

INDUSTRY PROFILE

Ports & Stevedoring



Ports and Stevedoring
Water Freight Transport
Stevedoring Services
Port and Water Transport Terminal Operations

ANZSIC 4810
ANZSIC 5212
ANZSIC 5211

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Overview

- Ports are the gateway for imports and exports to enter and leave Australia. Stevedoring is the loading and unloading of bulk, general and containerised cargo at the connection of road, rail and sea transport.
- The Ports & Stevedoring sector is closely related to the Maritime industry. Land-side occupations such as Ship's Pilot, Harbour Master, Deputy Harbour Master and Ship's Surveyor are frequently classified as Maritime. This is due to the requirement for seetime and an Australian Maritime Safety Authority (AMSA) Master Unlimited or Master 1 ticket. The Master Unlimited is the highest AMSA ticket that can be achieved.¹
- This should be read in conjunction with the Maritime Industry Profile

Industry regulatory / licencing bodies

- WA has had five port authorities responsible for 13 ports:
 - Fremantle Port Authority for the Port of Fremantle including the Outer Harbour in Kwinana
 - Southern Ports Authority responsible for the ports of Albany, Bunbury and Esperance
 - Mid West Ports Authority responsible for the Port of Geraldton
 - Kimberley Ports Authority responsible for the Ports of:
 - Broome
 - Wyndham (leased and managed by Cambridge Gulf Ltd)
 - Derby (leased and managed by the Shire of Derby West Kimberley)
 - Yampi Sound
 - Pilbara Ports Authority responsible for the ports of:
 - Ashburton
 - Dampier
 - Port Hedland
 - Varanus Island (operated by Santos)
- The safe operation, navigation and security of the port is the responsibility of the Harbour Master and Deputy Harbour Master (ANZSCO code 139999 Specialist Managers not elsewhere classified). The workplace demands of modern harbours have seen this job developing into two: The hands-on, operational shipping role and the administrative-legal-governance role.
- The shoreside ANZSCO occupation 891113 Waterside Worker relates to transfer of cargo between ships and other forms of transport or storage facilities. Stevedore is the WA term. Alternative titles are wharf labourer or docker.
- Stevedoring operations are generally carried out by private companies under contract to the ports, shipping lines or manufacturers. A stevedoring company typically owns the loading equipment and employs labour directly or via labour hire arrangements. A stevedoring company may contract with a terminal owner to manage all terminal operations. There are two stevedoring companies that handle containers in Fremantle: Patrick Terminals, DP World. Both operate their own Terminals. Smaller operators provide the service in the regional ports. Some WA regional ports employ their own stevedores such as Esperance.

Opportunities affecting workforce supply and demand

- **Westport.** The Westport Taskforce was established by the State Government in 2017 to determine a long-term integrated freight transport plan for WA. The State Government has endorsed the Westport Taskforce proposal for a conventional land-backed container port in Cockburn Sound South, vicinity Ankertell Road, called Westport. The Westport Taskforce recommends two port options with the same design at Kwinana called D2 and B. Both options construct a new land-backed port in the Kwinana Industrial Area serviced by an upgraded Anketell Road freight route. Option D2 sees the existing port and a new Kwinana port split container traffic before transitioning all freight to Kwinana over 15 years. Option B moves all freight from Fremantle to Kwinana in one step by 2032.²

- **North Fremantle Development Precinct.** The Western Australian Planning Commission has established a Future of Fremantle Planning Committee for two years to examine the redevelopment of Fremantle's North Quay and the Victoria Quay Waterfront Precinct. This Committee will develop an employment strategy to maintain local jobs when the container terminals are relocated to Westport and finalise work undertaken by the North Fremantle Development Precinct Technical Advisory Group.³
- **Mining, oil and gas projects.** Projects developing in the WA oil and gas sector will require more Ports & Stevedoring workers. Modelling by the Australian Resources and Energy Group AMMA (now known as AREEA) projected mining activities 2021 to 2026 could boost the State direct resources workforce to approximately 126,000. AMMA identified that WA has 19 committed projects and another 22 likely to proceed of 47 projects in the Kimberly, Pilbara, Goldfield-Esperance and offshore regions of WA.⁴
- **Australian seetime training placements.** Traditionally land-based roles such as Harbour Master, Deputy Harbour Master, Ship's Pilot, Marine Surveyor, Marine Assurance, Marine Superintendent, Cargo Planners, Regulators and Trainers were filled by AMSA Master Unlimited skippers transitioning from seagoing occupations. The lack of bluewater Australian flagged merchant vessels means there is no flow of qualified mariners to the shore based jobs in Ports & Stevedoring. Not enough young people are able to enter the Maritime sector to meet the industry demand for the higher level occupations ANZSCO 231213 Ship's Master nor 231212 Ship's Engineer. Employers must employ migrants. Australian mariners must seek expensive overseas training to gain the required seetime. Many do not return to Australia.⁵
- **Migration.** Shipping is a global marketplace with international job opportunities. As the availability of Australian qualified seafarers decreases so the demand for overseas qualified Master Unlimited migrants increases. The Skilled Migration List includes the port occupations: Specialist Managers not elsewhere classified (nec) 139999 for Harbour Master and Deputy Harbour Master, Marine Surveyor 231215 (also known as Ship's Surveyor) and Marine Transport Professionals (nec) 231299 for the occupation Vessel Traffic Officer (VTO). A Fremantle shipping agent reported that most qualified applicants in 2021 were from India, China, United Kingdom and the Philippines.⁶
- **Fly In/Fly Out.** Some ports use Fly In/Fly Out (FIFO) staff due to workforce shortages. Examples include Marine Pilots who live in metropolitan WA, interstate or overseas e.g. in Indonesia or New Zealand. The difference in living conditions between remote and metropolitan areas affects the attraction of skilled workers. The remoteness of the Northwest region can be an obstacle to employment. Employers must decide on the cost of training local entrants or the characteristics of rostering non-residential, qualified, FIFO shift workers. COVID-19 may have long term effects on FIFO and living in the regions.⁷
- **Defence veterans.** Mapping the transferability of skills for Defence veterans would be well regarded by industry to determine suitable roles in Ports & Stevedoring. Qualified seagoing veterans may be employed internationally as global competition for maritime workers increases.⁸
- **Technology.** Technological changes will impact port operations. For example an automated container terminal or smart port will have sensors, cameras and devices for remote control of heavy machinery and automated port vehicles. Automated container weighing systems will reduce weighing times Remote controlled quay cranes will lower vessel completion times. Technological developments in cybersecurity, autonomous vessels, dynamic positioning, E-navigation and digitisation will affect the workforce size and skillsets. For example there will be a need for information control and data handling plus specialist operators and maintainers.⁹

- **Automation technology.** There is global pressure on international shipping companies to move to automation. Automation technology employs ‘systems thinking’ at macro level across an integrated logistics system. For example Scandinavian companies are trialling automated unmanned shipping with automated load and unload. Functioning examples of automation technology are Port Botany, NSW and Victoria International Container Terminal, VIC. The concept is that a Cargo Movement Coordinating Centre controls the loading and unloading of the shipping, road and train network strategically to create an integrated logistics system. Operationally sensors control vehicle and container movement. Long term data analytics provide predictive information to plan vessel, train and vehicle marshalling, scheduling and routing. Fremantle is currently a manual terminal. Note that manual refers to the systems not to the equipment. Automation technology will be important in the construction of Westport.¹⁰
- **Transition of occupations with technology.** There are emerging occupation changes related to technology. Streams include drone inspections, electronic security and port integrated logistics. Development continues in automated vessels and automated loading/unloading. These technologies will have transition stages before full automation. Development of this technology leads to role changes for Engineers and supporting technicians to analyse and react to data. Engineers will be required to defend automated systems from cyber-attack – For example the strategic value of iron ore exports from the Pilbara Ports to Australian GDP are a target for both manipulation of the stock market and state sponsored ‘grey zone’ cyber attacks on Australia.
- **Port Hedland Channel Risk and Optimisation Project.** The Channel Risk and Optimisation Project (CROP) at the Port Hedland commenced in 2017. The CROP investment has increased the channel depth to extend berthing windows for larger ships. This permits the multi-user port to operate a complex schedule to maximise access in a congested channel. An example is scheduling the WA iron ore and lithium concentrate exports. In 2019 the Port of Port Hedland earned biosecurity certification to allow direct maritime freight services into the Pilbara. CROP will increase the number of cruise ship berths. Naturally cruise activity will be delayed until international travel recovers from COVID-19. Long term the cruise ship outlook is dynamic¹¹
- **Rio Tinto Commercial Freight Shipping Service for Dampier.** Rio Tinto has secured the first Commercial Freight Shipping Service for Dampier. The Shipping service from Singapore to the Pilbara will deliver maintenance supplies for Rio Tinto iron ore operations. The container vessel is expected to allow local businesses to partner with Rio Tinto following biosecurity upgrades.¹²

Anticipated supply and demand for skills

- **Supply and demand for skills.** The key issue to the WA skills shortage is a lack of Ship’s Master ANZSCO 231213 as discussed above. Cost makes this training prohibitive. Most Skilled Migrants come from India, China, UK and the Philippines. Acute shortages in downstream land-side occupations are:
 - Ship’s Pilot - classified ANZSCO 231213 Ship’s Master
 - Harbour Master and Deputy Harbour Master - classified ANZSCO 139999 Specialist Managers not elsewhere classified (nec)
 - 231215 Marine Surveyor
 - Vessel Traffic Officer (VTO) - classified ANZSCO 231299 Marine Transport Professionals (nec)¹³
- **891113 Waterside Worker.** Ports & Stevedoring organisations are generally positioned as an employer of choice. They offer good employment conditions with low workforce turnover and stable stevedoring numbers. The IBIS World five-year forecast 2021-2026 for stevedoring services predicts demand to improve significantly. Naturally industry demand in WA is directly

related to international freight with Australia's principal trade partner China. For stevedore workforce numbers the anticipated increase in demand may be balanced by an increase in automation as international companies work towards automated container ports.¹⁴

The impact of COVID-19 on the workforce

- Australia's health response to the COVID-19 pandemic has been successful relative to comparable countries. This success has come at an economic cost. The restrictions to control the spread of the virus have caused economic disruption to business which has impacted the workforce. The economic recovery from COVID-19 in Australia continues but future economic conditions are uncertain. The supply chain remains vulnerable to short notice lockdowns in Chinese ports like Shanghai, Shenzhen, Ningbo-Zhoushan and Hong Kong.¹⁵
- In the workplace, Maritime and Ports & Stevedoring sectors provide all COVID-19 health and safety training to interact with ships. This training includes hygiene, the use of PPE and disinfection strategies. Port roles such as Ship's Pilots or Stevedores that engage with overseas vessels require advanced biosecurity training.¹⁶
- The pandemic has caused significant disruptions to supply chains, vessel operations and the capacity of vessels to carry passengers. Border closures disrupt the supply chain, employment and trading. Ports have been significantly impacted because they are an entry point for tourism and cargo. Obviously, seafarers move between ports of countries with severe COVID-19 issues. This risks personal infection and introducing COVID-19 to Australia. Consequently this imposes safety and quarantine restrictions for Ports & Stevedoring employees and employers in WA under the State of Emergency Declarations. Long term the pandemic stress may develop into workforce mental health issues.¹⁷
- Vital to the WA and Australian economy are Mining, Wheat plus Oil and Gas exports. Naturally activity in the Ports & Stevedoring sector is linked to this Maritime trade. Marine Vessel operators in Offshore Support continue to be concerned about the implications of closed borders and quarantine periods for their crews and FIFO rosters. The uncertainty created by quarantines and short notice lockdowns are a particular problem for multi-user ports that operate complex schedules to maximise access in congested channels. An example is scheduling the WA iron ore and lithium concentrate export Port of Port Hedland. Long term impact is to be determined and the situation is dynamic.¹⁸
- China is the major trading partner for Australia. In 2019 China purchased a third of Australia's total goods and services exports. Currently the effects of the COVID-19 outbreak have stabilised in Chinese trade figures. The long-term impact of the China-Australia trade tensions on WA ports and stevedoring industries are to be determined. However Australian exports of goods worldwide rose by 11% year-on-year in May 2021 with exports to China up 16%. Worldwide container shipping costs have surged in 2021 affecting retail prices. Reports of congestion in some Australian ports suggest shipping companies may be cancelling sailings and skipping Australian ports.¹⁹
- COVID-19 caused an initial reduction in imports and exports at ports like Fremantle and Port Hedland. Port productivity fell due to COVID-19 lockdowns, shipping delays caused by quarantine restrictions, decreased demand for goods, higher financial and regulatory costs. However demand remained for Ports and Stevedoring services. The impact was generally 'business as usual' under operating restrictions. Ports & Stevedoring was not as affected by job losses like sectors such as Retail. WA cargo ship movements have continued partly due to the proximity and turnaround time to Singapore.²⁰

Anticipated training needs of industry

- Stevedoring companies generally train in-house on a range of licences starting with LF - Light forklift. For example: CB - Bridge and gantry, CN - Non slewing crane, DG – Dogman, CD - Derrick crane, CP- Portal Boom Crane, RB - Basic rigger and WP - Elevated work platform. All port workers require a Maritime Security Identification Card (MISC).²¹ Qualifications include:
 - TLI30118 – Certificate III in Mobile Crane Operations
 - TLI40218 – Certificate IV in Mobile Crane Operations
 - TLI30219 – Certificate III in Stevedoring
- **Ship's Pilot, Harbour Master and Deputy Harbour Master.** The training pathway for a Ship's Pilot, Harbour Master and Deputy Harbour Master is the same as a Ship's Master: an AMSA Master Unlimited and experience as a Captain on a commercial vessel.²²
- **231215 Marine Surveyor.** Marine or Ship's Surveyors are generally transfers from the experienced seagoing workforce qualified AMSA Master Unlimited or Engineer Class 1. They require relevant seagoing experience to conduct audits. There is currently no recognised training qualification. However the Australasian Institute of Marine Surveyors has developed an unaccredited Diploma in Marine Surveying.²³

Challenges/opportunities in the training sector

- Apprenticeships and Traineeships are utilised in the Ports but not generally in the Stevedoring sector. Stevedore training tends to be in-house. The WA Defence Industry Pathways Program commencing July 2021 may provide trainees to Port & Stevedoring.
- Pilbara Ports Authority (PPA) has developed a maritime cadetship pathway for high school graduates to develop seagoing officers. The PPA have 4 marine cadets in this program.²⁴ One has graduated. Three are in training of which two are female.²⁵
- PPA has proposed the development of a maritime training college and a new shipping channel simulator for Ship's Pilot training based in the west end of the Port of Port Hedland. They have looked at the establishment of a helicopter underwater escape training facility to alleviate the cost and time of travelling to Perth for this training.²⁶

Career pathways and graduate outcomes

- Relevant training options and courses available and subsidised under Jobs and Skills WA are:

Eligible traineeships:

- Stevedoring (Level 2) TLI20319 Certificate II in Stevedoring
- Stevedoring (Level 3) TLI30219 Certificate III in Stevedoring
- Warehousing Operations (Level 2) TLI20419 Certificate II in Warehousing Operations
- Warehousing Operations (Level 3) TLI30319 Certificate III in Supply Chain Operations
- Warehousing Operations (Level 4) TLI40619 Certificate IV in Warehousing Operations

Priority Industry Qualifications:

- TLI20119 Certificate II in Logistics
- TLI30319 Certificate III in Supply Chain Operations
- TLI40118 Certificate IV in Transport Scheduling
- TLI42615 Certificate IV in Train Driving

Job Trainer:

- TLI50219 Diploma of Logistics
- All the port authorities acknowledge traineeship, work placement, indigenous and gender training pathways in accordance with Government policies. For example Pilbara Ports Authority (PPA) has a Youth Training Strategy.²⁷ This includes:
 - an apprentice Program for heavy fabrication, welding, electricians and mechanical fitters
 - a traineeship program for Finance and Information Communication Technology
 - a graduate program Engineering, Development & Trade, Mapping & Data
 - School Based Traineeships Certificate II in Engineering and Certificate II in Government
 - an Aboriginal Traineeship Program as part of the Public Sector Aboriginal Traineeship Program
 - short term experience for school students and casual vacation positions.

References

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- ¹⁹ Australia-China Trade Tensions: The Great Escape? Rajiv Biswas, Asia Pacific Chief Economist, IHS Markit 9 July 2021 <https://ihsmarkit.com/research-analysis/australiachina-trade-tensions-the-great-escape-july21.html> ABC News Shipping cost surge raises retail price pressures and inflation risks, Sue Lannin, 10 Jun 2021 <https://www.abc.net.au/news/2021-06-10/prices-consumers-shipping-ports-trade/100203086>
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