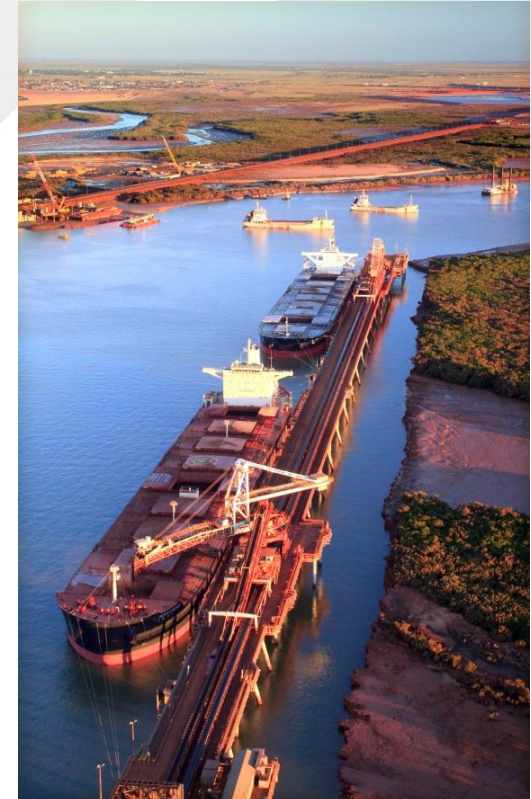


Facilitating trade growth and optimising operations at Port Hedland

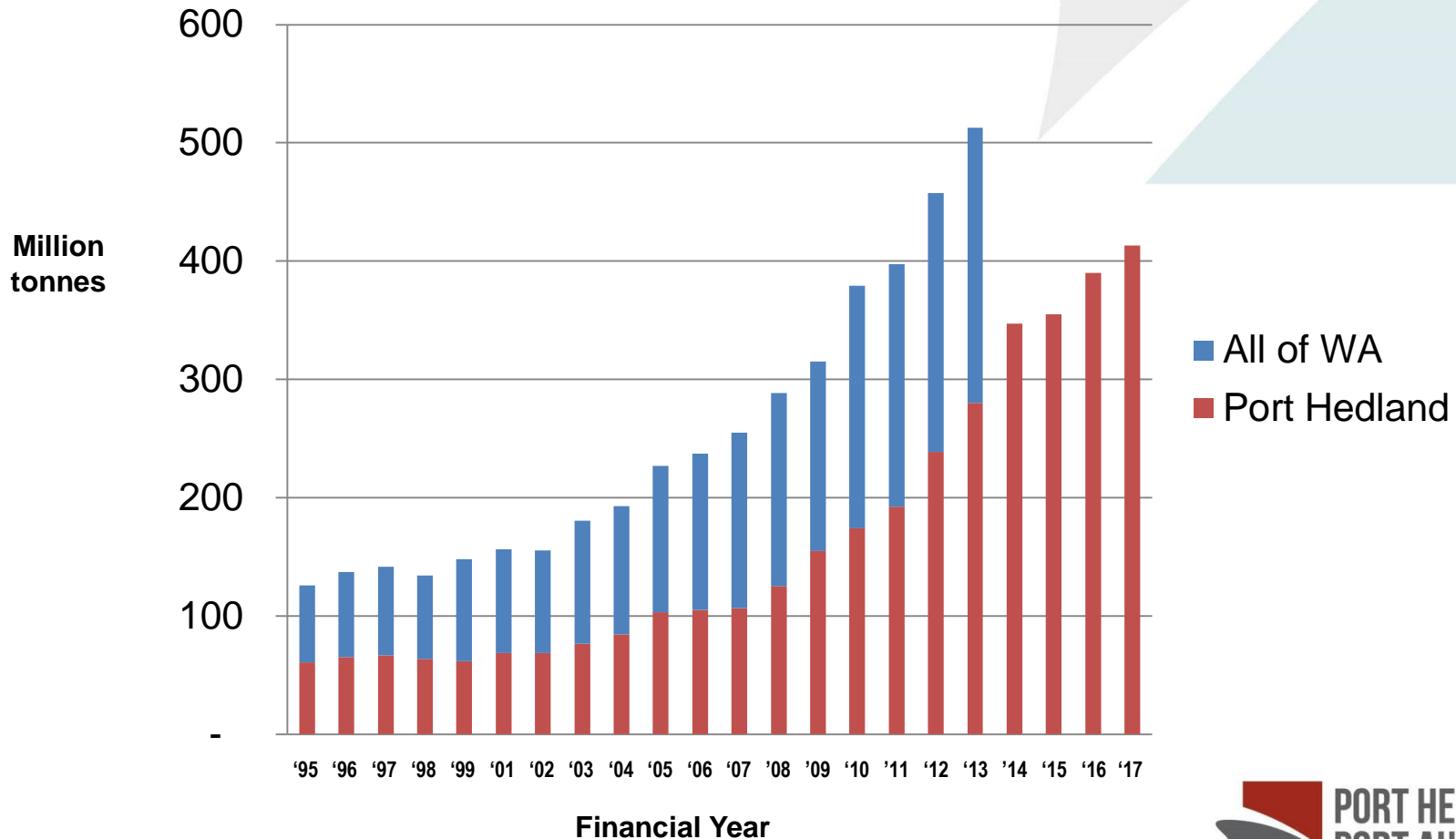


Port Hedland - Historical trade growth

- 2012 -13 throughput 288.4Mt (280.2Mt iron ore) → forecasting 340+Mt in 2013 -14 (half year = 173Mt)
- Average 20% annual growth 2009 – 2014
- 4140 vessel movements in 2012 -13 → forecasting 4800+ movements in 2013 -14
- WA produces over one quarter of the world's iron ore (26% in 2012). WA export volumes account for 42% of global shipments
- Port Hedland exports 24% of ALL global iron ore exported by sea → forecasting approx 27% in 2014



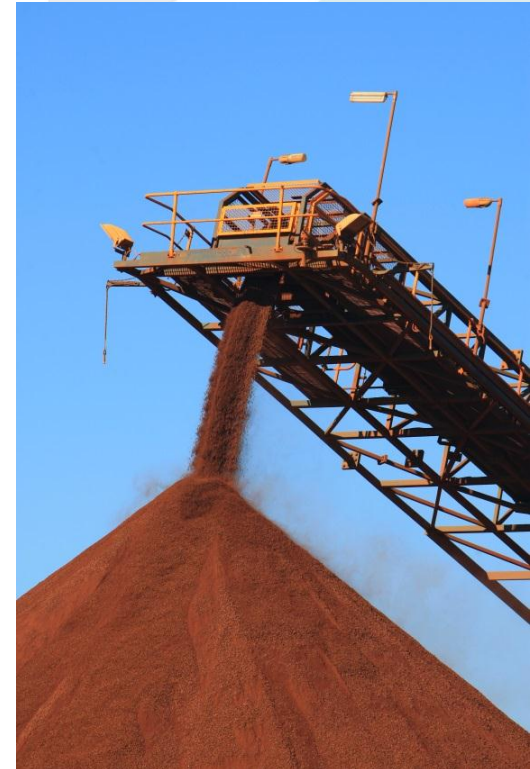
Port Hedland - Iron ore export volumes



Port Hedland - Economic importance

- WA mining royalties forecast for 2013 -14 = \$5.8B → \$3B derived through PH exports
- Total value of exports for 2014 FY = \$40B *

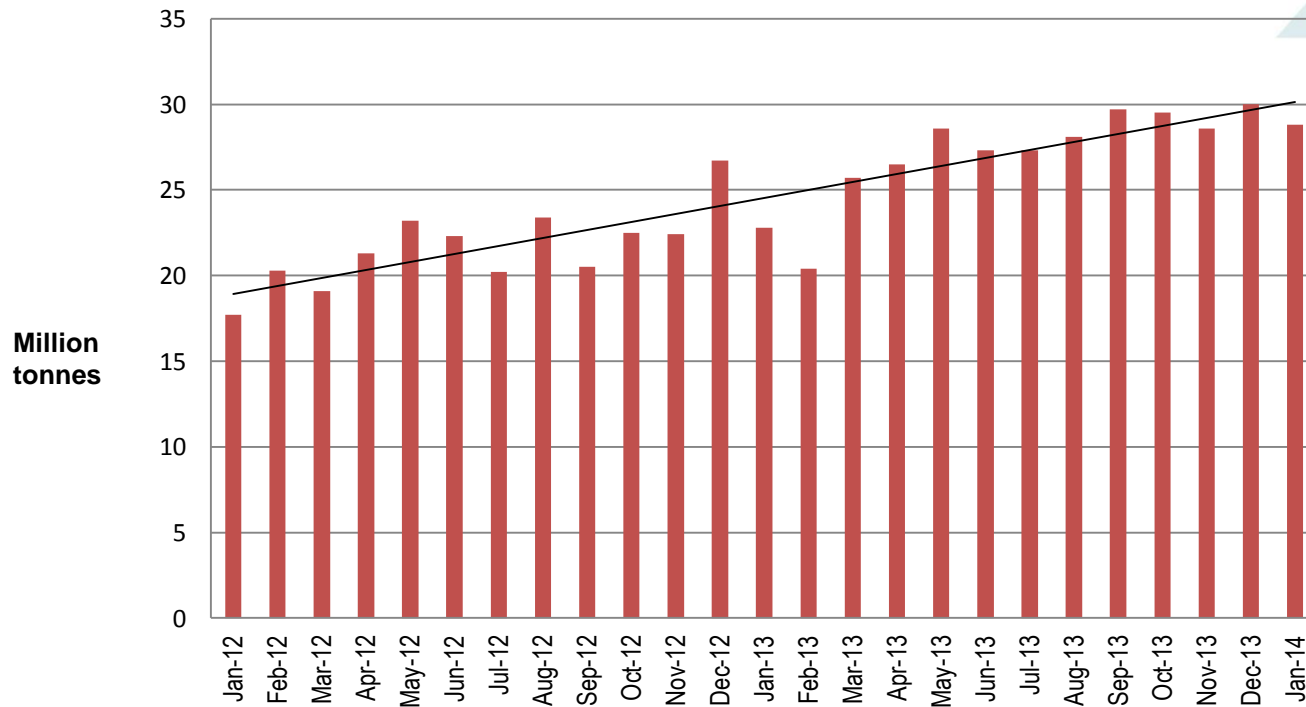
* Iron ore price at \$110/tonne



Port Hedland – Operational performance

Monthly throughput trending upwards - reached 1M tonnes per day by Dec 2013

Monthly throughput

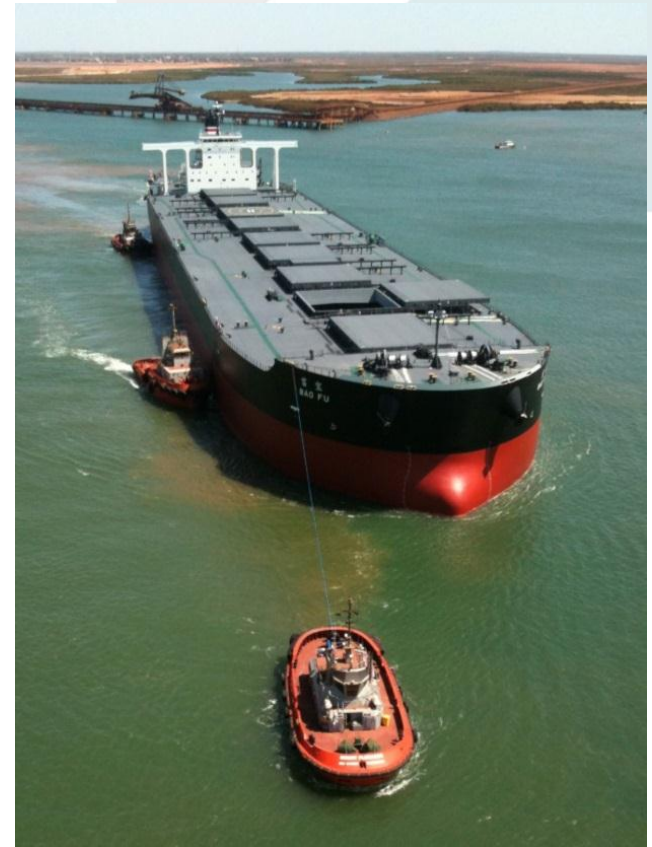


Port Hedland – Operational performance

Progressive growth of tonnes on a tide

Single Tide Milestones:

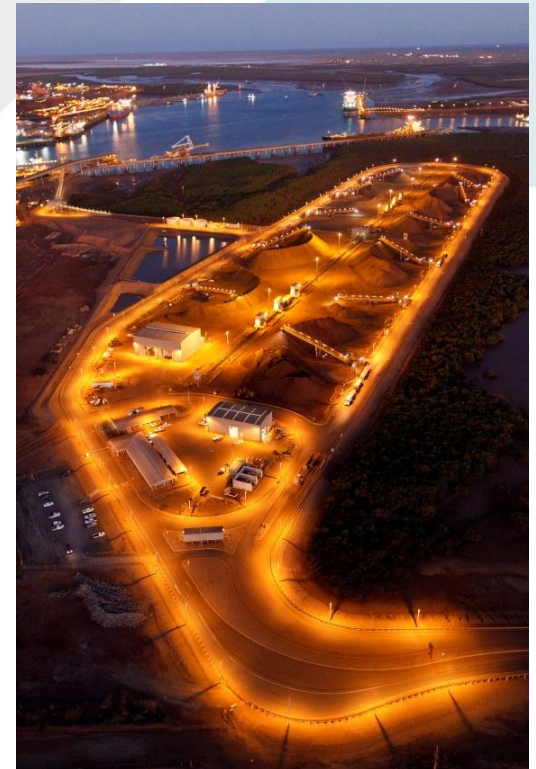
- 26 June 2009 (5 cape size) - 841,062 t
- 4 June 2012 (5 cape size) - 947,775 t
- **18 June 2012 (6 cape size) - 1,040,062 t**
- 15 January 2013 (6 cape size) - 1,059,740 t
- 8 March 2013 (5 cape size) - 1,007,164t
- 25 October 2013 (5 cape, 1 panamax) - 1,062,515t
- 5 November 2013 (6 cape size) - 1,056,597t
- 17 November 2013 (6 cape size) - 1,083,210t
- 24 November 2013 (6 cape size) - 1,065,483t
- 17 December 2013 (6 cape size) - 1,052, 446t
- 12 March 2014 (6 cape size) – 1,006,774t
- 24 March 2014 (5 cape size) – 1,014,932t



Port Hedland – Operational performance

Facilitating larger vessels

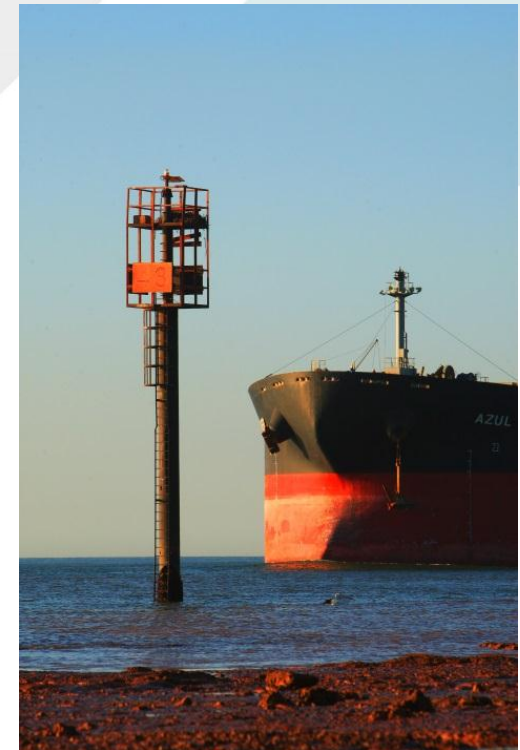
- Fleet profile moving to larger vessels → WozMax/ PH Max/ PSU Series/ N Series/ CSB Series
 - 2009/10: 10% of fleet > 200k DWT, nil > 250k DWT
 - 2013/14: 33% of fleet > 200k DWT, 6% > 250k DWT
- Recent DWT milestones at Port Hedland:
 - 4 October 2012 - Daniel N (297,359t)
 - 15 November 2012 - Abigail N (297,430t)
 - 5 November 2013 - Wugang Haoyun (299,385 t)
 - 17 December 2013 - CSB Talent (315,041t)
 - 1 February 2014 - CSB Glory (315,063t)



Port Hedland – Operational performance

Increased vessel sailing tonnages

- **Largest single iron ore shipments**
 - 15 Nov 2011 - Wugang Innovation (247,906 t)
 - 15 Nov 2012 - Abigail N (254,010 t)
 - 5 Dec 2013 - Hugo N (263,962 t)
- **Maximum sailing draft**
 - Increased from 19.05m (Abigail N, 15 Nov 2012) to 19.65m (Hugo N, 5 Dec 2013)



Operational enhancements at Port Hedland

Tidal Range: 7m **Current:** 2-3 knots **Depths:** 14.8m (IH), 15m -16.6m (channel)

Dynamic Under Keel Clearance System

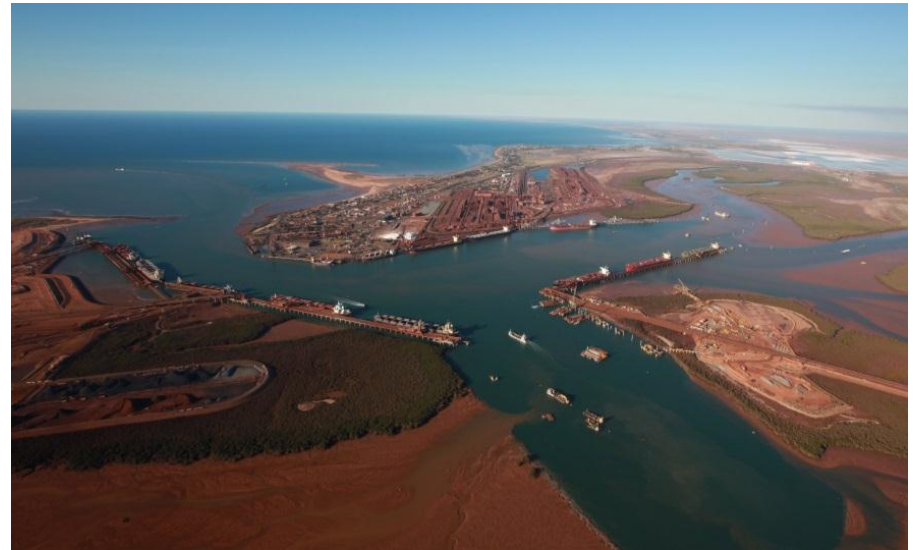
- Provides for minimum 90cm clearance
- Upgrades to DUKC system (Series V)
- Live Tidal Monitor Information

Specialised Dredging Campaign

- Targeted dredge campaign:
 - Removal of siltation allowance
 - High spot dredging in Inner Harbour
 - Revision of tidal model



Net average benefit = 71cm



Operational enhancements at Port Hedland

Increased tidal departure window as a result of Port enhancements

- Increased departure window from 3.5 hours to 4.5 hours
- with 30min gaps
- Capacity to increase number of vessel departures from 6 to 8

Increased towage requirements and provisions

- On departure, four tugs escort to Hunt Point, three tugs escort to Beacon No. 30/31
- Channel width at Hunt Point = 183m
- Nineteen tugs required to manage $\geq 460\text{Mtpa}$
- In 2009: 10 tugs (stern-drive) → 2014: 15-16 tugs (8-9 rotor tugs)



Future PHPA Initiatives

Channel Enhancements

- Channel escape areas - shorter departure windows (30mins → 20mins) (pending)
- 400m survey outside channel (complete)
- Real time data feed to Portable Pilot Units (complete)
- Improved tidal network & DUKC Series V (complete)



- Significantly improved channel transit management

Review of Port Capacity

- Dynamic modelling underway (pending)





Utah Facility - Stockyard 1

Utah Multi User Facility

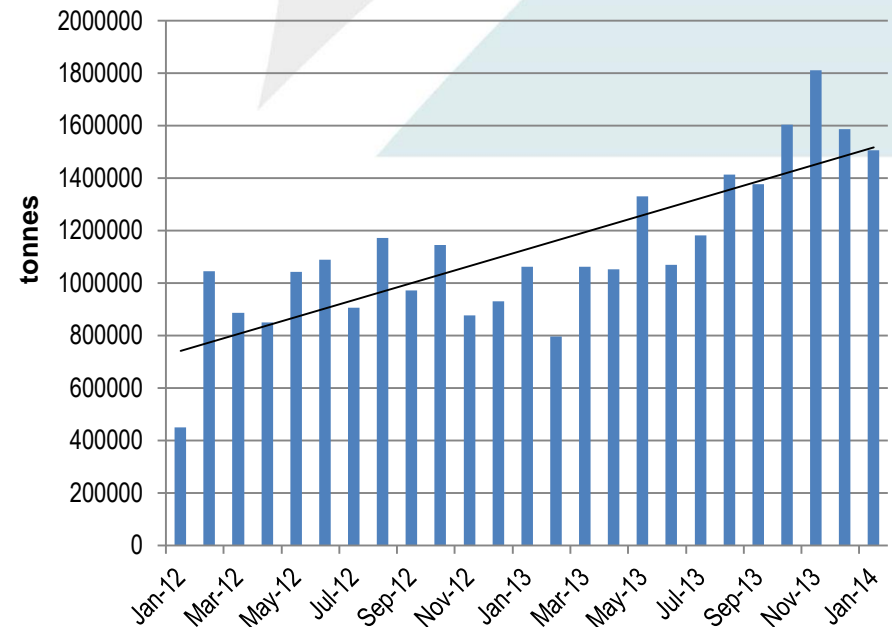
Increase in product haulage rate:

- 13 July 2013 - 448 quads* in 24 hours
- 26 Oct 2013 - 500 quads* in 24 hours
- 31st November - 626 quads* in 24 hours

Optimising out-loading performance:

- Cavotec mooring system - optimised berthing times
- Stockyard 2 developed - increased throughput
- In 2011 the average GLR was 2500 tph, → currently achieving GLR's of 3,500 tph.

Utah Facility monthly throughput



*Quad = Quadruple Trailer Roadtrain with 110 tonne payload

Ports Review – Pilbara Ports Authority

Consolidates all ports across (11 in total) the Pilbara region

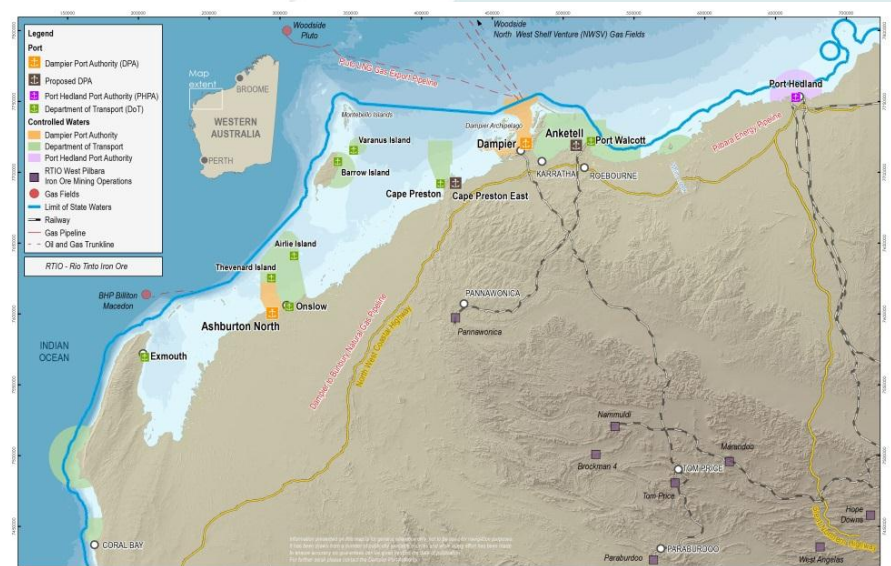
Strategic Objectives

Operational Benefits:

- Single entity oversight of all shipping across the Pilbara region
- Leverage operational capabilities, e.g. Dredge Manager, and engineering oversight

Development Benefits:

- Single point of contact for proponents
- Streamlining of processes, e.g. environmental and DA processes



Ports Review – Pilbara Ports Authority

Port Hedland



Dampier

