

Part 2 – Fishing Vessels



Although I have practiced as a Solicitor in Hull for over 33 years I am not totally without seagoing experience. I joined my firm of Andrew Jackson at a time when there was still a large fishing industry in Hull and

Grimsby. With special dispensation from the Law Society I spent part of my articles as a “deckie learner” fishing in the White Sea. I sailed out on the “Lord Nelson”, the oldest stern trawler in the fleet and came back on the “Dane” one of the newest vessels. “One week out and one week back” actually ended up in a 6 week trip.

This singular experience has lived with me ever since. I came to realise that the trawler men, who I had envisaged as a bunch of hard drinking labourers were in fact serious professionals. They took a pride in their work, which they carried out carefully and cheerfully, in the most unbelievably bad weather and sea conditions. The dangers of the job were all so obvious, but these were well trained experienced men who worked together as a team, based on mutual trust, to minimise the risks. Cadets were supervised and trained whilst a “snacker” like myself was kept well away from the moving gear.

I was left with a profound respect for fishermen and an appreciation of exactly what gale force conditions in the middle of nowhere mean. In those days I also dealt with factory accidents and I remember a claim by someone who had put his hand through the only gap in an elaborate guard completely encircling a piece of machinery. At the same time, I was dealing with accidents on Grimsby anchor seiners with open revolving rope drums and whipping drums, and being told how much safer these boats were than when the job was done with “coilers”.

In some respects there has not been any great improvement in safety on board fishing vessels in the intervening 30 years or so. Some things are better, others I believe worse.

The industry has become over regulated. As a lawyer I know how many Acts of Parliament, Statutory Instruments, rules, regulations, marine guidance notes etc etc apply to the safe operation of fishing vessels. Yet I struggle to identify and analyse them all. Worse still, it seems to me that the powers that be do little to gently encourage compliance with or to police our rules. If there is an accident then someone may well get prosecuted. Who is encouraging awareness and compliance with rules to try and prevent the accident from happening in the first place? If the access to a vessel is unsafe why isn't anyone going around pointing out the problem, rather than quoting the requirements after somebody has fallen in?

To my mind the most important regulations to have emerged within the last 30 years were undoubtedly the Merchant Shipping & Fishing Vessels (Health and Safety at Work) Regulations 1997. These impose, amongst other things, the requirement for risk assessment, which was something totally new to the fishing industry, although accepted procedure on merchant vessels.

Risk assessment, properly undertaken on a common sense and collective basis, can, in my opinion, make a large contribution to on board safety. I was excited to work with Alan Dean of Seafish in a project which led to the production of the Fishing Vessel Safety folder of risk assessment documents (available free from Seafish, or downloadable from their website). We worked with several skipper/owners to trial our documents and satisfy ourselves of their value.

However, despite the encouragement of organisations such as Seafish (and the MAIB) I believe there are still many boats not using the system properly. Many owners had a risk assessment drawn up (often by outside

consultants who had never even seen the boat in question) so as to “comply”. Few engaged their crew in the assessment exercise and fewer still have maintained an ongoing review of the assessments, as is necessary to comply with the regulations and to give any purpose to the exercise. I am not, however, aware of any prosecution for failure to have a risk assessment (over a decade since the requirement arose) or, worse still, any sensible effort to check risk assessments and encourage those not complying to do something about it.

There is a lack of knowledge within fishing about stability. Anyone such as myself, who deals with fishing vessel losses, or even a casual reader of MAIB reports or Safety Digests, will appreciate that many vessels founder, often with loss of life, due to a problem of stability. This might be attributable to a deficiency in the vessel herself or because an onboard practice has developed which impacts upon stability. Achieving a knowledge of stability is not easy, I was once told to read “A Shipmaster’s Guide to Stability” and had to give up before the end of the first chapter!

The second MAIB fishing vessel report published was in 1991 in respect of the loss of “MAJESTIC” and her crew of five men. The complexity of stability book information was identified and the then Marine Directorate, Department of Transport was recommended to produce “simplified, clear and basic stability information...for the advice of the Skipper and all crew”. Similar recommendations have been made in a number of reports since, for example “Sapphire” in 1999. The MAIB has also repeatedly recommended that stability guidance be given in respect of under 12 metre vessels.

Silas Taylor

Silas Taylor has spent his entire career at the Hull law firm Andrew Jackson. He was brought up in Bedford but went to Hull University and has remained in the City ever since.

He has overseen the development of the Shipping and Transport law department at Andrew Jackson from small beginnings to an International practice with some 15 specialist lawyers, the largest outside of London.

Silas works as a casualty lawyer and has always had a close involvement with the fishing industry.

Much of his time is now spent acting as a mediator of major International shipping disputes.

Almost 20 years after the loss of “MAJESTIC” it must be a frustration to the MAIB that nothing has really changed. Marine Information Note 287 (F) published last year by the MCA indicates that progress on these issues is now at last taking place.

A final problem area I would mention is that of training. This is an area where I think the industry has gone backwards. When I did my trip to the White Sea there were many trawler men in Hull. Although casual share fishermen, they operated within a system of rank and promotion by experience, and learning how to do the job safely was part of the process. Apart from anything else, accidents caused disruption and lost money.

A huge problem today is getting and keeping regular crews, let alone experienced and safety conscious ones. Every opportunity must be taken to train crews about safety issues wherever possible. Carefully explaining the vessel’s risk assessment documentation as previously mentioned is a good start.

A further good move would be to carefully consider, and circulate, MAIB Reports and Safety Digests, to include the case studies that follow. To talk about the problems of rules and regulations, stability and training is all very well, but the most straightforward way to avoid accidents is to learn the lessons from those that have impacted on others. That of course brings us back to the purpose of the MAIB. Accidents like those that follow are real, human, tragedies. Five cases – three fatalities. I am always taken by how quickly things can go wrong and tragedy can strike. So let us learn the lessons of others’ misfortune and set about creating a real safety culture in the fishing industry.

Silas Taylor,

Small Hole – Costs a Life



Narrative

The skipper of a 9 metre steel hulled fishing vessel lost his life when his vessel sank while trawling off the east coast of Scotland.

While in port after the previous trip the skipper, who fished single-handed, had told some other fishermen that a significant amount of water had entered the vessel's under deck area, and that he had experienced some problems with a bilge pump.

The vessel had a single undivided space under deck from the wheelhouse to the transom, and had a low freeboard, resulting in water coming onto deck through the freeing ports when the vessel was underway.

The skipper had also previously reported having problems with his engine exhaust. The exhaust system was a dry exhaust, which

vented to atmosphere via an outlet at the top of the stern gallows. The exhaust gases flowed through the steel box section of the gallows, with no internal flue liner fitted.

One of the major components of engine exhaust gas is sulphur oxide which, when in contact with water, combines to produce sulphuric acid. In this case, the location of the exhaust trunking created ideal conditions for corrosion to take place, which would have led to water entering the below deck space.

Analysis of previous accidents to similar vessels shows that water can flow through relatively small holes at a surprisingly high rate, and that a relatively small amount of water entering the hull area can adversely affect the stability to such an extent that very rapid downflooding can occur. For example: 0.5 tonne of water per hour will flow through a hole of just 18mm in diameter assuming a constant head of 25mm.

The Lessons

1. This tragic case illustrates the vital importance of having – and maintaining – an adequate freeboard and keeping your vessel watertight.
2. While there are no statutory requirements for fishing vessels of less than 15 metres in length to undertake stability tests, it is prudent for all skippers to be aware of the stability condition of their vessel at all times.
3. Never underestimate how much water can flow through relatively small holes, and make sure you have an operational bilge alarm and bilge pump system.

Complacency Kills



Vessel after recovery

Narrative

A small fishing vessel and her skipper had been chartered for the day to catch small fish for display purposes. To achieve this, the boat had a fine mesh trawl net, a small rectangular tank for sorting the catch and two circular tanks for storing the fish. On board were the skipper, the charterer's representative and a passenger who was along for the ride.

Shortly after clearing the harbour entrance, the net was shot over the stern and the skipper set an easterly course for a tow across the bay. The two circular tanks were positioned just aft of the engine casing on deck, and once the nets were shot these tanks were filled with water using two electric 'bilge' pumps immersed in the sea at the stern. Each pump had a discharge hose passing through the port side freeing port leading to one of the tanks. The pumps discharged continuously into these tanks, which then overflowed through holes about 60cm from the bottom of them into buckets and then onto the deck.

The first tow lasted 45 minutes, after which about 40 minutes were spent sorting the catch into the tanks before the net was shot again. The second tow was uneventful, until several centimetres of standing water were noticed on the starboard side of the deck, with water coming on deck through the starboard freeing port in the stern. The skipper's attention was drawn to this water, but he gave no sign of being concerned and told the others not to worry. The tow continued as intended until the skipper began to haul in the gear.

Hauling continued for about 5 minutes until the trawl doors were hanging from their chains on the stern gantry. By this time, the amount of water on deck had become substantial and the skipper released the clutches on the winch, allowing the fishing gear to return to the seabed.

The skipper checked below deck and found water in the aft void and the engine space. He then took one of the electric pumps being used to top up the tanks, and used it as a bilge

pump. However, the depth of water on deck was increasing, so while the passengers started bailing, the skipper went to the wheelhouse to call for help. Using VHF Channel 16, he called the coastguard, stating his vessel was taking in water and requesting a lifeboat. He gave a local position, but did not include a latitude and longitude. The coastguard responded by broadcasting a “Pan Pan” message and alerting air and surface search and rescue units.

Bailing appeared to be achieving little, and the level of water had reached the top of the bulwark at the stern. One person went to the wheelhouse to join the skipper who, having raised the alarm, was collecting lifejackets from the cabin. One lifejacket was passed out on deck, by which time the stern was completely submerged.

Before any more lifejackets could be gathered, the vessel rolled to starboard and her stern completely submerged, leaving only the bows above the surface. The skipper appeared to be still in the wheelhouse or cabin, but the other two managed to swim clear. The vessel sank shortly afterwards. The skipper was not seen again.

The two people in the water held onto the single lifejacket for about 45 minutes before

being rescued, as the search for them had commenced in the wrong position. Fortunately, they were found as the search area expanded, were winched from the sea and transferred to hospital, where they were treated for mild hypothermia. Divers later recovered the skipper’s body from the vessel.

The vessel was raised so that the cause of sinking could be established. It was found that her starboard quarter was damaged such that water could enter the hull under conditions of limited freeboard or poor weather. At the time of her loss, she had additional weight on deck in the form of water tanks which held live catch. This weight reduced the freeboard sufficiently to allow flooding through the damaged area of the hull. To complicate matters further, the skipper had removed the electrical bilge pump to use it to provide a flow of sea water to the holding tanks, and there was no bilge alarm.

It is not certain when the hull damage occurred. Because protective rubber matting largely covered the area of damage, it was obscured to the casual observer and might have been present for some time, becoming critical only when the freeboard was reduced by extra weight.

The Lessons

1. The skipper was unaware that the hull of his vessel was breached above the waterline and would let in water in a moderate sea or when heavily loaded. Check your hull regularly, especially the areas that are not easy to see, such as under matting or fenders.
2. During this trip, the vessel was unsafe. Although the skipper was unaware of the hull damage, he further compromised the safety of his vessel by heavily loading the deck with tanks, removing the only working bilge pump to fill those tanks,

and not having a working bilge alarm. Individually, these deficiencies could have been coped with; put together they proved fatal. Sometimes compromises are necessary, but always keep an eye on their cumulative effect: complacency kills.

3. The two survivors were lucky, they had only one lifejacket between them, and the position given to the rescuers was inaccurate. Think through what you would do in an emergency: how you would pass a “Mayday” message; where your lifejackets are stowed; whether your flares are accessible, and so on; and talk the drill through with your crew.

Even a Short Time in the Sea Can be Fatal

Narrative

A crewman died after being dragged overboard by a trawl net during routine hauling operations.

The crewman had assumed that the cod ends were ready to be lifted on board, and had lain across the net while clearing the dog rope (which had become twisted around the bag). The net drum operator was usually informed when it became necessary to clear twists from the dog rope; unfortunately, on this occasion he was not. The net drum operator's view was restricted by the physical size of the net drum, and he was unaware that the crewman was working with the dog rope when he veered the net back into the sea to enable fish in the bag to drop into the cod end. As the net was veered, it also carried the casualty overboard.

The alarm was raised immediately. However, because the stern trawler was being hampered by her nets, it was impossible for the skipper to come astern to the casualty without fouling

the propeller, which would have disabled the vessel and prevented further endeavours at rescue.

After several attempts, a life ring was thrown, and was grabbed by the crewman, allowing the other crew to haul him alongside a ladder. The crewman was rapidly losing consciousness, so two of his colleagues went down the ladder, into the sea, to assist and support his head out of the water. A crane was then used to lift him from the sea onto the deck, where cardio pulmonary resuscitation (CPR) was attempted. He could not be revived.

The crewman regularly wore a flotation jacket on deck, but unfortunately he was not wearing one on this occasion. It was estimated that he was back alongside the boat within 10 minutes of going overboard, and was immersed in the 14° C sea water for probably fewer than 15 minutes in total before being recovered to the deck.



Operator's view towards net drums



Position of the casualty before going overboard

The Lessons

1. Ideally, deck machinery controls should be placed where the operator has an unrestricted view of the surrounding area. However, if the view is restricted, communication between parties is essential before controls are operated. Communication is a two way thing: it should be given, and should then be acknowledged by the recipient to prevent any misunderstanding.
2. Beware the dangers of routine. It can foster complacency due to the repetitive nature of the work, and will sometimes cause lapses in vigilance.
3. Always assess the possible dangers involved in any tasks, no matter how routine, and ask yourself, "is this really safe, or is there a safer way to do it?"
4. Carrying out tasks on board a fishing vessel will sometimes necessitate leaning overboard. The simple precaution of wearing some sort of flotation aid will help mitigate the obvious risks and will increase your chances of survival if you fall overboard. The casualty involved in this case had been a fit and healthy man, yet after just a few minutes of being immersed in the cold water, the debilitating effect of cold shock rendered him unconscious.
5. In this case, it was possible to lift the casualty from the sea using a deck crane. In the process, crewmates were required to go into the sea to assist. Not every vessel has the benefit of a convenient crane; serious thought should be given by all seamen on how a man can be recovered from the sea on their particular boat. Bear in mind, the medically safest way to recover someone from the water is to keep their body horizontal rather than attempting to lift it vertically.
6. If it is absolutely necessary to send anyone into the water to assist during a recovery, ensure they are properly dressed in thermal clothing and wearing a flotation device.
7. Life rings are cumbersome to throw at any great distance, but they do give a swimmer support. There are various line throwing devices available (not necessarily mechanical) which could be used to good effect in recovery situations.

Mystery Fire Sinks Potter



Figure 1

Narrative

During the early morning, a skipper and his single crewman took out their Cygnus 26 potter to recover and shoot their lobster and langoustine pots. As the weather deteriorated, they decided to return to their mooring which was about 40 metres from the shore.

The skipper was acutely aware of the risks of fire and flood, so he shut the gas supply valve from the gas bottle to the stove, and isolated the electrical supplies at the main battery isolating switches just before leaving the boat at about 1300. As usual, the bilge pump control was switched to the “auto” position to cope with any unexpected water ingress sensed by the high bilge level float switch. The power for the pump and float switch was derived from the battery side of the battery isolating switch.

At about 1730, the skipper saw the boat riding easily at its mooring, with no signs of the impending disaster.

Just after midnight, a friend of the skipper was walking along a road high above the small harbour when he noticed that the boat was fiercely ablaze, but still at its mooring. He immediately roused the skipper, who lived nearby. They both went to the foreshore to see the boat drifting away towards a headland as the fire burnt through the mooring lines. The skipper notified the coastguard, and the local inshore RIB lifeboat arrived a short time later. Unfortunately, they were unable to get close to the boat because of the ferocity of the fire. It was then decided to allow the boat to drift, and a couple of hours later it was headed towards rocks in an isolated inlet, still burning.

In the morning, the skipper and his crew tried to locate the boat, but were unable to do so. They believed that it was probably dragged out to sea by the tides and had sunk. However, they continued to search the inlets and eventually found it at low tide resting on rocks. The wheelhouse, deck and most of the hull had been consumed by the fire.



Figure 2

The Lessons

Discussions with the local authorities confirmed that the boat was well maintained, and that the skipper took good care of it and of his fishing gear. There was no suggestion of arson or foul play. All the indications suggest that the fire was probably caused by an electrical fault on the bilge pump or high bilge level float switch circuit which were the only circuits that were live while the boat was at the mooring.

It is not possible to identify specific lessons associated with this case because the exact cause can only be a matter of speculation. Although they would not have helped this safety-conscious skipper, it is timely to highlight the following areas of good electrical practice:

1. Make sure that electrical circuits are maintained in good condition, that connections are tight and corrosion free, and that insulation is in good order.
2. Attend to electrical defects promptly. The constantly flickering light or intermittent power supplies are sure indications of potential problems.
3. Do not install additional electrical equipment until you are certain that the cable carrying capacity and fuse ratings are adequate.
4. Isolate as many electrical circuits as you can before you leave your boat.
5. Always properly isolate and use correct terminations for redundant circuits.
6. Makeshift plugs, sockets and fuses should not be used.
7. When in doubt, seek professional advice/assistance from a qualified electrician.

General advice on electrical safety can be found in MCA's Code of Safe Working Practices for Merchant Seamen, which is available on the MCA's website at www.mcga.gov.uk.

Insecure Fiddle Leaves Crewman in Hot Water



Cooker with old fiddle and kettle

Narrative

A small fishing boat was rolling easily while trawling in a moderate beam sea. The skipper and crewman were in the wheelhouse together and decided to have a hot drink.

A kettle of water was placed in the fiddle on the stove which was located in the wheelhouse. The crewman sat down beside the stove, waiting for the water to boil, while the skipper remained at the wheel.

As the water began to boil the boat took a heavy roll. The kettle came free of the fiddle and fell from the stove, tipping hot water onto the crewman and scalding him. The skipper reacted quickly by drenching his colleague with cold sea water from the deck wash hose before calling the coastguard to ask for assistance.

The crewman was transferred by lifeboat to a local hospital where he was treated for his injuries. Fortunately, thanks to the prompt action taken by the skipper, his injuries were not too severe and he was able to leave hospital after a short stay.

The skipper later inspected the fiddle to establish why the kettle had been able to fall from the stove. He found that the fiddle had not been properly adjusted to suit the kettle which had been recently supplied to replace an older and different sized model.

The skipper ensured that the fiddle was properly adjusted to fit the kettle before the stove was used again.



Ensure the fiddle is properly positioned when placing pans on a stove

The Lessons

1. The supply of hot drinks is one of the key requirements on any vessel. However, as with any other items of equipment, it is essential that the kettle can be used safely in all weather conditions.
2. Fishing boats can be expected to roll, especially when trawling in a beam sea. The skipper had taken the precaution of securing various items of working gear but had not foreseen the hazard caused by a defective fiddle.
3. Galley equipment should not be overlooked when securing for adverse weather, especially on a small boat.

