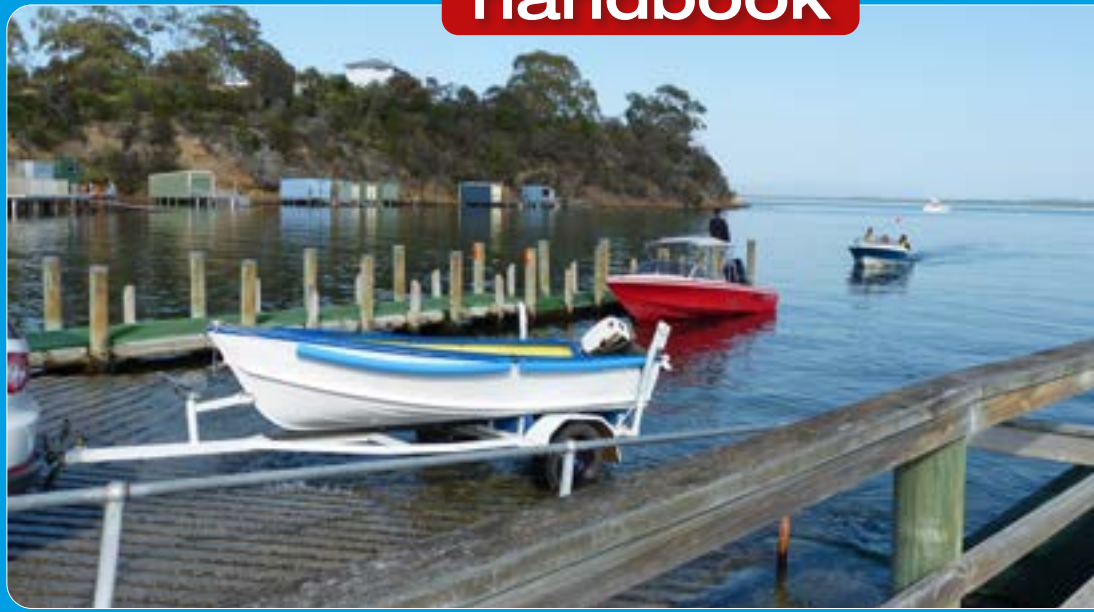
TASMANIAN

safe boating

handbook



MAST

MARINE and SAFETY TASMANIA

making boating better

MAST... making boating safer

These safety videos can be viewed on our website and YouTube:

- How to Obtain a Recreational Boat Licence
- Care and Servicing of Inflatable Life Jackets
- Using a Marine VHF Radio
- Boating Communications
- Motor Boat Maintenance
- Getting a Weather Forecast Before Going Boating
- Rowing Safety
- Boat Capsize
- Anchoring a Boat
- Kill Switch
- You and Your Tinnie – Boat Safety Tips
- Speed and Wash
- EPIRBs
- Barway Crossings
- Boat Suitability
- Hookah Diving Safety
- Life Jackets
- Dangers of Carbon Monoxide
- Paddle Safe
- Keep a Look Out
- Man Overboard
- Boat Lights at Night
- Keep a Lookout
- Boating and Alcohol – Stay Under .05
- Prop Strike
- Wader Safety
- Boat Ramp Etiquette
- Mooring Maintenance
- Kayaks and Sit on Tops – Paddling Safety
- Changes to Life Jacket Standards
- Rowing Safety and Rowing Capsize
- Paddling in Low Light
- Flares - how to use them
- GPS Plotter
- MetEye - weather forecasting tool
- Fire Safety
- Cold Water Immersion
- PWC Safety
- Salmon Farming in Tasmania
- Transiting the Tasman Bridge.

www.mast.tas.gov.au youtube.com/marineandsafetytas

October 2020

CONTENTS

INTRODUCTION

Welcome to the Tasmanian *Safe Boating Handbook*. This handbook contains comprehensive boating safety information and outlines Tasmania's boating rules. All operators of boats and personal water craft are encouraged to read this thoroughly together with those who wish to sit for their licence or PWC endorsement examination. It is also advisable to keep the handbook handy on your vessel for quick reference.

Stay in touch with MAST:

Level 1, Port Tower Building

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GPO Box 607, Hobart TAS 7001

Ph 1300 135 513

Internet: www.mast.tas.gov.au

Email: admin@mast.tas.gov.au

Facebook: facebook.com/MAST.TAS

You Tube: youtube.com/marineandsafetytas

To subscribe to the MAST electronic newsletter, go to www.mast.tas.gov.au > Connect With Us > Newsletter

Boating is great fun. We hope that you find the information in this booklet interesting and informative.

Whilst every care has been taken to ensure that the information contained within this guide is accurate at the time of publication, MAST does advise that information is subject to change without notice. This Handbook has also been reproduced on the MAST website together with any updated information..

The Recreational Boating team - Ian Ross, Peter Hopkins, Jim Caulfield, Marita Bradshaw, Keegan Higgs and MAST Chief Executive, Lia Morris

The MAST recreational boating team hopes that you enjoy your time on the water and if we can be of any assistance please contact us.

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GOING BOATING?

On your way to the boat ramp just have a quick think about the following...

- Have you or your crew members ever sat in your boat as a group and looked at where your safety gear is stored? Is it accessible, in date and how does it work?
- On the next warm day why not have everyone on your boat test their life jackets in the water whilst wearing them – ensure they are fitted correctly and are comfortable.
- Has your inflatable life jacket been serviced?
- Would your boat float if it was swamped or capsized? Have you got enough buoyancy? See the MAST website for details – it's easy to work out and worth doing. If your boat floats you should be ok!
- Save the MAST weather numbers (see Page 17) into your mobile phone so that when you get to the ramp you can get an up-to-date forecast.
- Tell someone where you are going and when you are expected to return.

Whether fishing, skiing or just having fun, have a great but safe day on the water. **www.mast.tas.gov.au**

WATCH NOW
BUOYANCY
IN BOATS

WATCH NOW
INFLATABLE LIFE
JACKET SERVICING

1. MAST *BoatSafe* Practical Tuition Course

The MAST *BoatSafe* Practical Tuition course is the only way to attain a Tasmanian Motor Boat Licence. These courses are provided by accredited training providers and cover both theory and practical training. The theory based competencies are covered in this Handbook. Course duration is usually around 4 to 5 hours and covers the required competencies.

The licence test will be required to be completed successfully with the accredited provider. Once the training provider is confident the applicant has completed the competencies , including the practical component, a licence will be issued by MAST.

Accredited training providers and further details are available on the MAST website at **www.mast.tas.gov.au**

UNITS OF COMPETENCY TO BE ACHIEVED BY CANDIDATE

Safety equipment

- Safety equipment must be carried or worn in accordance with current MAST legislation.
- Ensure safety equipment is in good condition, accessible and securely and appropriately stowed.
- Ensure all vessel occupants know where to locate and how to use safety equipment.

Maintain vessel

- Ensure boat, motor and trailer have been serviced on a regular basis.
- Ensure vessel condition has been inspected for suitability for intended trip prior to leaving home.
- Make sure sufficient fuel for intended operation is on board.

Planning the trip

- Check an up-to-date weather forecast prior to leaving.
- Ensure a responsible person has been notified of details of the intended trip.
- Provide adequate provisions for the intended trip.
- Ensure that the number of people on board does not exceed the recommended maximum capacity of the vessel.
- Ensure that equipment and personal gear is distributed evenly so that stability is not adversely affected.

Launching the vessel

- Vessel and trailer are prepared for launching in the carpark away from ramp.
- Trailer is manoeuvred for launching within the ramp lane.
- Appropriate ramp etiquette is observed.

Starting the motor

- Pre-start safety check performed including fuel primed and battery connected.
- Carry out safety briefing for crew and passengers.
- Start the motor.
- Check operation of all engine controls before leaving boat ramp.

Manoeuvre the vessel

- Vessel is controlled in confined waters.
- Vessel is controlled at varying speeds.
- Ahead and astern manoeuvres are executed.
- Vessel is controlled through wash of another vessel.
- Techniques for controlling vessel in adverse conditions are demonstrated.

Coming alongside

- Conditions of wind, wave and current are assessed to determine safest approach.
- Vessel is berthed alongside a jetty or pontoon.
- Vessel is tied to jetty/pontoon with appropriate use of fenders and mooring lines.

Exercise seamanship

- Weather conditions are monitored regularly and changes are responded to appropriately.
- Compliance with all relevant regulations is demonstrated.
- Aids to small craft navigation are identified.

Anchoring the boat

- Wind, wave and currents are assessed to determine suitable anchorage.
- Length of anchor line determined to suit prevailing conditions.
- Anchor is set and vessel's final position is noted and regularly checked.
- Engine power is used to manoeuvre vessel during anchor setting and retrieval.
- Anchor is securely stowed.

Retrieving the boat

- Trailer and boat are positioned for safe retrieval.
- Appropriate ramp etiquette is observed.
- Importance of washing boat and flushing outboard is identified.
- Boat and trailer are prepared for towing.
- Appropriate person is notified that you have returned.

Raise alarms

- Nature of emergency is identified.
- Alarm is communicated to on-board personnel.
- Alarm is raised or assistance requested as required.
- Position is identified and communicated if possible.

Dealing with emergencies

- Strategies to combat emergency and protect persons on board.
- Injured persons are provided with assistance.
- Communication with rescuers is maintained if possible.
- Preparation for abandoning the boat is undertaken, if required.
- Authorities notified of cessation of emergency.

Assist others in distress

- Distress signals from others are recognised.
- Nature of assistance required is identified.
- Nature of response to emergency is identified and implemented.
- Authorities notified of cessation of emergency.

BoatSafe Practical Tuition Courses

- A motor boat licence is required to operate a vessel with a motor of 4hp or more.
- Motor Boat Licences can only be obtained by completing a BoatSafe Practical Tuition Course.
- See the MAST website for a list of approved Accredited Providers – www.mast.tas.gov.au
- Courses are available for trailer boats, larger vessels and personal water craft (PWC).

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making boating better

BE BOAT SAFE

PERSONAL WATER CRAFT (PWC)

To operate a PWC, a valid Motor Boat Licence is required. This licence is required to be endorsed to allow operation of the PWC.

People wishing to endorse their Motor Boat Licence are required to undertake a PWC practical course with a MAST accredited provider.

Licences from other Australian States are recognised for operation of motor boats in Tasmania but to operate a PWC any licence from another state must also be endorsed for PWC use.

Further information on Personal Water Craft is on Page 52.

Jetski Tas provides members with a safe environment in which to operate. Club activities include short and long course rides throughout the State, as well as time trials, tours and fun events.

Website: http://jetskitas.com/
Email: info@jetskitas.com
Facebook: jetskitas

FREQUENTLY ASKED QUESTIONS

When do I need a licence?	To drive a registered motor boat. This includes all recreational vessels (other than a hire and drive vessel) with an engine 4hp or greater. This includes personal water craft (PWC).
How do I get a licence?	1. Obtain the Tasmanian Safe Boating Handbook and study its contents. 2. Attend a MAST *BoatSafe* Practical Tuition course with a MAST accredited provider (see www.mast.tas.gov.au). You may then sit the test with the accredited training provider.
Do I need a separate licence to operate a PWC?	To operate a PWC, a valid Motor Boat Licence is required. This licence is also required to be endorsed to allow operation of a PWC. This endorsement is obtained by completing a PWC Practical Course. See the MAST website (PWC Endorsement).
Will other licences be accepted?	MAST will recognise the following to operate a motor boat: • A current licence issued in another State. (This must be transferred to a Tasmanian Motor Boat Licence if a resident of Tasmania) • A Certificate of Competency is not accepted for use on a recreational vessel. A Motor Boat Licence will be required.
What is a provisional licence and how do I get one?	This is a licence for people between 12 and 17 years of age. Pre-requisites are the same as those required to sit a full licence.
What if my licence has expired?	If your licence has expired you may be required to attend a Boatsafe course, call MAST for information about your specific circumstances. You can be fined for being in charge of a motor boat without a licence.
What if I want to operate a boat for commercial purposes?	A motor boat licence is for recreational boating only. You will need a Certificate of Competency to operate a vessel commercially. For details, call AMSA Connect on (02) 6279 5000.
Are there restrictions on a provisional licence?	The following restrictions and conditions apply to provisional licences: • You must be accompanied by a responsible adult. • You must not take charge of a motor boat at night. • You must not at any time exceed a speed of 20 knots. • You must not tow a skier. • You must not tow an aquaplaner at a speed exceeding 10 knots.

To contact Service *Tasmania phone 1300 135 513.*

COLD WATER IMMERSION

Most of us have dived into cold water or gone swimming when it literally takes your breath away.
Some people may have fallen overboard after losing their footing, or maybe missed a handhold when forgetting the Golden Rule: "One hand for the boat, one hand for you".

Always wear a life jacket and dress appropriately for the conditions

The table below is based on a 40 year old male of medium height and build, in light sea conditions. Note that the figures will reduce in heavier conditions and if the person is fatigued.

THE FACTS:

- In Tasmania, sea temperatures range from 8°C in winter to 18°C in summer
- Inland waters are colder, ranging from 2°C to 17°C
  The risk of drowning increases nearly **five times** if the water temperature is below 15°C
  Studies show up to **60%** of fatalities due to cold water immersion occur in the **first 15 minutes** before the body core temperature cools to hypothermic levels
- Cold water carries heat away from the body **25 times more quickly** than air with the same temperature.

Sea Temp Degrees Celcius	T-Shirt and Shorts		Light Wetsuit and Life Jacket	
	Functional Time	Survival Time	Functional Time	Survival TIme
0°C	1.1 hours	2.3 hours	1.8 hours	3.6 hours
4°C	1.4 hours	2.9 hours	2.7 hours	4.8 hours
8°C	2.0 hours	3.9 hours	4.3 hours	7.2 hours
12°C	3.5 hours	6.1 hours	8.1 hours	12.2 hours
16°C	7.6 hours	11.6 hours	16.8 hours	23.5 hours

THREE PHASES OF COLD WATER IMMERSION

1:10:1 PRINCIPLE

1 MINUTE: COLD SHOCK RESPONSE
The body's response to cold water is to increase breathing to a rapid rate which can cause you to inhale water. A sudden shock of cold water immersion can also cause a heart attack in some people.

10 MINUTES: COLD INCAPACITATION
After 10 minutes, cold water can cause swim failure which is due to blood vessels in your arms and legs constricting, which makes it difficult keep your muscles moving properly. This then makes it difficult to wave for help or grab a throw-ring which can quickly lead to drowning.
WEARING A LIFE JACKET GREATLY REDUCES THE POSSIBILITY OF DROWNING FROM SWIM FAILURE

1 HOUR: HYPOTHERMIA
When the body drops below 35°C (normal is approximately 36.5°C), hypothermia occurs which results in uncontrolled shivering and mental confusion. If body temperature continues to drop, unconsciousness will occur, followed by death.

SURVIVAL WILL DEPEND ON WEARING APPROPRIATE PROTECTIVE CLOTHING AND FLOTATION

ESSENTIAL BOATING INFORMATION

SO YOU'RE NEW TO BOATING?

This handbook outlines safety procedures and requirements, but here are some additional hints for those who are new to boating:

- Take it easy – even the most experienced boaters can get into trouble.
- Knowledge and skills come from experience – this takes time.
- Get your confidence – start in calm conditions. A licence means you know the rules but you have limited experience.
- Always check the weather forecast before going boating and cancel your trip if the weather is bad. Telephone weather numbers are listed on page 17.
- Carry the required safety equipment and always wear your life jacket.
- Alcohol and boating don't mix. Remember, the 0.05 rule applies.
- Always tell someone where you are going and when you will return.
- Now that you hold a boat licence, you also hold the responsibility of your passengers safety.

YOU'RE THE SKIPPER YOU'RE RESPONSIBLE!

BUYING A SECOND HAND BOAT

There are always second hand boats on the market and for many, purchasing one of these is often their first introduction to owning a boat.

Prices of second boats can be cheap and this is often for a reason! There are many things to look for when buying a second hand boat, just like a car. Aluminium weld cracks, motor issues, rot in fibreglass boats and the list goes on. Make sure you have someone with a boating background and who knows what they are looking for if you are inexperienced when buying a second hand boat! Marine Surveyors are also available for a complete vessel condition report.

BOAT REGISTRATION REQUIREMENTS

Does my vessel need registering?	Any vessel of 4hp or greater requires registration.
How do I register my boat?	You must complete a registration form that is available from MAST, *Service* Tasmania or www.mast.tas.gov.au. A registration fee will apply. You will be notified by mail of your new registration number.
Does my tender need separate registration?	No – tenders not exceeding 4.5 metres and used within a distance of 0.5 nautical miles of the larger vessel need only carry the registration number of the larger vessel.
My boat is registered elsewhere – is this acceptable?	If you are visiting the State and your vessel carries valid registration from another State it does not require Tasmanian registration, but if you are in Tasmania for three months or more it requires registration here.
What registration details do I have to display?	You must display your registration numbers, 150mm high, on each side of the vessel.
What if my registration has expired?	You will be required to re-register your vessel with new numbers if your registration has lapsed. You can be fined for using an unregistered vessel. An unsafe vessel should not be re-registered.
How do I transfer ownership of a motor boat?	A Transfer of Ownership of Motor Boat form should be completed and signed by both the vendor and the purchaser. The form must then be posted to MAST or taken to *Service* Tasmania with the transfer fee within seven (7) days. Forms are available from MAST, *Service* Tasmania or from the MAST website. An unsafe vessel should not be transferred.
What if I want to use my boat for commercial purposes?	Motor boat registration is for recreational purposes only. Commercial vessels need to conform to *Marine Safety (Domestic Commercial Vessels) National Law Act 2012* (National Law). This includes all charter vessels and hire and drive vessels.
Bareboat Charter and Commercial Vessels	Vessels that you bareboat charter or pay to board as a passenger must be in commercial survey, with a Certificate of Survey issued by the Australian Maritime Safety Authority.
Hire and Drive vessels	You can operate a hire and drive vessel that does not exceed 8 knots without a boat licence provided you receive adequate training to operate the boat safely. All hire and drive vessels must be in commercial survey, with a Certificate of Survey issued by the Australian Maritime Safety Authority.

MOORINGS

Rules apply to both where moorings can go and to the quality of moorings – boats breaking adrift endanger other people's boats as well as themselves. MAST has developed an online facilities GIS mapping system to assist in management of mooring sites. Users can identify mooring areas statewide. A link is available on the MAST website - www.mast.tas.gov.au/Moorings.

Applying for a new mooring

After you have selected an area where you would like to place your mooring you must complete an "Application for Registration of Mooring" form which is available from *Service* Tasmania, MAST or our website. If your application is successful MAST recommends using a mooring contractor when laying a new mooring.

The application must be approved by MAST prior to the mooring being laid. A list of recognised Mooring Contractors can be found on the MAST website. Once a mooring is registered, owners are sent, by MAST, a copy of the Important Mooring Rules.

It is important that you read and understand these rules and the mooring permit number is clearly marked on the buoy, above the waterline.

Buying an existing mooring

Moorings are advertised from time to time in the local newspapers and contractors can often help you as well. Before you buy an existing mooring, check with MAST that it is registered and suitable for your boat length and design. The registration permit has a change of ownership section on the reverse side, alternatively a *Change of Ownership – Motor Boat/Mooring* form can be printed from the MAST website, completed and returned to *Service* Tasmania or MAST within seven (7) days of the sale.

A mooring permit issued after 1 January 2014 cannot be transferred. For more information on non-transferrable moorings, call MAST on 6235 8888.

Increasing vessel length

If you wish to put a larger vessel on the mooring than it is currently approved for you must make application to MAST. The mooring site may have to be re-inspected to ensure there is safe swinging room for the larger vessel. It is the responsibility of the mooring permit holder to ensure that the vessel attached to the mooring is kept in a condition that enables it to be safely navigated.

Maintenance

Wear and tear can cause moorings to deteriorate very quickly. They can be moved out of position by severe weather, and corrosion and abrasion can reduce the condition of the mooring significantly. Mooring permit holders are required to maintain their moorings in the appointed place and in good order and condition. It is also compulsory to have every part of the mooring lifted and inspected at least once every two years, however MAST recommends that this occurs more frequently. The mooring buoy must be of a conspicuous colour no less than 200mm in vertical diameter, with the permit number marked above the waterline.

BOATING KNOWLEDGE TEST NO. 1

Question 1: When are you required to have a licence?

(a) Only if you are under 25 years old.

(b) Only if you don't know how to drive a boat.

(c) To operate a recreational vessel with an engine of 4hp or more.

(d) When you are operating only in salt-water areas.

Question 2: In Tasmania, the following vessels are required to be registered with MAST:

(a) Only power driven vessels.

(b) Only sailing vessels fitted with an engine.

(c) Vessels fitted with an engine of 4hp or more.

(d) None of the above.

Question 3: At what age is a person able to get a provisional licence?

(a) Twelve (12) years of age.

(b) Fifteen (15) years of age.

(c) Ten (10) years of age.

(d) None of the above.

TRIP PREPARATION

PLANNING YOUR TRIP

Before you leave home:

- Make sure you let a responsible person know where you are going and when you will return and how many are on board.
- Know the capabilities of your boat and make sure it is suitable for the conditions and your planned trip.
- Make sure you are familiar with the area you are going to and seek local knowledge. (Information on particular areas is also available from the series of MAST Boating Guides that are available from marine dealers and MAST).
- Check the weather and make sure it is suitable for your trip (see page 17).
- Check the tides and ensure the ramp will be suitable for launching.
- Make sure you have sufficient fuel for the trip (a rule of thumb is 1/3 for the trip out, 1/3 for the trip home and 1/3 for emergencies).
- Check that you have the required safety equipment on board for the area you intend to operate in and ensure it is in good condition and readily available (see page 28).
- Carry plenty of provisions including water, food and a first aid kit.
- Conduct a maintenance check on inflatable life jackets.

Once you are on the water:

- Stow your gear sensibly, down low and near the centre.
- Ensure everyone is seated before getting under way.
- Check that your vessel is loaded to a good stable trim with adequate freeboard.
- Check your fuel, equipment and provisions.
- Ensure that passengers know where safety equipment is stored and how to use it. This includes life jackets.
- Keep an eye on the weather and get an updated forecast.
- Consider your passengers – they are your responsibility. Ensure they can move around the boat without being a danger to themselves or anyone else.

MARINE FACILITIES

It is important that you are familiar with the area in which you intend to go boating and the facilities that are available. MAST provides a comprehensive list of boat ramps, jetties, wharves, pontoons and cruising moorings that are available for public use. Important information is available such as vessel suitability and exposed weather conditions. This list is available on the MAST website at **www.mast.tas.gov.au /Facilities.**

WEATHER

Tasmania's weather systems can be changeable and unpredictable. Good weather is critical for a safe and enjoyable trip so it is important to always obtain an up-to-date weather forecast before going boating. A weather forecast will include information on wind direction and

speed, as well as the state of the sea and swell. If the weather is not suitable, cancel your trip.

Routine boating weather forecasts are issued for areas within 60 nautical miles of the coast and the larger inland lakes, twice daily. Warnings are also issued immediately whenever strong winds, gale, storm force or hurricane force winds are expected. Warnings will be issued every six hours until the conditions have moderated. Wind alerts are issued for inland lakes as required.

There are many ways of obtaining an up-to-date forecast for any of the Tasmanian Coastal Waters areas and the larger Central Plateau and South-West Lakes.

Telephone services

The cheapest and easiest way to get the most up-to-date forecast is from the MAST Telephone Boating Weather Service. Forecasts on this system are updated twice daily. The service is the cost of a local call and you can get a forecast for your area by dialling one of the numbers listed below.

Southern Tasmania	**Ph 6233 9955**
Northern Tasmania	**Ph 6323 2555**
North-West and West Tasmania	**Ph 6498 7755**
Eastern Tasmania	**Ph 6376 0555**
Internet	**www.bom.gov.au**

Why not save these numbers into your mobile now.

Marine radio

Current weather forecasts are also available via VHF radio. Volunteer coastal radio stations broadcast forecasts at particular times and are also happy to provide a forecast upon request at any other time. Warnings and forecasts are broadcast by these groups on both VHF Channel 16 and 67. Information on volunteer radio stations is available on the MAST website at **www.mast.tas.gov.au**.

HF radio service is provided by the Bureau of Meteorology for frequencies and schedules see http://www.bom.gov.au/marine/radio-sat/marine-weather-hf-radio.shtml

For more information see Page 33 (Safety Equipment – Marine Radio).

AM/FM radio

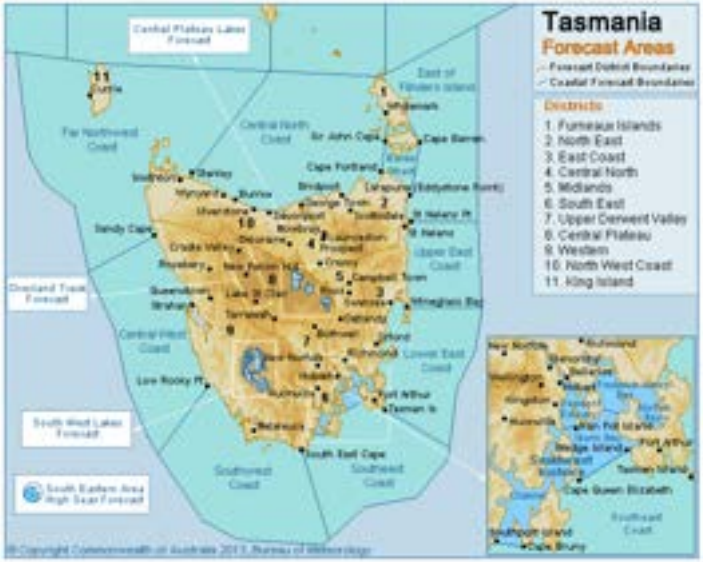
Many radio stations on both AM and FM bands broadcast comprehensive weather forecasts.

Other sources

While the Bureau of Meteorology distributes forecasts and warnings to television and print media, time restrictions and deadlines often mean that more detailed or up-to-date information is available from other sources. Check television and newspapers in your area.

Tasmanian forecasting areas

Routine boating forecasts are issued for nine (9) Tasmanian coastal regions as illustrated below, as well as inland waters such as larger Central Plateau and South-West Lakes.



The Bureau of Meteorology issues forecasts for all these regions twice daily at 5.00am and 4.00pm.

Forecasting terminology

Wind speed refers to the average speed over a 10 minute period and is given in knots. A knot (kn) is equal to the speed of one nautical mile per hour. One knot equals 1.85km/h.

A wind gust may be up to 40% stronger than the average speed, but can be even stronger when influenced by land effects.

A squall is an abrupt and large increase in wind speed, with a duration in the order of minutes, which diminishes suddenly.

Wave height is the vertical distance between the top of the crest and the bottom of the trough. Waves are described in terms of significant wave height that represents the average of the highest one-third of waves.

Bureau of Meteorology warnings

The BOM issues a range of warnings specific to boating.

Warning	Speed
Small Craft Wind Alert (inland lakes)	> 20 knots
Strong Wind Warning	25-33 knots
Gale Warning	34-47 knots
Storm Warning	> 47 knots
Wind gusts may be 40% stronger	

BOM Website

www.bom.gov.au/australia/meteye

MetEye™ is an online mapping tool or Geographic Information System (GIS), used to visualise weather data for Australia.

Current Observations

Observations of current weather conditions are available from the Bureau of Meteorology website.

Highland Lakes webcams – see www.anglersalliance.org.au

Weather safety hints

- Know the local factors that influence sea conditions and where to reach shelter quickly.
- Learn how to read a weather chart.
- Always check the latest forecast both prior to and during your time on the water.
- Be aware of rapidly darkening and lowering cloud.
- Be aware of unexpected changes in wind speed and direction.
- Be flexible – change your plans if necessary and make sure you keep the person who has the voyage plan informed.
- Where possible, seek local knowledge.

BOAT MAINTENANCE

Engine maintenance

The best way to prevent a breakdown is to maintain your vessel and equipment properly. Basic maintenance tips are:

- Service your engine regularly. Manufacturers usually recommend a service by a specialised workshop every 12 months, even if you use your engine very little. If your vessel does a lot of work the gearbox oil should be changed every 3 months.
- Inspect your fuel system regularly – this includes checking the tank for corrosion and contamination, inspecting fuel lines, priming bulbs and connections for cracks and leaks.
- Remember to always replace old fuel with new fuel after periods of inactivity.
- Ensure that your battery is fully charged and the connections are clean and tight. Also ensure that the battery is secured in brackets.
- Flush your motor regularly to get maximum life from your engine and water pump.

Even the best maintained vessel will suffer a breakdown at some time so carry appropriate tools and spares. Spares carried should include:

- Engine manual.
- Spare fuses.
- Spark plugs and spark plug spanner.

- Screwdriver (phillips head and flathead), a knife, pliers and a shifting spanner.
- Penetrating fluid and spare oil.
- Shear pin and split pins.
- Any other tools recommended in the engine manual.

Trailer maintenance

More damage occurs to vessels while on trailers than in the water so keeping your trailer fully maintained is an important job.

- Inspect trailer for obvious defects.
- Inspect the wheels and bearings regularly. Seawater can deteriorate bearings very quickly.
- Check the tyre pressure and wear – get professional advice if unsure.
- Keep brakes serviced and lubricate rollers and cables.
- Periodically check the condition of your winch cable and replace if damaged.
- Replace any deteriorated rollers and adjust their height to distribute the boat's weight evenly. Grease bolts securing them.
- Always check the operation of your stop and indicator lights. This should be done regularly as the water can corrode connections and globe holders quickly.
- Check your trailer coupling when you retrieve your boat at the ramp.

PREPARING CHILDREN FOR BOATING

- Make sure children have a well-fitting life jacket. Ensure they can't slip out of it (use a crotch strap) or that it doesn't feel too tight to move. Ensure that the life jacket is suitable for the area of operation.
- Make sure your children learn to swim and practise emergency positions like the HELP (Heat Escape Lessening Posture) and huddle position.
- Show them around the boat making sure they know where the life jackets and other safety equipment is kept. Show them how to use items such as radios, EPIRBs and flares.
- Teach them about the dangers of overloading boats, how to get on and off and distributing weight low and evenly. Teach children the importance of staying with the boat should it capsize.
- If your children are going boating with someone else, make sure that the person they are going with is licensed and experienced, the boat is in good condition and the engine has been recently serviced.

LAUNCHING AND RETRIEVING

The aim of boating is to be out on the water, so it's important that all users of boat ramps can launch and retrieve their boats quickly and efficiently. Follow the tips below and nobody should get hot under the collar at the boat ramp.

Tips for launching:

- Be prepared before you get to the boat ramp – check the boat is ready to use and make sure the bungs are in!
- Don't block the ramp! Remove trailer lights and tie down straps in the parking area.
- Tie a painter (rope) to the bow of the vessel so that you can control it as it comes off the trailer.
- Check the state of tide and condition of ramp before reversing down the ramp – it may save you getting bogged or damaging your trailer or outboard leg.
- If you are unsure seek local knowledge.

Tips for retrieving your boat:

- Be prepared – organise berthing lines and fenders and once berthed make sure someone looks after the vessel whilst the trailer is retrieved.
- Run the winch cable out and hook it up at the back of the trailer before reversing down the ramp – it's then ready to hook the boat on.
- Don't reverse too far down the ramp – some ramps are difficult or not suitable at low tide.
- Remember to raise the outboard before winching the boat on to the trailer.
- Connect the safety chain when the boat is in its correct position.
- Drive clear of the ramp so it's free for others to use.
- Remove bungs, attach tie down straps and ready the boat for the trip home whilst in the parking area away from the ramp.

RECOMMENDED MAXIMUM CAPACITY

Overloading

Overloading is one of the easiest ways to capsize your boat and contributes greatly to boating fatalities. It is also the greatest cause of boating accidents.

Overloading compromises the safety of everyone on board.

Know how to safely load your boat by:

- storing heavy items low and central in a place where they cannot move around;
- distributing weight, including passengers, evenly throughout the boat;
- reducing the number of people on board to compensate for the weight of extra fuel and other gear such as nets and pots;
- not stowing gear in a position that inhibits access to safety items.

Capacity Labels

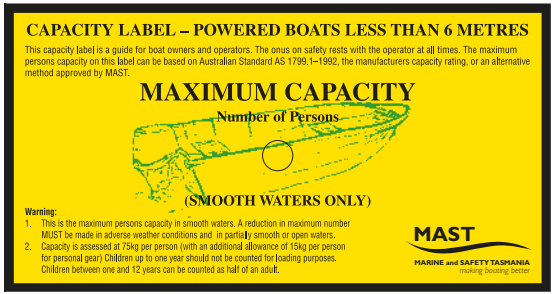
By applying a capacity label, you and your passengers will know how many people you can safely have on board in favourable weather conditions.

There are four different capacity labels available including;

- powered boats less than six (6) metres;
- inflatable powered boats;
- powered boats six (6) metres or more;
- powered boats with flybridges.

Capacity labels must be placed near the boat's control area where they can be seen by the operator at all times. The label indicates the number of people the boat can safely carry in good conditions (fair weather conditions in SMOOTH waters).

A boat's Australian Builders Plate, which was introduced to all new boats manufactured after July 2006, can be substituted for a Capacity Label.



Determining a boat's safe capacity

Owners of boats will need to make a simple assessment of their boat's safe persons capacity. This can be done in two ways:

- by referring to the applicable Capacity Assessment Table below; or
- by using the manufacturer's recommended capacity rating.

Capacity assessment table powered boats under 6 metres

Length of Boat (m)	Recommended Maximum Number of Persons	Maximum Permissible Weight (kg)
Up to 3m	2	180
3m to 3.49m	3	270
3.5m to 4.49m	4	360
4.5m to 4.99m	5	450
5.0m to 5.49 m	6	540
5.5m to 5.99m	7	630

(N.B Maximum permissible weight applies to persons and equipment)

Capacity assessment table powered boats 6 metres and over

	Beam (m)					
Length (m)	**2.5**	**3**	**3.5**	**4**	**4.5**	**5**
6	7	7	8	9	9	10
7	8	9	9	10	11	11
8	9	10	11	12	12	13
9	10	11	12	13	14	15
10	11	12	14	15	15	16
11	13	14	15	16	17	18
12	14	15	16	18	19	20
13	15	16	18	19	20	21
14	16	18	19	21	22	23
15	17	19	21	22	23	25

Notes:

1. These are the maximum recommended persons capacities for boats when used on smooth waters. A reduction in the number of persons carried in a boat should be made in adverse conditions or when boating on partially smooth or open waters.
2. Capacity is assessed at 80kg per person (with an additional allowance of 10kg per person for personal gear). A child up to one year of age should not be factored into boat capacity rating calculations. Each child over one year and under 12 years should be counted as one half of an adult for the purposes of capacity rating calculations.

If you own an inflatable boat, you MUST use the manufacturer's nominated safe persons capacity.

Capacity limits are the recommended maximum number of persons a boat can safely carry in good conditions. The onus on safety rests with the skipper at all times. When using the boat in exposed waters or in rough conditions, the skipper should consider reducing the number of persons taken on the trip, or not go at all!

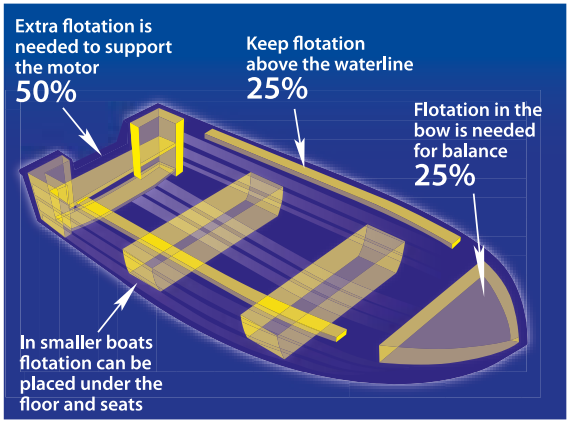
BUOYANCY

If your boat does get swamped and capsizes, by allowing it to stay afloat, the chances of survival of the occupants is greatly increased. It gives those on board time to reach lifesaving equipment and attempt to bail the water out. Even if the boat floats where the deck is level with the water surface, the occupants can get back into the upright boat easily, if they have been tipped out. By making it easy to stay with the boat, you are greatly increasing your chances of survival.

The most common position for buoyancy in existing vessels is usually under the floor. As a consequence this often results in the inability of a vessel to remain upright if swamped. Most commonly, a vessel will float either upside down or in a position with the stern down/bow up, robbing occupants of the chance to get to safety gear. Ideally buoyancy should be distributed so that the boat floats level.

A simple calculation is available for owners of trailer boats to check the required amount of flotation in your boat. This is a guide only.

See YouTube video – www.youtube.com/marineandsafetytas - Buoyancy in Boats



Aluminium, GRP and Steel vessels:

$$\frac{1.2 \times (M \times K + F)}{1000 - D}$$

M = Mass of the hull and deck
K = Alum 0.62, GRP 0.375, Steel 0.87
F = Mass of machinery and fittings
D = Density of buoyancy material (40kg/m^3)

Timber vessels

$$\frac{1.2 \times F}{1000 - D}$$

Example for an aluminium vessel

When: M = 240 kg (hull and deck mass)
K = Aluminium 0.62
F = 80 kg (machinery)
D = 40 kg/m^3

$$\frac{1.2 \times (240 \times 0.62 + 80)}{1000 - 40}$$

Required flotation = 0.286 m^3

Further information on buoyancy in trailer boats can be obtained from the MAST website.

OPERATIONAL AREAS

The waters surrounding Tasmania are segmented into a variety of operational areas. These areas determine the level of safety equipment that is required.

1. Smooth waters (generally includes all inland lakes and rivers)
2. Sheltered waters (all waters not exceeding 2 nautical miles to seaward of land on the north and west coasts, unless otherwise specified in MAST "Operational Areas".
3. Coastal waters (are those beyond sheltered waters as well as waters on the west and south coasts between Cape Grim and South East Cape.

The definitions of areas that have a bearing on the level of safety equipment that operators must carry are smooth and sheltered waters. The definitions of these are shown below.

See map on **www.mast.tas.gov.au**

Sheltered waters

Sheltered waters are those listed below (including smooth waters) as well as any waters not exceeding 2 nautical miles to seaward of land on the north and east coasts of Tasmania. This does not include waters on the West Coast between Cape Grim and South East Cape unless specifically mentioned.

- Coles Bay – Within all waters of Great Oyster Bay bounded by an imaginary line drawn at 110 degrees true from Buxton Point to Schouten Island and another line from Cape Degerando to Cape Baudin.

- Hobart – All waters bounded by an imaginary line from Low Point (Wedge Bay) to Cape Queen Elizabeth; an imaginary line from Point La Billardiere to Southport Bluff; an imaginary line across the narrows at the entrance of Blackman Bay.
- Port Davey – All waters bounded by an imaginary line from Garden Point to O'Brien Point.
- Strahan – All waters within Macquarie Harbour (and bays and estuaries) not beyond an imaginary line drawn at 000 degrees true for a distance of ¾ of a nautical mile from Watts Hill and thence at 090 degrees true to the shore line.
- Triabunna – all waters of Mercury Passage, Spring Bay and Prosser Bay which are bounded by an imaginary line from Lords Bluff to Cape Boullanger and a line from Cape Bernier to Green Bluff.

Smooth waters

These are waters of an enclosed nature, and include inland waters (lakes and rivers).

- Ansons Bay – All waters of Ansons Bay not seaward of an imaginary line drawn from Policemans Point to the southernmost point of Abbotsbury Beach.
- Arthur River – All waters within the Arthur River (but not to seaward of the mouth of the river at 41^{0} 30.342' S / 144^{0} 39.665' E).
- Blackman Bay – All waters of Blackman Bay not seaward of an imaginary line drawn from the beacon across the Marion Narrows.
- Bridport – All waters that are bounded by an imaginary line drawn from Granite Pt to the eastern side of the Brid River.
- Burnie – Waters in Emu Bay bounded by an imaginary line drawn from Ocean Wharf, along the pipeline bridge to the western extremity of the island breakwater, and from the fixed green light on the eastern end of the breakwater to the shore on the eastern side of the Emu River.
- Blythe River – Waters not seaward of the mouth of the river.
- Cam River – Waters not seaward of the mouth of the river.
- Coles Bay – Waters in Great Oyster Bay not seaward of an imaginary line drawn from Waterloo Point to Fleurieu Point.
- Devonport – Waters of the Mersey River bounded by an imaginary line from the seaward end of the eastern breakwater to the signal mast on the western shore.
- Lady Barron – Waters of the port of Lady Barron not seaward of an imaginary line drawn at 075 degrees true from Badger Corner to Adelaide Bay.
- Forth River – all waters of the Forth River (but not to seaward of the bridge carrying the A2 road across the Forth River)
- Georges Bay – Waters not seaward of an imaginary line from Clerk Point to Pelican Point.
- Grants Lagoon – All waters of Grants Lagoon (but not to seaward of an imaginary line drawn, north to south from 41^{0} 15.100' S / 148^{0} 18.203' E.).
- Hobart – All waters bounded by an imaginary line from Cape Direction to Kellys Point and another line from Scott Point to Hopwood Point.
- All waters in Norfolk Bay bounded not seaward of an imaginary line from Dorman Point to Whitehouse Point.

- Launceston – All waters of the Tamar River not seaward of an imaginary line across the Tamar through Barrel Rock and the centre of Shear Reef.
- Little Swanport – All waters within Little Swanport not seaward of an imaginary line drawn at 000 degrees true from Limekiln Point.
- Musselroe Lagoon – All waters of Musselroe Lagoon (but not to seaward of an imaginary line drawn from east to west from 40^0 49.921′ S / 148^0 10.637′ E.).
- Nubeena – All waters not seaward of an imaginary line drawn at 000 degrees true from Low Point to Lory Point.
- Pieman River – All waters of the Pieman River (but not to seaward of an imaginary line running from south to east across that river from Ferry Point at 41^0 39.592′ S / 144^0 55.832′ E).
- Piper River – All waters of the Piper River (but not to seaward of an imaginary line drawn between the 2 white posts on opposite shores of the estuary of that river near the upstream limits of that estuary).
- Pittwater – All waters of Pittwater not seaward of an imaginary line drawn from Tiger Head to Sandy Point.
- Port Arthur – All waters not seaward of an imaginary line from Welsh Point to Budget Head.
- Port Davey – All waters within Bathurst Harbour not seaward of an imaginary line from Forrester Point to Deep Point.
- Port Sorell – All waters not seaward of an imaginary line drawn at 270 degrees true from Griffiths Point.
- Scamander River – All waters of the Scamander River (but not to seaward of the bridge carrying the A3 road across the Scamander River).
- Smithton – All waters of Duck Bay not seaward of an imaginary line from Davis Point to the northernmost point of Perkins Island and another such line at 135 degrees true from the most easterly point of Perkins Island to the mainland shore.
- Southport Lagoon – All waters of the Southport Lagoon (but not to seaward of an imaginary line drawn from north to east from 43^0 29.260′ S / 146^0 58.609′ E.).
- Stanley – All waters not seaward of an imaginary line drawn at 218 degrees true from the seaward end of the cargo wharf to the eastern bank of East Inlet.
- Strahan – All waters that are north of an imaginary line from Magazine Island to King Point.
- Triabunna – All waters of Spring Bay and Prosser Bay not seaward of an imaginary line from Point Home Lookout to Johnsons Point.
- Ulverstone – All waters of the Leven River not seaward of the river mouth.
- Wynyard – All waters of the Inglis River not seaward of the river mouth.

BOATING KNOWLEDGE TEST NO. 2

Question 1: It is important to let someone know where you are going in the boat so that:

(a) If you catch lots of fish, the other person can go to the same place.
(b) The person can notify authorities of your intended destination should you fail to return on time.
(c) They can meet you out on the water later in the day.

Question 2: It is important that the skipper instructs passengers about:

(a) How to bait their fishing hook.
(b) How to operate the toilet.
(c) Safety equipment and how to use it.
(d) How to tie the correct knots.

Question 3: When launching your boat at the boat ramp:

(a) Remove lights from the trailer when the boat is nearly in the water.
(b) Remove winch cable hook and safety chain prior to reversing down the ramp.
(c) Make as many preparations as possible in the parking area.
(d) Reverse down the ramp until the trailer wheels are in the sand off the end of the boat ramp.

Question 4: Which is the most up-to-date weather forecast available?

(a) MAST Telephone Boating Weather Service.
(b) The local newspaper.
(c) Last night's television news.

Question 5: A motor boat should be serviced:

(a) Each time the car engine is serviced.
(b) Every 1000 operating hours.
(c) At least annually.
(d) When it sounds like it needs a service.

SEAPLANES

When on the water, seaplanes are just like any other vessel. They are subject to all the restrictions and privileges of other boats and conduct their operations accordingly.

Don't be alarmed if a small seaplane alights or takes off in the waterways near you. Seaplane pilots are specially trained and qualified to operate on the water. Like other boat operators, they hold marine boating licences to operate a vessel.

Avoid making sudden changes of direction which might confuse the pilot or obstruct the seaplane's path.

Remember, whilst on the water, aircraft are not always as manoeuvrable as other vessels.

SAFETY EQUIPMENT

The information in this section sets out the minimum requirements for owners and operators of motorised recreational vessels.

Minimum safety equipment for motorised recreational vessels

Equipment	Smooth Waters	Sheltered Waters	Coastal Waters
Anchor, Rope and Chain	✓	✓	✓
Bailer/Bilge Pump	✓	✓	✓
Life Jacket for all on board (AS4758)	✓ Level 50 or greater	✓ Level 100 or greater	✓ Level 100 or greater
Fire Extinguisher	✓	✓	✓
Oars/Aux propulsion (Boat under 6m only)	✓	✓	✓
Flares	Recommended	✓ 2 x Orange 2 x Red	✓ 2 x Orange 2 x Red 2 x Parachute
Heaving Line	Recommended	✓ Boats over 6m only	✓
Lifebuoy	Recommended	✓ Boats over 6m only	✓
Marine Radio (VHF)	Recommended	Recommended	✓
EPIRB (GPS enabled preferred)	Recommended	Recommended	✓
Radar Reflector	Recommended	Recommended	✓
First Aid Kit and water	Recommended	Recommended	✓

Motorised tenders

Owners of tenders are required to carry a bailer and wear a life jacket. Once this tender is being used independently from its mother ship (ie more than 0.5 nautical miles away) the safety equipment required is that which is outlined in the adjacent table.

Smooth water = Inland lakes, rivers.

Sheltered waters = 2nm seaward of land on North and East coast between Cape Grim & SE Cape.

Coastal waters = all other waters.

Inflatable life jackets must be in service to comply.
Navigation lights & torch required sunset to sunrise.

LIFE JACKETS

An approved life jacket must be provided for each person on board. It is compulsory to wear a life jacket in any recreational motor boat or motor-propelled tender that is under six (6) metres in length whilst under power.

It is also compulsory for children under the age of 12 years to wear a life jacket in a recreational motor boat or motor-propelled tender of any length while under power.

Boaters are not required to wear a life jacket while they are within a deckhouse, cabin or secure enclosed space.

Kayaks, canoes, stand-up-paddle boards or sit-on-tops are classed as lightweight craft in regulations. These craft require the user to wear an approved life jacket to AS 4758 level 50 or level 50 special purpose. If you are venturing into areas other than sheltered waters then you need an AS 4758 level 150 or 100). If paddling further than 2 nautical miles offshore you are required to carry an EPIRB or PLB, hand-held VHF radio and a flare kit.

Is is also important that inflatable life jackets are serviced in accordance with the manufacturer's specifications. It is a good idea to actually test your jacket, in a pool or in salt water, fully clothed, and adjust the straps to suit your size. It also gives an idea of what to expect in an emergency.

Life Jackets Level 150 or level 100.

These must comply with Australian Standard AS4758. This will be clearly marked inside the garment. These jackets offer head support and superior buoyancy over other life jackets. They are also made from highly visible colours.

Life Jackets Level 50.

These must comply with Australian Standard AS4758. This will be clearly marked inside the garment. These are normally vests manufactured in high visibility colours and do not offer head support. A Level 50 may be substituted for a Level 100 or Level 150 when operating in Smooth Waters.

Life Jackets Level 50 special purpose.

These must comply with Australian Standard AS4758. Buoyancy is often similar to a Level 5 but does not meet Australian Standards Association colour requirements. A Level 50SP can be worn by operators of kayaks, PWCs in sheltered waters and people being towed in the water.

MAINTENANCE OF INFLATABLE LIFE JACKETS

Inflatable life jackets are becoming increasingly popular.

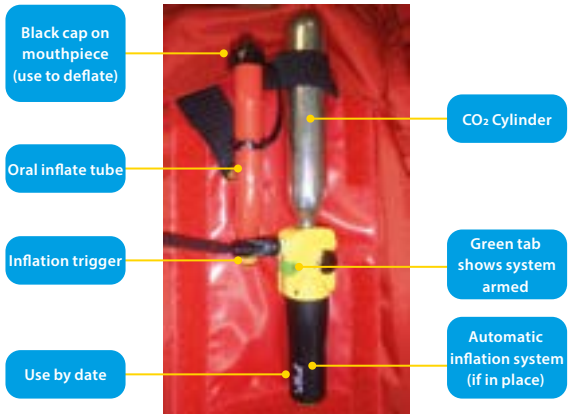
However boaters should be particularly aware of the added maintenance requirements that come with this style of jacket, as well as the need for detailed crew and passenger briefing on their operation. Care should also be taken when purchasing an inflatable jacket to ensure that it conforms with Australian Standards AS 4758 Level 150. This will be clearly marked on the jacket.

Your life jacket will spend much of its' time in a harsh environment, particularly coastal/saltwater boaters. **It is important that jackets are serviced according to the manufacturer's requirements.** This will ensure that the jacket is in good working order. When they are serviced, checks will be carried out to test the bladder, check the reflective tapes, buckles, and straps. The inflation system and oral inflation tube are also checked. For safety's sake **DO THIS ANNUALLY!**

Boaters should check their jackets every time prior to wearing. Inflatable jackets are certainly very convenient, but remember to be diligent with your checks. Owners of inflatables are, by law, required to have them serviced according to the manufacturer's recommendations.

Care and Maintenance of Inflatable Life Jackets

STEP 1	Before setting off always check for signs of wear and damage and check again before you stow your gear.
STEP 2	Inflate bladder using the oral tube and leave overnight in constant temperature. If it loses pressure, take jacket to an accredited service agent. Do not attempt to repair jacket yourself.
STEP 3	To deflate bladder, invert black cap and press down on valve at the top of the oral tube. Fully deflate jacket.
STEP 4	Remove CO_2 cylinder. Weigh to ensure weight corresponds to within two grams of the minimum gross weight as engraved on cylinder.
STEP 5	Replace existing cylinder if corroded, pierced or not the correct weight. (Replacements available at dealers).
STEP 6	On auto inflation jackets also ensure components are armed and in date. If no auto system, your jacket is a manual inflation jacket.
STEP 7	Refit cylinder to inflation system, tighten by hand until firm. Repack jacket. Ensure manual inflation toggle is accessible.



ANCHOR, CHAIN AND ROPE

An anchor type as specified in AS 2198 "Anchors for Small Boats" is required to be carried. The size of the anchor and diameter and length of the chain and rope must be sufficient to hold the vessel in all sea and wind conditions and depth of water in the intended area of operation.

FIRE EXTINGUISHER

All vessels with an engine MUST carry a fire extinguisher.

Vessel length	Minimum number and capacity	Minimum equivalent rating
PWC	One 0.75kg	5BE
Under 8 metres	One 0.9kg	5BE
8-12 metres	Two 0.9kg	5BE
Over 12 metres	(a) Three 0.9kg or (b) One 0.9kg and one 1.5kg	5BE / 10BE

MAST recommends that any vessel with a stove should carry a fire blanket as an added precaution.

Oars/auxiliary propulsion

Oars/paddles or an auxiliary motor must be carried on vessels less than 6 metres in length to provide a second means of propulsion. An auxiliary motor is recommended in vessels over 6 metres in length.

Bailer

Depending on the size of the vessel, at least one solidly constructed metal or plastic bucket with 2 metres of rope attached must be carried on any vessel. As a safety item it is useful for both bailing water out and fighting fires. In an emergency the bucket can be used as a sea anchor.

FLARES

Distress flares are an important item of safety equipment.

They are used to raise the alarm and to assist search and rescue parties to locate the vessel in distress. They can be very valuable in assisting early rescue, and reducing the heavy cost for search and rescue operations.

Within Tasmania, flares are not required for vessels operating in smooth waters, although MAST recommends that they be carried.

It is important to read the instructions on distress flares carefully at the beginning of every boating season to ensure familiarity with the method of operation since different brands of signals have different methods of ignition. It is also vital that passengers also know how to ignite them.

It is important to check the expiry date and to replace any out-of-date products.

It is an offence to let a flare off unless doing so for rescue purposes or with the authority of MAST.

Flares must be approved to Australian Standard AS2092.

Red handflare

This can be seen from a range of up to 10km at sea level on a clear, dark night and up to 20km from the air. It burns for over 60 seconds with an intense 15,000-candela red light. It can be seen in daylight over a shorter range.

Orange handsmoke signal

The smoke flare is for day use only. It provides a vivid and expanding cloud of dense orange smoke visible for more than 60 seconds and can be seen from 4km away at sea level and even further from an aircraft. Always hold the flare to leeward when using it.

Parachute rocket flare

This is a handheld, self-contained distress rocket, ejecting a parachute with a suspended red flare at 300 metres altitude. It burns for 40 seconds at a brilliant 30,000 candela. It can be seen for 15km by day and 40km or more by night.

Waters	Flare Requirement
Smooth Waters	Recommended *(as per sheltered waters)*
Sheltered (partially smooth) Waters	2 x Red Hand Flares 2 x Orange Smoke Flares
Open & Coastal Waters	2 x Red Hand Flares 2 x Orange Smoke Flares 2 x Red Parachute Rockets

EPIRBS

All boats operating beyond sheltered waters are required to carry an Emergency Position Indicating Radio Beacon (EPIRB). An EPRIB is a compact, buoyant, self contained radio beacon which continuously emits a distinctive radio signal to a satellite for at least 48 hours when activated. When the signal is detected the Rescue Co-ordination Centre in Canberra initiates a response using locally-based rescue services. EPIRBs should only be used as a last resort when in imminent danger. Other communications such as a radio and flares should be used first.

Kayakers paddling more than 2 nautical miles offshore are required to carry an EPIRB or a Personal Locator Beacon, a VHF radio and a flare kit. If paddling in a group of three, only one is required to carry this equipment.

Some important points about EPIRBs

- Use the test switch at least once a month to verify power.
- Keep accessible.
- Extend or release the aerial to its full length.
- Allow the beacon to float free to the length of its attached line.
- Once activated, leave the EPIRB on until told to switch it off by a Search and Rescue (SAR) Authority.
- EPIRBs must be registered with AMSA

The global search and rescue satellite system will only recognise beacons with the distress frequency 406 MHz. Beacons conforming to AS4280.1 operate on this frequency.

406 MHz beacons are much easier to locate as they are more accurate and also contain particular details about the vessel and the owner. Consequently false alerts can be resolved by a quick radio or telephone call.

406 MHz EPIRBs are also available with in-built GPS units, increasing the accuracy of their location. You should consider buying a GPS enabled beacon. 406MHz Personal Locator Beacons are built to conform to a different Australian Standard than 406MHz EPIRBS and subsequently cannot be substituted for an EPIRB. EPIRBs must conform to AS 4280.1

It is important to remember that once activated the response to your EPIRB signal by a search and rescue authority may be many hours, especially if you are in a remote location.

Further information on EPIRBs can be obtained from the Australian Maritime Safety Authority website at www.amsa.gov.au.

Expired EPIRBs must be disposed of at Battery World outlets, a charge may apply.

MARINE RADIO

Introduction

There are two types of marine radio that you may install on your boat:

VHF – short range marine transceivers, costing from $150, suitable for inshore and coastal use.

MF/HF – long range marine transceivers, costing from $3,500, suitable for offshore and ocean cruising.

MAST requirements

MAST requires that any recreational vessel operating outside sheltered waters must carry a marine radio.

Sheltered waters are all waters not exceeding 2 nautical miles to seaward of land on the North and East coasts between Cape Grim and South East Cape. Other specific sheltered waters areas are listed in the MAST "Operational Areas" information sheet and in the Tasmanian Safe Boating Handbook (Pages 25 & 26) or at **www.mast.tas.gov.au**

About VHF

A VHF radio is the best radio for recreational vessels in Tasmania for the following reasons:

- Tasmania is served by a network of VHF base and repeater stations that cover almost the entire coastline.
- VHF is not usually affected by Ionospheric or atmospheric conditions.

- VHF is monitored by Coast Stations operated by Volunteers on a 24 hour basis.
- Shipping and commercial vessels also monitor VHF CH 16.
- VHF talk through repeaters substantially increase the effective range of a vessel's VHF radio.

Areas covered by volunteer coast stations

Volunteer Coast Stations monitoring VHF on a 24hr basis include:

Tas Maritime Radio – Covering from Flinders Island and down the East Coast, SE Coastal waters including Storm Bay, River Derwent, D'entrecasteaux Channel, along the South Coast and up the West Coast to Sandy Cape, including Macquarie Harbour.

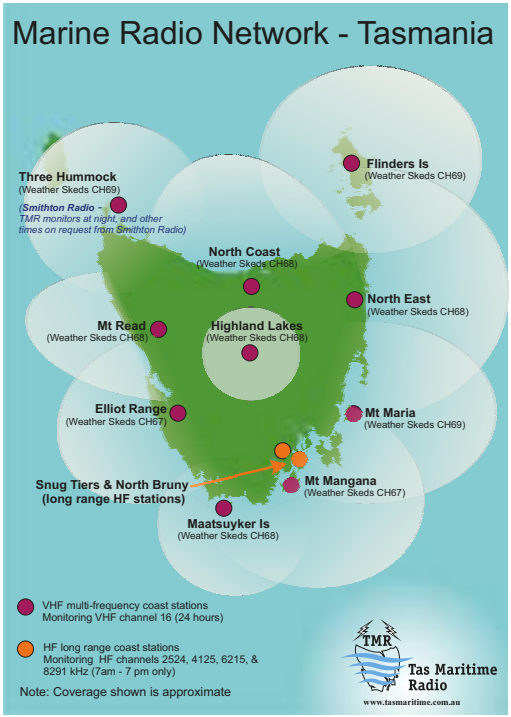
Tamar Sea Rescue – West of Flinders Island to Rocky Cape.

Smithton Radio – Via the VHF base on Three Hummock Island covers North from Sandy Cape, well into Bass Strait and along the North Coast.

For detailed sked times etc. of all stations, check the MAST website: **www.mast.tas.gov.au**

Important points

- Always have your radio switched on to the Distress and Calling channel (Ch 16) when out in your boat.
- Make sure the international (INTL) mode is selected on your VHF radio.



MOBILE 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 that may be in the vicinity.
Mobile phones are still useful so keep yours in a plastic bag to ensure it will work when you need it.

INTERNATIONAL DISTRESS SIGNALS

All distress, urgency and safety calls and messages should be spoken slowly and clearly. The obligation to accept distress calls and messages is absolute and such messages must be accepted with priority over all radio communications. The transmission of false or deceptive distress, urgency or safety signals is strictly forbidden and there are extremely severe penalties. These signals must be used only to indicate the need of assistance. Misuse of them puts lives of others at risk and is illegal.

The Distress Signal

The radiotelephone distress signal consists of the word MAYDAY. This signal indicates that the vessel or person using it is threatened by grave and imminent danger and requests immediate assistance.

The Urgency Signal

The radiotelephone urgency signal consists of the words PAN PAN. This signal indicates that the ship has a very urgent message to transmit concerning the safety of the vessel or the safety of a person. This signal has priority over all other communication except those concerning distress.

The Safety Signal

The safety signal consists of the word Sécurité (pronounced SAY-CURE-E-TAY). This signal indicates that the station using it is about to transmit a message concerning an important navigational or weather warning. In an emergency the most vital link between the rescuer and the rescued is communication. If your boat is being operated outside sheltered waters you are required to have a marine radio.

BOATING KNOWLEDGE TEST NO. 3

Question 1: When is it compulsory to carry an EPIRB?

(a) It is not compulsory but it is recommended.
(b) When operating a vessel of any length outside sheltered waters.
(c) When operating a vessel of any length in smooth waters.

Question 2: You must carry the following number of Life Jackets on a motorised recreational vessel:

(a) One for each non-swimmer.
(b) One for each child on board.
(c) One for each person on board.
(d) Life Jackets are only required if you are going more than 120 metres offshore.

Question 3: An orange smoke flare should be used:

(a) At night in an emergency.
(b) During daylight in an emergency.
(c) When the expiry date has been reached.
(d) Either in day or night.

Question 4: A fire extinguisher is required:

(a) On all vessels with an engine.
(b) On vessels without a bailer.
(c) On vessels with an inboard engine.
(d) On vessels without a fire blanket.

Question 5: Indicate the safety items below that MUST be carried on a small vessel in sheltered waters:

Life Jackets	Radar	Fishing tackle	Fire extinguisher
Anchor	Marine radio	Esky	Bailer
Flares	Oars	Depth sounder	

SAFE NAVIGATION

SPEED LIMITS

The speed limits are as follows and on-the-spot fines can be issued to offenders:

- No boat shall exceed a speed of 5 knots when within 60 metres of a wharf, jetty, mooring, the shore line or another boat.
- No boat shall exceed a speed of 5 knots when within 120 metres of a person swimming, a person diving (displaying the A flag) or a person wading in the water.

There are also a number of designated areas around the State where a speed limit of 5 knots exists. These areas are normally around popular swimming beaches where MAST has previously encountered dangerous behaviour from PWC and boat operators in close proximity to swimmers.

These areas are subject to change so it is important that boaters keep up-to-date with these via the MAST website at **www.mast.tas.gov.au**.

The website also lists specific areas that are "designated ski areas". Vessels are not permitted to exceed a speed of 5 knots unless towing skiers whilst operating within these defined areas.

Excessive speed on the water is a serious safety matter. 5 knots is commonly referred to as a fast walking speed. A boat that is planing is exceeding a speed of 5 knots.

FREESTYLING

Freestyling means erratic and non-directional driving which can make it difficult for others to predict the motor boat's course to avoid a collision. It includes wake jumping and tight turns such as donuts.

Motor boats, including PWC, are not permitted to operate in a "freestyle" manner when within 200 metres of a swimmer, or 200 metres of the shore if a dwelling is within 100 metres of that shore line.

GETTING THERE AND BACK SAFELY

If you find yourself out in bad weather:

- Avoid taking sea or wind on the beam. Head into the wind or sea at a slight angle.
- Speed should be reduced in a sea according to the vessel's seakeeping ability.
- Wear a life jacket if the vessel is rolling heavily or waves are breaking on deck (this is compulsory on vessels less than 6 metres in length).
- Seek shelter in the lee of an island or other landfall.
- Do not approach a lee shore.
- If necessary, heave to.

Tides

There are normally two high and two low tides each day. The state of the tide can vastly affect your boating. Tidal currents affect sea state:

- Ebbing (outgoing) tides make barways more dangerous.
- Tides must be considered when anchoring, mooring or berthing at a jetty.
- Tides also affect launching at boat ramps. Some ramps are unable to be used at very low tides and boaters should check prior to launching.

Tidal predictions provide the time and height of the tide each day. These predictions can be obtained from daily newspapers or books that are published covering annual tide tables or from the MAST website.

The height of the tide is the height measured above chart datum. Chart datum is the lowest predictable level to which the tide is likely to fall. All soundings (depths) on a navigational chart are referenced to chart datum.

To be able to calculate the total depth of water, you must add the depth obtained on the chart to the tide height predicted at that time and place.

Navigation

Navigation is the process of getting from one location to another on the water whilst avoiding any hazards.

Inshore navigation in sheltered waters without the use of a chart is very common. It requires a high degree of local knowledge and familiarity with expected conditions.

Coastal navigation allows the skipper to direct the vessel with the aid of a chart and compass, within sight of land. You should always carry a chart or local cruising guide in areas that you are not familiar with. (Cruising guides are not to be used for navigation). Also seek local knowledge where available.

Ocean navigation is directing a craft in areas where there is no land for reference. This can be done by observing celestial bodies to perform calculations. Many skippers also use a GPS (Global Positioning System) as an aid to navigation. Ocean navigation is for advanced skippers who receive some training in advanced navigation procedures.

Maps and charts

Maps are representations of geographical information such as landforms and names of places. Do not try to navigate from geographical maps such as a road map!

Charts are special marine maps compiled for navigation. They show highly detailed information that is vital for safe navigation. It is important to keep charts up-to-date as they can become outdated when channels or beacons change and new construction or wrecks can create navigation hazards. Charts can be kept up-to-date by reference to the weekly publication from the Hydrographic Section of the Royal Australian Navy entitled "Notice to Mariners". "Notices to Mariners" that relate to local conditions are published in local newspapers , on the MAST Facebook Page and on the MAST website.

Compass

Magnetic and fluxgate compasses are the most commonly used types in recreational vessels, but both are subject to error from magnetic and electrical fields. Training on how to use charts and a compass for recreational skippers is available and very advisable if you intend to navigate in coastal or offshore waters.

COLLISION REGULATIONS

Rules for safe navigation

The skipper of a vessel must always ensure that a good lookout (360 degrees) is maintained. A good lookout keeps both a visual check and also listens for such things as vessels, sound signals and breaking water. Make sure you are fully aware of the boating environment, especially in bad weather, restricted visibility or darkness.

Do not confuse the role of an observer, when the boat is towing a water skier, with a lookout. Both a lookout for general dangers and a check of the skier are required.

Giving way

Responsibilities between vessels under way

- The skipper must continuously assess the risk of collision with other vessels.
- If you are required to give way, do it in good time and make a move which will be obvious to the other vessel.
- In a collision, all skippers involved can be held responsible even if the give way vessel does not give way because each skipper is required to exercise caution and take avoiding action.
- Other than special rules made by MAST, the following responsibilities shall apply:

Power-driven vessels shall keep clear of:

- sailing vessels (under sail and not using power).
- vessels fishing.
- vessels not under command.
- vessels with restricted manoeuvrability.

Sailing vessels shall keep clear of:

- vessels fishing.
- vessels not under command.
- vessels with restricted manoeuvrability.
- A copy of the Collision Regulations can be found on the MAST website (Navigation Rules).

Vessels fishing shall keep clear of:

- vessels not under command.
- vessels with restricted manoeuvrability.

Tasman Bridge (Hobart)

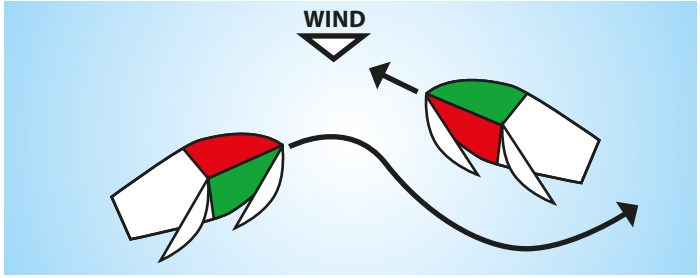
There are special rules for going through the Tasman Bridge:

- Only vessels over 25 metres in length, or tugs, may use the main navigation span and only after permission is granted from Tasports' VTS.
- Vessels 15-25 metres in length may transit through the secondary span (each side of the main span). The east span is used by traffic bound upstream and the west span is used by traffic bound downstream.
- All other vessels must use the other spans of the bridge. **Every vessel, commercial and recreational, motor or sail, must give way to ocean going ships under the command of a pilot** (These ships display international code flag "H", a red and white vertically divided flag). Where a vessel intends to pass under the main span a long, 10 second, horn blast will notify the vessel's intentions. Boaters should be aware of expected shipping movements before they hit the water. These are published in daily newspapers.

OPERATING RULES

Sailing vessels approaching one another

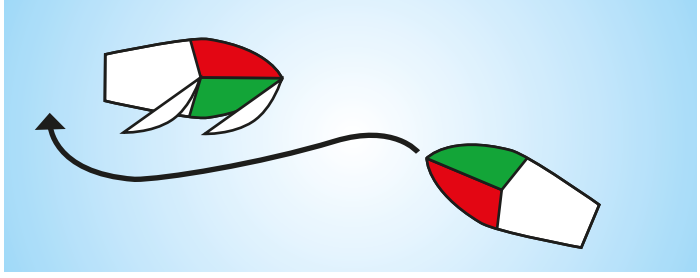
When each has the wind on a different side, the boat which has the wind on its port side shall keep out of the way of the other.



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

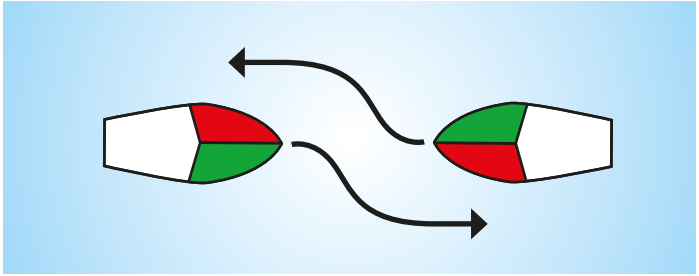
Power and sailing vessels

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



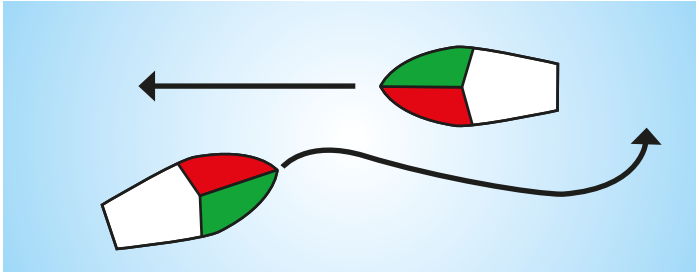
Power-driven vessels meeting head-on

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



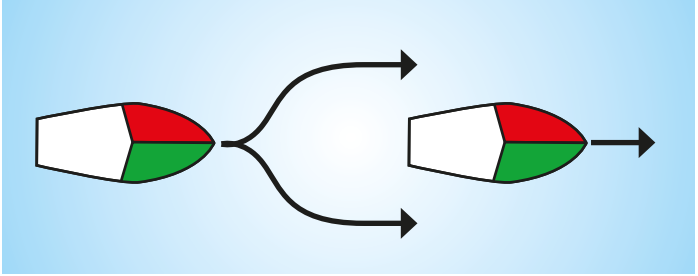
Power driven vessels crossing

When two power-driven vessels are crossing, the boat with the other on its starboard side shall keep out of the way and avoid crossing ahead of the other boat.



Overtaking boats

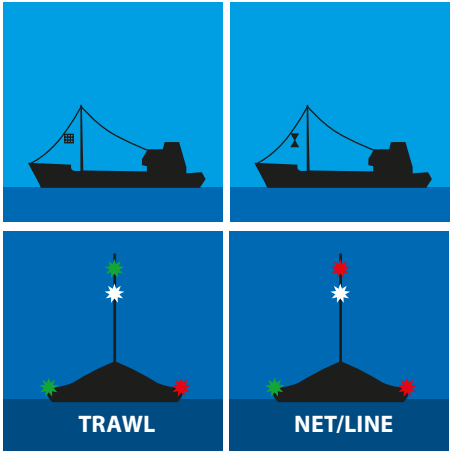
All boats, whether sail or power, overtaking another boat shall keep out of the way of the boat being overtaken. You can overtake the other vessel on either side but only when it is safe to do so and you must keep well clear.



Giving way to commercial vessels

Licensed fishing vessels display special shapes and lights when their fishing gear restricts their manoeuvrability. You should keep clear of these vessels.

Recreational vessels must also give way to ferries. Do not attempt to cross the path of an approaching ferry.



NAVIGATION MARKS

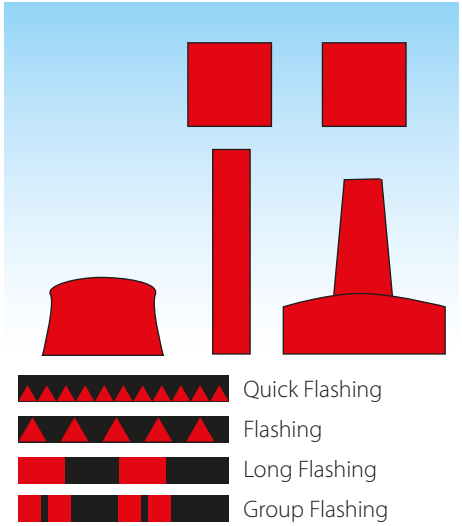
Navigation marks are the equivalent of road signs on a highway. It is important to be aware of what is meant by the various marks. Take time to study a chart and buoyage to familiarise yourself with the navigation channel.

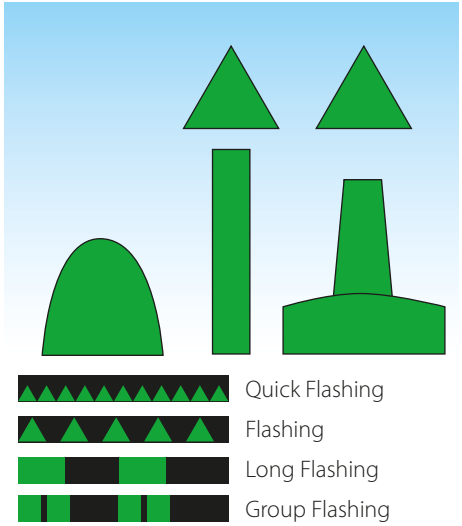
Lateral marks

Port and starboard marks are referred to as lateral marks.

Port hand marks are painted red and have a can-shaped topmark or buoy. If lit, a port hand mark shows a flashing red light.

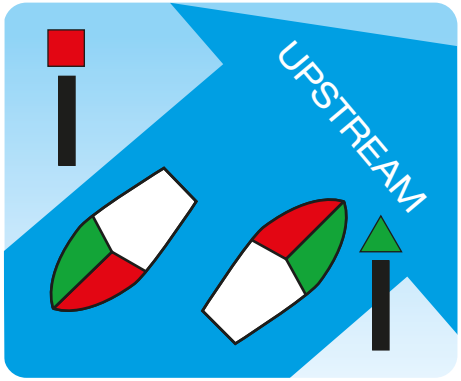
Starboard hand marks are painted green and have a cone-shaped topmark or buoy. If lit, a starboard hand mark shows a flashing green light. When both a port and starboard hand mark are placed near to each other you travel between the two of them.





Single lateral marks

Often lateral marks are not placed in pairs, so you will need to decide on the safe side to pass. The safe side to pass a lateral navigation marker is determined by your direction of travel to or from the sea.



The coming in and going out rule

Upon entering harbour the port (red) mark should be passed on the boat's port (left) side, while the starboard (green) mark should be passed on the boat's starboard (right) side.

When leaving harbour the port (red) mark should be passed on the boat's starboard (right) side, while the starboard (green) mark should be passed on the boat's port (left) side.

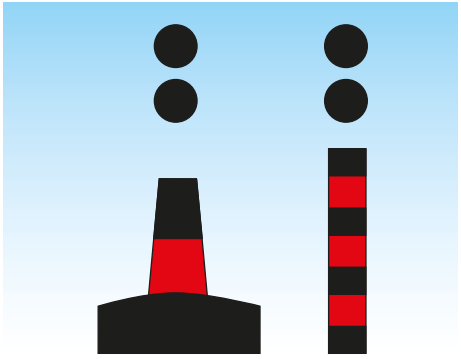
Lead marks

Lead marks are a method used to define the correct course to be steered when in waters containing navigation hazards. They are often used to mark the correct approach to a navigation channel, which is then defined by lateral marks. The lead marks are two separate navigation aids (one in the foreground and one placed further back on the shore), which when aligned provide the correct course for the vessel to steer. Lead marks may be day marks or may be lit for night use.

The day marks are normally two triangles. To steer the correct course the boat should be manoeuvred so that the apex (point) of each triangle comes into alignment.

Isolated danger marks

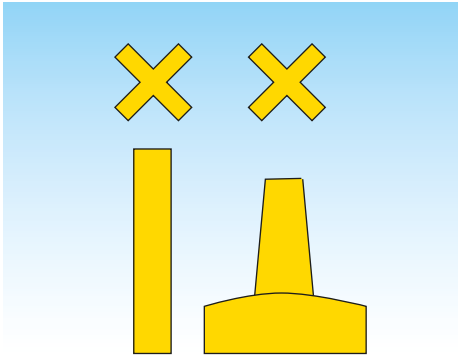
These marks indicate dangers of limited extent with navigable waters all around them. You can pass them on any side but do not pass too close. If lit, it shows a white light flashing in groups of two.



Group Flashing 2

Special marks

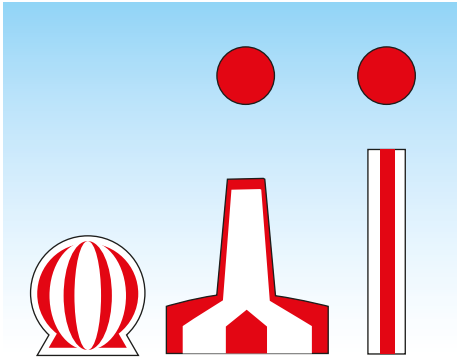
Special marks are yellow and indicate special features or areas such as tide poles, spoil grounds or underwater pipes. They are more commonly used in Tasmania to highlight fish farm boundaries. These farms vary in appearance and include fish cages, submerged lines and oyster racks. They all pose a hazard to navigation if vessels enter the farm perimeter. Marine farm navigation marks may be lit or unlit depending on the situation but when lit they show a yellow light.

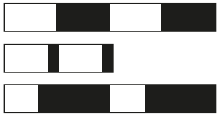


Safe water marks

These are not common in Tasmania.

However, they may be used to mark areas for commercial shipping. They show a white light at night and can be passed on any side.





Isophase

Occulting

Long Flash 10s

Overhead power lines

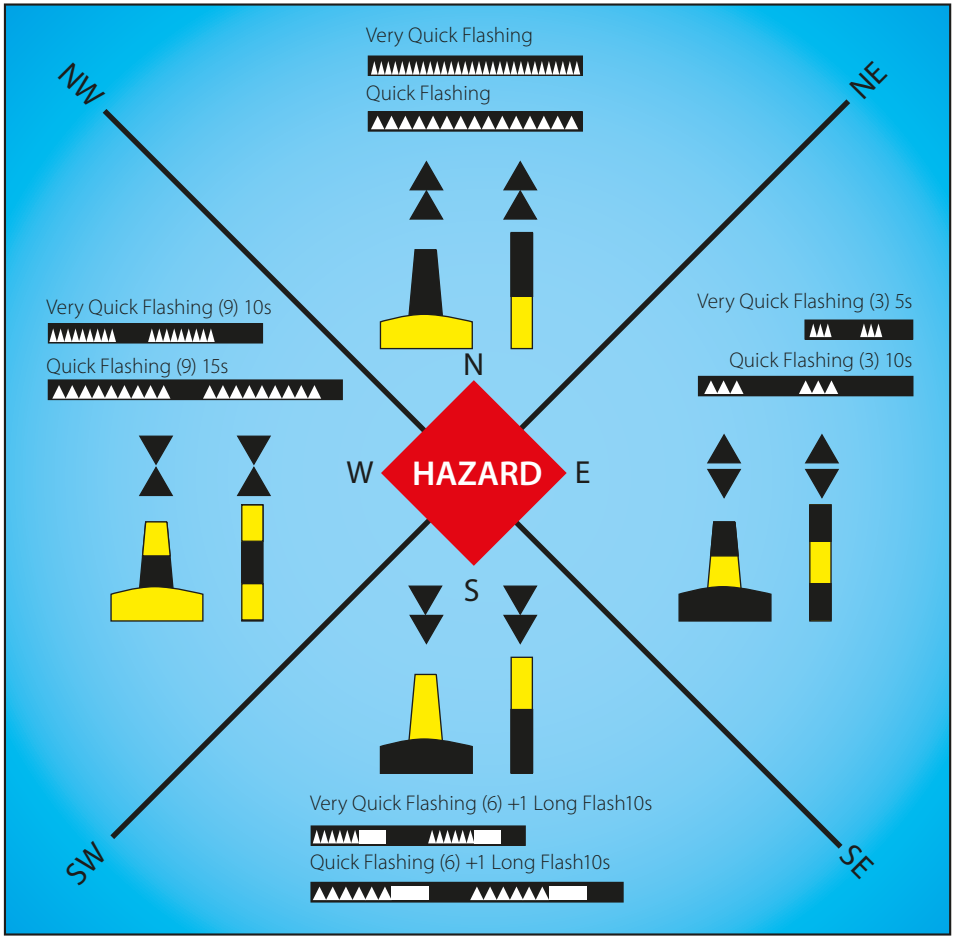
Clearance heights vary with water level. It is most important that you know the height of your mast and understand the height level given on any sign. Clearance of power lines is usually given as the clearance above MHWS (Mean High Water Spring or the average of very high tides). This height may reduce during king tides or floods. Extra caution is required when launching/retrieving vessels with a mast. Always keep a lookout for overhead power lines.

Submarine cables

Anchoring is prohibited near submarine cables. If an anchor becomes snagged near one of these signs, it should NOT be retrieved – cut the line.

Cardinal marks

Cardinal marks are used to indicate that deeper water lies in a compass direction away from a danger such as a reef and shallow areas.



NAVIGATION LIGHTS

Vessels operating from sunset to sunrise, whether at anchor or underway, must carry and exhibit the correct lights. A vessel is underway when it is not anchored, moored or tied to the shore.

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.

Spotlights can be used to identify specific hazards, but this should only be done when operating at very slow speed and without affecting other waterway users. It is unsafe to navigate a vessel with light illuminating the water directly ahead because it deprives you and other vessel operators of night vision. It is important to slow down and keep a good lookout.

Remember:

- Background lighting on the shore can cause confusion.
- All vessels are required to show some form of lighting.
- A safe speed is a speed at which sufficient action can be taken in time.
- Some vessels moored in approved mooring areas and oyster leases may not be lit.

Power-driven vessels less than 12 metres in length that are underway must show the following lights:

- a masthead light, sidelights and a sternlight, or
- an all-round white light (visible from 360 degrees), and sidelights.

A power-driven vessel of less than 7 metres in length, whose maximum speed does not exceed 7 knots, may exhibit an all-round white light only and, if practicable, also exhibit sidelights.

Anchored vessels less than 50 metres in length must show an all-round white light. Remember that anchoring in narrow channels and obstructing traffic is prohibited.

Kayaks, Canoes, Lightweight Craft
All round light or white strobe light.

Drifting vessels must show the same navigation lights as if they were still making way. For example, if a power driven vessel is drifting it must show its white light.

Sailing vessels less than 7 metres long must as a minimum have a torch or lantern showing a white light ready to display in time to prevent collision.

Sailing vessels 7 metres or more must show sidelights and a sternlight when underway.

Sailing vessels propelled by engines are considered as power-driven vessels under the regulations and consequently MUST display the same lights.

Vessels with restricted manoeuvrability are required to exhibit the following lights and shapes:

- three all-round lights in a vertical line with the highest and lowest of these lights being red in colour, while the middle light shall be white.
- three shapes in a vertical line with the highest and lowest of these shapes being balls and the middle one a diamond.

Should the vessel be making way through the water whilst involved in such operations, then a masthead light, sidelights and a stern light are also required.

These vessels could be involved in such operations as fishing or in particular dredging, which occurs on several waterways around the State.

SOUND SIGNALS

Special sound signals exist for vessels to indicate their manoeuvring intentions when they are in sight of one another.

- 1 short blast – I am altering course to starboard.
- 2 short blasts – I am altering course to port.
- 3 short blasts – I am operating engines astern (stopping).
- 5 or more short blasts – I am unsure of your intentions and I doubt whether you are taking sufficient action to avoid collision.

BOATING KNOWLEDGE TEST NO. 4

Question 1: Two small power-driven vessels are crossing as shown in the diagram on the left. Indicate the correct response.

(a) Since they are both power boats, they should alter course a little to avoid a collision.
(b) Boat A should give way.
(c) Boat B should give way.

Question 2: What is the sound signal for " I am altering course to port?

(a) Three short blasts.
(b) One long blast followed by two short blasts.
(c) Two short blasts.
(d) One short blast.

Question 3: What lights are required on a power driven vessel less than 12 metres in length that is underway at night or in reduced visibility?

(a) Sidelights and a green masthead light.
(b) Red and green sidelights and either an all-round white light or a stern and masthead light.
(c) Two all-round white lights.
(d) Red and green sidelights only.

Question 4: A vessel is overtaking another as indicated.

Which statement is true?

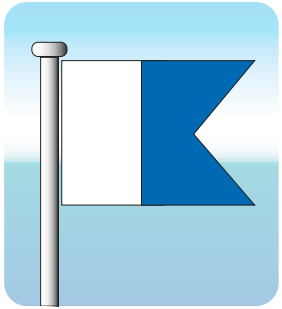
(a) Power must give way to sail.
(b) The sailboat must stay clear of the powerboat.
(c) The situation depends on the direction of the wind.
(d) Both vessels should alter course.

Question 5: When heading up a river from sea you should keep which channel markers on your starboard side?

(a) Green channel markers.
(b) Red channel markers.
(c) White channel markers.
(d) Black channel markers.

FLAGS

International Code Flag "A"

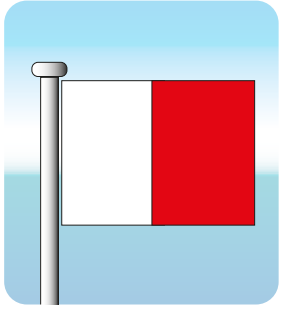


The international Code Flag "A" is a blue and white vertically divided flag that indicates divers below. When displayed, this flag requires that boats do not exceed 5 knots when within 120 metres of it. This flag may be hoisted from an anchored vessel, on a buoy or dive float or hoisted on the shore.

Operation in pilotage areas

Recreational vessels often operate in shipping ports and channels. Small craft operators must be aware that large ships cannot alter course or speed quickly and often their draft restricts them to a very specific course. In addition, it is difficult to even observe small craft from the bridges of certain ships.

International Code Flag "H"



The international Code Flag "H" is a red and white vertically divided flag that indicates that the vessel has a pilot on board. This flag is used when ships are approaching their berth and are under the control of a pilot. In such circumstances, the recreational skipper must keep clear of the ship at all times.

Vessel under control of exempt master

Ships that enter ports regularly are occasionally exempt from using a pilot, however they still have right of way over all other craft. To indicate that they are under the control of an exempt master these ships will display an all-white square flag.

CROSSING BARS

A bar is a shallow sandbar, which often forms where rivers, creeks or harbours meet the sea. The combination of shallow water, moving sandbars and fast-flowing tides makes bars dangerous locations that are only suitable for experienced vessel operators. Always seek local knowledge if unsure.

Going out across the bar

Popular boating areas in Tasmania where barways occur are Macquarie Harbour, Pieman River, Pipers River, Bridport, Musselroe Bay, Ansons Bay, St Helens, Scamander, Little Swanport, Swanwick, Orford, Marion Narrows, and Cremorne.

Boaters should also take extreme caution when transiting the entrances of rivers on the north-west and west coasts.

Preparing to cross a bar

- Check the tide tables and the weather.
- Observe the bar conditions and always talk to the locals about the best way to make the crossing.
- Be prepared to cancel or delay the crossing if the conditions are not suitable.
- Check the vessel – it must be seaworthy and able to take some impact from waves.
- Ensure those on board are wearing life jackets.
- Secure all equipment on the vessel prior to crossing.
- Brief your passengers/crew about the dangers.

Going out across the bar

Do not hit waves at high speed since an airborne vessel causes damage and injury.

Adopt the following procedure:

1) Idle towards the breaking waves watching for any lulls.
2) If a flat spot occurs speed up and run through it.
3) If the wave keeps rolling in, motor to the break zone.
4) Gently accelerate over the first part of the broken wave.
5) Apply more power and run to the next wave, heading for the lowest part (the saddle) if possible as this is the last part of the break.
6) Back off the power just before meeting the next swell.
7) Pass slowly through the wave and accelerate to the next wave.
8) Repeat the process until you are through the break zone. Remain confident – don't change your mind and try and turn the vessel around while in the break.

Coming in across the bar

The process is:

1) Approach the break zone and try to pick the spot with the least activity.
2) Keep any leads in transit; breakers may obscure your vision of the entrance.
3) Choose a set of waves suitable for your entry.
4) Position the vessel on the back of the swell and maintain speed ensuring –
    - you do not overtake the wave and run down its face.
    - you stay ahead of any breaker behind you.
5) When the wave ahead of you has broken, accelerate through the white water.
6) Beware of steep pressure waves bouncing back off the entrance or shore.
7) Adjust your speed to counter any pressure waves or any outgoing current.

VESSEL HANDLING AND OPERATION

This section deals with typical tasks all boat operators will need to complete regularly. The only way you can become proficient at these tasks is to practice. To understand a variety of operations you will need to understand some basic terms and concepts:

Trim

Trim is the balance of the boat in a fore and aft direction. Trim affects the vessel's handling and sea-keeping characteristics. Factors that influence trim include distribution of the vessel load, angle of the motor leg and the speed of the vessel. There are several ways that a skipper can adjust the vessel trim to optimise performance.

Freeboard

Freeboard is the distance from the boat's gunwale (deck level) to the water level. Freeboard will depend on how much load you put in your boat. Too much load will place your boat lower in the water therefore giving a greater potential for the vessel to be swamped. Sufficient freeboard is essential.

Stability

Stability is a measure of how easily your vessel heels and how quickly it returns upright again. Decreased stability makes the boat both heel to increased angles and become more reluctant to return upright from each roll. To avoid a loss of stability, stow gear securely and low in the boat and also bail out any water lying in the bilge (bottom of the boat).

Berthing alongside a wharf or jetty

- In advance, place fenders on the side of the vessel that will lie against the berth.
- Preferably approach into the wind and/or current because it is easier to apply ahead power than astern power to oppose wind and tide effects.
- Make a slow approach to the berth – it is better to be cautious.
- Secure the vessel at the bow and stern prior to stopping the engine. Remember to set the length of mooring lines to suit the range of tide if you are leaving the boat for several hours. Spring lines should also be used.
- Keep in mind that there are certain places where you cannot leave a boat unattended. These areas are highlighted with yellow paint.

Leaving a berth

- Do not release mooring lines until the engine has been started and warmed up.
- Beware of other vessels when moving away from the wharf. Watch the stern as well as the bow of your vessel.
- Be aware of the effects of wind and tide.

Picking up a mooring

- Have a boat hook ready to reach the rope attached to the buoy.
- Approach the buoy into the wind so the vessel is not blown over the mooring. Ensure that the engine is in neutral near the mooring line to ensure the propeller is not fouled. Don't turn off motor until mooring is secured.

ANCHORING

Anchoring is not only a normal part of boating, it is also an important safety measure in an emergency. Anchoring may keep the vessel safely positioned head on to the conditions and it will also stop you from drifting out to sea or onto the shore.

To anchor correctly, the vessel needs an anchor suited to the seabed, a length of chain and a sufficient length of anchor rope. Boaters should always endeavour to anchor under the lee of the land.

The length of anchor rope paid out depends on the water depth and the sea conditions. As a rule of thumb, the length of rope paid out needs to be three times the water depth, however more rope may be needed with rough seas or windy conditions.

Always lower the anchor rather than hurl the anchor and chain overboard together, since it is likely the chain will entangle the anchor flukes, causing the anchor to drag. Don't turn your engine off until you are sure the anchor is secure. Always take a transit to check you are not dragging.

Never anchor from the stern – you risk swamping the vessel.

Regularly check that the anchor is not dragging by inspecting the anchor rope tension and monitoring your position. Vessels must not anchor in any channel so as to impede or potentially impede the navigation of any other craft.

ROPES AND KNOTS

You will be required to use a variety of knots when boating, whether it be when positioning fenders or when berthing your vessel at a jetty. Right are some commonly used knots that you should know:

Figure of eight

Reef knot

Bowline

Running bowline

Rolling hitch

Sheet bend

Round turn and two half hitches

Bowline bend

BOATING ON INLAND WATERS

Boating on rivers, creeks, dams and other inland waterways demands special care. Submerged trees, shallow sand bars and other snags may be encountered.

Inland waterways are often murky and constantly changing so you need to be aware of possible dangers and obstructions that may be hidden just below the surface.

It is not feasible or practical to remove all of these hazards, nor to mark them all with navigation markers.

Always maintain a safe speed and a proper lookout and seek local knowledge.

It is also advisable to familiarise yourself with the area each time before attempting any high-speed activities.

Caution is required in all conditions following heavy rain or flooding where floating trees, branches and other debris may be present and may cause serious damage and injury if collision occurs.

As water levels recede, new navigational hazards may be uncovered.

Dam walls and spillways should be avoided at all times.

BOATING KNOWLEDGE TEST NO. 5

Question 1: When crossing a barway:

(a) Turn around in the break if you feel the waves are too big.
(b) Hit the swell hard and ensure the vessel leaves the water.
(c) Plan well and gain local knowledge prior to going on the water.
(d) It is best at low tide when the water is very shallow.

Question 2: Inland waters should be navigated with caution because:

(a) Fresh water causes propellers to cavitate.
(b) A variety of hazards occur at different lake levels.
(c) Trout are easily scared by outboards.

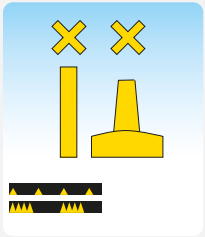
Question 3: When arriving at a berth it is important to:

(a) Bring the vessel alongside with maximum speed.
(b) Approach the berth with the wind behind the vessel.
(c) Trail mooring lines in the water whilst approaching the berth.
(d) Approach slowly into the wind and current.

Question 4: A blue and white vertically divided flag on a vessel means:

(a) Diver below – keep clear.
(b) I am not under command.
(c) I am about to change course to port.
(d) I have a pilot on board – keep clear.

Question 5: What kind of navigation mark is this?



a) An isolated danger mark.
b) A safe water mark.
c) A channel-blocked mark.
d) A special mark.

PERSONAL WATER CRAFT (JET SKIS)

A Personal Water Craft (PWC) is a small vessel that uses an inboard jet drive as its primary source of propulsion, and is designed to be operated by a person or persons sitting, standing, or kneeling on the vessel rather than inside the vessel.

PWC have different handling characteristics to the majority of all other vessels. There is no conventional rudder or outboard to steer with, acceleration capabilities are greater and operators sit or stand astride of the craft as opposed to traditional styled boats.

Complaints regarding the inappropriate actions of PWC riders make up the majority of general boating complaints received by MAST.

Common areas are Millbrook Rise, Lake Trevallyn, Opossom Bay, Southport, beaches on the River Derwent, Lake Barrington and Dodges Ferry.

The objective of the rules governing PWC is to ensure that operators are properly trained to operate their craft safely and responsibly, which will lead to a greater understanding of the craft by all boaters who enjoy the waterways of Tasmania, as well as improving the environment for residents of coastal and river communities within the State.

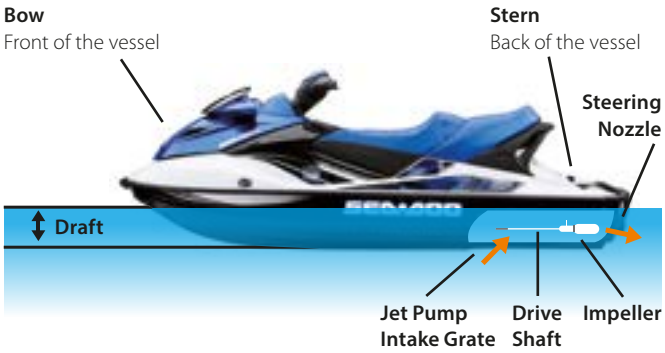
Jet Drives and Personal Water Craft

- Jet drives propel a vessel by a jet of water forced out of the back of the vessel. Directing this jet of water steers the vessel.
- Personal water craft are the most common type of vessels that use a jet drive.
- Jet drives may also power larger vessels (jet boats) and are used commonly for vessels designed for shallow water conditions. Jet boats can have inboard or outboard jet drives.

Jet drives use an engine to power a strong water pump, which sucks up water and forces the water out the back to thrust the vessel forward.

Personal Water Craft – Front View

Personal Water Craft – Side View



- Intake: Opening in the hull that draws water toward the impeller.
- Intake grate: Screening cover over the intake, which prevents large debris from entering.
- Impeller: Device used to force water in a desired direction under pressure.
- Steering nozzle: Device used for directing the stream of water to the left or right at the stern of the PWC, which steers the PWC.

Licensing

All people wishing to operate a PWC (including existing motor boat licence holders who wish to be endorsed) are required to complete a PWC Practical Training Course with an accredited provider and pass a written test administered by that provider. This practical course will allow successful participants to operate either a motor boat or a PWC.

The minimum age to obtain the PWC endorsement is 12 years, however, operators between the age of 12 and 17 years must be accompanied by a responsible adult, must also follow specific speed limits and are not permitted to tow skiers.

The PWC endorsement is renewable at the same time as the motor boat licence at the prescribed fee.

Registration

All PWC must be registered under the *Marine and Safety (Motor Boats and Licences) By-laws 2013*.

Under these by-laws, a PWC is classified as a motor boat but there are some specific rules that apply to PWC. These involve operating requirements and the fact that PWC must not be operated between sunset and sunrise. There are also some differences in the safety equipment that is required to be carried.

The allocated registration numbers must be displayed in a prominent position towards the bow, on both sides of the vessel and must be at least 100mm high. The numbers must be in a contrasting colour to the PWC and must not be obscured by the art work on the PWC.

The current registration label must also be displayed in a prominent position, near the controls.

A safe operation sticker is also to be displayed. This is to remind the operator of his obligations to other water users. This sticker must be displayed adjacent to the PWC controls and it is an offence not to have it displayed.

Safe operation sticker

Conspicuous numbers

Safety Equipment

People operating a PWC must wear a life jacket. Riders can wear either an AS 4578, Level 100 or Level 50 in Smooth and Sheltered waters. If operating in Open or Coastal waters, a Level 100 or above must be worn. Passengers are also required to wear a life jacket as above. **Inflatable life jackets are not permitted on PWC.**

Riders are also required to ensure there is a fire extinguisher carried on the craft. There is often a specifically designed place for a fire extinguisher under the hood which will house a 0.75kg extinguisher.

If operating in sheltered waters it is also a requirement to carry flares. PWC operating outside sheltered waters are also required to carry an EPIRB or PLB, radio and a towline. If craft are operating in these waters as part of an organised event, then approval may be granted by MAST to carry one of each of these items per group.

In addition to the compulsory safety gear there are a number of items of clothing and gear that will make your riding safer and more comfortable.

You should always wear a wetsuit, gloves and booties. This is particularly important due to the water temperature in Tasmania.

A wetsuit will also provide additional flotation to your life jacket if you fall off and will guard against cuts and bruises, while wetsuit boots will aid with grip.

Impact resistant goggles or glasses are also recommended and should be available from most PWC dealers.

Equipment	PWC within smooth waters	PWC within sheltered waters	PWC within all other waters
Life Jacket	✓	✓	✓
Flares		✓	✓
Fire Extinguisher	✓	✓	✓
EPIRB or PLB			✓
Tow Line			✓
Radio			✓

Safe Operation

PWC are very different to traditional motor boats so riders should familiarise themselves with their craft and get plenty of practice at a sensible speed before attempting to operate the craft at increased speeds and perform typical PWC manoeuvres.

Operators should not attempt manoeuvres beyond their capabilities and should also carefully read and understand the owner's manual and all warning labels before riding their craft.

Speeds and Distances

Distances are always more difficult to judge at speed. Most PWC are capable of high speeds and you can be within the required distances in no time before you realise. A PWC doing 60kph (32 knots) will travel 100m in 6 seconds.

A PWC must not exceed 5 knots whilst within 120 metres of a swimmer, a vessel displaying Code Flag A or someone wading in the water.

The operator also must not exceed 5 knots whilst within 60 metres of another vessel, the shoreline or a mooring buoy.

There are also other popular areas designated as specific 5 knot zones for all vessels. These areas are detailed on the MAST website at **www.mast.tas.gov.au** and operators should be aware of these.

Freestyling

It is illegal to "freestyle" ride a PWC within 200m of any swimmer and 200m of any shoreline if there is a dwelling within 100m of that shoreline.

Freestyle riding means erratic and non-directional operation, where it is difficult for others to predict the vessels course to avoid a collision. Freestyling is the cause of most of the public complaints.

Boarding PWC

Boarding the PWC should be done in a safe and efficient manner. Caution should be taken to ensure that operators, crew and public do not get caught between the craft and the shoreline.

In Shallow Water:

Most PWC can be boarded from the side or rear, but there are some models that are too unstable to allow side boarding. In surf conditions boarding from the side is safer and therefore the preferred method.

The driver should point the nose of the PWC into the surf or current and check that the area is clear of any other craft, swimmers or obstacles.

Exceeding 5 knots within 60 metres of a moored vessel

Then step over into the correct driving position to start (a "rolling start" can be achieved only after practice and a higher skill level is achieved).

In Deep Water:

Boarding in deep water should be done via the rear of the craft. Swim to the rear and place both hands on the back of the craft. Pull yourself up and kneel up before moving to the seat and adopting the driving position.

The maximum load capacity of current PWC in use will differ from craft to craft. Please refer to your operator's manual.

Warning: Strong jet streams can be dangerous. Do not open throttle when any person is directly behind the jet nozzle.

Steering

PWC are jet driven and do not have a conventional rudder. Directional control is provided by thrust from the water jet pump and impeller directed by the jet nozzle which is controlled by the handlebars.

The higher the thrust, the sharper the turn. Insufficient or no throttle may cause the PWC to turn slowly or not turn, while excess throttle may cause the PWC to "spin out".

To turn, reduce speed, turn handlebars and shift weight towards the direction of the turn, and apply sufficient throttle to complete the turn. Whilst some manufacturers have developed systems to aid off-throttle steerage, turns cannot be made without using the throttle.

- The most important thing to remember about steering most PWC, and other jet-drive vessels, is that you must always have power in order to maintain control. If you allow the engine to return to idle or shut-off during operation, you lose all steering control. The PWC will continue in the direction it was headed before the throttle was released or the engine was shut off, no matter which way the steering control is turned.
- Always allow plenty of room for stopping. Just because you release the throttle or shut off the engine does not mean you will stop immediately.

Collisions have often occurred when the rider reduces power, not realising the craft does not turn away from the object/vessel without throttle. To avoid a collision apply power to make your craft turn, and then reduce power when you can.

Ignition Safety (Engine Shut-Off) Switches

Some powerboats and most PWC come equipped with an emergency ignition safety switch. This is a safety device that is designed to shut the engine down if the operator is thrown from the proper operating position.

- A lanyard is attached to the safety switch and the operator's wrist or life jacket. The safety switch shuts down the engine if the operator falls off the PWC.
- If your PWC does not come equipped with an ignition safety switch, you should have one installed.
- PWCs either have an ignition safety switch or have a self-circling feature if the operator falls off. If the operator is thrown from the operating position of a PWC with the self-circling safety feature, the engine will run at idle speed while the PWC slowly circles so that the operator can re-board. Ensure that the idle speed is always set correctly.

Capsizing

If your craft has capsized, turn off the engine and remove engine stop switch or lanyard.

Swim to the rear of the PWC. Turn the PWC over by gripping the ride plate with your left hand and pushing down on the gunwale rail with your right hand or right foot.

- Do not put your hand in the intake grill.
- Take care not to be hit by the PWC as it comes over.
- If in the ocean, continue to observe the surf.

Start the engine in normal way then head for shore as soon as practicable to inspect the PWC for water damage.

Re-boarding capsized PWC

PWC are designed to allow you to fall off and re-board from the rear of the craft. Sometimes after a fall, the PWC could be completely overturned. When this occurs, you should be familiar with the proper procedure to right the PWC.

- Most manufacturers have placed a decal at the rear or bottom of the craft that indicates the direction to roll your PWC to an upright position. If no decal exists, check your owner's manual or ask the dealer. With this information you should be able to roll the PWC over and re-board with little trouble. If you roll it over the wrong way, you could cause serious damage to your PWC.
- It is a good idea to practice re-boarding with someone else around to make sure you can handle it alone. Also, avoid riding your PWC when you are very tired, because re-boarding will be difficult. Also avoid riding where there are strong currents or winds, which could hamper your re-boarding efforts.

Beaching

Always ensure no obstructions, swimmers, surf craft or other craft are near the point of beaching and approach as slowly as conditions allow.

Ensure you stop the engine before reaching beaching point, otherwise you risk small pebbles, sand, seaweed and other debris being taken into the jet intake and damaging the impeller.

Always step off on the seaward side, so that a wave will not push or roll the PWC onto you and ensure that the PWC is not left unattended.

Operating limits

A PWC is not permitted to operate between the hours of sunset and sunrise as no craft are fitted with navigation lights. Similarly, due to the speed capabilities of PWC, it can be extremely difficult to judge distances at such speeds in reduced visibility and darkness.

Alcohol

People operating PWC and motor boats are not permitted to exceed a blood alcohol concentration of 0.05. MAST however recommends operators should not operate the craft after drinking alcohol.

Waterskiing/ wakeboarding/towing

PWC are great for waterskiing, wakeboarding and any other form of towing someone behind the craft but there are several rules that apply.

The operator must have a current motor boat licence and PWC endorsement.

It is a requirement to have an observer, with a minimum age of 10 years, watching the skier at all times. Therefore waterskiing can only occur on 2 or 3 seater PWC. The operator, observer and person being towed must all wear life jackets.

The observer must immediately tell the operator if:

- there is a danger or potential danger to the skier;
- the skier signals the observer;
- the skier has a mishap.

PWC involved in skiing should also ensure that they operate in an anti-clockwise direction when skiing in confined areas such as the South Esk River, Lake Trevallyn, Lake Barrington and the River Derwent at New Norfolk and should also familiarise themselves with any other local rules that may apply.

Emergency Procedures

Towing a PWC

If the PWC becomes inoperative in the water it can be towed to shore. The bow must be kept up out of water during towing to prevent water from entering the engine compartment.

1. The operator of the towing boat must keep speed to a minimum.
2. Tow the PWC utilizing the lower hitching point.
3. The driver should ride the PWC – adopting the normal driving position.

Note: Operators should refer to their PWC user manual, as certain PWC require the water inlet hose to be clamped prior to towing to avoid water entering the engine.

Tow the PWC slowly as water may enter the air intake and flood the engine compartment if the PWC is towed too fast.

Submerged PWC

If the PWC is submerged or flooded with water, follow the procedure below and consult the manufacturer or dealer as soon as possible. Failure to do so can result in serious engine damage. Water must be removed from the engine as soon as possible to prevent engine damage.

1) Remove PWC from the water.
2) Remove the hull drain bung and drain all water out of the engine bay.
3) Remove the spark plugs.
4) Lay the PWC on its side with the exhaust side of the engine facing downwards and carburettors upwards.
5) Crank the engine to remove the water. Do not wind over for any more than thirty (30) seconds. Give the starter and battery a ten (10) second break every thirty (30) seconds.
6) When all water has been removed from the engine, upright the PWC and replace the spark plugs with dry ones.
7) Try to re-start the engine using full choke to help dissipate the water. If the engine does not start, repeat steps 4, 5 and 6 again. This may take several tries before the engine will start. Always use dry spark plugs.
8) When the engine starts, rev the engine hard to remove all the water from the crank cases. Keep an eye on the engine temperature. If the engine is too hot to touch, shut it down.
9) Check the fuel and oil tank for water. If unsure, drain both tanks and use new fuel and oil.
10) Run the PWC in the water for twenty (20) minutes to dry it out. This must be done as soon as possible after submersion.

Have the PWC serviced after prolonged submersion to maintain future reliability.

Maintenance

This section is designed to provide a basic outline of PWC maintenance procedures. As there are different makes and types of PWC, drivers must refer to the PWC's respective user manual for more detail on PWC maintenance.

The life expectancy of a PWC is dependent upon four major factors:

1 Quality of PWC as manufactured;

2 Hours of use;

3 Type of use;

4 Maintenance.

It is the points 3 and 4 where the life expectancy of a PWC can be extended, in fact doubled by good management.

Hard Driving

A good driver should always operate the PWC within the limits of equipment capability and with consideration to the care of the vessel. Accordingly, for good engine serviceability it should be kept off full speed. Experience seems to indicate that the majority of engines suffer major breakdowns after excessive hard driving, which adds to costs and reduces the PWC's life expectancy.

Violent Manoeuvres

Any violent manoeuvre is liable to do damage to the PWC. Therefore, unnecessary high-speed sharp turns should be avoided.

Slow Running

With some PWC, continual low speed running will oil up the spark plugs and the engine will start to "miss". Give the motor a short burst on high speed to burn excess oil off plug points. Refer to the PWC user manual.

If you have to rev the engine to keep it going, serious trouble is indicated. Seek the advice of your service agent.

Gear Changing (for PWC with reverse)

Changing gears with the engine running too fast can cause damage. Changing gears should only be done at idle speed. If the operation of the gearshift becomes "stiff" immediate action should be taken to find out why, and the fault corrected by authorised persons.

Fuel & Oil

The majority of PWC fuel systems have an oil injection system, so oil and fuel are in separate tanks which must be checked every day. All PWCs must be run on unleaded fuel. Fuel and oil premixing is not necessary on most models. If you are unsure then check with your service agent. Oil used should be as per the manufacturer's recommendations but a minimum of a TW-3 rating.

Under no circumstances should the oil be allowed to run dry.

If you suspect that a small amount of water has entered the fuel tank, methylated spirits can be poured into the tank. If large amounts have entered the tank, it will need to be drained following safe fuel handling techniques and appropriate disposal of the fuel.

Engine Maintenance

Engine maintenance is perhaps the most important and arduous task undertaken by the operator. Engines should be examined prior to and following all usage to ensure it is in good working condition.

Pre-use and post-use inspections of PWC are an important part of any user maintenance program. All operators should be familiar with the relevant PWC's user manual.

Note: A PWC's initial service is after ten (10) hours (when new), and further additional services after every fifty (50) hours or three (3) months, whichever occurs first.

PWC Maintenance

The hull of the PWC should be checked regularly to ensure there is no undue wear. If undue wear is found it should be repaired straight away by an experienced fibreglass tradesman.

PWC drain plugs must be fitted before entering the water and the PWC must be drained at the end of every use.

Spark Plugs

Ninety percent of all starting problems stem from spark plugs. Plugs should be discarded after every 10-20 hours. The cost of plugs is a small fraction of fuel costs.

The high-tension leads must fit properly to the plugs and be well secured and over-tensioning plugs should be avoided.

A full set of spare spark plugs with the gaps correctly set should be made readily available.

Cleaning the Jet Intake and Impeller

If weeds or debris get caught in the intake or impeller, cavitation can occur and though the engine speed rises, forward thrust will decrease. If this condition is allowed to continue the engine will overheat and may seize. If there is any sign (loss of power) the jet intake or impeller is clogged with weeds or debris, beach the PWC and check the intake and impeller. Always stop the engine before beaching the PWC.

If at sea, turn the PWC off and sit for at least 5 seconds and then restart the engine. If the intake is still clogged, place the PWC in reverse (if fitted). If it is still clogged stop the engine, dismount and reach under the PWC to remove obstruction from intake grate. If this still fails to remove the blockage you are advised to call for back up assistance from another craft.

Before attempting to remove weeds or debris from the jet intake or impeller area, shut off the engine and remove the engine lanyard from the stop switch. If this is unsuccessful, return to shore immediately.

Once returned to shore, immediately remove the lanyard. Always roll the PWC with the throttle in the air, and remove the intake grate to remove foreign objects.

Pre-Use Checks

The engine bay cover should remain open for ventilation except during use.

1. Fuel – Fill fuel tanks with unleaded fuel.
2. Oil – Fill oil tanks with lubrication oil recommended by the manufacturer.
3. Check and drain water trap under front hood (if fitted).
4. Check steering and throttle for correct operation.
5. Check the battery fluid level and charge condition.
6. Ensure that there is no weed, debris or any foreign objects that may restrict water intake.
7. Check the condition of all ancillary equipment, including all safety equipment.

8. Starting procedure:
    a) Turn fuel to 'on' position.
    b) Pull choke all the way out.
    c) Insert lanyard to Start / Stop assembly.
    d) Press green button for 20 seconds. If engine does not start, stop for 10 seconds and try to start again.
    e) When engine fires up, push the choke all the way in and run for 30 seconds. During this 30 seconds, rev the engine gently to pull fuel through the system and then stop the engine.
9. Ensure all required equipment to be carried is on board the PWC.
10. Check that seats and cover are all in place.
11. You are now ready to enter the water.

Note: Engine must be started and warmed up for approximately 30 seconds prior to entering the water.

Post-Use Checks

Post-use checks are an important part of maintaining the PWC in operational condition.

Drivers should refer to the PWC's user manual for more detail on post-usage maintenance. However, the following checks represent a minimum maintenance routine.

1. After removing PWC from the water, start and rev the engine to remove excess water from the exhaust. Remove the bungs and drain the hull.
2. Hose down the PWC and trailer. Remove all sand and salt build-up. Pay particular attention to the inside of the jet unit. Hose out the engine bay. Do not spray water up the airbox intake.
3. Flush out the engine cooling system with fresh water (flushing).
    a) Remove seats (if not already removed).
    b) Use flushing fitting to hook-up water to the engine. Remove the safety cap and hook-up flusher fitting.
    Note: Do not turn water on without first starting the engine. If you do, the engine will fill up with water within minutes.
    c) Start the engine and let run until it idles smoothly.
    d) Turn on the water supply.
    e) Gently rev the engine to help circulate the water through the exhaust system.
    f) Continue to flush engine for 3-5 minutes. Water will run out of jet pump exhaust and tell tale.
    g) Turn off water supply.
    h) Rev engine gently to remove water from exhaust and then shut down engine.
4. Spray engine with suitable DWF spray to prevent corrosion.
5. Leave seats and storage bucket out to let engine dry out.
6. Always store undercover.

At the end of the season it is crucial that your service agent correctly treats your PWC for winter storage otherwise rust and corrosion will develop within the engine.

Operators should make themselves familiar with the manufacturer's recommended servicing requirements and any additional maintenance requirements.

PWC Trouble Shooting Chart

Trouble	Possible cause		Remedy
The engine will not start	**Starter motor does not turn over**		Check wiring
	• Fuse	Burned out	Replace
	• Battery	Run down Wire connections loose	Charge Tighten as required
	• Stop switch	Lanyard is not in place	Install lock plate
	Starter motor turns over		
	• Fuel	Empty or water contaminated	Siphon and refill as required
	• Spark Plug	Fouled or defective	Replace
	• Crankcase	Filled with liquid (fuel or water)	Crank engine with spark plugs out until clean
	• Fuel tank	Built up pressure	Release pressure
	• Choke	Knob automatically returns	Turn in adjustment nut
The engine runs irregularly or stalls	• Fuel	Empty, stale or contaminated	Siphon and/or refill as required
	• Fuel filter	Clogged or full of water	Replace as required
	• Spark plug	Fouled or defective Incorrect heat range Spark plug caps loose Loose electrical connections Spark plug cap leaking water	Replace Replace Tighten Tigthen Replace
The engine runs too fast	• Cavitation	Jet intake clogged Impeller damaged or worn	Clean Replace
The engine runs too slow	• Engine	Jet intake clogged Overheat (Engine speed is reduced by the overheat warning device)	Clean
	• Fuel filter	Clogged	Replace
	• Spark plug	Fouled or defective	Replace
		Incorrect heat range Spark plug caps loose	Replace Tighten

WATER-SKIING, WAKEBOARDING AND BISCUITING

Water-skiing is a popular and exciting recreational boating activity. Ski boats often travel at high speeds so boat operators should acquaint themselves with local operating rules and guidelines. These activities account for the majority of injuries and hospitalisations from boaters so extreme care should be taken.

It is a requirement to have an observer (minimum 10 years of age) watching the skier at all times. The observer should transfer messages from the skier to the vessel driver. This allows the driver to concentrate on operating the boat.

In popular ski areas it is common to find ski access lanes. These lanes allow skiers access to the beach and therefore are off limits to swimmers and other vessels.

Boaters should always ski in an anti-clockwise direction and also make sure they are familiar with any other local rules and requirements such as 5 knot zones.

The maximum number of water skiers that can be towed simultaneously is three and water-skiing can only occur during daylight hours. Persons aquaplaning and wakeboarding must also abide by these rules.

Every water-skier (or person being towed in any other manner) must wear an approved life jacket Level 150, 100, 50 or 50SP. It is recommended however that Level 50s be worn.

DIVER BELOW

Flag to be visible at 360°

Any boat that has divers operating from it must display signals by day or night to inform other boat users.

The daytime signal is the international Code Flag "A", at least 750mm long and 600mm wide. (See Page 47)

Divers on board a boat displaying the "A" flag are exempted from wearing a life jacket. The boat may be under power when displaying this flag but cannot exceed a speed of 5 knots.

It is recommended people should have undertaken adequate tuition before going diving.

BOATING KNOWLEDGE TEST NO. 6

Question 1: An observer for water-skiing should:

(a) Keep a lookout for the driver for other boats approaching.

(b) Keep a watch forward for logs and debris.

(c) Keep a watch on the water-skier and report information to the boat driver.

(d) Only be required with an inexperienced water-skier.

Question 2: When using a personal water craft, the operator must:

(a) Follow the rules and regulations for power driven craft.

(b) Abide by the speed limits imposed by the manufacturer.

(c) Vary speed according to sea conditions.

(d) Only abide by the rules and regulations if there are swimmers in the water.

Question 3: Ski access lanes:

(a) Are race paths and courses for skiers to use.

(b) Are areas where skiers should not fall over under any circumstances.

(c) Are areas designed for skiers to access the shore.

Question 4: A red and white vertically divided flag on a vessel means:

(a) Diver below – keep clear.

(b) I am not under command.

(c) I am about to change course to port.

(d) I have a pilot on board – keep clear.

TOWING ANOTHER BOAT

The law of the sea says you must help someone in distress, which may require you to tow another boat. When towing another boat you should:

- Use a long towline.
- Share the load between the rear corners of your boat by running a line (bridle) from each corner and passing it through the eye of the end of the line.
- Ask the other skipper to secure the line to the eye on the bow that the trailer wire normally hooks onto or onto a cleat or bollard on larger vessels.
- Make sure the other boat's motor leg is in the water. This will make the boat trail better.
- Ask the crew (in the boat to be towed) to move most of their weight aft.
- Set the vessel speed sensibly.

ENGINE WON'T START

- While you are sorting out the engine, maintain your position by anchoring the vessel.
- Does the tank have fuel?
- Is the breather open?
- Is the fuel line connected?
- Are there any kinks in the fuel line?
- Is the fuel bulb hard? If the bulb cannot be primed is there a lack of fuel or a perished line?
- Is the air intake clear?
- Is the motor cranking fast enough?
- Check battery connections if the engine cranks slowly or not at all.
- If the engine won't start, wait 5 minutes and try again – the engine may be flooded.
- Is the battery flat or is the starter cord broken? You may be able to start with a rope around the flywheel.
- Still won't start? Clean or change spark plugs.
- If all else fails contact your local volunteer coastal radio station.

Reporting an incident

If you are injured, your boat is damaged, or you are involved in a near miss, you are required to complete a Marine Incident Report Form. The information will then be used to contribute to a national project. Forms are available on the MAST website. If you are unsure of what constitutes a marine incident, an information sheet is available.

GUARD AGAINST FIRE

Fuel fires aboard vessels spread rapidly and generate intense heat. Few people are able to combat them. The answer is in preventing fires rather than fighting them. A number of fires or explosions can occur during or immediately after refuelling.

You can help avoid explosion and fires on boats by following a few common sense safety steps:

1) Shut down engine, motors, fans, and heating devices before refuelling.
2) Never smoke while refuelling.
3) Leave room for fuel expansion in the tanks and wipe up any spills.
4) Refuel portable fuel tanks on shore, not in the boat.
5) Check the bilge for leakages, fuel odour and ventilation.
6) Use only approved marine stoves.
7) Ensure the mast and rigging is well clear of powerlines when using launching ramps, parking areas or sailing on rivers.
8) Install the recommended fire extinguisher 20BE Dry Chemical minimum size (on outboard and inboard power boats). If the vessel has a galley, a fire extinguisher and a fire blanket should be considered. Preferred location for the extinguisher is adjacent to the driver's seat or adjacent to the exit.

LP Gas

1) LP gas cylinders should be located in a well-ventilated space on deck.
2) LP gas valves should be turned off at the cylinder immediately after use and cylinders should be well secured.
3) In the event of fire, LPG cylinders should be removed from the heat source. If this is not possible, keep the cylinder cool by spraying water on it.
4) If flames are threatening to engulf a gas cylinder the vessel should be evacuated.
5) In the event of a gas leak, close all cylinder valves and ventilate the vessel. Do not operate any electrical switches until the air is clear as they may spark and ignite the gas.
6) Fit a gas alarm or a gas-detecting shut-off device if your vessel uses LP gas.

This information is provided by Tasmania Fire Service.

CAPSIZE

A vessel can capsize as a result of excessive speed, rough seas, surf, high wind, shifting of weight in the boat, inexperience and stupidity. A capsize can happen in seconds.

- Always have your life jacket in an accessible position and always wear it in vessels under 6 metres in length.
- Survivors from a capsize should remain together.
- Always remain with the floating vessel and never attempt to swim to shore.

PERSON OVERBOARD

When a person falls overboard the worst thing to do is to jump in after them.

The correct steps are:

1) Place the motor in neutral to stop the propeller turning and swing the helm so the propeller is away from the person overboard.
2) Throw a lifebuoy, horseshoe or life jacket to the person and keep them in sight at all times.
3) Approach the person with the vessel moving slowly. Approach with the vessel heading into the wind and swell so that the person drifts to the boat.
4) Help the person into the boat, preferably over the stern, because a small craft may capsize or take water if you try taking them over the side. On yachts with overhanging sterns you should pull them in at the lowest point of freeboard.
5) Practise your overboard procedures whenever possible.

CARBON MONOXIDE (CO)

- Carbon monoxide can cause brain damage or death.
- Engine and generator exhaust contains odourless and colourless carbon monoxide gas.
- Signs of carbon monoxide poisoning include nausea, headache, dizziness, drowsiness and lack of consciousness.
- CO will be around the back of the boat when engines or generators are running.

BOATING KNOWLEDGE TEST NO. 7

Question 1: If you are out in a power-driven vessel in calm weather and the motor cuts out unexpectedly, you should:

(a) Fire off all your flares.
(b) Radio MAYDAY.
(c) Drop the anchor and assess your options.
(d) Swim for shore.

Question 2: LP Gas cylinders should be:

(a) Left on at all times.
(b) Turned off in case of fire.
(c) Turned off when not in use.
(d) Stowed below deck.

Question 3: If someone falls overboard you must:

(a) Jump in straight away to locate them.
(b) Radio for assistance.
(c) Place motor in neutral, swing the propeller away and throw something buoyant.
(d) Put the motor in reverse and back the boat towards them.

Question 4: When towing another vessel it is important to:

(a) Get the boats on the plane as quickly as possible.
(b) Keep the towline short so you can communicate easily.
(c) Keep the weight aft in the vessel being towed.
(d) Tie the towline around your outboard.

Question 5: If you are involved in a marine incident that caused damage to a vessel or injury to a person you must:

(a) Inform your nearest boating club.
(b) Record details in your log.
(c) Take photos of the damage.
(d) Complete a Marine Incident Report Form.

BOATING KNOWLEDGE TEST ANSWERS

Boating Test No: 1 – *Q1 (c). Q2 (c). Q3 (a).*
Boating Test No: 2 – *Q1 (b). Q2 (c). Q3 (c). Q4 (a). Q5 (c).*
Boating Test No: 3 – *Q1 (b). Q2 (c). Q3 (b). Q4 (a). Q5 (Life jackets, fire extinguisher, anchor, bailer, oars and flares).*
Boating Test No: 4 – *Q1 (c). Q2 (c). Q3 (b). Q4 (b). Q5 (a).*
Boating Test No: 5 – *Q1 (c). Q2 (b). Q3 (d). Q4 (a), Q5 (d).*
Boating Test No: 6 – *Q1 (c). Q2 (a). Q3 (c). Q4 (d).*
Boating Test No: 7 – *Q1 (c). Q2 (c). Q3 (c). Q4 (c). Q5 (d).*

USEFUL INFORMATION

GLOSSARY

Term	Meaning
Abaft	Toward the back
Abeam	Abreast or at right angles to the fore and aft line of the boat
Aft	Toward the stern
Bow	The front end of the boat
Give way	Slow, stop, go astern or change course to keep clear
Gunwales	The top edge of the boat's side (pronounced gunnel)
Go astern	Go backwards, put the engine in reverse
Heave to	To stop or slow down until heavy weather abates
Leeward	The direction opposite that from which the wind is blowing
Knot (1)	1 nautical mile per hour; 1.852 km/h
Port side	Left side of the boat when looking forward
Starboard side	Right side of the boat when looking forward
Stem the tide	Go forward against the current
Stern	The back end of the boat
Underway	In motion; not at anchor or tied to jetty or shore
Wash	Waves made by vessel underway
Windward	The direction from which the wind blows

IMPORTANT DATES

Recreational Boat Registration due 31 December each year.

Mooring Registrations due 30 June each year.

MAST Motor Boat Licences due 30 June (licence valid for up to 3 years).

PWC Endorsements due 30 June (as per licence).

NAUTICAL CHART AGENTS

Map Centre, 110 Elizabeth Street, Hobart TAS 7000

Tamar Marine, 6-8 West Tamar Road, Launceston TAS 7250

The Boat Shack, Wharf Access Road, Devonport, TAS 7310

USEFUL PUBLICATIONS

The Tasmanian Anchorage Guide (RYCT)

Cruising Southern Tasmania (CYCT)

Cruising North East Tasmania (CYCT & TASMAP)

Cruising Notes and Mud Maps from Recherche Bay to Cape Grim (Ian Johnston)

TASMANIAN TIDE INFORMATION

Tasmanian Tide Tables publication

Internet:

www.mast.tas.gov.au

www.bom.gov.au/oceanography/tides

BOATWISE

Boatwise is published twice a year and distributed to registered boat owners and licence holders. Boatwise can also be viewed on-line at www.mast.tas.gov.au

It keeps boaters up-to-date on facility upgrades, boating news and relevant safety information and initiatives.

MAST BOATING GUIDES

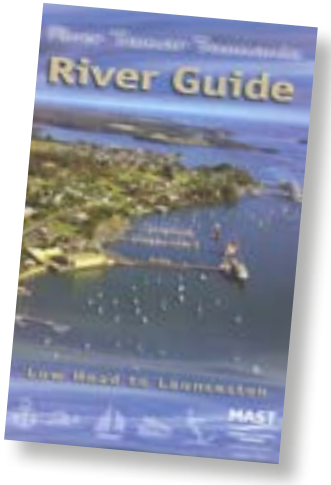
Tamar River Guide

South-East Tasmania Boating Guide

(Bruny Island, Huon River, Tasman Peninsula)

East Coast Tasmania Boating Guide

(Cape Portland to Marion Narrows)



CARRIAGE OF SAFETY GEAR ON LIGHT WEIGHT CRAFT (Kayaks,Canoes and SUPs)

Equipment Required	Smooth Waters	Sheltered Waters	Coastal Waters
Life Jacket	Mandatory	Mandatory	Mandatory
White Strobe Light or all round light with 360° visibility	Mandatory (at night)	Mandatory (at night)	Mandatory (at night)
Tethering Device when more than 200m offshore	Mandatory	Mandatory	Mandatory
EPIRB or PLB			Mandatory
VHF – handheld			Mandatory
Bailer or Bilge in craft unless hull permanently enclosed	Mandatory	Mandatory	Mandatory
Compass			Mandatory
Flares		Recommended if undertaking a passage paddle	Mandatory

If a lightweight craft is travelling with a powered support vessel or three lightweight craft are travelling together in waters other than sheltered waters, the carriage of flares, EPIRB/PLB and VHF radio (the equipment) may be reduced to carriage of the equipment by one of every three lightweight crafts if the lightweight crafts remain within 50 metres of the craft or vessel carrying the equipment.

A person on a lightweight craft is exempt from wearing a life jacket when the sole purpose of operating the lightweight craft is to ride the crest of a wave in a *surf zone towards the shoreline.

*surf zone means the area between the outermost breakers and the shore.

BOATING SAFETY TIPS

- Skipper, tell your crew how the safety gear works and where it is stowed. Remember, you're responsible.
- Phone the MAST weather service to get an up to date forecast.
- If it's too rough or windy, leave your fishing gear in the water – get it the next day!
- If anchoring for the night don't forget your 360 degree, all round night light.
- Remember, unless in trouble it is an offence to let off a flare. Hefty fines apply.
- Why not jump in with your life jackets on – try them out. Heavy clothing DOES make it harder!

Keep up to date with what is happening at MAST by checking our website, our Facebook page and our YouTube site.

YOU'RE THE SKIPPER YOU'RE RESPONSIBLE!

SMALL BOATING FUND

Every year MAST invites the public to apply for funding to have their favourite boat ramp, jetty or any other type of marine infrastructure upgraded. This is done through the Small Boating Fund and millions of dollars have already been spent upgrading facilities right around the State. Applications are open and assessed year-round.

MAST works closely with Councils who own the majority of facilities. Applications can be downloaded from the MAST website –**www.mast.tas.gov.au**

MAST

MARINE and SAFETY TASMANIA

making boating better

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