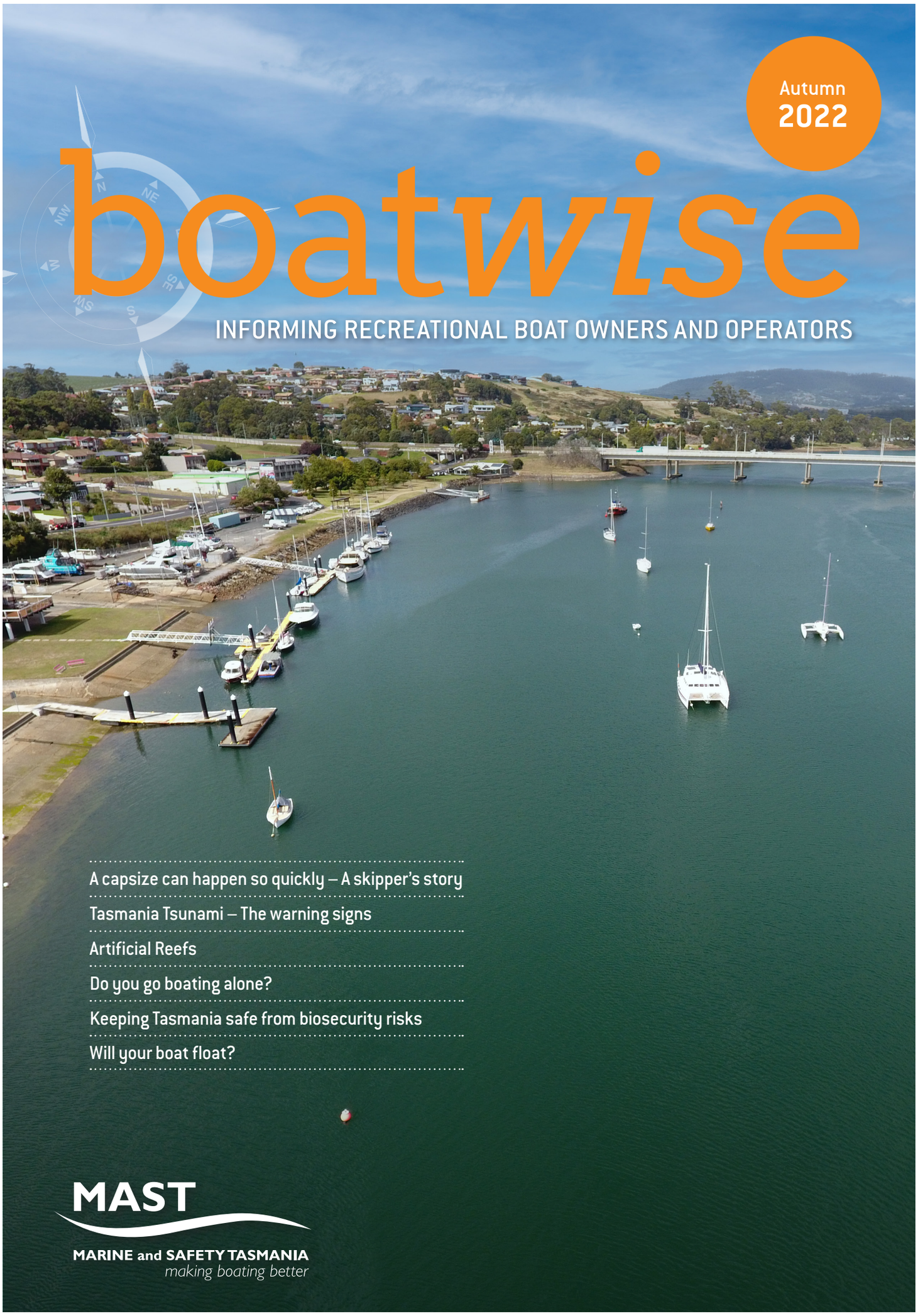


Autumn
2022

boatwise

INFORMING RECREATIONAL BOAT OWNERS AND OPERATORS

MAST

MARINE and SAFETY TASMANIA

making boating better

FROM THE CHIEF EXECUTIVE

This edition of Boatwise is filled with interesting articles including a first-hand description of a boat capsize. This story highlights the importance of wearing a lifejacket and the waist strap and the effect of cold water on the body. The story on coroners' findings also highlights the importance of exercising the right judgement.

Winter provides the perfect opportunity to ensure your boat and safety equipment are in good shape for when the weather improves. This includes making sure your boat has sufficient buoyancy. It also provides some time to have inflatable lifejackets serviced. As the weather cools so does the water temperature and all boaters should be acutely aware of the dangers of cold water immersion.

MAST is a friend to over 13,000 on Facebook. We upload photos and videos and post information on matters such as ramp closures and upgrades, events, safety equipment and Notices to Mariners. Facebook is a virtual bulletin board for MAST and also provides an avenue for the recreational boater to give us valuable feedback. If you have not liked us yet you are missing out on real time information - www.facebook.com/MAST.TAS

For those with moorings, renewal notices will be sent out late May/early June so please keep an eye out for these.

Safe boating!

Lia Morris
Chief Executive

INFRASTRUCTURE UPGRADES

The upgrade to the walkways in the Gulch at Bicheno, adjacent to the boat ramp, has been completed.

Both walkways have been lengthened which will enable greater berthing space when people are parking and retrieving their vehicles. Bicheno is a ramp where MAST has seen an increase in use so the work on the walkways will be appreciated by many.

The public jetty at Cygnet has also been completed. The jetty has been relocated, with the new site delivering better parking and safer access to the jetty. The new jetty has a concrete deck and recycled plastic fendering and a life span of 50 years. There are in excess of 300 swing moorings in the Port of Cygnet, so the new jetty will get plenty of use from those with larger boats.

A new navigation aid has been placed at Conningham. This aid will give safer access to Snug Bay and Conningham. The mark is a north cardinal.

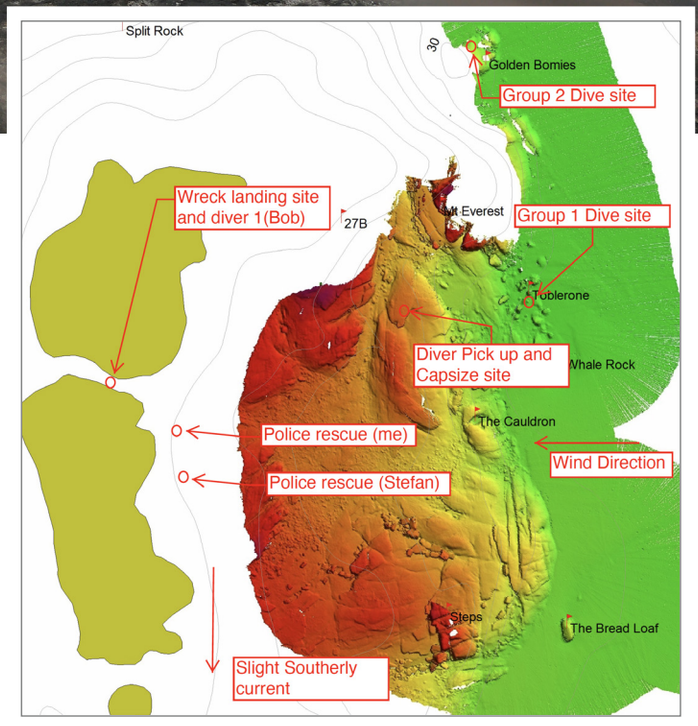
Top right: Bicheno Upgrade
Bottom right: Public jetty at Cygnet

COVER IMAGE: Mersey River, Devonport

BICHENO BOAT CAPSIZE

BY MARK KOLODZIEJ

Boat washed up on Governor Island



I have dived and tendered to divers in the Bicheno Marine Park Reserve for many years.

My boat was an 8.2m Air Rider design by GMD Marine Kits Australia, a Western Australian design used in charter, commercial and Marine Rescue.

I have over 2000 hours of experience on this boat, in both onshore and offshore environments. Over the past few years, I have made a rule of wearing a Stormy Seas lifejacket whilst tending divers and being away from the helm.

On the morning of 12 December 2021, we travelled to an offshore site for a decompression dive at the 60m depth line to the East of the reserve.

For a second dive, I dropped off two divers at the centre of the reserve at 11 am. The divers deployed SMBs (Surface Marker Buoys) at 11.30 am.

I held station with Group 1 for 20 minutes of decompression.

No noticeable swell surges were encountered in the area during this time. On surfacing, I retrieved both divers.

On completion of stowing the first diver's gear, we looked up over the stern to see a 5-metre wall of water mere metres away from the stern.

The wall of water inundated the boat, filling the cab, driving the nose down. The same wave picked up the stern and capsized the vessel end over end.

The time frame from seeing the wave to being capsized was maybe five seconds!!

All three of us were under the vessel for a short time. Visibility under the boat was zero! A complete whiteout!

Both divers were in sealed dry suits and floated safely. I had a compliant Stormy Seas jacket which activated immediately.

Somehow, we all ended up outside the hull. I surfaced 15-20 metres from the vessel.

My cummerbund strap was done up, but the zip was not. The Stormy Seas still did the job of keeping me afloat fully clothed with jeans, a tee-shirt and a light pullover.

One of the divers still had all his dive gear on and was able to maintain buoyancy with ease. The other diver was also buoyant and climbed onto the upturned hull.

I managed to swim to the boat and climbed on as well. As we drifted toward Governor Island, I attempted to swim to shore to raise the alarm.

On reaching the rocks, the waves repeatedly swept me up and back, eventually pulling me back out to sea. This time I couldn't get back to the hull and had to place complete reliance on the lifejacket to keep me afloat.

The boat eventually washed up on Governor Island and the other diver made it to shore and raised attention.

Unknown to us, a tourist at the Bicheno Lobster Shack saw the capsize event and raised the alarm immediately.

The actions of all first responders were, in short, amazing! Both Police Rescue and Paramedics were on the scene within 30 minutes.

The police rescue boat picked me and the other diver up around 250 metres from the wreckage.

On being picked up I heartedly thanked the officers, only to be thanked by them for wearing a lifejacket!

My time in the water was around 30 minutes total and the water temperature was around 14 degrees. My body temperature was measured at 33 degrees by the Paramedics. Amazingly, the only injuries were superficial lacerations and bruising.

After being swept back off the rocks, I must admit that my reliance on the Stormy Seas was absolute. All I could do was focus on staying calm and laying backwards, kicking gently and waiting for assistance.

The lesson learned from this incident is obvious. A lifejacket is useless if it's not worn! I would never have gotten to it in the footlocker.

Had I not been wearing my Stormy Seas lifejacket in this event, I would not be here today.

TASMANIA TSUNAMI – HOW TO NOTICE THE WARNING SIGNS

ARTICLE SUPPLIED BY BUREAU OF METEOROLOGY

The Tasmanian coastline has been affected by tsunamis over the years, but they are generally too small to be noticed, in most part due to the state's favourable geology.

However, the tsunami warning issued in mid-January this year is an important reminder to not become complacent.

On 15th January 2022 a Tsunami Warning was issued for the east coast of Australia, in response to the eruption of the Hunga Tonga-Hunga Ha'apai volcano near Tonga…. say that three times.

A Tsunami Marine Warning for Tasmania was issued at 9 pm on Saturday, 15th January and was not cancelled until 11:50 am the following day due to the unusual sea level disturbances persisting for many hours. The observed sea level rises were in the 25 to 50cm range along parts of the east coast of Tasmania which were at the lower end of the marine threat impact scale. These photos were taken at Swansea around 7 am Sunday showing the smaller jetty going underwater.

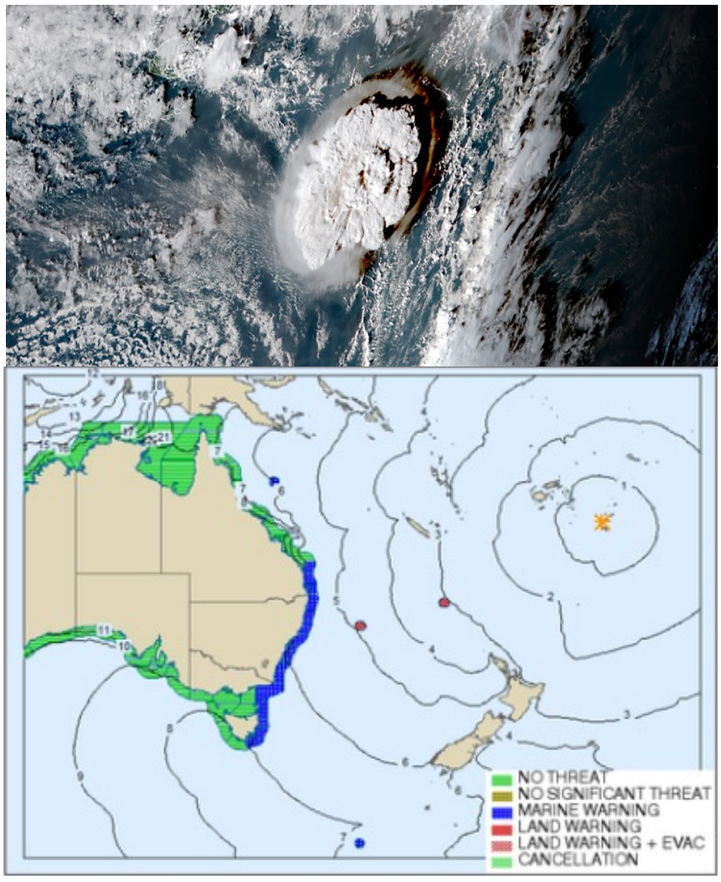
HOW ARE TSUNAMI WARNINGS ISSUED?

The Bureau of Meteorology issues tsunami warnings for Australia and tsunami advisory information to Indian Ocean rim countries, from the Joint Australian Tsunami Warning Centre (JATWC) operated by the Bureau and Geoscience Australia (GA).

GA is responsible for the real-time monitoring of potentially-tsunamigenic earthquakes. The Bureau is responsible for issuing the tsunami warnings and advisories, and for liaising with Australian emergency services agencies. It is not possible to predict when and where the next tsunami will strike. However, once an event that could trigger a tsunami is detected, forecasting tsunami arrival time and potential impacts is possible using modelling and measurement technologies.

Tsunamis are typically generated by undersea earthquakes, but can also be caused by landslides, volcanic eruptions, meteorites or explosions. It's important to note that tsunamis aren't related to tides. Tides result from the gravitational influences of the moon, sun and plants, however the impact of the tsunami upon a coastline can be dependent on the tidal level.

Photo courtesy of Paul Myers-Allen



TOP: Satellite image of the Hunga Tonga–Hunga Ha'apai volcano eruption
BOTTOM: JATWC tsunami warnings issued for Australia

In order to assist the community, tsunami threat levels in Australian Tsunami warnings are categorised into three levels: No Threat, Marine Threat and Land Inundation Threat. For the marine threat level, there is a threat of dangerous rips, waves and strong ocean currents in the marine environment and the possibility of only some localised overflow onto the immediate foreshore, while for the land inundation threat level there is the additional threat to low-lying coastal areas of major land inundation and flooding. For more information about Australia's tsunami warnings please visit About Tsunami Warnings (bom.gov.au). The Bureau also uses deep ocean tsunami detection buoys (and coastal sea level stations) to monitor the oceans and confirm the existence of tsunami waves generated by undersea earthquakes.

The surface component of an operational deep-ocean tsunami detection buoy

Tsunamis are recorded in Australia about once every two years, and most present little threat of land inundation to our coastal communities. However, the abnormal waves, tides and currents caused by even relatively small tsunamis can be dangerous to swimmers and mariners.

Australia is surrounded to the northwest and east by some 8,000 kilometres of active tectonic plate boundaries capable of generating tsunamis, which could reach our coastline within two to four hours. One-third of earthquakes worldwide occur along these boundaries. The impact of a tsunami hitting vulnerable, low-lying areas on the Australian coast could be significant.

RECORDS OF TSUNAMIS AFFECTING AUSTRALIA

There have been over fifty recorded incidents of tsunamis affecting the Australian coastline. Most of these tsunamis have resulted in dangerous rips and currents rather than land inundation. The largest tsunami impacts have been recorded along the northwest coast of Western Australia:

- In 1977 a tsunami travelled inland to a point six metres above sea level at Cape Leveque, WA.
- In 1994 a tsunami travelled 300 metres inland in the Onslow-Exmouth region of WA.
- In 2006 a tsunami affected parts of the WA coast, particularly at Steep Point where it travelled 200 metres inland.

WHAT SHOULD I DO IF I NOTICE THE WARNING SIGNS OR HEAR A WARNING FROM MY LOCAL EMERGENCY SERVICES?

- If you are at the beach, immediately move inland or to higher ground.
- If your boat is in deep water and offshore, maintain your position.
- If your boat is berthed or in shallow water, secure your vessel and move inland or to higher ground.
- If you are on the coast and cannot move inland, seek shelter in the upper levels of a sturdy brick or concrete multi-storey building.
- Do not return to the coast until you receive official clearance.
- Continue to follow emergency services instructions.

On BOM's website, you can access tsunami information via the Warning Services drop-down menu on the top right-hand side of the home page: http://www.bom.gov.au/tsunami/index.shtml

See here for a record of tsunamis affecting Australia up until 2011: http://www.bom.gov.au/tsunami/history/index.shtml

If a tsunami warning is issued for a particular location, it can also be viewed via the warnings on the BOM App.

SWIMMING AND WATER SAFETY PROGRAM AT SOUTHERN SUPPORT SCHOOL

BY ELLA COOKE (SWIMMING TEACHER, SOUTHERN SUPPORT SCHOOL)

Marine and Safety Tasmania has provided a fantastic learning opportunity to over 100 Southern Support School students each year for the past four years.

They have adapted their program to meet the needs of our students, who have a wide range of learning needs and physical disabilities. The program provides the opportunity for our students to learn the importance of wearing a lifejacket in a boat whilst in a safe learning environment.

The hope is that they can then transfer the skills learnt in the program and go for future boat rides or kayaking adventures on a lake, river or ocean with their families who know their child is equipped with the skills to do so safely.

Leading up to the program, our students practice wearing lifejackets in the water. This in itself can pose challenges and can take some students years to achieve.

This year we had the majority of the students at least try a lifejacket on and approximately 90% of students had a ride in the inflatable dinghy, wearing a lifejacket. It's been a great success and we are looking forward to seeing what the students can achieve next year.

RIGHT: Nic from Southern Support School

GOING BOATING ALONE?

A recent coroner's report into a person who went missing from his 60-foot ketch-rigged motor sailer en route from Eden to Deal Island in late 2020 has been released. Whilst the coroner was unable to determine the cause of death, he noted that it seemed unlikely a lifejacket was being worn.

The coroner said it seemed "most likely that he fell from his vessel into the waters of Bass Strait, somewhere in the vicinity of Green (Cape) or Gabo Island, sometime after about midday on 26 December 2020. I cannot determine whether he drowned or succumbed to the effects of hypothermia."

The coroner recommended that all persons operating vessels, either single or shorthanded offshore, always carry a registered Personal Locator Beacon.

The coroner went on to recommend that all persons operating recreational vessels of any size in any circumstances wear a properly fitted and compliant Personal Flotation Device.

Further to the coroner's recommendations, MAST highly recommends that a safety harness is also worn when boating offshore, especially when alone, at night or when the weather is poor.

Had a safety harness been worn in this instance, it may have given the person a chance of survival. In addition, MAST has often written about the benefits of using a kill cord when operating a powered vessel alone.

Since 2001 when the compulsory wearing of lifejackets was introduced, there have sadly been 58 recreational boating fatalities. This works out at an average of around 2.5 fatalities per annum over the 21 years and almost 6 months. That's too many and we all need to drive this figure towards zero.

However, the 22 years before the compulsory wearing of lifejackets was introduced, there were 146 fatalities, at an average of over 6.5 per annum. So lifejackets do save lives.

One of the themes of the recent summer safety campaign was ensuring that the right decisions are being made whilst boating.

MAST has analysed comments from a number of coroners' reports since 2001. Many of these fatalities could have been avoided if poor choices had not been made.

Below are some extracts from coroners' reports. The comments should make everyone sit back and think. None of the 58 people who have died in boating accidents over the last 21 years expected they would not see their loved ones again when they set out for a pleasant day on the water. Things can change so quickly.

Please make sure that you make the right decisions for yourself and your crew. If you're the skipper, you're responsible.

Use a safety harness on larger boats if boating alone

CORONERS' COMMENTS

- I make particular note of the fact that none of the three men were wearing personal flotation devices (PFDs).
- Weather and sea conditions - the decision to proceed out in those conditions was obviously made by some or all of the occupants and must be said, in retrospect, to have been an error of judgement.
- It is not known what internal buoyancy material was fitted to this boat but given that it sunk, it was clearly not sufficient to provide the necessary buoyancy.
- I encourage all affected boat owners to examine their vessels and fit additional flotation material if necessary.
- All persons need to be aware of the risks and take appropriate steps to safeguard their own welfare.
- … highlight the critical importance of wearing lifejackets (PFDs) in a boat. Further, highlight the importance of being familiar with the inflation process for the particular PFD being worn. Quite obviously if a PFD does not inflate it is worthless in a life-threatening event.
- … if several basic aspects of maintenance of the boat had been remedied. This tragedy highlights the need for boats to be properly maintained.
- … completely avoidable death - placed his safety and that of his family at risk - He did not wear a PFD - He did not have a licence to operate a PWC - He consumed alcohol.
- He undertook a journey well beyond his capability and experience.
- I also comment that it is essential that all paddlers should always ensure that they have the proper equipment.
- Know the limitations of your boat.
- In this case it was a small boat unsuited to any adverse water conditions.
- … someone knows where you are going and your planned return time.
- Safety equipment such as EPIRBs and flares must be carried in such a way as to be easily accessible.
- All boat operators and occupants must be aware of the dangers associated with cold water immersion and take the appropriate steps to increase the chance of survival in those circumstances.
- The actions of all involved were foolhardy and reckless and showed a lack of basic boating knowledge and skill.
- … remind members of the public of the dangers of drinking whilst using boats. Even while anchored or moored those dangers remain present.

ARTIFICIAL REEFS

As part of the 2018 State Election, funding has been provided to install two artificial reefs, one in the north and one in the south.

In 2019, a feasibility assessment, including research and consultation, was conducted which provided recommendations for deployment locations. Factors such as depth, bottom type, distance to natural reef structure and distance from land access points were all considered when determining deployment locations.

One reef has recently been deployed in Bass Strait, off Turners Beach which can be accessed either from Devonport or Ulverstone. This reef is located outside State waters and went through a rigorous assessment by the Commonwealth Department of Agriculture, Water and Environment under the *Environmental Protection (Sea Dumping) Act 1981*.

Gone are the days of being permitted to use disposed items such as unseaworthy vessels and old steel structures to form reefs. The approval allowed for precast concrete modules of varying designs and sizes, the same that have been used on a number of other reefs across Australia. The reef was deployed over an area of 200m x 200m.

The second reef to be installed as part of the election commitment will be located in the south of the State at Great Bay in the D'Entrecasteux Channel.

As this reef is located within State waters it is being assessed by the Environmental Protection Authority (EPA) under the *Environmental Management and Pollution Control Act 1994*. Approval is expected in June or July 2022 with deployment to follow soon after.

The Great Bay reef will also be constructed of varying precast concrete modules. These modules have been fabricated at Macquarie Point and will be loaded and transported to Great Bay by barge and craned onto the seabed.

The layout of both reefs has been designed based on research from other existing reefs with modules placed in clusters, with each cluster spaced a particular distance apart.

Various sized and shaped modules ready for deployment

The northern reef site in Bass Strait is bound by the following co-ordinates (WGS84):

CORNER	LATITUDE	LONGITUDE
NW	41° 07.346'S	146° 13.219'E
NE	41° 07.346'S	146° 13.366'E
SE	41° 07.451'S	146° 13.366'E
SW	41° 07.451'S	146° 13.219'E

MONITORING VHF RADIO AND FALSE EPIRB ACTIVATIONS

Several incidents over the Christmas/New Year period have shown the importance of vessels monitoring VHF Channel 16.

In one case, the rescue helicopter was deployed to an accidental EPIRB activation at great cost. Both Tasmania Police Marine Rescue Division and Tas Maritime Radio committed resources to deal with what turned out to be a false alarm that could have been avoided if the vessel had been contactable on Channel 16. Channel 16 is monitored by Tas Maritime Radio during the day and by Golden Electronics during the night.

Any boat that has a VHF radio should always monitor Ch16 where you can obtain up-to-date weather forecasts, log a trip plan and keep in touch with other vessels. The importance of being available on Ch16 during an emergency cannot be overstated. In an incident several years ago, a boat sent a mayday on Channel 72 and no one heard the call. As a result, four people spent a lonely and cold night in Storm Bay.

If you do have a VHF radio onboard and are unsure how it works, please look on the MAST website. It's not complicated, and the radio is better on than off! Channel 16 is your normal listening and calling channel. Ch 16 is not a "chatter" channel. When you want to talk with other boats, you would use 16 to call them and then swap to an agreed ship-to-ship channel such as 72, 73 or 77.

The number of EPIRBs in Tasmania that are registered with AMSA has dropped over recent years. Under legislation, your EPIRB must be registered with AMSA. This can be done at https://beacons.amsa.gov.au/registration/index.asp.

It is important that AMSA has a direct number to call should your EPIRB be activated and they can only do this if your EPIRB is registered. There are many false alarms and this can be sorted quickly with a registered EPIRB. If it is not registered, resources will be allocated at great cost, perhaps for no reason.

Always leave on Ch16

BIOSECURITY WHEN BOATING

ARTICLE SUPPLIED BY BIOSECURITY TASMANIA

They can sometimes be microscopic, or seem harmless enough, but there are various aquatic pests and diseases that could be devastating for Tasmania's marine and freshwater environments.

Boats, fishing and diving equipment can harbour and spread these pests and diseases, ultimately causing huge issues for the environment, aquatic industries, and the future enjoyment of fishing and other water activities.

Legally, we all have a General Biosecurity Duty (GDB) which means we all have a responsibility to take reasonable and practical measures to help keep Tasmania safe from biosecurity risks, like aquatic pests and diseases, when out enjoying recreational boating around the state.

For both our freshwater and marine environments, there are serious pests that would be detrimental to Tasmania if they were introduced or spread around the state. These include aquatic weeds hitching a ride around outboard motors or lurking in bilges, residual sediment or water containing tiny eggs and larvae hiding inside compartments or on equipment, and other organisms such as invasive sea squirts, algae and aquatic life that could be contributing to a build-up of unwanted biofouling on submerged surfaces.

If you have a trailered boat, CHECK, CLEAN, DRAIN AND DRY your boat, trailer and gear after each boating trip. Thoroughly examine different areas of your boat to check for signs of stowaway aquatic plants, organisms, remaining water or sediment, and flush out the motors with fresh water.

Key areas include the anchor well and anchor (including ropes and chains), deck fittings, hull surface, water inlets/outlets, propeller, bilges, trailer, burley buckets, and sonar tubes/echosounder booths and transducers.

If you find and remove any plant material, organisms or sediment, place the removed material in the bin (not back in the water). You can also use a detergent to wash your boat and any equipment further when you are away from the shore - so it doesn't drain into a waterway.

For more information on good hygiene, visit https://nre.tas.gov.au/invasive-species/weeds/weed-hygiene where you can download the 'Keeping it Clean' Tasmanian field hygiene manual and Weed and Disease Planning and Hygiene Guidelines.

For non-trailered vessels or those submerged in water for long periods of time, slip and clean any non-trailered vessels at least once a year or anytime there is a build-up of fouling. Treat any sewage systems regularly and dispose of sewage and bilge water at an approved pump-out facility (https://mast.tas.gov.au/safe-navigation/cruising-tasmania/). Regularly check areas such as the keel, rudder and marlin board, cooling pipes, and sewage tank and bilges to make sure they are clean and are not harbouring unwanted marine pests.

BAIT AND BURLEY

There are a few key biosecurity points to follow to ensure you do not accidentally introduce or spread diseases when using bait or burley. If you catch your own bait, only use it in the body of water it came from. Never use seafood that is intended for human consumption as bait/burley. Instead, source locally available products that are being specifically sold as bait or burley. There may be specific strict biosecurity entry requirements applied to imported dead bait, with live bait imports into Tasmania prohibited in most cases.

TRAVELLING TO TASMANIA

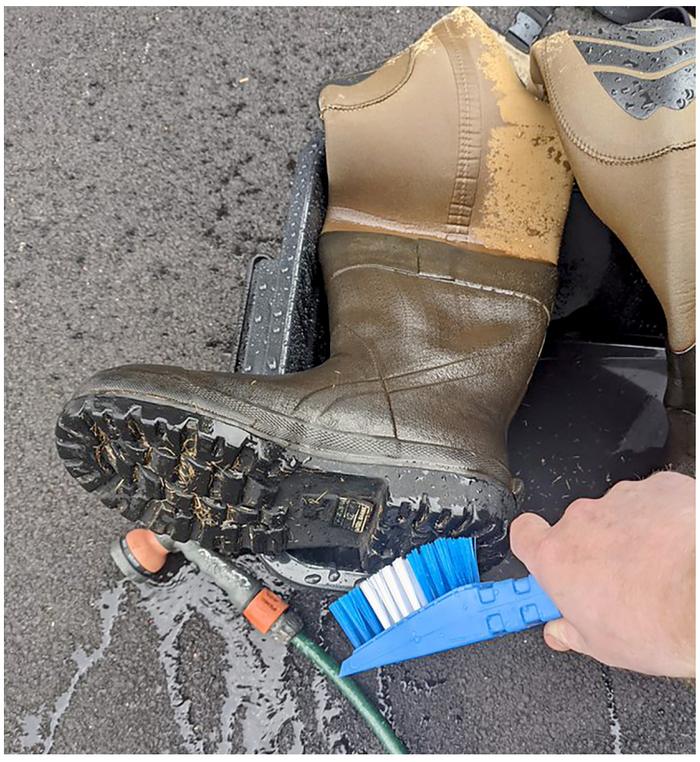
CHECK, CLEAN, DRAIN and DRY are also important steps for when you are bringing home a boat or fishing/diving equipment into Tasmania from the mainland or overseas. If you have trailered your boat on the Spirit of Tasmania, or have travelled with fishing, diving, or surfing equipment, declare your equipment upon arrival to a biosecurity inspector so they can check that there are no signs of unwanted pests or sediment and that the boat/equipment is dry. Be aware of the lake or river you have been in and whether there are any obvious freshwater weeds or plants present – leave them behind.

Check if you have any other items that are restricted biosecurity material and need to be declared or disposed of when you travel back to Tasmania (such as fruit and vegetables, seeds, plants and some animals and animal products). If you have travelled to Tasmania via your own boat, do not bring ashore any restricted biosecurity material. Check the Biosecurity Tasmania website for further information on travelling to Tasmania: https://nre.tas.gov.au/biosecurity-tasmania/biosecurity/travellersguide.

SEEN SOMETHING UNUSUAL? REPORT IT TO BIOSECURITY TASMANIA

If you see something when out on the water that is unusual or of biosecurity concern, such as a potential pest, disease, or invasive animal species, take a photo if possible (noting the location) and report it to Biosecurity Tasmania (03 6165 3777) as soon as possible.

To learn more about the GBD for boat owners, visit: http://www.nre.tas.gov.au/boat-owner-GBD bw



Check and clean any equipment and gear

AGFEST 2022

Agfest is being held later than usual this year, between 24 and 27 August. The Agfest Committee is working with the Department of Health to increase the numbers attending compared with last year.

MAST is again sponsoring the Marine Precinct which is now known as Tassie's Agfest Boat Show. At the time of writing, Active Marine, Baily Marine, Deegan Marine, Lewis Marine, Maynes Marine, RL Welding, Seamaster, Sea Fisheries and Tas Marine Centre, who are all past exhibitors, will again be in attendance. In addition, we welcome new exhibitors Channel Marine and Reel Game Boats and Trailers and there is a possibility of a new inflatable boat importer being on site. This year Sea Fisheries are expanding their footprint with the addition of IMAS and Inland Fisheries Service in a fisheries hub alongside the Fishcare site.

The Bureau of Meteorology will be on MAST's site again this year with staff in attendance to answer all your weather questions and Peter Johnston Ship Chandlers will have their popular marine clothing available.

Agfest is a great opportunity for those who love all things boating to come along and see what the exhibitors have on offer, from boats and fishing tackle to life jackets and the latest clothing. This year the marine area is between Main Street and South Street along both sides of Seventh Avenue. We look forward to catching up with you. bw

See you at Agfest 2022

PLEASE KEEP OUR WATERWAYS CLEAN

A reminder to all those who go cruising or even just spend a few hours on the water, please ensure that you take your rubbish away with you to dispose of responsibly.

Too often we see plastic bottles and other general rubbish floating in our pristine waterways or washed up on our beaches.

We all need to do better to ensure that plastics do not end up in the waterways.

If going ashore, simply take a rubbish bag or a bucket to make sure all your rubbish is returned to the boat, unless there is a rubbish bin ashore that you can use. If rafted up, please make sure bottles and cans don't end up in the water for others to clean up. bw

WHAT FLOATS YOUR BOAT?

If your trailer boat was built before 2006, the chances of it having sufficient buoyancy is not great. Boats built and registered after this date should be fitted with an Australian Builders Plate (ABP). This means that the manufacturer had to build the boat with either level or basic flotation.

1. Most closed-cell foam is easily cut and shaped; 2. Microlen™ foam about to be fixed under gunwale; 3. Microlen™ foam now fixed in place; 4. Example of pouring foam expanding after mixing

There are many boats on the water built before the introduction of the ABP. Level flotation means that the boat will float level if swamped or capsized. Basic flotation means that the boat, whilst it won't sink, may float with the bow out of the water.

If your boat is pre-2006, do you think it would float if it was swamped or capsized? If it did float, would it float in a level position?

These are the questions that all owners of boats built before 2006 should ask themselves. If your boat does get swamped or capsizes, the chances of survival are greatly increased if it floats level. It gives those on board time to reach life-saving equipment, and in some cases, even attempt to bail the water.

Even if the boat floats where the deck is level with the sea surface, it allows occupants to stay with the boat and even get back in it. Being able to stay with a floating vessel increases the chances of survival because the boat provides a much larger search target. It makes it easier for the search and rescue authorities to locate you.

Most trailer boats have some form of buoyancy, but in many cases, this is insufficient to float the boat, and it is often not distributed to allow the boat to float on a level plane.

ADDING BUOYANCY TO YOUR BOAT

Importantly, you can add extra buoyancy to your boat. The easiest way is by adding foam buoyancy.

First, work out how much buoyancy you require. The formula (right) can help you determine this, provided that you know the weight of your vessel and its machinery (engine, battery, auxiliary), as well as the density of the buoyancy material that you are going to use.

Most current trailer boats have buoyancy under the floor. It is hard to determine how much buoyancy you currently carry unless it is foam and can be removed to measure dimensions. The other way of determining current buoyancy in fibreglass boats is to fill the underfloor void with water and then measure this water as it is drained out.

If you are going to add additional buoyancy, then ideally this should be added in areas above the floor. This could be under seats, under the outboard well, and particularly under gunwales. Most fibreglass and newer aluminium boats have a wide side deck which can assist in the easy installation of additional buoyancy. Because of the amount of weight in the stern of these types of boats, approximately half the buoyancy should be located here to counteract the weight of machinery.

TYPES OF BUOYANCY

Closed cell plastic foam is the best form of buoyancy. It can be bought in sheet form in varying thicknesses, as well as other shapes, which can be cut and fashioned to fit into any space. There are various types of foam available, and it is important that you choose one that is closed cell so it won't absorb water such as polyurethane or polyethylene. It is also important that it be impervious to petrochemicals. Make sure that if you use polyurethane foam, you wrap it in plastic otherwise it can break down or wear away.

Polyurethane is also available as a two-part pouring foam which is useful in oddly shaped areas that are hard to access.

It is possible to increase the buoyancy of the average trailer boat by up 50% by adding foam in the locations mentioned, without reducing cockpit and storage space. Some years ago, MAST increased the amount of buoyancy by this amount in three average fibreglass runabouts by adding polyethylene closed cell foam. This type of foam is easily handled with traditional tools such as panel saws and jigsaws and was fixed into the vessels with a silastic compound and in some places was compressed into voids and held by friction and by some structural frames without adhesive.

A full report on the addition of foam buoyancy in trailer boats is available on the MAST website at www.mast.tas.gov.au/safe-boating/vessel-maintenance/buoyancy/

Even if your boat has an Australian Builders Plate, why not use the formula to see what buoyancy you do have? You can always add more to improve the safety of your vessel.

Aluminium, GRP and Steel

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

Timber

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

M = Hull and Deck Mass
K = Alum 0.62, GRP 0.375, Steel 0.87
F = Mass of machinery and fittings
D = Density of buoyancy material (foam approximately 35kg/cubic metre)

COLD WATER IMMERSION

In Tasmania, cold water is a part of boating, however, we need to be conscious of what that means for our safety.

What we all need to realise is that as temperatures fall, so too does the water temperature. Tasmanian water temperature rarely reaches 18 degrees in summer and can get as low as 2 degrees in inland waters over winter.

The risks associated with drowning increase when you are plunged into cold water unexpectedly, with 60% of fatalities occurring in the first 15 minutes due to cold shock.

Studies have shown that the 1:10:1 principle is very important!

- 1 minute to get your breathing under control
- 10 minutes to get yourself in a position to hang on
- 1 hour of useable energy.

The body's response to cold shock 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.

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 to 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.

When your body temperature drops below 35 degrees Celsius (the normal range is 36.5°C to 37.5°C) hypothermia occurs which results in uncontrolled shivering and mental confusion. If body temperature continues to drop, unconsciousness will occur, followed by death.

Water carries the heat away from our bodies 25 times faster than the same temperature in the air. However, unlike air temperature, this change is far more subtle and can catch you unaware.

It is important that when boating in Tasmania, particularly over the cooler months, you ensure you are appropriately dressed and always wear a lifejacket.

We know that wearing a lifejacket increases the survival rate substantially. By wearing a lifejacket, you place less strain on your body by not having to burn energy to stay afloat.

Some handy boating safety tips include:

- Wear your kill switch
- Boat with others when you can
- Carry the required safety gear and know how to use it
- Always tell someone where you're going and when you will return
- Check the weather.

Over the cooler months, there can be great weather for boating and we want you to enjoy this, but ensure you come home safely every time. bw

Use your kill cord when boating alone

SEA TEMP °C	T-SHIRT & SHORTS		LIGHT WETSUIT & 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	23.15 hours

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

CHECK YOUR NAVIGATION LIGHTS

When boating between sunset and sunrise, it is important to ensure that your lighting meets the requirements of the Col Regs and also those requirements legislated by MAST for paddling craft.

If you know you are going to be boating in darkness, it is always a good idea to check your navigation lights so there won't be any issues as darkness arrives.

Please remember to turn off your port and starboard light while at anchor and make sure that you are displaying your all-round white light.

Having the correct lighting is important, not only for your own safety, but for others on the water. Don't forget to make sure they are fitted correctly. bw

RIGHT: Don't fit your navigation lights like this!

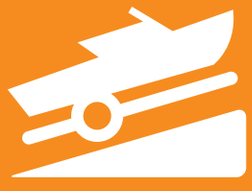
ATTENTION PWC OWNERS AND ENDORSEMENT HOLDERS

MAST would like to start issuing a PWC specific e-newsletter twice a year. It will have PWC-only related stories that may be of benefit to those who own and operate personal watercraft.

If you are a registered PWC owner or hold an endorsement or are considering purchasing a PWC, then why not sign up by going to the MAST website and completing the registration.

We will be asking for content from those in the industry so that anything of interest to PWC enthusiasts will be passed on.

FUN FACTS



The majority of boat ramps around the state are owned and managed by local councils

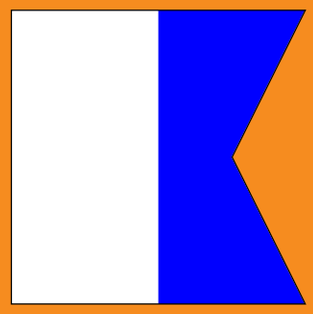
Cold water immersion and shock come into play when the water temperature is 15 degrees and under

You can log trips with the Deckee app

(Available on iOS and Android)

Commercial vessels over 35 metres flying a white flag have pilotage exemption

1 nautical mile = 1.852 km



Code flag A must be visible at 360 degrees when a diver is in the water

Tas Maritime Radio broadcasts a SE weather forecast on the hour and half-hour on VHF Ch1

Winds travel anti-clockwise in a high-pressure system

All EPIRBs and Personal Locator Beacons must be registered with AMSA

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