

7. Port navigation and movement restriction

7.1 General

Draft figures are related to a draft in salt water of density 1025 kg/m³.

7.2 Speed

The [Transport Operations \(Marine Safety\) Regulation 2016](#) sections 81, 83 and 84 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 and

The [Transport Operations \(Marine Safety\) Regulation 2016](#) sections 82, apply and refer to Personal Watercraft not being operated at a speed of more than 6 knots when within 60 metres of any wharf, boat ramp or pontoon, a vessel at anchor, or moored or made fast to a jetty.

The speed limits specified in sections 7.3, 7.4 and 7.5 are based on static under keel clearances and speed profiles.

7.3 Speed - Vessels with draft greater than 10m

This section applies to any vessel with draft greater than 10 metres, having a minimum Static UKC 1.8 metres.

Area	Maximum Speed
Sea Channel	10 knots
Platypus Channel Bn. P1 to Bn. P16	10 knots
Platypus Channel passing beacon P16	6 knots
Swing basin	6 knots

Table 15– Speed limits – Vessels with draft > 10m

Master and Pilot may require to maintain lower speed profiles to ensure adequate UKC is maintained throughout the transit.

7.4 Speed – Vessels operating on UKC 1.3m to 1.8m

This section applies to any vessel with

- a) Length overall less than 240 metres; and
- b) operating on a minimum Static UKC 1.3 m to 1.8 m.

Area	Maximum Speed
Sea Channel	8 knots
Platypus Channel Bn. P1 to Bn. P16	8 knots
Platypus Channel passing beacon P16	6 knots
Swing basin	6 knots

Table 16 – Speed limits – Vessels with LOA < 240 and UKC 1.3m to 1.8m

Master and Pilot may require to maintain lower speed profiles to ensure adequate UKC is maintained throughout the transit.

7.5 Vessels with draft less than 10m.

This section applies to any vessel with draft less than 10 metres.

Area	Maximum Speed
Sea Channel	14 knots
Platypus Channel Bn. P1 to Bn. P16	12 knots
Platypus Channel passing beacon P16	6 knots
Swing basin	6 knots

Table 17 – Speed limits – Vessels with draft less than 10m.

Master and Pilot may require to maintain lower speed profiles to ensure adequate UKC is maintained throughout the transit.

7.6 Vessels with LOA less than 35m

The following speed limits apply in the Port of Townsville:

Area	Maximum Speed
Breakwater (Beacon P15) to Ross Creek Front Lead	10 knots
Ross Creek (upstream of the Front Lead)	6 knots
Ross River (upstream of beacon No 4)	6 knots
Breakwater Marina	6 knots

Table 18– Speed limits – Vessels with LOA less than 35m

No speed limits are specified in Cleveland Bay. Ships are to proceed at a safe speed that complies with the Queensland [Transport Operations \(Marine Safety\) Act 1994](#), and subordinate legislation.

7.7 Draught Restrictions and Under Keel Clearance

Maximum permissible draft of vessels transiting the Sea channel and Platypus channel is 13.1 metres.

The UKC requirements specified in this section is the minimum requirement for ships transiting the channels. It includes:

- a) **Squat** based on a transit speed for the respective channels
 Sea channel 10kts; (14kts for vessels less than 10m draft)
 Platypus channel 8 kts; (14kts for vessels less than 10m draft)
- b) **Manoeuvrability margin (MM)** as per PIANC guidelines.
- c) **Other allowances** for dredging tolerances and bottom changes between surveys, and so on.

Ships must have a minimum static under keel clearance as stated in Section 7.7.1 during the transit and stay in port.

7.7.1 Under keel clearance (UKC)

Static Under Keel Clearance (UKC) is used for vessels calling Port of Townsville.

The minimum UKC a vessel must maintain within is declared in the following table:

Static under keel clearances	Vessels with LOA <240m		Vessels with LOA > 240m	
	UKC	Max Speed	UKC	Max Speed
Sea Channel	UKC 1.3 m	8 Kts	UKC 1.8m	10Kts
Platypus Channel	UKC 1.3 m	8 Kts	UKC 1.8m	10Kts
Inner Harbour Swing Basin	UKC 0.6 m			
Outer Harbour Swing Basin	UKC 1.3 m or 10% of draft (<i>whichever is greater</i>)			
Alongside at berths - Inner Harbour	UKC 0.5 m			
Alongside at berths - Outer Harbour	UKC 1.3 m or 10% of draft (<i>whichever is greater</i>)			
Ross River	UKC 0.4 m in channel and inside Marine Precinct			
Ross Creek Channel	UKC 0.4m in channel between swing basin and Reef HQ			

Table 19 – Minimum under keel clearances

The Static under keel clearance stated in the table 19 – "Minimum under keel clearances" is the minimum UKC required by the port.

If the Ships SMS (or their squat calculations) indicate a greater UKC is required, than that stated in the Port Procedures and Information for Shipping – Port of Townsville, every effort must be made to navigate to the ship's SMS, (lower speed, delay berthing if greater tide is required).

Tidal Window are calculated for all vessels with a draft exceeding the declared channel depths – 1.3m (Refer to latest Notice to Mariners for declared channel depth).

Example:

Tidal Window Calculation	Vessels with LOA < 240m		Inner Harbour	Outer Harbour	Vessels with LOA > 240m	
	Sea	Platypus			Sea	Platypus
Vessel Draft	10.7m	10.7m	10.7m	10.7m	10.7	10.7
UKC Required	1.3 m	1.3 m	0.6m	1.3m	1.8m	1.8m
Draft + UKC	12.0	12.0	11.3	12.0	12.5	12.5
Channel Depth (NTM)	12.0	11.5	11.5	11.4	12.0	11.5
Minimum Tide required	0.0	0.5m	Nil	0.6m	0.5m	1.0m

Tidal window calculations will be made using the predicted tides on the relevant day. This will provide the tidal window with the required UKC maintained for the duration of the transit.

All vessels arriving to berth 11, regardless of draft will require a tidal window calculation.

Vessel draft information (arrival and departure) must be in QSHIPS no less than 48 hours before the planned movement, VTS will assess draft information and calculate tidal windows and notify the shipping agent through QSHIPS.

7.8 Approaches to pilot boarding places (AUS 256)

The Port of Townsville is situated in Cleveland Bay and is generally approached between ESE and NNW from the Inner Route of the Great Barrier Reef.

Pilot Boarding Place "A" is in position Latitude 19° 04.2200' S, Longitude 146° 55.0600' E.

All ships with Length overall (LOA) 50 metres or more will embark pilot at Pilot boarding place "A".

Ships approaching Pilot boarding place "A" from the south west should avoid transiting through the anchorages

Vessels approaching the pilot boarding place must maintain a sharp lookout for other vessels which may be in the process of boarding or disembarking a pilot. Masters should exercise caution and stay well clear of other vessels.

7.8.1 Dangers off Cleveland Bay

Salamander Reef lays 087° (T), 2.8 nautical miles from Cape Cleveland Lighthouse. The reef consists of several rocky heads, some of which dry at low tide. The depth of water surrounding Salamander Reef is not less than 14 metres (LAT). There is nearly always a break on this reef.

Four-Foot Rock lies 101° (T), 1.9 nautical miles from Cape Cleveland Lighthouse.

Twenty-Foot Rock lays 128° (T), 1.5 nautical miles from Cape Cleveland Lighthouse. The passage between this and the Four-Foot Rock is nearly 0.8 nautical miles wide.

Orchard Rocks lie 0.15 nautical miles off the northeast extremity of Magnetic Island being 18.3 m high and plainly visible.

Burdekin Rock awash at low water lays 258° (T), 2.56 nautical miles from Bay Rock Lighthouse. Ships will be to the north of this danger when Bay Rock is in transit with the north point of Magnetic Island, and to the east of it when the highest peak of the Great Palm Island is open eastward of Cordelia Rock.

7.9 Shifting vessels (removals)

Notification of Removal from one berth to another must be submitted via QSHIPS at least 24 hours prior to the intended movement, refer [section 2.2](#).

7.9.1 Warping – Distance less than 20m

Where any removal

- is movement of a vessel along a continuous uninterrupted stretch of wharf using the mooring ropes only (Warping);
- the movement is less than 20 metres; and
- the final location of the ship is within the same berth (berth 3 to berth 3).

The removal is not required to be submitted through QSHIPS.

The ship / agent must notify VTS and Port services at least 3 hours prior to the movement of the following:

- the distance of the movement;
- initial and expected final berth marks;
- ship's masters confirms the ship's ability to safely conduct the manoeuvre; and
- Master and mooring supervisor must discuss the warping plan and ensure an adequate number of ships lines will be fast ashore at all times.

Where **any** removal is movement of a vessel along a continuous uninterrupted stretch of wharf using the mooring ropes only (Warping) and the distance of movement is 20 or more the removal is required to be submitted via QSHIPS.

To ensure the safe and efficient operation of the port, the regional harbour master, may require the removal (warping) to be conducted by a pilot and may require tug(s) to be used.

7.9.2 Warping – Distance greater than 20m but does not exceed 60m

Generally, when the warping:

- Distance does not exceed 60 metres;
- The removal (warping) is along a continuous uninterrupted stretch of wharf; and
- Vessel does NOT intend to use Main engines;
- Vessel does NOT intend to use tugs; and
- Adequate number of ships lines will be fast ashore at all times,

The Regional Harbour Master may permit the warping to be conducted by the master of the ship without a pilot provided the following are complied with:

1. The mooring supervisor and Master have discussed the warping plan; and
2. The master confirms the ship's ability to safely conduct the manoeuvre; and
3. The weather is suitable for the manoeuvre. (Generally, less than 20kts)

Master must assess whether the use of a lines launch would be beneficial to the safety of the movement and request the same if considered a safety benefit.

The ship must contact Townsville VTS on Channel 12

- prior to commencement of the movement, to request permission to proceed, and
- on completion; and
- report time of commencement of the removal and the time of completion of the movement (all fast).

7.9.3 Warping – Distance more than 60m

When a Ship is intending to warp

- More than 60 metres;
- Requires a tug for the movement; or
- Intends to use main engines to assist in the movement

A pilot is mandatory for the movement.

The Pilot must contact Townsville VTS on Channel 12:

- prior to commencement of the movement, to request permission to proceed;
- on completion; and
- report time of commencement of the removal and the time of completion of the movement (all fast).

7.10 Tug and barge operations

Tug and barge operators are required to demonstrate that master and crew are competent to operate tug and barge combinations.

All commercial operators are required to have a training programme for masters and crew included in the vessel's SMS manual.

Training programme must include – but not limited to:

- passage planning – berth to berth including berthing/departure manoeuvres;
- bridge resource management;
- procedures and contingency planning;
- communication;
- clearance from other moored vessels;
- interaction between tug and barge;
- understanding of wind and tidal effects;
- knowledge of 'hip up' procedure;
- stability;
- requirement and use of workboats;
- requirement to use correctly rated lines, shackles and other equipment;
- procedures for replacing lines and shackles when no longer fit for purpose;
- maintain a gear register with manufacturers certificates;
- documentation of training; and
- manual of company SMS procedures for towing, including identification of high risk areas.

Workboats should be fit for purpose and manned by a trained competent operator.

Barge must be able to deploy and recover its anchor using the onboard equipment at all times.

7.11 Swinging and passing restrictions

Size limits depend on berth pocket length and swing basin width:

- Maximum LOA of a vessel transiting Sea/Platypus Channel is 306 metres;
- Maximum beam for a vessel transiting Sea/Platypus Channel is 43.0 metres;
- Only one ship at a time is permitted to use the swing basin;

- Passing of ships within the Platypus and Sea navigational channels is not permitted; and
- Where ships, by virtue of their draft are required to use the Sea and/or Platypus channels, only one ship is permitted to occupy the channel/s at any given time.

7.11.1 Ships with LOA greater than 306m or beam greater than 43.0m.

The Regional Harbour Master may approve larger ships. Approval will be based on a risk assessment, generally requiring simulations to be conducted to determine if the vessels may be navigated safely in and out of the port and to determine any special conditions or restrictions which may include (but not limited to):

- daylight hours;
- tidal requirements;
- weather restrictions; and
- increased number of tugs.

7.11.2 Ships transiting Ross River to and from Townsville Marine Precinct.

This section applies to

- all ships with LOA 35 metres or more; and
- Tug and tow combinations 35 metres or more.

Due to the nature of the entrance and restricted visibility to ships exiting or entering the Townsville Marine Precinct, transit is restricted to daylight hours only.

For the purpose of this section daylight commences at morning Civil Twilight (approximately 24 minutes before sunrise) and ceases at evening civil twilight (approximately 24 minutes after sunset).

Mariners are reminded to maintain a sharp lookout for small vessels, transiting the Ross River.

7.11.3 Transiting to and from Ross Creek

All ships and ferries transiting the Platypus channel to or from Ross Creek are advised to maintain a sharp lookout for large ships with attending tugs maneuvering in the port of Townsville swing basin and the platypus and sea channels.

Masters of ships are reminded of their obligation under the international regulations for prevention of collisions at sea rule 9 "Narrow channels".

Small vessels, sailing vessels, ferries and personal watercrafts (including kayaks, canoes, jet skis and so on):

- Must not impede (larger) vessels which can navigate only within a narrow channel.
- Must not cross a channel if to do so would impede another vessel which can navigate only within that channel.
- Must maintain a safe clearing distance from large vessels and attending tugs
- Must navigate with extreme caution when coming down Ross Creek and near the Platypus Channel and liaise with Townsville VTS on VHF Channel 12 or 16 if there is any doubt on shipping movements.

Mariners are advised to refer to [section 16.13](#)– Townsville harbour – Port busy Restricted area.

7.11.4 Port busy signal

The Port Busy Signal is exhibited when a large ship is approaching the port entrance or departing a berth in the port. During this period there will be considerable movement of tugs and other assisting ships. Due to the nature of the manoeuvres the ship's propellers, its bow thrusters and the tugs propellers will generate considerable wash in multiple directions.

The Port busy signal Occ R (3 vert) 5s, (3 lights in a vertical line, synchronized to flash Occulting Red every 5 secs) will be exhibited by day and night from:

- Platypus channel beacon P 16 directed north west with a 160° an arc of visibility 075°(t) to 235°(t); and
- Platypus Front Lead in position, directed up stream with a 160° an arc of visibility 300°(t) to 100°(t).

When the Port busy signal is exhibited

- Ships and watercraft departing the Ross Creek must not proceed seaward (downstream) of the Platypus Channel Front Lead;
- Ships and watercraft intending to transit the Platypus channel and swing basin to enter the Ross Creek must not proceed into that section of the Platypus Channel between beacons P14 and the Platypus Channel front lead; and
- Ships and watercraft must not enter, drift or anchor within the Port of Townsville swing basin.

Until the signal is turned off.

If in doubt masters may contact Townsville VTS on VHF channel 12 or 16.

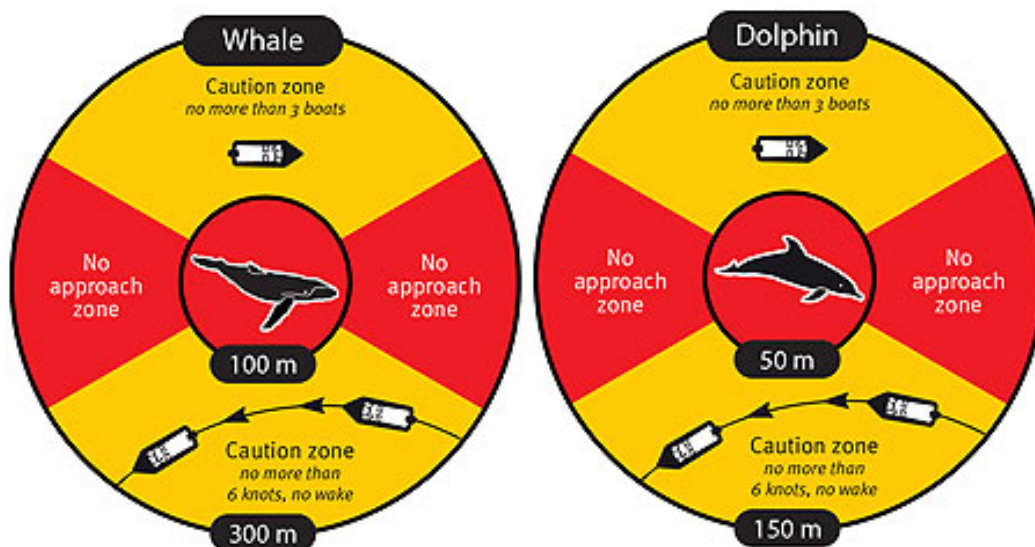
Mariners are advised to refer to [section 16.13](#) – Townsville harbour – Port busy Restricted area.

7.12 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 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](#)