

Regulatory and/or Licencing Bodies

- The Australian Maritime Safety Authority (AMSA) as the licensing and regulatory body for maritime has taken over the regulation of all maritime tickets where previously near coastal was managed by each State and Territory government.ⁱ

INDUSTRY DEVELOPMENTS AND WORKFORCE CHALLENGES:

1. Existing and anticipated supply and demand for skills:

- *Please refer to Industry Impacts from COVID-19 for details on how this has impacted the maritime sector.*
- It is anticipated the ramping up of projects within the oil and gas sector will impact the maritime workforce. Due to the long lead time to achieve Certification it will take some time for the current maritime workforce to be appropriately skilled into new job roles.ⁱⁱ
- There is currently a surplus of Master Fishers, which is not seen to be an area of growth for WA. This is due to a decrease in the number of vessels with an amalgamation of operations and larger vessels coming online. As a result, fewer Master Fishers will be required to operate fishing vessels.ⁱⁱⁱ
- There is an oversupply of Deck Hands in WA, also known as Integrated Ratings.^{iv}
- WA's ability to provide relevant sea-time experience to the local maritime workforce has been impacted by the increase in the number of foreign crewed vessels operating in Australian waters, and the reduction in Australia's blue water vessel fleet. This means Australian Mariners are needing to seek out opportunities for training overseas to attain their required sea-time experience, with many not returning to Australia to work.^v The Master Unlimited is used by industry to transition workers into land based roles such as the Marine Surveyor, or Harbour Master occupations.^{vii}
- Many of the vessels within the fishing industries are increasing in tonnage and becoming more advanced. A change to management arrangements using quota-based fisheries (which is determined prior to the season starting) is driving efficiencies into the process. For example, resources are being pooled and shared for companies to achieve their quotas. In some instances, they also share training resources.^{viii}
- There has been a significant downsizing of the number of fishing vessels in WA. For instance, within the rock lobster fisheries for WA there has been a decrease of 850 boats in 1990 to 200 boats in 2020. This contraction is also being seen in QLD, VIC, and NSW as more commercial vessel fleets are being consolidated.^{ix}
- Companies are exploring alternative training pathways to use where possible. Due to the seasonal requirements of the job, and where local talent is unavailable companies are also using backpackers or 457 visa arrangements to staff vessels (i.e. cray fishing). One example is the Pearling industry, where backpackers are used to operate entire Pearl Farms. These workers are often university educated.^x
- Employers are experiencing difficulties in replenishing the current pool of maritime workers due to a lack of suitable training pathways or industry led cadetships. As previously identified in the 2019 and 2020 SPOL the ongoing depletion of blue water Australian flagged ships will continue to exacerbate this shortage, as Australian Mariners will be required to go overseas to attain the necessary training and experience. The flow on effect from this will continue to deplete the Marine Surveyor talent pipeline.^{xi}
- Due to the advancement of technology some mariners are no longer being offered the opportunity to develop critical skills such as manual ship handling skills.^{xii}
- The decline of available training berths in WA will limit entry-level pathway opportunities. This will have a flow on effect to other maritime positions which rely on this stream to develop career pathways into other areas within the maritime sector such as Ships Surveyor, or Deputy Harbour Master.^{xiii}
- Industry has identified that the acute workforce shortages within the Maritime sector will impact the operational requirements of businesses if they do not have the workers with the necessary experience and skills to undertake tasks.^{xiv}

- Western Australian's Maritime workforce is ageing and the need to attract, train and retain younger workers is critical for industry. However there continues to be some deterrents to attracting and retaining a younger cohort, such as working conditions (i.e. seasonal nature of work and working at sea), Australian Taxation requirements and the cost-prohibitive nature associated with training younger and inexperienced entrants for employers.^{xv}
- The following occupations continue to be in high demand for the Maritime sector:
 - **Master Unlimited** – Although there are currently many people with Master's tickets, a shortage of qualified people exists due to an inability for these Mariners to maintain their high-level tickets due to the sea-time component required to attain them and a lack of available opportunities to receive the appropriate training.^{xiv}
 - **Ships Master** – This occupation is vital as it serves as a 'feeder' into other maritime roles. Those workers who have achieved Master Unlimited often return and fill land-based roles such as Harbour Master, Marine Pilot, Marine Surveyor, Marine Assurance, Marine Superintendent, Cargo Planners, Regulators, and Trainers. There is an acute shortage of suitable skilled and experienced Ship's Masters to transition into these roles.^{xiv}
 - Although industry has identified some situations (i.e. LNG Tankers) where there are people with Masters Tickets available there are issues with Masters being able to maintain their currency due to the cost and process of re-validation and thus being unable to perform some vital ship operations.^{xiv}
 - **Marine Pilots** - An acute shortage also exists for this role. As a vital safety position Marine Pilots are critical to industry and any potential shortages in this occupation could have further ramifications. At a minimum, most Marine Pilots are a Master Class 1 accredited. Experience is essential for this role, for example one organisation requires applicants to have at least 20 years blue water and pilotage experience to be considered for the role. These are also global roles so Australia is competing on an international market for these workers.^{xvi}
 - In Australia, the average age of Marine Pilots is 52, with approximately 350 Marine Pilots nationally. The lack of blue water vessels operating in Australia is creating training bottlenecks as the traditional pathway to enter this position and gain relevant sea-time experience is no longer available. In approximately two to seven years it is anticipated there will be acute shortages as the current workforce transitions into retirement and the lack of a suitable training pathway means that Australia will be unable to establish a new generation of workers to replace them.^{xiv}
 - **Ships Engineer** – There is currently a shortage of Ships Engineers, particularly for those with experience working on large vessels. This occupation requires highly specialized skills and experience to understand the complexity of different engine types.^{xiv}
 - There is a long lead time (10+ years) for Engineers to develop the requisite skills and experience needed for engineers to independently maintain and repair vessels. It is uncommon for Chief Engineers to be younger than 50 years of age due to the time taken to develop these skills. The reduction in Australian flagged vessels has placed considerable training bottlenecks on industry's ability to provide the necessary sea time component, with an ageing workforce continuing to present operational and longevity issues for industry.^{xiv}
 - Currently, industry is losing Engineers as they are lured away to other projects (i.e. research vessels) and to other land-based roles. Those Engineers specializing in steam engines are in high demand. This demand is likely to increase as ventures such as the LNG Fuel project come online as these ships will all be powered by steam. In addition, Engineers familiar with double-barreled engines (i.e. steam and motor) will also be in great demand.^{xiv}
 - As newer vessels are not currently being built in Australia, the tonnage of vessels is older. This means that current ageing vessels will require more maintenance thus requiring both Engineers and Electrotechnical Officers to have greater understanding of the complexity of vessel engines in order to service and maintain them.^{xiv}

- o **Electrotechnical Officers** – This occupation was identified as an area of shortage. Those in this occupation will be required to develop skills and familiarity with bridge equipment as the vessels are becoming more advanced with more sophisticated electrical components.^{xiv}
- o There is currently no qualification within the Maritime qualifications which provides Australian Maritime Safety Authority (AMSA) certification for role of Electrotechnical Officer. The development of a qualification which addresses the industry safety and regulatory requirements is currently underway by Australian Industry Standards (AIS).^{xiv}

Regional Concerns

- Regional Ports, who use Masters' for the role of Harbour Masters, are utilising a FIFO workforce to operate and carry out many of the regional roles due to a lack of highly skilled mariners. This is for roles such as Harbour Master, Marine Pilot and Ships Surveyor. Many of the highly skilled workers in these fields do not want to live regionally and are able to be selective regarding where they work/live, so FIFO has become the only option for these employers.^{xiv}
- Internationally, there are some Ports which do not operate with a Pilot. In these instances, the Captain has the highest-level ticket (Master Unlimited) and appropriate navigational approval which allows the Skipper to bring the ship into port. As shipping standards are different in Australia a different level of ticket is needed to bring the ship into Port.^{xvii}
- The location and remoteness of the Northwest region is the biggest obstacle for employing maritime workers at all levels. In addition, jobs tend to be seasonal or Drive In/Drive Out (DIDO). Other employers have also resorted to Fly In/Fly Out (FIFO) rostering for employees based in Perth and/or from overseas which highlights the acuteness of these shortages.^{xviii}
- Another factor to take into consideration is the high cost of training incurred by employers. This limits the number of people that undertake training and in some instances the costs are further inflated by the need to retrain due to high levels of employee turnover.^{xix}
- Extensive consultation indicates that WA requires workers who have achieved Master Unlimited. This is because these workers return and fill land-based roles such as Harbour Master, Marine Pilot, Marine Surveyor, Marine Assurance, Marine Superintendent, Cargo Planners, Regulators, and Trainers.^{xx}

2. Emerging international, national or State training issues impacting your industry

- There is a greater need for industry, unions, regulators and Government to explore the potential for new training opportunities and alternative pathways into industry. Alternative models would potentially allow for the replenishment of Marine Surveyors, Marine Pilots and Harbour Masters.^{xiv}
- To fulfil Industry's immediate needs for experienced mariners, some companies are offering short-term contracts. This means that industry requires a workforce that are already experienced on the vessels they are being contracted to operate on. Upskilling will need to be undertaken by industry at some stage to ensure their future workforce needs can be met.^{xxi}
- The following skills are in demand within the maritime industry: managerial/leadership skills; critical thinking/problem solving skills; digital analysis skills; health and safety and compliance skills; learning agility and information literacy; technology (particularly automation, and navigational/vessel handling) skills; Language, Literacy and Numeracy (LLN); and Science, Technology, Engineering, Mathematics (STEM) skills.^{xxii}
- There is a shortage of suitably skilled, experienced and ticketed workers (ie dynamic positioning). Previously WA was the only State offering training specific to this. However recent closures have resulted in this training no longer being as easily accessible.^{xxiii}
- As near coastal and off shore maritime activity increases so will the demand for qualified and experienced Ships Engineers, Ships Master, Ships Officer and Ships Surveyor.^{xxiv} These occupations all require a long lead time to obtain the necessary qualifications and experience (10+years).^{xxv} Training will need to occur within the next three-five years to forestall or to minimise the impact of any future skills shortages.^{xxvi}
- The decline of available training berths will limit entry-level pathway opportunities. These issues will have a negative impact on the ability of businesses to meet operational requirements as they do not have the workers with the necessary skills and experience to undertake tasks.^{xxvii}

- The pathway for Marine Engine Drivers (MED) has been streamlined by AMSA to assist in reducing the skills shortages being felt by industry. However, there is a decline in the uptake of trainees for Ships Engineer. ^{xxviii} This is due to the reduction in the number of available vessels to train on, which has placed even greater pressure on those vessels remaining to take MED cadets. ^{xxix}
- Although there appears to be an abundance of applicants for maritime roles, in some instances Seafarers have been unable to maintain the currency of their skills due to the lack of available work and are thus unsuitable for some roles. This has created a skills deficit as applicants do not possess the required skills to work in some sectors (i.e. the offshore sector). ^{xxx}

INDUSTRY WORKFORCE PRIORITIES:

1. Strategic directions, policies and priorities for industry

- Given the long lead time to attain Engineer Class 1 (i.e. 10 years) due to the sea time experience needed, industry is considering alternative pathways such as those being undertaken in other countries (i.e. MED cadetships). This would assist in attracting a younger cohort and retaining experienced workers that may otherwise be lured away to international opportunities. ^{xxxi}
- Although significant investment has been made in upgrading equipment and technology some employers have identified gaps in the level of skills the workforce needs to operate and maintain new equipment. ^{xxxii}
- Currently, some Ports in WA have started sponsoring cadets who are being assisted to undertake their training and are sponsoring their sea-time experience with overseas companies in the hope that they will return and work in the Ports sector. However, although this is a positive step it will not be enough to meet the immediate demand for these highly trained individuals. ^{xxxiii}
- In addition, the maritime industry is actively seeking ways to implement greater diversity in its workforce. This has been achieved through industry forums and career days (i.e. Maritime Day) which actively promote diversity, as well as through individual organisational policies and procedures. ^{xxxiv}

Industry Impacts Caused From COVID-19

- As China is a major trading partner for Australia, there were impacts on the maritime, ports and stevedoring industries due to lower levels of economic activity. In early March 2020 there was a reduction in the number of Chinese vessels able to berth in WA. ^{xxxv}
- Marine Vessel operators, both in Offshore Support and Fishing, are concerned about the implications of their crews spending extended time at sea to meet quarantine requirements. Roster changes have been implemented to incorporate a 14-day self-isolation resulting in delays in crew rotations. With the proximity and turnaround times to destination ports such as Singapore, health checks and social distancing requirements are being observed and cargo ship movements are continuing. ^{xxxvi}
- There remains a shortfall of high-level mariners within industry and an alternative training pathway is needed to progress individuals through to Master Unlimited. Fishing industries have experienced a downturn as international exports have been reduced. Although there has been a slight rise in some industries such as Cray fishing who are utilising local markets this has not been enough to offset losses being felt across industry. ^{xxxvii}
- Rock lobster fishers have already lost significant revenue from the halt in trade to China. Domestic supply of produce from this sector is now higher, placing downward pressure on prices. Seafood prices have already seen declines. Beef sales in China were also affected, with meat already exported stuck in ports in China. However, reports from early March 2020 suggests that these products are now being unloaded. Producers have also seen some relief in this regard from increased household food stockpiling. ^{xxxviii}
- Due to the reduction in passenger transport, ferries will now operate on a winter timetable daily. As this is usual for this time of year it should not negatively impact the workforce to a large degree. ^{xxxix}
- Initially, in late February when cruise ships were required to dock in regional berths this was viewed as a potential boon for the local economy with the anticipated spending increase tourism would bring to these areas (i.e. Bunbury). However, this is no longer the case as Cruise ships have since been identified as major sources of transmission, with international cruise ships now no longer

allowed to berth in WA. With exceptions granted on a case by case basis. This has seen increased pressure on Fremantle Port where a co-ordinated effort was undertaken by both State and Federal Departments, including Defence, to both move passengers off the ships and to isolate where required.^{xi}

- Globally, air and sea freight has been heavily impacted with container volumes significantly decreasing. Early estimates had initially predicted a return to normal would be in September 2020, however, given the full impact to economies as they enter lockdown this could be even later.^{xii}
- Marine Vessel operators, both in Offshore Support and Fishing, are concerned about the implications of their crews spending extended time at sea if someone already has COVID-19. These operators are looking at quarantine restrictions prior to boarding vessels but there may not be time.^{xlii}
- With Oil and Gas both trading at their lowest prices in many years, production on the Northwest Shelf has slowed down. This may have an impact on Maritime workers employed to operate supply vessels as the need for them reduces.^{xliii}
- For the Offshore sector, should the current condition of border restrictions prevail, there is not much optimism for recovery as this gravely impacts their bottom line (they are absorbing the housing costs of workers that would otherwise reside outside WA). Similarly, for passenger transport operators, social distancing requirements will further delay the return to normal operations as it will not be economically viable until such point in time.^{xliv}
- Due to the uncertainty caused by COVID-19, AMSA has issued an exemption that extends all National Law certificates of competency and all associated endorsements, expiring between 26 March and 1 October 2020 for six months from the expiry date noted on the certificate. This will permit crews, subject to this exemption, to work on a domestic commercial vessel for this extension period. It is anticipated there will be an influx of requests once this activity resumes, with potential to cause bottlenecks and further delays.^{xlv}
- In the Oil and Gas sector, with limited access to a local skilled workforce in WA the sector is experiencing difficulties in mobilizing their permanent crew. Much of this maritime workforce is FIFO (and in some instances more than 50% of their workers are based on the East Coast or New Zealand). Currently hard border restrictions are preventing access to these highly skilled employees at a high cost to industry who are continuing to pay wages (without access to any labour) in order to prevent talent attrition, with potential forecasts of challenges fulfilling commercial contracts in WA if personnel requirements cannot be met. Temporary relocation measures are being explored to try to retain these workers in WA for longer to allow for continuity of service and where practicable companies are paying for any associated isolation and quarantine costs for exempt workers. These highly skilled workers cannot be easily replaced with local workers due to the long lead time to train and achieve specialized accreditations.^{xlvi}
- Project activity has decreased during COVID-19 restrictions with some projects being delayed temporarily, however tendering activity suggests this activity will pick up in 2021 once hard border restrictions are lifted with new projects coming online and older projects resuming.^{xlvii}

Impacts to Training and Delivery

- This industry is currently providing all training in house and via Border Force in order to effectively interact with ships that have been identified as a risk. This includes the hygiene, the use of PPE and disinfection strategies.^{xlviii}
- The Federal Governments recently announced JobTrainer package will assist industries to develop their workforce by providing retraining and upskilling opportunities for people to enter industries currently surging as well as helping skilled and/or displaced workers to enter alternative industries.^{xlix}

Jobs in Demand and Training Required

- Industry has identified the following skills and experience needed for the fishing sector for the recovery stage: digital literacy, Engineer Watchkeeper Officers; and skills in food handling, deck work, robotics, animal welfare, and on-the-job experience.ⁱ

