ESS for deckhand (if not compulsory) ○ Deckhand qualifications ○ Hygiene and Food Safety training ○ First aid ○ Workplace safety ○ Fish processing unit (skills based).	Optional ○ Drivers licence ○ Forklift licence ○ Hygiene and Food Safety training ○ First aid ○ Workplace safety ○ Fish processing unit (skills based).	Optional ○ Agriculture or aquaculture degree ○ Drivers licence ○ Forklift licence ○ Hygiene and Food Safety training ○ First aid ○ Workplace safety ○ Fish processing unit (skills based).	Optional ○ Skipper (restricted or full coxswain) ○ Crane licence ○ Dive tickets ○ OH&S[27] ○ First aid ○ Workplace safety

Each of these steps requires seatime and experience, and for mates, engineers and skippers, formal qualifications. Around 50% of those interviewed said they would support crew gaining qualifications if they showed commitment and aptitude. This support ranged from fully funding, providing some support or paying up front and then seeking reimbursement of fees

A clear career pathway and a more formalised approach to RPL would be beneficial, along with a competency, rather than a time only based approach, as is now the case for most certification. It was noted that it took many years to gain sufficient seatime in some fisheries (due to short seasons) and this was a disincentive to remain in the fishing industry. Gaining and logging seatime is a mandatory requirement before being able to undertake a skipper or engineering qualification. The amount of seatime needed depends on the desired qualification/vessel size. Seatime must be completed as full days (and nights) at sea on a commercial vessel with an engine of the relevant size.

Importantly, no non-mandatory PD was reported, although a small number of operations run 3rd party delivered, formalised induction programs, covering subjects such as OH&S,

27 Occupational Health And Safety (OH&S)

firefighting, emergency action, vessel operations, survival equipment and responsibilities. More formalised recognition of these programs was identified as a need.

In the processing sector, again all interviewees identified that there were PD opportunities for those who wished to commit to the industry. Depending on operation size, a typical career path could go from unloader/labourer, packer, grader, leading hand, 2IC, to manager. In addition, there are specialty skills that are rewarded, such as filleting and oyster shucking. Promotion would generally be competency based (skills and experience) not through external training, although gaining/having a drivers' and forklift licence and first aid certificate would be beneficial. Gaining many of these skills would also allow a career in the fishing industry.

The processing sector also identified administration work as a career path, such as ordering, invoicing, logistic etc, and formal certificates in administration were considered useful.

The only active, non-pearl, aquaculture operation has opportunity for advancement, but operates a very flat structure to increase workforce flexibility. They have their own training program to cover OH&S, workforce flexibility and risk analysis, delivered by a 3rd party RTO/trainer on and off farm.

The pearl sector has many opportunities for advancement due to the high turnover and large staff numbers. It is possible to go from deckhand, to skipper, to relief foreman, to foreman in 8 - 12 months. They provide support for workers to gain coxswains and other relevant training. In addition, they have a very structured induction and an OBT program, using RTOs delivering on-farm to reduce overall costs. It was felt that this type of training needs to be better recognised in the assessment and RPL of formalised training programs. The current national training system provides capacity for this to take place, so the reasons for this not taking place need to be further investigated.

Barriers to development opportunities were provided by interviewees and are shown in Table 15. Major concerns related to literacy and numeracy issues, timing, sitting, cost and content of courses, and the difficulty in gaining adequate seatime and RPL for competencies gained. Ill defined career paths and lack of motivation or desire were also noted.

All interviewees indicated a preference for OJT/OBT as the best means to skill workers to meet their operations' work program. This could be done in conjunction with workshops, formal training, or class based delivery. Face to face training was the preferred delivery method. See, do and repeat was a popular training method identified.

A number of businesses undertake their own inhouse induction (delivered by a 3rd party RTO) to lower expenses and get a customised outcome.

It was felt that there would be benefit in having training structures that help people get their skills, and that competencies they develop during OJT are noted and more easily recognised as RPL. It is worth noting that this model is used extensively in other industries (log-book approach) using an 'auspiced' arrangement between the operator (skipper) and an RTO. A formalised system to recognise learning through industry work, that is competency, not time based, was suggested as a potential model. This would see skippers/mates/managers notarising that crew/staff have undertaken certain activities to a level that would satisfy

industry peers. This is discussed later in Section 13. This should be aligned with units in the SITP[28] or MTP[29] packages.

Issues around low literacy and numeracy were raised a number of times, as was the need to structure any formalised training around free time in the Industry.

The development of a whole of Industry induction video for new workers, especially backpackers and others with poor literacy skills was recommended.

Table 15 Barriers to Personal Development Opportunities

Wild Harvest	Processors	Aquaculture barra	Aquaculture pearl
Literacy and numeracy (especially for Coxswain and Masters). Many can do practical but not theory	Literacy and numeracy	Timing	Need to have better means to document work history
Timing of training often not suitable for Industry	Commitment and desire	Relevance of existing training	People move on to other jobs
Can't attend in peak season as loss of income if courses held during season	Lifestyle change	Hard to get on farm training due to work activities	No long-term industry career path
Work conditions don't allow for study - remoteness, extended periods at sea, close quarters, short seasons	Low level of unemployment in Darwin - other choices		Work conditions and time on/off aren't always conducive
Site of training often not suitable for Industry.	Job dissatisfaction		AMSA ticketing system a concern
No free time when season on	Motivation		
Lack of regional RTOs (good to link with indigenous training)			
Expensive to fly to Darwin or interstate for courses			
Cost of courses (fees, time away from work, travel etc)			
Irrelevant/poor course structure			
Difficult to gain adequate seatime			
Need to have better means to document work history			
Motivation or personal drive lacking			

7.2.9. Physical Requirements, Experience and Skills

28 Seafood Industry Training Package (SITP) - contains 12 skill sets and 182 individual units of competency. For further details see https://training.gov.au/Training/Details/SFI11

29 Maritime Training Package (MTP) - includes the MAR and MAR13. MAR has 11 qualifications, from Certificate 1 to Diploma level, 5 skill sets, and 98 units of competency. MAR13 has 23 qualifications, from Certificate 1 to advanced diploma level, 3 skill sets, and 175 units of competency. For further details see; https://training.gov.au/Training/Details/MAR and https://training.gov.au/Training/Details/MAR13

Interviewees were asked about physical requirements for the job, and what type of experience or skills they look for in workers. Although only physical characteristics were asked for, many provided other characteristics that guide their decision making on potential workers - these have also been included in Table 16.

Table 16 Physical and Other Requirements Sought in Potential Workers

Wild Harvest	Processors	Aquaculture barra	Aquaculture pearl
Physical strength and stamina	Repeatedly lift and move product	Reliable	Drug and alcohol screen
Mentally and physically fit	Fit and healthy	Physically fit	Fitness screen - strength, cardio vascular, grip, balance
Mentally tough	Drug and alcohol policy	Strong	
Healthy (including allergies, injuries)	Cooperative	Tough	
Drug and alcohol policy	Commonsense	Self manager	
Not seasick		Flexible work practices	
Undertake repetitive work		Mentally tough	
Self reliant and independent			,
Hard working			
Take directions			
Able to multi skill			
Able to be away from home			
Pride in work			
Live in close quarters			
Get along with people			
Clean and tidy			
Work in remote areas, difficult environment			
Life skills			
Handle work conditions, including heat			

No seasickness, sound physical and mental health, being able to work in the industry environment, and complying with drug and alcohol policies were key requirements.

Interviewees were asked about what experience and skills they look for in potential workers. A summary of responses is shown in Table 17.

Most important was a demonstrated willingness to work, especially in a similar industry (fishing, aquaculture, food processing) or in a 'hard working' environment, such as labouring or agriculture. As previously outlined, many organisations undertake OJT, so key skills can be taught if people are receptive to learning.

For specialised roles such as skippers, seatime and experience in the fishing industry is most important, along with the mandatory qualifications.

A small number of businesses indicated that there are opportunities for placement of Indigenous workers if they have appropriate and transferable skills.

Table 17 Experience and Skills Sought in Potential Workers

Wild Harvest	Processors	Aquaculture barra	Aquaculture pearl
Demonstrated willingness to work - a work culture	Willingness to work	Farm background, worked in like industry	Seatime or fishing
Undertaken labouring, hard work	Filleting	Long, stable employment history	Aquaculture
Skippering skills - ran a fishing vessel or worked on a boat	Preferably some literacy - to take instructions	References	Labouring
Crew worked on a fishing boat	Work experience - understand species		Agriculture
Fishing background	Work experience		
Maritime experience - Seatime	Fish (or food) handling skills		
Living/working in close quarters	Packing experience		
Repair and maintenance experience	Forklift licence		
Remote work experience	Commonsense		
Engineer, preferred with refrigeration	Take directions		

7.2.10. Skilled Migration Option

As part of the survey, participants were asked their views on using a skilled migration option for filling vacancies in the industry.

Participants were asked a range of questions to gain an insight into the type of roles, qualifications and experience sought, and to gain a better understanding of any issues around the current schemes.

Key Occupations

Interviewees were asked if there were occupation(s) suitable for a migration solution in their sectors/business, and if so, what sort of jobs and why.

In all bar one case, interviewees believed that, as part of industry development (and survival in some instances), a migration option was critical. The only person who didn't see it as an option (but acknowledged the need in many enterprises) had a philosophical belief that it was a better option, long term, to focus on upskilling Australians, rather than bringing in overseas labour.

Table 18 shows the major occupations identified as suitable for a skilled migration option, qualifications, skills and English requirements. These were crew/deckhand, skipper, deckhand

with tickets/crab skipper, engineers and processors, including packers and filleters. It should be noted that for some sectors (aquaculture, processors) there was a small sample size by number. As previously outlined, those interviewed represent a significant proportion of the NT industry by licence number and/or volume.

This information, however, is only indicative for those sectors and, as part of any process, to take this further it should be tested with peak industry bodies more broadly, specifically relating to qualifications and levels of experience required.

English Level Requirements

It was felt that in most instances, basic, o, at most, conversational, spoken English was an adequate level for work in the Industry. The use of other communication techniques, inductions and OJT can be used to facilitate adequate information exchange.

The overwhelming view was that the 4.5 score required on the IELTS (International English Language Testing System)[30] English levels was far too high, and unnecessary in this industry (some suggested closer to 1 or 2 would be more suitable). It was felt that many suitable potential overseas workers couldn't be taken on as they can't meet the requirement, even if they have all of the necessary skills and experience. This was raised by all interviewees. It was also noted that;

- The fishing and seafood industry in Australia has had a long history of migrants, with little or no English, taking part in, and developing the Industry, over many decades
- Many backpackers who work in the Industry could not achieve a 4.5 on the IELTS
- Many industry members' literacy and numeracy skills are at a level where they could not achieve a 4.5 on the IELTS
- Many Indigenous Australians have poor literacy and numeracy and could not achieve a 4.5 on the IELTS.

All of these people contribute to the industry and many felt it did not make sense to have such strict criteria for longer term staffing options, such as under 457 Visas, which allow a building up of skills, experience, and succession in the industry.

Awareness of Skilled Migrants

Survey participants were asked if they were aware of any suitably qualified/skilled migrants overseas that could undertake roles within their organisation, and if they were aware, why hadn't they sourced them.

Around 90% of those interviewed said they were aware of potentially qualified/skilled overseas workers who could undertake a range of roles in their business and the wider industry. The main reasons provided as to why they hadn't been engaged were that;

- Administration was difficult, complex and overly onerous

30 International English Language Testing System (IELTS)

- Difficulty in complying with skill codes, as many fishing and seafood jobs don't rate high enough

- IELTS test too hard, set too high for many people who have experience in the fishing and seafood industry, particularly from Asia

- Potential workers from developed countries (NZ, UK etc) didn't see the cost benefit of moving to the NT to work when conditions are comparable to those they currently operate under, and there are a number of family and lifestyle issues to address in the NT.

The vast majority of respondents believe that most appropriately skilled workers are from SE Asia as there are large fishing communities in the region, they are familiar with the tropical and sub tropical species caught in the NT, many have experience operating similar fishing methods, and there are a range of groups of varying ethnic diversity in Darwin that could provide support. It was felt that coming from a fishing lifestyle was the best experience that could be found.

A small number of respondents had employed staff under the previous 457 Visa scheme (which ceased in 2007 and had less stringent English requirements). Most were reaching the end of their Visas and there was concern that, under the new scheme, it was not possible to hire people of similar capacity (due to the IELTS requirements). Their view was that the previous scheme worked incredibly effectively and the overseas' workers had been invaluable employees, with many further developing their careers. Comments from some businesses follow;

- 'We are an approved migration company and have had eight Indonesian workers on 457 Visas for eight years, who have worked their way from deckhand to mates, working on two vessels'

- 'We had twelve Indonesian crew and 2 MED working on 3-4 vessels - some stayed on, others have had to leave when their Visa expired'

- 'We had one Filipino and two Korean Engineers who are now key people working on 3 vessels'

- 'We had two Vietnamese staff on 457 Visas for eight years, who undertook all roles on two fishing vessels, now have citizenship and moved on to new roles outside the industry'

- 'We have four 457 Visa workers (twice) in the processing factory who have gone up the management ladder, but will have to leave when current Visas expire'

- 'We had a number of 457 Visa workers as managers, and in retail and processing'

- 'We had approx 40 cooks, engineers and deckhands (mainly Filipino) under 457 Visa exceptional circumstances, 85% stayed on, with about 50% receiving citizenship'

It was noted that nearly all companies used backpackers working under 417 and 462 Visas, and these made up a large proportion of deck and farm hands.

Issues and Solutions

Respondents felt it was crucial to outline the importance of having a skilled migration option as part of the NT Industry mix. It was noted that without an adequate skilled migration program there is no chance for northern development, not just for the fishing and seafood Industry. For a skilled migration program to be successful in addressing local needs, it would benefit from changes, such as;

- Reduce the level of the IELTS to much lower than the current 4.5 (it is currently set much too high for many people who have experience in the fishing and seafood industry, particularly in Asia)
- Greater acknowledgment and weighting of Industry experience and workers skills
- Simplification of the application and administration process
- Reassessment of the skill level to acknowledge the high skills level required for competency in the Industry
- Implementation of a regional/concessional 457 Visa scheme that recognises the challenges of employment in remote regions (i.e. low unemployment, high cost of living, lifestyle and relocation issues within Australia), and provides an incentive to engage overseas' workers to fill jobs not being taken by Australians
- Adjust the scheme to better reflect the sometimes short or seasonal nature of the Australian fishing and seafood industry, particularly in the tropics
- Reconfigure the seasonal worker programs, such as the SWP[31], to better meet the ongoing nature of the Aquaculture industry (currently only allows between 14 weeks and six months per year)
- Expand the current SWP to include the wild harvest and processing sector
- Increase the number of countries that are included in the SWP, e.g. possible range of SE Asian countries
- Revise the 417 and 462 Visas to better align with the operational realities of the fishing and seafood industry, to allow Visa holders to complete full fishing seasons, and possibly move on to other Visa classes to allow longer term options for Industry.

The NT Fishing and Seafood Industry are not alone in this desire to utilise a skilled migration program as part of a solution for their 'chronic' labour shortages. Dairy Australia found that almost two-thirds of their members say they often or always had difficulty finding the right people[32].

31 Seasonal Worker Program (SWP)
32 For more detail see http://www.abc.net.au/news/2014-04-14/foreign-dairy-workforce/5388572

Table 18 Summary of Key Occupations Identified as Suitable for A Skilled Migration Option, Qualifications, Skills and English Requirements

Occupation	Reason	Qualifications Required	Experience and Skills	Level of English
Deckhand or Crew	Identified as a priority Occupation (Table 13) for wild harvest and pearl Critical shortage and allows building capacity to undertake other more advanced industry roles Current system of relying on short term workers doesn't allow adequate time to fully train	Nil No need for formal qualifications - people with an affinity to the sea and fishing can receive OJT/OBT to upskill to industry needs	Work ethic and work history in related field, preferably fishing and maritime. Basic fish skills, gear mending etc. Ideally 5+ years as a crew or deckhand. Allow for OJT/OBT.	Basic to conversational No need for reading. Other means to communicate as part of OJT; including safety and work instructions Many backpackers have very basic English Lower skills required if working with people who share language
Skipper [33]	Identified as a priority Occupation (Table 13) for wild harvest and pearl. Critical shortage in a number of fisheries Unless new skippers are found, has the capacity to further close down fishing operations People who have experience and skills in fishing operations can be readily skilled to meet local conditions	Will need equivalent certification as per any manning requirements dependant on vessel size and area of operation	Demonstrated experience depending on type of operation in Australia (more specialised fisheries, such as trawl and purse seine, may require extra seatime). Ideally 5+ years as skipper but should be competency based.	Limited conversational, to allow basic two way conversation around safety and operational issues. Lower skills required if working with people who share language
Deckhand with ticket[34]	Identified as a priority Occupation (Table 13) for wild harvest and pearl. Critical shortage and allows building capacity to undertake	Will need equivalent certification as per any manning requirements dependant on vessel size and area of operation.	Work ethic and work history in related field, preferably fishing and maritime. Basic fish skills, gear mending etc.	Basic/conversational to understand instructions around safety and operational issues. No need for high level English as

33 Crab skipper has basically the same requirements as a deckhand but would have similar roles to a skipper or deckhand with ticket

Occupation	Reason	Qualifications Required	Experience and Skills	Level of English
	other more advanced industry roles Current system of relying on short term workers doesn't allow adequate time to fully train People with an affinity to the sea and fishing can receive OJT/OBT to upskill to industry needs	Can be obtained locally if required	Ideally 5+ years manning a fishing vessel. Allow for OJT/OBT and/or mentoring.	are other means to communicate.
Crab skipper [34]	Identified as a priority Occupation (Table 13) for wild harvest Critical shortage and unless new skippers are found it has the capacity to close down fishing operations People who have experience and skills in fishing operations can be readily skilled to meet local conditions People with an affinity to the sea and fishing can receive OJT/OBT and induction to upskill to industry needs	Nil so long as vessel under 6.2m and operating in coastal waters No need for formal qualifications. Can be obtained locally if required	Work ethic and work history in related field, preferably fishing and maritime. Basic fish skills, gear mending etc. Ideally 5+ years manning a fishing vessel. Allow for OJT/OBT and/or mentoring.	Basic/conversational to understand instructions around safety and operational issues. No need for high level English as are other means to communicate. Lower skills required if working with people who share language
Engineers	Identified as a priority Occupation (Table 13), particularly with fishing experience and refrigeration expertise Critical shortage under manning requirements.	Will need equivalent certification as per manning requirements dependant on vessel size and area of operation	5-8 year experience in fishing industry - proof of seatime. Experience and understand fishing, vessel and gear maintenance. Refrigeration experience a bonus.	Limited conversational, to allow safety issues and information to be shared.
Seafood Process	Identified as a priority Occupation (Table 13) for processors.	Nil No need for formal qualifications -	Nil Food or seafood industry	Very basic to understand instruction using language and

Occupation	Reason	Qualifications Required	Experience and Skills	Level of English
Worker - includes loading, unloading, cleaning, filleting, cutting, preparing and cooking, freezing, shucking, grading, packaging, selling, transporting	Critical shortage, and allows two fold approach; building capacity to undertake other more advanced roles and allows processors to continue to grow At least one interviewee had closed down a large processing plant interstate, due partly to labour shortages, and others indicated it was limiting the chance to possibly expand significantly	people can receive OJT to upskill to industry needs	experience, including filleting, processing and packing a bonus but not necessary as can have OJT.	other means. Conversational to understand numbers and weights.
Driver/Forklift operator	Wasn't identified as a critical shortage but was identified as a limiter to operational efficiency and any potential growth	Will need licences	Experience as a driver and fork operator	Very basic to understand instruction using language and other means.
Mates	Wasn't identified as a critical shortage but was identified as a limiter to operational efficiency and potential growth if new deckhands don't come through the system	Will need equivalent certification as per any manning requirements dependant on vessel size and area of operation	Demonstrated experience, depending on type of operation in Australia (more specialised fisheries, such as trawl and purse seine, may require extra seatime). Ideally 5+ years as mate/leading hand, but should be competency based.	Limited conversational, to allow basic two way conversation around safety and operational issues. Lower skills required if working with people who share language
Cooks	Wasn't identified as a critical shortage but was identified as a limiter to operational efficiency and any potential growth if new cooks don't come into the system	Nil	Work ethic and work history in related field, preferably fishing and maritime. Cooking experience and basic fish skills, gear mending etc. Ideally 5+ years as a cook/crew.	Very basic to understand instruction using language and other means.

Occupation	Reason	Qualifications Required	Experience and Skills	Level of English
			Allow for OJT/OBT.	
Repair and Maintenance Staff for Refits	Wasn't identified as a critical shortage but unless suitable numbers of skilled craftsmen, such as boilermakers, engineers, electricians, refrigeration mechanics, sheet metal workers, labourers are available, vessel refits cannot take place and this impacts on the whole of industry and the supply chain.	Labourers Nil. Others as per requirements	Work ethic and work history in related field preferably for labourer. Skilled craftsman 5+ years preferably in related field.	Engineer basic to conversational Labour very basic
Aquaculture technicians, experienced staff	Roles for higher/middle tier staff for well qualified aquaculturists, biologists, technicians, hatchery and growout staff and others with a science based skill set	Nil Would seek tertiary qualification in field of expertise	Nil - unless required. Better to train on site and allow to move up ranks	Middle to effective English so as to understand and give precise directions Misunderstandings can prove catastrophic if wrongly interpreted.

8. Barriers for Those Seeking to Work in the Seafood Industry

One of the most challenging aspects of this survey was to identify barriers for those seeking to work in the Industry. During the two Darwin survey periods it didn't prove possible to interview any current or potential workers to the industry. This was for a number of reasons, including;

- It was off peak season and there were few backpackers in town and at the Duck Pond, which is the major area where work is sought. There were no people looking for work during periods when the surveys took place in the area
- There was no location to find potential employees outside of the wharf area, and there were no people identified as looking for work during the survey periods
- The NPF season was still 2 months away and most vessels were still undergoing refits
- The barramundi season was yet to commence
- There were breakdowns and issues with access to the Duck Pond. A number of offshore trawl and trap boats couldn't unload, therefore arranged interviews couldn't take place. Vessels that were unloading were under tight time constraints, looking for quick turnarounds, and in one instance, turned around immediately. In the other, the crew left the area immediately after the unload, for family and social activities.

During the project development phase this was identified as a major challenge, and as such, a few alternative means to contact potential or past workers were developed.

The NTSC maintains a database of 'backpacker' and off the street walk-ins seeking work. Their contact details, relevant experience, and expected time in the NT are emailed out to NTSC members who can then choose to contact the backpacker if interested. These backpackers were followed up by email to seek details from them regarding their experience in seeking and/or working in the industry. The database was only started in July 2013, with most of the backpackers on it having sought work during the peak backpacker season from July 2013 to December 2013. By the time of contacting them in March 2014, most would have moved on from Australia and, as expected, no responses on their experience were provided.

The other path was to have one of the RTOs, CDU[34], send a questionnaire to past course participants to seek feedback regarding their experience in looking for, or working in the industry. Unfortunately this again provided no responses.

Without this external input the barriers can only be determined based on the information gathered, during other parts of this project, from Industry, RTOs and Government agencies.

A finding from this process is that there 'is lots of information about', and in most instances this is highlighted by agencies and service providers as being accessible through a number of websites - however a low level of literacy and numeracy is a well documented problem in the fishing and seafood industry. The current means of communicating with industry is deficient as it does not meet the target audience's needs and skills. As part of the recent PISAFE[35] initiative it was noted that 70-80-% of industry people needed literacy and numeracy support to complete what were considered relatively simple processes.

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34 Charles Darwin University (CDU)
35 Primary Industries Safety Advice (PISAFE)

Key barriers are;

- There is no clear front door to employment in the industry. Vacancies are seldom advertised or listed, so access to employment relies on Word of Mouth contacts, links into informal networks, or walk-ins to fishing/processing sites

- Lack of skills or experience, or means to demonstrate those skills, and no national or recognised record book to record details ('Task Books'[36] are available from local Marine Safety Agency or RTOs, but it is unclear what they are for – the AMSA website has no details at the time this report was prepared)

- No clear and definitive means to identify required skill sets

- Lack of qualifications

- Lack of recognition of qualifications (transportability) and/or lack of practical experience (i.e. qualifications v skills)

- No simple matrix to explain required qualifications (this could be expanded to incorporate necessary skills as well)

- Lack of understanding of the industry and what to expect - what does it really involve, conditions, impacts on lifestyle etc

- Career pathways are unclear, with the Industry not at the forefront of mind as an employment option of choice. Industry should consider the best approach to address this

- Many sectors of the Industry cannot provide year round, consistent and reliable hours of work due to fishery management arrangements (closed seasons etc) or other operational matters (tides, weather, breakdown, refits, market demand etc)

- Sufficient seatime is difficult to gain for formal qualifications (possibly a competency based v time based approach would be beneficial). By way of example, a coxswain requires 60 days (450 hours) evidence of sea service, and a Master 4 between 120 and 600 days (depending on type of seatime). It is possible to reduce seatime requirements by completing a Task Book, but no clear direction to this pathway is evident. (It was said it is easier to gain time to fly a 747 than drive a 30m boat).

A number of relatively simple steps could be undertaken to address some of these matters;

- Map industry career pathways and provide readily available information on the industry

- Develop a more transparent employment 'portal'

- Identification and documentation of industry skill sets and opportunities for employment

36 Detail on use available at http://www.amsa.gov.au/forms-and-publications/AMSA727.pdf (not current)

- Web or app based program, as well as hard copy, 'Task Books' to demonstrate and record skills or experience
- Transportability of qualifications
- Develop a simple matrix to explain required qualifications (this could be expanded to incorporate necessary skills as well)
- Look to find means to link regional and national industry opportunities to provide increased year round, consistent, and reliable employment
- Seek means to move to a competency v time based approach to achieving maritime qualifications.

To develop the above there will need to be some level of upfront resourcing (staff and funds) for industry to build a more cohesive approach, in conjunction with government and RTOs.

9. Barriers for Those Seeking to Employ Workers in the Seafood Industry

Throughout the interviews there was a very common story about the difficulty in finding suitable workers in all sectors of the industry.

This is exacerbated in Darwin, where unemployment levels are very low (1.94%[37] in December 2013, compared to a national level of 5.88%) and there is a small employment base to start with, due to Darwin's small population, so additional workers must be sourced from other areas.

The cost of living and accommodation is very expensive[38] when compared to other areas, and is a key consideration for potential workers. For example, Darwin rent prices are 62.7% higher, and the Consumer Prices 13.84% higher, than Adelaide, and rents are 20.1% higher, and the Consumer Prices 11.5% higher, when compared to Brisbane.

There is difficulty in finding workers, including suitably qualified people in line with any regulatory arrangements, particularly in respect to AMSA manning requirements. Many interviewees believed that a large number of former and potential workers with marine qualifications had moved to different industries, such as oil and gas, which provided more regular year round, consistent, and reliable hours of work, in comparison to the fishing and seafood industry, along with generous remuneration. It was felt that only those with a true love of the industry, or those that may not be able to comply with the conditions associated with working in the Oil and Gas sector, remained in the fishing and seafood industry.

There was also a feeling that many prospective workers, who in the past may have gone into the fishing and seafood industry, have also moved to O&G[39], construction, and other more regular employment options.

With that in mind, and seeing that the fishing and seafood industry is not a career path of choice, a range of barriers have become evident to those seeking to engage workers in the Industry. Many of these barriers are similar to that for those wishing to gain employment (see Section 8);

- Vacancies are seldom widely advertised, so prospective workers only become available through Word of Mouth, informal networks, or walk-ins. There is no clear, structured means for interested people from outside of the circle to gain easy access

- Attraction, and then retention, is a clear problem. There is no clear career pathway and the Industry is not a first choice career. There is little information that is readily available to prospective workers, and that which is around is not in a form that many potential workers can access (in SA, some work has been undertaken looking at carer pathways, improving industry-RTO links, and developing whole of industry resources - see FRDC Project 2009-302[40])

37 For more detail see http://economy.id.com.au/darwin/unemployment
38 For more detail see http://www.numbeo.com/cost-of-living/city_result.jsp?country=Australia&city=Darwin
39 Oil and Gas (O&G)
40 Pilot project (2009-302-DLD - Linking careers, research and training - a pilot for the seafood industry) showed two areas warranting further research, i.e. the development of career pathways that may assist both employees already working in the industry as well as people outside the industry looking for a career, and improving the links between the industry and trainers to

- Having to possess and pay for qualifications to engage in the industry is a disincentive, especially for those who want to put their toe in the industry and test it out. Entrance level regulatory qualifications, such as ESS, cost around $1,200 and take a week to complete (can be done locally[41]), STCW[42] also takes a week and costs approximately $3,500. Either the employer, or the prospective worker, must pay. In some sectors this cost runs into $100,000's per year, with no guarantee workers will stay in the industry. It was raised that the fishing industry is just a stepping stone to other industries once the necessary seatime and qualifications are achieved. A low cost, shorter alternative is needed, possibly something similar to those undertaken by a number of fishing and aquaculture operations as a one day 3rd party delivered program. Courses are also not always available when needed.

- It is difficult to really know what skills and experience prospective workers may have, as there is no standard means to record this

- Conditions, including irregularity of work in some sectors, long hours and stand downs, irregular payments, impacts on family, and lifestyle, make it difficult to attract workers

- The regulatory burden on the Industry was identified as a major disincentive to employ workers and was a cause of much concern, as overlaying layers of regulation (e.g. AMSA, WH&S[43], HACCP[44], AQIS[45] etc) add more and more administrative burden to industry (remembering that literacy and numeracy level are quite low across industry)

Many of the steps outlined in Section 8 previously, (i.e. Barriers for Those Seeking to Work in the Seafood Industry), are just as readily applicable to those looking for workers, and should be considered in a whole of industry approach.

A very small number of those interviewed said they hadn't had any problems with recruitment. These organisations were generally small, family run and staffed, and had maintained staff for many years and/or had family (extended), friends, or acquaintances involved.

provide more relevant upskilling. The project showed the benefits of developing materials at a whole of sector level that suits industry and that can provide guidance and be applied across other seafood sectors.

41 RTOs - SMIT and ACCRETE

42 Seafarers' Training, Certification and Watchkeeping (STCW)

43 Work Health and Safety (WH&S)

44 Hazard analysis and critical control points (HACCP)

45 Australian Quarantine Inspection Service (AQIS)

10. Adequacy of Current Communication Used by Workers and Employers

There would appear to be a major disjunct between industry employers and potential employees.

The current model of Word of Mouth, informal friend and work networks, and walk-ins, is not an ideal model to identify potential workers and build the industry acceptance as a career. This is highlighted by the fact that there is a severe and identified shortage of workers in the majority of fishing and seafood businesses in the NT.

There are some short and long term measures needed to address this. Due to the nature of the industry (often low literacy and numeracy, extended periods at sea, many small businesses with no front staff etc) it is important that any measures don't create a headache for industry and they become overwhelmed by 'tyre kickers', as this would cause further disillusionment for potential workers who don't get responses or feedback.

In many interviewees' opinions there is not a strong industry pull for jobs, and this needs to be addressed, but must be industry driven as no one else can fix this.

Some means to improve the two way communication system could include;

- Need for a front door for potential workers and employees. Develop a central register of vacancies and/or potential workers. This may be a slight upscale of the current system used by the NTSC, or a revamp based on a user pays system that allows increased exposure, vetting and linking, as well as information gathering as to skills and qualifications.

- Bulk list in a range of national forums that provide employee/employer linking (e.g. JobSearch, which is funded by the Australian Government as a free national and regional service to help job seekers find jobs and employers find staff, or through a non government link such as http://employment.byron.com.au/jobs/agriculture-rural-services-jobs/.

- Get the message out. Utilisation of social media, such as websites and/or facebook, as individual or whole of industry/sectors pages, that list jobs, vacancies, skills and qualifications sought, which potential workers can view and respond to. Also assist industry to utilise social media better.

- Industry doesn't promote itself. Develop an industry profile, which also highlights career paths. There is little readily available information on the fishing and seafood industry, the types of jobs, roles, career paths, and the types of skills and experience that are sought. YouTube videos and more focus on potential careers in industry sites could assist - i.e. a specific 'careers in the seafood industry' page on the NTSC and other suitable websites. There is potential to include an employment portal on the NTSC website to link job seekers with employers.

- Map career pathways and work options and then develop training needs and programs with Industry, RTOs, PITAC, and appropriate Federal and Territory departments.

- Develop partnerships with existing employment linking processes in the primary industry sector. For example, the fruit and vegetable industry has a scheme called

Harvest Trail (http://jobsearch.gov.au/harvesttrail/) which links job seekers with harvest jobs Australia wide. Linking into this scheme or developing something similar may be possible for the fishing and seafood industry, i.e.; Hook into Fish'? As part of a regional skills initiative on the Eyre Peninsula in South Australia they developed a website on behalf of AgriFood Skills to attract to upskill and diversify the local workforce to ensure the human resource needs for fishing and aquaculture of this region would be met into the future (see http://seafoodjobs.com.au/).

- See if a FISHCARD can be developed, similar to the Yellow Card, Melon Card and Mango Card, and learn from the employee - employer links that these provide (see Section 13 for more details)

- Investigate opportunities to Identify migrants who can comply with the current criteria, whilst industry works with Government to seek changes to the current 457 Visa scheme or other migration options. This may involve seeking potential workers from countries that have a fishing or seafood culture. A number of the older generation of migrants came to Australia, following conflict in their home country, and set up many of the current fishing businesses.

- Longer term, start a conversation at school level to attempt to garner interest in the fishing and seafood industry at an early age, and seek to influence curriculum and work programs that appeal to students and those teachers/lecturers delivering the program. This could include investigating some of the more successful engagement programs such as SIPS[46], undertaken in Tasmania, where Industry people are partnered with a primary or high school and undertake visits, excursions and/or keeping contact with them through emails, texts or social media (e.g. when out at sea - making it real).

- Seek to have a fishing or seafood Industry specific 'exit interview' question in the system for school leavers, to gain an understanding of the knowledge or interest in the Industry at schools.

All of these matters would be best considered as part of an industry developed strategic plan to address this broader issue of employment in the industry, and communication will be a critical component. Although some actions can be taken at an individual business level, the issue is a whole of industry matter and will require resourcing (personnel and funding) to develop a strategic way forward, and then oversee its implementation.

46Seafood Industry Partnerships in Schools (SIPS) for more detail see http://www.oceanwatch.org.au/our-work/sips/fishermen/

11. Essential Skills Including Licences Required for Each Sectors

Interviewees were asked if there were particular or specific skills that were essential for access to the industry at the entry level. Surprisingly, most responded, not with physical skills, but more around mental capacity and motivation to be involved in the industry (see previous Table). It was felt that the right person could be skilled by OJT and targeted training to achieve most tasks. Table 19 shows the only essential qualifications identified related to complying with regulatory requirements for manning vessels' standards and driving vehicles (this is a complex process based on length of vessel, power, area of operation and use as per AMSA requirements[47], subject to any 'grandfathering' clauses - (see Appendix V to see process to determine appropriate crew).

All other skills were preferential but not critical, such as food handling and safety, OH&S, first aid, understanding hazards and following procedures, complying with policies and procedures, knowledge of seafood species, products and equipment, work instructions are undertaken.

Table 19 Essential Skills Required

Essential			
Wild Harvest	**Processors**	**Aquaculture barra**	**Aquaculture pearl**
Nil unless requiring certification to comply with manning requirements	Nil	Nil	Nil unless requiring certification to comply with manning requirements
'Optional or Preferential Extras'			
ESS	First aid	Electrical skills	ESS
Drive dinghy	Fish handling	Mechanical skills	Restricted coxswain
Fish handling	Use gear correctly	Net making/building	OHS
Use gear correctly	Processing/filleting	Fish biological skills	First aid
Processing/filleting etc	Sharpen knives	Fork crane	Understand legislation
Make and repair gear	Packaging/presentation	Drive truck	
Sharpen knives	quality control	OH&S	
Packaging/presentation	Store product	Basic food safety (contamination, self cleanliness, cool chain	
Quality control	Transport product	Aquaculture technology (O, ammonia, temp, water flow, fish health)	
Store product	OH&S, WH&S	Understand legislation	
Transport product	Forklift licence		
First aid	Drivers licence		
OH&S, WH&S	Understand legislation		
Understand legislation			
Knots and splicing			

47 See AMSA requirements

12. Preferred Learning Styles

Interviewees were asked what they felt was the preferred learning style for their industry sector - multiple methods could be provided.

Not surprisingly, based on the information presented in the report, 95% felt that OJT was the most effective learning style for their industry sector. The concept of learning by doing and repeating that process was a common theme. Also, not surprisingly, based on the type of training the industry focuses on (i.e. qualifications to meet regulatory requirements), the use of a college/class based format was the second most mentioned style (approximately 30%). This was followed by face to face (less writing/reading) and using RPL to achieve qualifications though competency, not time or test based.

A common belief was that the optimal means to achieve learning was through a combination of methods that best meets the needs of the information deliverer and the person learning - this may vary from operation to operation, sector to sector, and individual to individual.

As mentioned previously, with the right focus/motivation and using OJT and targeted training, most people who stayed in the Industry could gain sufficient skills and qualifications.

A number of organisations (4) used formalised inhouse training, and workshops run by 3rd party RTOs to deliver a range of programs, such as inductions, OBT, Quality Management System training, aspects of ESS, quality and food safety etc. They believed this was the best means to deliver the necessary skills and capacity (rather than full qualifications), was cost-effective, was specifically developed for their business models, and was run to their operational schedule. The current system allows for this competency based approach to be formally accredited but there may be a breakdown in capturing this approach, either in its delivery or assessment.

A suggestion put forward, in one way or another, by a number of interviewees, was the need for an industry based training program, based on a set of skills endorsed by industry peers, with skippers (processors, aquaculturists etc) taking on the role as workplace trainers. It was suggested that this would be recognised nationally, approved, transferable, and also useful for RPL. A major feature of this program would be that the 'curriculum' would be structured to allow time to learn and become industry suitable, e.g. undertake a specific task successfully 10 times and that skill is ticked off by the trainer (e.g. fillet, sharpen knives, stand watch etc). Such an Industry approved ticket given by Industry peers would show competency. Many of the elements of the SITP and MTP packages would be integral aspects of the program, along with other industry specific skills. This program would see people trained on boats, in factories, and on farm, by working through a booklet for each component, and provide competency based transportable qualifications. If the program is successful, businesses could have extra crew or processors (possibly unemployed) undertake the program to build their capacity. Such an approach can formalise RPL and then identify gaps and use targeted training to better qualify and upskill industry. For this to be effective, consistent, and transportable, a national approach would be more beneficial than a regional or fishery by fishery approach.

This concept in a range of forms is being undertaken, or considered, in a number of jurisdictions and/or fisheries. Some examples are;

Western Australia. The WA Professional Fisherman's Certificate[48] (PFC) - is an industry driven Professional Fishing qualification. The CRC[49] and FRDC are co investing in this project. The rationale for this program is that there is very little take-up of current qualifications under SITP, and fishers have little to show for the time and effort they spend at sea. It will address challenges and gaps in the existing SITP and determine the most favoured method/s of training delivery. A preliminary online survey indicated strong support for the concept. WAFIC is now repeating the survey, this time with over 400 face-to-face interviews with industry people, to determine the feasibility of implementing the program, the level of support, finding out what it wants from such a qualification, how it would look, and how to deliver it. The PFC is not to be confused with seamanship certificates (e.g. Masters') - this qualification will complement them.

NSW - OceanWatch Master Fishermen[50]. OceanWatch Australia has commenced a project titled 'Professionalising the Industry – NSW Pilot', which has completed much of the preliminary work but has been delayed whilst the current fishery review is completed in NSW. Through this FRDC supported project, fishers will be trained and assessed in environmental best-practice, responsible fishing, in line with the FAO Code of Conduct for Responsible Fisheries[51]. Successful participants in the scheme, who have also completed maritime and food safety training, will be recognised as 'OceanWatch Master Fishermen'.

South East Trawl Fishery. FRDC has funded training for South East Trawl fishers (TAFE accredited and examined), based mainly on environmental, scientific and public perception issues. Credits are earnt towards the certificate 3 level qualification in seafood industry fishing operations[52].

A focus on identifying appropriate skills across Industry, that can be used to develop Skill Sets which could then be delivered as 'short courses', (though a range of delivery means) should have a level of industry support. The best means to determine these specific skills is through consultation with peak industry organisations (perhaps facilitated by AgriFoods), as it was not possible to gain whole of industry clarity around the necessary skills through this project, due to the sample size and diversity of the industry. Each sector could identify 3 or 4 basic skill sets from existing training packages, map out a process, and pack them into a package for easy and quick delivery. It could be worthwhile looking at other industries with similar skill sets, and share between sectors.

It should be noted that, in respect to an industry based training system, the current system allows for log books etc, which can be developed for use by skippers or supervisors, to sign-off the learner on (aspects of) work activities, which are captured in industry endorsed modules in units of competency. The issue seems to be about identifying and agreeing on particular skill sets, and how evidence of attainment is collected and endorsed.

48 WA Professional Fisherman's Certificate (PFC) For more details see http://seafoodcrctraining.com.au/tafevet/professional-fishermans-certificate/
49 Australian Seafood Cooperative Research Centre (CRC)
50 For more details see http://www.oceanwatch.org.au/master-fishermen/
51 For more detail see http://www.fao.org/docrep/005/v9878e/v9878e00.htm
52 For more details see http://www.setfia.org.au/environment/item/fishermen-follow-up-on-environmental-training.html

13. Capability of Training System to Provide Courses to Address Skill Needs

As previously mentioned, industry is now focussing on training to comply with a range of regulatory requirements, AMSA, WH&S[53], HACCP[54], AQIS[55] etc. Training is therefore not focussed on skills improvement, it is for mandatory qualifications. Currently there is little uptake of the SITP, with the bulk of training coming from the MTP, or via business based programs. CDU offered SITP Cert II-IV and had negligible take-up.

The question of the training system's capability needs to be looked at from two different perspectives, the RTO's capacity and the industry's desire and capacity to engage in the process.

The industry does not generally have a training culture (outside of regulatory compliance), with most training being OJT. This, coupled with the fact that there are few industry 'champions' doing training, has meant that industry has not been at the forefront of capacity building. Industry would benefit from developing a strategic approach to upskilling and capacity building, and work with providers and government to develop workable programs.

Industry as a whole is not particularly savvy at resourcing external training funds, and therefore those with the capacity or knowledge have best access to funding opportunities. PITAC recently supported around 16 students from the seafood industry to complete training. This consisted of four coxswains, two Masters and 10 MED. Most have indicated that they will be looking to move to other industries when they have their qualifications.

It was also raised that it felt like the fishing/seafood/aquaculture industry is acting like an RTO for the oil and gas industry. The oil and gas industry will only accept ticketed personnel with experience and it is through the fishing/seafood/aquaculture industry that they are getting the experience and tickets. The industry is currently essentially training labourers up to Master III level and all levels in between at which time these qualifications and experience are taken to the oil and gas sector where they can generally earn significantly more money. This means without the fishing/seafood/aquaculture industry there would not be sufficient suitable staff to ensure the viability of the oil and gas industry.

That being said, there were strong views that the current training system was not delivering for industry for a number of reasons, such as;

- Issues around poor industry literacy and numeracy and therefore the appropriateness of delivery methods (many can do the practical but not the theory). Literacy and numeracy are not limiters to being able to undertake the necessary skills, but they limit the ability of people to get qualifications for tasks they can easily undertake. This suggests a mismatch between job requirements and how these are captured in the Units, a role for AgriFood to consider.

- Timing of training is often not suitable for Industry - it is generally not possible during fishing seasons, not always available when the season is over, there are often lengthy periods between class time, and timeframes which may not meet cultural needs and obligations.

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53 Work Health and Safety (WH&S)
54 Hazard Analysis And Critical Control Points (HACCP)
55 Australian Quarantine Inspection Service (AQIS)

- Work conditions often don't allow for study - remoteness, extended periods at sea, close quarters, short seasons etc

- Relevance of existing training packages or poor structure of them

- Focus is on Oil and Gas delivery, not for the fishing and seafood industry

- Site of training is often not suitable for Industry, with a lack of regional RTOs an additional issue (unless can link with Indigenous focussed training opportunities), there can be problems with bringing people into town

- Cost of courses and lack of funding (fees, time away from work, travel, accommodation, meals etc) - can't attend in peak season as loss of income, and this is exacerbated if courses need to be undertaken interstate

- A recognised certification process for OJT and achieving competency based skills should be developed to upskill workers and supervisors, including literacy, numeracy and mentoring. This approach would allow people sufficient time to develop and practice skills that meet workplace standards (allows repetition in a variety of contexts)

- Many programs rely on written, rather than practical, assessment

DPIF[56] identified a range of similar issues as part of seeking to develop further options for Indigenous employment in the broader fishing and seafood industry (particularly the Marine Ranger program, and more recently as part of building capacity in a commercial fishing cooperative based in Nhulunbuy). With respect to fishing upskilling, they addressed this by;

- Undertaking an induction for people doing training to explain roles, responsibilities and expectations

- Using a specific package, modelled on the existing SITP, but rewritten to meet their needs and those of their client group

- Focusing on fish handling, fishing, processing units etc

- Building literacy and numeracy into the units, but noting that literacy and numeracy were not critical in fishing units (but were considered critical in their delivery of compliance training and, as such, the programs are adjusted)

- Focusing on skills versus qualifications in the first instance. Get people trained to an industry standard, not necessarily accredited. As new skill sets are mastered they use a RPL process to show evidence of OJT and skills

- Shaping and delivering the program to meet the cultural and other needs of their clients. Using techniques such as 'learn by doing', double loop learning, ongoing group assessment of effectiveness of delivery, use of mentors, and a combination of experiential and limited class based delivery

- Using technology, such as ITracker, to log activities.

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56 Department of Primary Industry and Fisheries (DPIF)

Many of these methods would be just as applicable to the broader Industry. There is a medium to longer term opportunity to better engage with Indigenous people to identify opportunities to employ and work with them. This area remains virtually untapped. Recent training has seen large numbers of people gain maritime qualifications through involvement in the marine ranger programs, and the work in Nhulunbuy is now looking to upskill people in the fishing and seafood industry. The broader industry should seek to link with this process.

The concept of shorter courses based around skills sets, rather than qualifications, has been raised, with the idea of clustering competencies to meet an explicit client skills need. Such shorter courses may be a more attractive option than a full course. The major difference is that 'skill sets relate to job tasks or functions, whereas qualifications specify learning outcomes for a whole occupation'. Skill sets are contained in training packages, or can be developed by RTOs. Skill sets can also help people engage with formal learning, top up existing skills, and lead to further study. There is, however, a need to identify the requisite skill sets, related program delivery, and demonstrated pathways to employment from undertaking skill sets.

RTOs could work with Industry leaders to upskill them so they could take on supervisor roles for delivery and assessment of skill sets.

A number of training alternatives could be considered by RTOs and industry to engender a greater level of training. This could include formalising the RPL process (as outlined in Section 12) or via other schemes such as an Electronic Work Log (eEWorklog), which is being developed by DoB[57]. See Box (eEWorklog Overview) following for details on EWorklog, with a more comprehensive document provided at Appendix VII.

The logger outlines tasks needed to be completed to achieve competency. For example, a task is indentified, such as building a fence, and the tasks and number of hours, or times completed, determine if the person can be considered proficient. Each skill is then assessed, dig hole, cut wire, tie fence etc, and the collected evidence used by an RTO to sign off on competency. The log registers completion of these competencies, which are then checked by a supervisor and assessor. Such an approach could be useful for new entrants to the industry, or current participants, particularly those who have higher levels of literacy or numeracy. Industry would need to set up and decide what the competencies are.

Gaining sufficient seatime is a major hurdle for many potential mates and skippers (e.g. 30 months for a Master 5). A shift to a competency based, rather than time based, approach would be extremely useful. To ease the burden on industry training, providers should work with potential skippers to use the AMSA Task Books to reduce time requirements for qualifications. This is through a defined process with RPL built into it. It can be used from Induction all the way to M5/MED2.

The system of documenting non-certified training history for RPL etc needs to be improved and more flexible (see box following Yellow Card, Melon Card and Mango Card Overview, and refer to discussion in Section 12 on PFC and NT Industry ticket).

57 Department of Business NT (DoB)

eWorklog Overview

eEWorklog will be supported by The Work Lab (http://www.theworklab.com.au/eeWorklog). Participants will record tasks undertaken each week against a set of essential industry skills, determined by sector representatives, through a simple interface available on smart phones, tablets and computers.

Industry will set benchmarks based on the number of times a participant is required to perform each task. This will be combined with supervisor's comments and ratings about the participant's level of performance. The eEWorklog tool will be:

- designed for delivery that includes work placement
- designed to collect indirect or direct evidence of competence
- based on core competencies, essential criteria, essential tasks and employability skills, as determined by industry;
- written in workplace language, not 'Training Package' language;
- structured in terms of tasks that are performed (then 'mapped' to relevant units of competency in the qualification);
- stored on the web and accessible from any computer, phone or tablet (app) or in paper form.

Participants log-in at the end of a period determined by the RTO and the employer and record on a 'card' the work they have undertaken during the period, which builds a comprehensive record of the workplace tasks.

Supervisors will log-in and accept or reject the information on the students' 'cards' and record information about the level of performance – this will add to the students' records and provide the basis for a growing picture of the each student's progress and skills development.

RTO trainer/assessors will be required to monitor the eEWorklog and use the records as indirect or direct evidence of competency.

It is proposed to pilot the eEWorklog in the Northern Territory with all public RTOs and five private RTOs during 2014, in four qualifications

Yellow Card, Melon Card and Mango Card Overview

The Banana, Mango and Melon Industries have developed a National Card system to log skills and experience that is recognised across Australia[58]. The Yellow Card, Melon Card and Mango Card are ONLINE pre-employment farm safety inductions that provide industry recognised compulsory Health and Safety training for banana, melon and mango farm workers. The intention is to provide a preliminary communication to new workers about the safety issues and hazards associated with farm work. It should not be relied upon as a complete safety induction and an onsite induction is still required.

The induction includes details on the Industry, specific safety issues, work health and safety, job expectations and what is expected of applicant, incident and hazard reporting, accidents and first aid, safety signage, fire prevention, what to do in an emergency, personal protective equipment, machinery safety, working around machinery, hazardous chemicals, dangerous animals, personal health, smoking, drugs and alcohol, and workplace harassment.

Certification lasts for 12 months and the Cards are translated into Japanese, Korean and Chinese. The courses are online, take about 30 minutes, cost $49,give a specific registration number, and allow the printing of a certificate. The sales pitch is that it allows people to be put on hostel job lists and also to advise prospective employers that they have undertaken the course.

A better structured industry process to identify and put people through programs and take advantage of any external training funding would be beneficial. This could be incorporated into an industry strategic plan developed with appropriate RTOs. Industry needs to work together, as currently they tend to be fragmented and not have clear directions on some issues, such as this one to address labour and skills shortages.

58 For more detail see http://www.aginduct.com.au/about-yellow-card for more details

The development of an industry wide one day induction program, similar to what is delivered to a number of private businesses, could be a useful and valuable industry tool. The induction models could focus on what skills are critical and the best delivery process (see Yellow Card). This could include the production of a series of web based DVDs or YouTube video sharing. The use of an App deliverable via smart phones or tablets could also be considered.

From a structural perspective, a possible issue with going down a skills set pathway is that funding is generally tied to qualifications, so this will need to be covered as part of any process.

14. Evidence for a Case for Additions to the NT Skilled Occupation Priority List.

As well as undertaking a Skills Needs Analysis for the NT Seafood Industry, a further aim of this project was to see if there was evidence to support the existing occupations, or a case for any additions, to the fishing and seafood Industry occupations to the NTSOPL

The NTSOPL is an evidence-based list of skilled and semi-skilled occupations in high demand, or considered critical, by business and industry in the NT. It provides guidance in priority areas such as:

- business and industry workforce planning and development
- the allocation of training funding
- NT Government workforce-related activities (e.g. employer/employee incentives)
- skilled migration activities (e.g. Designated Area Migration Agreement).

For the purpose of this section, the following occupations, shown in Table 20, that were identified as priorities were considered for the NTSOPL (see Table 13 for priority occupations). It should be noted that all occupations, with the exception of 831313 Seafood Process Worker and 841111 Aquaculture Worker, are already on the NTSOPL [59].

Table 20 shows the ANZSCO[60] Code and Occupation Name, the Occupation as referred to in this Report, the Skill Level associated with the occupation (see Appendix VII for more details on Skill Levels and Appendix VIII for Occupation Details) and the Current List.

To assess if there was evidence to support if occupations in the fishing and seafood industry may be suitable for inclusion on the NTSOPL 2014, as part of the survey a series of specific questions were asked of each interviewee. These were;

1. In the previous 12 months, has the occupation been in shortage or experienced recruitment difficulties?
2. Is the occupation expected to be in shortage or experience recruitment difficulties in the next 12 months?
3. In terms of overall priority within your industry area, would you say the occupation is of the highest priority (i.e. no other occupations more critical), a priority (i.e. other occupations may be more critical), or not a priority (i.e. issues are being resolved)?

   3a. Why? (provide evidence if occupation is identified as a high priority or a priority)
4. Are the issues affecting this occupation considered to be short term (1-2 years), medium term (3-5 years) or long term (5+ years)? 4a. Why?
5. Is the occupation suitable for a migration solution? 5a. Why?
6. Does this occupation have Higher Education or VET pathways? 6a. What is the most relevant Higher Education or VET qualification?
7. Are you aware of any specific issues relating to this occupation, in particular any regional Territory issues?

59 For the NTSOPL see http://www.dob.nt.gov.au/Employment/workforce-development/Documents/2014_ntsopl.pdf
60Australian and New Zealand Standard Classification of Occupations (ANZSCO)

8. Do you have any further comments about the occupation?

Table 20 Priority Occupations and ANZSCO Details

Report Reference	ANZSCO	Level	Current Occupation Lists
• Aquaculture Farm Overseer	Aquaculture Farmer (121111)	1	• NTSOPL • Consolidated Sponsored Occupations List • RSMS[61] Occupations List
• Skipper • Skipper- engineer	Ship's Master (231213)	1	• NTSOPL • Skilled Occupations List • Consolidated Sponsored Occupations List
• Skipper • Skipper-engineer	Master Fisher (231211)	1	• NTSOPL • Consolidated Sponsored Occupations List • RSMS Occupations List
• Engineer • Engineer with refrigeration Skipper-engineer	Ship's Engineer (231212)	1	• NTSOPL • Skilled Occupations List • Consolidated Sponsored Occupations List • Labour Market Testing Required for 457 List • RSMS Occupations List
• Aquaculture Tech with Diving	Diver (399911)	3	• NTSOPL • Consolidated Sponsored Occupations List • Labour Market Testing Required for 457 List • RSMS Occupations List
• Crew • Deckhand • Crew/deckhands with qualifications	Deckhand (899211)	4	• NTSOPL • Nil
• Crew/deckhands with qualifications • Crew • Deckhand • Crabber skipper	Fishing Hand (899212).	4	• NTSOPL • Nil
• Farmhand • Aquaculture Tech	Aquaculture Worker (841111)	5	• Nil
• Includes loading, unloading, cleaning, filleting, cutting, preparing and cooking, freezing, shucking, grading, packaging, selling, transporting seafood	Seafood Process Worker (831313)	5	• Nil

61 Regional Sponsored Migration Scheme (RSMS)

Based on the survey information it would appear that there is a strong case to support additions from the Industry to the NTSOPL 2014. These are 831313 Seafood Process Worker and 841111 Aquaculture Worker.

By way of summary, each of the above questions is addressed in the following (Table 21, Table 22, Table 23, Table 24, Table 25, Table 26, Table 27 and Table 28).

Table 21 NTSOPL Assessment - Question 1

Sector	**In Previous 12 Months, Has The Occupation Been In Shortage Or Experienced Recruitment Difficulties**
Wild Harvest	Yes
Processors	Yes
Aquaculture barra	Yes
Aquaculture pearl	Yes

Table 22 NTSOPL Assessment - Question 2

Sector	**Are Shortages Or Recruitment Difficulties Expected In Next 12 Months**
Wild Harvest	Yes
Processors	Yes
Aquaculture barra	Yes
Aquaculture Pearl	Yes

Table 23 NTSOPL Assessment - Question 3

Sector	**Highest priority occupation**	**Why (based on Industry Survey Jan-Feb 2014)**
Wild Harvest	Deckhand/Fishhand (899211/899212)	• Limited labour supply • Lack of suitable worker - with satisfactory skills and experience • Skippers have to seek new crew every trip, or it was an ongoing exercise - doesn't allow for any efficiency and capacity building • Less attractive work conditions and remuneration than some other sectors, such as Oil and Gas or construction • Competition from other industry sectors who have more attractive conditions and remuneration • Industry is no longer seen as an employer of first choice - and lack of recognition of skills, and attractiveness of the work • Changes to temporary migration requirements under 457 Visa arrangements • Relying on short term Visa holders (backpackers) doesn't develop an industry base or any succession

Sector	Highest priority occupation	Why (based on Industry Survey Jan-Feb 2014)
	Ship's Master/Master Fisher (231213/231211)	• Limited labour supply • Lack of suitably experienced and skilled operators • Lack of deckhand/fishhands to develop a base to train additional skippers • Skippers are moving on quickly and in some larger organisations the need to recruit new skippers is ongoing. This doesn't allow for any efficiency and capacity building • Less attractive work conditions and remuneration than some other sectors, such as Oil and Gas or construction • Competition from other industry sectors who have more attractive conditions and remuneration • Industry is no longer seen as an employer of first choice - and lack of recognition of skills, and attractiveness of the work • Changes to temporary migration requirements under 457 Visa arrangements.
Processors	Seafood Process Worker (831313)	• Limited labour supply • Lack of suitably experienced and skilled operators • Lack of workers to develop a base to train more specialised workers (filleters, oyster shuckers etc) • Managers have to seek new workers weekly and is an ongoing exercise - doesn't allow for any efficiency and capacity building • Less attractive work conditions and remuneration than some other sectors, such as Oil and Gas or construction • Competition from other industry sectors who have more attractive conditions and remuneration • Industry is no longer seen as an attractive employment choice - and lack of recognition of skills, and attractiveness of the work • Changes to temporary migration requirements under 457 Visa arrangements • Relying on short term Visa holders (backpackers) doesn't develop an industry base or any succession.
Aquaculture barra	Aquaculture Farmer (121111)	• Suitably qualified and skilled people are not readily available • Less attractive work conditions and remuneration than some other sectors, such as Oil and Gas or construction • Competition from other industry sectors who have more attractive conditions and remuneration
	Aquaculture Worker	• Suitably qualified and skilled people are not readily

Sector	Highest priority occupation	Why (based on Industry Survey Jan-Feb 2014)
	(841111)	available • Less attractive work conditions and remuneration than some other sectors, such as Oil and Gas or construction • Competition from other industry sectors who have more attractive conditions and remuneration
Aquaculture pearl	Deckhand/Fishhand (899211/899212) Aquaculture Worker (841111)	• Limited labour supply - particularly remote work • Lack of suitably experienced and skilled operators • Lack of workers to develop a base to train more specialised workers (coxswains, foremen etc) • Managers have to seek new workers weekly, and is an ongoing exercise - doesn't allow for any efficiency and capacity building, and costs industry. • Less attractive work conditions and remuneration than some other sectors, such as Oil and Gas or construction • Competition from other industry sectors who have more attractive conditions and remuneration • Industry is not seen as an attractive employment choice - and lack of recognition of skills, and attractiveness of the work • Changes to temporary migration requirements under 457 Visa arrangements • Relying on short term Visa holders (backpackers) doesn't develop an industry base or any succession.

Table 24 NTSOPL Assessment - Question 4

Sector	Are the issues short, medium or long term	Why (based on Industry Survey Jan-Feb 2014)
Wild Harvest	Long	• Aging workforce and no succession • Changes to temporary migration requirements under 457 Visa arrangements • Cost of living in Darwin makes it more difficult to get people and families to move • Diminishing pool of suitably experienced and skilled operators • Easier jobs with better conditions and pay than fishing and seafood industry • Industry is not seen as an attractive employment choice - and lack of recognition of skills, and attractiveness of the work • Lack of experience/skills make it hard to find any suitable people
Processors	Long	
Aquaculture barra	Long	
Aquaculture pearl	Long	

Sector	Are the issues short, medium or long term	Why (based on Industry Survey Jan-Feb 2014)
		• Lack of workers to develop a base to train more specialised workers (coxswains, foremen etc) • Less attractive work conditions and remuneration than some other sectors, such as Oil and Gas or construction • Lifestyle choices make a life at sea or in the industry less palatable • Limited labour supply - particularly remote work • Oil and gas sector hiring many people who were (or could have been) recruited to the seafood industry • Regulatory burdens make it more difficult to hire, and AMSA changes adds additional complexity, and difficult to find people with the necessary qualifications • Relying on short term Visa holders (backpackers) doesn't develop an industry base or any succession. • Shrinking industry nationally leads to less people in the industry, so less people to build succession plan - need to build a career path • Small working population base in Darwin to recruit from

Table 25 NTSOPL Assessment - Question 5

Sector	Is occupation suitable for a migration solution	Why (based on Industry Survey Jan-Feb 2014)
Wild Harvest	Yes Ship's Master, Master Fisher and Deckhand/Fishhand	• It is believed that, as part of industry development (and survival in some instances), a migration option is paramount • Around 90% of those interviewed said they were aware of potentially qualified/skilled overseas' workers who could undertake a range of roles in their business and the wider industry • There are critical shortages in a number of fisheries • Need to build numbers to allow building of capacity to undertake other more advanced industry roles • Current system of relying on short term workers doesn't allow adequate time to fully train • Unless new skippers are found the shortage has the capacity to further close down fishing operations • Many migrants come from a fishing lifestyle, and have work history experience and skills in fishing operations so can be readily skilled to meet local conditions (e.g. including filleting, processing, fishing skills, gear mending etc) • The previous migration scheme worked incredibly

Sector	Is occupation suitable for a migration solution	Why (based on Industry Survey Jan-Feb 2014)
		effectively and the overseas' workers have been invaluable employees, with many further developing their careers. Major issues with the current scheme is the unnecessary and excessively high IELTS and a lack of acknowledgment and weighting of Industry experience and skills of overseas' workers • It was noted that there is a need to lower the IELTS from 4.5 to allow this pathway to be possible
Processors	Yes	• It is believed that, as part of industry development (and survival in some instances), a migration option is paramount • 100% of those interviewed said they were aware of potentially qualified/skilled overseas' workers who could undertake a range of roles in their business and the wider industry • There are critical shortages in a number of operations • Need to build numbers to allow building of capacity to undertake other more advanced industry roles • Current system of relying on short term workers doesn't allow adequate time to fully train • Unless new workers are found the shortage has the capacity to further close down fishing operations. One interviewee had closed down a large processing plant interstate due partly to labour shortages, and others indicated it was limiting the chance to possibly expand significantly • Many migrants come from a fishing or food processing lifestyle and have work history, experience and skills in operations, so can be readily skilled to meet local conditions (e.g. including packing, filleting, processing etc)) • The previous migration scheme worked incredibly effectively and the overseas' workers have been invaluable employees, with many further developing their careers. Major issues with the current scheme is the unnecessary and excessively high IELTS, and a lack of acknowledgment and weighting of Industry experience and skills of overseas' workers
Aquaculture barra	Yes	• There are roles for higher/middle tier staff, for well qualified aquaculturists, biologists, technicians, hatchery and growout staff, and others with a science based skill set
Aquaculture pearl	Yes	• It is believed that, as part of industry development (and survival in some instances), a migration option is paramount • They were aware of potentially qualified/skilled overseas' workers who could undertake a range of

Sector	Is occupation suitable for a migration solution	Why (based on Industry Survey Jan-Feb 2014)
		roles in their business and the wider industry • There are critical shortages in the Industry • Need to build numbers to allow building of capacity to undertake other more advanced industry roles • Current system of relying on short term workers doesn't allow adequate time to fully train • Unless new workers are found the shortage has the capacity to limit operations • Many migrants come from a fishing lifestyle and have work history, experience and skills in fishing and maritime operations so can be readily skilled to meet local conditions associated with the pearl industry • The previous migration scheme worked incredibly effectively and the overseas' workers have been invaluable employees, with many further developing their careers. Major issues with the current scheme is the unnecessary and excessively high IELTS and a lack of acknowledgment and weighting of Industry experience and skills of overseas' workers

Table 26 NTSOPL Assessment - Question 6

Sector	Occupation	Higher Education or VET pathways?	Most relevant Higher Education or VET qualification?
Wild Harvest	Deckhand/Fishhand (899211/899212)	• Nil required but there is a pathway	• Coxswain • ESS/STCW
	Ship's Master/Master Fisher (231213/231211)	• Yes	• Master • MED
Processors	Seafood Process Worker (831313)	• Nil required but there is a pathway	• Cert/Diploma
Aquaculture barra	Aquaculture Farmer (121111)	• Yes	• Bachelor Degree
	Aquaculture Worker (841111)	• Nil required but there is a pathway	• Cert/Diploma
Aquaculture pearl	Deckhand/Fishhand (899211/899212) Aquaculture Worker (841111)	• Nil required but there is a pathway	• Coxswain • ESS/STCW • Cert/Diploma

Table 27 NTSOPL Assessment - Question 7

Sector	Any specific issues, in particular sub-Territory regions?	What
Wild Harvest Processors Aquaculture barra Aquaculture pearl	Not really Darwin is the employment hub but shortages in regional areas are more acute	• Impacts on employment relate to issues around lifestyle, cost of living, low levels of unemployment, skills shortages, competition from other sectors, work and weather conditions etc. • Recruitment in remote areas is much more complex and difficult

Table 28 NTSOPL Assessment - Question 8

Sector	Further comments about the occupation(s)?
General	• need to allow workers in for a period and can work on literacy and numeracy - it is not important for industry • hard to work with people from OS who aren't trained to learn in a school environment - can be hard for them(OJT better) • need skill sets to meet job needs, work around literacy and numeracy with procedures in place • need better access to 457 for skipper, engineer and deck staff • need skills, life, adaptable to do various tasks, be aware of own safety and environment, need to learn on the job • need people who want to work - can undertake OJT • can set up new factory if conditions right. • need experienced workers and they are not in Australia. • Fishing industry built on migration • immigrant workers can be part of a team - longer term • Need a regional/concessional 457 that recognises challenges of remote work, cost of living and relocation issues within Australia - ideal for OS workers. Without migration no chance for northern development.

Appendix I Interviewees 2014

Contact	Organisation	Industry Involvement
Adam Body	Ardatek	Aquaculture
Adam Collins	JewBanga	Coastal Line Fishery
Biagio Spinella	Austop Fisheries	Spanish Mackerel/ Shark, Purse Seine Fisher, Processor
Bill Passey	Australia Bay Seafood	Demersal trawl
Bo Carne	NT Fisheries	Indigenous Fisheries
Bob Richards	Humpty Doo Barramundi	aquaculture
Brad Newman	Paspaley Pearls	Farm support manager
Brian Koennecke	Arafura Aquatic Fish	Aquarium Fishery (Aquaculture Development)
Bruce Davey	Wildcard	Spanish Mackerel (via Telcon)
Carmel Ball	Darwin Fish Market	Processor, Wholesaler, Retailer
Chadd Mumme	CDU	Aquaculture RTO
Chris Enniss		Barramundi
Clem Hedenig	Dept of Business	NT Government Training Policy
Damon Currie	Paspaley Pearls	WH&S Manager
Damon Gore	Darwin Aquaculture Centre	Aquaculture Hatchery (NT Govt but self funded)
David Baumber		Coastal Net and Coastal Line Fishery
David Caracciolo	NT Fish	Processor, Wholesaler, Retailer
Dean Peters	Paspaley Pearls	Pearling support manager, pearling recruitment
Doug Neville		Mud Crab Licensee Committee Chair
Frances Davis	Austfish	NPF/unloader
Glenn Schipp	NT Fisheries	Director Fisheries Development
Grant Leeworthy	Tasmania Seafoods	Trepang (via Telcon)
Heidi Mumme	Paspaley Pearls	QHS&E manager – pearling production
Horst Fisher		Demersal and Timor Reef
Hung Yong Seow	Top End Live Seafood	Mud Crab Harvest, Processing, Wholesaler
Jamie Williams	Paspaley Pearls	HR Manager
John Palmer	WA Seafood Exporters	NPF
Julian Jong	Frontier Marine Produce	Mud Crab Harvest, Processing, Wholesaler
Katherine Sarneckis	NTSC	CEO, Peak Body
Kevin Enniss		Barramundi
Klaus Jeffries	NT Fisheries	Indigenous Fisheries, Processing and Marketing
Les Dale		Barramundi, Coastal
Lyn Lambeth	NTSC	Project Officer, Peak Body
Milton Miller	CDU	RTO
Norm Hedditch	Taroona PL	Spanish Mackerel
Peter Manning		Barramundi and Spanish Mackerel Fishery
Peter Manning	SMIT	RTO
Reese	NT Fisheries	Indigenous Fisheries
Rob Lowden	Seafresh	Offshore Net and Line
Rod Cryer	Dept of Business	NT Government Training Policy
Rod Smith	PITAC	PISAFE
Sherwood Thorbjornsen	Bevwood PL	Mud Crab Harvest, Processing, Wholesaler

Steve Hinge	Goldband Nominees	Demersal, Spanish Mackerel
Steve Obrien	Austfish	NPF
Terrance Enniss		Barramundi
Tony Geranis		Inshore Reef, Retail
Tony Thiel	Paspaley Pearls	GM Pearling Production
Vicki Aurisch	PITAC	CEO
Wendy Mathews	Dept of Business	NT Government Training Policy
Ziko Ilic	Darwin Fish Market	Processor, Wholesaler, Retailer
Ian Boot	Austfish	NPF Fleet Manager - unable to meet
Grant Barker	Northern Wild Catch	Demersal line trap - unable to meet

Appendix II Questionnaires - 2014

Preamble to be read out to all interviewees - 2014 SNA AgriFood -

If you do not want to answer any questions you do not need to and/or if you want to stop this interview at any time you are free to.

Need

The project will cover workforce development needs within the wildcatch, aquaculture and seafood processing sectors of the Northern Territory seafood industry. Three sources of workers commonly used in the seafood industry will be specifically assessed in the consultation phase of the project: local workers, short to medium term international backpacker workers and foreign workers employed under 457 visas.

The aim of the project is to gather data and information on:

- workforce participation and needs within the NT Seafood industry;
- barriers for those seeking to employ workers in the seafood industry;
- barriers for those seeking to work in the seafood industry;
- adequacy of current communications used by workers and employers to find work/source workers;
- essential skills including licences required at entry and other levels for the three sectors
- Preferred learning style e.g. distance, face-to-face, college-based, on the job training
- Capability of the training system to provide courses to address skill needs and barriers (for example: local RTOs with appropriate scope of coverage, course length, delivery mode, flexibility, frequency/timing, cost, EL&L.
- Gather evidence to support a case for additions to the NTSOPL 2014.

Process

- Undertake desk-top research of available reports and studies (include reviewing NTOSL Fishing Hands and Seafood Processors and 2012 ABARES reports on the Australian seafood industry).
- Face to face or electronic interviews
- Final report
- Consideration of report will be;
  - essentially for the industry to action, in particular the NTSC
  - any recommendations/findings which come within the area of AgriFood's responsibilities will be taken up by them. These could include the need for short courses rather than or as well as full qualifications (read Skill Sets), content of existing quals in the Seafood Training Package, career pathways, VET in schools, and opportunities for accessing federal government funding through NWDF or Skills Connect
  - PITAC may be able to take carriage or at least be part of some of the anticipated follow-up action required.

Agrifood SNA Questionnaire 2014 - For Employers Seeking Staff in the NT Fishing and Seafood Industry (Industry)

Date/type of interview (face to face, phone, email, others)	
Name of Group/Business	
Contact Name	
Position	
Phone	
Email	
Location	
Are you prepared to discuss this interview further with other organisations (Fisheries, NTSC, Agrifood Skills Council)	
Recruitment and retention	
How many staff do you have and in what roles	
Do you currently have any vacancies - what and how many	
Ideally, how many people would you like to employ to support your operations (assuming skilled labour was available)	
What are the physical requirements for the job	
Are you able recruit; – Locally, Nationally, Internationally	
How long typically to fill these positions (if able to be filled)	
How many times has the vacancy been advertised	
What type of experience do you look for from prospective employees.	
What formal qualifications, including tickets, licences etc do you need or search for in applicants/workers.	
What recruitment methods have you used and which have you had success with.	
What percentage of candidates are suitable for position.	
Reason for unsuitability of candidates.	
Are you having difficulty recruiting for these positions and are there any trend *(is harder/same/easier);* – *over the past 12 months* – *is there an expected shortage in next 12 months* – *Are issues affecting this occupation short term (1-2 years), medium term (3-5 years) or long term (5+ years) - Why and what are the issues leading to long term shortage.*	
How long have current employees been in the job.	
What are your turnover rates and reasons for turnover.	

Age of workforce (estimated % in each group) *Permanent- Under 25, 26-40, 41-55, 56-65, over 65* *Casual Under 25, 26-40, 41-55, 56-65, over 65* *Part time Under 25, 26-40, 41-55, 56-65, over 65* *Share Under 25, 26-40, 41-55, 56-65, over 65* *Seasonal Under 25, 26-40, 41-55, 56-65, over 65*	
In terms of overall priority within your industry area, what would you say is the occupation of the highest priority (e.g. skipper, deckhand, engineer, processor); Why. *NOTE;* − *highest priority - no other occupations more critical* − *priority - other occupations may be more critical* − *not a priority -issues are being resolved*	
What are employment conditions for the above occupation(s) - list jobs and details	
Contract/Subcontractor/Wages/Share	
Permanent, Full time, part time, casual, seasonal	
Hours of work, shift work, fly in fly out, etc.	
Location of work	
Are there opportunities for advancement.	
Are there personal development/training opportunities; if YES please list.	
Are there barriers to personal development opportunities (e.g., work conditions, lack of training providers, course relevance, funding support, literacy, numeracy, course time/ing, motivation etc) - please list.	
What type of learning style do you prefer for your staff; e.g. distance, face-to-face, college-based, on the job training, combination.	
What type of workplace culture do you operate under, (i.e. command control, hierarchical, consultative, collaborative, innovative, rigid, competitive).	
Location of shortage(s)	
Is shortage of workers across NT or regional − a*re you aware of any NT specific issues relating to this occupation.*	
Is there a national shortage.	
Are shortages ongoing/seasonal, short term/long term.	
Education/Training/Licensing	
Are there formal requirements (including tickets/licences) for this occupation (if YES please list); − *are there Higher Education (HE) or VET pathways.* − *what is the most relevant HE or VET qualification.*	

Are there any issues around these formal requirements; – *do they meet your needs* – *are staff adequately skilled* – *what's missing from the training* – *does training look to the future* – *anything else.*	
Skilled Migration Employers' Additional Requirements (If skilled migration is an option for the employers, apart from satisfying the immigration requirements, is there any additional requirement from the employers on the following areas)	
Is the occupation(s) suitable for a migration solution. If YES list jobs and why/why not.	
What qualifications, licences, tickets are required	
What number of years and type of experience and skills are needed.	
What level of English is required and why.	
Are you aware of suitably qualified/skilled migrants that could do the work. If so why haven't you sourced them.	
Have you had skilled migration staff in your employ before - under what scheme (457.), when, who, roles, reasons for cessation if no longer employed.	
Industry outlook	
Economic outlook - what's the future hold	
Is demand for your product increasing/decreasing/stable	
What are the factors influencing demand	
Are there major technological or other changes to the industry that will affect demand for workers. If there are technological changes envisioned what types of qualifications or skills are needed.	
Additional questions as to reasons for the shortages; i.e. shortages are due to which of the following.	
a) In response to declaration of Marine Parks b) Reduced export earnings due to the high $AUD c) Competition from cheap imports d) Near full employment in Darwin e) Lack of industry security f) Working conditions in fishing industry g) Competition with Resources sector (oil/gas/mining) h) Greater industry requirements is addressing sustainability, animal welfare and care of the environment i) Others..	

Any further comments about the occupation(s)	

Agrifood SNA Questionnaire 2014 - Employees Seeking Work in the NT Fishing and Seafood Industry (Industry)

Date/type of interview (face to face, phone, email, others)	
Contact Name	
Position	
Phone	
Email	
Location	
Age	Under 25 26-40 41-55 56-65 over 65
Do you speak another language as your first language - if YES what is it.	
What level of <u>English</u> do you have.	Spoken high average basic none Reading high average basic none Written high average basic none
Are you prepared to discuss this interview further with other organisations (Fisheries, NTSC, Agrifood Skills Council)	
Recruitment and retention	
Have you worked in the industry. If YES what experience do you have; when, for how long and in what roles.	
Are you currently looking for work in the industry; if so what type of work	
Are you having difficulty getting a job in the industry - YES/NO. If YES what are the reasons.	
Have you noticed any trend in getting employment in the industry. Are these positions harder, the same, or easier to get; – *over the past 12 months* – *in the next 12 months* – *are the issues affecting this occupation short term (1-2 years), medium term (3-5 years) or long term (5+ years) - Why and what are the issues leading to the long term shortage.*	
How do you find work in the industry - what methods have you seen used by employers and what do you use. Which works best.	
Have you ever been found unsuitable for a job in the industry because of lack skills, experience or qualifications. What reasons were given.	
How long do you typically stay in a position in the industry.	
For what reasons have you left jobs in the industry.	
What types of employment conditions have you had or would you work under in the industry	

Permanent	
Full time	
Part time	
Casual	
Shift Work	
Seasonal	
Fly In Fly Out	
Contract	
Subcontractor	
Wages	
Share fisher	
What hours of work have you done	
What hours of work would you do	
Location of work – *where have you worked* – *where wouldn't you work and why.*	
Would you like a career in the industry. – *If no - why not* – *If yes - what are the barriers to you seeking work in the industry.*	
What sort of workplace culture do you prefer; (i.e. command/control, hierarchical, consultative, collaborative, innovative, rigid, competitive).	
Have you been offered personal development or training opportunities when working in the industry, if YES list.	
Education/Training/Licensing	
Are there formal requirements for work in the industry (please list). Do you know; – *what is the most relevant Higher Education (HE) or VET qualification* – *if there are HE or VET pathways.*	
What formal qualifications, including tickets, licences etc do you have; if ANY please list.	
Are there personal development/training opportunities you would like to undertake; if YES please list.	
What are the barriers to you doing this personal development (e.g. work conditions, distance, lack of training providers, course relevance, funding support, literacy, numeracy, course time/ing, motivation etc), please list.	
Do you think there are any issues around these formal requirements; – do they meet your needs – do they meet employees needs	

– are trainers adequately skilled – is there anything missing.	
What is your preferred learning styles, e.g. distance, face-to-face, college-based, on the job training, combination.	
Any further comments	

Agrifood SNA Questionnaire 2014 - Sent to Backpackers through NTSC Contact List

1	Your Name	
2	Email and Phone	
3	Nationality	
4	Age - circle one	Under 25 26-40 41-55 56-65 over 65
5	What type of Visa do you/did you have	
6	What is your first language?	
7	If English is your 2nd (or 3rd or 4th) language, at what level is it?	**Spoken** high average basic none **Reading** high average basic none **Written** high average basic none
8	Have you ever worked in the Fishing and Seafood Industry before? Please circle or highlight YES or NO. If YES what experience do you have; when, for how long and what type of job?	YES NO
9	Are you currently looking for work in the Fishing and Seafood Industry? Please circle or highlight YES or NO. If YES what type of work.	YES NO
10	Have you had difficulty getting a job in the Fishing and Seafood Industry? Please circle or highlight YES or NO. If YES what are the reasons.	YES NO
11	How do you end up finding a job in the Fishing and Seafood Industry (for example, newspaper advertisement, asking around the boats etc)?	
12	Have you ever been found unsuitable for a job in the Industry because of lack skills, experience or qualifications. Please circle or highlight YES or NO. If YES, what reasons were given.	YES NO
13	How long do you typically stay in a position in the Fishing and Seafood Industry?	
14	Why have you left jobs in the Fishing and Seafood Industry?	
15	How do you think the Northern Territory Seafood Council could better assist backpackers obtain work in the Fishing and Seafood Industry?	

RTO Questionnaire - Working in the NT Fishing and Seafood Industry - 2014

Complete and return by; email to chadd.mumme@cdu.edu.au or post to PO Box 26 Cooroy Qld 4563

Your Name	
Email	
Phone	
Country of Residence	
Age - circle one	Under 25 26-40 41-55 56-65 over 65
Do you speak another language as your first language - if YES what is it.	
What level of English do you have.	Spoken high average basic none Reading high average basic none Written high average basic none
Have you ever worked in the Fishing and Seafood Industry. If YES what experience do you have; when, for how long and in what roles.	
Are you currently looking for work in the Industry; if so what type of work.	
Are you having difficulty getting a job in the Industry. If YES what reasons.	
How do you find work in the Industry. What methods have you seen used by employers and what do you use. What works best?	
Have you ever been found unsuitable for a job in the Industry because of a lack skills, experience or qualifications. If YES, what reasons were given.	
How long do you typically stay in a position in the Industry.	
Why have you left jobs in the Industry.	
What types of employment conditions have you had in the Industry; circle which ones	1. Permanent 2. Full Time 3. Part Time 4. Casual 5. Shift Work 6. Seasonal 7. Fly In Fly Out 8. Contract 9. Subcontractor 10. Wages 11. Share Fisher 12. Others - Please List
What hours of work have you done	
What hours of work would you do if work was available	
Where have you worked - list areas	
Where wouldn't you work and why.	
Would you like a career in the industry. – *If NO - why not* – *If YES - what is stopping you.*	
Are there formal qualifications, including tickets, licences etc; required for work in the industry (please list).	

Do you have any formal qualifications, including tickets, licences etc; if ANY please list. Have you found it easier to get work in the Industry because of your formal training.	
Is there any training you would like to do; if YES please list.	
What can't you do this training; circle which ones and add any other information.	1. Visa restrictions 2. Work Conditions 3. Distance To Training 4. Lack Of Training Providers 5. Course Relevance 5. Cost Of Training 7. Lack Of Funding Support 8. Literacy Or Numeracy Skills 9. Course Time Or Timing 10. Motivation 11. Others - Please List
What is your preferred learning styles; Please circle, Why?	1. E-Learning 2. Face-To-Face 3. College-Based 4. On The Job Training 5. Combination 6. Distance/Correspondence 7. Others - Please List
If you are not working in the Industry, are you working elsewhere now - YES/NO. If YES what job do you have, in what Industry	
Any other comments	

Appendix III Synopsis of Desk-Top Research

2010 AgriFood project

The 2010 AgriFood project provided background and information on the status of two fishing and seafood industry based occupations in NT; Deck and Fishing Hands (ANZSCO[62] 891212) and Seafood Process Workers (ANZSCO 831313).

Twenty participants were surveyed from a range of fisheries and the processing sector.

Key findings were that there was an occupational and skills shortage in these two occupations, with over 50% of interviewees indicating they had current vacancies for which they struggled to find adequately skilled staff. Vacancies were often filled by friends, family or international backpackers and this wasn't considered a long term sustainable solution for the industry.

This was a long term problem that was impacting on efficiency and profitability. Interviewees noted that these positions required a level of skill and experience, as well as specific 'onboard' training, to be able to complete the tasks properly with only limited supervision. It was also noted that on average, less than 25% of applicants were suitable for the positions, and those still required training.

Staff retention was an issue as new staff only lasted for short periods, and often those who became 'skilled up' over a period took up other employment options. The core group of deckhands (who often take on a leading hand/mate's role) are aging and the physical nature of the work means that their longevity is finite.

Experience was considered more important than formal qualifications, although the gaining of specific skill sets from within training modules was considered a means to build key capacities. Further, it was felt that large numbers needed to be trained to allow for drift to other occupations (often oil/gas/mining) whilst still being able to replenish the fishing and seafood sectors.

The use of overseas workers was seen by the majority as the only means to ensure the industry had a future, with skills and experience being the major criteria (English and formal qualifications were not of major importance).

All of the participants from the 2010 survey were recontacted for this project.

2012 ABARES

The 2012 ABARES report was commissioned by the FRDC to scope the employment, education and training data needs for the Australian fishing and seafood industry (commercial wild-catch fishers, aquaculture producers and post-harvest) so as to improve information about employment across the industry. A key focus was to understand what information was available and how to improve data collection to make better decisions in the future.

The report outlines the variety of data collection methods from various sources and provided some analysis on trends that will impact employment in industry in general, but also the fishing and seafood industry. It also notes that in many instances the data is at too high a level to provide regionally useful data.

What was shown was that a number of factors affect employment, education and training in the Australian industry, such as;

- increasing competition for labour resources - tightening of labour markets will accentuate labour pressures for the fishing and seafood industry
- there are major gaps in information and uncertainty surrounding industry needs in relation to education and training, and the number of people in the industry accessing these opportunities
- less skilled people are applying for positions
- high turn-over of staff
- ageing workforce (a disproportionate number of workers in the industry are aged over 35 years)
- growing contemporary industry leaders and securing their engagement
- increased difficulty in attracting suitable workers to the industry
- maintaining and retaining skills within the industry and effectively utilising these skills
- transportability of seafaring, vessel maintenance and operational skills to the resource sector, such as oil and gas
- restructuring of fisheries in recent years has led to smaller fleet sizes

62 Australian and New Zealand Standard Classification of Occupations,

- generational decline in employment in sectors which have traditionally contributed mostly to the seafood industry's labour force (e.g. agriculture, fisheries and forestry, wholesale trade, and manufacturing)
- high $AUD exchange rate
- higher business input costs, particularly fuel, have increased the industry focus on sustaining profitability
- reduced availability of funding for training and development of staff resources.
- slow adoption and diffusion of new research, practice and technology across the industry.

While some of the issues above are far outside the industry's control, many can be addressed through OJT. However in-house training resources are likely to be stretched given the current operating environment.

The trends show an increasing level of difficulty in meeting industry's labour force requirements. This was supported through a survey undertaken to better understand Industry employment and training needs (49 participants with 65% response rate). Common labour market issues were identified, including difficulties in attracting and retaining young, skilled and qualified employees. It also identified the general lack of education and training data available to adequately assist the industry in making informed decisions for succession planning and future workforce needs.

The report also notes that AgriFood Skills, in its submission to the 'Review of Skilled Occupation List for General Migration', identified almost all occupations associated with the seafood industry as being in shortage. The DIAC[63] identified master fishers, ships engineers, marine biologists and fisheries inspectors as qualifications sought in Australia. However over the last 15 years DEEWR (the key Federal Department responsible for training and employment) has not listed any fisheries-related occupations as being in short supply.

The ABARES report provides details on two key training packages;

> 'The Seafood Industry Training Package (SITP) recognises nationally endorsed competency standards and qualifications for workers in Australia's seafood industry. It is a multifaceted package incorporating the training and education requirements for the aquaculture, fishing operation and charter, fisheries compliance, seafood processing, and seafood sales and distribution sectors of the seafood industry. The package guides the delivery of training in Australia's seafood industry. This is done by setting competency standards for the industry and providing the framework under which qualifications under the AQF can be awarded (see Appendix 3).
>
> The Maritime Training Package (MTP) recognises nationally endorsed competency standards and qualifications required for workers in the marine transport industry. This package was developed by the Transport and Logistics Industry Skills Council, and forms the basis for vocational education and training of marine transport professionals for Australia's maritime industry' (see Appendix 4).

The report also outlines a range of survey and census data that seeks to collect information on a range of variables, including employment, training, job trends etc in the broader community, and provides advice as to the applicability of each survey to the fishing and seafood industry at the whole of industry and regional levels. No specific NT data is provided.

Amongst the key findings are;

> 'The percentage of training package enrolment completions for all industry training packages has increased over time. In contrast, the percentage of enrolments in seafood training package courses that have been completed has fluctuated since 2006, and has been generally low relative to completions for all training packages. This may reflect an increasing trend toward completion of course components to gain required skill sets rather than whole qualifications. Enrolment for the seafood industry training package has trended down since 2007'. No specific NT data is available.

The report also provides a summary of a number of studies that have been undertaken to better understand the employment, education and training needs of the Australian seafood industry. Reports considered relevant for this current project include;

- the 2010 AgriFood project - (discussed previously in this Section).
- the 2009 South Australian Seafood Industry Food Plan 2010–2015. One of the strategies involved workforce planning and development to secure workforce capacity to underpin industry needs, however there are limitations due to shifting regional population balance and strong industry growth, especially in the sea farming sectors. The action to overcome the shortage issues involves targeting of labour to

63 Department of Immigration and Citizenship

regional areas, better industry profiling of jobs, and creating regional migration elements to establish occupational demand and generate skills.

- the 2010 WA Industry Workforce Development Plan, published by the Food, Fibre and Timber Industries Training Council (WA). The plan notes the following about the WA seafood industry;
  - it is characterised by a majority of small two-person fishing vessels that find access to training difficult
  - there are low levels of post-secondary qualifications, but a relatively high knowledge base and skill levels of a technical nature
  - trained workers leave for better wages in the mineral resources sector
  - investment in training is declining as it is felt to ultimately benefit mining, not seafood
  - is seasonal and therefore has a very transient workforce
  - processing sector is market driven and employment vacancies are usually filled by backpackers and people looking for casual work
  - where workers are scarce, there is a reliance on 457 visas holders, who understand the sector but generally have limited English language skills
  - regional problem with costs of housing exacerbating labour shortages
  - difficult to attract and retain long-term workers who have the passion and drive to progress to higher levels of training
  - extensive licensing and compliance requirements in the industry are leading to an abundance of unmet training needs.

The report also provides a summary of the results of a pilot stakeholder survey undertaken to better understand the employment and training data needs of the industry. The survey was conducted by email, with responses received from 32 of the 49 participants. Those who responded were office bearers of major seafood companies, industry associations, wholesale markets, smaller commercial fishing and aquaculture businesses, and experts on education and training trends. Few small scale fishers provided input, most likely due to remoteness, indifference to email surveys, and associated literacy issues.

The report provides the following key relevant comments by sector;

<u>Aquaculture</u>

- labour shortages are for both skilled and unskilled workers (trained and qualified staff particularly in peak periods), e.g. farm hand, packaging, marketing, operations, farm managers, hatchery technicians and divers
- unskilled labour demand is seasonal in nature and based around harvest periods
- large turnover of unskilled staff - in high demand periods covered by 'backpackers', 'retirees' and other agricultural sector workers
- skill levels steadily increasing for skilled positions
- sometimes mismatch between expectations and actual day-to-day work
- training opportunities for work in the sector concentrate on particular study areas
- farm hands need training tailored to improving their farm management skills
- little commitment to further training in the sector, with little incentive for employers to provide training
- relatively low wages paid, when compared with other sectors of the economy
- lack of career pathways, or knowledge about possible pathways
- poor job security and conditions make it difficult to compete with other sectors—particularly the mineral resources sector
- lack of a corporate culture and workplace pride
- remoteness from large metropolitan areas
- location of work relative to training facilities is inadequate
- specific training for prospective employees is not always relevant to the species being farmed in a particular location
- skill shortages manifest most where competition with other sectors is greatest
- skilled graduate labour is less problematic, as it can be sought from the international labour market

- accommodation and living costs in regional centres pricing prospective applicants out of the market, limiting the potential workforce to people already living in areas
- except for some pockets of expansion, such as barramundi aquaculture[64], most did not see additional labour requirements in following year
- lack of expansion, or new projects, due to regulations governing the sector, limit new training and education opportunities to support the industry.

Commercial fishing

- labour needs encompass a range of skill based on type of fishery, vessel size and type, operating environment and regulatory requirements
- labour needs greatest for skippers, deckhands, engineers, divers and process workers - industry is regulated by Australian maritime regulations that specify the number of crew and minimum crew certification for each vessel depending on vessel size and waters being fished
- main qualifications/skills needed are for deckhands, senior deckhands with coxswain, skipper, fishing operations manager and marine engineer
- as well as fishing and processing skills there is also a requirement to have an understanding of food quality, safety, and environmental standards (formal qualifications in the MTP and OJT, to a lesser extent from the SITP)
- a range of vocational qualifications exist to support workers from Certificate I to Diploma - electives can be used to tailor training to needs, but few registered training organisations offering training
- a lack of training opportunities and qualifications for those entering the industry
- remuneration is often based on catch share of revenue and, as a result, formal sponsored training opportunities are limited
- challenges in recruiting and retaining qualified workers to work across skill categories, often stemming from a competitive labour market recruiting fishers with the desired skill sets - many leave the industry for work in the mineral resources sector due to desire for greater security, better wages and conditions
- difficult to acquire and retain young and skilled people to the industry - key disincentives are remoteness, seasonal nature, extended periods away from home/town, uncertain career paths, conditions, remuneration, lack of internet, social media and other recreational opportunities
- shrinking fleet, ageing demographics, people retiring or moving into the resource sector reduces the experience level of fishers in the fleet (mentors)
- difficulty when trying to source young people with necessary skill set and experience
- an Australia-wide shortage of workers across all major fisheries - exacerbated in northern Australia due to remoteness, higher intensity of oil and gas production and 'southern' workers' reluctance to relocate to remote areas
- downsizing of some fisheries (e.g. WRL[65]) has provided short term recruiting opportunities, but recruitment is expected to be increasingly competitive with challenges hiring adequately skilled crew expected to continue
- lack of skilled employees so acute that strong desire to recruit from overseas through work visa arrangements.

Seafood processing marketing

- can involve a broad range of skills including cleaning, filleting and cutting fish, preparing and cooking seafood, preparing sashimi, freezing fish, opening oysters, grading and packaging seafood, selling seafood - specialised areas involve complex processing tasks such as shucking and grading sashimi
- vocational qualifications exist to help people develop skills in their area of work, ranging from Certificate I to a Diploma.
- there is a lack of skilled and unskilled workers, a lack of young workers and poor perception of the broader industry's future
- attracting workers more of an issue for small–medium enterprises
- the ageing population and the unpredictable future of the wild-catch sector are having flow-on effects on the post-harvest sector

64 Industry stable not expanding during period (Pers Comm ABFA EO)
65 Western Rock Lobster (WRL)

- post-harvest sector indicated that they do not expect to hire more people.

Suitability of available education and training courses;

- it is unclear whether training courses currently on offer are sufficient or adequate to meet the training needs of the industry, with RTO availability and support patchy
- high regulatory burden across the industry is heavy and is proving a challenge to meet its training requirements
- the approach to workforce planning, workforce development and the prioritisation needs to be based on an agreed strategy and implementation, adapted consistently across jurisdictions
- a declining trend in graduates entering the industry with the requisite skill set - could be because graduates are focused on research outcomes rather than industry involvement
- industry needs to develop relationships with institutes that deliver higher education qualifications to ensure relevancy of content and alignment to the current industry practice, with a strong integration of hands-on work experience
- need to know, how many students undertaking seafood related studies and where, numbers completing qualifications or industry skill sets, and how many are later employed in the seafood industry and in what role
- unclear what qualifications/competencies are most sought by the industry
- need to better understand and deliver vocational education and training support funding to the seafood industry across jurisdictions to meet real needs.

Overall the reports provided good background and strong support for the questions and approach developed as part of the current industry survey.

Appendix IV AMSA Manning Requirements for the Fishing Industry

Applicable Standards and Requirements for Vessels under the National System

This document is an accurate and comprehensive representation of applicable standards and requirements for vessels under the National System.

It is correct as at 22 November 2013 and users should check current marine orders and standards or with the National Regulator for any changes which may have taken effect after this date.

Class	New or Existing Vessel	Length / Operating Area	Operating Standard	Construction Standard	Equipment standard	Survey regime	Crewing standard	Certification / identification requirements
Class 3 Fishing vessel	**NEW**	A (all lengths) B (all lengths) C ≥ 7.5 m	NSCV Part E	NSCV Part C Sections 1, 3, 4, 5, 6 USL Code Sections: - 5C, clauses C.42 to C.47, C.49 to C.53, C.54.2, C.55 to C.57, C.61.1, C.61.2a, C.61.3, C.61.3a, C.61.4, C.61.5, C.67, C.68, C.69.1 to C.69.6 and C.70 to C.73; - 5D, clauses D.9 to D.15 and D.18 to D.36; - 7	NSCV Part C Section 7	NSAMS 4: Full initial and periodic	NSCV Part E*	Vessel Identification Certificate of Operation Certificate of Survey
Class 3 Fishing vessel	**EXISTING VESSELS [PROVIDED OPERATIONS REMAIN THE SAME]**	A (all lengths) B (all lengths) C ≥ 7.5 m	Operational practices, emergency management requirements, safety management requirements and audit requirements that applied on 30 June 2013	Construction, subdivision and stability standards that applied on 30 June 2013	Equipment standards that applied on 30 June 2013	Survey process that applied on 30 June 2013 OR Section 4 of NSAMS (Full initial and periodic)	Crewing requirements that applied on 30 June 2013	If a unique identifier is not already displayed on the outside of the vessel, Vessel Identification by 30 June 2016 Certificate of Operation Certificate of Survey [If in survey] [An existing survey certificate or registration meets the certification requirements until the existing certificate expires]
Class 3 Fishing vessel	**NEW**	C < 7.5 m D ≥ 7.5 m D < 7.5 m high risk (see below) E ≥ 7.5 m E < 7.5 m high risk (see below)	NSCV Part E	NSCV Part C Sections 1, 3, 4, 5, 6 USL Code Sections: - 5C, clauses C.42 to C.47, C.49 to C.53, C.54.2, C.55 to C.57, C.61.1, C.61.2a, C.61.3, C.61.3a, C.61.4, C.61.5, C.67, C.68, C.69.1 to C.69.6 and C.70 to C.73; - 5D, clauses D.9 to D.15 and D.18 to D.36; - 7	NSCV Part C Section 7	NSAMS 4: Initial survey only	NSCV Part E*	Vessel Identification Certificate of Operation Certificate of Survey
Class 3 Fishing vessel	**EXISTING VESSELS [PROVIDED OPERATIONS REMAIN THE SAME]**	C < 7.5 m D ≥ 7.5 m D < 7.5 m high risk (see below) E ≥ 7.5 m E < 7.5 m high risk (see below)	Operational practices, emergency management requirements, safety management requirements and audit requirements that applied on 30 June 2013	Construction, subdivision and stability standards that applied on 30 June 2013	Equipment standards that applied on 30 June 2013	Survey process that applied on 30 June 2013 OR Section 4 of NSAMS (Initial survey only)	Crewing requirements that applied on 30 June 2013	If a unique identifier is not already displayed on the outside of the vessel, Vessel Identification by 30 June 2016 Certificate of Operation Certificate of Survey [If in survey] [An existing survey certificate or registration meets the certification requirements until the existing certificate expires]
Class 3 Fishing vessel	**NEW**	D < 7.5 m and not high risk (see below) E < 7.5 m and not high risk (see below)	NSCV Part E	National Standard for General Safety Requirements for Vessels	National Standard for General Safety Requirements for Vessels	In accordance with the National Standard for General Safety Requirements for Vessels	NSCV Part E*	Vessel Identification Certificate of Operation
Class 3 Fishing vessel	**EXISTING VESSELS [PROVIDED OPERATIONS REMAIN THE SAME]**	D < 7.5 m and not high risk (see below) E < 7.5 m and not high risk (see below)	Operational practices, emergency management requirements, safety management requirements and audit requirements that applied on 30 June 2013	Construction, subdivision and stability standards that applied on 30 June 2013	Equipment standards that applied on 30 June 2013 However, vessel must comply with the equipment requirements of the National Standard for General Safety Requirements for Vessels by 30 June 2016	Requirements that applied on 30 June 2013	Crewing requirements that applied on 30 June 2013	If a unique identifier is not already displayed on the outside of the vessel, Vessel Identification by 30 June 2016 Certificate of Operation Certificate of Survey [If in survey] [An existing survey certificate or registration meets the certification requirements until the existing certificate expires]
Tenders	**NEW**		Included in parent vessel SMS	For a tender to a Class 1, 2 or 3: vessel, if the tender operates only in sheltered waters and is <7.5m long — the National Standard for General Safety Requirements for Vessels For any other tender to a Class 1, 2 or 3 vessel – the flotation performance, engine power rating, load capacity and fuel system requirements mentioned in Chapter 3, Sections 3.3, 3.4, 3.5 and 3.6 of the National Standard for General Safety Requirements for Vessels For a tender to a Class 4 vessel — the requirements for tender vessels in NSCV Part F Section 2	For a tender to a Class 1, 2 or 3: vessel, if the tender operates only in sheltered waters and is <7.5m long — the National Standard for General Safety Requirements for Vessels For any other tender to a Class 1, 2 or 3 vessel – equipment requirements specified by the National Regulator For a tender to a Class 4 vessel — the requirements for tender vessels in NSCV Part F Section 2	Inspected with parent vessel whenever parent vessel is surveyed	NSCV Part E*	Identified as a tender vessel [Display on the outside of the vessel: (a) the words 'Tender to'; and (b) either: (i) the name of the parent vessel; or (ii) the unique identifier of the parent vessel followed by the letter 'T'] Listed in parent vessel's Certificate of Operation
Tenders	**EXISTING VESSELS [PROVIDED OPERATIONS REMAIN THE SAME]**		Operational practices, emergency management requirements, safety management requirements and audit requirements that applied on 30 June 2013	Construction, subdivision and stability standards that applied on 30 June 2013	Equipment standards that applied on 30 June 2013	Survey process that applied on 30 June 2013	Crewing requirements that applied on 30 June 2013	If a unique identifier is not already displayed on the outside of the vessel, Vessel Identification by 30 June 2016 Certificate of Operation Certificate of Survey [If in survey] [An existing survey certificate or registration meets the certification requirements until the existing certificate expires]
Auxiliary vessels	**NEW**		Included in parent vessel SMS	The flotation performance, engine power rating, load capacity and fuel system requirements mentioned in Chapter 3, Sections 3.3, 3.4, 3.5 and 3.6 of the National Standard for General Safety Requirements for Vessels	Equipment requirements specified by the National Regulator and as identified in the parent vessel's SMS	Inspected at intervals identified on the parent vessel's SMS	NSCV Part E*	Vessel Identification Certificate of Operation Listed in parent vessel's Certificate of Operation
Auxiliary vessels	**EXISTING VESSELS [PROVIDED OPERATIONS REMAIN THE SAME]**		Operational practices, emergency management requirements, safety management requirements and audit requirements that applied on 30 June 2013	Construction, subdivision and stability standards that applied on 30 June 2013	Equipment standards that applied on 30 June 2013	Survey process that applied on 30 June 2013	Crewing requirements that applied on 30 June 2013	If a unique identifier is not already displayed on the outside of the vessel, Vessel Identification by 30 June 2016 Certificate of Operation Certificate of Survey [If in survey] [An existing survey certificate or registration meets the certification requirements until the existing certificate expires]

Appendix V Excerpt from AMSA Crewing Requirements

Appropriate crew

(5) The owner of a vessel must determine the appropriate crew for each type of operation of the vessel by evaluating the risks to the vessel, the environment and all persons who will be on or near the vessel.

(6) The evaluation must take into account the following factors:

(a) the tasks or activities of the vessel and any particular demands on the crew that each task or activity will impose in addition to the safe navigation of the vessel;

(b) the number of persons to be carried on the vessel;

(c) the design characteristics of the vessel, including its general arrangements, machinery and equipment;

(d) the competency required for the use of technological aids to safety fitted in addition to the mandatory requirements;

(e) the area of operation of the vessel and expected conditions (eg weather, climate and water temperatures);

(f) the duration of the voyage;

(g) the potential fatigue of the master and crew members;

(h) the requirements for the vessel's emergency preparedness including the vessel's emergency plan;

(i) the state of repair of the vessel and its machinery and equipment;

(j) the need for safe and timely evacuation of all people from the vessel in an emergency;

(k) the risks to the environment and all persons who will be on or near the vessel;

(l) the qualifications and competencies of crew, including circumstances where the master is the only crew member holding mandated engineering qualifications (dual certification);

(m) the external support available to the vessel and its crew;

(n) key onboard operations and identified potential risks.

Appendix VI eWorklog

Background to the Project

The perceived variability of the quality of training and assessment across the vocational education and training (VET) sector has been highlighted by many stakeholders, including the Australian Workforce and Productivity Agency (AWPA), the Productivity Commission, and the former National Quality Council.

The Australian Government began a process to address industry concerns about the quality and consistency of assessment in the VET system in the publication Skills for All Australians (2012) that proposes on page 8:

> *'…support for quality teaching and assessment, including trialing models for independent validation of training provider assessments so students and employers can have confidence in the quality and consistency of training they purchase'.*

The publication, which was essentially a policy document, emphasised an intention to increase the involvement of industry in vocational education and training and highlighted a need for quality and consistency in the VET system in statements like the following from page 53:

> *'Employers and students need complete confidence that the national training system is providing them with high quality training delivery, assessments and qualifications.*
>
> *Employers need to know that when they hire someone with a qualification, the qualification itself is a guarantee they will have a certain minimum level of relevant skills able to be applied in the workplace.*
>
> *Students need to know that their training will provide the learning outcomes, skills and experience that will prepare them for employment or career advancement, and that their qualification will be valued by employers across Australia.'*

Under the *National Partnership Agreement on Skills Reform*, each state and territory was funded to develop and a pilot project in the 'independent validation of assessment practices' with a view to informing the development of a national model. The purpose was to enhance industry confidence through active engagement in the pilot to ensure that training outcomes from the VET system also meet the expectations of industry.

The Northern Territory's *Department of Business* designed the pilot project in three phases:

- research into existing models of independent validation of RTO assessment practices; and scoping of a model for development and piloting;
- development of the model and planning for the pilot; and
- piloting and evaluating the model and the approach.

The *Department of Business* made a conscious decision not to focus the project on validating RTO assessment strategies and/or tools as this is already undertaken by the VET regulators. Rather, the focus was on industry involvement in the RTOs' assessment practices.

The first two phases have been managed by Chris Todd from *Piccalilly Consulting* and will be completed by the end of 2013. The pilot is planned for early 2014.

Industry perceptions of the VET system

The project research found that most of the complaints about the VET system are either of a very general nature or aim focused on particular RTOs. It was clear, however, from both desktop research and the focus meetings held in the Northern Territory that the perceived concerns about VET training and assessment expressed by industry can be summarised as follows:

- many courses are too short to allow students to practise skills to reach a workplace standard – most skills are acquired by repetition in a variety of contexts and many courses do not provide adequate opportunity for this process to occur;
- some courses are not managed well enough or do not allow enough time to cover the breadth of industry skills required of the qualified person in the workplace;
- on-line courses often do not include much or any practice of skills;
- institution-based courses often do not include much or any practice and development of skills;
- many RTOs assess skills only once or twice, often in an artificial environment;
- many RTOs use written assessments instead of practical assessments;

- many RTOs inappropriately use written tests to assess skills because:
  - they are unable to adequately simulate a workplace; and/or
  - assessing practical skills in a workplace or simulated workplace is time-consuming and expensive; and
- many RTOs do not or are unable to ensure that students in the workplace cover an adequate range of skills.

The concerns of industry seem to relate more to the quantum of training and limited practice of skills than to the actual process of assessment. Indeed, it is not the assessments themselves that appear to generate industry criticism, but the perceptions that assessments are conducted before candidates have had adequate opportunity to 'master' skills and that some RTOs do not include any opportunity at all for students to learn and practice the skills required in the workplace. These perceptions foster the widely-held belief that if a student is assessed as 'competent' without having practised and demonstrated competency in workplace conditions, then such assessments cannot be regarded as adequate or valid.

In designing the model for the pilot, therefore, the project team worked on the basis that industry requires assurance that:

- VET training provided by RTOs includes the opportunity for students to practise the full range of required skills, including employability skills, to the level expected in the workplace;
- assessment is conducted by RTOs only when mastery of these skills is achieved and with the purpose of confirming students' competence; and
- assessment activities are designed appropriately to ensure that they test students' competence to a workplace standard.

Identification of the characteristics of a model of 'independent validation of assessment practices' for piloting in the Northern Territory

There was a strong theme running through all of the research that any system that would encourage valid and consistent assessment of students' competency to a workplace standard would be welcomed by most stakeholders. Each focus group, for example, was asked to list the characteristics of a model that would be suitable for trial in the Northern Territory. The following is a synthesis of these lists:

The first and most important characteristic is that, to have any chance of working effectively, the model must not be perceived by the RTO as 'another bureaucratic imposition', it should:

- involve no extra work by the RTO;
- be designed to strengthen existing assessment practices without adding to them;
- be 'mapped' to the requirements of the relevant training package;
- be practical and perceived as useful to the student, the workplace and the RTO;
- use simple, accessible and effective tools that are used consistently by all participating RTOs;
- include evidence guides and very good instructions; and
- focus on mastery by students of an agreed range of essential workplace skills.
- Validation must not be left until the end of the course when it is too late for remedial action.
- The model should only use feedback from workplace practitioners that can demonstrate that they have the skills upon which they are commenting, and:
  - possibly include pre-approving supervisors to provide reports in each skill area;
  - include provision for workplaces where there is no suitably-qualified supervisor to provide valid feedback; and
  - include training in the use of the model for all stakeholders.
- The model should be designed to be used both in courses that include a structured work placement; and in those courses that provide skills development and conduct assessment in an institutional setting.
- If using electronic tools, the model should:
  - be designed to be used on computers and portable devices (smart phones and tablets) with easy access to data on both PC and Macintosh platforms;
  - incorporate adequate security and safeguards when the industry groups may have access to students' data; and
  - be designed to be available in areas without good web connectivity.
- The model should be marketed to students, RTOs, industry and employers.

- The model should allow for students with low literacy levels.

The Model

The project team examined a number of approaches to 'independent validation' identified during the research and found that most:

- focused on validation of assessment tools and practices before but not during a course; or
- used a paid external 'assessor' to validate assessments at the conclusion of the course; or
- mandated a form of external test to check students' competence at the conclusion of the course.

The only approach that took a different approach was the electronic profiling logbook used by the Electrotechnology industry. This is used as a final checking mechanism at the conclusion of training and was seen as having the potential to be adapted to meet the requirements of the pilot.

The model to be trialled in the pilot in the Northern Territory, therefore, is based on the Electrotechnology profiling logbook but is designed to monitor each student's skills practice and skills growth in the workplace or in a simulated workplace throughout the course. It will:

- allow industry to define the essential industry and employability skills required in the workplace;
- assist in ensuring that each student learns and practises all essential skills;
- facilitate conversations between students, supervisors and trainers and the development of training approaches and to meet each student's needs as these needs emerge;
- allow RTOs to collect indirect evidence of workplace competence from students and supervisors to underpin summative assessments;
- make the level and amount of students' skills practice transparent to all stakeholders including students, employers and RTOs; and
- allow all RTOs to be able to demonstrate to industry how they are providing students with sufficient skills practice at workplace standard – particularly in short and on-line courses.

This profiling tool will be used in a process that will also include:

- training for all stakeholders;
- selection of industry essential skills by industry stakeholders;
- accredited training for workplace supervisors to assist in their verification of the workplace performance of students;
- assistance with the development of the assessment strategy of each participating RTO to assist in incorporation of the profile tool;
- monitoring of the profiles by an automated 'reminder' system and by the RTO's person in charge of assessment processes – hereafter referred to as the 'RTO training manager';
- support during the pilot by a project officer; and
- evaluation of the pilot in a process that includes industry stakeholders.

The electronic profiling logbook has been given the working title *EWorklog* and is seen as Internet database that stores records of the tasks undertaken by a student in a workplace or simulated workplace to track their progress through their qualification. *EWorklog* has been developed and will be supported by *The Work Lab* (http://www.theworklab.com.au).

In the *EWorklog*, each student record will be augmented by:

- a record of verification and comments on performance of the tasks by a workplace supervisor; and
- a record by an RTO trainer/assessor of the 'noting' of the work undertaken and of discussions with the supervisor and/or student about this work.

The student will record the tasks he/she has undertaken each week against a set of essential industry skills determined by sector representatives. *EWorklog* has a simple interface available on smart phones, tablets and computers.

Industry will set benchmarks based on the number of times a student is required to perform each task. This will be combined with supervisor's comments and ratings about the student's level of performance. These data will be available in graphic form to the student, the supervisor and the RTO. Access to *EWorklog* will be through secure password-protected accounts allocate to each student, supervisor and RTO trainer/assessor.

The *EWorklog* tool will be:

- designed for delivery that includes a work placement (apprenticeships / studentships etc) or that uses a simulated workplace in institutional delivery;
- designed to collect and organise indirect evidence of competence from the student and supervisor that is shared with the RTO trainer/assessor OR indirect and or direct evidence if used in institutional delivery;
- based on core competencies / essential criteria / essential tasks / employability skills as determined by industry;
- written in workplace language, not 'Training Package' language;
- structured in terms of tasks that are performed in the workplace rather than the structure of the units of competency – these tasks are then 'mapped' to relevant units of competency in the qualification;
- one of the assessment tools used by the RTO to collect evidence of competency as shown in the RTO's 'mapping';
- stored on the web and accessible from any computer, phone or tablet (app); and
- available in paper form for recording purposes.

Students will log-in at the end of a period determined by the RTO and the employer and record on a 'card' the work they have undertaken during the period. These cards build into a comprehensive record of the workplace tasks they perform.

Supervisors will log-in regularly and accept or reject the information on the students' 'cards' and record information about the level of performance – this will add to the students' records and provide the basis for a growing picture of the each student's progress and skills development.

RTO trainer/assessors will be required to:

- monitor the EWorklog and:
  - discuss students' entries and record interactions with students;
  - discuss students' and supervisors' entries with supervisors and record interactions;
  - and use the records as:
    - indirect or direct evidence of competence;
    - a method of tracking the student's experience in a workplace or simulated workplace;
    - a method of identifying gaps in the student's experience in workplace skills; and
    - a tool for identifying problems and issues in the students workplace skills.

The *EWorklog* database will produce graphs showing student progress (for use by all stakeholders).

The *EWorklog* database will be programmed to send reminders to students, supervisors and trainers/assessors and RTO training managers if data is not entered as required – the latter will enable RTO training managers to take action to ensure that the system is being used effective in the RTO's assessment processes.

The *EWorklog* will provide each student with a valuable summary of their experience, range of skills, range of equipment etc.

During the pilot, the *EWorklog* will be monitored by a project consultant who will have, with appropriate security measures in place, access to all records. The project consultant will:

- monitor regular completion of EWorklog records by students, supervisors and trainers/assessors and check that automated reminder emails have been sent, and provide feedback to RTO training managers;
- monitor EWorklog graphs to ensure students' progress against task benchmarks and coverage of required tasks and provide feedback to RTOs;
- provide a help-desk service to RTOs; and
- monitor the collection and analysis of evidence for the evaluation process.

Benefits of the proposed model

The proposed model has many potential benefits for stakeholders, including the following:-

- The use of the *EWorklog* is underpinned by:
  - training workshops for industry and RTOs to achieve shared understandings of strategies, validation and assessment using EWorklog;
  - an independent validation of RTOs' training and assessment strategies, assessment methods and assessment tools that have been designed to incorporate EWorklog; and
  - accredited training of workplace supervisors in mentoring students in the workplace.

- The *EWorklog* is stored on the web and accessible from any computer, phone or tablet (app) – cannot be torn, lost or 'left at home'.
- EWorklog provides RTO trainer/assessors with:
  - indirect evidence of competence;
  - a method of tracking each student's workplace /simulated workplace experience and skills development;
  - a method of identifying gaps in the student's experience in the workplace or simulated workplace;
  - a method of gathering evidence about achievement of employability skills;
  - a tool for determining a student's readiness for summative assessment; and
  - a tool for identifying problems and issues in the workplace / simulated workplace
- EWorklog produces graphs showing student progress, spread of tasks and achievement of benchmarks for use by all stakeholders.
- EWorklog provides the RTO training manager with a tool for monitoring the RTO's training and assessment activities.
- EWorklog data provides the basis for meaningful conversations and planning meetings between RTO trainer/assessors, workplace / simulated workplace supervisors and students.
- The EWorklog can be relatively inexpensive to administer; will allow an RTO to easily provide an overview of its practices to industry stakeholders; and has the advantage that it will monitor students' progress through the course to allow immediate remedial action to be taken.
- EWorklog provides each student with a valuable summary of their experience, range of skills, range of equipment etc

The Pilot

It is proposed to pilot the *EWorklog* in the Northern Territory in all public RTOs and five private RTOs during 2014 in the following qualifications:

AHC10110 Certificate II in Conservation and Land Management

CHC30113 Certificate III in Early Childhood Education and Care

AUR30612 Certificate III in Light Vehicle Mechanical Technology

CHC30212 Certificate III in Aged Care.

Appendix VII ANZSCO Skill Levels - Definitions

The five skill levels in ANZSCO are defined in terms of formal education and training, previous experience and on-the-job training. The determination of boundaries between skill levels is based on the following definitions.

SKILL LEVEL 1

Occupations at Skill Level 1 have a level of skill commensurate with a bachelor degree or higher qualification. At least five years of relevant experience may substitute for the formal qualification. In some instances relevant experience and/or on-the-job-training may be required in addition to the formal qualification.

SKILL LEVEL 2

Occupations at Skill Level 2 have a level of skill commensurate with one of the following:

- NZ Register Diploma or
- AQF Associate Degree, Advanced Diploma or Diploma.

At least three years of relevant experience may substitute for the formal qualifications listed above. In some instances relevant experience and/or on-the-job-training may be required in addition to the formal qualification.

SKILL LEVEL 3

Occupations at Skill Level 3 have a level of skill commensurate with one of the following:

- NZ Register Level 4 qualification
- AQF Certificate IV or
- AQF Certificate III including at least two years of on-the job training.

At least three years of relevant experience may substitute for the formal qualifications listed above. In some instances relevant experience and/or on-the-job-training may be required in addition to the formal qualification.

SKILL LEVEL 4

Occupations at Skill Level 4 have a level of skill commensurate with one of the following:

- NZ Register Level 2 or 3 qualification or
- AQF Certificate II or III.

At least one year of relevant experience may substitute for the formal qualifications listed above. In some instances relevant experience may be required in addition to the formal qualification.

SKILL LEVEL 5

Occupations at Skill Level 5 have a level of skill commensurate with one of the following:

- NZ Register Level 1 qualification
- AQF Certificate I or
- compulsory secondary education.

For some occupations a short period of on-the-job training may be required in addition to or instead of the formal qualification. In some instances, no formal qualification or on-the-job training may be required.

Appendix VIII ANZSCO Seafood Industry Occupation Definitions

AQUACULTURE FARMERS 121111

Plan, organise, control, coordinate and perform farming operations to breed and raise fish and other aquatic stock.

Indicative Skill Level 1

Most occupations in this unit group have a level of skill commensurate with a bachelor degree or higher qualification.

At least five years of relevant experience may substitute for the formal qualification. In some instances relevant experience and/or on-the-job training may be required in addition to the formal qualification

Occupation Lists

This occupation is on the following skills lists:

- NTSOPL
- Consolidated Sponsored Occupations List
- RSMS Occupations List

This occupation is **not** on the following skills lists:

- Skilled Occupations List
- Labour Market Testing Required for 457 List

Tasks Include:

- planning and coordinating the operation of hatcheries to produce fish fry, seed oysters, crayfish, marron and prawns taking into account environmental and market factors
- monitoring the environment to maintain optimal growing conditions
- identifying and controlling environmental toxins and diseases
- monitoring stock growth rates to determine when to harvest
- transporting fish, crayfish, marron, prawns and sticks of seed oysters to new tanks, ponds, cages and floating net pens
- directing and overseeing the harvesting, grading and packaging of fish, oysters and other aquatic stock
- organising the sale, purchase and transportation of fish stock
- maintaining and evaluating records of farming activities, monitoring market activity and planning production accordingly
- managing business capital including budgeting, taxation, debt and loan management
- may select, train and supervise staff and contractors

SHIP'S MASTER 231213

Controls and manages the operations of a ship or boat. Registration or licensing is required.

Skill Level 1

Most occupations in this unit group have a level of skill commensurate with a bachelor degree or higher qualification.

At least five years of relevant experience may substitute for the formal qualification. In some instances relevant experience and/or on-the-job training may be required in addition to the formal qualification.

Registration or licensing is required.

Occupation Lists

This occupation is on the following skills lists:

- NTSOPL
- Skilled Occupations List
- Consolidated Sponsored Occupations List
- RSMS Occupations List

This occupation is **not** on the following skills lists:

- Labour Market Testing Required for 457 List

Tasks

- directing fishing operations by using knowledge about the species sought, fishing areas, seasons and the capabilities of the vessel and crew
- directing crew in catching fish, molluscs and crustacea at varying depths using nets, lines, poles, pots and traps
- planning, controlling and coordinating the operational and maintenance requirements of a ship's propulsion and domestic plant and equipment
- operating plant and equipment and performing routine maintenance on ship's systems including mechanical, electrical, hydraulic, pneumatic, steam generating, and fire prevention and control systems
- controlling and directing shipping operations to ensure the safe and efficient loading and transport of cargo and passengers
- ensuring compliance with regulations pertaining to safety at sea and protection of the marine environment
- directing the activities of the deck crew for navigational support tasks, berthing and unberthing, maintenance, cleaning and painting of superstructures, and repair and replacement of defective deck gear and equipment
- navigating a ship by supervising the ship's course and speed according to predetermined passage plans and safety procedures
- examining and approving design plans of hulls and equipment such as main propulsion engines, auxiliary boilers and turbines, electrical power generating plant, refrigeration and airconditioning plant and pumping systems
- conducting periodic surveys throughout a ship's life to ensure standards are maintained

- **MASTER FISHER 231211**

Controls a fishing vessel and fishing operations to catch and preserve fish, crustacea and molluscs. Registration or licensing is required.

Skill Level 1

Most occupations in this unit group have a level of skill commensurate with a bachelor degree or higher qualification.

At least five years of relevant experience may substitute for the formal qualification. In some instances relevant experience and/or on-the-job training may be required in addition to the formal qualification.

Registration or licensing is required.

Occupation Lists

This occupation is on the following skills lists:

- NTSOPL
- Consolidated Sponsored Occupations List
- RSMS Occupations List

This occupation is **not** on the following skills lists:

- Skilled Occupations List
- Labour Market Testing Required for 457 List

Tasks

- directing fishing operations by using knowledge about the species sought, fishing areas, seasons and the capabilities of the vessel and crew
- directing crew in catching fish, molluscs and crustacea at varying depths using nets, lines, poles, pots and traps
- planning, controlling and coordinating the operational and maintenance requirements of a ship's propulsion and domestic plant and equipment
- operating plant and equipment and performing routine maintenance on ship's systems including mechanical, electrical, hydraulic, pneumatic, steam generating, and fire prevention and control systems
- controlling and directing shipping operations to ensure the safe and efficient loading and transport of cargo and passengers
- ensuring compliance with regulations pertaining to safety at sea and protection of the marine environment
- directing the activities of the deck crew for navigational support tasks, berthing and unberthing, maintenance, cleaning and painting of superstructures, and repair and replacement of defective deck gear and equipment
- navigating a ship by supervising the ship's course and speed according to predetermined passage plans and safety procedures
- examining and approving design plans of hulls and equipment such as main propulsion engines, auxiliary boilers and turbines, electrical power generating plant, refrigeration and airconditioning plant and pumping systems
- conducting periodic surveys throughout a ship's life to ensure standards are maintained

SHIP'S ENGINEER 231212

Controls and manages the operation and maintenance of a ship's plant and equipment..

Skill Level 1

Most occupations in this unit group have a level of skill commensurate with a bachelor degree or higher qualification.

At least five years of relevant experience may substitute for the formal qualification. In some instances relevant experience and/or on-the-job training may be required in addition to the formal qualification

Registration or licensing is required.

Occupation Lists

This occupation is on the following skills lists:

- NTSOPL
- Skilled Occupations List
- Consolidated Sponsored Occupations List
- Labour Market Testing Required for 457 List
- RSMS Occupations List

Tasks

- directing fishing operations by using knowledge about the species sought, fishing areas, seasons and the capabilities of the vessel and crew
- directing crew in catching fish, molluscs and crustacea at varying depths using nets, lines, poles, pots and traps
- planning, controlling and coordinating the operational and maintenance requirements of a ship's propulsion and domestic plant and equipment
- operating plant and equipment and performing routine maintenance on ship's systems including mechanical, electrical, hydraulic, pneumatic, steam generating, and fire prevention and control systems
- controlling and directing shipping operations to ensure the safe and efficient loading and transport of cargo and passengers
- ensuring compliance with regulations pertaining to safety at sea and protection of the marine environment
- directing the activities of the deck crew for navigational support tasks, berthing and unberthing, maintenance, cleaning and painting of superstructures, and repair and replacement of defective deck gear and equipment
- navigating a ship by supervising the ship's course and speed according to predetermined passage plans and safety procedures
- examining and approving design plans of hulls and equipment such as main propulsion engines, auxiliary boilers and turbines, electrical power generating plant, refrigeration and airconditioning plant and pumping systems
- conducting periodic surveys throughout a ship's life to ensure standards are maintained

DIVER **399911**

Swims underwater to undertake tasks such as seafood gathering, research, salvage and construction. Registration or licensing may be required.

Skill Level **3**

Most occupations in this unit group have a level of skill commensurate with AQF Certificate III including at least two years of on-the-job training, or AQF Certificate IV

At least three years of relevant experience may substitute for the formal qualifications listed above. In some instances relevant experience and/or on-the-job training may be required in addition to the formal qualification.

Registration or licensing may be required.

Occupation Lists

This occupation is on the following skills lists:

- NTSOPL
- Consolidated Sponsored Occupations List
- Labour Market Testing Required for 457 List
- RSMS Occupations List

This occupation is not on the following skills lists:

- Skilled Occupations List

Tasks

This unit group covers Technicians and Trades Workers not elsewhere classified.

It includes Divers, Interior Decorators, Optical Dispensers (Aus) / Dispensing Opticians (NZ), Optical Mechanics, Photographer's Assistants, Plastics Technicians, Wool Classers and Fire Protection Equipment Technicians.

DECK HAND **899211**

Description

Maintain ships' equipment and structures, and catch fish, crustacea and molluscs. Performs maintenance and lookout tasks aboard a ship.

Skill Level **4**

Most occupations in this unit group have a level of skill commensurate with AQF Certificate II or III.

At least one year of relevant experience may substitute for the formal qualifications listed above. In some instances relevant experience and/or on-the-job training may be required in addition to the formal qualification.

Occupation Lists

This occupation is **not** on the following skills lists:

- NTSOPL
- Skilled Occupations List
- Consolidated Sponsored Occupations List
- Labour Market Testing Required for 457 List
- RSMS Occupations List

Tasks

- handling ropes and wires, and operating mooring equipment when berthing and unberthing
- standing lookout watches at sea and adjusting the ship's course as directed
- assisting with cargo operations using on-board equipment and stowing and securing cargo
- patrolling ships to ensure safety of the vessel, cargo and passengers
- performing routine maintenance and checks on deck equipment, cargo gear, rigging, and lifesaving and firefighting appliances
- attaching gear and fastening towing cables to nets
- casting and lowering nets, pots, lines and traps into water
- preparing lines, attaching running gear and bait, and setting lines into position
- hauling in fishing gear and removing fish and other marine life
- sorting, cleaning, preserving, stowing and refrigerating catch

FISHING HAND 899212

Description

Maintain ships' equipment and structures, and catch fish, crustacea and molluscs. Catches fish, crustacea and molluscs using nets, pots, lines and traps in ocean and inland waters.

Skill Level 4

Most occupations in this unit group have a level of skill commensurate with AQF Certificate II or III.

At least one year of relevant experience may substitute for the formal qualifications listed above. In some instances relevant experience and/or on-the-job training may be required in addition to the formal qualification.

Occupation Lists

This occupation is **not** on the following skills lists:

- NTSOPL
- Skilled Occupations List
- Consolidated Sponsored Occupations List
- Labour Market Testing Required for 457 List
- RSMS Occupations List

Tasks

- handling ropes and wires, and operating mooring equipment when berthing and unberthing
- standing lookout watches at sea and adjusting the ship's course as directed
- assisting with cargo operations using on-board equipment and stowing and securing cargo
- patrolling ships to ensure safety of the vessel, cargo and passengers
- performing routine maintenance and checks on deck equipment, cargo gear, rigging, and lifesaving and firefighting appliances
- attaching gear and fastening towing cables to nets
- casting and lowering nets, pots, lines and traps into water
- preparing lines, attaching running gear and bait, and setting lines into position
- hauling in fishing gear and removing fish and other marine life
- sorting, cleaning, preserving, stowing and refrigerating catch

AQUACULTURE WORKER 841111

Description

Performs routine tasks in breeding and raising fish and other aquatic stock.

Skill Level 5

Most occupations in this unit group have a level of skill commensurate with AQF Certificate I, or compulsory secondary education .

Instead of the formal qualification. In some instances no formal qualification or on-the-job training may be required.

Occupation Lists

This occupation is **not** on the following skills lists:

- NTSOPL
- Skilled Occupations List
- Consolidated Sponsored Occupations List
- Labour Market Testing Required for 457 List
- RSMS Occupations List

Tasks

- feeding and grading fish, and monitoring their growth
- assisting with farm layout and constructing nets, long-lines and cages
- checking and looking after equipment and fish housing
- operating pumps and other equipment
- testing and checking on water quality
- removing dead and dying fish
- operating lifting equipment such as forklifts and small cranes
- harvesting fish, and sorting and packing for transportation
- restocking pens, pools, tanks, ponds, rivers and dams with juvenile fish
- collecting and recording growth, production and water quality data

SEAFOOD PROCESS WORKER 831313

Description

Slaughter and eviscerate poultry, and process, grade and package meat, poultry, fish and shellfish. Scales, cleans, fillets, cuts, shells, grades and packages fish and shellfish.

Skill Level 5

Most occupations in this unit group have a level of skill commensurate with the qualifications AQF Certificate I, or compulsory secondary education

For some occupations a short period of on-the-job training may be required in addition to or instead of the formal qualification. In some instances no formal qualification or on-the-job training may be required.

Occupation Lists

This occupation is **not** on the following skills lists:

- NTSOPL
- Skilled Occupations List
- Consolidated Sponsored Occupations List
- Labour Market Testing Required for 457 List
- RSMS Occupations List

Tasks

- processing offal and tripe
- moving carcasses to chillers and freezers
- loading meat products into trucks
- packing boned and sliced meat into cartons
- stunning and shackling poultry for killing and processing
- severing jugular veins of poultry, and removing viscera and residual material from poultry carcasses
- separating organs and glands, such as sweetbreads, livers, hearts and spleens, from poultry carcasses
- inspecting and grading poultry, fish and shellfish for size and quality
- packing fish and counting packs before freezing, and packing frozen fish blocks into cartons
- operating machines which slice, peel, skin and crumb fish
- cleaning and sanitising equipment and work areas

Specialisations

- Abalone Sheller
- Mussel Opener (NZ)
- Oyster Opener