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*, 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.

Departing vessels are restricted to a maximum speed of:

- 8.0 knots in the channel
- 8.0 knots in the paddock

Ship Masters should be fully aware of the effects of interaction (particularly when passing ships moored at berths adjacent to the channels, ships flying international code signals "A" or "R over Y" and any directive given by Hay Point VTS.

7.3 Movement Conditions

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 as per the conditions specified in this section. VTS is to be consulted for determining the tidal window for the planned movement of a draft-restricted ship in the port.

7.3.1 Channel depths

There are two departure routes through the Port of Hay Point.

Departure Channel has been established with a design depth of 14.9m at LAT (Refer to NTM for latest depth information) which extends approximately 6.2 miles from the berths.

Paddock Departure is the shorter departure route with a design depth of 13.1m. These routes are defined on chart AUS 249 and ENC AU5250PO

Berth	Paddock Departure	Channel Departure
Hay Point #1	13.1	14·9
Hay Point #2	13.1	14·9
Hay Point #3	13.1	14·9
DBCT #1	13.1	14·9
DBCT #2	13.1	14·9
DBCT #3	13.1	14·9
DBCT #4	13.1	14·9

Table 14 Channel depths (design only)

***Refer to latest NTM for actual depth**

7.3.2 Alongside Under Keel Clearance (UKC)

A minimum UKC of 1.5m is to be maintained alongside when DUKC is unavailable.

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

7.3.3 Dynamic Under Keel Clearance (DUKC)

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 programme 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 1 hour past each high water for the duration that the vessel is berthed and indicate the sailing time and maximum draft.

The agent is required to complete the VTS Pre-arrival form with expected stability data for the vessels departure.

7.3.4 Underway Static UKC

The Underway UKC" (1m +5% of draft) is to be used only when the DUKC is unavailable.

Tidal window calculation (without DUKC)

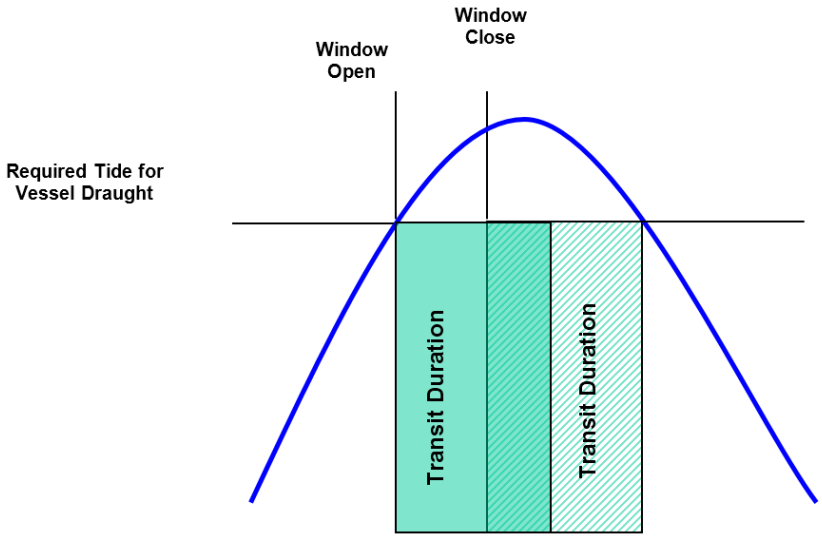
Static maximum draft check		
Vessel _____ Date_____ Berth _____ Operator _____		
Vessel draft		
(1·05 x draft)+ 1 – Depth		Required Tide Height
Time of first tide height for draft		WINDOW OPEN
Time of last tide height for draft		
Time of last height for draft – Transit duration		WINDOW CLOSE

Table 15 Static draft calculation table

Note: The tidal window will need to take into account the current restrictions covered in 5.2 Table 11.

Berth	Transit duration (SST)	Transit duration (PST)
BMA 1	65	85
BMA 2	70	90
BMA 3	70	90
DBCT 1	75	95
DBCT 2	75	95
DBCT 3	80	100
DBCT 4	85	105

Table 16 Transit durations



7.3.5 Maximum Wind Speeds

7.3.5.1 Arrivals

All arrivals will be cancelled by the RHM or their delegate when both the 10-minute average wind speed 3 hours prior to Pilot boarding time exceeds 28knots and the max wave height (H_{max}) exceeds 1.9m.

See section 9.2.1 for increased tug requirements during Bureau of Meteorology strong wind warnings.

7.3.5.2 Removals and Departures

A Berth Alert System (BAS) that predicts and monitors sea swell and meteorological data has been installed at Hay Point to assist the Regional Harbour Master in measuring and predicting marginal sea conditions.

The Regional Harbour Master utilises the information gained from the BAS to alert vessels alongside that the weather conditions are deteriorating, and they may be required to place themselves on short notice for an emergency departure. Harbour services will also be alerted.

Should conditions deteriorate the Regional Harbour Master may order vessels off the berths. Whilst small vessels may be ordered off the berths, it is possible that larger vessels

may remain alongside, and berths vacated by small vessels may have larger vessels replace them. See section 9.2.1 for increased tug requirements during Bureau of Meteorology strong wind warnings.

7.4 Approaches to pilot boarding places

The recommended tracks for Arrivals/Departures to Hay Point are shown on chart AUS 249 & AUS250 and ENC AU5250P0 and AU422149; please note the Zone of Confidence shown on this chart in relation to soundings.

7.4.1 Dangers

Two spoil ground areas have been established to the north of the port within lines joining the following positions:

21°.09.83'S	149° 20.11"E	**LEAST DEPTH 10.1M**
21° 11.99'S	149° 20.18'E	
21° 13.07'S	149° 18.17'E	
21° 11.55'S	149° 16.92'E	

Table 17 Spoil Ground Area 1

21° 12.70'S	149° 17.24'E	**LEAST DEPTH 8.2 METRES**
21° 13.45'S	149° 17.66'E	
21° 13.64'S	149° 17.28'E	
21° 12.91'S	149° 16.86'E	

Table 18 Spoil Ground Area 2

7.4.2 Restricted Areas

Restricted area A, adjacent to the shipping channel and the port facilities have been gazetted under section 197 (2) of the *Transport Operations (Marine Safety) Regulation 2016* which declares that unauthorised vessels including small ships are prohibited from mooring, anchoring or manoeuvring within waters bounded by imaginary lines in the following areas:

a) **Restricted Area A**

Latitude: 21°16.5841'S Longitude 149°19.0013'E to
Latitude: 21°14.2058'S Longitude 149°17.7708'E to
Latitude: 21°13.5524'S Longitude 149°18.9577'E to
Latitude: 21°14.7615'S Longitude 149°19.7670'E to
Latitude: 21°16.2235'S Longitude 149°20.3557'E then to
Latitude: 21°16.5841'S Longitude 149°19.0013'E

Small ships may transit Restricted Area B when no large ship is manoeuvring in the area. Any vessel that would otherwise require a pilot in the compulsory pilotage area is not to cross Restricted Area B without a pilot on board. Transiting vessels and small ships should maintain a listening watch on VHF Channel 16 and should transit at 90° to the channel at best speed. (Refer Appendix 16.3 Security - Restricted Areas).

b) **Restricted Area B**

Latitude: 21°14.7615'S	Longitude 149°19.7670'E to
Latitude: 21°13.1673'S	Longitude 149°25.2013'E to
Latitude: 21°14.8168'S	Longitude 149°25.6319'E to
Latitude: 21°16.2235'S	Longitude 149°20.3557'E then to
Latitude: 21°14.7615'S	Longitude 149°19.7670'E

7.5 Tug and barge operations

For the purposes of this section the following definitions shall apply:

- The length of tow is the total length of all items that go to make up the tow, to include tow-lines, wires, bridles, vessels and/or barges, taken from the bow of the tug to the stern of the last vessel or barge making up the tow.
- Split is when a tow consisting of two or more vessels and/or barges are separated to form single units.

7.5.1 Operational conditions

All tugs and tows, ocean going or coastal within the Compulsory Pilotage Limits of the port of Hay Point operate under the following conditions:

- Open water pilot boarding daylight hours only. If night boardings required safety analysis to be conducted to the satisfaction of RHM and Pilot Manager.
- All tugs and tows (of over 50 metres as detailed in section 163(1)(b) of the Transport Operations (Marine Safety) Regulation 2016) will be required to engage a licensed pilot (8 Pilotage);
- Any tow greater than 250 metres that is a multi-unit tow, will require to be either split prior to transit or require the assistance of an accompanying harbour tug for the full passage, and
- Master to confirm with VTS tow line and ship/barge fixed equipment is in survey, in good condition and suitable for port of entry.
- Master to confirm with VTS tow line and ship/barge fixed equipment is in survey, in good condition and suitable for port of entry. Workboats should be fit for purpose and manned by a trained competent operator and to be preapproved by the RHM.
- A pre movement meeting is to take place between the barge operator and pilotage to discuss the manoeuvre.

Any tow that is in a damaged condition will not be granted entry into the Hay Point pilotage area until the RHM is satisfied that the vessel/s does not pose a threat to the marine environment or a hazard to navigation in the port.

Note: a vessel or barge pushed ahead by a tug or lashed and secured alongside is deemed a tug and tow when entering or exiting the harbour. In addition, this combination may be required to be allocated tugs (9 Tug Procedures).

7.5.2 Notification

For any tug and tow movements within the port of Hay Point, notification to VTS via QSHIPS is required. A visit for the towing vessel will need to be created in QSHIPS and then the details of the tow added by using the 'add convoy' tab.

If an agent is unable to submit a booking by QSHIPS, the agent must complete the VTS Tug and Tow Booking Request form.

All tows and combined units shall be deemed to be hampered vessels and subject to varying scheduling arrangements.

7.6 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 (Wildlife Management) Regulation 2006 part 5A 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.

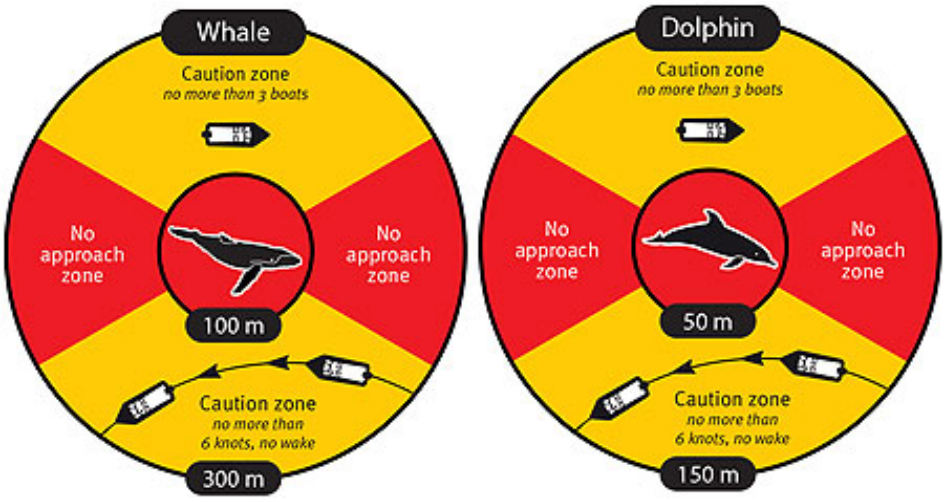


Figure 1 Minimum approach distances and maximum speeds within proximity to whales and dolphins.

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**

https://www.desi.qld.gov.au/our-department/news-media/down-to-earth/stranded-marine-mammal