

## 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>.

Loaded ships may be draft restricted. The design depth of the channel is 11.1 m but may be less than this between scheduled dredging – refer to the latest Notices to Mariners. – refer to the latest [Notices to Mariners](#).

### 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 six knots when within 30 m of any wharf, boat ramp or pontoon, a vessel at anchor or moored or made fast to a jetty.

The Regional Harbour Master (Cairns) will be responsible for all movements within harbour limits. All ships traversing the South Channel must do so at a moderate speed, to prevent erosion of the side slopes. No speed limit has been promulgated but about ten knots is considered the maximum. No ships will enter or depart the port without the permission of the Regional Harbour Master (Cairns).

Ships masters should be fully aware of the effects of bank effect from navigating in narrow channels particularly in the vicinity of Urquhart Point.

### 7.3 Movement restrictions

Weather, tidal conditions or special circumstances, may require a departure from these guidelines.

#### 7.3.1 Under keel clearance

A vessel is not to enter, depart or manoeuvre within the pilotage area unless tide, weather, transit time and traffic conditions allow the minimum UKC to be maintained until it clear of the pilotage area.

The master is to ensure that the ship maintains a UKC of 0.3 m while alongside; this may require loading operations to be adjusted to suit UKC conditions.

The Regional Harbour Master (Cairns) is to be consulted for determining the tidal window for the planned movement of a draft-restricted ship in the port.

#### 7.3.2 Dredge Under Keel Clearance Requirements

Vessels conducting dredging operations are exempt from under keel clearance restrictions. UKC limit for dredgers is set at 0.3 m.

#### 7.3.3 Static under keel clearance (SUKC)

UKC calculations are based on:

Maximum draft is equal to channel depth + tide ( $\pm$  tide correction) – required channel UKC (as per the above table).

Channel	Design depth (m)	UKC (m)
South Channel (Entrance channel)	11.1	1.2
Cora bank South Channel	7.3	0.6
Jessica Point to Lorim Point Channel	8.8	greater of 10% of draft or 0.9
Departure Channel	11.1	1.2
Humbug Point approaches	8.5	0.9

**Table 15 - Channel depths and UKCs**

Please refer to the [Notices to Mariners](#) for the latest depth information.

### 7.3.4 Dynamic under keel clearance program (DUKC)

A dynamic under keel clearance (DUKC) program has been installed in the port for deep draft vessel transits operated from the Cairns VTS centre.

Vessels utilising DUKC for departure are not to leave the berth until the master has received a copy of the DUKC report from their shipping agent.

DUKC methodology determines the UKC required for a given transit using the most accurate modelling techniques available and is the primary tool for determining sailing drafts and transit times. For each section of the transit, each UKC factor is individually determined based on the forecast environmental conditions, channel configuration, vessel dimensions, load state and speed.

DUKC methodology removes the requirement for UKC allowances to be unnecessarily conservative in favourable conditions. Extreme conditions are accounted for as required, with UKC allowances increased accordingly to provide additional safety.

The DUKC program is used to determine the tidal window for vessels to depart or to determine the maximum draft that a vessel may sail at for a particular tide. The predictions are provided at twenty-four hours before the appropriate high water and updated eight hours before the departure tide and indicate the sailing time and maximum draft.

Masters of vessels with a departure draft over 10 m are required to supply information prior to their arrival via their agent to Weipa VTS on the [DUKC vessel particulars request](#) form.

If the DUKC program is not working calculations will revert to a static calculation based on:

Maximum draft = channel depth + tide – 1.2 m (required UKC).

Siltation occurs regularly, and ships will be advised the maximum permissible sailing draft prior to commencement of loading at Weipa.

## 7.4 Approaches to Weipa

Duyfken Point is some 300 nm east-south-east of Cape Wessel and 120 miles south from Booby Island. It consists of four small sandy tree covered low hillocky points, with shallow reefs extending over one nm to the south and west. These hillocks, about 21 m high, are the only conspicuous features of this part of the coast.

Albatross Bay is extensive and, with the exception of Duyfken Point, uniformly low as far as its southern extremity. This area, named Boyd Point, lies 22 nm from Duyfken Point and is conspicuous as at that point there are some reddish cliffs 6 to 9m high. The Mission and Embley Rivers flow into the bay to form the Weipa Peninsula.

### 7.4.1 Sailing directions

The South Channel leads into Weipa. Beacon number SC22 (V.Q.Y) is offset and marks the Northern edge of the channel off Urquhart Point. The centre of the channel is marked by the South Channel leads in line bearing 078° (T). After passing beacon number SC21/SC22 at

Urquhart Point, there are two natural approaches to the wharves, the deeper one being to the North of Cora bank and the other to the South.

To enter the North Cora Bank Channel after rounding Urquhart Point, head for the cutting to the South of Gonbung Point, passing SC24 beacon on the port hand and Cora Bank West beacon on the starboard hand, thence to the swing basin and Lorim Point wharves. The swing basin is situated to the south-east of the berth with a diameter of 487 m and depth 9.4 m at lowest astronomical tide.

When using the South Cora Bank Channel, pass the Cora Bank West Beacon to port, thence between beacons CS1/CS2, CS3/CS4 and CS5/CS6. Leaving the Cora Bank East Beacon to port, head to the Lorim Point wharves passing beacon CN18 to starboard and beacon CN13 to port thence past beacons CN16 and CN14 to starboard and beacon CN11 to port. The bend around the Cora Bank East Beacon is sharp and speed should be reduced before making the turn.

## 7.4.2 Dangers

Mariners are cautioned against using the Jackson Channel which lies to the North of the South Channel as it is not maintained or surveyed.

## 7.5 Berthing and sailing times

All vessels berthing at Lorim Point must do so utilising the Humbug tides.

Entry times for ships over 200m LOA for the Lorim Point Berths, (to ensure the inward bound vessel is clear of South Channel before an outbound vessel enters the channel)

- 1 hour prior to LOW water (slack water, bottom of tide), or
- 2 hours 30 minutes prior to High water or
- 60 minutes before the first vessel departs Lorim Point
- Vessels may berth on the Ebb Tide under the following:
- Input from current meter: Max 2 knots or in the event of no current meter data no more than 30cm run of tide per hour
- Current 2.0 knots wind 30 knots Westerly Safe Operation with 2 ASD tugs
- Current in excess of 2 knots wind 30 knots Westerly 3 ASD tugs required
- No restriction on Ebb tide berthing if either West or East Wharf is occupied.

All vessels departing Lorim Point are to do so, on a flood tide only. Utilising the Humbug tides.

Ships over 200m LOA departing the Lorim Point Berths are to do so in accordance with the Movement Matrix in paragraphs 7.8 and 7.8.1.

Berthing and sailing times may be varied to take account of ships draft and other shipping movements.

NGF/GF Tankers berthing at Evans Landing will do so stemming the tide, flow should not exceed 20cm/hr. Departures from Evans Landing should be scheduled no earlier than 30 minutes prior to slack water LOW to ensure the vessel is transiting to Bellmouth at slack water or on a Flood tide only, and no more than 20cm/hour of flood tide.

Tankers can berth at Lorim Point as long as it stems the tide.

Ships over 200 m LOA will proceed to their berth via South (Main) Channel then via channel south of Cora Bank and berth starboard side to the wharf (note the channel south of Cora Bank is 7.3 m in depth).

Ships less than 200 m LOA can proceed direct to their berth without passing the channel south of Cora Bank at the discretion of the Regional Harbour Master, Cairns and Pilots; these vessels must berth starboard side to the wharf and use Lorim Point swing basin (9.4 m).

## 7.6 Movement scheduling (4 ASD tugs)

**When four ASD tugs are available in Weipa the following scheduling and multiple ship movement matrix will apply.**

When multiple movements are scheduled for the same tide, the following timings are to be observed:

**Arriving vessel** - will normally be scheduled to be entering the South Channel 60 minutes before the first vessel is scheduled to depart from Lorim Point.

**Vessels are only to depart Lorim Point on a flood tide.**

**Departing vessel** - will normally be scheduled to leave the berth 1 hour 15 minutes before the high water at Humbug which allows the vessel about 30 minutes to reach the South Channel off Urquhart Point, by which time the tidal current should have reduced to less than one knot. A vessel may depart mid tide provided the vessel complies with DUKC requirements.

**Double Departures** - the first vessel will depart 1 hour 45 minutes before the high water and the second vessel will depart 1 hour 15 minutes before high water. Humbug tides are to be utilised for departures.

Considerable local knowledge of the tidal flows is required in order to conduct a safe pilotage.

**Vessels can move between Lorim East and Lorim West at any time with the assistance of 2 ASD tugs.**

### 7.6.1 Multiple ship movement matrix

The present agreed maximum number of movements on any one tide is two arrivals and two departures providing that:

- the times stated in the Weipa move matrix must be strictly adhered to at all times to allow each vessel a sufficient margin of safety
- each vessel must maintain the required UKC for the entire passage
- communications between vessels and Weipa VTS are to be conducted on VHF channel 12
- the arriving vessel must reduce speed after turning Urquhart Point to allow sufficient space between it and the second departing vessel
- the first departing vessel must have two tugs for departure and one ASD tug in attendance to SC4
- the second departing vessel must have two tugs for departure and one ASD tug in attendance to SC4
- the arriving vessel must have one tug in attendance when entering Cora Channel and a second tug in attendance before reaching the turn at Cora East
- the contingency anchorage in the area between Cora West and the Bellmouth must be discussed as part of the pilotage plan with the bridge team
- environmental factors such as rain and tropical storms must be assessed prior to each departure to ensure that satisfactory visibility can be maintained throughout the passage
- if the manoeuvre is cancelled at any stage and the wharf is not clear then the inbound vessel is to proceed outbound via the Departure and South Channels
- the arriving vessel draft does not exceed actual depth at lowest astronomical tide in Cora Bank South channel + tide height ( $\pm$  tide differential) – 0.6 m (required UKC)
- the second arriving vessel must have one tug in attendance when entering Cora South Channel and a second tug in attendance before reaching the turn at Cora East and may berth on the Ebb Tide subject to restrictions detailed in 7.6

The first arriving vessel will be scheduled to enter the South Channel 2 hours 45 minutes before high water, will clear the Bellmouth 1 hours 45 minutes before high water and approach the berth 45 minutes before high water.

The first departing vessel will leave Lorim Point West 1 hour 45 minutes before high water, enter the Bellmouth 1 hour 15 minutes before high water and clear the channel 20 minutes before high water.

The second departing vessel will leave the berth 1 hour 15 minutes before high water, enter the Bellmouth 45 minutes before high water and clear the channel 10 minutes after High Water

Environmental factors such as rain and tropical storms must be assessed prior to each departure to ensure that satisfactory visibility can be maintained throughout the passage

The second vessel berthing on the ebb tide will not enter the South Channel until both outward vessels are well clear of South Channel

## 7.6.2 Anchorage in case of engine problems departing Weipa

An outbound vessel that develops engine problems and has not attained a speed of 5 knots when passing Evans Landing – departure is to be aborted and the vessel anchored in the Emergency Anchorage to effect repairs. A tug or tugs are to be retained in attendance to assist the vessel to swing with the tide.

## 7.7 Movement scheduling (3 ASD tugs)

**When three ASD tugs are available in Weipa the following scheduling and multiple ship movement matrix will apply.**

### **Double Movement (1 in 1 out)**

**Arriving vessel** - will normally be scheduled to be entering the South Channel 60 minutes before the first vessel is scheduled to depart from Lorim Point.

**Vessels are only to depart Lorim Point on a flood tide.**

**Departing vessel** - will normally be scheduled to leave the berth 1 hour 15 minutes before the high water at Humbug which allows the vessel about 30 minutes to reach the South Channel off Urquhart Point, by which time the tidal current should have reduced to less than one knot. A vessel may depart mid tide provided the vessel complies with DUKC requirements.

### **Triple Movement (2 out 1 in)**

**Double Departures** - the first vessel will depart 1 hour 45 minutes before the high water and the second vessel will depart 1 hour 15 minutes before high water. Humbug tides are to be utilised for departures.

**Arriving Vessel** – vessel will arrive at Fairway Beacon after the second vessel has cleared the channel.

**Vessels can move between Lorim East and Lorim West at any time with the assistance of 2 ASD tugs.**

### 7.7.1 Multiple ship movement matrix

The present agreed maximum number of movements on any one tide is two arrivals and two departures providing that:

The first departing vessel will leave Lorim Point West 1 hour 45 minutes before high water, enter the Bellmouth 1 hour 15 minutes before high water and clear the channel 20 minutes before high water.

The second departing vessel will leave the berth 1 hour 15 minutes before high water, enter the Bellmouth 45 minutes before high water and clear the channel 10 minutes after high water.

- the times stated in the Weipa move matrix must be strictly adhered to at all times to allow each vessel a sufficient margin of safety

- the two departing vessels will both clear South Channel before the first arriving vessel enters the South Channel
- the arriving vessels will berth on the ebb tide in accordance with 7.6
- each vessel must maintain the required UKC for the entire passage
- communications between vessels and Weipa VTS are to be conducted on VHF channel 12
- the first departing vessel must have two tugs for departure and retain a tug fast in centre lead aft until Beacon SC4
- the second departing vessel must have two tugs for departure and retain a tug fast in centre lead aft until Beacon SC4
- the first arriving vessel will enter the South Channel after the second departing vessel has cleared the Fairway Beacon
- the second arriving vessel will enter the South Channel 60 mins after the first inbound vessel.
- the arriving vessels draft does not exceed actual depth at lowest astronomical tide in Cora Bank South channel + tide height ( $\pm$  tide residual) – 0.6 m (required UKC)
- two tugs will meet the first arriving vessel between SC 24 and CW and proceed to berth at Lorim Point
- the third tug will meet the second vessel between SC 24 and CW. The vessel will proceed inward picking up the second tug as soon as it is released from the first vessel
- if the second tug is delayed the second arriving vessel will remain in Cora South channel with one tug between CS2 –CS 4 EBB tide and CN14-CN18 for Flood tide
- if the manoeuvre is delayed at any stage and the wharf is not clear then the arriving vessel is to be turned around CW for second approach
- the contingency anchorages in the area between Cora West and the Bellmouth and/or CS2 –CS 4 for EBB tide, CN14-CN18 for FLOOD tide must be discussed as part of the pilotage plan with the bridge team
- environmental factors such as rain and tropical storms must be assessed prior to each departure to ensure that satisfactory visibility can be maintained throughout the passage

## 7.8 Restricted areas

A ship [Security exclusion zone](#) extends 50 m from the Lorim Point Wharf, including the mooring dolphins and access jetty. Vessels not involved in port operations, including recreational vessels are prohibited from entering the declared zone.

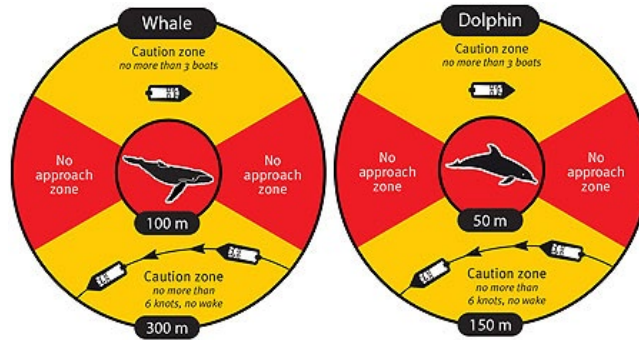
## 7.9 Advisory Note – Interaction with Marine Mammals

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 endeavor 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**

[http://www.ehp.qld.gov.au/wildlife/caring-for-wildlife/marine\\_strandings.html](http://www.ehp.qld.gov.au/wildlife/caring-for-wildlife/marine_strandings.html)