

## 7. Port navigation and movement restrictions

### 7.1 General

Draft figures are related to a draft in salt water of density 1025 kg/m<sup>3</sup>.

### 7.2 Speed

The [Transport Operations \(Marine Safety\) Regulation 2016](#) sections 81, 83, 84 and 85 apply and refer to ships not being operated at a speed of more than 6 knots when within 30 metres of any wharf, boat-ramp or pontoon, a vessel at anchor or moored or made fast to a jetty.

With the exception of the above no speed restriction is specified in the port.

### 7.3 Arrival movement criteria

All movements are subject to weather, under keel clearance and berth occupancy and are generally conducted on the flood tide. Entry time at the Fairway is from 30 minutes before low water until two hours before high water. Vessels >160m LOA entry is restricted to 2 hours 30mins prior to high water. The time from Fairway to berth is approximately 1.5 hours.

#### 7.3.1 Draft

Maximum draft on arrival not to exceed 5.9 metres + tide height (to provide a minimum UKC in the swing basin of 0.5 metres).

#### 7.3.2 Trim

The safe handling of ships within the confines of the channels and swing basin requires certain conditions of trim. Ships should be ballasted or loaded in order to have an even keel or trimmed by the stern with the forward draft not less than 2% of the LOA and the propeller fully immersed. Vessels trimmed by the head or listing may be subject to restrictions and the Regional Harbour Master is to be informed when bookings are made. Ships not meeting trim requirements may experience considerable delays until the problem is rectified.

Masters should pay special attention to their loading/ballasting plans to ensure that their ships are suitably trimmed and able to put to sea at short notice, especially during the cyclone season – November to April.

#### 7.3.3 Length restrictions

Length of Vessel	Requirements
Vessels <90m LOA	2 fully functioning anchors (See note 1 and 3 below)
Vessels ≥90m < 170m LOA	1 tug for arrival and departure (see notes 2 and 3 below)
Vessels ≥170m ≤189m LOA	2 tugs for arrival and departure (see notes 2 and 3 below)
Vessels > 189m LOA	will be determined on a case by case basis
Vessels > 200 m LOA	Not accepted
Vessels carrying DG <170m LOA	1 tug (see note 3 below)
Vessels carrying DG ≥170m LOA	2 tugs (see note 3 below)

**Note:**

1. Unless carrying Dangerous Goods, tugs will NOT normally be used on vessels <90 m LOA and anchors will be used for swinging and berthing purposes.
2. Advice must be received from the vessels master as to the 'operational' effectiveness (Hp/Kw) of the vessels bow thruster. A bow thruster does not remove the requirement for towage.
3. Minimum requirement of a tug is an ASD tug with a minimum 30t bollard pull. Where a tug other than those familiar to the port is proposed, details of the tug including its operator and crew shall be forwarded to the RHM and pilots for consideration.

### **7.3.4 Vessels $\geq$ 160 m LOA**

For vessels with LOA  $\geq$ 160 metres additional consideration will include but is not limited to the vessel's anchoring and mooring capabilities, her displacement, age and crew capabilities.

- Vessels with LOA equal to or over 160 metres will berth during daylight hours only.
- Vessels with LOA over 160 metres can only berth on the last hour of the flood tide and a draft not exceeding 7.6 metres.
- Vessels over 160 metres should pass the Fairway Buoy 2.5 hours before HW.

### **7.3.5 Vessels carrying ammonium nitrate**

Vessels with Ammonium Nitrate and/or explosives cargo must be capable of sailing at the next low water hence the maximum draft is limited to the shallowest part of the shipping channel (not including the swing basin) + the tide height minus 0.7m UKC at the next low water.

These vessels must be berthed head out except at the Regional Harbour Master's discretion.

## **7.4 Departure movement criteria**

Departures are generally conducted on the flood tide.

Vessels sailing at maximum draft for the tide will depart 30 minutes before HW. Other departures will be conducted from 30 minutes after LW to 30 minutes before HW. Maximum draft is 7.0 metres + tide height (dependent on latest soundings) minus 0.7m UKC.

## **7.5 Passing criteria**

An arriving vessel should be programmed to enter 15 minutes after the departure of the outbound vessel.

## **7.6 Under keel clearances**

Ships movements at Port Alma must comply with the following conditions:

- a) Arrival draft is based on the shallowest part of the channel + tide height to provide a UKC of 0.5 metres in the swing basin.
- b) Departure draft  $\leq$  7.0 metres (shallowest part of channel not including swing basin) + tide height minus 0.7m UKC. (Maximum departure draft calculation is based on the tide height one hour before HW).

For the latest port depth information, please consult the [Notices to Mariners](#).

## 7.7 Dangers approaching pilot boarding ground

### 7.7.1 General

Port Alma lies on the West bank, ½ mile within the entrance to Raglan Creek, and 8 miles South West of Sea Hill Point. Raglan Creek runs off the main sea entrance to the Fitzroy River. The city of Rockhampton lies 35 miles up the Fitzroy River and is navigable only by small recreational craft.

There are several rocks and islands skirting the coast in the vicinity of the Fitzroy river mouth, but, except for those cited below, they afford good landmarks and are conspicuous (for example Hummocky Island, the Ship and Fairway Rocks east of the river mouth, and Peak, Wedge and Divided Islands to the west).

### 7.7.2 South coast of Keppel Bay

Cottier Bank – ranges from 2.3 metres to 5.5 metres extending about one mile east to west and about ½ mile wide. Its eastern extreme edge lies 297° 7½ miles from Cape Capricorn.

Keppel Rocks – lying 347° 1¼ miles from Cape Keppel with a height of 16.8 metres. A patch of foul ground carrying only 5.5m lies about 057° 1/3 mile from the outer rock.

Hummocky Island – is situated at 23° 24'S, 151° 09'E with a height of 117m. Depths of less than 10 metres extend six cables west from the island, and a spit with depths of less than 10 metres over it extends one mile north-west from the middle of the north side of the island. A detached 9.4 metres patch lies ¾ mile north-west of the western extremity of the island.

Timandra Bank – is an extensive shoal lying to the north and west of Cape Keppel, carrying between 1.22 metres and 4.57 metres. This shoal is about 3 miles long east to west with its outer edge lying 2.4 miles off the land at grassy hill. its north-west extremity is marked by a buoy L Fl 10s and its western edge by a light Fl R 2s. The bank breaks from about ¾ ebb to about ¼ flood tide just south and south-east.

North West Bank – has depths of less than 5 metres over it and extends 1½ miles offshore between Station and Sea Hill Points. It is marked by a light-buoy off its north-west side.

### 7.7.3 Off-lying islands and shoals

Jabiru Shoals – is a series of four patches, with depths of 7.9 metres to 10 metres over them extending from a position between three and six miles WNW of Hummocky Island.

Lisa Jane Shoals – is a series of three patches with depths of 7.6 metres to 11.9 metres over them. Allowance should also be given to the tidal set in this area, particularly for deeper draft ships. They lie 7½ miles north-west of Hummocky Island.

Peak Island – is 110 metres high and lies 23° 21.6' S, 150°56' E.

Arch Rock – is 18 metres high with a hole through it. It lies on the outer end of a reef with rocks that extend one mile SSE from Peak Island. A bank with depths of less than 5 metres over it extends one mile west of the island and a rock 23 metres high lies close off its northern extremity.

Split Rock – lies ½ mile north-west of Peak Island.

Divided Island – lies 2½ miles NNW from Peak Island and is divided into two parts at high water. A rock lies on the outer end of a reef, which extends ½ mile NNW from the island and dries at 3.6 metres.

Wedge Island – is 61 metres high at 23° 17'S, 150°53'E.

Pelican Island and Pelican Rock – are 46 metres high and 17 metres high respectively and joined by a drying reef. They lie 2½ miles NNW of Wedge Island. A bank with a least depth over it of 2.7 metres extends ¼ miles NNW from Pelican Island and a 4 metres patch lies ¾ mile south of the same island.

#### **7.7.4 West coast of Keppel Bay**

Centre Bank – extending about one mile with a least depth of 3 metres over it, lies on the western side of the entrance to Fitzroy River 3 miles NNW of Station Point. Along with the east bank, it forms the north-east end of a spit known locally as Long Spit. The main channel for entering the port is between Timandra and Centre Banks.

East Bank – extending for about ½ mile has a least depth of 3.3 metres lies on the western side of the entrance to the Fitzroy River 4½ miles north-west of Station Point. Along with the Centre Bank, it forms the north-east end of a spit known locally as Long Spit.

Cawarral Creek – on the south entrance point of which is the town of Keppel Sands, is almost blocked at its entrance by drying sand banks which extend from each side.

Quartz Rock – which is 3 metres high, lies ¾ miles NNW of Cattle Point.

Girt Island – lies a further ¼ miles NNW from Quartz Rock.

Flat Rock – lies ¼ miles east of the entrance to Cawarral Creek.

Round Rock – is above water and lies on the eastern side of a drying sand bank, ½ miles ENE of the entrance to Cawarral Creek.

A reef which dries, extends ¾ of a mile SSE from Zilzie Point (23° 17'S, 150° 50' E) through Entrance Rocks with Mother MacGregor Island close off on the east side.

#### **7.7.5 North side of Keppel Bay**

Egg Rock – at 23° 12'S, 151° 06'E is the eastern most of the islands and rocks which form the north side of Keppel Bay. It is 15 metres high and two rocks lie close off its east side.

Middle Island – at 23° 10'S, 150° 55'E is 61m high and lies on a bank with depths of less than 5 metres over it. The bank extends one mile north-west of the north-west extremity of Great Keppel Island.

Barren Island (First Lump) – is 167 metres high and lies ¾ miles north-west of Egg Rock. A rock lies close off the north-east side of the island.

Great Keppel Island – lies ¾ miles north-west of Egg Rock. The island is the largest of the Keppel Isles and there is a jetty 3 cables north of the south-west extremity of the island.

Bald Rock – is 27 metres high and lies ½ mile north of the eastern extremity of Great Keppel Island.

Sykes Rock – is above water and lies 4 cables east of the eastern extremity of Great Keppel Island.

Hannah Rock – a dangerous rock with a depth of 1.8m over it lies ¼ miles SSE of the eastern extremity of Great Keppel Island.

Humpy Island – lies ¾ miles off the south side of Great Keppel Island with Halfway Island between. Small vessels with local knowledge use the passages inside Humpy Island, but they are not recommended.

Miall Island – is 67 metres high and lies ¾ miles north-west of the north-west extremity of Great Keppel island. A rock, awash, lies midway between Miall Island and the northern extremity of Great Keppel Island.

Middle Island – at 23° 10'S, 150° 55'E is 61 metres high and lies on a bank with depths of less than 5 metres over it. The bank extends one mile North-West of the north-west extremity of Great Keppel Island.

### **7.7.6 Approaches to Port Alma**

Wagtail Sands – which are divided into two parts, dry at 0.9 metres and extend 3¾ miles SSW from a position nearly 2 miles WNW of Sea Hill Point. A black triangular beacon stands on the south end of the northern drying part and a similar beacon stands on the southern drying part.

Middle Sand – which dries 0.6 metres to 0.9 metres extends 3¼ mile SSW from a position 2½ miles west of Sea Hill Point on the eastern side of Middle Channel.

Mackenzie Sand – which dries, extends 2½ miles north-east from Mackenzie Island situated 2 miles south of Cattle Point.

The Narrows – a drying mud spit extends 4½ miles north-west from the western entrance point to the northern end of The Narrows. Anchorage may be obtained by small vessels in The Narrows south of Sea Hill Point.

Curlew Spit – which dries, extends 1 mile NNE from Cardigan Point, which is the northern extremity of Balaclava Island.

South Head Shoal – with depths of less than 5 metres over it extends 1 mile further NNE from Curlew Spit. A light-buoy is moored off the western side of the northern end of Curlew Spit.

Balaclava Island – is a mud flat that rises to South Hill, which is 53 metres high and lies 2½ miles south-east of Cardigan Point.

Sea Reach – lies between the drying mud spit extending from the Western entrance of The Narrows at its northern end with South Head Shoal and Curlew Spit on the eastern side and Wagtail Sands on the western side.

Haynes Spit – is mud which dries and extends 2 miles north-east from Shell Point, which is the eastern extremity of Casuarina Island. The channel to Port Alma South of Cardigan Point, leads between the north-west side of Balaclava Island and Haynes Spit.

Casuarina Island – is a mud island covered with mangroves, which rises to Sandfly Hillock at 24 metres high. It lies 1 mile north of Shell Point.

Oswestry Rock – with a depth of 5.2 metres over it lies ½ miles west of Cardigan Point and is marked on its south-west side by a light-float.

### **7.7.7 Northern approaches**

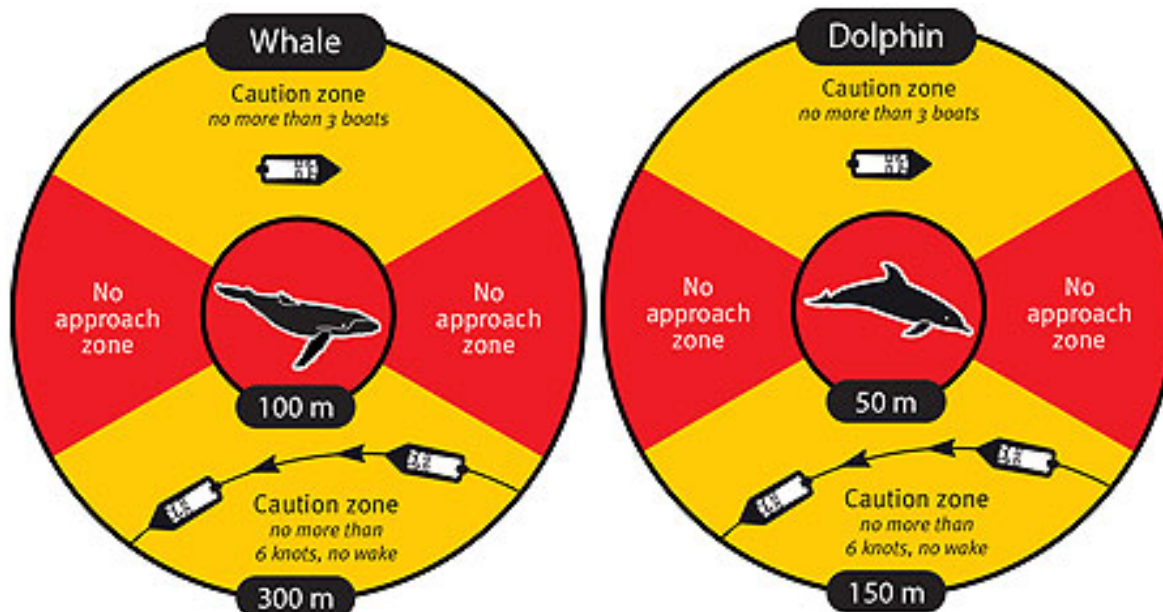
From one mile west of Barren Island steer 184°, taking care to avoid Hannah Rock to the west. Proceed on this course taking care to avoid Jabiru Shoals to the east until Timandra Buoy bears 215° and pass Timandra Buoy to port. There are patches of 8.23 metres LWS on the Balaclava Leads just North of Timandra Buoy.

### **7.7.8 Advisory Note – Interaction with Marine Animals**

The presence of whales or marine mammals indicates that our ports are seen as environmentally attractive places.

The safety of life and the security of the environment from ship based incidents is paramount.

All vessel masters are required to fully comply with relevant marine mammal legislation, such as the provisions of the [Nature Conservation \(Animals\) Regulation 2020 Chapter 6 Part 1](#) which prescribes minimum approach distances and maximum speeds within proximity to whales as illustrated in the diagram below.



When whales or marine mammals are reported in the vicinity of port areas and a risk to marine mammals is perceived, then every possible endeavour will be undertaken to manage shipping movements around the marine mammals to keep them safe, provided the safety of life, the ship and other environmental protection objectives are not threatened. Such action may include not commencing transits until the mammals are deemed clear.

In situations where a vessel is underway and restricted in its ability to manoeuvre or constrained to a channel and marine mammals are reported in the vicinity of the transit and a risk to marine mammals is perceived, the master must take all reasonable action necessary to keep them safe, without endangering the vessel, crew and the environment. Such action may include the reduction of speed to the minimum safe speed to safely navigate the channels.

Masters are required to report collisions with marine mammals to VTS and Department of Environment and Science **1300 130 372**

[Marine wildlife strandings | Environment, land and water | Queensland Government](#)

References:

*Nature Conservation (Wildlife Management) Regulation 2006 part 5A, Sections 338A to 338L.*

*North East shipping Management Plan- Sections 5.5, 5.6 and 9.5*

## 7.8 Personnel transfers to and from vessels using Pilot or combination ladders

Personnel transfers to and from vessels is an inherently dangerous evolution and should only be undertaken after personnel who will be using the Pilot or combination ladder have been thoroughly briefed. Most personnel, including seafarers, are not practised or experienced in ascending or descending the ladders.

AMSA have released [Marine Notice 06/2021](#) in reference to fatal accidents from falling off Pilot ladders. This Notice refers to some earlier documents that should also be consulted with respect to personnel transfers:

[Marine Safety Bulletin Issue 10 – Sep 2019 – Safe Vessel Access](#)

## [Marine Notice 04/2023 – Pilot Transfer Arrangements](#)

MSQ Gladstone have developed a Safe Work Method Statement for use by boat crews and personnel undertaking personnel transfers with vessels in the Gladstone Region. A copy can be found at Section 16.18 and is provided for guidance, by companies developing their own procedures for personnel transfers at the anchorage, underway or alongside at Terminals.

Personnel Transfers within the Port Limits of Port Alma are as a minimum to meet the following requirements:

- Daylight only;
- Head Protection (not a construction helmet) to be worn. An example is [Helmets - Petzl Other | Professional](#);
- Auto inflating lifejacket; and
- Back packs and effects are to be passed by heaving line, not on person.

## **7.9 Personnel transfers to and from vessels underway**

Due to the inherent risks associated with transferring personnel to and from vessels that are underway, the only approved transfers while under way within the pilotage area are for Marine Pilots when joining and departing from vessels. No other personnel transfers are to occur without the express approval from the Regional Harbour Master.

## **7.10 Harbour Transits – fuel changeover (Trade vessels)**

To ensure that vessels' machinery remains in a stable operating condition throughout their visit to the Port of Port Alma, fuel changeover on dual/multi-fuelled engines and generators is prohibited:

- From two hours prior to passing the fairway buoy on entry to the harbour to the vessel's securing at berth.
- From two hours prior to departure from berth until departure from the pilotage area.

These requirements take precedence over those relating to safe engine configuration for pilotage which can be found at <https://www.msq.qld.gov.au/shipping/establishing-safe-engine-configuration>.