Western Australian Marine Science Blueprint

Online Appendix 9: Western Australian Ports and Shipping Sector

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As discussed in the Blueprint, this Appendix provides an overview of seaborne logistics in Western Australia.

1. Overview of Ports and Shipping in Western Australia

While seaborne trade to and from Western Australia, and indeed across the Indian Ocean more generally, is not insignificant, it is substantially less than is the case for the Pacific Ocean and particularly the North Atlantic Ocean. This is illustrated in Figure 1\(^1\) below.

![Global Shipping Routes (2010) (Need a license to use this diagram)](image)

**Figure 1 – Global Shipping Routes (2010) (Need a license to use this diagram)**

Nevertheless, as discussed in the Blueprint, the Indian Ocean has become strategically important for energy security, energy logistics and general freight logistics. Indeed, over the decade prior to 2008-09, vessel movements from Western Australian ports grew from 6,185 to 13,824 per annum, representing an increase of 123 percent. Shipping activity around the entire Australian coastline grew by 130 percent over the same period.

Figure 2\(^2\) below illustrates the growth in the volume of shipping on the Australian coastline over the decade preceding 2008-09.

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Bulk carriers account for more than 60 percent of the ships that visit Australia and 45 percent of port visits. Indeed more than 50 percent of the world’s fleet of Cape Class Vessels visit Australian ports each year³.

As illustrated in Figure 3⁴ below, there are a total of eight main regional ports operated by port authorities in Western Australia. These are the Ports of Esperance, Albany, Bunbury, Fremantle, Geraldton, Dampier, Port Hedland and Broome. In addition there are 13 ports operated by other entities on the mainland coast as well as ports on the Christmas and Cocos (Keeling) Islands. Furthermore, as discussed throughout this section there are a number of additional ports that are planned, primarily in the Pilbara and Midwest Regions.

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³ Australian Maritime Safety Authority (2010), Navigational Services in Australian Waters 2010-2025, Australian Government, Canberra
⁴ Adapted from Ports Australia (2014)
The main multi-user commercial ports are Esperance, Albany, Bunbury, Fremantle, Geraldton, Dampier, Port Hedland and Broome. The total number of vessels visiting these ports has grown from approximately 9,400 in 2009 to almost 13,200 in 2013. As illustrated in Figure 4 below, most

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5 Ports Australia (2014)
of this growth, and approximately 50 percent of current traffic revolves around the Port of Dampier.

![Chart showing vessel visits to major ports in Western Australia from 2009 to 2013.](chart)

**Figure 4 – Vessel Calls at Major Western Australian Ports**

### 2. Port of Dampier

As one of the main origins for iron exports from the Pilbara region and the main origin for LNG and LPG cargos from production from the offshore Carnarvon Basin, the Port of Dampier is one of Australia’s largest bulk commodity export ports. Total tonnage through the Port of Dampier has grown from 140.8 million tonnes in 2008-09 to 180.4 million tonnes in 2012-13. It is also Western Australia’s busiest port, currently accounting for approximately 50 percent of total vessel visits to Western Australia. This is driven by the activity around LNG and iron exports, as well as the marine services sector that supports assets in the Carnarvon Basin and general cargo that supports onshore resources projects in the region.

Salt is also exported from the Port of Dampier and the main imports are general cargo, ammonia and petroleum products.

Table 1 below summarises the OHS performance of the Port of Dampier.

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6 Dampier Port Authority (2013), *Annual Report 2013*

7 Dampier Port Authority (2013), *Annual Report 2013*
<table>
<thead>
<tr>
<th>Indicator</th>
<th>2010-11</th>
<th>2011-12</th>
<th>2012-13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Fatalities</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lost Time Injury and/or Disease Incidence Rate</td>
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<tr>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Percentage of Managers Trained in OHS and Injury Management</td>
<td>25</td>
<td>34</td>
<td>80</td>
</tr>
</tbody>
</table>

Table 1 – Port of Dampier OHS Performance

3. Fremantle Port

The Port of Fremantle is the main gateway port for particularly general cargo and containerised cargo in Western Australia. Over the past five years, total trade through the Port of Fremantle has been in the range of 25 to 27 million tonnes per annum and containerised trade has grown from approximately 550 TEUs to 650 TEUs. The number of vessel visits has also grown from approximately 1,800 to approximately 2,100 per annum.8

Main imports to the Port of Fremantle are ammonia, ammonia nitrate, caustic soda, cement clinker, fertiliser products, iron and steel products, manufactured goods, motor vehicles and heavy motorised equipment, mineral sands, petroleum products and urea. Main exports include ammonium nitrate, ammonia, livestock, motor vehicles and heavy equipment, waste paper and wheat.

Trade to and from the Port of Fremantle occurs with China, Germany, Indonesia, Japan, Malaysia, Singapore, Thailand, United States and Vietnam.

In 2012-13 the Port of Fremantle experienced 14 lost time injuries.

4. Port Hedland

Port Hedland is Western Australia’s second largest bulk commodity port with 288.4 million tonnes of mostly iron ore exported in 2012-13 through the port. Throughput at Port Hedland has grown from 159 million tonnes in 2009 to 288 million tonnes in 2013.

Other exports through Port Hedland include chromite, copper, manganese, scrap, salt and livestock. Imports through Port Hedland include ammonium nitrate, bitumen, caustic soda, cement, petroleum products and sulphuric acid.

The main countries with which Port Hedland trades include Pakistan, Singapore, China, Taiwan, Philippines, South Korea, Japan and within Australia.

8 Fremantle Port Authority (2013), Annual Report 2013
Port Hedland experienced nil lost time injury and/or disease severity rate in 2010-11 and 2011-12.

5. Port of Broome

The Port of Broome has one of the highest levels of vessel traffic of all regional Western Australian ports, second only to Dampier and Port Hedland. However, approximately 50 percent of this vessel traffic is comprised of small commercial vessels that support the pearling and fishing and tourism charter sectors. However, vessel traffic has been increasing at Broome over the past few years as a result of increased PSV style vessels supporting exploration and development campaigns in the Browse Basin. In addition to general cargo imports, the main import through the Port of Broome is petroleum products that are distributed by BP and Shell throughout the West Kimberley region. Exports are primarily petroleum products and livestock.

6. Port of Geraldton

Traditionally an agricultural port focused primarily on livestock and grain exports, the Port of Geraldton has, over the past few years, developed an additional iron ore export operation based principally on the production of ore from the Karara Mine in the Midwest region. As a result, throughput at the port has grown from approximately 8 million tonnes per annum in 2009 to almost 15 million tonnes per annum in 2013. Other exports through the Port of Geraldton include animal feed, barley, canola, copper concentrate, livestock, mineral sands, nickel concentrate and wheat. The main imports through the Port of Geraldton are coals, fertiliser products, mineral sands, petroleum products, soda ash and urea.

Geraldton trades with a wide range of nations including Australia, Belgium, Canada, China, Germany, Indonesia, Iran, Iraq, Japan, Malaysia, Mozambique, Mexico, Netherlands, Oman, Philippines, Saudi Arabia, Singapore, South Africa, South Korea, Spain, Sudan, Taiwan, Thailand, Turkey, UAE, United Kingdom, United State and Yemen.

7. Bunbury Port

During 2012-13 total trade through the Port of Bunbury reached 15.3 million tonnes. Main exports are alumina, copper concentrate, iron concentrate, mineral sands, petroleum products, recycled oil, timber products, silica sand, spodumene and woodchips. Main imports include caustic soda, cement clinker, fertiliser products, methanol, mineral sands, petroleum products, potash and vegetable oil.

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9 Broome Port Authority (2013), Annual Report 2013
10 Geraldton Port Authority (2013), Annual Report 2013
8. **Esperance Port**

Traditionally an agricultural port with supplementary trade associated with base metals projects in the Goldfields region, the Port of Esperance is becoming an increasingly important minerals port. In addition to exports of barley, wheat, lupins, peas and canola, the port is exporting increasing tonnages of iron ore, nickel, nickel hydroxide and until more recently, lead. Main imports include petroleum products, fertiliser products, sulphur and manganese oxide.

9. **Albany Port**

The main exports through the Port of Albany are agricultural produce including barley, canola, lupins, oats and wheat, forestry products including biomass pellets, pine logs and woodchips and mineral products in the form of silica sand. Main imports include fertiliser products, petroleum products and urea.

10. **Planned Ports and Ports under Construction**

10.1. **Port of Ashburton**

In 2009, the State Government approved a State Agreement with Chevron to develop community, infrastructure and service development necessary to support Chevron’s Wheatstone Project within the Ashburton North Strategic Industrial Area, southwest of Onslow (see Appendix **Error! Reference source not found.**). The infrastructure development includes an 8,000 hectare hydrocarbon precinct that will host natural gas processing infrastructure, associated industry and downstream processing facilities, common user coastal area facilities and an eastern infrastructure corridor.

At the completion of the Wheatstone foundation project management of the Materials Offloading Facility, channel and navigational aids will transfer to the Pilbara Port Authority and form a key multi-user facility to augment trade within the Pilbara Region. When the transfer of management occurs the Pilbara Port Authority will invest in additional port infrastructure rendering the Port of Ashburton operational.

The planned Port of Ashburton facility is illustrated in Figure 511 below.

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11 Dampier Port Authority (2013), *Annual Report 2013*
The Port of Anketell site was identified by the Western Australian Government for a multi-user deep water port and industrial precinct in 2010. Associated with the site is an infrastructure corridor and port industrial precinct to support iron ore exports of approximately 400 million tonnes per annum. Planned marine infrastructure includes a causeway, two double-sided iron ore load out jetties, a MOF, liquid import berth and a general cargo berth. Figure 6\(^\text{12}\) below illustrates the Port of Anketell site.

\[\text{Figure 5 – Port of Ashburton}\]

\[\text{12 Dampier Port Authority (2013), Annual Report 2013}\]
10.3. Oakajee Port and Rail Project

The existing port in the Midwest, the Port of Geraldton, has historically been the State’s second largest grain export port. However, today more than half of the product exported through the Port of Geraldton is minerals and iron ore. The Port of Geraldton can only accommodate Panamax Class vessels (70,000 deadweight tonnes), significantly limiting its capacity as an iron ore export port.

The Oakajee Port and Rail (OPR) Project is being developed to support a range of industries, but principally for the export of iron ore production from the Midwest operations. The Midwest iron ore industry will have an estimated short-to-medium term export capacity requirement of between 30mtpa and 70mtpa, albeit if iron ore prices remain at current levels this is unlikely to eventuate.
OPR involves a deepwater port and associated industrial estates located approximately 22 kilometres north of Geraldton, as well as 550 kilometres of heavy haulage rail. The port will accommodate Cape Class vessels (up to 180,000 deadweight tonnes) and will have an iron ore export start-up capacity of 45 mtpa.

Once developed, the Oakajee Port and Industrial Estate will account for almost 50 percent of the 4,900 hectares of land in the Midwest that is zoned for industrial purposes. The industrial estate includes:

- A strategic core industrial area (1,134 hectares);
- Two general/support industry areas (190 hectares);
- A coastal/port user zone (1,002 hectares); and
- An industrial buffer (4,071 hectares).

The OPR project is a joint venture between Mitsubishi Development Corporation and Crosslands Resources, a Midwest iron ore company jointly owned by Mitsubishi and Murchison Metals Limited. The concept of the Oakajee Port dates back decades. However, since 1997, the Western Australian Government has invested A$30 million in environmental investigations, planning and land acquisitions associated with the OPR. In 2009, the Government of Western Australia entered into a State Development Agreement with OPR to develop the project. The State Government of Western Australia and the Federal Government have each committed A$320 million to the project. The project was initially intended to commence construction in 2010-11, with first exports in 2013-14.

Figure 7 below, illustrates the planned layout for the Oakajee Port.

**Figure 7 – Planned Layout for Oakajee Port**

In November of 2012 Mitsubishi substantially reduced its workforce at OPR and halted work, citing uncertain market conditions as the reason for the slow-down in development of OPR.
10.4. James Price’s Point
A port is also planned for James Price’s Point, north of Broome. However, there is currently an absence of a development driver for this project to progress.