

Part 3 – Leisure Craft



In today's health and safety environment, especially for those people involved in hazardous activities, it may seem perverse in the extreme that there should have ever been any debate as to whether leisure sailors should be

equipped with and use basic first line safety equipment. In that category I include safety harnesses and tethers for people of larger sailing craft going offshore and lifejackets for anyone who ventures out on the water in small craft of all types.

But debates there have been. In the 1960s and 70s when, it should be added, sailing boats travelled much more slowly than they do today, top level ocean racing sailors often refused to wear harnesses as they were an encumbrance when they needed to act quickly, which was in many ways quite understandable but there was a macho element to it as well. Likewise, in the same decades lifejackets were large, heavy, cumbersome and uncomfortable to wear. They were not always particularly effective and I recall testing one only to find it waterlogged and giving as much buoyancy as a soggy rag. On board rules for wearing them also varied hugely from boat to boat but more recently, following initiatives from organisations such as the Royal Ocean Racing Club and Royal Yachting Association guidelines have been issued which broadly recommend that if it is windy enough to reef it is windy enough to put on a harness. And they should be worn at all times at night or in poor visibility.

Fortunately the design and construction of both have improved beyond recognition and the modern lifejacket is light and comfortable to wear and harnesses resemble climbing harnesses and are far less cumbersome than those a few decades ago. But still, as three of

the following incidents sadly demonstrate, the best equipment in the world is of no use unless it's worn. And it is here, I believe, that the RNLI is starting to turn the corner with its campaign 'don't ask if it's time to put it on. Ask instead if it's safe to take it off'.

In the aeronautical industry pilots and aircrew who make mistakes that could endanger the safety of their aircraft or other aircraft are actively encouraged to report these incidents, anonymously if preferred, for publication so that others can learn from those mistakes and be less likely to do the same.

I see the MAIB's Safety Digests, 'Lessons from Marine Accident Reports', as performing very much the same role and would encourage all seafarers, whether professionals or leisure sailors, to read these, whether the printed version or online. They can be obtained from www.maib.gov.uk



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Andrew Bray has been an active sailor for nearly 50 years and has sailed in many parts of the world, including several Atlantic crossings, some shorthanded long distance races and has cruised much of Europe, the Mediterranean and Caribbean and also in Australia and in the Pacific and Indian Oceans. He has owned a succession of sailing boats from dinghies up to his present 43 foot fast blue water cruiser.

He became professionally involved with sailing when he started working as a yachting journalist in 1972 and went on to be Editor of Yachting Monthly in 1985 and later Yachting World in 1992

They Normally Wore Lifejackets



Similar aluminium angling boat

Narrative

The owner of a recently purchased 5m long aluminium angling boat was making repairs to his mooring when he met a friend on the bank of a lake. The two men had always lived locally, and had taken boats out onto the lake since their youth.

Although they had probably not previously planned to do so, the two men decided to take the boat out onto the lake. The weather was cloudy with good visibility, and the wind was west-south-westerly Force 3 which was raising wavelets about 0.3m high; well within the boat's Category D capabilities.

The two men did not wear lifejackets on this occasion as the owner had left them at home in his shed.

The owner had taken the boat out several times since he purchased it from a local supplier 3 months earlier. The planing hull, powered by a 30 HP engine, was capable of carrying 5 people and of achieving around 30 knots in good conditions. The new boat replaced the owner's previous slower boat, which was fitted with a forward cuddy and integral steering position.

The boat left the mooring late that morning and made its way out to the unrestricted waters of the lake. Around 15 minutes later, it was travelling at almost full speed when it made a sudden turn to starboard, followed by a similar turn to port. Both men were thrown from the boat and it stopped immediately because the kill-cord worn by the owner pulled free.

The accident was seen by one of the two crew of an approaching motor cruiser which was heading in the opposite direction. The cruiser headed at full speed directly to the men in the water, and the crew contacted the coastguard as they approached the scene. The motor cruiser's crew did not see either of the two

men move from the time they were thrown into the water, and as they arrived at the scene, both men disappeared below the surface.

Tragically, despite an extensive search of the area by the emergency services, both men drowned.

The Lessons

1. Both men were known to routinely wear their lifejackets; however, on this occasion, they decided to go out in the boat without them. This simple omission might well have made the difference between life and death. On a summer's day, even relatively warm water can trigger a gasp reflex in someone who is suddenly immersed. Without the buoyancy provided by a lifejacket or buoyancy aid it is very difficult to cough out any ingested water in order to breathe freely. Remember that the exception may well be the one time you need your lifejacket, and it will work only if worn and fitted correctly.
2. Build your confidence in an unfamiliar boat over time. Be sure that you understand the settings of steering and throttle control and how these affect the boat's handling at various speeds, in differing weather conditions and with various loads on board.
3. Don't misjudge the power of your boat and your ability to handle it. Consider whether a fitted steering console or an outboard engine tiller is the most suitable option for you.

Clipped On?



Narrative

A 9m sailing yacht was making a passage along the south coast of the UK. The owner had recently bought the boat and a delivery skipper had been hired to assist in taking it to its new home port. The boat had been launched that morning after being laid-up ashore for 6 months.

The owner, who had not sailed for 15 years, was on board with the delivery skipper, and was using the trip to re-learn his sailing skills before taking the boat out for the first time on his own. The delivery skipper was delivering a yacht for the first time. The wind was blowing from the north east at force 6 and was forecast to increase.

On getting underway, they had hoisted a jib on a self-tacking system, uncovered but not hoisted the mainsail, and were also using the engine. This gave them a speed of about 9 knots, sufficient to get through the Needles Channel before the tide turned against them.

At 1830, they passed the Needles fairway buoy and settled down for the long downwind leg towards Start Point. The delivery skipper made sure that the owner was wearing his lifeline and that he was clipped to a strong point, but for some reason did not put his own lifeline and harness on.

About half an hour later, an engine overheat alarm sounded and the engine was stopped. It was now dark, and the yacht continued to make fair progress, although the wind strength was increasing. Over the next 2 hours, some small incidents occurred. The pin locking the bar carrying the mainsail traveller in place worked loose, and the bar came free, allowing the boom to move wildly. As there was no mainsail set, this was easily controlled and the pin re-inserted. The combined bow lantern then went out, possibly due to water ingress to the unit. Then all electrical power switched off due to a low voltage trip activating. By overriding this trip the skipper was able to restore power to the navigation lights and instruments. This lasted for about another

hour, until all power finally failed. The yacht was now in darkness.

The voyage continued, and by that time the owner was becoming tired, having been at the helm for most of the voyage. He asked the skipper to take over the steering, and settled down to doze in the port aft corner of the cockpit. Sometime later he was alerted by a shout, and was then hit on the head by the skipper's body going overboard, and was knocked out for a few seconds. When he came to, he realised that he was alone on the yacht, and that he could see a light astern about 20 metres away. He threw the horseshoe lifebelt mounted on the poop rail towards the light, and tried to turn the boat back towards the skipper. Due to the direction of the wind and sea, and the sails carried, this proved impossible, so he tried to start the engine. Because of the lack of electrical power, the engine could not be started, and it proved impossible to return to his colleague in the water.

Realising that he needed help, the owner returned to the cabin and found there was enough power left in the batteries to make a distress call using the VHF radio. This was received by the coastguard, and a search and rescue operation was initiated. The owner had not been navigating, and there was no light available to read the chart, nor was there power for the GPS system. The position he was able to provide the coastguard was approximate, however they were able to triangulate his position using VHF direction finding apparatus before the power finally failed on the yacht's VHF set. The owner then started to set off flares, at intervals, but had some trouble igniting the hand-held flares because of the low light conditions and the fact that he could not find his glasses.

The yacht and the man overboard were both located some 3 hours later. However, the skipper had drowned before he could be rescued.

The Lessons

1. The skipper was not wearing a lifeline and a harness. Had he clipped himself on he would have remained attached to the boat.
2. The cause of the electrical problems was found to be two fold. Firstly, the poor state of the batteries meant that they did not retain their charge; secondly, the crossover switch between the engine and domestic batteries was badly installed and of poor manufacture. This meant that the two batteries were permanently connected, and the power was drained from both at the same time. While this did not cause the accident, it meant that the engine could not be started and the man overboard could not be recovered.
3. It is important to know how to use all safety equipment. It is too late to start reading the instructions when the equipment is needed in an emergency.

Tragic End to a Day's Fishing

Narrative 1

A 6m open angling boat (Figure 1) fitted with a 4 HP outboard engine, was returning to shore following a fishing trip on an inland loch. Some alcohol had been consumed during the day. The weather conditions were poor, and the boat started taking water over her low gunwale. An automatic bilge pump cut in, but was unable to cope with the volume of water coming over the sides. Consequently, the five crew started to bail out the water using empty cans. A large wave then swamped the boat and engine power was lost. The boat turned broadside to the waves and capsized.

All five of its occupants were thrown into the water and were initially able to cling onto the upturned hull. One of the anglers managed to contact the coastguard on his mobile phone and requested assistance. The local lifeboat and a rescue helicopter were launched, but

when the boat was located two of the anglers were missing. One of the missing men was found shortly afterwards, but was pronounced dead on arrival at hospital. The body of the other man was found 12 days later.

The surviving anglers wore flotation suits over their clothing; the deceased only wore flotation trousers. No lifejackets were worn or carried on board.

Narrative 2

The owner of a 14 foot sports fishing dory launched his boat from the beach into his local river to go fishing for sea bass – as he had done many times over the last 20 years. He was accompanied by his nephew and a friend. The weather was forecast to be dry with sunny spells, with a maximum wind of between force 3 and 4. Lifejackets and buoyancy aids were carried in the boat, but were not worn.



Figure 1: Recovered dory



Figure 2: Chartlet of the area

After fishing in the estuary, the men made their way along the coast. By mid afternoon they had caught several fish, and anchored for a cup of tea and to watch seals on a nearby beach. The sea was calm, although there was a 2m swell from the south west. The men then continued fishing, and by early evening were drifting back into the estuary on the flood tide as the sun set.

At about 2000 the owner of the dory ordered “lines up” and they began heading upriver at about 6 knots to await the rise of tide. The predicted time of high water was 2309, and they knew they would have to wait a little longer before they could recover the boat on the beach. The evening was very still and clear and, although dark, the owner assessed the boat’s position by eye. The vessel’s GPS was switched on, but was not used.

As the boat closed a local disused lighthouse (Figure 2), a large swell wave passed under the vessel from astern. Seconds later, another larger wave broke over the stern. The owner immediately realised he was further south than he thought and was in an area known for large breaking waves at certain stages of the tide. However, it was too late to take any action because the boat was swamped and quickly

sank by the stern. Although the anglers were initially able to cling on to the bow, which remained above the water for a brief period, this also sank. The men were left stranded in the water, at night, with no lifejackets and no means of raising the alarm.

Having made the decision to try and swim to safety, the men set off towards the northern shore, which they thought to be the closest. Within minutes, the friend of the owner disappeared. The owner and his nephew continued to swim and, after several minutes, they saw lights on the water ahead so began shouting for help. The light was from another angling boat anchored nearby. Her crew immediately alerted the coastguard when they heard the calls for help. They then weighed anchor and quickly recovered the owner of the dory, but there was no sign of his nephew. A life ring and light were thrown into the sea to use as a search datum, and a “Mayday” message was broadcast by the coastguard, which also tasked local lifeboats and search helicopters to the scene.

Tragically, the bodies of the two missing men were recovered from the water later that evening. The boat was found 2 days later. She



Figure 3: Boat found at sea

was still partially buoyant and was towed back to port (Figure 3).

Narrative 3

Two friends set off for a fishing trip in their recently purchased 18 foot open boat. They were unaware of the weather forecast other than that rain was expected. Shortly after 0800, they stopped the engine and began drift fishing for mackerel. The sea conditions were good.

Just before 0930, the wind increased and the sea became choppy. As neither of the anglers had caught any fish, they decided to call it a day, and started the engine in order to head back to port. Soon after setting off towards the harbour entrance, the boat started to take in water over its sides and stern. One of the men, who was steering and was positioned towards the rear of the craft, began pumping the water out using the manual bilge pump. However, because the water level in the boat continued to rise, he soon changed to bailing the water using a bucket. While bailing, the angler dropped his mobile phone into the bilge, rendering it inoperable. A large wave then

came over the boat's stern and, as the other angler moved aft to assist with the bailing, the boat sank stern-first.

The two men remained afloat, but they were not wearing lifejackets and had no means of raising the alarm. One of them could not swim but, assisted by his colleague, managed to hold on to a creel marker buoy. The second angler found another creel marker buoy nearby to hold onto, but as the sea conditions had increased to moderate, and he could not see his companion due to the waves, he decided to try and get help. After untying the marker float, he swam towards the shore, which was about 0.75 mile away, clutching the buoy to his chest for additional buoyancy. He arrived in the shallows off the beach after spending 3 hours in the water. Although extremely tired, he was able to wade ashore and raise the alarm using a passer-by's mobile phone.

The coastguard immediately initiated a large-scale search, during which the second angler was located. He was winched from the sea by an RAF rescue helicopter and taken to a nearby hospital, but was confirmed deceased shortly after arrival.

The Lessons

1. Navigation by eye is instinctive, and is generally successful when in a familiar area during daylight, where there are a number of conspicuous features to assist. Navigation by eye at night is far more difficult. Distances are harder to judge and, in the absence of navigational features, it is very easy to unknowingly become disoriented. In such circumstances, it is essential that a vessel's position is also checked by other means such as GPS and radar, particularly when navigating close to dangers. The pitfalls of not doing so can be far worse than just a short-term grounding.
2. No matter how much safety and survival equipment a boat carries, it is of no use if it is lost with the vessel. Having lifejackets available is an extremely wise precaution, but the only way of maximising their success as lifesavers is to expect the unexpected and wear them at all times when on the water. They not only provide buoyancy, but they also provide a whistle with which to raise the alarm and a light to assist location and rescue.
3. There may be only a slim chance of achieving success by shouting for help when stranded in the water, in a remote area. However, it may be the only chance. Sound can travel long distances over water, particularly in still conditions or downwind.
4. Boating, whether at sea or on an inland lake or loch is potentially dangerous, regardless of how close to the shore a boat might be. Checking the weather forecast before setting off on a day's fishing is often a sound investment of time, and knowing the limitations of the craft involved is essential.
5. Flotation suits are ideal for boat anglers. They provide buoyancy, protection against hypothermia and are highly visible. However, if worn incorrectly, they will be more of a hindrance than a help. Wearing only flotation suit trousers provides buoyancy to the lower half of the body, making it very difficult to remain upright. When this happens, it is very tiring for even the strongest of swimmers to keep their heads out of the water for a long period, particularly in rough conditions.
6. When on the water, emergencies usually occur without warning. In such situations, requesting assistance is not normally a problem providing a VHF radio or a mobile telephone is carried. However, such equipment is prone to becoming unusable in wet conditions, or following capsize, unless it is carried in a weatherproof pouch.
7. The mixing of alcohol and water is best kept inside a glass. Even a moderate quantity can lead to over-confidence and risk-taking. It also increases susceptibility to hypothermia and reduces the chances of survival in cold water.
8. There are a number of organisations which produce information to assist people wishing to take up sea angling as a hobby, including the MCA and RNLI. An extremely useful publication is *Safety Guidelines for Sea Anglers*, which contains a great deal of useful information concerning boat purchase, training, what to do before setting off and what action to take in an emergency. Copies can be obtained from the internet at: http://www.mcga.gov.uk/c4mca/safety_guidelines_for_sea_anglers.pdf

Myriad of Fire Risks Ends in the Inevitable

Narrative

A heavy smoking, 66 year old male, with mobility problems, was well known locally as a “colourful” character. A keen fisherman, he often walked the towpaths of his local northern canal. During one of his walks, he became aware that a small motor cruiser was going to be scrapped, so he approached the owner and persuaded him to sell the boat to him for use as a fishing platform.

The boat had been issued with a 4 year Boat Safety Scheme Certificate 2 years previously, confirming that it met the required safety standards at that time. The boat had not been used since then, and its British Waterways Certificate permitting it to navigate had not been renewed. While the outboard engine and partially filled fuel tank were still fitted, there were no toilet or cooking facilities on board and the boat’s general condition had rapidly deteriorated by the time the new owner took possession (see Figure 1).

The new owner moved the boat from its berth and secured it to mooring stakes at an unauthorised mooring alongside a towpath. A short time later he enclosed the after end of the deck, which included the outboard engine fuel tank, with a mix of plywood and canvas before placing a mattress in the enclosure in preparation for moving permanently on board.

The enclosure was lit by small candles and a number of paraffin fuelled “tilley” lamps, which also provided a degree of heat in the draughty enclosed deck. There was no evidence of smoke alarms being fitted, nor were there any fire extinguishers on board.

It became common knowledge that the owner slept on board, and local residents living near the towpath would occasionally check on his wellbeing. At about 0010 on the day of the accident, the owner was seen lying on the mattress, with the candles and paraffin lamps alight. About an hour later, residents were woken by the sound of burning as the



Figure 1: Showing the poor condition of the boat



Figure 2: Vessel after the fire

branches of trees above the boat caught fire. By the time they reached the boat, the area behind the small wheelhouse was engulfed in fierce flames and there was no sign of the owner.

The local Fire and Rescue Service attended the scene. Luckily the boat was moored fairly close to access points, so the firefighters were able to get their equipment to the boat and extinguish the fire.

The remains of the owner were found in the fire debris. The postmortem confirmed that he died from the effects of the fire, and not from smoke inhalation, suggesting that he died in the early stages of the fire. A number of paraffin lamps were found in the debris (Figure 2), together with a 5kg gas canister, remains of the outboard petrol tank and a number of cigarette ends. The outboard engine had dropped into the canal as the transom area had been badly burnt.

The Lessons

From the evidence, it is likely that the fire was started either by a discarded, lighted cigarette end, a fallen candle, or from the heat from one of the paraffin lamps. The owner died during the early stages of the fire, possibly as his mattress caught fire, and his immobility would have reduced his chances of escaping. The canvas and plywood coverings, GRP deck, and hull and outboard motor petrol tank contents would all have provided the fuel for this intense and fatal fire.

Boat fires are, fortunately, still rare. However, this accident clearly illustrates the potential for things to go wrong if the basic principles of fire prevention are not followed.

1. When considering modifications, think about the implications of fire – wherever possible plan to have two escape routes.
2. Avoid the use of open flame items such as candles. If you have to use paraffin or gas lamps, remember the metal and glass surfaces can produce very high temperatures – place them in a stable, out of the way position, well clear of any flammable materials.
3. Do fit smoke alarms, replace batteries and test the alarms in accordance with

the manufacturer's recommendations. Remember, early warning will provide a good chance of escape.

4. Avoid placing petrol canisters in between decks or in enclosed spaces. The vapours given off are highly flammable and easily ignited.
5. Make sure that gas appliances are tested, that connections are tight and that gas canister valves are shut when not in use. Remember – bottled gas is heavier than air, and any leakage can easily migrate throughout the boat and is easily ignited.
6. When planning a mooring position, especially a temporary mooring, consider how the emergency services can gain access should you need their help. Mooring close to roads or tracks, where this is possible, will significantly improve the speed of response.

More detailed information on boat safety is contained in the British Waterways and Environment Agency sponsored publication – The Boater's Handbook (www.waterscape.com). The Boat Safety Scheme Guide established in 1997 by the British Waterways and Environment Agency also details wide ranging safety standards. Details of the Guide are available at www.britishwaterways.co.uk.