7. Port navigation and movement restrictions

7.1 General

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

Loaded ships may be draft restricted. The design depth of the channel is 9.0m 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 and 84 and 85 apply and refer to ships not being operated at a speed of more than six knots when within 30m of any wharf, boat ramp or pontoon, a vessel at anchor or moored or made fast to a jetty. The following speed limits apply in the port of Cairns.

Area	Speed
Entrance Channel seaward of beacon 15 and draft greater than 3m	12 knots
Trinity Inlet Inshore from beacon 15 and draft greater than 3m	8 knots no wash
Smiths Creek and draft greater than 3m	6 knots no wash
Smiths Creek between Senrab Point and Chinamans Creek	6 knots no wash

Table 13 Speed limits

7.3 Movement restrictions

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

7.3.1 Under keel clearance

Ships are 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 the ship is clear of the pilotage area.

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

Loaded ships may be draft restricted for movements. The design depth of the channel is 9.0m but may be less than this between scheduled dredging.

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

The following table identifies the minimum under keel clearances vessels are required to maintain while manoeuvring with the pilotage area.

Under keel clearances	
Over 90,000 GT	UKC 2m in the channel and 0.6m in swing basin
Over 40,000 GT	UKC 1.5m in the channel and 0.6m in swing basin
Up to 40,000 GT	UKC 1.3m in the channel and 0.6m in swing basin
Up to 30,000 GT	10% of draft or a minimum of UKC 0.9m whatever is greatest in the channel and 0.6m in swing basin or on actual squat figures (provided for a channel similar to Cairns at 10 Knots) plus 0.6m
All vessels, berth pocket	UKC of 0.3m is to be maintained at all times

Table 14 Under keel clearances (pilotage area)

7.3.2 Static under keel clearance (SUKC)

UKC calculations are based on:

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

7.3.3 Tidal Windows

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

Agents may request from VTS Cairns, tidal windows for draft restricted shipping movements for a maximum of 2 days for arrival and departure.

7.3.4 Ebb tide departures

- Vessels less than 150m can sail at any stage of the tide providing that the minimum UKC is maintained for the duration of the transit;
- Vessels greater than 150m with low manoeuvrability can only sail on the ebb tide if the hourly rate of change of the tide is less than or equal to 40cm per hour; and
- Vessels greater than 150m with high manoeuvrability can sail at any state of the ebb tide.

7.3.5 Maximum draft departures

Vessels sailing at the maximum draft for the current tide and berthed head out must depart the berth no later than one hour before the predicted high water. Vessels berthed head in under these conditions must leave the berth no later than 1¼ hours before the predicted high water.

7.3.6 Berth number 12 restrictions

- All ships 85m LOA or greater will require a lines launch for berthing and sailing;

- Some vessels with an LOA less than 85m will require the use of a lines launch on the advice of pilots and the Regional Harbour Master (Cairns);
- All ships 170m LOA or greater berthing at the Bulk Sugar Wharf (C12) will swing on arrival, berthing port side too, using two tugs. Berthing will occur on a flood tide only with a rate of change in tide of less than 40cm per hour; and
- The gantry must be placed amidships for all departing vessels.

7.3.7 Passing restrictions

Any passing manoeuvre in the entrance channel or Trinity Inlet is to be confirmed between the pilot and the master of the ships concerned. In general, passing will not occur if the combined LOA of both ships exceeds 180m where the smaller vessel is larger than 45m LOA.

Passing will not occur when large passenger vessels, with an LOA of 180m or greater are transiting the entrance channel or Trinity Inlet. Vessels wishing to enter astern or in front of a large passenger vessel are required to contact the pilot on board the passenger vessel prior to conducting the manoeuvre.

For vessels exceeding 220m a clear channel ahead will be in force between beacons C7 and C17 and will be announced by Cairns VTS on VHF16/12. At all other times the transit of the passenger ship shall not be impeded.

The Regional Harbour Master (Cairns) may apply additional restrictions to specific vessels operating within the entrance channel or Trinity Inlet.

7.3.8 Non gas-free (NGF) tanker restrictions

All NGF tankers will require a clear channel transit between beacons 16 and 20.

Cairns VTS is to be advised of the vessels gas status 48 hours prior to entry, departure or removal occurring.

7.3.9 Tidal restrictions

Ships will generally stem the tide when berthing; berthing with the tide astern will require the use of additional tugs.

7.3.10 Slack water

For berthing and unberthing, slack water is from one half hour before to one half hour after high or low water. Each situation must be individually assessed taking into account all factors including experience and local knowledge.

7.3.11 Dead ship movements

Agents, when booking a pilot for a vessel which is a dead ship, are to confirm with VTS that the vessel will have an appropriate level of crew onboard during the pilotage.

7.3.12 Dynamic positioning equipped vessels

Dynamic positioning equipment is not to be used for berthing or unberthing of vessels without RHM approval.

7.3.13 Berth number 10 (fuel berth) restrictions

Refer to Section 9 for tug requirements;

- All Tankers in excess of 130m LOA are to berth with 2 tugs;
- Tankers are permitted to berth either Port or Starboard side too when stemming the tide. The tidal rate of change must be less than 40cm per hour;
- Maximum sized vessel accepted for berth C10 is 200m LOA;
- Vessels which utilised all wire for mooring will not be accepted;
- Vessels utilising rope mooring lines are preferred;
- Vessels which utilise combination wire and nylon lines for mooring may do so only if wires are secured to drum winches and have nylon pendants for securing ashore;
- A lines launch will be required for all vessels 85m LOA and greater;
- Some vessels with an LOA less than 85m will require the use of a lines launch on the advice of pilots and the Regional Harbour Master (Cairns); and
- Berthing Pocket size is 222m x 40m.

7.3.14 Tropical Reef Shipyard

All vessels berthed at the Tropical Reef Shipyard extended wharf, which project beyond the Quay line into Smiths Creek are to display a Red Flag with an all-round light on either the stern or bow, whichever protrudes.

7.3.15 Part Loaded Tankers

Partly loaded tankers of between 100 and 160 meters LOA and fitted with an operational bow thruster will be subject to the following towage requirements

Arrivals

Vessel in ballasted condition – 1 tug

Vessel in part loaded condition – 2 tugs

Vessel in loaded condition – 2 tugs

Departures

Vessel in loaded condition – 1 tug

Vessels with tide astern will require additional towage or as determined by the Regional Harbour Master - Cairns

7.3.16 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, and ensure the master and crew are competent.

High risk areas

Four areas of high risk for tug and barge operations have been identified in Trinity Inlet:

- In the area of Marlin Marina;
- In the vicinity of the cruise liner berths at wharves 1–5;
- In the vicinity of wharf 10 (fuel); and
- The pile mooring area.

Hip up operations are not to take place in any of these areas, with the exception of mud barges operating in conjunction with a dredge. Workboats to be in attendance where practicable otherwise barges should be anchored in the area off wharf 12 (sugar berth) and hip up completed before proceeding. 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.

7.3.17 Marlin Marina

Inside Sailfish Quay berth, vessel maximum LOA is 60m.

For vessels > 50 m LOA - The entry and departure from Marlin Marina is to be at slack water only.

Minimum UKC of 0.6m is required for the manoeuvring approach with UKC 0.3m required once alongside.

7.4 Smiths Creek

7.4.1 Passing restrictions

In general passing will not occur if a vessel of 35m LOA or more, including a tug and barge combination is manoeuvring in Smiths Creek.

Vessels greater than 10m LOA will not be approved to enter, leave or manoeuvre in Smiths Creek while a vessel of 35m or more is manoeuvring or preparing to manoeuvre in Smiths Creek.

7.4.2 Vessel Restrictions

Maximum vessel size 135m to enter Smiths Creek. Vessels over 90m to have suitable tug and an operational effective thruster or work boat (this does not include tug and barge – see below).

All vessels with an LOA greater than 35m will be approved to enter and leave the temporary barge facility at the Commercial Fishermen's Base 2 (Duckpond) at slack water only, with consideration given to time taken to reach the entrance from Trinity Inlet.

Landing craft with a LOA greater than 60 m are not permitted to transit Smiths Creek when 2 barges are rafted up at Smiths Creek 1 or Smiths Creek 2.

For these vessels slack water is defined as less than 20cm movement in the tide.

The maximum width of access to the Duckpond is 60m with no vessels on the maritime operations base wharf. Vessels alongside reduce the width of access by approximately 7m.

Under keel clearance (UKC) restrictions

- Minimum UKC in Smiths Creek – 0.6m
- Minimum UKC in Duck Pond – 0.3m

All vessels navigating in either Smiths Creek and/or the Duck Pond are to maintain minimum UKC at all times.

7.4.3 Tug and barge restrictions

All tug and barge combinations with a combined LOA of greater than 35m will be approved to enter and leave the temporary barge facility at the Commercial Fishermen's Base 2 (Duckpond) at slack water only, with consideration given to time taken to reach the entrance from Trinity Inlet and with no vessels secured at 0–35 metres on the Maritime Operations Base wharf.

For these tug and barge combinations slack water is defined as zero movement in the tide.

2 workboats are to be in attendance when entering Smiths Creek and when arriving or leaving the Duckpond. Workboats should be fit for purpose and manned by a trained competent operator

The maximum tug and barge combination accessing the Duck Pond is 25m in width, and 80m in length.

The maximum width of access to the Duckpond is 60m with no vessels on the maritime operations base wharf. Vessels alongside reduce the width of access by approximately 7m.

Under keel clearance (UKC) restrictions

- Minimum UKC in Smiths Creek – 0.6m
- Minimum UKC in Duck Pond – 0.3m

All vessels navigating in either Smiths Creek and/or the Duck Pond are to maintain minimum UKC at all times.

Tug and barge operations to or from the duckpond are not to occur when 2 barges are rafted up at either Smiths Creek 1 or Smiths Creek 2

7.4.4 Tidal restrictions

Vessel movements 35 metres and over are not to proceed without the permission of the Regional Harbour Master (Cairns) when the tidal flow in Smiths Creek is greater than 20cm.

The following shipping companies and government agencies have completed risk assessments and demonstrated their vessels can operate outside of this restriction:

- Australian Border Force– all vessels;
- Seaswift – all vessels;
- Tropical Reef Ship Yard; and
- Royal Australian Navy.

A copy of the risk assessment is required to be on board for the Master's reference.

7.5 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.

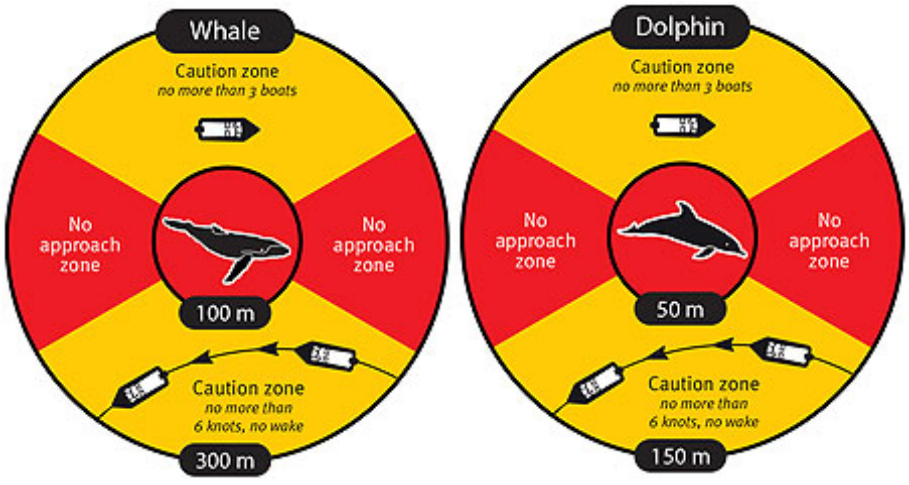

Figure 1 Minimum approach distances and maximum speeds within proximity to whales and dolphins.

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 the Department of Environment and Science on 1300 130 372.

Marine wildlife strandings | Environment, land and water | Queensland Government (www.qld.gov.au)