



Northern
Territory
Government



SAFETY GUIDE FOR PLEASURE CRAFT

EDITION 9

KNOW WHAT FLOATS YOUR BOAT



SAFETY EQUIPMENT TABLE - to be carried on board

		Inland waters	Intermediate waters	Open waters
	One approved personal flotation device for each person on board	✓	✓	✓
	One anchor fitted with not less than 3 metres of chain shackled between the anchor and rope of not less than 50 metres overall length	✓	✓ (Two if vessel is over 10 metres in length)	✓ (Two if vessel is over 10 metres in length)
	Two paddles or oars fitted with rowlocks for all vessels under 5 metres in length unless fitted with an auxiliary means of propulsion	✓	✓	✓
	One bailer (fitted with lanyard) or bilge pump . A bilge pump is required for all vessels with covered bilges.	✓	✓	✓
	Fresh drinking water in a leak proof container (two litres for each person on board)	✓	✓	✓
	One waterproof torch	✓	✓	✓
	Two red flares	-	✓	✓

		Inland waters	Intermediate waters	Open waters
	Two orange smoke signals	–	✓	✓
	One V distress sheet	–	✓	✓
	Portable fire extinguisher (one if the vessel is between 5 and 10 metres in length / two if the vessel is over 10 metres in length. Not required for vessels under 5 metres.)	–	✓	✓
	Two 9L buckets with lanyards for vessels over 10 metres in length	–	✓	✓
	One compass or operational GPS	–	–	✓
	Electronic or paper chart for the area of intended operation	–	–	✓
	One lifebuoy (for vessels over 10 metres)	–	–	✓
	One registered EPIRB	–	–	✓

CONTENTS

About the Marine Safety Branch	4		
Boating rules in the NT	5		
Interstate marine authorities	5		
SAFETY			
Safety requirements	6		
Pleasure craft	6		
Safety requirements – checks for pleasure craft	12		
Safety checks for pleasure craft	12		
Lightning storms	13		
NT Water Police	13		
Ignorance is no excuse	13		
Marine Infringements Notices	14		
Australian Builders Plates (ABP) for safer boating	16		
Level or Basic flotation requirements	18		
Anchors and anchoring	19		
Common types of anchors	20		
Signals	21		
		Navigation lights	22
		Some light on the subject	22
		Range of visibility of lights	22
		Power craft underway	23
		Arc of visibility of lights	25
		Avoiding collisions	26
		Excerpt from International Regulations for Preventing Collisions at Sea	26
		Courtesy for all water users	27
		Steering and sailing rules	28
		Sailing vessels approaching one another	28
		Power and sail vessels	28
		Power-driven vessels meeting head-on	29
		Power-driven vessels crossing	29
		Narrow channels or channel approaches	30
		Overtaking vessels	31
		General notes	31
		Joint emergency action	31
		Buoys, beacons and marks	32
		Buoyage system “A”	32
		Types of marks	32

Fire prevention and safety afloat 37

Some common causes of fire aboard small vessels 38

EMERGENCY

Safety via satellite 40

Emergency Position Indicating Radio Beacons 40

Carry an EPIRB – it could save your life! 41

Flares 42

Types of flares 42

Marine emergency procedures 43

In case of emergency 43

Reporting of incidents 43

Distress signals 44

Marine communications for pleasure craft 45

NT marine communications 46

Radio distress procedures 47

Distress call 47

Urgency call 47

Safety call 48

Weather broadcasts 48

Marine communications equipment licensing 49

ENVIRONMENT

Marine pollution 51

Transfer operations 52

Tidal information 53

Tidal notes 53

Where to get tidal information 53

Tidal variations for various rivers 54

GUIDE TO RECREATIONAL FISHING IN THE NT

Personal possession limits for recreational fishing in the NT 55

Vessel limits 58

Temporary reef fish protection areas 59

MISCELLANEOUS

Intermediate Waters 60

Boating quiz 61

Public boat ramps in the Darwin Area 62

Boat ramp locations 64

ABOUT THE MARINE SAFETY BRANCH

The Marine Safety Branch of the Department of Transport is responsible for marine safety and the management of the Northern Territory response to, and preparedness for, ship-sourced marine pollution.

The aim is to ensure that recreational boating is both safe and enjoyable. This aim is achieved through education, regulation and the provision of facilities such as navigation aids.

The *Marine Act 2013* and Regulations cover the construction, survey and safety equipment on commercial vessels, tourist vessels, hire and drive vessels and regulate safe boating practices for pleasure craft.

Department of Transport – Marine Safety Branch
2nd Floor Energy House,
18-20 Cavenagh Street, Darwin NT 0800
Postal: GPO Box 2520, Darwin NT 0801
Phone: (08) 8924 7100
Fax: (08) 8924 7009
Email: marinesafety@nt.gov.au
Web: www.marinesafety.nt.gov.au

BOATING RULES IN THE NT

Pleasure craft in the NT do not require registration and operators are not required to hold a licence to drive a pleasure craft.

However, minimum requirements for safety equipment have been determined for all pleasure craft.

It is important that operators familiarise themselves with safety equipment requirements, including any exemptions that are applicable.

Northern Territory Water Police conduct frequent patrols at boat ramps and on the water. Boating inspectors, including the police, have the ability to issue Marine Infringement Notices for failure to comply with the marine regulations.

Copies of the Marine (General) Regulations and the *Marine Act* are available at www.nt.gov.au/dcm/legislation/current.html

There are penalties for not complying with these regulations.

Check your safety equipment and carry the required amount under the regulations.

Ensure that it is in good condition, of regulation standard and available for immediate use.

We encourage everyone to test their boating knowledge at

www.transport.nt.gov.au/safety/marine/rec-info

Interstate marine authorities

For information regarding requirements for pleasure craft in other States please contact:

New South Wales	Roads and Maritime Services	(02) 9563 8557
Victoria	Marine Safety Victoria	(03) 9655 3399
Queensland	Maritime Safety Queensland	(07) 3120 7462
South Australia	Marine Safety	1300 360 067
Tasmania	Marine and Safety Tasmania	(03) 6233 8911
Western Australia	Department of Transport	(08) 9216 8999

Links to these marine authorities are available on the Marine Safety Branch website. Refer to page 4.

SAFETY REQUIREMENTS

Pleasure craft

Definitions

In the regulations, unless the contrary intention appears:

Anchor cable means a short link chain or rope to which not less than 3 metres of chain cable is shackled between that rope and anchor attached to it.

Approved means approved by the Director, under the *Marine Act*.

Boating Inspector means a person appointed under Regulation 9 (1) by the Minister responsible.

Inland Waters means non tidal rivers, lakes, dams and billabongs.

Intermediate Waters means tidal rivers, sheltered waters areas and all other coastal waters up to 2 nautical miles from the coastline (see page 60).

Length of a vessel, means the greatest distance between the foremost and aftermost parts of the vessel's hull measured in a straight line parallel to the waterline.

Open Waters means beyond intermediate waters.

Penalty units A reference to a penalty for an offence against a provision of an Act or to an amount that may be imposed as a fine or penalty under an Act expressed as a number of penalty units (whether fractional or whole) is to be read as a reference to an amount of money equal to the amount obtained by multiplying the dollar value by the number of penalty units.

Serviceable in relation to a pleasure craft or tender, means the hull and all the fittings of the pleasure craft or tender and safety equipment carried on it are:

- a) sound in condition
- b) ready and suitable for immediate use.

Tender to a pleasure craft (the principal pleasure craft), means a vessel that is smaller than the principal pleasure craft and which is used as an auxiliary to the principal pleasure craft for the following:

- a) A means of transportation between the principal pleasure craft and the shore;
- b) A means of transportation between vessels;
- c) Other functions of an auxiliary nature.

Safety standards for the operation of pleasure craft or tenders

A person shall not operate a pleasure craft or tender in Inland, Intermediate and Open waters unless it is:

1. Serviceable
2. Seaworthy for the purposes for which it is operated
3. Not overloaded
4. Carries the prescribed safety equipment

In addition for pleasure craft only (not including tenders):

5. Provided with a means or carries equipment which will enable a person who has fallen into the sea from the pleasure craft to reboard it

Safety equipment requirements

1. Pleasure craft operating in Inland waters

- a) One approved personal flotation device for each person on board – see Note 2;
- b) One anchor fitted with not less than 3 metres of chain shackled between anchor rope of not less than 50 metres overall length;
- c) Two paddles or oars fitted with rowlocks for all vessels under 5 metres in length unless fitted with an auxiliary means of propulsion;

- d) One bailer (fitted with lanyard) or bilge pump. A bilge pump is required for all vessels with covered bilges;
- e) Two litres for each person on board of fresh drinking water in a leak proof container;
- f) One waterproof torch

2. Pleasure craft operating in Intermediate waters

- a) One approved personal flotation device for each person on board – see Note 2;
- b) One (Two if vessel is over 10 metres in length) anchor(s) fitted with not less than 3 metres of chain shackled or spliced between anchor rope of not less than 50 metres overall length;
- c) Two paddles or oars fitted with rowlocks for all vessels under 5 metres in length unless fitted with an auxiliary means of propulsion;
- d) One bailer (fitted with lanyard) or bilge pump. A bilge pump is required for all vessels with covered bilges;
- e) Two litres for each person on board of fresh drinking water in a leak proof container;
- f) One waterproof torch;
- g) Two red flares – see Note 1;
- h) Two orange smoke signals – see Note 1;

- i) One V distress sheet;
- j) One portable fire extinguisher if the vessel is between 5 and 10 metres in length – see Note 1;
- k) Two portable fire extinguishers if the vessel is over 10 metres in length – see Note 1;
- l) Two 9L buckets with lanyards for vessels over 10 metres in length

3. Pleasure craft operating in open waters

- a) One approved personal flotation device for each person on board – see Note 2;
- b) One (Two if vessel is over 10 metres in length) anchor(s) fitted with not less than 3 metres of chain shackled or spliced between anchor rope of not less than 50 metres overall length;
- c) Two paddles or oars fitted with rowlocks for all vessels under 5 metres in length unless fitted with an auxiliary means of propulsion;
- d) One bailer (fitted with lanyard) or bilge pump. A bilge pump is required for all vessels with covered bilges;
- e) Two litres for each person on board of fresh drinking water in a leak proof container;

- f) One waterproof torch;
- g) Two red flares – see Note 1;
- h) Two orange smoke signals – see Note 1;
- i) One V distress sheet;
- j) One portable fire extinguisher if the vessel is between 5 and 10 metres in length – see Note 1;
- k) Two portable fire extinguishers if the vessel is over 10 metres in length – see Note 1;
- l) Two 9L buckets with lanyards for vessels over 10 metres in length;
- m) One compass or operational GPS;
- n) Electronic or paper chart for the area of intended operation;
- o) One lifebuoy for vessels over 10 metres
- p) One registered EPIRB

EPIRB (for all lengths) – one (1) 406MHz Emergency Position Indicating Radio Beacon (EPIRB) must be carried onboard if the vessel is operating outside sheltered waters and more than 2 nautical miles from the coast.

Also refer to page 40.

4. Tender:

Safety equipment required is:

- a) two paddles or oars fitted with rowlocks
- b) one bailer with lanyard.

5. Small sailing boats and PWC's

Persons on board Sailing boats under 5 metres or with permanently closed hulls and Personal Water-Craft, must at all times wear an approved personal flotation device that is suitable for the activity.

Note 1:

Expiry dates must be adhered to for the following equipment to be considered serviceable:

- red hand held flares
- orange smoke signals
- fire extinguishers
- EPIRB (Emergency Position Indicating Radio Beacon).

Note 2:

Lif jackets must be suitable for the intended wearer and serviceable. Personal flotation device (PFD) means a device that complies with AS4758 and is

appropriate for the activity being undertaken by the wearer of the device. It is recommended that all users of "ride-on" pleasure craft or aquatic toys wear an appropriate PFD.

*Inflatable lifejackets/PFD's must be serviced in accordance with the manufacturers recommendations.

There are different types of PFD's for inland, intermediate and open waters.

- Inland Waters – 1 level 50 PFD or higher per person
- Intermediate Waters – 1 level 100 PFD or higher per person
- Open Waters – 1 level 100 PFD or higher per person

*Alternatively, Coastal lifejackets or SOLAS lifejackets may be acceptable substitutions in all waters.

The above standards do not apply to a person on or in:

1. A surf ski, racing shell, canoe, kayak, sailboard, a personal water craft, a sailing boat under 5 metres in length or with permanently closed hulls.
2. A pleasure craft which has been entered into a race in the event known as the Beer Can Regatta, or other approved aquatic events.

Towed water sports

A person being towed behind a pleasure craft must wear a personal flotation device that is suitable for the activity.

- Penalty: 20 penalty units.

Towed water sports observer

1. Apart from the operator of the water craft there must be a separate person in the craft responsible, as an observer, watching and relaying signals to the driver while the person being towed is in the water.
2. A person being towed must not permit himself or herself to be towed unless an observer, as well as the driver, is in attendance.
 - Penalty: 20 penalty units.

Personal water craft (jet ski etc)

The owner of a personal water craft must not use the craft or permit the craft to be used unless it is fitted with an automatic engine cut-out that is connected to a safety lanyard and the lanyard is securely attached to the operator.

- Penalty for no safety lanyard – any person: 20 penalty units.

- Penalty for no safety lanyard – business: 100 penalty units.

A person must not operate a personal watercraft unless it is fitted with an automatic engine cutout that is connected to a safety lanyard, which is securely attached to the operator.

- Penalty for the safety lanyard not secured to the operator: 20 penalty units.

‘Automatic engine cut-out’ means a device designed to stop the motor should the operator fall off the personal water craft.

Reckless navigation

A person must not navigate or use a pleasure craft carelessly, negligently, recklessly or at a speed or in a manner that is dangerous to or likely to cause injury to a person or damage to property (including the pleasure craft).

- Penalty: 50 penalty units.

Divers

1. A rigid replica of the International Code Flag ‘A’ measuring not less than 100 centimetres by 100 centimetres must be clearly visible from all

- angles and shown at all times when a diver is operating from a vessel.
2. There must always be a person on proper watch on the vessel while a diver is in the water.
 3. If a diver is not operating from a vessel they must tow a rigid replica of the diving sign International Code. Flag 'A' measuring not less than 25 centimetres by 25 centimetres denoting a diver is operating in the area.
 - Penalty: 20 penalty units.

Restricted areas

A person must not navigate a pleasure craft:

1. At a speed exceeding 5 nautical miles per hour within 30 metres of a person bathing.
2. At a speed exceeding 5 nautical miles per hour within 150 metres of the waters edge at:
 - Nightcliff Beach
 - Fannie Bay Beach
 - Mindil Beach.
3. At a speed exceeding 5 nautical miles per hour:
 - through or in a mooring area
 - within 30 metres of a moored vessel

- within 100 metres of a jetty, wharf or commercial shipping and cargo area.
4. At a speed that the wash from the vessel endangers the safety of a person, boat or structure.
 - Penalty: 10 penalty units.

Anchoring

The Master or other person in charge of a pleasure craft must not anchor or permit the pleasure craft to be anchored:

- In a shipping channel except in an emergency.
- For the location of shipping channels go to the Darwin Port Notices and the Darwin Harbourmaster's Directions.
- In a declared pilotage area outside the Port of Darwin except in an emergency. (Melville Bay – Gove and Millner Bay – Groote Eylandt are declared pilotage areas).
- Near or at the approach to a wharf or jetty in a position that obstructs other vessels from entering or exiting.
- Within 100 metres of a water ski jump.
- In a position that obstructs the passage of another vessel.
- Penalty: 20 penalty units.

SAFETY REQUIREMENTS - CHECKS FOR PLEASURE CRAFT

For anchoring restrictions within the Port of Darwin please refer to the Port by-laws – contact Darwin Port Corporation, phone 8922 0660.

Please note large vessels may be restricted in their ability to manoeuvre or constrained by their draught and can not always give way to small vessels. These large vessels may also have a blind sector and, therefore, may not see canoes, small boats etc. Small vessels must keep clear of vessels that are manoeuvring, or departing a berth.

Vessels must keep well clear of vessels that are flying a red flag, or showing an all round red light. Vessels must not secure to any navigational buoy.

Safety checks for pleasure craft

Check your safety equipment and carry the required quantity. Ensure it is in good condition, of regulation standard and that it is stowed properly.

Know your basic “Rules of the Road” at sea, the International Signals for Distress and other basic signals. Refer to pages 26 to 50.

Tell someone where you are going. Before departing, advise a relative or responsible friend of your proposed itinerary and expected time of return and

also give them a description of your boat and tell them who is travelling with you.

Check the weather. If in doubt don't go out. Contact the Bureau of Meteorology, phone 8920 3800 or consult www.bom.gov.au/marine

Before departing check your boat and motor(s) and ensure they are in sound working order and that the bungs are tightly inserted. Always **CARRY SPARE BUNGS**.

Check your fuel. Ensure you have enough for the trip with an adequate reserve for an emergency. Make sure your fuel lines and tanks are in good condition and that they don't leak. It is advisable to always use fresh fuel and keep in an airtight container.

Carry a chart of the area, study it and familiarise yourself with positions of the navigational aids and hazards you are likely to encounter.

Don't overload your boat. Distribute weight evenly and use the suppliers' recommendations as to the maximum carrying capacity of your vessel.

Carry appropriate tools and spares in case of breakdown:

- spark plugs and spark plug spanner

- spare propeller
- penetrating fluid
- spanners, screwdriver, pliers, etc.

Keep a good lookout at all times. Proceed with caution in unfamiliar waters.

Alcohol and boating don't mix. The person in charge of the vessel is responsible for the safety of the craft and the lives of passengers.

Check that your navigation lights are working.

Lightning storms

If you get caught in a lightning storm while out on the water, follow these steps to reduce your risk of a lightning strike:

Step 1 – remove all fishing rods from rod holders and place on the floor.

Step 2 – stay as low to the floor as you can.

Step 3 – wear rubber thongs or shoes.

Step 4 – seek shelter near the bank or coastline.

Step 5 – secure your boat.

Step 6 – make sure your scuppers and freeing ports are open or your bilge pump is working and wait the storm out.

NT WATER POLICE

The Water Police's objectives are:

1. To ensure the safety of all persons on our waterways and the safe and orderly operation of all watercraft within the Northern Territory.
2. Provide an efficient and effective marine search and rescue capability.
3. To reduce the incidence and impact of illegal fishing on the fish stocks in the Northern Territory by policing both amateur and commercial fishers.

Ignorance is no excuse

We need your support and assistance for the continued protection of fish stocks in Northern Territory waters so that our children can fish in the future.

Any information will be treated confidentially.

To report fisheries offences, contact Fishwatch, freecall 1800 891 136.

Water Police (general enquiries)	8947 0391
Police Communications	131 444
Emergency	000

MARINE INFRINGEMENTS NOTICES

The NT Police and other Boating Inspectors will have the ability to issue Marine Infringement Notices for failure to comply with the marine regulations.

The following is the list of infringement notice offences and penalties:

Regulation	Brief details of the offence	Penalty Units	
		Individual	Body Corporate
5(1)	Breach of minimum safety equipment requirements – Inland Waters	2	-
5(2)	Breach of minimum safety equipment requirements – Intermediate Waters	2	-
5(3)	Breach of minimum safety equipment requirements – Open Waters	2	-
5A(2)	Breach of seaworthiness requirements	2	-
5C(4)	Breach of safety equipment requirements for a tender	2	-
6(1)	Person being towed behind a Pleasure Craft not wearing a personal flotation device	2	-
6(2)	Pleasure Craft operator allows a person being towed behind a pleasure craft to not wear a personal flotation device	2	-
7(1)	Person is towed behind a Pleasure Craft without an observer	2	-
7(2)	Towing a person behind a Pleasure Craft without an observer	2	-
7(4)	Owner permitting vessel to be towing a person behind a Pleasure Craft without an observer	2	10
8(1)	Operating a personal water craft without an automatic cut out	2	-
8(2)	Automatic cut out is not securely attached to the person	2	-
8(4)	Owner allowing personal water craft to be used without an automatic cut out	2	10
8(5)	Operating a personal water craft without wearing a personal flotation device	2	-

Regulation	Brief details of the offence	Penalty Units	
		Individual	Body Corporate
8(6)	A passenger on a Personal water craft over the age of 16 who is not wearing a personal flotation device	2	-
8(7)	Personal water craft operator carrying a passenger under 16 who is not wearing a personal flotation device	2	-
8A(1)	Person operating a sailing vessel under 5m in length or with permanently closed hulls, not wearing a personal flotation device	2	-
8A(2)	A passenger or a crew member on a sailing vessel under 5m in length or with permanently closed hulls over the age of 16 who is not wearing a personal flotation device	2	-
8A(4)	Operator of a sailing vessel under 5m in length or with permanently closed hulls carrying a passenger or a crew member under 16 who is not wearing a personal flotation device	2	-
13	Reckless Navigation or Careless use of a vessel	2	-
14(1)	Diver operating from a vessel without a rigid replica International Code Flag A	2	-
14(2)	Diver operating from a vessel without an observer	2	-
14(3)	Observer not keeping proper watch	2	-
14(4)	Diver not operating from a vessel, without towing a float with a rigid replica International Code Flag A	2	-
16(1)	Anchoring in a specified prohibited place	2	-
16(2)	Anchoring in a position that obstructs the passage of other vessels	2	-
18	Exceeding 5 knots in a restricted area	2	-

Note: As of 1 July 2014, one (1) penalty unit equates to \$149. Full details of the offences can be obtained from the regulations available at: http://dcm.nt.gov.au/strong_service_delivery/supporting_government/current_northern_territory_legislation_database

AUSTRALIAN BUILDERS PLATES (ABP) FOR SAFER BOATING

Look out for Australian Builders Plate's (ABP's), which should be affixed to all new recreational vessels with the **exception** of:

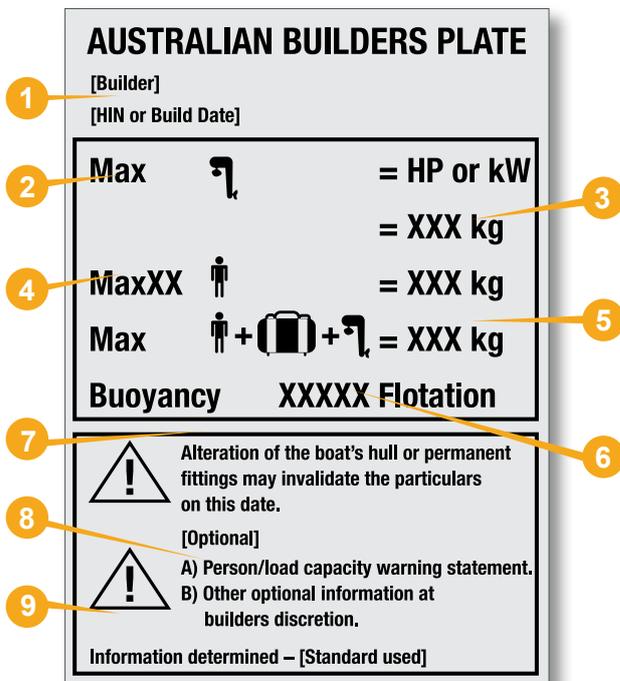
An amphibious vehicle; a canoe, kayak or surf ski or similar vessel designed to be powered by paddle; a rowing shell used for racing or rowing training; a sailboard or sail kite; a surf row boat; a hydrofoil or hovercraft; a race boat; a sailing vessel; a submersible; and an aquatic toy.

A sailing boat with an auxiliary engine is exempt from the requirement to have an ABP fitted.

Vessels subject to a Certificate of Survey, Personal Water Craft (PWC) and Inflatable boats must comply with different requirements.

The plate gives you key information on a boat's capabilities – helping you to better plan a trip out on the water.

The ABP lets you find out at a glance – the maximum number of people and load allowed, engine rating, weight, and buoyancy performance if the boat is less than 6 metres long.



Sample ABP plate for a boat less than 6 metres, designed to be powered by an outboard engine.

If you're thinking of buying a new boat, the ABP takes the guesswork out of whether a boat meets your safety requirements.

1. Name of the person approving information on the plate, normally the builder or importer, and either the Hull Identification Number (HIN) or the year built.
2. Maximum outboard engine power rating for which the boat has been designed and tested, expressed in horsepower or kilowatts.
3. Maximum outboard engine weight for which the boat level or basic flotation requirements has been designed and tested, expressed in kilograms, including the weight of any auxiliary outboard that might be mounted on the transom.
4. Maximum number of persons on the boat expressed as a whole number and in kilograms.
5. The maximum load that a boat has been designed and tested to carry when underway. This includes persons, maximum outboard engine weight allowed including auxiliary engines, and carry-on equipment such as personal equipment, personal safety equipment, spare parts, tools, dry provisions, fishing tackle, portable tanks and their contents, etc. It does not include the mass of the contents of fixed fuel and water tanks.
6. For boats less than 6 metres in length there will be a buoyancy statement detailing either 'level' or 'basic flotation'.
7. A mandatory warning statement that alterations may invalidate the particulars on the Australian Builders Plate.
8. The person approving information on the plate may also add an optional person/load capacity warning statement or other safety information. Example: Warning – the recommended maximum persons on the flybridge should not exceed two persons or 150 kilograms.
9. The standard used to determine the information provided on the plate.

For further information on the ABP, please go to the Australia New Zealand Safe Boating Education Group's website www.anzsbeg.com.au

Level or Basic flotation requirements

Level Flotation

Means that the boat will continue to float in a level position if swamped and will be prevented from capsizing in calm water. This will allow you to remain in the boat and bail the vessel to remove the water.



Basic Flotation

Means that the boat will float in some form if swamped. If the boat has capsized, it will remain afloat for you to possibly cling on to the upturned hull.

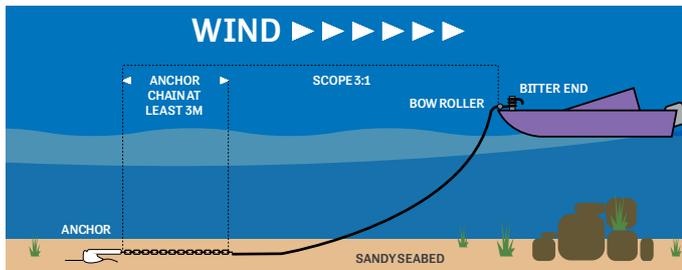


Note: These diagrams are illustrative only and apply in calm water.

ANCHORS AND ANCHORING

Most people know what an anchor is and if you throw it over the side (with rope attached) it will anchor your boat in good conditions. However, if conditions deteriorate, a dragging anchor can be dangerous.

1. There should always be a good length of chain, a minimum of 3 metres between the anchor and the anchor line. The purpose of the chain is to keep the stock or shank of the anchor parallel to the seabed which then allows the flukes of the anchor to gain maximum penetration into the seabed. The chain also helps prevent the anchor line chafing on the bottom.
2. Anchor lines are important. Don't use an anchor line that floats such as polypropylene. It doesn't help the anchor to dig in and hold and is prone to being cut off by other boats' propellers.



Nylon and silver rope are both suitable materials for anchor lines. Nylon is best for strength and stretching ability and is also more resistant to abrasion. Silver rope has less tensile strength.

The length of anchor line is essential in order to hold a vessel in all conditions. To calculate how much line to let out (called the scope) allow for a ratio of 3:1.

If you're in 5 metres of water, let out 15 metres of line and if conditions are extreme increase the ratio to 5:1.

The scope is important, as the more line there is out between the boat and the anchor, the flatter the pull is on the anchor, allowing it to dig firmly in. A short scope lifts the chain and stock of the anchor and eventually the flukes will break out.

3. Always lay your anchor out. Let it touch bottom and let the boat drift away until sufficient line is out. Don't pick up a bundle of anchor chain and line and throw it over hoping it will untangle.
4. Don't be tempted to anchor by the stern. Anchoring by the stern causes the stern of the vessel to sit lower in the water. Any wave actions (or even the wash of other vessels) can cause water to flow over the stern. Always anchor by the bow.

Common types of anchors

CQR or Plough

Can be used in small vessel, however more suitable for larger heavier vessels. Both the Danforth and CQR or Plough anchors have good holding power in sand and mud but should not be used on reefs.



Danforth

This type of anchor is most commonly used by small vessel and is recommended also for sand and mud. Reefs should be avoided as the flukes may wedge in between rocks making the retrieval difficult.



Reef anchors

Reef anchors are designed to hold onto coral or rocks. Other types of anchors will lodge under coral and that's where they will remain. The prongs on a reef anchor are meant to straighten out when excessive load is applied and can then be bent back into position and you create less damage to the coral.



Sea anchor

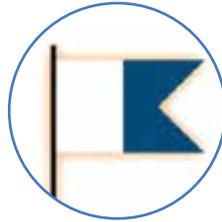
If you plan to go boating offshore or on an extended trip, a sea anchor is a valuable piece of equipment. Sea anchors when set will slow your drift and keep the bow of your vessel into the wind and waves. This is essential and also provides more comfortable conditions when drifting in choppy seas.



SIGNALS

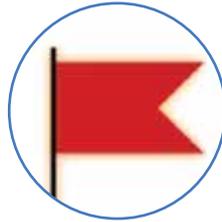
International flag “A”

A rigid replica of a blue and white flag, the international flag, “A” exhibited by any craft or on a float indicates a diver is down – KEEP CLEAR.



International flag “B”

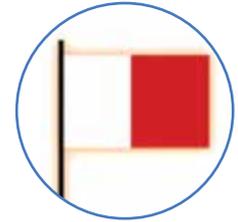
The international flag “B” exhibited by any vessel indicates that dangerous cargo is carried. Keep well clear of these vessels at all times.



International flag “H”

This flag indicates that there is a pilot on board the vessel. Within the Port of Darwin, any vessel less than 25 metres in length must give way to a vessel displaying this flag.

(refer to the Darwin Port Corporation Port by-laws)



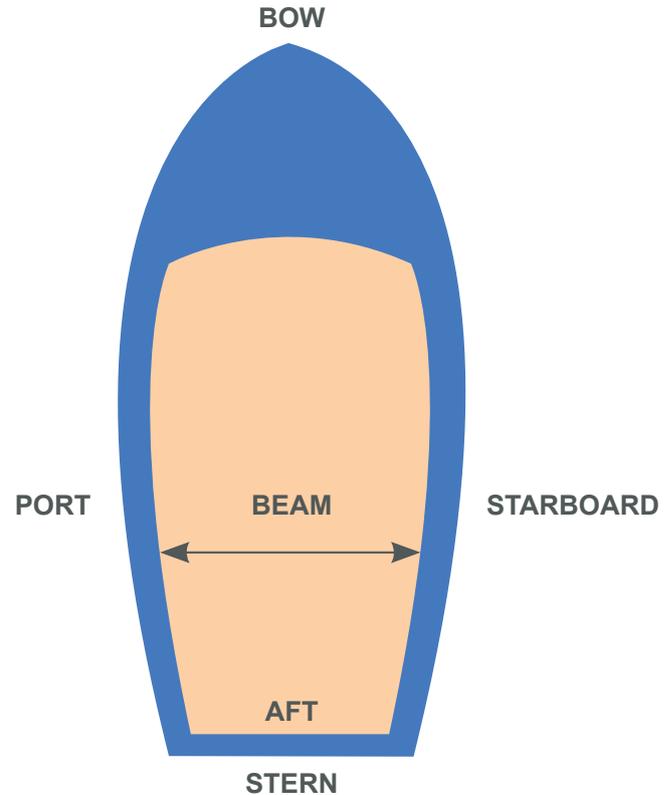
NAVIGATION LIGHTS

Some light on the subject

Navigating at night requires special care and attention. Vessels operating from sunset to sunrise, whether at anchor or underway, must carry and exhibit the correct lights. A vessel is underway when not anchored, moored to the shore or aground. Navigation lights must also be displayed during daylight hours in periods of restricted visibility. This guide will assist you to understand the correct navigation lights for your boat.

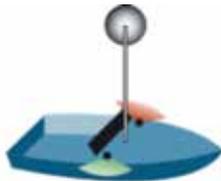
Range of visibility of lights

- (a) Vessels of 12 metres or more in length, but less than 20 metres:
- Masthead light – 3 miles
 - Sidelight, stern light and white, red or green all round light – 2 miles.
- (b) Vessels of less than 12 metres in length:
- Masthead light – 2 miles
 - Sidelight – 1 mile
 - Stern light – 2 miles
 - White, red or green – all round lights – 2 miles.



Power craft underway

1. Power craft of less than 7 metres in length with a maximum speed not exceeding 7 knots shall exhibit a white light visible all round and, if possible, separate or combined sidelights.



Separate side lights
where practicable

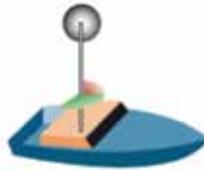


Combined side lights
where practicable

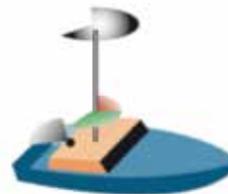
2. Power craft of less than 12 metres in length shall exhibit a white light visible all round and separate or combined sidelights. Masthead or white all round light shall be carried at least one metre above the sidelights.



Separate side lights



Combined side lights

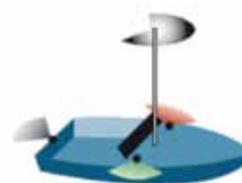


or... a masthead light, combined
side light and stern light



or... a masthead light, separate
side light and stern light

3. Power craft more than 12 metres in length but less than 20 metres in length shall exhibit a masthead light separate sidelights and stern light. The masthead light shall be at least 2.5 metres above the gunwale.



Separate side lights



Separate side lights

Or

A masthead light combined sidelights and stern light. Combined sidelights shall be carried at least one metre below the masthead light.

Legal requirements

By law, navigation lights and their installation on recreational boats are required to comply with the positioning and technical requirements of an international agreement, commonly known as the COLREGS.

The Northern Territory Water Police enforce the requirements of the COLREGS in the Northern Territory and a summary of the requirements can be obtained at the Marine Safety Branch.

Which boats need to have lights fitted?

All boats must show lights if operating at night or in restricted visibility. Even a boat that does not travel between dusk and dawn may still need to show lights, for example during a heavy shower or when at anchor.

Boats operating by sail or rowing are required to show different lights to those motoring. However, a yacht must comply with the power boat lighting requirements when under motor.

Masthead light

Boats over 12 metres in length are required to have a white masthead light, mounted at least 2.5 metres above the gunwale that shines forward over an arc of the horizon of 225° , so that it can be seen from ahead of the boat to just aft of the beam. In addition, regardless of the vessel's length, the masthead light must be located at least one metre above the side lights; and should be as far as practicable on the centreline of the boat.

Stern light

A stern light is located near the stern to show a white light over an arc of the horizon of 135° behind the boat. On an outboard craft, it may be necessary to mount the stern light on a mast, or to one side of the boat, to avoid the motor obscuring the light.

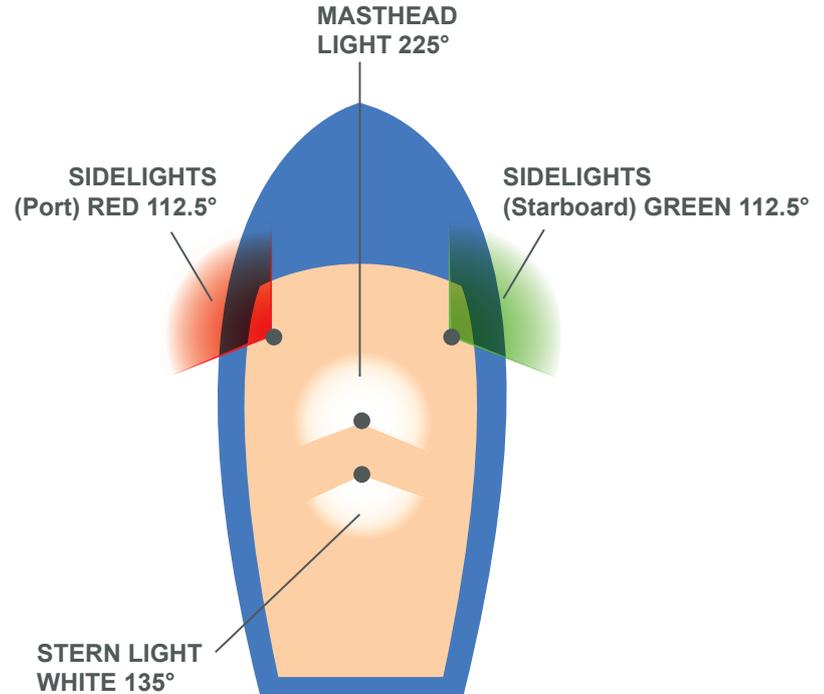
Side lights

Most boats need to have a port (red) and a starboard (green) side light each showing an unbroken light over an arc of the horizon of 112.5° . If the design of the boat allows, a combination port and starboard light can be mounted on the centreline of the boat, in place of two individual side lights.

Anchor light

An all-round white light to be lit at night when anchored. This light may substitute for masthead and stern lights in vessels under 12 metres.

Arc of visibility of lights



AVOIDING COLLISIONS

Excerpt from International Regulations for Preventing Collisions at Sea

Lookout

Every vessel shall at all times maintain a proper lookout by sight and hearing, as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision.

Safe speed

Every vessel shall, at all times, proceed at a safe speed so that the operator can take proper and effective action to avoid collision, and the vessel can be stopped within a distance appropriate to the prevailing circumstances and conditions.

Risk of collision

Every vessel shall use all available means appropriate to the prevailing circumstances and conditions to determine if risk of collision exists. If there is any doubt, such risk shall be deemed to exist.

Narrow channels

A vessel proceeding along the course of a narrow channel or fairway, shall keep as near to the outer limit of the channel or fairway which lies, on her starboard (right hand) side, as is safe and practicable.

Action to avoid collisions

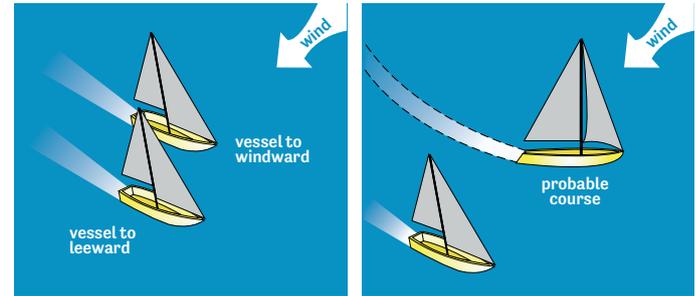
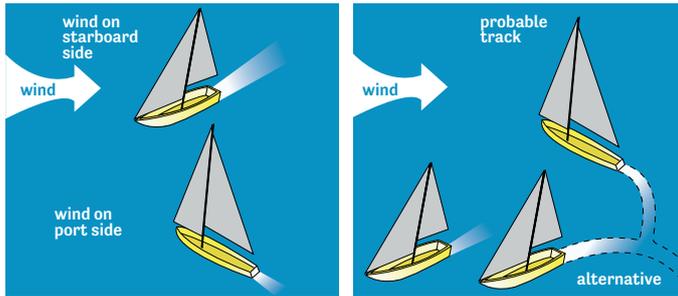
- a. Any action taken to avoid collision shall, if the circumstances of the case admit, be positive, made in ample time and with due regard to the observance of good seamanship.
- b. Any alteration of course and/or speed to avoid collision shall, if the circumstances of the case admit, be large enough to be readily apparent to another vessel observing visually or by radar; a succession of small alterations of course and/or speed should be avoided.
- c. If there is sufficient sea room, alteration of course alone may be the most effective action to avoid a close quarters situation provided that it is made in good time, is substantial and does not result in another close quarters situation.
- d. Action taken to avoid collision with another vessel shall be such as to result in passing at a safe distance. The effectiveness of the action shall be carefully checked until the other vessel is finally passed and clear.
- e. If necessary to avoid collision or allow more time to assess the situation, a vessel shall slacken her speed or take all way off, stopping or reversing the means of propulsion.



STEERING AND SAILING RULES

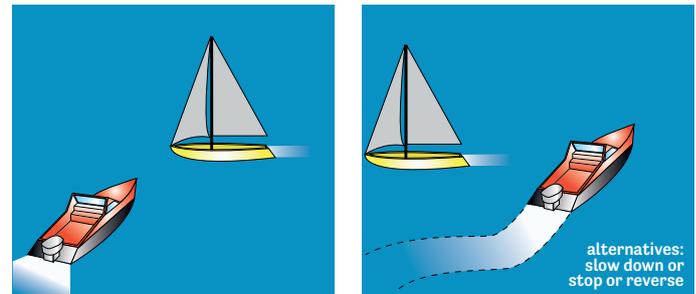
Sailing vessels approaching one another

When each has the wind on a different side, the vessel which has the wind on the port side shall keep out of the way of the other.



Power and sail vessels

Power-driven vessels shall keep out of the way of sailing vessels and rowing boats.

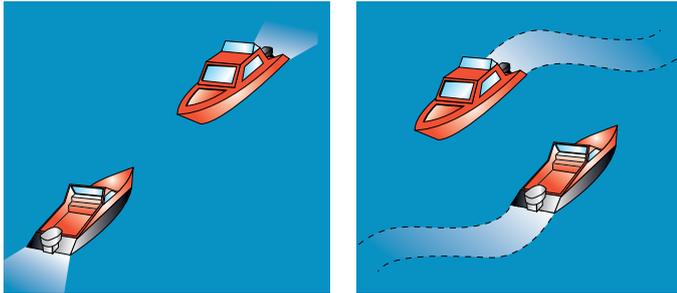


When each has the wind on the same side, the vessel which is to windward shall keep out of the way of the vessel which is leeward.

When a sailing vessel with the wind on its port side sees another sailing vessel to windward and cannot determine with certainty whether that sailing vessel has the wind on its port or its starboard, it shall keep out of the way of that other sailing vessel.

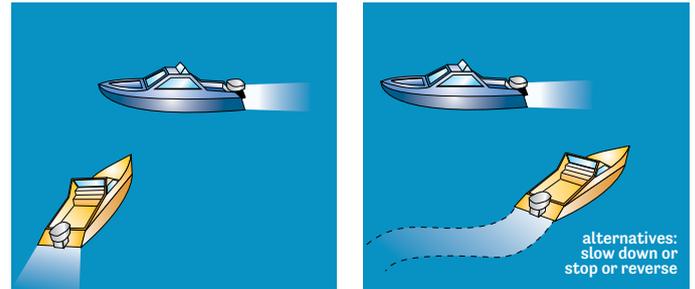
Power-driven vessels meeting head-on

Power-driven vessels meeting head-on or nearly head-on shall alter course to starboard so that each may pass on the port side of each other.



Power-driven vessels crossing

When two power-driven vessels are crossing, the vessel with the other on its starboard side shall keep out of the way and avoid crossing ahead of the other vessel. The other vessel must maintain its course and speed until it is apparent that the vessel required to give way is not taking appropriate action.



Narrow channels or channel approaches

The master of a vessel under way in a channel or fairway must ensure that the vessel keeps to the right of the centre of the channel or fairway.

The master of a vessel under way in a channel or fairway must ensure that the vessel keeps out of the way of a vessel that can only safely navigate within the channel or fairway.

All vessels in narrow channels shall keep, as far as practicable, to the starboard side of the channel.

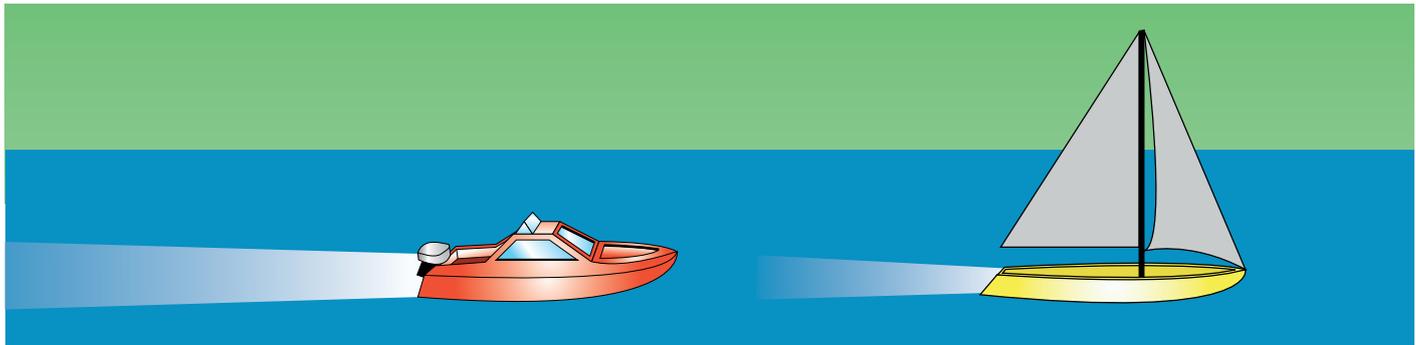
A vessel engaged in fishing shall not impede the

passage of any other vessel navigating within a narrow channel or fairway.

A vessel shall not cross a narrow channel or fairway if such crossing impedes the passage of a vessel that can safely navigate only within such channel or fairway.

Any vessel shall, if the circumstances of the case permit, avoid anchoring in a narrow channel.

A sailing vessel and a vessel under 20m in length shall not impede the passage of any vessel which can safely navigate only within a narrow channel or fairway.

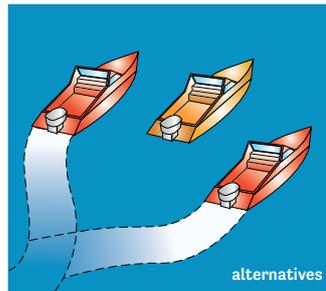
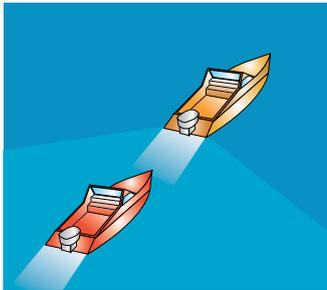


Overtaking vessels

All vessels, whether sail or power, overtaking another vessel when the boats are in sight of one another shall keep out of the way of the vessel being overtaken. That is, if a vessel is coming up with another from any direction, which is more than 22.5 degrees (in the shaded arc of the diagram below) abaft her beam, it shall be deemed to be the overtaking vessel until finally past and clear.

General notes

- If in doubt, assume that you are the overtaking vessel and keep clear. Alteration of course by either vessel does not relieve the overtaking vessel of the responsibility of keeping clear.



- If overtaking or approaching a vessel engaged in waterskiing always keep at least 50m from the skier and vessel combination

Joint emergency action

The giving-way vessel shall take early and positive avoiding action; make course/speed alterations obvious to the other vessel; avoid crossing ahead of the vessel with right of way; if necessary stop or reverse.

A series of five or more short and rapid blasts on a whistle or horn should be used to indicate that insufficient action is being taken to avoid collision.

The vessel with the right of way shall keep its course and speed. It should take avoiding action only if that taken by the giving-way vessel is insufficient. If necessary it should take whatever action is available to keep clear and avoid a collision.

If a power-driven vessel is taking action to avoid a collision with another power-driven vessel, it shall, if possible, avoid altering course to port. This action does not relieve the vessel operator of handling obligations.

BUOYS, BEACONS AND MARKS

It is essential that pleasure craft operators have a sound knowledge of navigational aids. A thorough understanding of Buoyage System “A” is important. Please study the following section carefully and help make our Northern Territory waterways safer.

Buoyage system “A”

Many countries throughout the world have agreed to the use of a uniform system of navigational marks known as Buoyage System “A”. The system, developed with the assistance of the International Association of Lighthouse Authorities (IALA), has been in use throughout Northern Territory waters since late 1983. Buoyage System “A” provides a better organised and safer way of coding our navigational marks.

Types of marks

Lateral: indicates port and starboard hand sides of channels.

Cardinal: indicates that deeper water lies to the direction shown to the North, South, East and West.

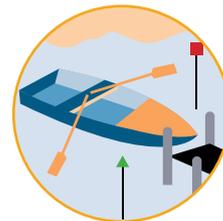
Isolated danger: indicates isolated dangers of limited extent with navigable water all around them – but don’t pass too close.

Safe water: indicates that there is navigable water all around and under that position e.g. mid-channel buoy.

Special: indicates special features e.g. spoil grounds or prohibited anchorage.

Entering Port

Upon entering a port the port hand mark (red) should be passed on your vessel’s port side.



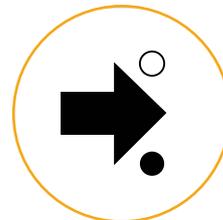
Leaving Port

Alternatively, when departing a port the port hand buoy (red) should be passed on your vessel’s starboard side.



Direction of buoyage

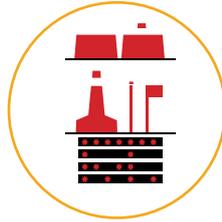
Where there may be any doubt, the direction of buoyage can be indicated on charts by this symbol.



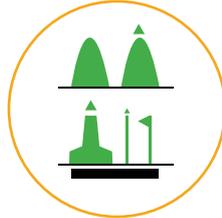
Lateral marks

Lateral marks are usually positioned to define well-established channels and indicate port and starboard hand limits of the navigation route into a port.

Port marks are coloured red and the basic shape is a can. By night a port buoy shows a red light.



Starboard marks are coloured green and the basic shape is conical. By night a starboard buoy shows a green light.



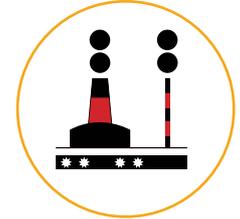
Isolated danger marks

Isolated danger marks designate an isolated danger of limited extent, which has navigable water all round it e.g. an isolated shoal, rock or wreck.

Topmark – Two black spheres positioned vertically and clearly separated

Colour – Black with one or more red horizontal bands

Light – A white flashing light showing a group of two flashes. The characteristics may be best remembered by association of two flashes with two spheres as the topmarks.



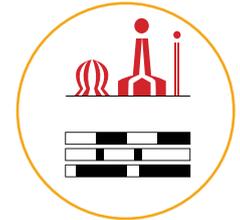
Safe water marks

Safe water marks indicate that there is navigable water all round the mark, e.g. mid-channel to land fall buoy.

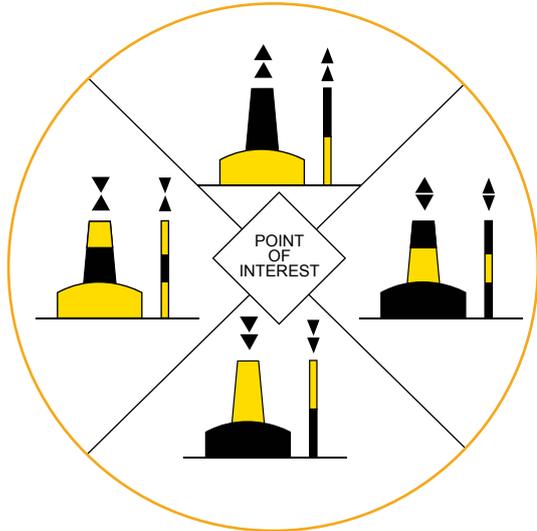
Topmark – A single red sphere

Colour – Red and white vertical stripes

Light – Exhibits a white light, isophase, occulting, or single long flash and a single sphere association may help in remembering these characteristics.



Cardinal marks



Cardinal marks indicate where the safest water may be found and are used in conjunction with the compass.

Uses – a cardinal mark may indicate the deepest water in the area, the safe side on which to pass a danger or draw attention to a feature in a channel such as a bend, junction or an end of a shoal.

Topmark – black double cones clearly separated.

Name of marks – the mariner is safe passing:

- North of the North mark
- East of the East mark
- South of the South mark
- West of the West mark.

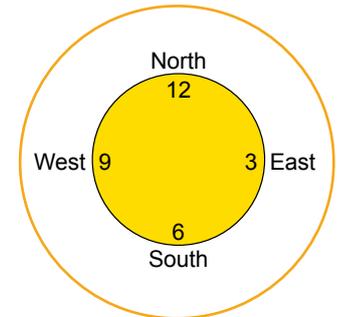
Colours – black and yellow horizontal bands with position of the band indicating the respective cardinal points.

North Topmark point up, black band above yellow band indicating the respective cardinal points

East Topmark points outward, black bands above and below yellow band

South Topmark points down, black band below yellow band

West Topmark points inward, black band between yellow bands.



Lights

A cardinal mark exhibits a white light and its quadrant is distinguished by a specific group of quick or very quick flashes.

The frequencies of the flashes are:

North Continuous or quick flash

East Three flashes in a group

South Six flashes in a group followed by a long flash

West Nine flashes in a group.

To aid memory, associate the number of flashes of each group with that of a clock face, three o'clock East, nine o'clock West, and so forth.

To ensure that no confusion occurs between the East, South and West marks, a long flash immediately follows the 6 flashes of the South mark.

Note: Cardinal marks or lights are not normally found in small vessel channels.

Special marks

Special marks indicate a special area or feature such as:

- A traffic separation system
- Spoil ground marks

- Cable or pipe line marks including outfall pipes.

They may also define a channel within a channel, e.g. a channel for deep draught vehicles in a wide estuary, where the limits of the channel for normal navigation are already marked by red and green lateral buoys.

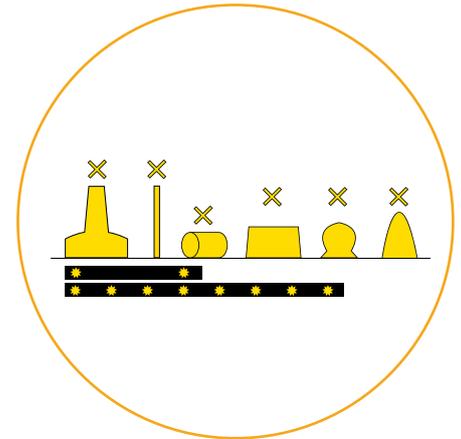
Topmark – where topmark is carried it takes the form of a single yellow x

Colour – yellow

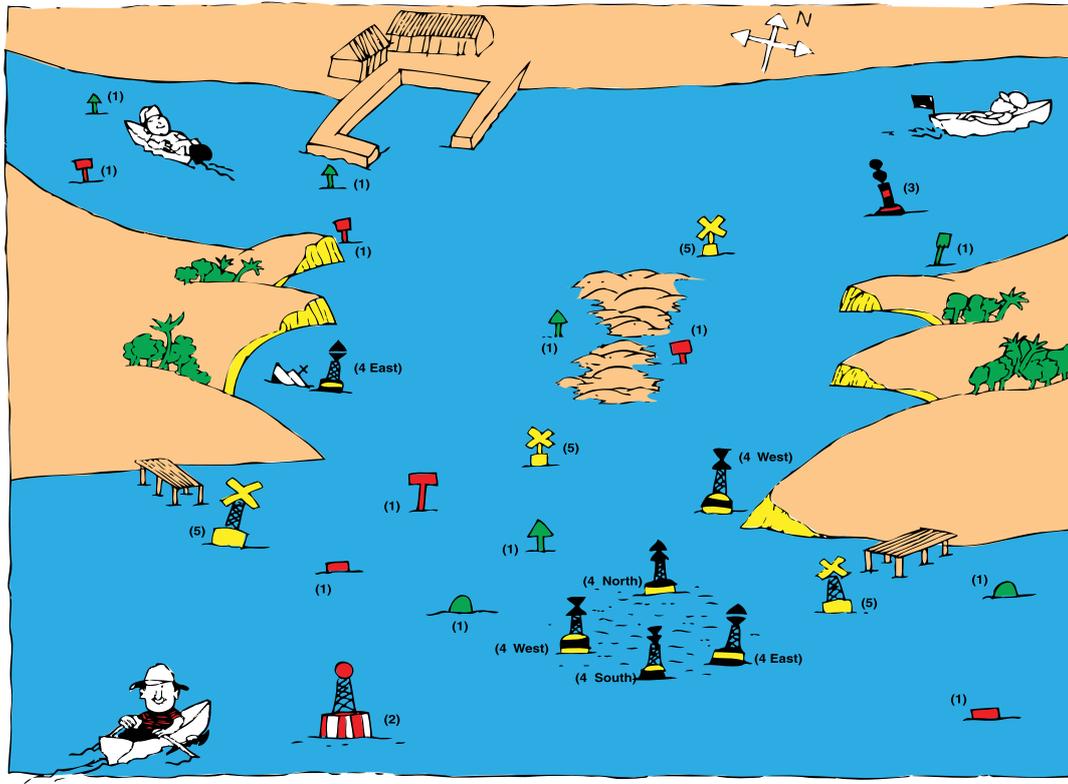
Light – if it is yellow, the rhythm may be any other than those used for the white light of cardinal, isolated danger and safe watermarks.

Variations in the design of buoys will exist in many areas.

The illustrations indicate the approved shapes, colourings and topmark.



Buoys, beacons and marks map



Map courtesy of Queensland Transport

At a glance

- (1) Lateral mark
- (2) Safe water mark
- (3) Isolated danger mark
- (4) Cardinal mark
- (5) Special mark

FIRE PREVENTION AND SAFETY AFLOAT

Fire prevention can be effectively achieved through good housekeeping. Even though it is essential you know how to fight a fire and have the correct equipment onboard, never having to fight fire is a far better course of action.

Fire at sea does not discriminate.

Any fire on a boat, especially fires involving flammable fuel, can be a terrifying experience with the potential to cause serious burns or death.

It is a fact that petrol and oil fires on small vessels spread rapidly, generate intense heat and usually overwhelm those onboard. Few people are able to successfully fight a fire on a small vessel.

The answer to the problem lies in **PREVENTING** fires rather than **FIGHTING** them.

A great number of fires or explosions occur immediately after boats have been refuelled. By using common sense and taking proper precautions, boating fires can be prevented.

Have the correct fire extinguishers in your boat, know how to use them, maintain them and locate them in accessible areas.

Keep the bilge and engine room clean and free of rags, newspapers and other combustible materials.

Regularly check that engine rooms are properly ventilated.

Use only appliances such as stoves and heaters that are approved for marine use.

Never use cigarette lighters or matches while searching in lockers, use a battery powered torch.

Check fuel systems at regular intervals for leaks and spillage.

Any spare petrol should be carried in approved containers.

Check the electrical system for faults regularly and keep all components as clean as possible.



Some common causes of fire aboard small vessels

- Engine backfiring in air laden with combustible vapour
- Hot exhaust pipe igniting adjacent combustible materials
- Spontaneous combustion of oil rags in badly ventilated compartments
- A spark caused by static electricity during refuelling
- Short-circuiting and overloading of the electrical system
- Smoking in bed.

Remember, to avoid potential fire hazards – all fuel systems, electrical systems and LPG systems should be correctly designed, installed and maintained by qualified persons.

Refuelling your boat

- Turn off all engines, motors, fans, heating devices, electrical equipment and LPG appliances before fuelling.
- Take care when refuelling! Don't smoke or allow naked flames on or in the vicinity of your vessel while fuelling.
- Fuel spilled, either accidentally or from overflowing the fuel tanks, produces vapours which can enter the bilge and may be ignited by a spark – often from the boat's electrical system.
- Have a filled fire extinguisher handy.
- Wipe up all spills.
- Leave room in tanks for fuel expansion.
- Check bilges for leakage and fuel odours, ventilate until fuel odour is gone, before starting engines.
- Never refill portable fuel tanks in the boat; take them ashore for filling and wipe off any spillage before replacing them on board.
- Fuel-related fires could also start when a boat is cruising. These fires generally result when some component of the fuel system starts to leak and vapours trapped in the vessel's bilge are ignited.
- Regularly inspect and maintain fuel systems and avoid using temporary or "stop gap" solutions to fix leaks.

Electrical installation

Frequently, fires and explosions on board small vessels are caused by short circuits or overloading. To ensure protection from these hazards, have all electrical installation and maintenance carried out by a qualified marine electrician.

Never undertake temporary repairs using makeshift materials, except in an emergency.

Never use multiple adaptors for connecting appliances to a circuit not initially designed for this purpose.

Never replace an existing fuse with a larger one.

Never overcharge batteries as these release excessive amounts of the explosive gas hydrogen into the air.

Ensure battery spaces are well ventilated.

LPG

Ensure all LPG installations are carried out and serviced by a licensed gas fitter.

Regularly check permanent ventilators, flues and vents to ensure they are clear.

Leakages can lead to suffocation or explosions.

Remember LPG is heavier than air. Any leaked gas will always flow downwards, collect in low places and will be slow to dissipate without ample ventilation and movement of air.

Always turn off gas at the bottle.

Never use a naked flame to check for leaks!

SAFETY VIA SATELLITE

All pleasure craft operating in Open waters are required to carry an EPIRB. All EPIRBs must be registered with the Australian Marine Safety Authority (AMSA). Registration is free and can be completed at <http://beacons.amsa.gov.au/> .

Once activated, an EPIRB (406 MHz) transmits a distress signal on the international COSPAS-SARSAT frequency of 406MHz. This radio frequency is constantly monitored by a series of Earth-orbiting satellites which form part of an international search and rescue system known as COSPAS-SARSAT. As these satellites orbit the earth, they constantly “listen” for any activated EPIRBs.

If a satellite detects an activated EPIRB, it relays the EPIRB’s distress signal to satellite receiving stations (known as Local User Terminals, or “LUTs”) located in Albany, Bundaberg and Wellington NZ. Once the satellite has passed overhead, computers in the receiving stations analyse the EPIRB’s signal and calculate its position. An EPIRB location can generally be calculated to within radius of about 5 kilometres for a 406 MHz beacon.

The processed information from the satellite receiving stations is then automatically relayed by

Emergency Position Indicating Radio Beacons (EPIRBs)

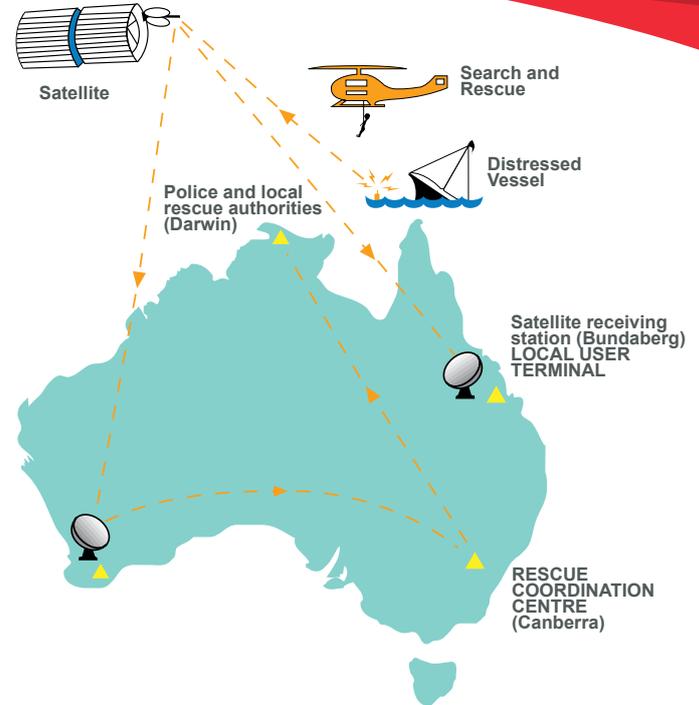
landline to Australia’s Rescue Coordination Centre (RCC), part of the Australian Maritime Safety Authority, in Canberra.

Here, further computerised verification checks are performed and details of the EPIRB’s position confirmed. Depending on the circumstances of the emergency, a search and rescue operation is either coordinated by the RCC or details passed on to the Northern Territory Police to coordinate a rescue. Specially equipped aircraft and/or rescue boats are then used to home in on the EPIRB signal and effect a rescue.

406MHz

The advanced 406MHz beacon, which can indicate your position to within 5 kilometres, and can relay much more information than simply the distress location (for example, a 406MHz beacon can be programmed to tell the RCC the registration of the aircraft or ship, which in turn can indicate the type of craft, survival gear carried and the number of people onboard).

CARRY AN EPIRB - IT COULD SAVE YOUR LIFE!



Further information on search and rescue can be obtained from:

AMSA Policy GPO Box 2181 Canberra ACT 2601

Web: www.amsa.gov.au Phone: 1800 641 792

FLARES

Flares are required to be carried in vessels operating in Intermediate and Open waters. In case of trouble, these can be your only means of indicating that assistance is required. They are also essential for indicating your position to a search vessel.

Only fire a flare in an emergency situation and when you are sure someone may see the flare. Check the instructions before use.

Flares should always be stored in a waterproof container, and in speed boats, endeavour to store them where they don't receive too much pounding in rough conditions. Always replace them before the expiry date, out of date flares can be unreliable. Familiarise yourself with their operation, keeping in mind that you can't let one off just to see how it works.

Note: flares can cause injury if misused. Keep them in a dry sealed container.

Dispose of out of date flares with Water Police, NT Police, Albatross Street, Winnellie. Phone: 8922 0820.

Types of flares

- 1. Parachute** (rocket flare – red) Capable of reaching a height of 300 m and can be seen for up to 40 km at night and 15 km by day.



Operation A

Remove caps at each end.



Operation B

Remove safety pin and lever will drop down.



Operation C

To fire, hold flare vertically and press firing lever against rocket cylinder.

- 2. Red hand flare** – Can be seen up to 10 km away, on a clear night.



Operation A

Remove caps both ends – bottom cap is a striker. Hold flare at base and use striker to ignite flare at top end.



Operation B

Once flare is ignited – hold away from you and as high as possible until finished.

- 3. Orange smoke flare**
Visible up to 4 km away.
Daytime use only.



Operation A

Same as the red hand flare.

Manufacturers instructions may vary from these shown above, always check your pyrotechnics.

MARINE EMERGENCY PROCEDURES

In case of emergency

1. Do not panic, remain as calm as possible.
2. Hand out lifejackets or safety vests and wear according to directions.
3. Attract attention from any passing vessel or persons on land, if close by, either by waving or by using a flare if the situation becomes desperate.
4. Check to make sure there is no danger of fire or explosion.
5. If hull is holed, block entry with any suitable material that will slow down the entry of water.
6. If you have 'V' distress sheets, place on top of vessel and secure properly.
7. If you have VHF radio. Refer pages 45 to 50.
8. If you have an EPIRB. Refer to pages 40 and 41.

Reporting of incidents

If you are involved in an incident, the *Marine Act* requires that the person in charge of a vessel shall report any incident to the Marine Safety Branch, Department of Transport as soon as practicable.

Forms are available at **www.marinesafety.nt.gov.au**

This information is vital to help plan future safety education programs and the amendment of legislation. Your co-operation will assist others in the future.

DISTRESS SIGNALS

The following signals indicate a distress situation and a need for assistance.

Use of the signals except for the purpose indicated is prohibited.

1. Rockets or shells, throwing red stars fired one at a time at short intervals



2. (a) Any signalling method consisting of:



(b) Radiotelephony consisting of the spoken word:

'MAYDAY'

3. Square flag having above or below it a ball or anything resembling a ball



4. Rocket parachute flare or a hand held flare showing a red light.



5. Smoke signal giving off orange coloured smoke



6. Slowly and repeatedly raising and lowering arms outstretched to each side



7. Rectangle of international orange material with either a black letter V, a black square or a black circle upon it



8. (a) A gun or other explosive signal fired at intervals of about a minute
(b) Continuous sound with a fog signalling apparatus
(c) Flames on a vessel.

MARINE COMMUNICATIONS FOR PLEASURE CRAFT

There are only a few pieces of safety communication equipment that a pleasure craft must carry when operating in Intermediate and Open Waters.

These are:

- two orange smoke flares and two red flares
- if the vessel is in Intermediate or Open Waters a V-Sheet
- if the vessel is more than two nautical miles from the coastline a registered EPIRB.

There are however many pieces of additional equipment a pleasure craft may choose to carry. There can be no better reason for installing a marine radio in your boat other than one day it may save a life. That life could be yours or of a member of your family.

The sea can be a frightening and lonely place, especially if you are in trouble. A marine radio gives you the ability to advise other people that you need help. It may be your only contact with the outside world.

Marine communication systems

There are two main marine safety communication systems operating in Australia. AMSA's Safety Off Shore System and the State and Northern Territory Government's Coast Radio Australia Network.

Safety offshore

This system is based on GMDSS (Global Maritime Distress and Safety System) principles which are part of the SOLAS Convention (Safety Of Life At Sea) that focuses on large vessels.

There are two equipment types used. These are HFDSC (Digital Selective Calling) and Sat-C satellite communications. Pleasure craft operating in remote areas or participating in extended voyages such as cruising yachts may choose to use this equipment.

Coast radio Australia network

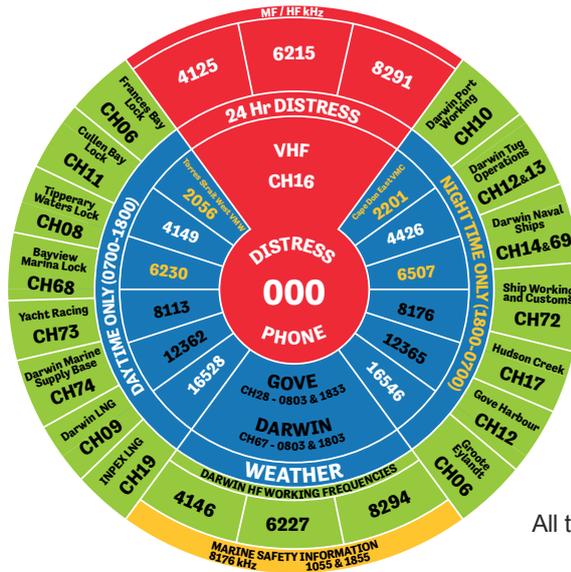
This system consists of nine stations located around Australia, with one radio in each state except Queensland and Western Australia which have two.



NT marine communications

Coast Radio Darwin VKD 999

Coast Radio Darwin monitors CH 16 VHF, 4125, 6215 and 8291 kHz HF frequencies for distress, urgency and safety calls.



All times C.S.T.

Coast Radio Darwin transmits weather and other Marine Safety Information at the times and frequencies shown above.

RADIO DISTRESS PROCEDURES

In a boating emergency, unless correct radio procedures are followed, things can become chaotic. It is important that you know how to effectively call for help and also to recognise that another boat is calling for assistance.

Standard radio procedures have been laid down and are used by vessels of all nationalities. These are explained in detail in the Marine Radio Operators Handbook. This book is compiled by the Australian Maritime College and the Australian Communications and Media Authority, a copy may be accessed from www.amc.edu.au/handbook

The basic procedures are summarised below:

Distress call

To be used if in grave and imminent danger and you require immediate assistance. Example vessel sinking or on fire.

Mayday, Mayday, Mayday

This is [Name and call sign if you have one]

(spoken three times)

Mayday [Name and call sign if you have one]

Details of the vessel's position

Nature of distress and assistance required

Other information including number of persons on board

It is recommended that you also activate your EPIRB in addition to making a Mayday call.

Urgency call

The urgency call is used when there is concern on the safety of your vessel or a person. Example medical emergency or a man overboard.

Pan Pan, Pan Pan, Pan Pan

Hello all stations, Hello all stations,

Hello all stations

This is [Name and call sign if you have one]

(spoken three times)

Details of the vessel's position

Details of assistance required and other information

Safety call

The safety warning is used if you need to broadcast an important safety warning. For example, a partly submerged object or an accidentally activated EPIRB.

Saycure-e-tay, Saycure-e-tay, Saycure-e-tay

Hello all stations, Hello all stations, Hello all stations

This is [Name and call sign if you have one] (spoken three times)

Details of the warning / announcement

VHF Distress, Urgency and Safety calls can be initiated on channel 16, they may be continued on channel 67.

HF Distress, Urgency and Safety calls can be initiated on 4125, 6215 and 8291, they may be continued on these channels or change to channels 2182, 12290 or 16420 if better reception is required.

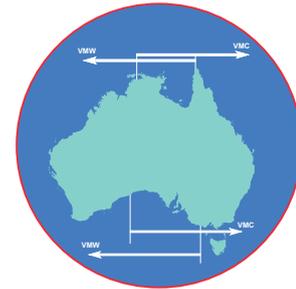
Note: The nature of HF transmission may result in distress or safety calls being answered by any Australian coastal station.

Weather broadcasts

The Bureau of Meteorology is responsible for the broadcasting of weather on HF radio.

There are two sets of frequencies, one covering the East of Australia (VMC) the other the West (VMW), these are continually broadcasting on a four-hour cycle that means weather for any one area is broadcast six times in any 24-hour period.

VMW	VMC
2056	2201
4149	4426
6230	6507
8113	8176
12362	12365
16528	16546



Transmissions will be on four frequencies simultaneously:

White are day time only (7 am to 6 pm)

Red are night time only (6 pm to 7 am)

Black are 24 hours a day

Refer to Marine Communications diagram on page 46.

Other ways to access weather information

VHF broadcasts

Weather is also broadcast over VHF channel 67 by Coast Radio Darwin at 0803 and 1803 each day. This consists of the forecast for Darwin Harbour and surrounding areas plus the Coastal Waters Forecast for Daly River to Cape Don.

Phone for weather

There are various types of weather information that can be gained over the phone including:

- **1900 955 367** – Coastal forecasts, warnings and observation bulletins
- **1300 659 214** – Non cyclone warnings including coastal waters and wind warnings
- **1300 659 211** – Tropical cyclone warnings and information.

(1300 numbers are equal to the cost of a local call; 1900 numbers have a cost per minute)

Weather on the web

There is a wide range of weather available on the web which can be checked and printed before going on an outing, including forecasts, warnings and observations.

There is also a wide range of additional information on ways you can access weather.

For current weather warnings and forecasts go to **www.bom.gov.au**

Marine communications equipment licensing

VHF

Individual ship licences are not required for VHF radios. Previously, call signs used to be issued as part of the process of licensing VHF. As this is no longer required, radios in a new installation and installations where the licence has expired will not have a call sign. A vessel in this situation is to use the name of the vessel to identify themselves.

Users are still required to hold an operators qualification. The qualification may be a Restricted Radiotelephone Operators Certificate of Proficiency, or a Third Class Commercial Operator's Certificate of Proficiency, or a Marine Radio Operator's Certificate of Proficiency, or a Marine Radio Operator's VHF Certificate of Proficiency.

HF

HF radios must have an apparatus licence. More information on getting a licence can be found at www.amc.edu.au

Users are required to hold an operator's qualification. The qualification may be a Restricted Radiotelephone Operators Certificate of Proficiency, or a Third Class Commercial Operators Certificate of Proficiency, or a Marine Radio Operators Certificate of Proficiency.

Mobile phones and satellite phones

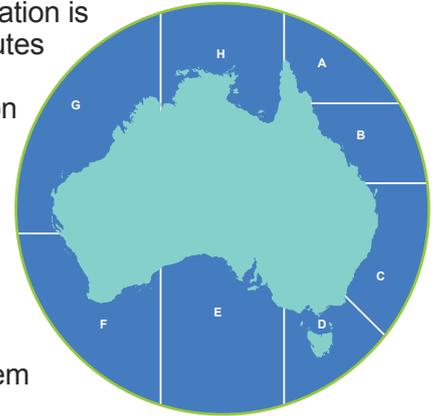
A mobile phone cannot be used as a substitute for the requirement to fit a marine radio. In an emergency situation a marine radio transmission can be heard by other vessels in the vicinity and so provide a greater chance of receiving a quick response.

Other marine safety information

All marine safety information, excluding weather, is broken down into eight segments around Australia and given a letter from A through to H. These areas are known as the Auscoast Areas or Navarea X.

Marine safety information is broadcast at 55 minutes past the hour, see schedule opposite, on HF radio 8176 kHz.

Each HF station broadcasts the warnings for its adjacent area plus the one either side. A Sat-C system instantly receives them as they are issued.



Station	Primary	Secondary	Area
Adelaide	0325 UTC	0725 UTC	D,E,F
Cairns	2325 UTC	1225 UTC	H,A,B
Darwin	0125 UTC	0925 UTC	G, H, A
Darwin	1055 (local)	1855 (local)	G, H, A
Gladstone	2225 UTC	1125 UTC	A, B, C
Hobart	0525 UTC	-	C, D, E
Melbourne	0225 UTC	2125 UTC	C, D, E
Perth	0625 UTC	1025 UTC	E, F, G
Port Hedland	0425 UTC	0825 UTC	F, G, H
Sydney	0025 UTC	1325 UTC	B, C, D

MARINE POLLUTION

The *Northern Territory Marine Pollution Act 2013* and Marine Pollution Regulations aim to protect the marine and coastal environment by minimising discharges of ship-sourced pollutants into coastal waters.

Below is a summary of applicable rules to owners and users of all vessels.

Oil

A vessel's owner and a vessel's master/operator must ensure that oil is not discharged from the ship into the sea.

Oil means petroleum of any form and includes:

- any liquid hydrocarbon mixture occurring naturally in the earth
- sludge or oil refuse
- any oil used in connection with the propulsion and auxiliary machinery of the vessel
- a mixture with any oil content.

Garbage

Garbage means all kinds of victual, domestic and operational waste, including plastics, generated during the normal operations of the vessel and liable to be disposed of, including plastics. It does not include fresh fish and parts of fresh fish, or the release of small amounts of food wastes for the specific purpose of fish feeding.

The garbage rules change depending how far the vessel is off the coast.

Within 3 nautical miles of the coast

A vessel's owner and a vessel's master/operator must ensure that no garbage is discharged from the ship into the sea.

At a distance 3 to 12 nautical miles off the coast

Garbage that is food waste, paper products, rags, glass, metal and bottles may be disposed of if it is pulverised or ground so that it is capable of passing through a screen with openings no greater than 25 mm.

Pollution Response Hotline freecall 1800 064 567.

STOW IT DON'T THROW IT!

Transfer operations

A vessel's owner and a vessel's master must ensure a pollutant is not discharged from the vessel into the sea during a transfer operation.

A pollutant means any substance, which if introduced into the sea is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea. It includes garbage, noxious liquid substances, packaged harmful substances, oil and sewage.

A transfer operation means any operation involved in preparing for, starting, carrying on, or finishing, a transfer of a pollutant including 'ship to ship', 'ship to shore' and 'shore to ship'.

Night transfer operations must have a permit issued by the Northern Territory Environment Protection Agency.

Reporting incidents

A vessel's master or operator must notify of a pollution incident without delay. This can be done by calling the Pollution Response Hotline, freecall 1800 064 567.

DON'T trash the oceans
bring your garbage back

AMSA
Australian Maritime
Safety Authority

Remember
It is illegal
to dispose of:

PLASTICS and
all forms of garbage
(including food waste)

In waterways and
within 3nm from
nearest land

PLASTICS, cargo
packing materials and
all other garbage if
not ground to less
than 25mm

3 - 12nm from
nearest land

PLASTICS and
cargo packing
materials

12 - 25nm from
nearest land

PLASTICS

Outside 25nm
from nearest
land

DISPOSAL OF ALL PLASTICS INTO THE OCEANS OR WATERWAYS OF AUSTRALIA IS PROHIBITED.
Fines of up to \$1.3 million apply. No garbage disposal is permitted in the Great Barrier Reef.
REPORT ALL MARINE POLLUTERS TO 1800 611 792 OR YOUR LOCAL MARINE AUTHORITY

At no time can plastics be discharged into the sea.

**INTERNATIONAL POLLUTION
REGULATIONS**

MARPOL 73/78 CONVENTION, ANNEX V

DISPOSAL OF ALL PLASTICS
INTO THE SEA IS

PROHIBITED

NON-PLASTIC GARBAGE WHICH CANNOT BE RETAINED ON BOARD
FOR PROPER DISPOSAL ASHORE MAY ONLY BE DISPOSED OF AT
SEA PROVIDED VESSEL IS MORE THAN 12 NM FROM NEAREST LAND

A vessel that is more than 12 metres in length must ensure that a placard is displayed setting out garbage disposal requirements.

TIDAL INFORMATION

Tidal notes

Tidal levels

In accordance with modern hydrographic practice, the official tidal predictions and Mean Tidal Planes in the tables are referred to the datum of Lowest Astronomical Tide.

Tidal heights

The height of the tide in metres and decimals is reckoned from the lowest astronomical tide. When a low water falls below datum, it is marked with a minus sign (-). When reading navigational charts, tidal heights should be added to chart depths unless preceded by a minus sign, then they should be subtracted.

Meteorological effects on tides

Meteorological conditions, which differ from the average, will cause corresponding differences between the predicted and the actual tide. Variations in tidal heights are mainly caused by strong or prolonged winds and by unusually high or low barometric pressure. Tidal predictions are computed for average barometric pressure.

Low pressure systems tend to raise sea levels and high pressure systems tend to lower them. The water level does not, however, adjust itself immediately to a change of pressure. It responds moreover to the average change in pressure over a considerable area.

The effect of wind on sea level and therefore, on tidal heights and times is variable and depends on the topography of the area in question. In general, it can be said that wind will raise the sea level in the direction towards which it is blowing.

A strong wind blowing straight onshore will “pile up” the water and cause high waters to be higher than predicted. Winds blowing off the land will have the reverse effect.

Where to get tidal information

Tide tables for the Northern Territory are available on the web, or contact the Marine Safety Branch. Refer to page 4.

Tide diaries for the Port of Darwin

Tide diaries are available from various fishing tackle shops and boat chandlers. Please contact Darwin Port Corporation on **8922 0660**.

Tidal variations for various rivers

This information is provided purely as a guide. Details are compiled solely from local experience and variations could differ considerably from actual times. In the interest of safety, river users are advised to make allowances for potential inaccuracies.

(All times to be added on to Darwin predictions)

	Spring tides		Neap tides	
	High water	Low water	High water	Low water
Alligator System				
West	2 hours	2 hours	1 hour 30 mins	1 hour 40 mins
South	2 hours 40 mins	2 hours 30 mins	2 hours 40 mins	2 hours 40 mins
East	2 hours 50 mins	3 hours 20 mins	2 hours 50 mins	3 hours
East (Cahill's Crossing)	5 hours 30 mins	6 hours	6 hours	5 hours 40 mins
Murganella	2 hours	2 hours 10 mins	2 hours 50 mins	2 hours 50 mins
Wildman	1 hour 20 mins			
Adelaide River				
Entrance	50 mins	1 hour 10 mins	30 mins	1 hour 10 mins
Bridge	5 hours	5 hours 20 mins	5 hours 20 mins	5 hours 30 mins
Daly River				
Entrance	20 mins	13 mins	30 mins	2 hours
Fitzmaurice River				
Entrance	1 hour 30 mins	1 hour 50 mins	2 hours 30 mins	1 hour 30 mins
Leeders Creek boat ramp				
	1 hour 30 mins			
Victoria River				
Entrance said to be virtually nil				
Mary River				
(Shady Camp Barrage) Between 4 hours and 4 hours 30 mins – difficult to predict				

GUIDE TO RECREATIONAL FISHING IN THE NT

Recreational fishing in the Northern Territory is carefully managed to protect our valuable aquatic resources and habitats.

Personal possession limits for recreational fishing in the NT*

Species	Personal possession limit	Special controls and key information
Golden snapper*	3	Not suitable for catch and release in water 10 m+ in depth, susceptible to barotrauma. Vessel limit applies, see page 58.
Black jewfish*	2	Not suitable for catch and release in water 10 m+ in depth, susceptible to barotrauma. Vessel limit applies, see page 58.
Barramundi	5	55 cm minimum overall length. Mary and Daly River Fish Management zones: 3 per person possession limit and vessel limit of 1 fish over 90 cm.
King threadfin	3	Mary and Daly River Fish Management zones: Vessel limit of 1 fish over 90 cm (fork length).
Mangrove jack*	3	35 cm minimum length. Vessel limit applies, see page 58.
Spanish mackerel	2	Sensitive to handling. The use of barbless single hooks for catch and release fishing is recommended.
Red snappers – saddletail, crimson, Indonesian	10	Any combination to a limit of 10 total.

Species	Personal possession limit	Special controls and key information
Tricky snapper* (Grass emperor)	5	Susceptible to barotrauma. Vessel limit applies, see page 58.
Stripey snapper* (Spanish flag)	5	Susceptible to barotrauma. Vessel limit applies, see page 58.
Russells' snapper*	5	Susceptible to barotrauma. Vessel limit applies, see page 58.
Tuskfish*	5	Susceptible to barotrauma. Vessel limit applies, see page 58.
Coral trout*	5	Susceptible to barotrauma. Vessel limit applies, see page 58.
Red emperor*	5	Susceptible to barotrauma. Vessel limit applies, see page 58.
Cod and Groper*	5	120 cm maximum length. Vessel limit applies, see page 58.
Sharks (excluding protected species)	3	Any combination to a limit of 3. Sawfish, northern river and speartooth sharks are protected and must not be taken.
Marlin and sailfish	1	
Bream (<i>Acanthopagrus</i> spp.)	15	
All other fish species not subject to specific individual limits	5	

* At risk species, vessel limits apply

In addition to the 15 fish GPL, a maximum personal limit also applies for the following species

Species exempt from the 15 fish GPL	Personal possession limit	Special controls and key information
Mud crabs	10	Vessel limit of 30 when 3 or more people are on board. Carapace width 13 cm for males and 14 cm for females. 5 marine pots / dillies per person. 10 marine pots / dillies per vessel when 2 or more people are on board. Females with eggs must be released unharmed.
Crabs (other than mud crab)	30	
Freshwater crustaceans – cherabin and/or redclaw	30	Daly River Fish Management Zone: A combined vessel limit of 90 when 3 or more people are on board with a maximum limit of 30 cherabin. A combined personal possession limit of 30 which includes a maximum limit of 10 cherabin. 3 freshwater pots / dillies per person. 6 freshwater pots / dillies per vessel when 2 or more people are on board. Females with eggs must be released unharmed.
Tropical rock lobster	5	Vessel limit of 15 when 3 or more people are on board. Tropical rock lobsters must not be taken using underwater breathing apparatus.
Whiting and/or mullet and/or garfish (combined)	50	
Pilchards and/or sardines and/or herring (combined)	100	

Species exempt from the 15 fish GPL	Personal possession limit	Special controls and key information
Molluscs	10 litres (in shell)	Giant clams are protected and must not be taken.
Saltwater prawns (all species combined)	10 litres (intact in shell)	
Octopus, cuttlefish and squid (combined)	30	

Vessel limits

Vessel limits apply to at risk species.

- Vessels with 4 or less people on board, each person can take their personal possession limit.
- Vessels with 5 to 7 people on board can take a maximum of 4 times the personal possession limit of designated “at risk” species. The balance of the GPL can be made up of other fish.
- Vessels with 8 or more people on board can take a maximum of 8 times the personal possession limit of designated “at risk” species. The balance of the GPL can be made up of other fish.

Temporary reef fish protection areas

A new network of fit for purpose temporary protection areas will be implemented in the Northern Territory to aid in the protection and recovery of “at risk” reef fish species. There will be no recreational fishing of any form allowed within these areas, however fishers may traverse through a protected area provided no lines or rods are rigged for the purpose of fishing.

An overview of the new protected areas can be seen in the map provided. More detailed maps of each individual area as well as current fisheries regulations information can be found on the fisheries website at www.fisheries.nt.gov.au.

The information presented here is current at the time of printing, but may change.



■ Protection Area

INTERMEDIATE WATERS

1. All tidal rivers
2. Two (2) nautical miles seawards from the mean low watermark on the coast (including the coasts of islands)
3. Gazetted Sheltered Waters:

3.1. Darwin Harbour



3.2. Bynoe Harbour



■ Intermediate waters

- - - Sheltered waters limit

These sheltered waters maps are only indicative. For the exact sheltered waters areas coordinates please see Guidance Note 33.

BOATING QUIZ

Test your boating knowledge at
www.transport.nt.gov.au/safety/marine/rec-info

- 3.3. Gove Harbour
- 3.4. Vanderlin Islands
- 3.5. Dalywoi Bay
- 3.6. Bathurst Island –
Port Hurd and Gullala Creek
- 3.7. Port Bradshaw
- 3.8. Port Essington, Cobourg
- 3.9. Cobourg Peninsula –
Port Bremer and Raffles Bay
- 3.10. Junction Bay, Maningrida
- 3.11. Haul Round Island
- 3.12. Boucaut Bay, Milingimbi Inlet
and Castlereagh Bay.

If you require the complete geographic description of a particular area please contact the Marine Safety Branch.



PUBLIC BOAT RAMPS IN THE DARWIN AREA

1. Vesteys Beach ramp

Location: Atkins Drive on the foreshores of Fannie Bay 0.5 km north of Doyles Ramp.

Tidal access: Above 3.5 metres

2. Doyles ramp

Location: End of Conacher Street adjacent to the Ski Club on the foreshores of Fannie Bay approximately 4 km from Darwin Post Office.

Tidal access: Above 2.5 metres

3. Nightcliff ramp

Location: Corner of Banksia Street and Casuarina Drive, Nightcliff approximately 2 km from Nightcliff Shopping Centre.

Tidal access: Above 2.5 metres

4. Buffalo Creek ramp

Location: Approximately 2 km from signpost on Lee Point Road. Buffalo Creek provides access to Shoal Bay.

Tidal access: All tides at ramp. No access through Buffalo Creek mouth below 4 metres

Enquiries for ramps one to four please contact Darwin City Council. Phone: 8930 0300.

5. Palmerston ramp

Location: Adjacent to Elizabeth River bridge on the Palmerston side, approximately 9 km from Stuart Highway taking University Avenue.

Tidal access: All tides

Contact Palmerston City Council.

Phone: 8935 9922.

6. Southport ramp – Blackmore River

Location: Township of Southport.

Contact Litchfield Shire Council.

Phone: 8983 0600.

7. Leeders Creek ramp

Location: The turn-off to this ramp is approximately 44 km along Gunn Point Road. Turn right at the signpost. Note: Parts of the road may be badly corrugated.

Tidal access: Above 2.5 metres

8. Dinah Beach ramp

Location: Approximately 3 km from the Darwin Post Office, along Tiger Brennan Drive.

Tidal access: 2.5 metres

9. East Arm ramp

Location: End of Casey Street, signposts located on Berrimah Road. The ramp is near the entrance to East Arm.

Tidal access: Above 1.5 metres. Caution is required at low tide, as a rock formation lies immediately southeast of the ramp

10. Channel Island ramp

Location: Approximately 25 km west of Palmerston, across Elizabeth River bridge.

Tidal access: Most tides

11. Middle Arm ramp

Location: End of Middle Arm Road approximately 15 km from Cox Peninsula Road.

Tidal access: Most tides but difficulties may be encountered on extreme low water

12. Adelaide River ramp

Location: Adjacent to Adelaide River Bridge on the south side of the Arnhem Highway.

Tidal access: Most tides but difficulties may be encountered on extreme low water

13. Mary River ramp

Location: Adjacent to Mary River Bridge on the Arnhem Highway.

Tidal access: No tidal influence

14. Mandorah ramp

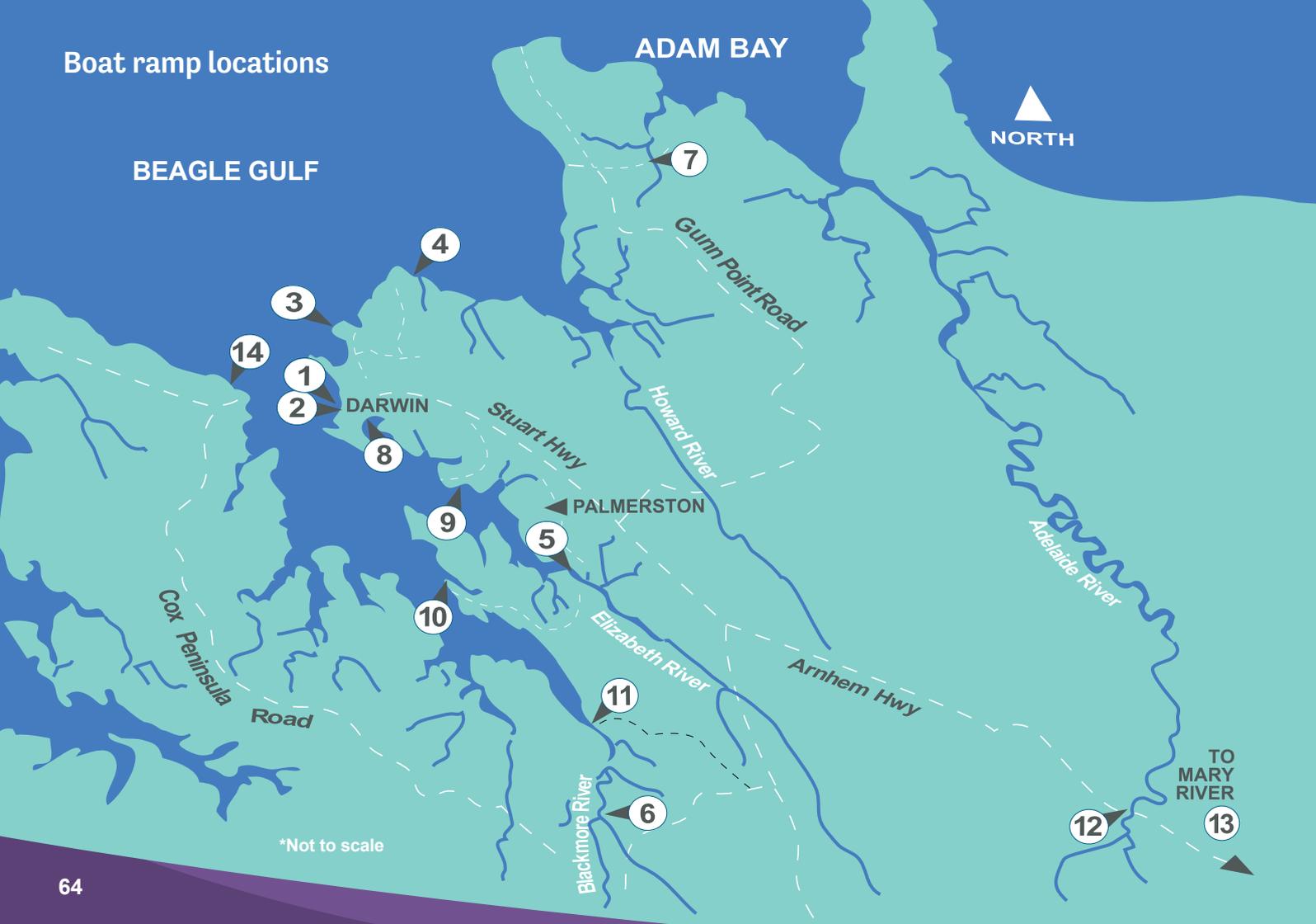
Location: Next to Mandorah Jetty.

Tidal access: Above 2 metres

Enquiries for ramps 7 to 14 please contact the Marine Safety Branch. Phone: 8924 7100.

See overleaf for a map of the boat ramp locations

Boat ramp locations



*Not to scale



**For further information contact:
Department of Transport
Marine Safety Branch**

2nd Floor Energy House
18-20 Cavenagh Street
Darwin NT 0800

GPO Box 2520
Darwin NT 0801

Phone: (08) 8924 7100

Fax: (08) 8924 7009

Email: marinesafety@nt.gov.au

Web: www.marinesafety.nt.gov.au

