

#### CYCLONE WARNINGS

**Bureau of Metrology (BoM)** issues Tropical Cyclone (TC) Advice whenever a TC is expected to cause winds in excess of 62 km/h (gale force) over land. A TC Advice may be a Watch and/or a Warning, depending on when and where the gales are expected to develop.

For ongoing information from BoM during Tropical Cyclone periods refer to:

Recorded Cyclone Warning Service: 1300 659 210

Internet: <http://www.bom.gov.au/cyclone/>

**Department of Fire and Emergency Services (DFES)** will release a Cyclone Community Alert to keep people informed and safe. Alert Levels change to reflect the increasing risk to life and advises what you need to do before, during and after a cyclone. DFES issues the following cyclone alerts, Blue, Yellow, Red and All Clear. (see reverse side)

Internet: <https://www.emergency.wa.gov.au/>

#### KEY CONTACTS NUMBERS

**DoT Incident Control Centre:** P: 1300 966 459

**During a Cyclone "RED ALERT":** P: 9159 1400

**DFES Recorded Emergency Info:** P: 133 337

**SES Emergency Assistance:** P: 132 500

**WA Police Onslow:** P: 9159 9100

**All Emergencies:** P: 000

#### NOTES

- This plan is not to be used for navigation.
- Positions on this plan are related to the Geodetic Datum of Australia (GDA 2020). For GPS use, this approximates WGS 84.
- Sounding Datum is Lowest Astronomical Tide (LAT) which is 1.48 metres below AHD (2013).
- Hydrographic survey composite includes the latest DoT harbour survey dated January 2023.
- The waters of this boat harbour, and its approaches, form part of a declared Shipping and Pilotage Act Port. Vessel operators are also subject to controls and directions by Shipping and Pilotage Act appointed Harbour Master and subject to direction by the Pilbara Ports Authority Harbour Master when traversing the adjacent Port of Ashburton.

#### SIGNIFICANT HEIGHTS

- 4.5m Highest Recorded - Cyclone Vance
- 3.5m Public Jetty Deck
- 3.1m HAT
- 2.5m MHWS
- 1.9m MHW
- 1.6m Mean Sea Level
- 1.5m AHD
- 1.4m MLWN
- 0.7m MLWS
- 0.0m LAT
- 0.07m Lowest Recorded

**To be read in conjunction with the Department of Transport Onslow Cyclone Mooring Guidelines.**

Available at: <https://www.transport.wa.gov.au/imate/cyclone-community-information.asp>

#### MOORING & PEN INFORMATION

##### The Sticks

Vessel length	Bow & stern line loads	Spring line loads
20 metres	11 tonnes	5 tonnes

Note: Line loads will vary depending on the mooring configuration, wind direction and cyclone category.

##### Pen clearance widths

P1 to P4	8.5 metres
P5 and P6	6.9 metres
P7 and P8	8.0 metres

Note: It is recommended that outer pens are occupied first to provide shielding to the inner vessels

#### DISCLAIMER & ACKNOWLEDGEMENT

The information contained in this publication is provided in good faith and believed to be accurate at time of publication.

The State shall in no way be liable for any loss sustained or incurred by anyone relying on this information. This information in no way takes away the responsibilities of a Vessel's Master.

This Community Information Sheet has been prepared for community safety advice to preserve life and property.

The support of the reader is crucial to the effectiveness in protecting life, property and the environment.

# Tropical Cyclone - Community Information Sheet

## Onslow (Beadon Creek) Maritime Facility – 2023/24 Cyclone Season

### 1. Purpose of the Community Information Sheet

This Community Information Sheet has been developed to assist users of the Onslow (Beadon Creek) Maritime Facility during the period leading up to, the impact of and recovery from, a Tropical Cyclone. It is important that commercial and recreational boat users are well prepared and meet their Legislative requirements in having their own Cyclone Contingency Plans in place.

The Department of Transport (DoT) has a number of preparedness, response and recovery arrangements, including DoT Cyclone Management Plans to manage the impact of a Tropical Cyclone on its facilities.

### 2. Activation of the DoT Cyclone Management Plan

This DoT Cyclone Management Plan will be activated once a Cyclone Watch or Warning has been issued for the Onslow area by the Bureau of Metrology (BoM). This activation is an internal process of the DoT.

### 3. DoT Appointed Incident Controller

An authorised DoT Incident Controller will be appointed upon activation of the plan to initiate cyclone preparedness actions for the Onslow (Beadon Creek) Maritime Facility, including some involving harbour users. The Incident Controller will be assisted by the appointment of a Harbour Controller in Onslow.

### 4. Communication Mediums

While the DoT will not be providing scheduled radio broadcasts, frequencies will be monitored, while practical, through several local sources including:

- VHF 16 and 27Mhz 88

A 24 hour, 7 day/week HF service operates from the Water Police Coordination Centre that monitors the 4125, 6215 and 8291 kHz distress and calling frequencies. This service covers WA coastal waters within 200 nautical miles offshore. The closest transceiver is at Port Hedland and the call sign is "Coast Radio Hedland".

Key Contacts listing can be seen on the reverse side of this Sheet.

### 5. Responsibilities of Masters and Owners of Vessels

***The information contained within this Community Information Sheet in no way replaces the existing legal obligations of owners and masters of vessels, nor does it seek to over-ride the responsibilities of a Master to take appropriate precautions for the safety of the crew, or to interfere with the Master's independent discretion.***

In general terms, Vessel Owners or Masters should undertake the following tasks in order to prevent or minimise damage by ensuring:

- Mooring lines are strong enough, are not chafed and are correctly tensioned.
- Where bow or stern mooring lines are inappropriately angled (say greater than 40°), it may be necessary to moor to the nearest piles. Ensure springs are in place.
- All Biminis and canopies should be removed.
- Roller jibs and mainsails furled to booms should be removed or securely tied to prevent them coming loose.
- All equipment such as dinghies should be removed from the decks and stored below or ashore or securely fastened.
- All running rigging on yachts is tight and securely fastened.
- Check that adequate fendering is in place on boats and that these are correctly located.
- Ensure that the length of the boat moored in each berth is no longer than the length designated for that berth.

### 6. Limited Number of Mooring Pens and Mooring Positions

It is important to recognise that the Onslow (Beadon Creek) Maritime Facility has a limited number of mooring positions. Every effort will be made to maximise the use of the Onslow (Beadon Creek) Maritime Facility, however Masters should be prepared (as part of their own Cyclone Contingency Plan) to seek alternate shelter if necessary.

Please note that the Onslow (Beadon Creek) Maritime Facility cannot guarantee to provide secure shelter and safety for vessels and crews in all weather and storm surge conditions.

### 7. Cyclone Emergency Welfare Centre

There are no suitable onshore Cyclone rated shelters at the Onslow (Beadon Creek) Maritime Facility for crew during a Cyclone and **all crews** must relocate to suitable shore based accommodation or the Primary Emergency Welfare Centre. The Shire of Ashburton (Onslow) Primary Emergency Welfare Centre is located at the Multi-purpose complex situated in Hooley Avenue Onslow. Crews should bring clothing, toiletries and other personal effects with them to the Welfare Centre to assist local emergency management arrangements.

### 8. Tidal Storm Surge

Harbour users need to be aware that a significant positive storm surge may result from the extreme meteorological effects of a Tropical Cyclone. Storm surge may be exacerbated when a Cyclone impacts on a coastal community in conjunction with high tide. Masters of a Vessel need to factor in the effects of storm surge when mooring and preparing their Vessel.

### 9. Cyclone Mooring Arrangements

Mooring priority will be given to vessels covered by an existing mooring agreement. Please refer to the DoT Incident Controller for mooring availability.

A Cyclone Mooring Guideline has been prepared by the DoT, and is available, to be read in conjunction with this Community Information Sheet. The Cyclone Mooring Guideline for Onslow (Beadon Creek) Maritime Facility can be obtained from the DoT Onslow Office or at the following web address <https://www.transport.wa.gov.au/imate/cyclone-community-information.asp>

### 10. Masters and Owners Actions during Alerts and Warnings

#### **BoM Declares Tropical Cyclone WATCH or WARNING**

- Initiate actions in line with vessel or Company cyclone contingency plan.

#### **DFES-SES "BLUE ALERT" Declared**

- If en route to-Onslow, establish/maintain contact with the Incident Controller.
- Plan to be secured in the harbour at least 24 hours before predicted Gale Force winds.
- Ensure vessel has been adequately moored.
- Ensure sufficient fuel on board to clear the harbour after the Cyclone for a return journey.
- Secure all equipment and/or remove the equipment from the harbour precinct.

#### **DFES SES "YELLOW ALERT" Declared**

- Ensure vessel and area of responsibility have been secured.
- Relocate to the Shire of Ashburton Onslow– Emergency Welfare Centre or make other suitable arrangements.

#### **DFES SES "RED ALERT" Declared**

There are no actions defined during this phase of ALERT and appropriate rated shelter should be used for your own safety and observe standard DFES SES guidelines and procedures for a Tropical Cyclone.

#### **DFES-SES "ALL CLEAR"**

- Extreme caution is to be taken in the post impact phase of a Cyclone both on land and on the water and where hazards or damage is observed it is to be reported to the Incident Controller.
- When leaving the harbour from a berth or a dedicated cyclone mooring extreme caution is to be exercised as navigation aids may be displaced or missing and there could be additional floating/submerged hazards.

**Note: Masters and Owners must consider their own "DUTY OF CARE" responsibilities to remain safe, to protect people, property and the environment.**

*This Community Information Sheet is available online from the Department of Transport at the following web address:*  
<https://www.transport.wa.gov.au/imate/cyclone-community-information.asp>

## CYCLONE MOORING GUIDELINES

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## 8.1. General

Cyclones have wind gusts in excess of 62 km/h around their centres and, in the most severe Cyclones, gusts can exceed 280 km/h. Cyclone Advises are prepared by the Bureau of Metrology (BoM) with the severity of a Cyclone being described in terms of categories ranging from 1 to 5 related to the zone of maximum winds.

Category of Tropical Cyclone	Strongest 3 second Gust (km/h)	Typical Effects
1	Less than 125 km/h Gales	Minimal house damage. Damage to some crops, trees and caravans. Boats may drag moorings.
2	125 - 164 km/h Destructive winds	Minor house damage. Significant damage to signs, trees and caravans. Heavy damage to some crops. Risk of power failure. Small boats may break moorings.
3	165 - 224 km/h Very destructive winds	Some roof and structural damage. Some caravans destroyed. Power failure likely.
4	225 - 279 km/h Very destructive winds	Significant roofing and structural damage. Many caravans destroyed and blown away. Dangerous airborne debris. Widespread power failures.
5	More than 280 km/h Extremely destructive winds	Extremely dangerous with widespread destruction.

Table 1: Description of cyclone categories

## 8.2. General Mooring Information

Due to the erratic nature of Cyclones, the impact on maritime facilities and vessels moored within Beadon Creek is difficult to predict. It is acknowledged that there are several options for the mooring of vessels. *The following are guidelines to assist the users of the Facility with their decision making.*

The number of cyclone mooring sites available within Beadon Creek is limited. The Beadon Creek Maritime Facility cannot guarantee to provide secure shelter and safety for vessels and crews in all weather and storm surge conditions. Furthermore, there are no suitable onshore shelters at the harbour for crew during a cyclone. Space is generally not available for swing moorings, therefore for ad-hoc moorings, vessels should moor in a fixed orientation aligned with the axis of the Creek to minimise the loading from currents. Mooring forces may be ten (10) times greater than normal non-cyclonic mooring forces due



to the forces generated by winds, waves and currents. This needs to be taken into account when installing mooring apparatus.

It is suggested that as a general rule each boat would require at least four "two way" mooring lines, set one to each quadrant such that at least two will share the load from any direction. Furthermore, with the possible increased range of sea level change during a storm event, the length of any line from a boat to a mooring point should, to the extent practicable, be sufficient to allow the line to have a slope of 3 to 1 or flatter.

### **8.3. Beadon Creek Water Levels**

The 100 year return period Storm Tide Level has been predicted at a level of 4.7 m above Chart Datum (i.e. 1.2 metres above deck of Public Jetty).

Both positive and negative surges are possible. For example:

Positive surge --- consider a one metre surge.

If this coincides with MHWS,  $2.5 + 1.0 = 3.5$  metres above Chart Datum  
(i.e. the height of the Public Jetty).

Negative surge --- consider a half metre surge.

If this coincides with MLWS,  $0.6 - 0.5 = 0.1$  metres above Chart Datum

Wave heights of up to a metre could further complicate the conditions.

During Cyclone Bobby in February 1995, a lowering of 0.45m below the predicted tide, peaked 8 hours before the cyclone crossed the coast. The lowering phase commenced some 24 hours before the cyclone crossing. A positive surge of 0.9m above the predicted tide peaked at 4 hours after the cyclone crossed the coast. Because the surges were acting against the astronomic tide in each case, the actual change in water level around the time the cyclone crossed the coast was only 1.4m over a period of about 2 hours.

During Cyclone Vance in March 1999, the Tide Recorder failed, however water level marks inside the electrical distribution cubicle at the Public Jetty indicated a Storm Tide Level of approximately 4.6m above Chart Datum (i.e. 1.1 metres above the deck of the Jetty).

### **8.4. "The Sticks" Pile Moorings**

The Sticks mooring pens consists of 21 circular piles comprising 15 mooring piles and 6 fender piles. There are no mooring rings on the fender piles. The eight mooring positions are designed to handle vessels up to 20 metres in length. The Sticks mooring pens in Beadon Creek have been designed for winds generated by cyclonic conditions in accordance with the Australian Wind Loading Code AS1170.2, and with the length of vessel in each berth equal to or less than the designed length.

The cyclone moorings have been designed for a thirty second gust wind speed of 69 m/sec which is equivalent to a Category 5 cyclone.

Approximate clearance widths for the - pens are as follows:

Pens 1 to 4, Clearance Width = 8.5 metres.

Pens 5 and 6, Clearance Width = 6.9 metres.

Pens 7 and 8, Clearance Width = 8.0 metres.

Pile tops and chafers have been cut off at 5.0 metres above Chart Datum. Mooring lines should be attached to the sliding rings on the mooring bars located on the 15 mooring piles.

The masters of vessels shall be responsible for ensuring:

- Vessel is adequately secured for Cyclonic conditions;
- Mooring lines are serviceable,
- Mooring lines are of adequate capacity for the anticipated line loads,
- Mooring lines, to the extent practicable, are set to allow for the likely range in the water level, and
- Anchor points on the vessel will take the line loads without failing.

Furthermore, masters of vessels will be responsible for ensuring that the mooring lines are correctly tensioned in accordance with accepted best practice, to avoid vessels swinging and hitting other vessels or the mooring/berthing structures.

The lines elasticity needs to allow for storm surge conditions, hence ***steel wire ropes should not be used.***

#### 8.4.1. Minimum Mooring Guideline

The following DoT Minimum Mooring Guideline has been developed to assist the Master of a Vessel and should be considered as the minimum requirement for securing a vessel prior to the impact of a Cyclone.

Mooring arrangements are generally specific for each vessel and correct mooring is the responsibility of the Owner/Master.

***Note: These guidelines do not absolve the Master from meeting his/her responsibilities under legislation and that of his/her employer. All lines are to be in good condition and fully serviceable at the time of Mooring.***

In cyclonic conditions, the minimum mooring guideline arrangement for vessels moored at “Sticks” pens is shown in Figure 1.

The estimated mooring line loads when moored in this configuration is shown in Table 2. This information is provided as a guide only. The master of the vessel is responsible for selection of suitable mooring lines

VESSEL SIZE LOA (m)	SINGLE VESSEL MOORINGS									
	TOTAL SIDE WIND LOAD (Tonnes)	SIDE WIND				TOTAL BOW WIND LOAD (Tonnes)	BOW/STERN WIND			
		BOW/STERN LINE LOADS FOR VARIOUS LINE ANGLES ( $\alpha$ )					BOW/STERN LINE LOADS FOR VARIOUS LINE ANGLES ( $\alpha$ )			
		30	45	60	75		30	45	60	75
10	6	6	4	3	3	2	1	1	2	3
15	12	12	9	7	6	4	2	3	4	8
18	17	17	12	10	9	5	3	3	5	9
20	21	21	15	12	11	5	3	4	5	10

Table 2: Typical line loads for various vessel sizes when moored at the Sticks pens when subject to a Category 5 Cyclone

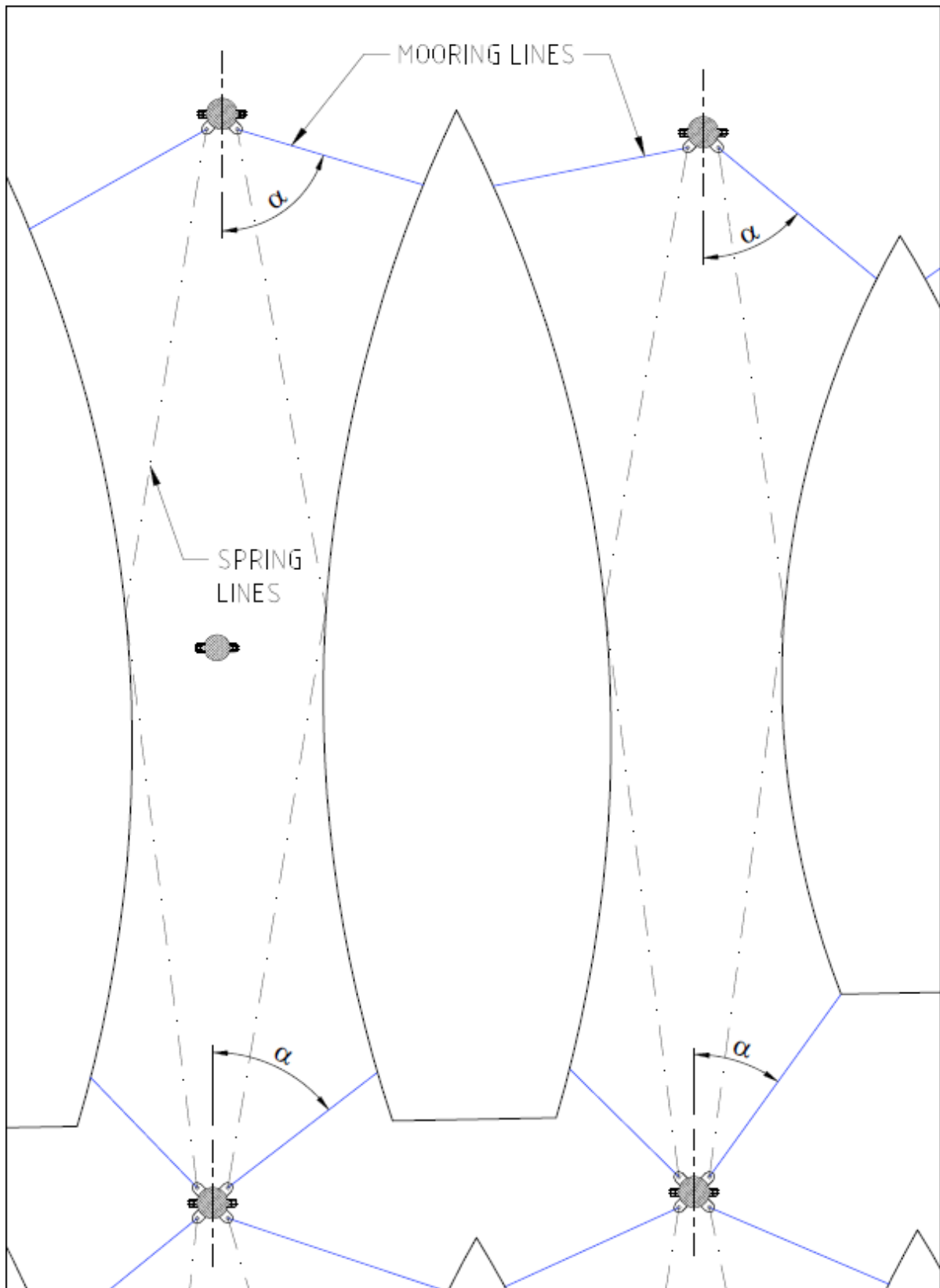


Figure 1: Minimum recommended Mooring Guideline for vessels using “Sticks” Pens in Cyclonic Conditions

**Note: Vessels must be moored directly on the piles using the mooring rings provided.**