Recreational Marine Drivers Licence (RMDL)

The following information is provided by Maritime Safety QLD as an information guide to gaining a Recreational Marine Drivers Licence.

Choosing your boat

All boats are built for different purposes. Different hull shapes and designs limit where a boat can be used and its capacity. Before buying a boat, consider the following questions:

What will you use the boat for?
Boats are built to suit certain activities like fishing, skiing, cruising or sailing. The design, construction, stability, flotation and maintenance will all affect the safety and performance for your chosen activity.

Where do you plan to go boating?
Boats bought for use on inland waterways are usually not suited for offshore boating. Consider where you will be using your boat and find out if the boat is suitable.

What size boat do you need?
The right size boat will depend on the number of passengers, load capacity (think of the type of equipment you will be taking) and the boating conditions you expect to encounter.

Are you equipped to move the boat?
Always ensure the car and trailer is capable of transporting the boat and check the number of people needed to launch the boat.

Is the boat properly equipped for your needs?
Safety equipment is essential for your safety and the safety of others if you run into trouble. Find out more information about safety equipment.

What type of engine does the boat need?
Different types of engines are more suitable for certain users and conditions than others.

What engine power is right for the boat?
Boats have both minimum power needs and maximum power limitations. Don't overpower to gain more speed. The extra weight on the transom may unbalance the boat and lower the freeboard.

What should the boat be made of?
Hull compositions can be fibreglass, aluminium, wood or inflatable. What you need may depend on how and where you use, maintain and store your boat.

Consider buying a boat fitted with inbuilt buoyancy.
Most aluminium boats have foam built into the boat. This will keep the boat buoyant even when filled with water. Built-in buoyancy is also possible in larger fibreglass boats, however, it must be requested before manufacture. Benefits of in-built buoyancy are:

- The boat will stay afloat when capsized or swamped.
- Passengers can stay with the boat until help arrives.
- The boat provides shelter and gives more time to activate emergency procedures.
- Provides the opportunity to bail water out of the boat.

Trip preparation checklist

Know your boat

It is your responsibility to make sure the boat is safe to use, you know how to use it properly and you have the right safety equipment. This is your general safety obligation.

Home or marina maintenance

Testing of your boat, trailer and the equipment on board the boat.

Pre-departure

Plan the trip and select suitable anchorage locations.
Establish an emergency plan.
Be sure the boat is suitable for the conditions.
Establish tidal predictions and range.
Estimate travel times.
Calculate adequate fuel plus reserve.
Make sure batteries are fully charged.
Load and check safety equipment.
Check tool kit and repair/replacement spares.
Replenish first aid supplies.
Obtain the latest weather observations and predictions.
Gather the latest bar crossing information.
Limit alcohol consumption – 0.05 on the water.
Tell someone where you are going.

Launching and getting underway

Use the rigging lane at the car park.
Check the bungs are screwed in firmly.
Secure all loose items in the boat.
Instruct all passengers on safety requirements.
Wait your turn to launch.
Log on with the local volunteer marine rescue group.
Life jackets must be worn by all children under 12 years of age, in open boats under 4.8 m when underway.
Put on life jackets before crossing designated coastal bars.
Listen to broadcast of up to date weather forecasts.
Choose the correct anchor for the location.
Take care of the environment (oil, chemical, sewage).
Radio the volunteer marine rescue group with any change of location or observed dangers.
Display correct navigation lights (running and anchored).

Upon returning

Log off with the local volunteer marine rescue group.
Wait your turn to retrieve your boat onto the trailer.
Use the rigging lane at the ramp to secure boat and gear.
Isolate all battery power sources.
Unscrew bungs to release water.

Home or marina maintenance

Clean and flush the boat's motor.
Inspect the boat for wear and tear.
Boat, trailer and equipment care.

Registration

In Queensland, all ships with a motor or auxiliary of **3 kW or more (over 4 hp)** must be registered when on the water. Your ship will be allocated registration symbols. These must be clearly visible in plain characters in a contrasting colour to the hull of your ship and must meet the following criteria:

The size of the characters depends on the type of ship and must be easy to read from a distance of 30 metres (m) away.

Ships not capable of planing must have characters a minimum of **75 millimetres (mm) high on both sides or on the stern.**

Ships capable of planing must have characters a minimum of **200 mm high on both sides**.

Personal watercraft (for example a jet ski) registration symbols must be:

- displayed on both sides
- **at least 100 mm high**
- easily seen while the craft is underway.

If the registration symbols are purchased as part of your new boat deal, you should check they are the appropriate size and a contrasting colour to the hull. Find out more about recreational registration.

Licensing

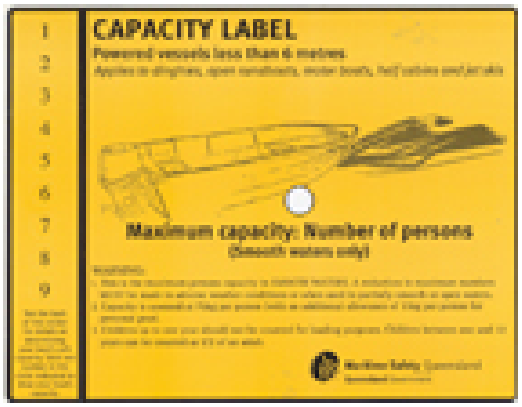
In Queensland, a marine licence is required to operate a recreational boat which is powered by a motor greater than **4.5 kW (over 6 HP).**

You must have a personal watercraft licence to operate a personal watercraft (for example a jet ski).

To get a recreational marine driver licence or personal watercraft licence, you need to successfully complete a BoatSafe training course.

Capacity labels

Overloading is dangerous and one of the easiest ways to capsize your boat. The more weight in the boat, the lower the freeboard. Freeboard is the minimum vertical distance from the surface of the water to the gunwale or deck. The gunwale is the upper edge of an open boat. Overloading compromises the safety of everyone on board and increases the chance of swamping or capsizing.



When preparing for a trip, the boat operator is responsible for assessing the load on board, both people and objects. For example:

- heavy items should be stowed in a low and central place where they cannot move around
- weight, including passengers, should be distributed evenly through the boat
- the weight of extra fuel and water should be taken into account.

By applying a capacity label you will have a constant reminder of how many people can be safely on board your boat in smooth waters and good conditions.

All registrable recreational boats, with the exception of sailing ships, must have one or more capacity labels attached. Capacity labels should be placed near the boat's control area/s where they can be seen by the operator at all times. A penalty could apply if a capacity label is not attached, unreadable or located in the wrong position on the boat.

There are three different capacity labels available:

- powered boats under six metres
- powered boats six metres and over
- powered boats with a flybridge.

The operator must keep in mind that the label indicates the number of people the boat can safely carry in good conditions and smooth waters. When using the boat in partially smooth or open waters or in rough conditions the operator should consider reducing the number of people taken on the trip.

Department of Transport and Main Roads customer service centres can provide a free capacity label when registering or transferring the registration of a boat.

Australian Builder's Plate or manufacturer's plate

Take the capacity information from the Australian Builder's Plate or the manufacturer's plate if fitted to your boat. If your boat doesn't have one of these plates, you should contact the manufacturer for details.

From 1 July 2006, all new recreational boats manufactured in Australia will show an Australian Builder's Plate. Capacity labels are not required if your boat has either a manufacturer's plate or an Australian Builder's Plate, but only if these are clearly visible from each steering position on the boat. You should still consider placing a capacity label on your boat if it provides a more visible reminder of the boat's safe capacity.

Alcohol rules

Recreational ships

The skipper must have a blood alcohol limit of less than 0.05, the same rules as on the road. The skipper is also responsible for the safety of the passengers and should be responsible for their alcohol consumption. The effects of alcohol are enhanced while on the water due to the sun, wind, waves and constant motion. Reflexes and response times to emergencies are slowed and swimming ability deteriorates considerably.

Skippers of recreational boats should also be aware that, when their boat is anchored, it may still be considered to be used for navigation, and the blood alcohol limit applies. The limit does not change unless the boat is securely moored in a marina, to a jetty or wharf or on a swing mooring.

Commercial ships

The rules for commercial ships are different to those for recreational ships. The blood alcohol limit for a skipper whilst in charge of a class 1 commercial ship is zero.

Section 79 of the Transport Operations (Road Use Management) Act 1995 refers to driving and so on whilst under influence of liquor or drugs or with prescribed concentration of alcohol in blood or breath.

Suspension of a marine licence

If the holder of any marine licence has been convicted of a drink driving offence in a road motor vehicle, their marine licence can be cancelled or suspended.

Safety equipment recreational ships

Carrying the right safety equipment and knowing how to use it is essential. The list below outlines the minimum equipment requirements for recreational ships set by legislation. This depends on the size of the ship, whether it requires registration and the areas of operation.

Safety equipment requirements are divided into two areas:

- Required equipment that must be carried depending on area of operation
- Recommended equipment that should be carried to satisfy the general safety obligation.

While boats that do not require registration are not obliged to carry compulsory safety equipment, it is strongly recommended appropriate equipment is taken in the event of an emergency. Lack of preparation could lead to a breach of the general safety obligation. Carry enough safety equipment to be prepared for the unexpected.

Some safety equipment types include components that can deteriorate over time. This can decrease their effectiveness or in some cases render them inoperable. This equipment includes:

- fire extinguishers
- EPIRBs
- flares
- inflatable life jackets
- smoke signals
- inflatable life rafts.

This equipment must be serviced by the manufacturer or an authorised agent by the expiry date, which must be clearly marked on the equipment.

Equipment that can not be serviced or no longer works must be replaced if it is to be carried as part of the safety equipment requirements.

2.7 Water limits

Water limits determine the types of safety equipment required.

- Smooth waters include rivers, creeks, streams and lakes, waters within breakwaters or revetments and within half a nautical mile from land within partially smooth limits and other waters specified in legislation.
- Partially smooth waters are determined by Maritime Safety Queensland as specified in legislation.
- Open waters are areas beyond these limits.
- The red line designates limits beyond which EPIRBs must be carried.

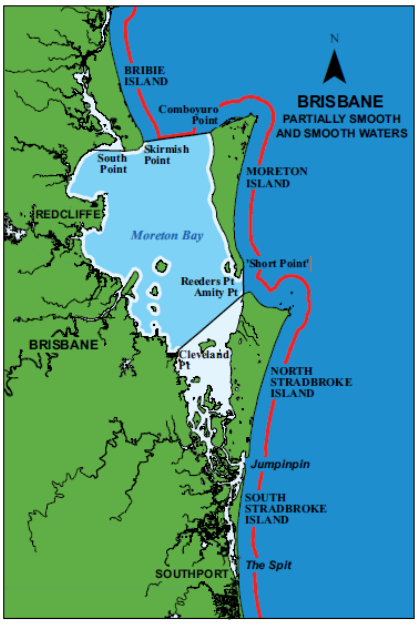
Water limit legend:

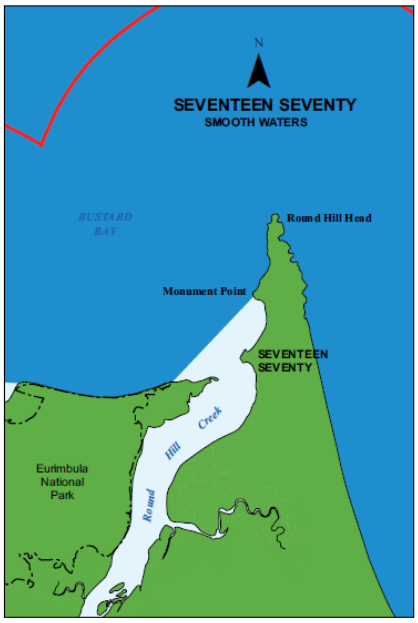
Smooth waters

Partially smooth waters

Open waters

The red line designates limits beyond which EPIRBs must be carried.





Safety equipment for recreational boats and personal watercraft

All equipment must be in good working order, and not past the expiry date for replacement or service (EPIRB, fire extinguisher, flares and inflatable life jackets).

- Non-registrable boat means recreational boats with an engine or auxiliary of under 3kW (4hp). Requirements or recommendations listed also apply to international or interstate boats operating in Queensland.
- Registrable boat means recreational boats with an engine or auxiliary of 3kW or more (over 4hp). Requirements or recommendations listed also apply to international or interstate boats operating in Queensland.
- Tenders do not require registration if operated within 2nm of the primary boat. Tenders that are not registrable, are not required to carry safety equipment other than a light for signalling.
- PWC means personal watercraft for example a jet ski.
- Required means equipment that must be carried.
- Recommended means equipment that is suggested to be carried to meet the General Safety Obligation.

Item	smooth water			partially smooth waters			beyond smooth and partially smooth waters		
	non-registrable boat	registrable boat	PWC	non-registrable boat	registrable boat	PWC	non-registrable boat	registrable boat	PWC
EPIRB* (406 MHz) Emergency Position Indicating Radio Beacon. When operating more than 2nm from land.							required	required	required
Signalling device torch, fluorescent light, lantern and cyalume stick. Required when operating between sunset and sunrise.	required	required	required	required	required	required	required	required	required
PFDs /life jackets • One of the appropriate size for each person (12 months and over) on board, except if a person is wearing an inflatable diver jacket and the vessel is engaged in diving activities. • Children under 12 must wear the PFD when underway in an open boat under 4.8m.	PFD type 1, 2 or 3 recommended	PFD type 1, 2 or 3 required	PFD type 2 or 3 required	PFD type 1 or 2 recommended	PFD type 1 or 2 required	PFD type 2 required	PFD type 1 recommended	PFD type 1 required	PFD type 2 required
	• Except in a river, creek or stream, or waters contained within breakwaters or revetments if the boat has positive flotation***, and grab handles, lines or a secure hold for each person on board. • PFD not required for a registrable tender to a recreational boat if used within 1km of the primary boat and tender has a positive flotation statement *** in the approved form.			• PFDs must be worn when crossing designated bars in open boats under 4.8m. • PFD not required for a registrable tender to a recreational boat if used within 1km of the primary boat and tender has a positive flotation statement*** in the approved form.			• PFDs must be worn when crossing designated bars in open boats under 4.8m. • PFD not required for a registrable tender to a recreational boat if used within 500m of the primary boat and tender has a positive flotation statement*** in the approved form.		
V sheet				recommended	required		recommended	required	
Flares two red hand flares and two orange smoke flares.				recommended	required		recommended	required	
Fire fighting equipment all boats over 5m. Must be capable of extinguishing a fire quickly and effectively.	recommended	required		recommended	required		recommended	required	
RideSmart sticker must be visible from steering position.			required			required			required
Capacity label** except sailing ships. Must be visible from all steering positions.		required	required		required	required		required	required
Navigation Navigation chart and a liquid damped compass appropriate to the operational area, or other directional finding or positioning equipment.				recommended	recommended		recommended	recommended	
Anchoring For boats less than 5m, the cable can be chain or rope. For boats over 5m, the cable can be chain of at least 2m attached to anchor and rope.	recommended	recommended		recommended	recommended		recommended	recommended	
	• under 5m, one anchor with 18m cable • 5-8m, one anchor with 27m cable • over 8m, two anchors with 37m cable each			• under 5m, one anchor with 27m cable • 5-8m, one anchor with 27m cable • over 8m, two anchors with 37m cable each			• under 5m, one anchor with 27m cable • 5-8m, one anchor with 27m cable • over 8m, two anchors with 37m cable each		
Pumping/bailing equipment	recommended	recommended		recommended	recommended		recommended	recommended	
	• under 5m: suitable bailing equipment • 5-8m: bilge pump 45L/ minute capacity • over 8m: bilge pump 70L/minute capacity			• under 5m: suitable bailing equipment • 5-8m: bilge pump 45L/minute capacity • over 8m: bilge pump 70L/minute capacity			• under 5m: suitable bailing equipment • 5-8m: bilge pump 45L/minute capacity • over 8m: bilge pump 70L/minute capacity		
Manual propulsion oars or paddles (boats under 6m)	recommended	recommended		recommended	recommended		recommended	recommended	
Drinking water enough for everyone on board for the trip	recommended	recommended		recommended	recommended		recommended	recommended	

* EPIRBs must have a printed expiry date and be replaced or serviced by the manufacturer (or authorised service agent) by this date; must comply with Australian Standard AS/NZ 4280.1:2003; and must be registered in the name of the owner/master with the Australian Maritime Safety Authority.

** Capacity label can be either an Australian Builders Plate or a label issued by Maritime Safety Queensland. Not required for international or interstate boats operating in Queensland.

*** A positive flotation statement is a certificate, in the approved form, from a manufacturer or an accredited marine surveyor. It is not required to be carried on board, but an enforcement agency may ask the owner to provide proof of its existence.

Life jackets and personal flotation devices

Changes – 1 January 2012

Changes are being introduced from 1 January 2012 to improve recreational boating safety.

New designated bars

The list of designated coastal bars requiring everyone onboard an open boat under 4.8 metres to wear a personal flotation device.

The new designated coastal bars, from 1 January 2012, are:

- Mooloolah River mouth
- Gold Coast Seaway
- Round Hill Creek.

Stowage of life jackets

Stowage requirements for life jackets have also changed. Now, boat owners or skippers must give each person on board information about where the safety equipment is kept and clearly sign where life jackets are stowed. The labels must have the words 'life jacket' in red text on a white background or white text on a red background.

Find out more information about the changes to boating rules.

Life jackets/personal flotation devices must comply with standards

For a life jacket or personal flotation device (PFD) to comply with a particular standard, certain information required under that standard must be displayed.

The current standard for life jackets is Australian Standard 4758 (AS 4758). This standard has replaced Australian Standard 1512–1996, Australian Standard 1499–1996 and Australian Standard 2260–1996. You do not have to upgrade your current PFD under the old standards – they will still be acceptable for use as long as they are in good condition.

AS 4758 has a different rating system than the previous standards. Here is how they compare with current types:

Under standard AS 4758	Under previous standards
Level 275 Level 150	Coastal life jacket
Level 275 Level 150 Level 100	PFD type 1 (AS 1512–1996)
Level 50	PFD type 2 (AS 1499–1996)
Level 50 special purpose	PFD type 3 (AS 2260–1996)

Types of life jackets/personal flotation devices

There are five different types of personal flotation devices (PFDs). Here are some important points to remember about PFDs to avoid getting a fine:

- Life jackets should be accessible at all times; if they aren't visible to passengers you must clearly sign where life jackets are stowed.
- They must be kept in good condition.
- They must fit the wearer – ill-fitting PFDs won't meet the safety equipment requirement.
- Do not use PFDs as a cushion.
- Make sure you know how to put them on quickly.
- PFDs should be marked correctly to ensure they comply with standards.

For use in Smooth, Partially Smooth Waters and Open Waters

- To comply with Australian Standard 4758, it must be marked 'Level 100', 'Level 150' or 'Level 275'.
- To comply with Australian Standard 1512–1996 it must be marked 'PFD type 1'.
- Not to be used by personal watercraft (PWC) riders, skiers or people being towed.

For use in Smooth and Partially Smooth Waters

- To comply with Australian Standard 4758 it must be marked 'Level 50'.
- To comply with Australian Standard 1499-1996 it must be marked with 'PFD type 2'.
- Keeps you afloat but does not have a collar to keep the head above water.
- Can be used by skiers or people being towed in smooth or partially smooth waters.
- Can be used by PWC riders in smooth and partially smooth waters or beyond those waters.

For use in Smooth Waters only

- To comply with Australian Standard 4758 it must be marked 'Level 50 special purpose'.
- To comply with Australian Standard 2260-1996 it must be marked with 'PFD type 3'.
- May be a specified buoyancy wet suit.
- For use in smooth water and only where the user is likely to be in the water for a short time.
- Can be used by skiers or people being towed in smooth waters.
- Can be used by PWC riders in smooth waters.

Coastal and Solas

These jackets have more flotation than a Level 100 life jacket under AS 4758 or a PFD type 1 under AS 1512–1996. They are bulky life jackets designed to keep the body afloat for long periods. They have reflective tape and a whistle to attract attention. These jackets are mostly carried by commercial boats and recommended to be carried by boats operating long distances offshore.

Inflatable PFD's/Lifejackets

Inflatable life jackets are approved equipment and must comply with the same standards that are applied to foam PFDs. They must be gas inflated and not rely on oral inflation only.

Inflatable PFDs used on a recreational boat must show an expiry date and be serviced by the manufacturer or authorised service centre annually. Alternatively, where the manufacturer has established a documented servicing program the owner or master can service the PFD themselves, providing they can produce documentary evidence showing adherence to the servicing program.

Compulsory wearing of life jackets

It is compulsory to wear a life jacket:

- when crossing a designated coastal bar in an open boat that is less than 4.8 m in length
- If you are under the age of 12 in an open boat that is less than 4.8 m in length, while it is under way.

The designated coastal bars in Queensland are:

- Currumbin Bar
- Tallebudgera Bar
- Jumpinpin Bar
- South Passage Bar
- Caloundra Bar
- Maroochy Bar
- Mooloolah River mouth
- Noosa Bar
- Gold Coast Seaway
- Round Hill Creek
- Wide Bay Bar

Definitions

Under 12 – from 12 months and up to, but not including,12 years of age.

It is not recommended that babies under 12 months travel on boats unless necessary. When they do, they must be held securely by a parent or other responsible adult.

Open vessel – a boat that does not have a permanent rigid deckhouse, cabin or other enclosed space suitable for a person to occupy.

Underway – a boat not at anchor, made fast to the shore or aground. A boat does not have to be moving to be underway.

Coastal bar – a shallow area where sand is deposited across a river mouth, lake, estuary or harbour entrance.

Firefighting equipment

All recreational ships over five metres in length must carry equipment capable of extinguishing a fire quickly and effectively. Fire blankets and extinguishers should be purchased from an authorised dealer who will be able to determine the best type for your needs. Fire extinguishers must be serviced by the manufacturer or an authorised agent before the expiry dates. If the equipment is inoperable it must be replaced.

All commercial ships must carry fire fighting equipment, in particular fire extinguishers.

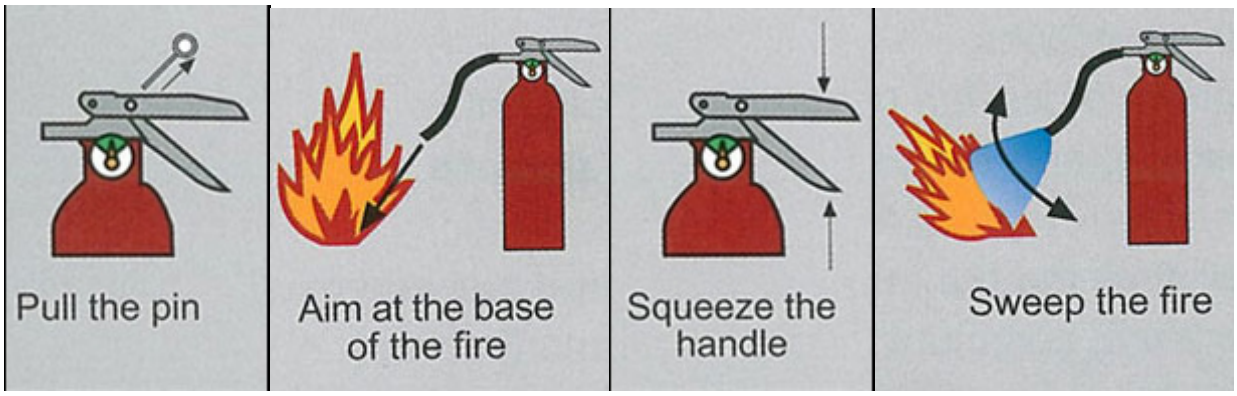
There are six fire extinguisher types found aboard commercial ships suitable for different types of fire. These are outlined in the fire matrix.

Portable fire extinguisher guide	**Water**	**Wet chemical(previously beige)**	**Foam (previously blue)**	**Dry chemical powder AB (E) B (E)**	**Carbon dioxide (CO_2)**	**Vaporising liquid**
						
A Ordinary combustibles most suitable (wood, paper, plastics and so on)	Yes	Yes	Yes	Yes – AB(E) No – B(E)	Limited	Yes
B Flammable and combustible liquids	No	No	Yes	Yes	Limited	Limited
C Flammable gases	No	No	No	Yes	Limited	Limited
(E) Fire involving energised electrical equipment	No	No	No	Yes	Yes	Yes
F Fire involving cooking oils and fats	No	Yes	Limited	No – AB(E) Limited – B(E)	Limited effectiveness	No

Portable extinguishers are essentially used for quick response before the combustion has become extensive. Users must take precautions to minimise personal risks from heat radiation and smoke inhalation. Operate all portable extinguishers in the upright position.

In general, when using an extinguisher follow the PASS principal:

P – Pull the pin.
A – Aim low at the base of the fire.
S – Squeeze the handle.
S – Sweep side to side.



Depending on the type and class of ship, other fire fighting equipment is needed like alarms, communication systems, fire pumps, hydrants and hoses.

Flares

There are three types of flare carried on board ships — red hand held, orange smoke and parachute. These are designed for day or night use and are used to attract attention of other boat or passing aircraft.

Flares must be regularly inspected (expiry date three years from manufacture) and stowed in a readily accessible position in a watertight container away from heat.

Again it is vital that all crew know the correct safety precautions and firing procedures. Operating instructions might differ depending on the manufacturer. Instructions must be read and carefully followed.

Effective ranges of flares in conditions of good visibility are:

At night

- Parachute flare — 25 to 35 nautical miles.
- Hand flare — five to 10 nautical miles.

By day

- Orange smoke — very limited, up to 1.4 nautical miles, better from air.
- Red (hand and parachute) — may attract attention by day.

Only flares that are within the manufacturer's expiry date can be considered as part of the safety equipment complement for your boat.

You can dispose of flares that have passed the manufacturer's expiry date at these flare disposal locations.

There are severe penalties for misuse of flares and any offender may also face the costs of labour undertaken, risk incurred, or loss sustained in consequence of the signals.

EPIRBs (Emergency Position Indicating Radio Beacons)

All ships operating beyond smooth and partially smooth waters must carry a 406 MHz digital EPIRB if more than two nautical miles from land.

What is a distress beacon?

A distress beacon is a small electronic device that, when activated in a life-threatening situation, assists rescue authorities in their search to locate those in distress.

Types of distress beacons

EPIRBs used in ships and boats are designed to float in the water to optimise the signal to the satellite. An EPIRB is required to operate for a minimum of 48 hours continuously once activated. It has a lanyard used to secure it to something that is not going to sink so that it can float free.

Personal locator beacons are designed for personal use in both the land and marine environment. Personal locator beacons are required to operate for a minimum of 24 hours once activated.

Personal locator beacons are not a substitute for EPIRBs if you are required to carry an EPIRB as part of your safety equipment.

Some 406 MHz beacons have an encoded (GPS) location. Locating a distress site is usually much faster if the beacon signal provides a GPS location.

Register your EPIRB

You must register your 406 MHz beacon with the Australian Maritime Safety Authority.

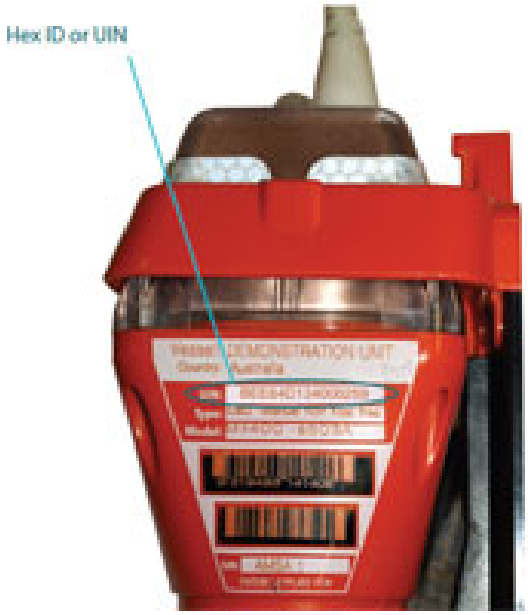
The Australian Maritime Safety Authority must also be advised of any change to ownership and boat details. Registration is free and can result in a more efficient search and rescue effort.

A registered 406 MHz EPIRB will allow the Australian Maritime Safety Authority's Rescue Coordination Centre to access the registration database and find contact details, details of registered boats and details of up to three nominated emergency contacts. These emergency contacts may be able to provide valuable information to the Rescue Coordination Centre that can assist with a faster rescue if a beacon is activated and contact cannot be made with the boat. Beacon owners registering online will have protected access to their accounts and can update details including changes to:

- ownership and emergency contact details
- boat details
- registered address details
- indicate the disposal of a beacon.

There is also a facility for owners to note trip itineraries so when a beacon is activated the Rescue Coordination Centre will have access to current movements and be better placed to organise a suitable response. This does not replace advising a responsible person such as a volunteer marine rescue organisation of your trip details. In addition to online access, registration forms and changes to details can also be provided to the Australian Maritime Safety Authority by fax, email or post.

Registration stickers for EPIRBs



Registration stickers are issued by the Australian Maritime Safety Authority and provide EPIRB owners and marine inspectors with proof of current registration. The sticker will note the HexID/UIN of the beacon, its registration expiry date (two years from date of issue) and boat name or owner's name depending on type of beacon and use. This registration sticker must be affixed to the beacon. A fine may result if a current sticker is not affixed to a beacon during a safety equipment inspection.

Distress signals

If you are in distress use the following signals:

Marine radio signalling

In emergencies only - mayday mayday mayday

A signal sent by radio consisting of the spoken works - pan pan pan pan pan pan

A signal made by radio or by another signalling method consisting of the group SOS in the morse code.

1. If other boats or aircraft are in the area, let off an orange smoke flare (daylight) or a red hand-held flare (night).

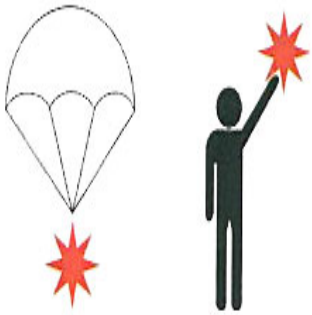
2. A v-sheet should be displayed to attract the attention of other boats or overpassing aircraft.

3. Emergency Position Indicating Radio Beacon (EPIRB) should be used as a last resort. Keep it on until help arrives.

4. Slowly and repeatedly raise and lower arms outstretched to each side.

5. Continuous sounding of sound signalling equipment – SOS.

6. International code flags N over C.



Marine radios

Marine radios are essential safety equipment for communicating with other boats, marine rescue groups and to receive navigational warnings and weather updates. There are three types of marine radios:

27MHz has a very limited range and, although better than no radio, you should check that a limited coast station is in your immediate vicinity before relying on this equipment for your safety. Most marine rescue groups monitor Channel 88 but larger vessels at sea do not listen to this radio.

VHF is the preferred radio for short range communications. Maritime Safety Queensland and volunteer rescue stations monitor VHF Channel 16 along the majority of the Queensland coast on a 24 hour/7 day basis and are able to act in case of emergency. All large vessels and an increasing number of smaller boats monitor Channel 16. Weather information is regularly broadcast on Channel 67. Channel 16 is for emergencies or initial calls and should not be used for routine messages or chat. Most areas throughout Queensland have a local chat frequency or a common use rebroadcast frequency. The local marine rescue station can advise on this practice.

HF radios have a greater communication range if travelling long distances from shore although they are reliant on atmospheric conditions and to some extent on hull material. They can be difficult to operate without training and practice. Queensland HF services cover coastal waters to a minimum of 200 nautical miles seaward from sites located at Cairns (call sign: coast radio Cairns) and Gladstone (call sign: coast radio Gladstone). Weather broadcasts are made on frequency 8176 kHz. Navigational warnings are also broadcast on this frequency at the scheduled times. To increase communication efficiency, all HF equipment should be connected directly to the battery. Avoid patch panels and switch boxes if possible, as this will add to unwanted resistance and reduce performance. A good ground plate increases the efficiency of most communications equipment. Grounding straps between antenna tuners and ground plate should be made of copper pipe or copper sheet, approximately 50 mm wide. The battery terminals and other connections on all radio equipment should be checked regularly and cleaned.

Licences and certificates

All crew should be competent in the operation of the marine radios onboard, know the frequencies dedicated to distress and safety and be able to properly format and transmit distress and safety messages. Under federal regulations, operators of VHF and HF radios are required to hold an operating certificate; the normal certificate for recreational operators is the Marine Radio Operators Certificate of Proficiency (MROCP). Many Coast Guard and Volunteer Marine Rescue stations provide this course or may advise where a local course is available. Operators of 27 MHz equipment are not required to hold a certificate but are strongly recommended to obtain one. Information about licensing of radios and operators, can be found at the Australian Communications and Media Authority website.

Operating procedures

Standard radio procedures are used by boats of all nationalities.

Standard calls

When making a standard call to another boat or volunteer group state clearly:

- the boat/group you are calling — spoken three times
- this is — name of your boat — spoken three times
- message
- over
- await response.

Distress calls

The distress call 'mayday' may be used only if the boat is threatened by grave and imminent danger and immediate assistance is required. This distress call has absolute priority over all other transmissions and may only be transmitted on the authority of the skipper or the person responsible for the safety of your boat.
Call procedure:

- mayday mayday mayday
- this is – name and radio call sign of boat in distress, spoken three times
- mayday
- name and radio call sign of boat
- details of boat's position
- nature of distress and assistance required
- other information including number of people on board.

Urgency calls

The urgency call should be used when you cannot justify use of the distress call but have a very urgent message to transmit concerning the safety of your boat or the safety of a person. Once again, you may only make an urgency call on the authority of the skipper or person responsible for the safety of your boat.
Call procedure:

- pan pan pan pan pan pan
- hello all stations hello all stations hello all stations
- this is – name and radio call sign of boat, spoken three times
- details of the boat's position
- details of assistance required and other information.

Safety calls

The safety call should be used if you wish to broadcast an important navigational warning to other stations. For example, you have sighted a large floating object that could damage the hull of a boat.

A safety call is more likely to be made by a coast station or a limited coast station operated by a marine rescue association and may include important weather warnings such as severe thunderstorm, gale and cyclone warnings.
Call procedure:

- say-cure-e-tay say-cure-e-tay say-cure-e-tay
- hello all stations hello all stations hello all stations
- this is – name and radio call sign of boat or shore station, spoken three times
- details of the warning.

You may make the initial safety call to all stations on a distress frequency. However, you should change to a working frequency to make the broadcast of the safety message.

Distress radio frequencies

MF/HF transceivers:

- Distress and calling 4125, 6215, 8291KHz.
- Navigational warning 8176KHz.

VHF transceivers:

- Channel 16 with channel 67 as a supplementary.

27 MHz transceivers:

- 27.88MHz (channel 88) with 27.86MHz as a supplementary.

Phonetic alphabet

A Alpha	B Bravo	C Charlie	D Delta	E Echo
F Foxtrot	G Golf	H Hotel	I India	J Juliet
K Kilo	L Lima	M Mike	N November	O Oscar
P Papa	Q Quebec	R Romeo	S Sierra	T Tango
U Uniform	V Victor	W Whisky	X X-Ray	Y Yankee
Z Zulu				

IALA buoyage system

Queensland uses an internationally recognised uniform coding system of navigation marks known as the International Association of Lighthouse Authorities (IALA) buoyage system 'A'.

This system uses five different types of marks to distinguish safe navigation.

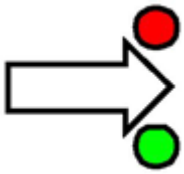
The five marks are:

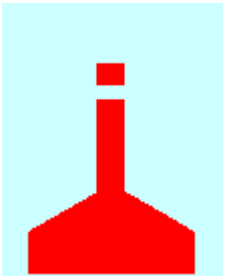
- cardinal
- isolated danger
- lateral
- safe water
- special.

IALA buoyage system A – lateral marks

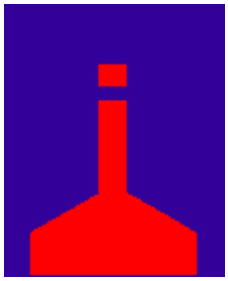
Lateral marks are usually positioned to define well established channels, and indicate port and starboard sides of the navigation route into a port.

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

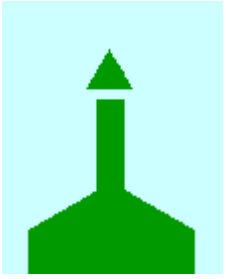




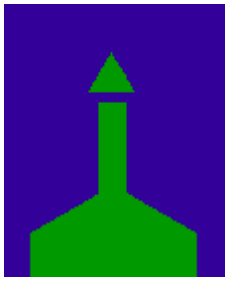
by night a port buoy shows a red light (when lit)



a port mark is coloured red and the basic shape is a can



a starboard mark is coloured green and the basic shape is a cone



by night a starboard buoy shows a green light (when lit)

IALA buoyage system A – special marks

Special marks indicate a special area or feature such as traffic separation marks, spoil, ground marks, cable or pipe lines marks including outfall pipes.

They can also define a channel within a channel, for example a channel for deep draught ships in a wide estuary where the limits of the channel for normal navigation are marked by red and green lateral buoys.

Special mark features

- **Colour:** yellow
- **Topmark:** when a topmark is carried, it takes the form of a single yellow X.
- **Light:** it is yellow and the rhythm may be any other than those used for the white lights of cardinal, isolated danger and safe water marks.

IALA buoyage system A cardinal marks

A cardinal mark indicates where the best and safest water may be found and is used in conjunction with a compass. It shows where the mariner has safe passage. A cardinal mark may indicate:

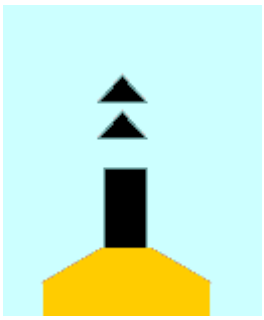
- the deepest water in an area
- the safe side on which to pass a danger
- a feature in a channel such as a bend, junction or an end of a shoal.

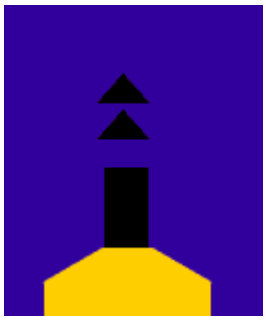
Cardinal mark features

- Top marks: black double cones clearly separated.
- Colours: black and yellow horizontal bands with the position of the black band or bands relative to the respective cardinal points.
- Lights: a cardinal mark exhibits a white light and its quadrant is distinguished by a specific group of quick or very quick flashes.

North – top mark points up, black band above yellow band.

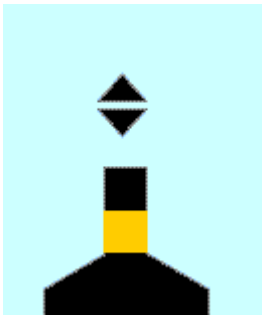
North – uninterrupted flash.

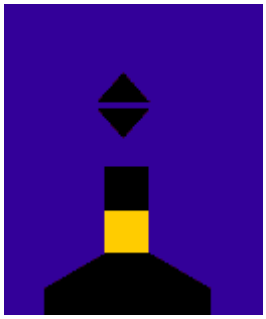




East – top mark points outward,
black bands above
and below yellow band.

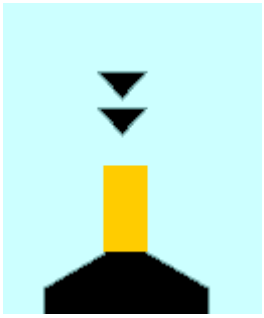
East – three flashes in a group.

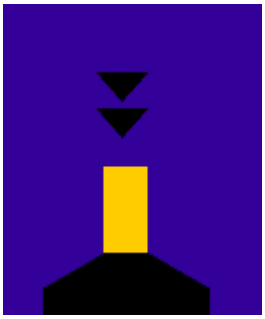




South – top mark points down,
black band below
yellow band.

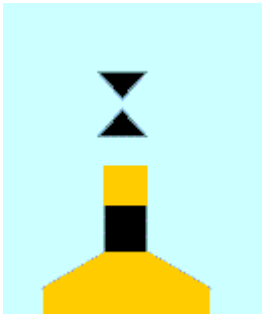
South – six flashes in a group
followed by a long flash.

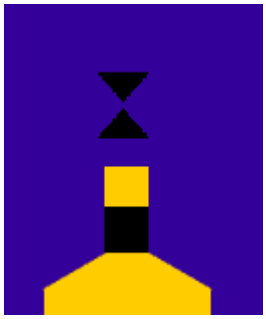




West – top mark points inward,
black band between
yellow bands.

West – nine flashes in a group.





To assist in remembering cardinal marks, associate the number of flashes of each group with that of a clock face. That means that north is at twelve o'clock, east is at three o'clock, south is at six o'clock and west is at nine o'clock. To ensure that no confusion occurs between east, south and west marks, a long flash immediately follows the six flashes of the south mark.

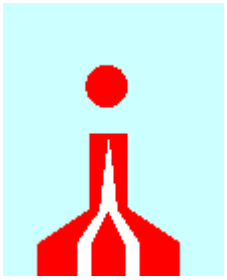
IALA buoyage system 'A' – safe water marks

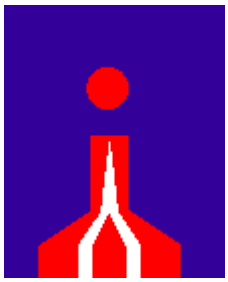
Safe water marks indicate that there is navigable water all around the mark, for example mid-channel or landfall buoy.

Safe water mark features:

- **Colour:** red and white vertical stripes.
- **Top mark:** a single red sphere.
- **Light:** exhibits a white light, isophase, occulting, or single long flash every 10 seconds.

Single flash and a single sphere association may help you to remember its characteristics.





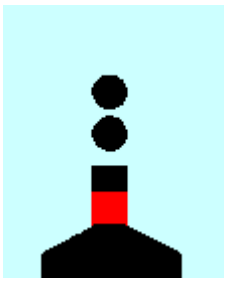
IALA buoyage system A – isolated danger marks

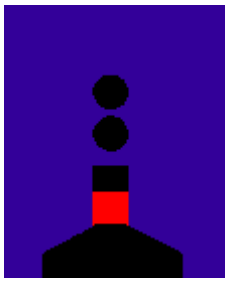
Isolated danger marks designate an isolated danger of limited extent which has navigable water all round it, for example an isolated shoal, rock or wreck.

Isolated danger mark features

- **Colour** – black with one or more red horizontal bands.
- **Top mark** – two black spheres positioned vertically and clearly separated.
- **Light** – a white flashing light showing groups of two flashes.

The characteristics may be best remembered by association of two flashes with two spheres as the top marks.





Collision regulations

Everyone using the waterways should know the International Regulations for Preventing Collisions at Sea.

Keeping a lookout

A good lookout through sight and sound must be kept at all times. The master is responsible for keeping a lookout for dangers. Be aware of the boating environment, especially in bad weather, restricted visibility and darkness.

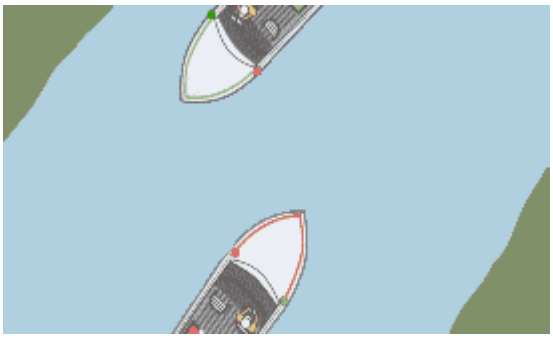
Navigation rules

Navigation rules are often called 'rules of the road at sea' and apply to all boats. These rules give clear indication about passing, approaching, giving way and overtaking other boats.

You should always make your movements clear and deliberate so that other masters can see your intentions. Never assume the master of another boat will observe the rules – always be prepared to take action to avoid a collision.

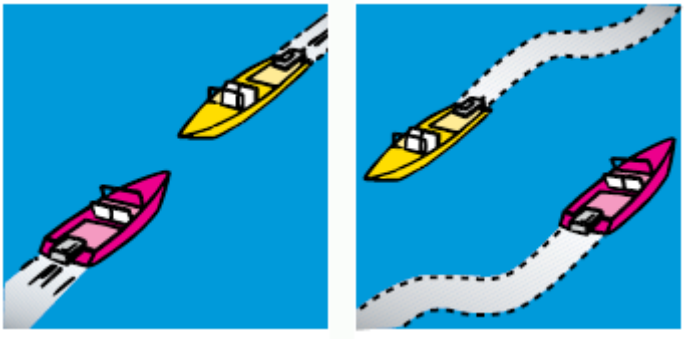
Rivers and channels

A vessel must always be navigated on the starboard side (right) of a river or channel.



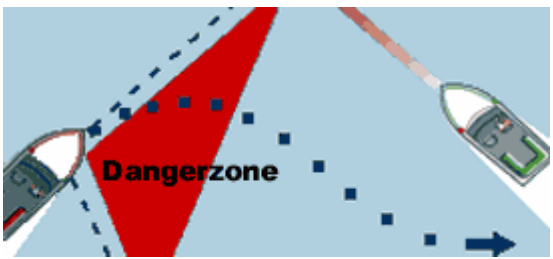
Approaching head on to another boat

Each boat alters course to starboard (right) and passes port to port (left). Always assume this situation exists.



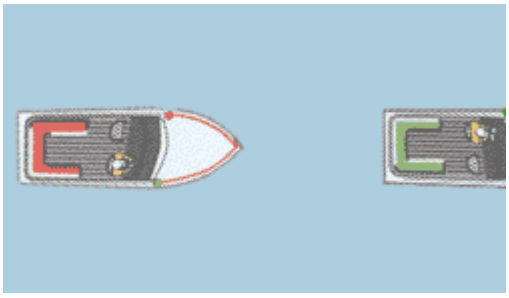
Power-driven boats crossing

A boat approaching from your starboard (right) side has right of way. If you are approaching another boat from its starboard side, you have right of way. However, if the other boat does not give way, you must take action to avoid a collision.



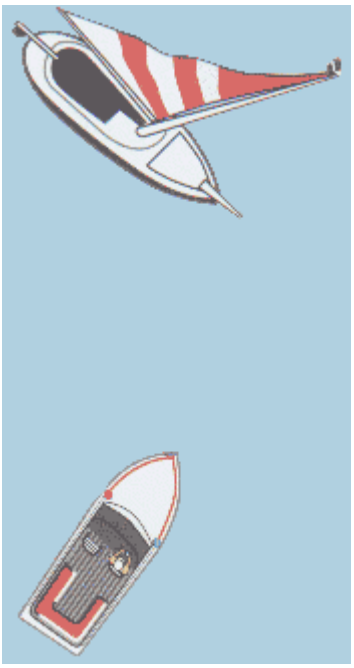
Overtaking

If you are overtaking a boat, you can do so at either side of the boat you wish to pass. However, you must keep well clear of the boat you are overtaking. This applies to both sail and power boats.



Sailing boats and power-driven boats

Power usually gives way to sail. However, this does not always apply. Larger vessels, such as ferries or container ships, have difficulty manoeuvring due to their size. Masters of other boats, including sail boats, should always apply common sense and seamanship by giving larger vessels a wide berth.



Sailing boats

- When two sailing boats have wind on different sides, the boat with the wind on the port side must give way.
- When both boats have the wind on the same side, the boat to windward shall give way to the boat to leeward.

Sound signals

Most recreational boats do not use sound signals, however they are used by ships and larger vessels. Boats more than 12 metres should carry sound signals, a whistle and a bell. Vessels under 12 metres should have some means for making an efficient sound signal.
Sound signals are either used to indicate manoeuvring or warning, but also during restricted visibility.
You should be aware of sound signals and what action you should take when you hear a sound signal. Sound signals may be accompanied by light signals.

Manoeuvring and warning

- One short blast means 'I am altering my course to starboard'.
- Two short blasts mean 'I am altering my course to port'.
- Three short blasts means 'I am operating engines astern' (the boat may be reversing or stopping).
- Five (or more) short blasts mean 'I am unsure of your intentions'.

Restricted visibility

All boats should use sound signals in restricted visibility to alert others of their position. Use common sense and slow your boat or stop and be ready to take immediate action. Be extremely cautious when operating in restricted visibility.

GPS verification marks

GPS verification marks are signs installed at selected boat ramps to be used by boaters to check the accuracy of onboard GPS navigation equipment. Signs display verified GPS coordinates and are installed at boat ramps in coastal locations between Southport and Port Douglas. The signs have been installed in locations that are easy to access either on water or on land (for example, in rigging areas).

GPS verification mark locations

- Signs are currently being installed across Queensland. GPS verification mark signs have been installed at the following locations:

- Big Tuan boat ramp
- Bray Park – Tannum Sands
- Burnett Heads boat ramp
- Burrum Heads boat ramp
- Cabbage Tree Creek
- Cairns – Tingira Street boat ramp
- Calliope River
- Carlo Point
- Cooktown – Charlotte Street boat ramp
- Flying Fish Point, Innisfail
- Gataker's Bay, Urangan
- Gladstone Harbour
- Gold Coast – Muriel Henchmann Drive, The Spit
- Jacob's Well boat ramp
- Manly Boat Harbour – beside Royal Queensland Yacht Squadron
- Manly Boat Harbour – beside Moreton Bay Trailer Boat Club
- Mission Beach – Clump Point
- Mooloolaba Harbour, Parkyn Parade
- Port Douglas boat ramp
- Proud Park (Sundale Bridge)
- Raby Bay – Williams Street
- Redland Bay
- River Heads, Urangan
- Scarborough Harbour, Bird of Passage Parade
- Scarborough Harbour – near Australian Volunteer Coast Guard base
- Urangan Boat Harbour
- Victoria Point
- Weipa
- Wellington Point

Verification marks will be added to this list as they are installed. When completed, the project will involve over 50 boat ramps between Southport and Port Douglas with approximately 100 signs being installed across the locations.

Tips on using a GPS unit

- Zoom in to the largest available accurate chart scale.
- Before heading out, switch the unit on and select the correct chart datum.
- Check electrical connections to prevent power failures.
- Make sure your GPS unit has the current software and up to date electronic charts.
- When going to a waypoint – check what is in between your boat's initial location and the waypoint, which will be in a straight line.

Don't rely on a GPS unit alone

While a GPS unit is a great aid to navigation, it must never replace the skipper's responsibility to keep a proper lookout. Over-reliance on a GPS unit can be dangerous, particularly at night, so always travel at a safe speed and maintain a lookout. If you are not sure where you are, double check your position using another method, for example a chart and compass.

These requirements are outlined in the *International Regulations for the Prevention of Collisions at Sea* (the collision regulations). Two important Rules from the collision regulations about safe navigation are:

- **Rule 5 – Lookout**
  Every vessel shall at all times keep a proper look out by sight and hearing, as well as by all available means appropriate to the circumstances in order to make a full assessment of the situation and of the risk of collision.

- **Rule 6 – Safe speed**
  Every vessel must proceed at a safe speed so that action can be taken to avoid collision and to be able to stop within a distance suitable to the prevailing conditions, for example visibility, traffic conditions and weather conditions.

Using a GPS unit does not exempt a skipper from complying with the Rules of the collision regulations.

Ship navigation area warning

Interaction between large ships and small craft is rapidly increasing in Queensland coastal waters.

Trade through the port of Brisbane is growing with an expected 5500 shipping movements annually. That is almost one every hour. Central Queensland port authority facilities at Gladstone are growing with an expected 3000 shipping movements annually – approximately one every three hours. The ports of Bundaberg and Hervey Bay also have growth in trade.

Skippers of small vessels should, where possible, keep clear of ship navigation areas such as:

- major shipping routes
- pilot boarding grounds
- anchorages
- channels
- swing basins
- berths.

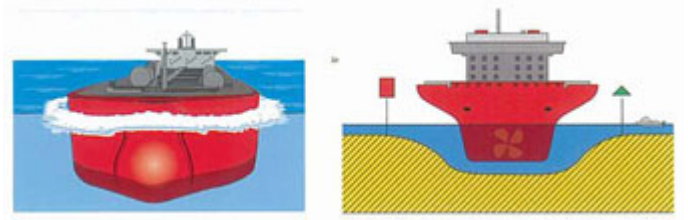
Use a recommended small craft course, if provided as a safer alternate route.

Some important points to consider

Large ships with the bridge at the stern will have a large blind spot for several hundred metres in front of the bow. This blind spot extends much further forward if deck cargo or containers are carried.

Ships can approach quickly and silently. At night, judgement of distance over water is more difficult. Ships do not have brakes and can take up to two nautical miles or longer to come to a complete stop.

Large ships at maximum draft have minimal under keel clearance and can only manoeuvre within the designated shipping channel.



When in a swing basin or alongside a berth, ships are accompanied by tugs and other vessels. Keep well clear.

If you must navigate in a shipping channel, you must keep to the outer edge of that channel. You must maintain an all round visual watch including monitoring the VHF radio channel for local traffic movement information.

At nominated locations, unauthorised vessels are prohibited from mooring, anchoring or manoeuvring within a restricted operational area. Notices to Mariners will provide up to date information regarding navigation in shipping channels.

Always transit directly across a channel behind a large ship and only when it is clear and safe to travel.

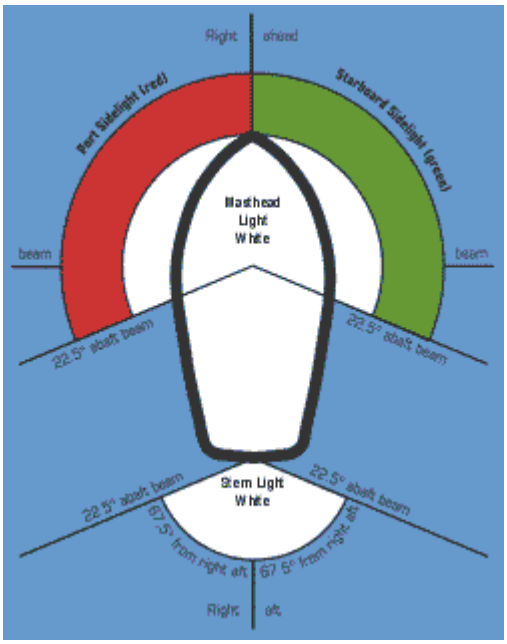
Between sunset and sunrise, as well as periods of restricted daytime visibility, always show correct navigation lights when at anchor or underway.

- Keep safe by conducting all boating activity well clear of ship navigation areas.
- Maintain a proper lookout at all times.
- Know your responsibility.

Navigation lights

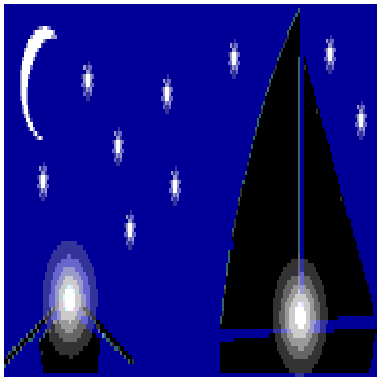
Navigating at night requires special care. It is essential for you to see other boats and have them see you. Remember:

- it is difficult to judge distances at night
- not all navigation hazards will have lights indicating their position
- background lighting from the shore can cause confusion
- slow down and keep a good lookout.



Navigation lights are required to be shown on ships operating between sunset and sunrise, and in restricted visibility. Navigation lights indicate the size of the ship, the angle where you see them, the direction the ship is travelling, or if the ship is anchored. Navigation lights should be fitted by the manufacturer or an authorised person. Smaller ships have a number of options including bracketed or combination suction-capped lights. These types of navigation lights are available from marine dealers.

Sailboats less than seven metres and vessels under oars must have a torch or lantern showing a white light ready to display in time to prevent a collision.



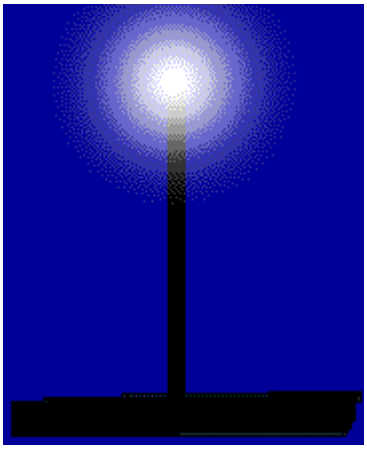
Power-driven ships must show sidelights and either an all round white light or a stern and masthead light. Sailboats under engine power are considered to be power-driven ships, and must show the same lights as a power-driven ship.

Sailboats less than 20 m in length may combine sidelights and stern lights in a single lantern carried at the top of the mast.

Sailboats seven metres or more in length must show sidelights and stern lights. In addition to sidelights they may show two all-round lights in a vertical line (red over green) that may be shown at the top of the mast, but not when a combined lantern is used.

Power-driven ships less than seven metres in length and whose speed does not exceed seven knots, may show an all round white light in lieu of sidelights. If practical, these ships should also show sidelights.

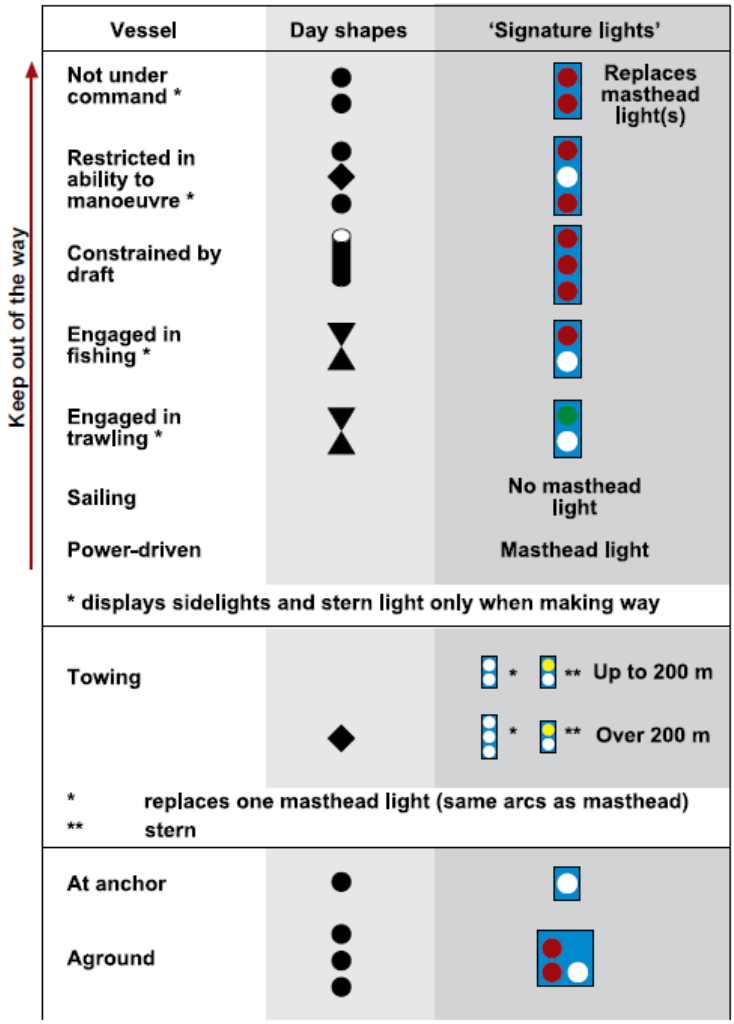
All ships at anchor must show an all-round white light.



Sport rowing ships
Ships engaged in rowing activities (training or competition) on the Brisbane River now need to display an all-round white flashing light if they are on the water before sunrise or after sunset.

Commercial ship recognition

Daymarks and navigation lights indicate the activities of larger ships and many commercial and fishing ships. The following examples describe some of the more common day shapes and navigation lights used. For a more comprehensive list, refer to the Small Ships Manual. The lights used to signal particular operations are in addition to standard navigation lights (for example port, starboard, anchor).



Waterskiing

Waterskiing involves towing people behind a boat on skis, bare feet, inflatable toys, boards and parasailing.

All kinds of boats are used for waterskiing, ranging from a dinghy to a personal watercraft. The owner/operator of the boat is responsible for the safety of others and has a general safety obligation to:

- ensure the driver of the boat used for towing someone else (by a line attached to the boat including for example, someone water skiing or riding a toboggan or tube) is appropriately licensed with a recreational marine driver licence or personal watercraft licence
- make sure the boat is safe and is capable of towing skiers
- take all the right safety equipment for the skiers and passengers and ensure its correct use during skiing operations
- conduct skiing operations in an anticlockwise pattern of travel unless otherwise directed by signage or site management
- operate a boat as safely as possible and first check the operational area is safe for skiing by noting the depth of water, width to make turns safely and any hazards
- carry an observer (more than 12 years of age) onboard competent to watch the skier at all times to report any danger, signals, falls or mishaps.

Waterskiing is prohibited in:

- certain areas usually designated by signs
- all six knot zones including harbours and marinas
- within 30 m of people in the water, anchored boats, divers flags, jetties, pontoons or boat ramps
- designated areas outlined in the Gold Coast and Sunshine Coast Management Plans.

Personal flotation devices (life jackets) for skiers

- PFD type 2, 3 or a wetsuit with inbuilt flotation approved as a PFD type 3 in smooth water limits.
- PFD type 2 in partially smooth water limits.

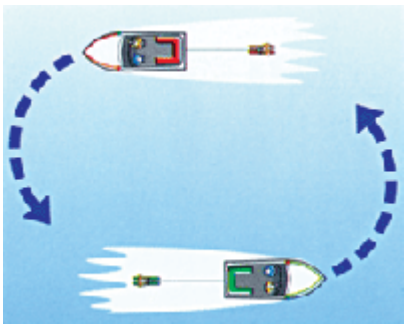
It is compulsory for all children under 12 years of age, in open boats under 4.8 m, while underway, to wear an appropriately fitted life jacket at all times.

Direction of travel

When skiing in lakes, rivers and creeks, boats should travel in an anticlockwise pattern. In a few locations local customs and conditions may dictate the direction of travel. Always check before skiing.

Safety tips

- The tip of the skis must always be showing before the boat starts.
- After a fall a skier should always clasp hands overhead if unhurt until seen by the observer and boat operator.
- No signal from a fallen skier calls for immediate action by the observer and boat operator.
- A fallen skier getting into a boat should leave the skis in the water and swim towards the boat.
- The boat operator should always stop the engine(s) before retrieving the skiers from the water.
- Skiers should enter the boat over the stern whenever possible.



Marine incidents

This boat ran aground at night while relying solely on the GPS for navigation. A proper lookout must be kept at all times while underway.

Reporting marine incidents

Under the *Transport Operations (Marine Safety) Act 1994*, a marine incident is classified as an event causing or involving:

- the loss of a person from a ship
- the death of, or grievous bodily harm to, a person caused by a ship's operations
- the loss or presumed loss or abandonment of a ship
- a collision with a ship
- the stranding of a ship
- material damage to a ship
- material damage caused by a ship's operations
- danger to a person caused by a ship's operations
- danger of serious damage to a ship
- danger of serious damage to a structure caused by a ship's operations

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Maritime Safety Queensland has responsibility to collate and analyse the marine incident data provided by people involved in marine incidents. This information is gathered into reports by Safety Standards Branch, which produces two main reports each year: the annual Marine Incidents Report and the National Marine Safety Committee (Queensland jurisdiction) report.

How do I report a marine incident?

A marine incident must be reported to a shipping inspector within 48 hours of the incident, unless there is a reasonable excuse. Shipping inspectors are marine safety officers (located at Maritime Safety Queensland marine operations bases), and officers of Queensland Water Police and Queensland Boating and Fisheries Patrol. If you are unable to access one of these offices, contact a shipping inspector by phone. They will advise you what to do next.

The report must be made on the approved form marine incident report form.These forms are also available from Department of Transport and Main Roads customer service centres, Maritime Safety Queensland regional offices, Queensland Boating and Fisheries Patrol and Water Police offices. This form is used to report all incidents, no matter the type of ship involved.

The form may be completed with the assistance of a shipping inspector to ensure the information is accurate, unbiased and as reliable as possible. It is important that the form is filled in completely, with the incident described in as much detail as possible. The shipping inspector who receives the form will check to ensure it has been correctly completed.

If the initial report is not made in the approved form, the owner or master must make a further report to a shipping inspector in the approved form as soon as possible. The master would normally report a marine incident but the owner would report if the master, for some justifiable reason, was not able to make the report. Each marine incident reported will be investigated by a shipping inspector and the results of the investigation reported in the approved form.

The investigation may be as simple as a thorough examination of the marine incident report form and a decision that no further action is required, or it may require an investigation complete with interviews, statements, surveyor's reports and the preparation of a prosecution brief.

Why report marine incidents?

The reporting of marine incidents is vital to Maritime Safety Queensland. The information gathered assists in the development of infrastructure and education programs and on-water compliance programs which benefit all waterways users. Everyone can learn something from marine incidents. Knowing more about your marine incident may help prevent someone else from having one similar.

In addition, reporting a marine incident may assist you if you decide to make insurance claims on any damage. Some insurance companies may require a marine incident report to validate claims.

How to safely cross a bar

Bars form at the entrance to rivers and inshore waterways because of the drift of sand along the coasts. Queensland has many dangerous coastal bars and often they are the only way boats can get access to, or reach shelter from, open waters. Even on a good day, conditions on a bar can change quickly and without warning. Local knowledge, experience and the right kind of boat are critical factors when attempting bar crossings. If the weather looks adverse, don't risk a bar crossing.

Before crossing a bar

All sand bars are different. Only experienced boaters should attempt to cross a coastal bar, and even then you should exercise caution. You should observe the wave patterns and conditions prior to crossing. Learn what you can from local operators or volunteer marine rescue groups. Make sure you ask about any leads and beacons that assist in navigation over the bar. Always report your intentions by radio before crossing and advise that you are safely over. Become familiar with a bar by crossing with an experienced operator before attempting a bar crossing by yourself. Ensure the boat is seaworthy and is capable of taking some impact from waves. Smaller open boats are less appropriate as these can fill with water and capsize.

Conditions offshore can be ideal for boating but the conditions on the bar can be dangerous due to swell. Do not attempt a bar crossing in heavy swells and strong wind. Avoid crossing a bar on a run-out tide when the most dangerous wave conditions usually occur. Be prepared to cancel or delay the crossing. Even experienced boaters should exercise caution when crossing a bar.

The crossing checklist

Prior to crossing, check the tides and weather. Obtain a weather report for the time of crossing the bar and a weather forecast of conditions expected on your return. Before attempting to cross a bar, do the following:

- Check the steering, bilge, hatches and drains.
- Check all lifesaving equipment and ensure it is ready for an emergency.
- Ensure all crew and passengers are wearing life jackets if in an open boat less than 4.8 metres in length, when crossing a designated coastal bar.
- Check decks and secure all lines and moveable items.
- Ensure correct trim.
- Check and test engines, steering and controls.
- Use your marine radio to log on and off with a volunteer marine rescue group.
- Check the state of the tide (best one hour before high; worst on mid-ebb).
- Observe water patterns and sets to establish when calmer periods occur.
- Look for a position marker or lead so the entrance can be located on the return trip.

Going out

The skill of crossing a bar is to know the best water by judging the wave pattern, crossing at the calmest point and manoeuvring the boat around breaking waves. Look for the deepest water or channel; going aground on a bar can be disastrous.

Tactics may vary between displacement boats (slow) and high speed planing boats. Be patient and watch the sets of swells before choosing the best time to go. Once committed, keep going — attempting to turn around in front of an incoming wave can be disastrous. Do not hit the waves at high speed; take them as close to head on as possible. Some bars have waves breaking across the whole entrance and finding a way through may be practically impossible. Be prepared to take a wave head on and take water over the bow if you find yourself in

a position where there is no alternative. The boat must match the energy of each incoming wave by maintaining a speed that will lift the bow over the wave, and reducing the likelihood of the wave breaking over the bow and into the boat. Some general principles may include the following:

- Look for lulls and select a line of least wave activity.
- Where possible, cross on an incoming tide when the wave is running with the tide.
- Keep your boat generally bow-on as the waves approach and do not let the boat turn sideways to a breaking wave.
- Head up into the waves and bear away quick on their backs.
- Accelerate where possible, but avoid getting airborne.
- Head for saddles which occur between peaking waves about to break.
- Navigate quickly clear of the bar.
- Take note of leads and marks to locate the entrance for your return trip.

Coming in

When coming in, high speed boats (at least capable of 18 knots) should travel at the same speed as the waves. The aim is to travel in on the back of a wave, staying ahead of the waves breaking behind the boat. Again, watch for patterns and deeper areas.

Consider the following advice when crossing a bar:

- When approaching from sea, increase power to maintain speed within the set of the waves.
- Position the boat on the back of the wave – do not surf down the face of the wave.
- Adjust the boat's speed to match the speed of the waves but do not attempt to overtake the waves.

Displacement boats may have to come in very slowly to avoid surfing and broaching-to (getting caught side-on to a wave). In extreme conditions, the very difficult but vital decision not to come in may have to be made. It may well be safer to stand off in deeper water until conditions improve or to seek alternative shelter.

General advice

Never underestimate a coastal bar. Even small waves can capsize or swamp and sink a boat. If you are unsure or inexperienced, why go out and risk lives? Wait until conditions provide a safe crossing that you can handle. Know where the deepest water is and cross during the top of the tide to ensure you don't risk running aground. Watch for a sufficient time to assess the wave patterns and where waves break the least.

Wear life jackets while crossing a bar in any boat at any time. Remember it is compulsory to wear a life jacket if you are crossing a designated coastal bar in an open boat less than 4.8 metres in length. A capsize can happen quickly and trying to put on a life jacket while in choppy waters is almost impossible. As a skipper, think of your crew and passengers and don't take risks.

Choose your route across the bar carefully and avoid the high standing waves.

Preparing for extreme weather

Queensland is often affected by severe weather over the months of November to April. Extreme weather events that occur in Queensland include tropical cyclones, severe storms and flooding.

Cyclones

People in central and northern Queensland are not strangers to the destruction and danger caused by tropical cyclones. Cyclones typically strike between November and April each year. Boaties need to be prepared to protect themselves and their boats from the damage cyclones can cause.

Cyclones vary in severity from category 1 (least severe) to category 5 (most destructive).

Signs of an approaching cyclone may include:

- an unsteady or rapidly falling barometer
- significant cloud formations or a lurid or wild sky
- extremely heavy swell
- high humidity.

Storm surge

A storm surge is an offshore rise of water associated with a low pressure weather system, typically a tropical cyclone caused by high winds pushing the ocean's surface. The wind causes the water to pile up higher than the ordinary sea level.

It is this combined effect of low pressure and persistent wind over a shallow water body which is the most common cause of storm surge flooding problems.

Changes in sea level generated by extreme meteorological events such as winter storms and cyclones may be positive or negative depending on whether the sea level is higher or lower than predicted. The effects of a storm surge are most severe when it occurs in conjunction with high tide and when this happens, the storm tide can reach areas that might otherwise have been safe.

The combined effects of the storm tide and waves can knock down buildings, wash away roads, run ships aground and loosen buoy moorings.

As with a cyclone you need to plan well ahead in the event of a storm surge. When a cyclone threat develops, keep listening to official warnings issued by the Bureau of Meteorology. These will advise if high tides and coastal flooding are expected. The regional harbour master will direct any shipping movements.

Weather service

Queensland's weather systems are changeable and unpredictable. Good weather is critical for a safe and comfortable trip. Weather forecasts should be obtained when planning any trip on the water, no matter how short, and updates should be obtained while you are out on the water.

Maritime Safety Queensland's maritime weather service provides weather information from the Bureau of Meteorology at the cost of a local telephone call. Higher rates apply from mobile phones and payphones. If calling outside of Queensland, STD rates will apply.

Forecast telephone numbers

- All of Queensland – 1300 360 426
- Marine warnings – 1300 360 427
- South east Queensland – 1300 360 428

Weather information is also regularly broadcast on VHF radio channel 67 by local volunteer marine organisations. Broadcast schedules vary from station to station and may change at the discretion of the local station. Channel 67 is also monitored by volunteer organisations and individual forecasts can be provided on request.