Extreme weather event contingency plan for vessels anchored, moored and operating in Queensland waterways – Half Moon Bay

The extreme weather events of last season have highlighted the need for awareness and vigilance to the risks such events present to maritime operations.

Maritime Safety Queensland has built on these recent experiences and is reissuing its contingency plans to ensure stronger resilience from the maritime community. Timely awareness and adequate preparation will reduce the impact of such events.

This extreme weather event contingency plan for Half Moon Bay sets out the particular arrangements for this region.

Half Moon Bay is particularly exposed to risks posed by extreme weather, principally tropical cyclones.

The frightening intensity of cyclones can cause widespread destruction and devastation. The commencement of the cyclone season on 1 November means it is imperative all north Queenslanders prepare for the possibility of one of these storms affecting the local area.

The local topography of the port offers limited protection from extreme weather and hence the prime intent of the plan is to organise the orderly removal of vessels from their normal moorings to more sheltered locations or, in the case of large vessels to sea.

With timely awareness and adequate preparation, it is possible to ‘ride out’ a cyclone, with little or no damage. To minimise the risks, a cyclone contingency plan for the Port of Half Moon Bay has been developed and refined. This plan is activated once the threat of a cyclone exists.

Even if you are an experienced mariner, we encourage you to read this plan and familiarise yourself with its requirements. As you will see, the contingency plan requires you to think about your own planning in this context and to be prepared to enact this plan if required.

Remember, the best protection against extreme weather events is to plan for such eventualities and respond accordingly.

Patrick Quirk
General Manager
Maritime Safety Queensland

Captain Alan Boath
Regional Harbour Master
Cairns Region

Objective of this plan
The overall objective of this plan is to provide for the safety of vessels and their operation during extreme weather events. Personal safety is of prime importance at all times.

An extreme weather event may require the evacuation of the port. In such instances, the regional harbour master's objective is to have the port area evacuated and for all vessels to have enacted their own safety plans between forty eight and six hours before the event impacts. The plan is to organise the orderly removal of vessels from their normal moorings to more sheltered locations or, in the case of large vessels to sea. The creeks and waterways off the Trinity Inlet, within the mangrove areas, offer the best shelter and protection for small vessels.

All vessels, other than those being used for emergency purposes are to evacuate and clear the port area. Owners should be aware that, should they leave their vessel in the port area, they may be liable to prosecution and, additionally, be held accountable for any damage that their vessel may cause or incur to other infrastructure.

Masters should be aware of the sudden onslaught of cyclones during the wet season and should take adequate precautions to have their vessels ready to depart at short notice. When the meteorological office advises that a strong tropical depression or cyclone is likely to form, Masters will put their vessels on standby to sail. The Harbour Master's requirements for clearing the port of large vessels will generally be:

- wind speeds must not have reached 30 knots
- ships must be able to sail, for example, machinery working and crew on board
- the ship must be in a suitable trim to sail
- the ship's deepest draft must give suitable clearance when sailing.

Master's and owner's responsibility in regard to this plan
Masters and owners of vessels have an obligation under the *Transport Operations Marine Safety Act 1994* at all times to take appropriate precautions for the safety of their vessels, passengers and crew.

In extreme weather conditions, the regional harbour master may give directions in relation to the operation and movement of vessels within their jurisdiction. Masters and owners are required to follow such directions.

Masters and owners need to familiarise themselves with this plan, determine and develop the most appropriate safety plan for their vessel and respond in accordance with any directions. Masters and owners are also required to monitor developments to ensure that they have the most up-to-date information on weather conditions and any directions in place.

Masters and owners are required to notify Maritime Safety Queensland of any changes to the following:

- vessel ownership
- residential address
- contact telephone numbers.

This up-to-date contact information is vital for an immediate response to any port emergency. Failure to provide correct details of vessel ownership is an offence under the *Transport Operations (Marine Safety) Act 1994*.

Unless absolutely unavoidable, all owners of vessels on the water should ensure their vessel is capable of moving without assistance or have alternative means of moving their vessel, particularly during extreme weather event peak seasons (for example cyclone seasons). Failure to do so may present an unacceptable hazard to the vessel, as well as other vessels and infrastructure. This may cause an owner to incur towage expenses.

If you are unable to attend to your vessel at short notice for any significant duration, particularly during the tropical cyclone season, you are to make arrangements with a person that can act on your behalf in the event of an extreme weather event. That person will be responsible to implement your safety plan. The local contact person must attend to the vessel no later than when a Yellow Alert has been declared for Half Moon Bay Marina and make appropriate preparations.
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E**xtreme weather procedures in detail**
In the event of an extreme weather event threat the regional harbour master will take the following action:

- restrict the movement of vessels if necessary
- direct and oversee the evacuation of the port or specific areas of the port or other affected areas if applicable

- close and reopen the port if necessary.

The regional harbour master will also:
- advise mariners of relevant warnings and response requirements
- seek compliance with the response requirements.

These actions will be enacted over four distinct phases that allows for the development of appropriate responses to the threats faced.

Phase 1: Extreme weather event watch. – Prevention
An extreme weather event watch will be issued when an extreme weather event or developing event is likely to affect the area **within 48 hours**, but not expected to impact the area within 24 hours. This phase is a critical time for masters and owners to plan and prepare for the impact of the event.

During this period, masters and owners (or their representatives) should review their safety plans and address any matters outstanding (for example refuelling and provisioning).

Phase 2: Extreme weather event warning - Preparedness
An extreme weather event warning will be issued when an extreme weather event or developing event is likely to affect the area **within 24 hours**. This phase is critical for masters and owners to complete all preparations in an orderly manner prior to the event occurring.

The Regional Harbour Master (Cairns) will direct the evacuation of the port with the assistance of personnel from Marina Management to regulate and control the movements of vessels. Vessels must proceed as far as possible upstream in the designated shelter areas so as not to impede the progress of others. It is also important to be alert during the 'eye' of the cyclone as a period of calm may be experienced before the winds resume from the opposite direction. Vessels should not return to their normal berths until officially advised it is safe to do so. The best protection against the destructive forces of cyclones is to be prepared for them. See the accompanying chartlet (appendix A).

The port has established a three tier alert status.

Yellow Alert - destructive winds forecast within 24 hours.
If a Yellow Alert is issued, the port will:
- suspend loading of all ships, obtain a situation report on state of loading, draft, and so on
- inform ships' masters of situation and place a short notice to sail
- obtain information on length of time to bring ships to a readiness to sail
- inform Regional Harbour Master (Cairns) of situation and ascertain suitable sailing times, draft requirements, and so on.
- if time and draft permit, resume loading. Bring load to satisfactory handling trim.

During a Yellow Alert small vessels should move to designated cyclone mooring areas of the creeks and waterways off the Moon River within the mangrove areas. To ensure an orderly evacuation, the Regional Harbour Master (Cairns) will announce a schedule of evacuation over VHF channel 16. Mariners will observe and follow this schedule.

When conditions are deteriorating, every endeavour will be made to accommodate the working of cargo in the available time, allowing for tidal constraints.

Blue Alert - destructive winds forecast within 12 hours
If a Blue Alert is issued, the port will direct all ships to sea noting that it may already have been necessary to have sailed some ships due to tidal conditions. In the event that a ship cannot sail, the port will arrange linesmen and instruct master to take standard cyclone precautions

On water authorities will prepare to depart. All small vessels should be moored in their designated area and final preparations and tying off completed.

The anchoring of large vessels upstream is not recommended due to tidal surges that could inundate the area, which, with high winds, may well strand vessels inland of the river system, making any salvage extremely difficult.

Red Alert - Destructive winds forecast within six hours
At this stage the port will be closed. See the wording under phase 3 for further information.

Phase 3: Actual extreme weather event - Response
By this phase, all vessels are expected to have enacted their vessel safety plans noting that the port is likely to be closed and/or vessel movements restricted depending on the threat to safety of vessel movements or the environment. Your actions should be directed towards your own personal safety.

Mariners should maintain a listening watch on VHF channels 16 and 12 and follow advice/directions from Cairns Vessel Traffic Service, (Callsign Cairns VTS).

It is also important to be alert during the 'eye' of the cyclone as a period of calm may be experienced before the damaging wind force resumes once the eye has passed.

Vessels are not to leave their cyclone moorings until the official all clear is given by the Regional Harbour Master (Cairns).

Phase 4: After the extreme weather event has passed - Recovery
The regional harbour master will assess residual risks and determine the actions needed to be addressed. Do not assume that as the extreme weather event has passed, it is now safe to move your vessel.

Mariners should maintain a listening watch on VHF channels 16 and 12 and follow advice/directions from Cairns Vessel Traffic Service, (Callsign Cairns VTS).

Vessels are not to leave their cyclone moorings or return to the port or anchorages until the official all clear is given by the Regional Harbour Master (Cairns). Mariners should maintain a listening watch on the key VHF frequencies (see the communication section).

Movements can be at the regional harbour master's discretion and can be in stages including limiting movements to the internal port only until the channel or areas within the port are deemed safe.

Owners and masters of vessels should be aware that aids to navigation may be affected by the extreme weather event. Owners and masters should reference Notices to Mariners for the latest updates. Furthermore, port infrastructure will need to be inspected to ensure that facilities are fit for purpose.

Port Closure
The regional harbour master may close the port, wholly or in part, or restrict the movement of vessels in the pilotage area, commensurate with the threat to the safety of shipping or the environment. This can occur at any time prior to the event.

The closure of the port or restriction on vessel movements will, as far as practical, be implemented in consultation with key authorities and in a timely manner in order to minimise risks.

Reopening of the port
The pilotage area will not be re-opened until the regional harbour master is satisfied that all danger has passed, and the pilotage area is safe for vessels to re-enter and following inspections and surveys to critical maritime infrastructure (for example navigational aids and wharfs) as well as clearance of navigational hazards.

The Vessel Traffic Services Centre will coordinate the safe movement of vessels following the opening of the pilotage area in accordance with normal practice. Berths will be re-opened and operations resumed when wind and sea conditions are within operational limits.

Communication
The successful implementation of this plan relies on high quality communication of information and directions.

From the commencement of Yellow Alert, the Yorkeys Knob Boating Club will become the Half Moon Bay Emergency Control Centre (ECC). The ECC will monitor VHF channel 16/27Mg channel 88 and telephone 4055 7711.

The ECC will relay messages from the Regional Harbour Master (Cairns) and act as co-ordination and control centre. Once in position, all vessels are to contact the ECC and advise them of the area in which they are moored and how many people will be remaining on board. If a vessel is to be left unattended, its owners are to advise the control centre of their contact telephone numbers.

To ensure an orderly evacuation, the Regional Harbour Master (Cairns) will announce a schedule of evacuation over VHF channel 16. Mariners will observe and follow this schedule.

Key Contacts

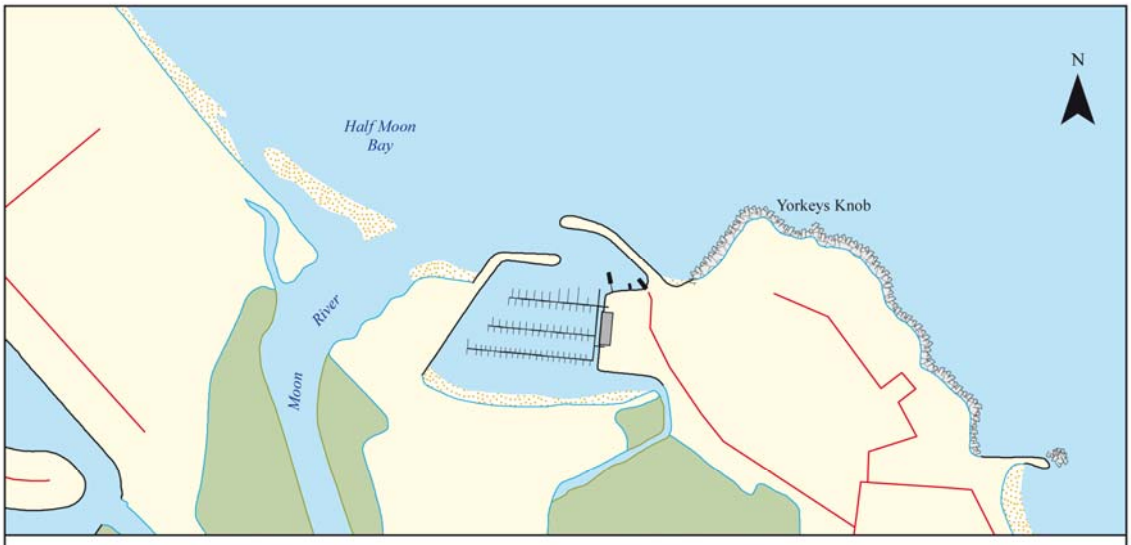
Name	Contact Number
Regional Harbour Master	07 4052 7412
Ports North	07 4051 2558
Boating & Fisheries Patrol	07 4035 0703
Yorkeys Knob Boat Club	07 4055 7711
Water Police	07 4057 3577
Vessel Traffic Services	1300 551 899

Key Websites

Detailed weather updates: www.bom.gov.au
MSQ Website www.msq.qld.gov.au

Appendix A.

MARITIME
EXTREME WEATHER EVENT PLAN (CYCLONE)
HALF MOON BAY



OBJECTIVE:

To have the port area evacuated at least six hours before destructive winds commence, and to have all vessels safely moored in their designated areas of shelter by that time.

Half Moon Bay Marina has been built to withstand a "50 year cyclone", that is, one with a degree of severity statistically expected to occur once every fifty years. It is of sound construction but it should not be expected to provide the same protection afforded by the mangrove lined creeks off Trinity Inlet.

However, that superior protection is some 10 miles distant from Half Moon Bay and the availability there must be weighted against the danger to property and life in evacuating small craft from the marina during the deteriorating weather conditions that usually precede a cyclone. Consequently, the following Cyclone Contingency Plan has been agreed for the marina. The procedures will be supervised by the Marina Manager who will report to the Regional Harbour Master at the completion of each stage.

VESSEL COMMUNICATIONS & CONTROL CENTRE:

From the commencement of Yellow Alert the Yorkeys Knob Boating Club Building will become the HALF MOON BAY EMERGENCY CONTROL CENTRE (ECC).
The ECC will monitor VHF ch 16 / 27 Mg ch 88 and telephone 4055 7711.
The ECC will relay messages from the Regional Harbour Master and act as co-ordination and control centre.

Once in position, all vessels are to contact the ECC and advise them of the area in which they are moored and how many people will be remaining onboard. If a vessel is to be left unattended its owners are to advise the Control Centre of their contact telephone numbers.

To ensure an orderly evacuation, the following schedule is to be observed when announced by the Regional Harbour Master over VHF ch 16.

EXTREME WEATHER EVENT WATCH:
Destructive winds within **48 hours.**
Review safety plans and prepare for the impact of the event.

YELLOW ALERT : Destructive winds within **24 hours.**

All vessels over 18 metres in length will vacate the marina and proceed to Trinity Inlet.

- Once there, those vessels may proceed to any of the creeks off Trinity Inlet.
- Vessels must not impede the progress of smaller craft to higher reaches of the creeks

All vessels in Berths C3 to C19 will relocate to other berths in the marina or, if none available, proceed to Trinity Inlet, as described above.

BLUE ALERT : Destructive winds within **12 hours.**

- All vessels to secure themselves in their berths to the satisfaction of the marina management.

RED ALERT : Destructive winds within **6 hours.**

All personnel to evacuate boats in the marina and proceed to an area of shelter.

Marina closed.

Vessels are NOT to leave their cyclone moorings until the official ALL CLEAR has been given by the Regional Harbour Master.

Map S10c-2-3

Prepared 9 November 2011
Maritime Safety Queensland
Spatial Services Unit

metres
200 0 200 400 600

Queensland Government

Appendix B

Your safety plan

The master or owner's responsibility is at all times to take appropriate precautions for the safety of their vessels, passengers and crew.

All masters and owners should have developed a vessel safety plan in response to extreme weather events. The plan should take into account the most likely risks arising from the hazards presented for your region.

You should trial your plan to ensure that it can be enacted competently and rapidly. Do not wait until the last minute to plan and prepare your response to extreme weather risks.

General considerations
A well prepared vessel with fully functional equipment is a key element to a successful safety plan.

- **Ensure that your vessel is in a seaworthy state**
  Maintain your vessel to ensure that deferred maintenance does not compromise the seaworthiness of your vessel at critical times. Check that all bilge pumps are operational and that all self-draining openings are clear and will remain so. Make sure all safety equipment is available, in working order and up-to-date where applicable (for example flares). Check all cleats and associated fittings for integrity. Generally, mooring lines are stronger than these. Keep storm anchors, spare warps and spare fenders ready at hand but well secured to prevent them creating a potential hazard in the event you must move the vessel. Securely stow all loose items. Secure all hatches and vents. Provision your vessel with fresh water, food and fuel and ensure that the batteries are charged.
- **Ensure your mooring arrangements are up for the job at hand**
  Check all mooring lines and warps for chafing and deterioration and replace if necessary. Man-made synthetic fibres such as polyethylene, polypropylene and polyester deteriorate in the sunlight and may show little signs of deterioration prior to failure. You should have a schedule worked out to replace mooring lines in accordance with manufacturer's recommendations. Allow for a sufficient number of mooring lines so that you can double up your mooring arrangements. Have sufficient fenders for the anticipated mooring arrangements. Check anchor chains, shackles and anchor warps for wear and replace if necessary. If you intend to utilise a swing mooring, ensure that the mooring chain has been recently inspected. You should also be aware that flooding events resulting from extreme weather events may result in build-up of debris around the mooring chain, compromising the integrity of the mooring arrangement.
- **Reduce wind loadings**
  Remove all deck gear including lifebuoys, dodgers, bimini covers, clears and so on and store below. Remove sails, self-furling sails and covers. If this is not possible, double wrap or tie these components in such a way that the wind cannot tease any ends out and allow flapping of gear to commence.
- **Secure your tender**
  Ideally, tenders should be stored in dinghy lockers, garaged or deflated and stowed if applicable. If stored with the vessel, tenders should be securely lashed inverted on deck to prevent filling with water – do not contemplate towing tenders. If left on purpose-built davits, tenders should be cleaned out and securely lashed and bungs removed.

Marina-based safety plans
Marina-based plans may be appropriate for your region. You should note that the design and construction of marinas requires the consideration of the likely range of weather conditions that might be experienced so that the overall structures would withstand the expected loads including storm surge while vessels are moored in the berths.

Notwithstanding the care which was taken in establishing design and construction criteria that were considered to be appropriate, no guarantee can be given that the structures are capable of maintaining their integrity in the complete range of extreme weather conditions. Remember vessels are moored at owners' risk and it is the owner's prerogative to move their vessel if they feel insecure in the marina, noting that any vessel movement should occur in line with the extreme weather contingency plan for the port.

In addition to the general points made above, marina-based safety plans need to consider the following issues. It is important that you discuss this with your marina management to understand their requirements so that your plan is consistent with marina operations:

- **The loadings on marina berths**
  Some marinas allow for berths to remain occupied provided the berth has a pontoon equivalent to the overall length (LOA) of the vessel occupying it. Vessels may also be allowed to bear against the fingers/pontoons noting that suitable or additional fendering is likely to be required.
- **Mooring considerations**
  Double up mooring lines, by running duplicated ropes to alternative bollards. Do not run duplicates to the same bollards – a single bollard failure should not release the craft from a safe mooring arrangement. The duplicate lines should be in good condition and run slightly slack to ensure that they are only required to work in the event of the chafing through the primary mooring lines. Vessels should not be secured to piles as this prevents pontoons moving with tidal and surge movements. Take particular care to protect against chafing. Ensure lines are made fast to substantial boat parts, for example mast steps, winches and so on, bearing in mind cleats are known to have been torn out of decks. Do not use chain to secure your boat to pontoon bollards. Chains have no ability to stretch, where ropes have a certain amount of give. Some marinas allow for anchors to be lowered in the marina berth to the sea bottom. Ensure there is enough slack to rise and fall of the vessel due to swell and storm surges. If the master or owner elects to stay on-board with the vessel, any mooring lines should be adjustable from onboard and sufficiently taut to ensure the vessel and pontoon move as one.
- **Other factors**
  You are likely to be required to disconnect all shore power leads and water hoses. Some marinas have particular arrangements for the stowage of vessel tenders. Marina management may determine the time when personnel are barred from the pontoons and/or hardstand areas. Ensure that you abide by any such direction.

Hardstand storage
Hardstand storage is a viable alternative for trailer vessels or vessels undergoing maintenance. However, vessel windage is considerably increased through hardstand storage. In such situations, owners and masters of vessels should:

- place the vessel head to the wind if possible
- take particular care to secure and stow all deck items
- ensure wheels are chocked and trailer brakes applied
- attach the trailer or cradle to the nearest strong point(s).

You should note that flying debris, particularly in the hardstand areas, can cause serious injury or may be lethal during a severe weather event. Please exercise all due care when operating in these areas.