**Proposed action title:** Port of Port Hedland: Channel Marker Replacement Project

# 1 Summary of proposed action

## 1.1 Short description

Pilbara Ports Authority (PPA) proposes to remove and replace 33 existing channel markers, remove 2 channel markers which are no longer required and install 2 new channel markers to improve navigational safety within the Port of Port Hedland. The project is termed the Channel Marker Replacement Project (CMRP).

The Port of Port Hedland's main shipping channel is 42 kilometres (km) long and is marked by a comprehensive mix of aids to shipping navigation including lateral beacons and leading lines (collectively called channel markers) (see Attachment 2). The channel markers play a pivotal role in managing the risks associated with ever increasing numbers of shipping movements in and out of the harbour and channel. The current channel markers are at the end of their design life and must be removed and replaced for safety reasons. Failure to remove and replace the deteriorated channel markers poses a risk to navigational safety.

The CMRP is intended to mitigate this operational risk and involves:

- Removal and replacement of 33 open ended tubular steel piles (like for like) directly adjacent to the existing shipping channel within Port Limits (Attachment 1);
- Removal of two (2) open ended tubular steel piles directly adjacent to the existing shipping channel within Port Limits (Attachment 1); and
- Installation of two (2) open ended tubular steel piles at new locations directly adjacent to the existing shipping channel within Port Limits (Attachment 1).

The existing channel markers will either be: removed and replaced with a new marker; or a new pile will be sheathed around/over the existing pile and driven to secure the pile in place. In the event a channel marker cannot be removed or sheathed, the pile will be cut off 0.5 metres (m) below the sea bed and left *in situ.* The replacement channel marker will be placed within 10 m of the *in situ* location of the existing channel marker base.

1.2 **Latitude and longitude**

**Proposed Channel Marker Locations**

| Channel Marker Name | Longitude | Latitude |
|---|---|---|
| *Replacement channel markers* | | |
| B15 | 118° 30.488' E | 20° 10.402' S |
| B16 | 118° 30.625' E | 20° 10.332' S |
| B17 | 118° 31.036' E | 20° 11.322' S |
| B18 | 118° 31.171' E | 20° 11.255' S |
| B19 | 118° 31.297' E | 20° 11.763' S |
| B20 | 118° 31.444' E | 20° 11.663' S |
| B21 | 118° 31.651' E | 20° 12.134' S |
| B22 | 118° 31.761' E | 20° 12.034' S |
| B23 | 118° 32.172' E | 20° 12.667' S |
| B25 | 118° 32.936' E | 20° 13.462' S |
| B26 | 118° 33.034' E | 20° 13.382' S |
| B27 | 118° 33.548' E | 20° 14.101' S |
| B28 | 118° 33.646' E | 20° 14.018' S |
| B30 | 118° 34.211' E | 20° 14.611' S |
| B31 | 118° 34.071' E | 20° 14.696' S |
| B33 | 118° 34.469' E | 20° 15.472' S |
| B35 | 118° 34.768' E | 20° 16.109' S |
| B36 | 118° 35.232' E | 20° 16.770' S |
| B37 | 118° 35.091' E | 20° 16.812' S |
| B38 | 118° 35.318' E | 20° 17.044' S |
| B39 | 118° 35.146' E | 20° 17.063' S |
| B40 | 118° 35.313' E | 20° 17.326' S |
| B41 | 118° 35.148' E | 20° 17.317' S |
| B42 | 118° 35.209' E | 20° 17.717' S |
| B43 | 118° 35.065' E | 20° 17.665' S |
| B44 | 118° 35.006' E | 20° 18.082' S |
| B45 | 118° 34.883' E | 20° 17.992' S |
| B46 | 118° 34.663' E | 20° 18.410' S |
| B47 | 118° 34.578' E | 20° 18.270' S |
| B48 | 118° 34.513' E | 20° 18.545' S |
| Spoil Ground Rear | 118° 35.809' E | 20° 17.292' S |
| Newman Front | 118° 35.177' E | 20° 15.708' S |
| Newman Rear | 118° 35.470' E | 20° 16.015' S |
| *New channel markers* | | |
| Goldsworthy Front (New) | 118° 35.432' E | 20° 17.349' S |
| Spoil Ground Front (New) | 118° 35.302' E | 20° 17.742' S |
| *Decommissioned and removed channel markers* | | |
| Goldsworthy Front | 118° 35.525' E | 20° 17.544' S |
| Goldsworthy Centre | 118° 35.617' E | 20° 17.740' S |
| Datum: GDA 1994 MGA Zone 50 | | |

1.3 **Locality and property description**

The Port of Port Hedland is a single channel port located approximately 1,650 km north of Perth, Western Australia. The project is located across both Commonwealth and State waters, within the port limits of the Port of Port Hedland.

35 channel markers will be installed in marine waters within port limits. Of those:

- 11 are located in Commonwealth Waters; and
- 24 are located in State Waters (see Attachment 1).

| | | |
|---|---|---|
| 1.4 | **Size of the development footprint or work area (hectares)** | The channel markers will be installed in 35 discrete locations (33 existing locations where possible and two new locations), each having an estimated footprint of 1.5 square metres ($m^2$). The combined disturbance footprint is approximately 0.005 hectares (maximum). |
| 1.5 | **Street address of the site** | Not applicable |
| 1.6 | **Lot description** | Not applicable |

1.7 **Local Government Area and Council contact (if known)**
Not applicable

1.8 **Time frame**
The CMRP is scheduled to commence in December 2017. The channel markers will be removed and replaced progressively one by one over a 12 month period. This timeframe is considered conservative in consideration of transit times between locations, potential weather delays, shipping movements and restrictions and geotechnical conditions that may be encountered during implementation of the project.

The time required to install a new or replacement channel marker is expected to average 1 working day. The time required to remove an existing channel marker is expected to average 2 working days. On average, 3 working days at any one site.

| | | | |
|---|---|---|---|
| 1.9 | **Alternatives to proposed action** Were any feasible alternatives to taking the proposed action (including not taking the action) considered which are not proposed? | X | No.<br>End of design life of existing channel markers and must be replaced to continue safe navigation of vessels through the existing shipping channel. |
| | | | Yes, please also complete section 2.2 |
| 1.10 | **Alternative time frames, locations or activities** Does the proposed action include alternative time frames, locations or activities? | X | There are no alternative locations, timeframes or activities for this project. |
| | | | |
| 1.11 | **Commonwealth,** | X | No |

| | | | |
|---|---|---|---|
| | **State or Territory assessment**<br>Is the action subject to other a Commonwealth, State or Territory environmental impact assessment? | | Yes, please also complete section 2.5 |
| 1.12 | **Component of larger action**<br>Is the proposed action a component of a larger action? | X<br><br> | No<br><br>Yes, please also complete section 2.7 |
| 1.13 | **Related actions/proposals**<br>Is the proposed action related to other actions or proposals in the region? | X<br><br> | No<br><br>Yes, provide details: |
| 1.14 | **Australian Government funding**<br>Has the person proposing to take the action received any Australian Government grant funding to undertake the proposed action? | X<br><br> | No<br><br>The proposed action has been provided funding by the State Government through a port improvement levy. |
| 1.15 | **Great Barrier Reef Marine Park**<br>Is the proposed action inside the Great Barrier Reef Marine Park? | X<br><br> | No<br><br>Yes, please also complete section 3.1 (h), 3.2 (e) |

# 2 Detailed description of proposed action

## 2.1 Description of proposed action

Pilbara Ports Authority (PPA) proposes to replace 33 existing channel markers, remove 2 channel markers which are no longer required and install 2 new channel markers to improve navigational safety within the Port of Port Hedland.

The Port of Port Hedland is the world's largest bulk export port. PPA facilitates approximately $100 million of trade through the Port of Port Hedland every day, which currently requires the safe and efficient management of approximately 3,000 vessel visits to the port each year. At present large vessels carrying iron ore can only reach the deep waters of the Indian Ocean using the existing 42 km long shipping channel, which is unidirectional and tidally constrained.

The primary means of navigation along the shipping channel and through the harbour entrance is achieved using 70 visual channel markers, which are lit during night time operations. These channel markers identify the channel boundaries and provide directional assistance in guiding the pilots through the shipping channel at the Port of Port Hedland. PPA currently manage and maintain a total of 55 of these channel markers with the remaining 15 channel markers managed and maintained by the Australian Maritime Safety Authority. Of the 55 channel markers under PPA control, 38 are located offshore and 17 are land based. Of the 38 offshore channel markers, 26 are located in State waters with the remainder (12 channel markers) being located in Commonwealth waters within Port Limits (see Attachment 1).

The channel markers play a pivotal role in managing the risks associated with ever increasing number of shipping movements in and out of the harbour and channel. Currently these channel markers are between 28 and 42 years old, in various states of deterioration and have reached the end of their design life. As a result, PPA must replace the existing channel markers with new markers, in order to mitigate the risk associated with the deteriorating structural integrity and reliability of the existing channel markers.

The project involves:

- Replacement of 33 open ended tubular steel piles (like for like) directly adjacent to the existing shipping channel within Port Limits (Attachment 1);
- Removal of two (2) open ended tubular steel piles directly adjacent to the existing shipping channel within Port Limits (Attachment 1); and
- Installation of two (2) new open ended tubular steel piles directly adjacent to the existing shipping channel within Port Limits (Attachment 1).

The existing channel markers will either be: removed and replaced with a new marker; or a new pile will be sheathed around/ over the existing pile and driven to secure the pile. In the event a channel marker cannot be removed or sheathed with a new pile, the pile will be cut off 0.5 m below the sea bed and left *in situ.* The replacement channel marker will be placed within 10 m of the existing location.

The new channel markers will be driven by a pile hammer until the required depth is achieved. If pile refusal occurs, piles will be advanced using equipment such as drill equipment.

Two existing channel markers, no longer required as part of safe vessel navigation, will be removed and not replaced.

## 2.2 Feasible alternatives to taking the proposed action

The "no action" alternative to undertaking the proposed action is not an option in this instance. The current channel markers are at the end of their design life and must be replaced for safety reasons. Failure to replace the deteriorated channel markers poses a potential risk to the safe navigation of vessels. The loss of one or a combination of channel markers may result in the suspension of shipping operations, or in the worst case, a bulk cargo vessel running aground.

### 2.3 Alternative locations, time frames or activities that from part of the referred action

Not applicable.

### 2.4 Context, including any relevant planning framework and state/local government requirements

The project is located within Port Limits.

PPA has consulted with the Town of Port Hedland, Western Australian Office of Water and Environmental Regulation and the Western Australian Department of Biodiversity Conservation and Attractions.

Relevant matters under the Commonwealth *Biodiversity and Conservation Act 1999* (EPBC Act) related to the activities described herein are: listed threatened species; and migratory species.

### 2.5 Environmental impact assessments under Commonwealth, State or Territory legislation

*Environmental Protection (Sea Dumping) Act 1981* (Cth)
If the existing piles are unable to be removed or a new pile is unable to be sheathed over the existing pile then the piles will be cut off 0.5 m below the seabed with the base remaining *in situ.* As such, PPA consulted with the Commonwealth Department of the Environment and Energy (DotEE) regarding the need for a Sea Dumping Permit in accordance with the requirements of the *Environmental Protection (Sea Dumping) Act 1981* (Cth). Advice from DotEE indicates that a Sea Dumping Permit is not required for this project as the material was originally placed for a purpose other than the mere disposal thereof, and as PPA proposes to remove the channel markers (except for the base of the pile below the seabed), the DotEE considers this would be similar to the abandonment in the sea of matter (such as pipelines), therefore article 1.4.2.3 of the *Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Waste and Other Matters, 1972* would apply (Attachment 3). In accordance with DotEE advice, this project is not considered dumping, and therefore does not require a Sea Dumping Permit.

*Environmental Protection Act 1986* (WA)
PPA has consulted with the Western Australian Office of the Environmental Protection Authority and advised its representatives of its intention to undertake the project. No formal referral of the CMRP under the *Environmental Protection Act 1986* (WA) will be made. This is because the project is not considered to have a significant environmental impact.

*Biodiversity Conservation Act 1916* (WA)
PPA has consulted with the Western Australian Department of Biodiversity Conservation and Attractions and advised its representatives of its intention to undertake the project. PPA will implement the project in accordance with the Department's recommendations to minimise the potential for impact on any nesting birds.

*Aboriginal Heritage Act 1972* (WA)
There is one Aboriginal Heritage Site, the *Marapikurrinya Yintha Site* (DAA 22874), that has the potential to be impacted during replacement of three channel markers within the inner harbour of the Port of Port Hedland. PPA holds a consent under section 18 of the *Aboriginal Heritage Act 1972* (WA) that allows for the replacing of those channel markers.

### 2.6 Public consultation including with Indigenous stakeholders

PPA has discussed the project at its Community Consultative Committee (CCC) for the Port of Port Hedland. The purpose of the CCC is to facilitate information sharing and consultation between PPA and the local Port Hedland community. Membership of the CCC consists of representatives from relevant local community, business and interest groups and government agencies, including local government. The CCC's minutes are made public on PPA's website (www.pilbaraports.com.au).

PPA seeks to protect and appropriately manage the numerous heritage values that exist upon PPA land and has developed a Cultural Heritage Management Plan (CHMP) that identifies the processes and procedures to ensure heritage is protected. Heritage management is done in consultation with the Aboriginal community and the administrators of relevant legislation aimed at protecting heritage values. As noted in Section 2.5 above, PPA holds the appropriate heritage approvals to implement the project. PPA's CHMP is publically available on its website (www.pilbaraports.com.au).

### 2.7 A staged development or component of a larger action

The project is neither a staged development nor a component of a larger action.

## 3 Description of environment & likely impacts

### 3.1 Matters of national environmental significance

A search using the EPBC Act Protected Matters Search Tool (Attachment 4) was undertaken for matters of national environmental significance.

#### 3.1 (a) World Heritage Properties

**Description**

The project area is not within or near any World Heritage Properties (WHP).

**Nature and extent of likely impact**

No impacts to WHP values are expected.

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#### 3.1 (b) National Heritage Places

**Description**

The project area is not within or near any National Heritage Places (NHP).

**Nature and extent of likely impact**

No impacts to NHP are expected.

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#### 3.1 (c) Wetlands of International Importance (declared Ramsar wetlands)

**Description**

The project area is not within or near any Ramsar wetlands.

**Nature and extent of likely impact**

No impacts to wetlands of international importance.

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### 3.1 (d) Listed threatened species and ecological communities

**Description**

The project area does not impact any Threatened Ecological Communities.

A search of the EPBC Act's Protected Matters Search Tool (Attachment 4) identified 29 threatened species as having the potential to occur, or may have habitat within the CMRP area. Of the 29 species it should be noted that the table below does not include 16 terrestrial or wetland species for which no plausible pathway of impact was possible. This information is summarised in Table 1.

**Table 1: EPBC Protected Matters Database Search Results - Threatened Species that may occur within the project area**

| Threatened Species | Status | Type of Presence |
|---|---|---|
| **Marine Birds** | | |
| *Macronectes giganteus*<br>Southern Giant-Petrel, Southern Giant Petrel | Endangered | Species or species habitat may occur within area |
| **Marine Mammals** | | |
| *Balaenoptera musculus*<br>Blue Whale | Endangered | Species or species habitat likely to occur within area |
| *Megaptera novaeangliae*<br>Humpback Whale | Vulnerable | Species or species habitat known to occur within area |
| **Marine Reptiles** | | |
| *Aipysurus apraefrontalis*<br>Short-nosed Sea snake | Critically Endangered | Species or species habitat likely to occur within area |
| *Caretta caretta*<br>Loggerhead Turtle | Endangered | Species or species habitat likely to occur within area |
| *Chelonia mydas*<br>Green Turtle | Vulnerable | Congregation or aggregation known to occur within area |
| *Dermochelys coriacea*<br>Leatherback Turtle, Leathery Turtle, | Endangered | Species or species habitat likely to occur within area |
| *Eretmochelys imbricata*<br>Hawksbill Turtle | Vulnerable | Species or species habitat known to occur within area |
| *Natator depressus*<br>Flatback Turtle | Vulnerable | Congregation or aggregation known to occur within area |
| **Sharks** | | |
| *Carcharodon carcharias*<br>Great White Shark | Vulnerable | Species or species habitat may occur within area |
| *Pristis clavata*<br>Dwarf Sawfish, Queensland Sawfish | Vulnerable | Species or species habitat known to occur within area |
| *Pristis zijsron*<br>Green Sawfish, Dindagubba, Narrowsnout Sawfish | Vulnerable | Species or species habitat known to occur within area |
| *Rhincodon typus*<br>Whale Shark | Vulnerable | Species or species habitat may occur within area |

**Marine Mammals**

The EPBC Act's Protected Matters Search tool identified that the blue whale (*Balenoptera musculus*) is likely to occur within the project area and the humpback whale (*Megaptera novaeangliae*) is known to occur in the project area. Both species migrate annually along the west coast of Australia between Antarctica and the north west of Australia (Jenner et al, 2001). The Port Hedland area does not support calving, aggregation or feeding areas (NHT, 2005).

The northbound migration of the humpback whale takes place at the end of July and usually occurs along the 200 m bathymetric contour, whilst the southern migrations takes place between August and September, usually in depths greater than 20 m (Prince et al. 2001; Jenner et al. 2001).

The northbound migration of the blue whale is along the 500 m to 1000 m depth contour on the edge of the continental slope and appears to be centred along the 500 m depth contour (DotEE, 2016). The only known feeding area for the blue whale is in the Perth Canyon located approximately 1,500 km from the project location.

**Marine Reptiles**

Five threatened marine turtle species have been identified as potentially occurring within the project area including the green and flatback turtles which are listed as vulnerable under the EPBC Act and are known to congregate within the Port Hedland area. The Loggerhead turtle, Leatherback turtle and the Hawksbill turtle are all likely to be present in the Port Hedland area for feeding and foraging.

Studies undertaken by Pendoley in 2009 observed juvenile flatback and green turtles in the tidal creeks of the Port Hedland Inner Harbour (Pendoley, 2009). It is likely that these turtles forage on algae, mangroves and hard and soft corals found within the area. As part of the BHP Billiton proposed outer harbour development the marine turtle density inshore of the 20 m isobath off Port Hedland was assessed. The maximum marine turtle density was found to be 2.5 turtles/km$^2$.

Cemetery Beach is the closest nesting beach to the proposed project area located approximately 2 km south east of the nearest existing channel marker. Mark and recapture surveys undertaken by during two consecutive nesting seasons (2008/2009 and 2009/2010) noted frequent nesting of the flatback turtle at this site (Pendoley, 2009 and 2010).

The Recovery Plan for Marine Turtles in Australia (The Recovery Plan) (CoA, 2016) indicates that the critical period for internesting of the Pilbara stock of flatback turtles is between October and March. The peak period for nesting starts in November and continues through to January (Pendoley 2010). The replacement of existing channel markers will overlap with the flatback turtle nesting period and is within the internesting habitat which is known to extend 60km from all key nesting sites (Cemetery Beach). As defined in the Recovery Plan, internesting habitat critical to the survival of marine turtles is located immediately seaward of designated nesting habitat. For the CMRP project, the area is defined relative to the designated nesting habitat at Cemetery Beach. Attachment 5 overlays the CMRP area over the density distribution of all median daily positions (3 km$^2$ grid) and merged boundaries of core home range areas (kernel density estimate [50% UD]) for all turtles tracked from Cemetery Beach (Whittock et al. 2014).

As shown in Attachment 5 the CMRP is partially located in areas of low to moderate density turtle distribution and internesting tracks. Piling activities for the project have the potential to disturb marine turtles due to intermittent underwater noise and vibration. The intensity of piling activities associated with the CMRP is considered to be low with the channel markers replaced progressively one by one with a single piling barge over a 12 month period. The time required to install a new or replacement channel marker is expected to average 1 working day. Accordingly the frequency of piling required to replace an existing, or install a new, channel marker is very low. PPA notes that these areas are also located adjacent to and within existing shipping channels that are subject to ongoing vessel movements and maintenance dredging. PPA notes that while marine turtles may transit through the project area (existing channel), the project area does not contain any suitable nesting or foraging habitat or shallow reef features. Due to the transitory nature of the species only small numbers are considered likely to pass through the area.

In consideration of the project location, intermittent duration and low intensity of the proposed piling activities, the CMRP is not considered likely to have a significant impact on marine turtles, including during internesting periods. In addition, the risk of vessel interaction or strike is also not increased by the CMRP as the area is already subject to high volumes of vessel movements all year round including during the peak nesting months. Nevertheless, to further minimise the risk of impact (significant or otherwise) to marine turtles PPA will:

- when undertaking piling activities in areas with a higher density (>30%) of mapped turtle

positions, endeavour to do so outside of peak turtle nesting months of November to January (where possible); and
- implement the management and mitigation measures detailed in Section 5.

With these additional controls in place, PPA is of the view that the risk of the project to marine turtles is mitigated to as low as reasonably practicable (ALARP).

The short-nosed sea snake (*Aipysurus apraefrontalis*) listed as critically endangered under the EPBC Act has the potential to occur within the project area. The short-nosed sea snake inhabits shallow waters along the outer edge of reefs in depths up to 10 m, or on reef flats, but occasionally have been observed to move up to 50 km away from their habitat (CoA 2016). As the CMRP is adjacent to existing operational port areas it is unlikely to have a significant impact on this species.

**Sharks**

The great white shark (*Carcharodon carcharias*) and the whale shark (*Rhincodon typus*) listed as vulnerable under the EPBC Act may occur within the project area. The dwarf sawfish (*Pristis clavata*) and the green sawfish (*Pristis zijsron)* listed as vulnerable under the EPBC are known to occur in the project area.

There are no feeding, breeding or aggregation sites for the whale shark within a close proximity of the project area (DoF, 2005). This species is likely to be an infrequent visitor to the project area and more likely to remain in deep water off the Pilbara coastline (i.e. greater than 20 m depth). As the presence of the whale shark in the project area is highly unlikely, project activities are unlikely to have an impact.

Great white sharks can be found from close inshore around rocky reefs, surf beaches and shallow coastal bays to outer continental shelf and slope areas (CoA 2016). Great white sharks are also known to travel extremely large distances and do not reside in one particular area, therefore they are unlikely to remain in the project area for periods long enough to result in significant impacts.

Although the dwarf sawfish is listed under the EPBC Act as known to occur in the project area, its presence is generally restricted to northern Australia from Cairns to the Kimberly coast (CoA 2016). The green sawfish is the most commonly distributed sawfish in Western Australian waters, occurring in areas with a muddy substrate and frequently found in shallow water. It commonly inhabits inshore waters, estuaries and lagoons. The majority of capture locations for sawfish in Western Australia are within the area located between Karratha and One Arm Point. Pupping of juvenile green sawfish occurs in tidal creeks (Morgan et al, 2010). The CMRP is occurring in sub tidal areas and is considered unlikely to result in significantly impacts to the dwarf or green sawfish.

**Marine Birds**

The Southern Giant Petrel *(Macronectes giganteus)* is a large ocean roaming species and a listed migratory marine bird. The Southern Giant Petrel listed as endangered under the EPBC Act and may occur within the project area. The CMRP is occurring in sub tidal areas and is considered unlikely to impact potential feeding or resting areas for listed marine birds.

**Extent of Likely Impacts**

The CMRP is **NOT LIKELY** to have a significant impact on the listed threatened species.

The project is located in a very busy port environment. The project works are directly adjacent to the existing shipping channel where there have been large capital and maintenance dredging campaigns occurring on a regular basis since the mid 1960's. The CMRP area is not considered to be in an area that represents significant habitat for the listed threatened species or in an area that is used by a significant proportion of the population of a threatened species.

The potential impacts associated with the CMRP on the species identified in Table 1, which are not considered significant are:

- Disturbance from intermittent underwater noise and vibration;
- Collisions of project vessels with marine turtles and marine mammals; and
- Disturbance from vessel lighting.

There is a low risk that marine wildlife such as humpback whales, turtles, dolphins and other marine fauna may be vulnerable to disturbance during implementation of the CMRP. This is because:

1. It is anticipated that the majority of whales will pass well to the north of the CMRP and there should be very little likelihood of interaction with the piling program. In the unlikely event that a whale does approach the CMRP area, it will most likely encounter an increase in underwater noise from the piling. As the CMRP area is not within a calving, resting or aggregation area, whales entering this zone are likely to be transient visitors and unlikely to remain for any length of time.
2. Dolphins which do not appear to be abundant in the Port Hedland area (Prince 2001) are unlikely to be affected by noise as they are often sighted in close proximity to moving vessels.
3. The proposed piling operation is considered to be low intensity, and will be intermittent with the removal and replacement of 33 existing channel markers, removal of 2 channel markers which are no longer required and installation of 2 new channel markers progressively one by one with a single piling barge over a 12 month period. The time required to install a new or replacement channel marker is expected to average 1 working day. Accordingly the frequency of piling required to replace an existing or install a new channel marker is very low. These areas are also located adjacent to and within existing shipping channels that are subject to noise from ongoing vessel movements and maintenance dredging. Piling along the channel is unlikely to affect foraging areas available for turtles as the piling is occurring in areas immediately adjacent to existing dredged channels. Direct mortality of marine turtles due to the operation of piling barges in Port Hedland is rare. Due to the transitory nature of the species only small numbers are likely to pass through the project area, including during the internesting period. Considering the project location, intermittent duration and low intensity of the proposed piling activities, the CMRP project is not considered likely to have a significant impact on marine turtles. Nevertheless, to further minimise the risk of impact (significant or otherwise) to marine turtles PPA will:
    - when undertaking piling activities in areas with a higher density (>30%) of mapped turtle positions, endeavour to do so outside of peak turtle nesting months of November to January (where possible); and
    - implement the management and mitigation measures detailed in Section 5.

    With these additional controls in place, PPA is of the view that the risk of the project impacting marine turtles is mitigated to as low as reasonably practicable (ALARP).
4. Port Hedland is not an important aggregation area for dugongs, most likely due to the absence of extensive seagrass meadows and suitable habitat. Dugongs are unlikely to occur or visit the CMRP area.
5. Sawfish are unlikely to be encountered in the project area or affected by the project activities. There is only very small areas of disturbance associated with replacing the existing channel markers and the areas are directly adjacent to the shipping channel with a significant amount of vessel traffic and underwater noise associated.
6. Vessel movements associated with the project will not significantly increase the current amount of vessel traffic (around 3000 vessel visits in the 2016/17 financial year) that passes by the existing channel markers within the Port of Port Hedland. Therefore the risk of vessel strike is not increased by the project and is considered low.
7. The light emitted from the project vessels is considered unlikely to be greater than the cumulative light sources emitted from the anchored ships and port infrastructure within the Port of Port Hedland. Therefore the risk of lighting from project vessels impacting marine fauna is not increased by the project and is considered low.
8. The CMRP is occurring in sub tidal areas and is considered unlikely to impact potential feeding or resting areas for listed marine birds.

PPA will implement a project specific Construction Environmental Management Plan (CEMP) to minimise the potential for impact to any of the identified listed threatened species (see Section 5).

### 3.1 (e) Listed migratory species

**Description**

A search of the EPBC Act's Protected Matters Search Tool (Attachment 4) identified 55 listed migratory species as having the potential to occur within the CMRP project area. Of the 55 species it should be noted that the table below does not include 31 migratory terrestrial or wetland species for which no plausible pathway of impact was possible. This information is summarised in Table 2.

**Table 2: EPBC Protected Matters Database Search Results - Migratory Species that may occur within the project area**

| Threatened Species | Status | Type of Presence |
|---|---|---|
| **Marine Birds** | | |
| *Anous stolidus*<br>Common Noddy | | Species or species habitat may occur within area |
| *Apus pacificus*<br>Fork-tailed Swift | | Species or species habitat likely to occur within area |
| *Calonectris leucomelas*<br>Streaked Shearwater | | Species or species habitat likely to occur within area |
| *Fregata ariel*<br>Lesser Frigatebird, Least Frigatebird | | Foraging, feeding or related behaviour known to occur within area |
| *Macronectes giganteus*<br>Southern Giant-Petrel, Southern Giant Petrel | Endangered | Species or species habitat may occur within area |
| **Marine Mammals** | | |
| *Balaenoptera edeni*<br>Bryde's Whale | | Species or species habitat may occur within area |
| *Balaenoptera musculus*<br>Blue Whale | Endangered | Species or species habitat likely to occur within area |
| *Megaptera novaeangliae*<br>Humpback Whale | Vulnerable | Species or species habitat known to occur within area |
| *Dugong dugon*<br>Dugong | | Species or species habitat known to occur within area |
| *Orcinus orca*<br>Killer Whale, Orca | | Species or species habitat may occur within area |
| *Sousa chinensis*<br>Indo-Pacific Humpback Dolphin | | Species or species habitat may occur within area |
| *Tursiops aduncus (Arafura/Timor Sea populations)*<br>Spotted Bottlenose Dolphin | | Species or species habitat likely to occur within area |
| **Marine Reptiles** | | |
| *Caretta caretta*<br>Loggerhead Turtle | Endangered | Species or species habitat known to occur within area |
| *Chelonia mydas*<br>Green Turtle | Vulnerable | Congregation or aggregation known to occur within area |
| *Dermochelys coriacea*<br>Leatherback Turtle, Leathery Turtle | Endangered | Species or species habitat likely to occur within area |
| *Eretmochelys imbricata*<br>Hawksbill Turtle | Vulnerable | Species or species habitat known to occur within area |
| *Natator depressus*<br>Flatback Turtle | Vulnerable | Congregation or aggregation known to occur within area |
| **Sharks and Rays** | | |
| Anoxypristis cuspidata | | Species or species habitat likely to occur |

| | | |
|---|---|---|
| *Narrow Sawfish, Knifetooth Sawfish* | | within area |
| *Carcharodon carcharias*<br>Great White Shark | Vulnerable | Species or species habitat may occur within area |
| *Pristis clavata*<br>Dwarf Sawfish, Queensland Sawfish | Vulnerable | Species or species habitat known to occur within area |
| *Pristis zijsron*<br>Green Sawfish | Vulnerable | Species or species habitat known to occur within area |
| *Rhincodon typus*<br>Whale Shark | Vulnerable | Species or species habitat may occur within area |
| *Manta alfredi*<br>Reef Manta Ray | | Species or species habitat known to occur within area |
| *Manta birostris*<br>Giant Manta Ray | | Species or species habitat likely to occur within area |

**Nature and extent of likely impact**

The CMRP is **NOT LIKELY** to have a significant impact on the listed migratory species.

The CMRP is located in a very busy port environment. The project works are directly adjacent to the existing shipping channel where there have been large capital and maintenance dredging campaigns occurring on a regular basis since the mid 1960's. The CMRP area is not considered to be in an area that represents significant habitat for the listed threatened species or in an area that is used by a significant proportion of the population of a threatened species.

The potential impacts associated with the CMRP on the species identified in Table 2, which are not considered significant are:

- Disturbance from intermittent underwater noise and vibration;
- Collisions of project vessels with marine turtles and marine mammals; and
- Disturbance from vessel lighting.

There is a low risk that marine wildlife such as humpback whales, turtles and other marine mammals such as dolphins may be vulnerable to disturbance during implementation of the CMRP for the reasons listed in Section 3.1 (d).

PPA will implement a project specific CEMP to minimise the potential for impact to any of the identified listed migratory species (see Section 5).

### 3.1 (f) Commonwealth marine area

**Description**

The proposed CMRP will be located partially within Commonwealth waters in the Indian Ocean off Port Hedland.

**Nature and extent of likely impact**

Potential impacts on threatened and migratory species that may occur within the project area are described in Sections 3.1(d) and 3.1 (e) above and in 3.2 (c) below.

### 3.1 (g) Commonwealth land

**Description**

Not applicable

**Nature and extent of likely impact**

No impacts to Commonwealth land are possible.

### 3.1 (h) The Great Barrier Reef Marine Park

**Description**

Not applicable

**Nature and extent of likely impact**

No impacts on the GBRMP are possible.

### 3.1 (i) A water resource, in relation to coal seam gas development or large coal mining development

**Description**

Not applicable

**Nature and extent of likely impact**

CMRP is not a coal mining or coal seam gas development.

### 3.2 Nuclear actions, actions taken by the Commonwealth (or Commonwealth agency), actions taken in a Commonwealth marine area, actions taken on Commonwealth land, or actions taken in the Great Barrier Reef Marine Park

| | | | |
|---|---|---|---|
| **3.2 (a)** | **Is the proposed action a nuclear action?** | X | No |
| | | | Yes (provide details below) |

**If yes, nature & extent of likely impact on the whole environment**

| | | | |
|---|---|---|---|
| **3.2 (b)** | **Is the proposed action to be taken by the Commonwealth or a Commonwealth agency?** | X | No |
| | | | Yes (provide details below) |

**If yes, nature & extent of likely impact on the whole environment**

| | | | |
|---|---|---|---|
| **3.2 (c)** | **Is the proposed action to be taken in a Commonwealth marine area?** | | No |
| | | X | Yes (provide details below) |

**If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(f))**

The proposed CMRP is **NOT LIKELY** to have a significant impact on the Commonwealth marine area.

The main potential for impacts on Commonwealth marine waters are related to the piling activities which will occur within Commonwealth marine waters for some of the project.

The 'significant impact criteria' (DEH 2006) to evaluate whether an action is likely to have a significant impact on the Commonwealth marine area include:

- Result in a known or potential pest species becoming established in the Commonwealth marine area;
- Modify, destroy, fragment, isolate or disturb an important or substantial area of habitat such that an adverse impact on marine ecosystem functioning or integrity in a Commonwealth marine area results;
- Have a substantial adverse effect on a population of a marine species or cetacean including its life cycle (e.g. breeding, feeding, migration behavior, life expectancy) and spatial distribution;
- Result in a substantial change in air quality or water quality (including temperature) which may adversely impact on biodiversity, ecological integrity; social amenity or human health;
- Result in persistent organic chemicals, heavy metals, or other potentially harmful chemicals accumulating in the marine environment such that biodiversity, ecological integrity, social amenity or human health may be adversely affected; or
- Have a substantial adverse impact on heritage values of the Commonwealth marine area, including damage or destruction of an historic shipwreck.

An evaluation of the proposed action against the 'significant impact criteria', indicate that the action is unlikely to trigger any of the 'significant impact criteria'.

Potential impacts on the Commonwealth marine area, which are not considered significant, from implementation of the CMRP include:

- Disturbance due to marine fauna due to increased intermittent underwater noise from piling activities and vessel movements;
- Potential introduction of non-native marine species from biofouling present on construction vessels; and
- Modification of marine seabed habitat in the project footprint.

Each potential impact on the Commonwealth marine area is considered below.

***Marine Fauna***

- The proposed CMRP has the potential to impact listed marine species due to:
  - Disturbance from intermittent underwater noise and vibration;
  - Collisions of project vessels with marine turtles and marine mammals; and
  - Disturbance from vessel lighting.
- There is a low risk that marine wildlife such as humpback whales, turtles and other marine mammals such as dolphins may be vulnerable to disturbance during implementation of the CMRP for the reasons listed in Sections 3.1 (d) and (e).
- Nevertheless, PPA will implement a project specific CEMP to minimise the potential for impact (significant or otherwise) to any of the identified listed threatened and/or migratory species (see Section 5).
- Accordingly, it is considered unlikely that implementation of the CMRP will have a substantial adverse effect on a population of a marine species or cetacean.

***Introduced Marine Species***

- Non-indigenous species, if introduced, could result in adverse environmental impacts by altering the composition and function of natural ecosystems.
- The risk of the introduction of non-indigenous marine species will be minimised through the implementation of a project-specific CEMP that includes mitigation measures specified in Section 5.
- These measures are considered appropriate to minimise the risk of introduction of non-indigenous marine species within the Port of Port Hedland.
- Accordingly, it is considered unlikely a known or potential pest species will become established in the Commonwealth marine area as a result of implementing the CMRP.

***Modification of Seabed***

- Modification of the seabed has the potential to impact BPPH and so adversely impact on marine ecosystem functioning.
- There will be a direct impact to the seabed in the Commonwealth marine area from the replacement of 11 channel markers. Each channel marker will directly impact an area of approximately 1.5m$^2$.
- The project involves replacement of existing channel markers located adjacent to the shipping channel and indirectly impacted by port activities (i.e. environmental impacts from turbidity generated during vessel movements).
- These areas are considered unlikely to support BPPH.
- Accordingly, implementation of the proposed CMRP is considered unlikely to result in any loss of significant habitat.

In consideration of the above, the impacts to Commonwealth marine waters from implementation of the CMRP are unlikely and expected to be negligible. Nevertheless, PPA will implement a project specific CEMP to ensure environmental impacts are minimised (see Section 5).

| | | | |
|---|---|---|---|
| **3.2 (d)** | **Is the proposed action to be taken on Commonwealth land?** | X | No |
| | | | Yes (provide details below) |
| | **If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(g))** | | |

| | | | |
|---|---|---|---|
| **3.2 (e)** | **Is the proposed action to be taken in the Great Barrier Reef Marine Park?** | X | No |
| | | | Yes (provide details below) |
| | **If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(h))** | | |

### 3.3 Description of the project area and affected area for the proposed action

The proposed footprint for the CMRP lies within an area that has already been heavily disturbed for the dredging of the Port Hedland channel and the installation of existing channel markers. The project area is predominantly sandy substrate. The replacement channel markers will be installed at locations along the channel within 10 m of existing channel markers or using the existing disturbance footprint where replacement piles are redriven or sheathed.

### 3.3 (a) Flora and fauna

The results of previous subtidal surveys in the area show that benthic habitats offshore of Port Hedland comprise extensive plains of sand/silt, and limestone pavement and ridges (SKM 2009). Many of the offshore limestone ridges run parallel to the coastline, and those areas of ridges surveyed support sparse hard corals, macroalgae, soft corals, gorgonians, sea whips and sponges. The extensive plains surveyed are often bare of any large marine flora or fauna (such as coral and macroalgae), and mainly support smaller sediment dwelling invertebrates and very sparse sponge and soft coral assemblages. Macroalgae occur on both hard and soft substrata and their abundance varies among different habitats and according to season. Seagrasses are common in the Port Hedland area but do not form dense communities or meadows. Seagrasses documented in the literature for the study area are ephemeral species such as *Halophila ovalis* that form patches of low to medium density (SKM 2009; WorleyParsons 2012).

More recent mapping and habitat assessment completed by WorleyParsons (2012) for Fortescue were in general agreement with the description provided by SKM (2009) confirming that most of the offshore area (~64% of the area surveyed) was composed of unconsolidated sands and gravelly sands containing no visible biota. The habitat mapping also confirmed that the inshore and mid-shore areas contain a complex mosaic of biota, largely associated with the ridgeline reefs, while the offshore region is dominated by large patches of mixed algae / hard coral habitat, containing invertebrates.

The project involves replacement of existing channel markers located adjacent to the shipping channel and in operational areas impacted by port activities. These areas are considered unlikely support BPPH.

Descriptions of threatened and migratory species that may be present within the project area are discussed in Section 3.1(d) and 3.1(e).

The CMRP is considered to have a negligible impact on flora and fauna.

### 3.3 (b) Hydrology, including water flows

The CMRP will have no effect on hydrology or water flows.

### 3.3 (c) Soil and Vegetation characteristics

The CMRP will have no effect on soil or vegetation characteristics.

### 3.3 (d) outstanding natural features

There are no outstanding natural features in the vicinity of the CMRP.

### 3.3 (e) Remnant native vegetation

There is no remnant native vegetation within the vicinity of the CMRP.

### 3.3 (f) Gradient (or depth range if action is to be taken in a marine area)

Gradients are varied depending on location of channel markers, however range from 0 m Lowest Astronomical Tide (LAT) to -15.5 m LAT.

### 3.3 (g) Current state of the environment

The near shore waters have been disturbed periodically by large piling and dredging campaigns since the mid 1960's when the Port of Port Hedland was first developed.

The marine environment offshore is largely unmodified, except where the navigation channel has been dredged and channel markers installed, and numerous spoil grounds that have been developed from previous dredging campaigns.

The proposed footprint is within an area that has previously been disturbed during the dredging of the shipping channel and installation of existing channel markers. All proposed channel marker locations are currently indirectly impacted by port operations (i.e. turbidity generated from vessel movements).

### 3.3 (h) Commonwealth Heritage Places or other places recognised as having heritage values

The project is marine based, therefore no impact is expected on any Commonwealth Heritage Places or other places recognised as having heritage values.

No other heritage values have been identified within the CMRP area.

### 3.3 (i) Indigenous heritage values

Replacement of three channel markers (see Attachment 1 - B46, B47 and B48) within the inner harbour are located within a registered Aboriginal heritage site (DAA Site ID 22874) (*Marapikurrinya Yintha Site*) however the CMRP is covered by an existing approval under section 18 of the *Aboriginal Heritage Act 1972* (WA) (Min Ref 25-00555) and lies entirely within an existing disturbed area.

No other Indigenous heritage values have been identified within the CMRP area.

### 3.3 (j) other important or unique values of the environment

There are no existing or proposed State Marine Protected Areas (MPAs) in the project area. The existing Rowley Shoals Marine Park is located approximately 265 km to the north of Port Hedland and is unlikely to be impacted by this project.

The Dampier Marine Reserve is located some 200 kms to the west of the project area. This reserve was declared in 2012 and is also unlikely to be impacted by the project.

### 3.3 (k) Tenure of the action area (e.g. freehold, leasehold)

The proposed project works lie wholly within PPA Port Limits within the jurisdiction of the Pilbara Ports Authority.

### 3.3 (l) Existing uses of area of proposed action

The existing marine use of the area is for navigation of commercial shipping.

There is some recreational fishing that occurs within Port waters, however it is not expect the project would impact on existing use. There are no significant commercial pelagic fisheries operating in the immediate near shore vicinity of Port Hedland near the existing channel markers and shipping channel.

### 3.3 (m) any proposed uses of area of proposed action

There will be no change in existing use proposed by the proposed action.

# 4 Environmental outcomes

The following specific environmental outcomes are provided relevant to matters of NES:

- No loss of habitat for threatened marine species and migratory marine species is expected to occur as the project will be undertaken within existing disturbed areas or directly adjacent to existing disturbed areas. The assessment of the abundance and distribution of benthic habitat, in particular benthic primary producer habitat (BPPH) in the study area is based on existing baseline information (SKM 2009).

- No significant impact on the Commonwealth marine environment. The assessment of no significant impact considers that this project is replacing existing channel markers within operational port areas, has a small disturbance footprint, low piling intensity and is of temporary duration.

There are no matters of NES that are likely to be significantly affected by the proposed action.

PPA considers the proposed management and mitigation measures (Section 5) to be implemented during the CMRP will ensure the environmental outcomes listed above are met.

# 5 Measures to avoid or reduce impacts

PPA will develop and implement a project specific Construction Environmental Management Plan (CEMP) to minimise the potential environmental impacts of the CMRP. The key environmental factors of the CMRP are:

- Marine Fauna
- Introduced Marine Species
- Hydrocarbon Spills
- Waste

Specific management measures that will be implemented to avoid or reduce environmental impacts of the CMRP are detailed below.

**Marine Fauna**

Preventative management measures to minimise potential impacts to marine fauna from vessel movements, vessel lighting and piling noise include:

- Vessel crew will undertake site inductions and awareness programs covering procedures to be undertaken to minimise disturbance to marine fauna.
- Operators of specified vessels will be required to maintain a watch for marine fauna and if they are spotted, vessels will avoid impacting the fauna (within safe operational constraints of the vessel).
- During transit, if marine fauna is sighted within 300 m, a maximum vessel speed of 6 knots will be applied.
- No marine pile driving operations shall commence until a Marine Fauna Observer has verified that no cetacean(s) or dugong(s) have been observed within a radius of 1,500 m or marine turtle(s) within a radius of 300 m from piling operations during the 30 minute period immediately prior to commencement of piling operations.
- Prior to commencement of full power marine pile driving, the contractor shall implement soft start-up procedures that slowly increase the intensity of noise emissions over a period of no less than 15 minutes.
- If the marine fauna observer, or trained members of the vessel crew, observes a marine turtle enter within 100 m of a piling operation, or cetacean or dugong within 500 m of a piling operation, that piling operation is to be suspended.
- Marine pile driving that has been suspended in accordance with the above shall not recommence until the cetacean or dugong has moved beyond 1,500 m from the suspended piling operation or the marine turtle beyond 300 m of their own accord, or the cetacean, dugong or marine turtle has not been observed within the exclusion zone for a period of 30 minutes. Marine pile driving that has been suspended for more than 15 minutes shall recommence with soft start-up procedures.
- Marine fauna observers will maintain daily log of all marine fauna sightings and report any incidents to PPA.
- Noise-generating equipment (including vessel engines, drill and piling equipment) will be routinely maintained and inspected to reduce unnecessary increases in noise levels from the equipment.
- All vessels shall operate in accordance with appropriate industry equipment noise standards.
- Vessel lighting at night will be limited to that required for safe operations.

**Introduced Marine Species**

Preventative management measures to minimise potential impacts from introduced marine species include compliance with the following regulations and guidelines:

- Australian Ballast Water Requirements – Version 6 (DAWR, 2016)
- National Biofouling Management Guidance for Commercial Vessels (CoA, 2009a)
- National Biofouling Management Guidance for non- Commercial Vessels (CoA, 2009b)
- Antifouling and In-water Cleaning Guidelines (CoA, 2015)
- PPA's Introduced Marine Pest Risk Assessment Procedure (which includes the '*Vessel Check'* requirements of the WA Department of Primary Industries and Regional Development).

Specific management measures for vessels arriving to Port Hedland include:

- Risk assessment of the project vessels in accordance with PPA's Introduced Marine Pest Risk Assessment Procedure.
- Inspection of any high risk vessels (arriving from overseas) to ensure they are free of biofouling and preferable dry-docked for cleaning and antifouling immediately prior to departure for Australia.
- Inspection and cleaning of equipment and components that are capable of accruing sediment or mud prior to departure for the Port of Port Hedland.

**Hydrocarbon Spills**

Preventative management measures to minimise the risk to the marine environment from hydrocarbon spills include:

- Undertaking regular inspections of vessels, plant and equipment with particular attention to hydrocarbon storage areas and bunding, hydraulic and refuelling hoses, hydrocarbon handling procedures and emergency response equipment.
- Maintaining equipment maintenance and inspection records for all vessels, major plant and equipment which may be requested by PPA at any time.
- Spill control equipment/materials held on board the project vessel(s) shall be commensurate with risk of the activity being performed, and shall be available at all times.

**Waste**

All management of wastes within Commonwealth waters will be in accordance with the:

- *Protection of the Sea (Prevention of Pollution from Ships) Commonwealth Act 1993* which is based on the Annex IV and Annex V of MARPOL 73/78 Convention.

Preventative management measures to minimise the risk to the marine environment from waste include:

- Ensuring that all wastes are placed in appropriate lidded bins or other containers.
- Toilets are to be provided on board the vessel and grey water is to be contained and legally disposed of.
- All wastes are to be disposed at the Port of Port Hedland in accordance with AQIS requirements and the requirements set out in PPA's Port Handbook.

# 6 Conclusion on the likelihood of significant impacts

### 6.1 Do you THINK your proposed action is a controlled action?

| | |
|---|---|
| X | No, complete section 5.2 |
| | Yes, complete section 5.3 |

### 6.2 Proposed action IS NOT a controlled action.

The proposed action is **NOT LIKELY** to have a significant impact on any of the Matters of National Environmental Significance because:

- The scope of the project is limited to the replacement of 33 existing navigational channel markers, the removal of two redundant channel markers and the installation of two new markers at new locations. The project area has previously been directly disturbed during installation of the existing channel markers and is presently indirectly impacted by port operations.
- The intensity of piling works is considered low, with the replacement and installation of 33 piles progressively one by one, for a 12 month period. Piling for each replacement channel marker is expected to average 1 working day.
- The project area is not within or near any World Heritage Properties (WHP) or National Heritage Places (NHP).
- The project area is not within or near any wetlands of International importance including Ramsar wetlands.
- There are no listed or threatened migratory species that are likely to be affected by the project.
- PPA will implement a project specific CEMP to minimise the potential for impact (significant or otherwise) to any of the Matters of National Environmental Significance (see Section 5).

The proposed action is therefore not considered a controlled action.

### 6.3 Proposed action IS a controlled action

| | **Matters likely to be significantly impacted** |
|---|---|
| | World Heritage values (sections 12 and 15A) |
| | National Heritage places (sections 15B and 15C) |
| | Wetlands of international importance (sections 16 and 17B) |
| | Listed threatened species and communities (sections 18 and 18A) |
| | Listed migratory species (sections 20 and 20A) |
| | Protection of the environment from nuclear actions (sections 21 and 22A) |
| | Commonwealth marine environment (sections 23 and 24A) |
| | Great Barrier Reef Marine Park (sections 24B and 24C) |
| | A water resource, in relation to coal seam gas development and large coal mining development (sections 24D and 24E) |
| | Protection of the environment from actions involving Commonwealth land (sections 26 and 27A) |
| | Protection of the environment from Commonwealth actions (section 28) |
| | Commonwealth Heritage places overseas (sections 27B and 27C) |

# 7 Environmental record of the person proposing to take the action

| | | Yes | No |
|---|---|---|---|
| **7.1** | **Does the party taking the action have a satisfactory record of responsible environmental management?**<br><br>**Provide details:**<br><br>As part of its Environment and Heritage Policy commitment to deliver its services and activities in an environmentally sustainable and responsible manner (Attachment 6). The Western Australian *Port Authorities Act 1999* also requires PPA to develop an Environmental Management Plan (EMP) for its ports. The EMP is maintained under PPA's Integrated Management System and complies with ISO 9001:2015 (Quality), and ISO 14001:2015 (Environment). The EMP is updated annually and displayed on PPA's website (pilbaraports.com.au). | X | |
| **7.2** | **Provide details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:**<br>**(a) the person proposing to take the action, or**<br>**(b) if a permit has been applied for in relation to the action - the person making the application.**<br><br>**If yes, provide details** | | X |
| **7.3** | **If the person taking the action is a corporation, please provide details of the corporation's environmental policy and planning framework and if and how the framework applies to the action.**<br><br>PPA is committed to achieving a high level of environmental and cultural heritage performance through the continuous improvement of its environmental document management system within all operations. PPA will measure, monitor and report on overall environmental management of the project through the key performance indicators, objectives and targets identified in the project specific CEMP. PPA maintains a reporting system to ensure all hazards and incidents are documented, investigated and addressed. PPA also maintains an environmental management system consistent and externally certified to ISO 14001:2015 standard. | X | |
| **7.4** | **Has the party taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?** | X | |

| | | |
|---|---|---|
| **Provide name of proposal and EPBC reference number (if known)**<br><br>2017/7915 – Pilbara Ports Authority Channel Risk and Optimisation Project. Decision of 'not a controlled action' granted on 4 July 2017.<br><br>2008/4129 - Port Hedland Port Authority/Commercial development/Utah Point on Finucane Is Port Hedland/WA/Construction of a Commodities Berth, Wharf and Associated Infrastructure (31 March 2008). Decision of 'not a controlled action' granted on 9 May 2008.<br><br>2010/5678 - Port Hedland Port Authority/Transport - water/South West Creek, Port Headland /WA/Piling of marine sediment to enable construction of eight berths and a turning circle. Decision of "not controlled" action if undertaken in particular manner on 9 November 2010.<br><br>2009/5108 – Port of Dampier (Pilbara Ports Authority) – Dampier Marine Services Facility (DMSF)<br><br>2011/5843 – Port of Dampier (Pilbara Ports Authority) - MOF Road Widening and Resurfacing Works, Burrup Peninsula.<br><br>2012/0671 – Port of Dampier (Pilbara Ports Authority) – Heavy Load Out (HLO) Capital Dredging – Particular Manner approval. | | |

# 8 Information sources and attachments

(For the information provided above)

## 8.1 References


CoA, (2012) Marine bioregional plan for the North-west Marine Region. Report prepared under the *Environment Protection and Biodiversity Conservation Act 1999* for the Department of Sustainability, Environment, Water, Population and Communities.

CoA, (2009a) National Biofouling Management Guidance for Commercial Vessels

CoA, (2009b) National Biofouling Management Guidance for Non-trading Vessels

CoA, (2015) Antifouling and In-water Cleaning Guidelines, Department of Agriculture and Water Resources (DAWR), Canberra

CoA, (2016) The Recovery Plan for Marine Turtles in Australia. Draft Report to the Department of Energy and Environment. Commonwealth of Australia.

DAWR (2016) *Australian Ballast Water Requirements – Version 6 ,*

Jenner, K.C.S., Jenner M.N.M. and McCabe K.A. (2001) Geographical and temporal movements of humpback whales in Western Australian Waters. APPEA Journal 2001, pp 749-765

NHT, (2005) Protected Marine Species Identification Guide. National Heritage Trust. Available online at: http://www.environment.gov.au/system/files/resources/ca5a854d-cd40-4ba5-b3a2-774cb85d6b73/files/protected-marine-species-identification-guide.pdf

Pendoley Environmental, (2009) Port Hedland Outer Harbour Development: Marine Turtles Impacts Assessment. Report prepared for SKM and BHP Billiton Iron Ore

Pendoley Environmental, (2010) Proposed Outer Harbour Development Port Hedland Satellite Tracking of Flatback Turtles from Cemetery Beach 2009/2010 - Internesting Habitat.

Prince R.I.T., Lawler I.R. and Marsh R. (2001) The distribution and abundance of dugong and other mega vertebrates in WA coastal waters extending seaward of the 20 m isobath between NW Cape and the De Grey River mouth. April 2000 Canberra, Environment Australia.

SKM, (2009) Port Hedland Outer Harbour Development – Baseline Benthic Marine Survey. Prepared for BHP Billiton Iron Ore by Sinclair Knight Merz, Perth.

WorleyParsons, (2012) Port Hedland Outer Harbour Development Study. Benthic Primary Producer Habitat Survey: Mapping Report. Unpublished Report 301012-01569-EN-REP-0001 Prepared for Fortescue Metals Group.


## 8.2 Reliability and date of information

All references listed in Section 8.1 are considered to be reliable. References are published reports or datasets collected in Port Hedland.

## 8.3 Attachments

- Attachment 1 – Figure depicting channel marker locations
- Attachment 2 – Photographs of Channel Markers within the Port of Port Hedland
- Attachment 3 – Email advice from DotEE to PPA regarding the CMRP
- Attachment 4 – EPBC Act Protected Matters Search

- Attachment 5 – CMRP area and Flatback Turtle Internesting Distribution
- Attachment 6 – PPA Environment and Heritage Policy
- Attachment 7 – GIS polygon layers

| | | ✓ attached | Title of attachment(s) |
|---|---|---|---|
| **You must attach** | figures, maps or aerial photographs showing the locality of the proposed action (section 1) | X | • Attachment 1 – Figure depicting channel marker locations<br>• Attachment 2 – Photograph of Channel Markers within the Port of Port Hedland<br>• Attachment 7 – GIS polygon layers |
| | GIS file delineating the boundary of the referral area (section 1) | | |
| | figures, maps or aerial photographs showing the location of the proposed action in respect to any matters of national environmental significance or important features of the environments (section 3) | X | • Attachment 1 – Figure depicting channel marker locations<br>• Attachment5 – CMRP area and Flatback Turtle Internesting Distribution |
| **If relevant, attach** | copies of any state or local government approvals and consent conditions (section 2.5) | | |
| | copies of any completed assessments to meet state or local government approvals and outcomes of public consultations, if available (section 2.6) | | |
| | copies of any flora and fauna investigations and surveys (section 3) | | |
| | technical reports relevant to the assessment of impacts on protected matters that support the arguments and conclusions in the referral (section 3) conclusions in the referral (section 3 and 4) | | |
| | report(s) on any public consultations undertaken, including with Indigenous stakeholders (section 3) | | |

# 9 Contacts, signatures and declarations

| | |
|---|---|
| **Proposed action title:** | Port of Port Hedland: Channel Marker Replacement Project |

## 9.1 Person proposing to take action

| | |
|---|---|
| Name and Title: | Mr Roger Johnston, Chief Executive Officer |
| Organisation: | Pilbara Ports Authority |
| Trust deed (if applicable): | □ attached; OR<br>□ not applicable |
| ~~ACN~~ / ABN | 94 987 448 870 |
| Postal address: | PO Box 84, West Perth WA 6005 |
| Telephone: | 08 9173 9011 |
| Email: | Paige.Carroll@pilbaraports.com.au |
| I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am: | □ an individual; OR<br>□ a small business entity (within the meaning given by section 328-110 (other than subsection 328-119(4)) of the *Income Tax Assessment Act 1997*); OR<br>□ not applicable. |
| If you are small business entity you must provide the Date/Income Year that you became a small business entity: | |
| I would like to apply for a waiver of full or partial fees under regulation 5.21A of the EPBC Regulations. Under regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons why it should be made: | □ not applicable. |

Declaration: I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct.
I understand that giving false or misleading information is a serious offence.
I declare that I am not taking the action on behalf of or for the benefit of any other person or entity.

Signature: Date: 11/8/2017

## 9.2 Designated proponent

Name of proposed proponent:

ACN / ABN):

Postal address:

Telephone:

Email:

Declaration by the proposed proponent: I ....., the proposed proponent, consent to the proposed designation of myself as the proponent for the purposes of the action described in this referral.

Signature: Date:

Declaration by the person proposing to take the action: I ....., the person proposing to take the action, consent to the proposed designation of..... as proponent for the purposes of the action described in this referral.

Signature: Date:

## 9.3 Person preparing the referral information (if different from section 9.1)

Name:

Title:

Organisation:

ACN / ABN:

Postal address:

Telephone:

Email:

Declaration: I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct.
I understand that giving false or misleading information is a serious offence.

Signature: Date:

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**REFERRAL CHECKLIST**

**HAVE YOU:**

- ❑ Completed all required sections of the referral form?
- ❑ Included accurate coordinates (to allow the location of the proposed action to be mapped)?
- ❑ Provided a map showing the location and approximate boundaries of the project area for the proposed action?
- ❑ Provided a map/plan showing the location of the action in relation to any matters of NES?
- ❑ Provided a digital file (preferably ArcGIS shapefile, refer to guidelines at Attachment A) delineating the boundaries of the referral area?
- ❑ Provided complete contact details and signed the form?
- ❑ Provided copies of any documents referenced in the referral form?
- ❑ Ensured that all attachments are less than three megabytes (3mb)?
- ❑ Sent the referral to the Department (electronic and hard copy preferred)

# Attachment A

**Geographic Information System (GIS) data supply guidelines**

If the area is less than 5 hectares, provide the location as a point layer. If the area greater than 5 hectares, please provide as a polygon layer. If the proposed action is linear (eg. a road or pipeline) please provide a polyline layer.

GIS data needs to be provided to the Department in the following manner:

- Point, Line or Polygon data types: ESRI file geodatabase feature class (preferred) or as an ESRI shapefile (.shp) zipped and attached with appropriate title
- Raster data types: Raw satellite imagery should be supplied in the vendor specific format.
- Projection as GDA94 coordinate system.

Processed products should be provided as follows:

- For data, uncompressed or lossless compressed formats is required - GeoTIFF or Imagine IMG is the first preference, then JPEG2000 lossless and other simple binary+header formats (ERS, ENVI or BIL).
- For natural/false/pseudo colour RGB imagery:
    - If the imagery is already mosaiced and is ready for display then lossy compression is suitable (JPEG2000 lossy/ECW/MrSID). Prefer 10% compression, up to 20% is acceptable.
    - If the imagery requires any sort of processing prior to display (i.e. mosaicing/colour balancing/etc) then an uncompressed or lossless compressed format is required.

Metadata or 'information about data' will be produced for all spatial data and will be compliant with ANZLIC Metadata Profile. (http://www.anzlic.org.au/policies_guidelines#guidelines).

The Department's preferred method is using ANZMet Lite, however the Department's Service Provider may use any compliant system to generate metadata.

# Attachment B

**Privacy and Confidentiality Notice**

The Department is required under section 74(3) of the *Environment Protection and Biodiversity Conservation Act 1999* (**EPBC Act**) to publish the information (including personal information of the author and/or third parties) provided in this referral on the internet. The information published may include your personal information.

Information including your personal information included in this referral will be used for the purposes of administering the EPBC Act. The information may be provided to various Commonwealth, State and Territory agencies for the purposes of administering the Act or other Commonwealth, State or Territory legislation. For example, if the proposed action (or a component of it) is to be taken in the GBRMP, the Minister is required to provide a copy of your referral to GBRMPA (see section 73A, EPBC Act). For information about how the GBRMPA may use your information, see http://www.gbrmpa.gov.au/privacy/privacy_notice_for_permits.

The Department will collect, use, store and disclose the personal information contained in this referral in a manner consistent with its obligations under the *Privacy Act 1988* and the Department's privacy policy.

The Department's privacy policy contains details about how respondents may access and make corrections to personal information that the Department holds about the respondent, how respondents may make a complaint about a breach of an Australian Privacy Principle, and how the Department will deal with that complaint.

A copy of the Department's privacy policy is available at: http://environment.gov.au/privacy-policy.

The Department is not obliged to publish information that the Minister is satisfied in commercial-in-confidence. If you believe that this referral contains information that is commercial-in-confidence, you must clearly identify such information and the reason for its confidentiality at the time of making the referral. The Minister cannot be satisfied that particular information included in a referral is commercial-in-confidence unless you demonstrate to the Minister (by providing reasons in writing) that:

- release of the information would cause competitive detriment to the person; and
- the information is not in the public domain; and
- the information is not required to be disclosed under another law of the Commonwealth, a State or a Territory; and
- the information is not readily discoverable.

The Department is subject to certain legislative and administrative accountability and transparency requirements of the Australian Government including disclosures to the Parliament and its Committees. While the Department will treat all referral information provided in this referral sensitively, any information contained in or relating to a referral, including information identified by a person as commercial-in-confidence, may be disclosed by the Department:

- to its employees and advisers in order to evaluate or assess a referral;
- to the Parliamentary Secretary;
- within the Department or other agencies where this serves the legitimate interest of the Australian Government;
- in response to a request by a House or Committee of the Parliament of the Commonwealth of Australia;
- where information is authorised or permitted by law to be disclosed; and

- where the information is in the public domain other than by the Department's disclosure of that information.