The Marine Accident Investigation Branch is an independent part of the Department for Transport, (DfT) and is completely separate from the Maritime and Coastguard Agency (MCA). The Chief Inspector of Marine Accidents is responsible to the Secretary of State for Transport. The offices of the Branch are located at Carlton House, Carlton Place, Southampton, SO15 2DZ.

This *Safety Digest* draws the attention of the marine community to some of the lessons arising from investigations into recent accidents.

This information is published to inform the fishing industry and the public of the general circumstances of marine accidents and to draw out the lessons to be learned. The sole purpose of the *Safety Digest* is to prevent similar accidents happening again. The content must necessarily be regarded as tentative and subject to alteration or correction if additional evidence becomes available. The articles do not assign fault or blame nor do they determine liability. The lessons often extend beyond the events of the incidents themselves to ensure the maximum value can be achieved.

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The *Safety Digest* is only available from the Department for Transport, and can be obtained by applying to the MAIB. Other publications are available from the MAIB.

MAIB

MARINE ACCIDENT INVESTIGATION BRANCH

If you wish to report an accident please call our 24 hour reporting line 023 8023 2527.

The telephone number for general use is 023 8039 5500.

The Branch fax number is 023 8023 2459.

The e-mail address is **maib@dft.gsi.gov.uk**

Safety Digests are available on the Internet: **www.maib.gov.uk**

Extract from

The Merchant Shipping (Accident Reporting and Investigation) Regulations 1999

The fundamental purpose of investigating an accident under these regulations is to determine its circumstances and the cause with the aim of improving the safety of life at sea and the avoidance of accidents in the future. It is not the purpose to apportion liability, nor, except so far as is necessary to achieve the fundamental purpose, to apportion blame.

Contents

Chief Inspector's

In 2003, 11 UK fishermen died in accidents. This was a pointless waste of life. You all know, better than I do, that fishing is a hard life, but it does not need to be as dangerous as it is. Just reading the articles in this Safety Digest, and thinking about the issues in them, will make your boat a safer place for you and your crew.

GOOD NEWS

Scattered among accounts of tragic losses and needless deaths are a number of good news stories, where forethought or quick thinking have saved vessels and lives. Please read them carefully so that you are prepared for a sudden emergency. Thinking yourself into the situations that the men in this edition encountered will help you become the good news stories next year, not the disasters.

FLOODING/FOUNDERING

Foundering, through flooding, is probably the single greatest cause of fishing vessel losses at sea. Two very simple and cost free checks can dramatically reduce losses through flooding.

Foreword

1. Check your bilge alarms – Test your bilge alarm every trip before sailing, and daily at sea. This should be simple to do, and take no more than a minute. A working bilge alarm will give you early warning of a problem and time to overcome it. In nearly every case of loss through flooding, the bilge alarm was found not to have been working.

2. Turn off your seacocks in harbour – This will not only stop your vessel sinking in harbour through faulty pipework, but it will also ensure that the seacocks are working and easily accessible by you and your crew. Again, it is too late when pipework has fractured at sea to find that your seacock is seized.

STABILITY

Stability is the other big killer at sea. I can do no better than to quote George Geddes (who many of you will know as a skipper/owner from Peterhead and representative of the Scottish Fishermen's Federation):

"Stability is difficult for most of us to understand, but in some of the cases you are about to read, what becomes clear is that stability has been greatly affected by modifications. These changes sometimes occur over a period of time whereby the vessel has been constructed for one particular fishing pattern, and has changed to another. Other effects on stability can be the overloading of fishing gear on deck, along with the unwanted fastener/boulder which may occur at any time whilst fishing.

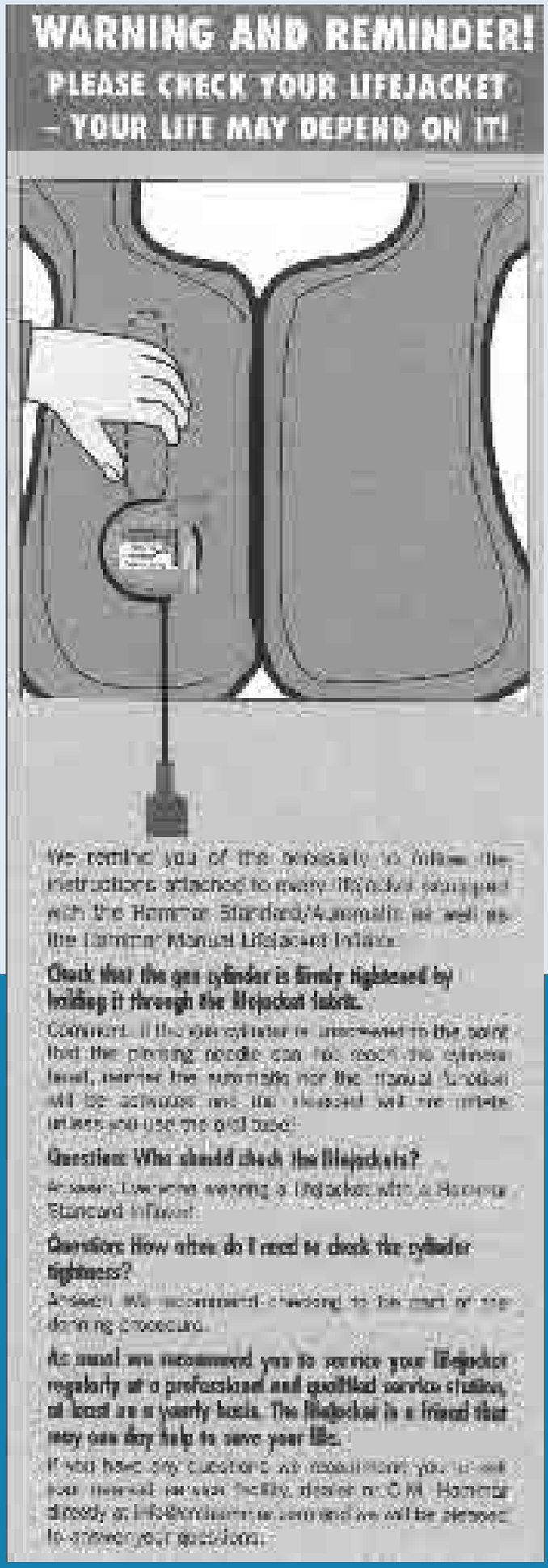
So what is stability in fishing vessels? Stability is the ability of your vessel to right itself to the upright position after it has been forced over by an external force. But if modifications are made to the vessel, these changes can severely restrict the vessel's ability to come to the upright position, and can, in extreme cases, cause the vessel to overturn.

So what can we, as fishermen, do to ensure the stability of our vessels? We need to ask advice from a suitably qualified person before we make any modifications to our vessels, no matter how small that change may be. We need to be aware of the capabilities of our vessels, and be prepared for the unexpected. Remember, stability cannot be measured, it needs to be calculated.

Take care when fishing, return home safely."

I echo George's sentiment:

Take care when fishing, return home safely.



Check

Narrative

A steel fishing vessel was trawling off the Western Isles in force 6 wind, rough seas, and darkness when her port net became snagged on a seabed obstruction. Attempts were made to free it but, in the process, the winch stopped. Less than five minutes later, the vessel capsized and sank.

This article focuses on the lifejackets being worn by her crew – inflatable working lifejackets, which met EN 396 criteria.

Soon after the winch stopped, the vessel started to list heavily to port, prompting the six-man crew to muster on the starboard side of the wheelhouse. The three deckhands who had been working on deck were, in accordance with company policy, already wearing inflatable lifejackets. Both the skipper and the engineer donned theirs while the mate, who had been working in the wheelhouse with the skipper, realised his was stowed below. He had insufficient time to collect

The Lessons

The owner's policy regarding the wearing of lifejackets on deck is commendable; indeed, it might well have saved one fisherman's life in this case. Mariners must remember, however, that when worn constantly, lifejackets are subjected to heavy use. Day in, day out, the fabric of a lifejacket rubs against the gas cylinder and this can, eventually, cause the cylinder to unscrew from the release unit if it has not been fully tightened.

your lifejacket

it, so was forced to abandon ship without one. Such was the speed of events.

Before abandoning the sinking vessel, the five crew wearing lifejackets tried to inflate them manually by pulling the release toggles, rather than waiting for automatic inflation on taking to the water. Only one of the five lifejackets inflated.

Three of the crew managed to board the starboard liferaft, but it flipped over when the vessel capsized. They all ended up in the water and, while attempting to board the upturned raft, one of the men disappeared. After boarding it, they tried to locate their colleague, but without success. The missing man was one of those whose lifejacket had failed to inflate. He was never seen again.

While on the upturned raft, one man successfully inflated his lifejacket by blowing into the oral tube. The liferaft was eventually righted, the five survivors boarded it and all were later rescued, unhurt.

The accident raised immediate concerns about the effectiveness of at least one type of lifejacket being used at sea, so tests were carried out without delay.

The tests revealed that the lifejackets which had failed to inflate, had probably done so because the gas cylinders had become detached from the Hammar release units.

So that the lessons learned from this accident could be brought to the attention of as many seafarers as possible, the MAIB issued a Safety Bulletin immediately, to promulgate the advice listed below. Readers of the Safety Digest were also alerted to the safety issues highlighted by this article, in the Noticeboard of *Safety Digest 3* of 2002.

1 Fishermen and mariners who routinely wear inflatable lifejackets should ensure that the gas cylinders are firmly tightened into the release units. Owners of lifejackets fitted with Hammar release units are particularly urged to make this check, and should also carry out the safety checks listed in the booklet issued with every lifejacket:

- Check that the single point indicator is green.
- Check that the expiry date has not been reached.
- Check that the red handle is attached.
- Check that the gas cylinder is firmly tightened by holding it through the jacket fabric.

Any deficiencies should be dealt with as soon as practicable and before the vessel next goes to sea.

2 Set aside a few minutes to read MGN 155(F), published by the MCA. It is available free of charge and contains useful guidance on inflatable lifejackets and other buoyancy equipment for fishermen at work. IT MAY SAVE YOUR LIFE.

3 The notice placed by Hammar, in various marine publications, to advise users of the problems highlighted by this case, is reproduced opposite. It contains important advice, please read it.

Incorrect use of blocks leads

Narrative

While fishing off the east coast of England, a crew member from a 15.8m stern trawler was killed after being crushed by a trawl wire. The following is an account of how snatch blocks, if operated incorrectly, can lead to tragedy.

Two members of the four-man crew were aft at their stations while the gear was being hauled. A third was operating the winch and the skipper was in the wheelhouse.

The snatch blocks being used on the aft gantry to lead the trawl wires over the stern, were being used in the open condition. Because of the general condition of the blocks, and the lack of any locking pins, they were unable to be used in the correct manner anyway.

When the trawl doors were heaved clear of the water, the winchman stopped the winch and the deckhands began "dogging-up" the doors. The crew member on the starboard side began

The Lessons

1 Snatch blocks must always be operated in the correct manner, with the cheek plate closed. Although at times it may be convenient and time saving to operate them in the open position, this accident proves the consequences of doing so can sometimes be fatal.

2 A rigorous routine of regularly inspecting and maintaining all lifting equipment on board will, in the long run, pay dividends.

New regulations relating to health and safety aspects of lifting operations and lifting equipment are to be introduced shortly. These regulations will place an obligation on an employer to ensure that the work equipment, including lifting gear, is safe for workers to use. It seems likely that there will be a requirement for lifting equipment on fishing vessels to be inspected and,

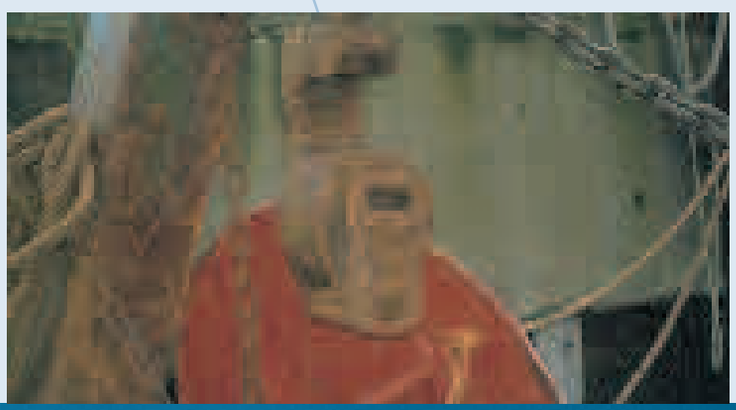
trawl to fatal accident

passing the dog chain between the trawl door and the securing brackets, but the trawl wire suddenly came free from the snatch block and caught him across the right-hand side of his body, crushing him against the aft gunwale. The wire was under huge tension, since it supported both the weight of the trawl door and the weight of the trawl itself.

The skipper hastily attempted to release the crew member by reversing the winch, but the crew member was dragged over the side of the vessel.

After being immersed momentarily, the crew member reappeared on the sea surface approximately 3 to 4 metres from the vessel. One of the deckhands quickly threw him a lifebuoy, but he was unable to grasp it. He soon lost consciousness and was seen floating on the surface face-down.

The skipper eventually managed to manoeuvre his vessel alongside the casualty and, with the aid of the other two crewmen, passed a rope around his body. This enabled them to haul the crew member back on board where, despite several attempts, he couldn't be revived.



where considered appropriate, tested. All other equipment, including hauling gear, will be required to be inspected.

3 In this case, the skipper acted quickly in attempting to release the crew member. Unfortunately, his efforts were in vain.

In light of this accident, and as a result of suggestions by both the industry and the MAIB, a review of the current Sea Fish risk assessment document, being used by many fishermen, is to take place. All fishermen are encouraged to actively take part in the risk assessment process on board their particular vessel. Unless you understand what it's all about, and its purpose, it will be of little value. It is hoped that simplifying the document, and making it more user-friendly, will encourage its use.

4 And finally, recovering a man overboard is not easy. The person is likely to be very cold, completely exhausted, and his waterlogged clothing will be weighing him down, making recovery that much more difficult.

If faced with a similar situation to this skipper, would you know what to do? Just in case the answer is no, carry out regular manoverboard drills. In other words, be prepared. Your life, and the lives of your crew may just depend on it.

Skipper killed by lifting gear failure while alongside

Narrative

A 24.44m Jersey registered beam trawler was lying alongside, repairing her nets in Plymouth and about to discharge her catch. The starboard derrick had been topped with a net hoisted for repair.

The eye of the topping lift block failed, causing the derrick and its load to crash down on to the fish quay where the skipper was standing. He was killed and two female bystanders were injured, one seriously.

A detailed examination of the block found that it failed because of progressive cracking emanating from an inherent defect at the crown of the eye. During the manufacturing process, a hole was drilled into the crown (to allow machine finishing) and subsequently filled with weld. This weld seal was compromised and corrosion penetrated, beginning the process of progressive cracking.

Further examination also revealed that there had been an attempt to weld repair the inner bearing surface of the eye of the block. The quality of this repair was poor, with porosity and entrapped weld defects being evident.

Other blocks were discovered with similar defects.

The Lessons

1 Skippers and owners are recommended to check all lifting equipment for evidence of welding and, if any is found, arrange to have it replaced.

2 Owners/operators of vessels should institute a system of maintenance for lifting equipment on their vessels. This system should include both in-service checks and regular thorough examinations by a competent person (eg insurance engineer, specialist lifting equipment company etc). If such checks, or thorough examinations, reveal that an item of lifting gear has gone beyond laid down discard criteria (eg in terms of wear, corrosion, broken wires, evident deformation or cracking), the only safe option is to scrap that item and provide a new one to the correct capacity.

3 Marine engineers should not make weld repairs or any significant heating to lifting equipment. Such work should only be carried out by the equipment manufacturers, when it would be in accordance to their specifications and subject to specialist thorough examination.

The tragic outcome of overloading

Narrative

A small fishing vessel was trawling for mussels in what was described as ideal weather for mussel fishing, with light winds and a calm sea. A substantial catch of mussels had been caught the previous day and had been left stacked on deck overnight.

Late morning, the last catch of the day was tipped on to the mussel bench and processing began. Two crewmen were next to the bench cleaning and raking the mussels into bags. The skipper was tying and stacking the bags slightly further forward. The bags were stacked 1 to 1.5m above the deck.

Ten minutes later, the vessel started to list to starboard, and the stern quarter gunwale very quickly became submerged. The crew realised the vessel was about to roll over, but before any corrective action could be carried out, they were scrambling for their lives. The vessel capsized and rolled completely upside down, throwing the men into the water.

One of the crew remained conscious throughout the ordeal and, once he had surfaced and kicked off his boots, looked quickly for his two colleagues. He saw a lifebuoy and swam to it. Shortly after, he found the skipper, unconscious in the water, so held his head above water and shouted for help. There was no sign of the third crewman.

A nearby fishing vessel came to their assistance. The crew of the rescue fishing vessel alerted the coastguard while proceeding towards the casualties, who were then recovered from the water. The skipper of the rescue fishing vessel revived the unconscious man, before continuing to search for the missing crewman. Once additional help had arrived, the rescue fishing vessel headed for a nearby pier to land the casualties at an awaiting ambulance.

Divers later recovered the third crewman from the seabed. He was rushed to hospital, but never regained consciousness.

The capsized fishing vessel was salvaged by her insurers and examined by MAIB inspectors, who also conducted an inclining experiment to determine her stability characteristics. It was discovered that the vessel's manual bilge pump had been removed for repair, and had never been replaced. A rag and bung were used to seal the inboard end of the overboard discharge pipe. The bilge alarm had not been tested on the day of the accident, and was not heard at any time during it. The vessel had also been modified significantly in the past, with no estimate of the likely effects this would have on stability or load-carrying capacity. Three lifejackets were found tightly packed into an under-bunk locker, making their retrieval extremely difficult **(see figure)**. An overall poor approach to safety was evident onboard.

It was concluded that the capsize was caused by the effect of undetected flooding, probably via the manual bilge discharge pipe, in combination with the heavy load of mussel bags on deck.

The Lessons

1 Be aware of the dangers of top weight. Stacking bags of mussels 1 to 1.5m high on deck will raise a vessel's centre of gravity. Put heavy loads low down in the fish hold or, better still, unload the catch regularly.

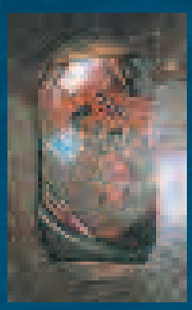
2 Any modifications made to your vessel will affect its stability. The cumulative effect of additions, over time, can be significant. Seek professional advice to establish loading limits for your vessel – its seaworthiness depends on it.

3 Check the bilge alarm daily before each voyage. Early warning is essential if flooding is to be overcome. If the alarm is integrated with an automatic bilge pump, make certain this is working too.

4 Ensure safety equipment is in date and stowed correctly. In the event of an accident it may be the difference between life and death – possibly yours!

5 Conduct a risk assessment for your vessel. Taking the time to reflect on the risks involved with its various operations will eventually lead to a safer ship. Remember a *safe* ship is a *productive* ship.

6 This is yet another case of lifejackets not being readily available in an emergency. Surely it is worth investing in lifejackets or flotation devices which can be worn at all times. Be prepared!



5

Narrative

Once clear of the harbour, the skipper of a 36m purse-seiner set a course of 010° with a speed of about 9 knots. He plotted on both ARPA radar sets a number of echoes, some within 0.5 mile of his vessel, but none of them, that he noticed visually or on radar, were ahead of him within 5 to 6 miles. It was dark, the wind was moderate, and the visibility was good.

The crew stowed the gear away on deck and retired to the mess room. About a mile into the passage, the cook relieved the skipper in the wheelhouse so that the skipper could join his colleagues in the rest room for a bite to eat. Several minutes later, a loud crash was heard. The skipper hurriedly returned to the wheelhouse. The vessel had collided with a 21m twin-rig trawler heading in a south-south-westerly direction. Neither the skipper, nor the watchkeeper of the trawler, had detected the purse-seiner by sight or by radar.

The trawler suffered damage to her shelter deck and gunwale area. The purse-seiner escaped with just minor scrape marks to her paintwork. Fortunately, nobody was hurt.

Cook's crash diet

The Lessons

1 Busy traffic areas around the approaches to ports make special demands on even the most experienced watchkeeper, and special caution should be exercised at all times. This means keeping a careful and continual radar watch, as well as maintaining a proper visual lookout. It should be borne in mind that vessels on reciprocal courses, which would have an end-on aspect, can give inferior radar return signals. In such circumstances, it is essential for the watchkeeper to suppress the displayed heading line at regular intervals to aid detection.

2 If the watchkeeper has to leave the bridge for whatever reason or length of time, he should ensure an effective watch and lookout is maintained in his absence.

3 Shore background lights can make it difficult to distinguish the navigation lights of another vessel, especially when that vessel's relative bearing is not changing, which happens when both vessels are on a collision course. In such circumstances, it is essential that an efficient radar watch, in addition to a visual watch, is maintained. In this case, there is some doubt as to whether the trawler was exhibiting her navigation lights, making her detection all the more difficult.

Rude awakening!

Narrative

During a fishing vessel's eight hour passage to her fishing grounds, the navigational watch was split between her four crew members.

She arrived at the grounds and began fishing. After two hauls, her starboard gear parted, so she started searching for it. After 12 hours of searching, during which time all crew members were up and about, she found it.

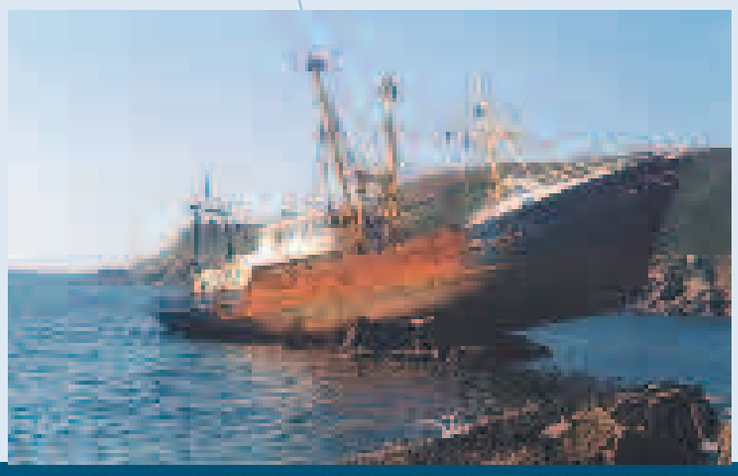
The crew spent a further 5 hours on deck getting the gear on board and repositioning it. A course was then set to return to port.

The crewman who was scheduled to take the final watch was expected to call the skipper when 5 miles of the passage remained. The schedule afforded him the opportunity to rest in the mess deck for a few hours before being called for watch. Unfortunately he chose not to retire to his bunk because he considered it was not worthwhile to do so.

Twenty miles from port, the crewman was called for watch. He hadn't slept for nearly 24 hours. At that time it was still dark, the vessel was on track and the weather was good. He sat down in the wheelhouse chair – and fell asleep.

The crewman's last recollection was noting the GPS showing 12 miles of the passage remaining. He was woken when the vessel grounded at a speed of 12 knots. The skipper, who was also woken, rushed to the wheelhouse, where the watch alarm was still sounding.

The vessel was refloated on the following tide, having sustained heavy damage to her hull plating.



The Lessons

1 Once again, fatigue features as the primary cause of an accident at sea. This watchkeeper had worked a gruelling 17 hour schedule on deck, retrieving and repositioning the lost gear, and had previously managed just 4 hours' sleep during the vessel's 8 hour steam to the fishing grounds.

The MAIB appreciates that unforeseen events can sometimes make it necessary for fishermen to work long hours; disrupted sleep is often unavoidable. However, skippers and owners should ensure that watchkeepers are sufficiently rested for the purpose of conducting a safe navigational watch, and work patterns should therefore be arranged accordingly.

Watchkeepers, too, must take responsibility to ensure they are fit for duty, and should take **every possible opportunity to catch up on lost sleep**. The watchkeeper concerned in this case could have 'put his head down' for a few hours before his watch, but chose not to do so. The dramatic photographs illustrate only too well the consequences of this ill-fated decision.

2 Although not a mandatory requirement, fitting a watch alarm can be a very effective safety measure. However, if you are a fishing vessel owner or skipper, you are recommended to ensure that if one is fitted on board your vessel, it is loud enough to alert the watchkeeper, and is connected to a secondary back-up system that will alert the remaining crew should the watchkeeper, for whatever reason, fail to cancel the initial alarm.

7 Steering fault and lookout cause to collide

Narrative

Two pair trawlers had caught an unwanted catch of small haddocks and, having landed the last of the fish on deck, set off for a different trawling area close by. Both were increasing speed on parallel tracks about 300m apart when the skipper of one (Vessel A) went below to let his crew know the fishing plans. At about the same time, the skipper of the other vessel (Vessel B) moved away from his

poor pair trawlers

control position to the aft door of his wheelhouse to clear his throat. The latter skipper had just returned to his control position when he noticed Vessel A heading towards him, and seconds away from a collision. He had time only to put his engine astern before the impact.

Vessel A's skipper was just returning to his wheelhouse when the impact threw him to the deck. He picked himself up in time to note that the rudder angle indicator on his Robertson autopilot displayed 20° to starboard, and that the autopilot was not responding to manual steering commands.

The collision caused above-water damage to Vessel B's hull and shelter, and sprung planks below the water level on Vessel A. Despite attempts to control the flow of water using pumps, Vessel A began to trim by the head. A bilge alarm fitted in the fish hold gave timely warning that progressive flooding was occurring. The three crew members and the skipper were able to transfer safely to Vessel B before Vessel A capsized and sank.

Vessel A had a history of problems with the electrical contacts in her steering system. Only 36 hours before the collision, her steering gear had locked with the rudder 20° to starboard. On that occasion, the skipper had renewed the contacts and, having done so, assumed the problem would not recur for some time.

As Vessel A foundered after the collision, it has not been possible to discover, with certainty, the cause of the steering problem. It might have been the contacts, as the skipper believed, or perhaps another previously undetected fault with the system.

The Lessons

1 When two vessels are steaming only 300m apart, an unexpected event can cause a dangerous situation to develop in a very short time. Skippers should be aware of this and, in accordance with good seamanship, should make appropriate allowances for any eventuality.

2 This accident could have been avoided if either vessel had been keeping a continuous vigilant lookout. Never, ever, leave a bridge unmanned at sea, even for a short time.

3 One of these vessels had a history of problems of the sort that probably caused the collision. This should have led to a heightened awareness of the dangers associated with passage-making in close proximity to another vessel. A proper risk assessment would have highlighted the risks and the measures necessary to counteract them.

4 The skipper should not have assumed that the steering problem had been fixed until it had been thoroughly tested over a period of time.

5 On this occasion, a well-maintained bilge alarm gave timely warning of progressive flooding.

6 A few of Vessel A's crew had invested in personal survival suits. Had the transfer on to Vessel B not gone smoothly, they might have had good reason to be thankful for the extra protection this clothing afforded.

always

Narrative

A crew member drowned when he fell from a ladder between his fishing vessel and a quay (see photograph). The sea was calm and, although it was dark, both the quay and vessel were well lit.

After 4 days of fishing for prawns off the Scottish coast, the skipper decided to land his catch and collect a new net. He radioed port to let them know his intentions.

When the vessel arrived at the harbour later that day, the quay was quiet and there was no-one around. The skipper decided to unload his catch first, before finding assistance with the new net.

The crew readied themselves for coming alongside port side to. The first crewman was at the bow, the second was ready at the stern, and the third was ready to disembark on to a quay ladder to climb up and receive lines.

The Lessons

1 This accident demonstrates how quickly an incident can escalate when a personal flotation device is not worn. At first, it appeared a simple case of the crewman reaching for the relative safety of the ladder or lifebuoy. But he was battling with cold water shock, and was being weighed down by heavy, waterlogged clothing; it was too much of a struggle to stay afloat.

A lifejacket removes this immediate threat to survival, and provides the wearer precious time for a rescue to take place.

2 No risk assessment had been conducted for the fishing vessel, mainly because a suitable occasion to attend the relevant course had not been arranged. Part of conducting a risk assessment is establishing emergency procedures for such events as man overboard, fire, abandoning ship and helicopter rescue. Taking the time to address your actions in emergencies may well be the difference between life and death when an incident occurs.

3 In a maritime emergency, the coastguard should be the first authority to be informed. Giving them clear and concise information will then enable the rescue services to be directed effectively.

4 Ensure that decks are kept free of oil and other substances which may cause footwear to become slippery. Fishing boats are hard working vessels, and it is impossible to keep them spotlessly clean, but this hazard to personnel must be minimised if accidents are to be avoided.

Quay ladders require care

The skipper approached the quay and applied stern power to check the vessel's forward motion. The third crewman stepped off the gunwale on to the quay ladder and started to climb. As he neared the top, he slipped and fell into the water between the fishing vessel and the quay.

Although the man in the water was close to the quay, he appeared unable to grab the ladder, so the skipper twice threw him a lifebuoy. On both occasions his colleague was unable to grab it. The skipper tried to move the vessel closer. Meanwhile, the first crewman entered the water to help his companion struggling in the water. Both men were eventually retrieved on to the vessel with great difficulty, and attempts were made to resuscitate the third crewman who, by that time, was unconscious.

The skipper rang the emergency services, and then manoeuvred his vessel round to some concrete steps to enable easier access for the paramedics. Some 20 to 25 minutes later, the paramedics arrived. Confusion had arisen about the fishing vessel's precise whereabouts.

The third crewman died from drowning.

The reason for the crewman slipping off the ladder is unclear, and only possible causes can be considered. Although it complied with regulations, its ergonomic design was poor, and this might have contributed to the fall. It is not an uncommon design of ladder, and less safe harbour ladders are certainly in use around UK fishing ports.

Heavy weather – fatal

Narrative

A well-found and modern 24m twin rig stern trawler was fishing in the deep-water grounds to the west of the north Scottish coast.

A west-south-westerly force 7 to 8 wind was blowing, and there was a moderate westerly swell. During her second tow of the trip, the weather deteriorated to force 9 and the swell increased from moderate to heavy.

When the tow was complete the crew hauled the gear. The skipper was stationed in the wheelhouse and the four remaining crew members were positioned aft in preparation for "dogging-up" the trawl doors and clump weight. When hauling, it was normal practice for the vessel to be stern to the weather.

All the crew were wearing flotation jackets but none was wearing head protection, despite the fact that it was available on board, and its use was encouraged by notices posted in prominent positions.

One of the deck crew was on the port side aft, in a space which housed the hydraulic controls for the port side sweep-line winches, and the gallows for the port door.

After the trawl doors and the clump weight were disconnected, the crew began to heave on the sweeps. Suddenly and unexpectedly, a large sea broke over the vessel's port stern. Its force swept the crew member off his feet and, it is believed, threw him hard against the port trawl door. He fell, and his head became trapped between it and the ship's rail as the vessel rolled and then returned to upright.

The crew member suffered severe crush

fishing accident!

injuries to the back and front of his head. They were fatal.

The remainder of the crew, who were also positioned aft, only just managed to hang on by grabbing hold of the nearest piece of superstructure. The force of the sea crashing on board, and the pitch and heave of the vessel, parted all four 28mm sweep lines.

The skipper had carried out an assessment of the risks when the vessel was new, 18 months earlier. He hadn't involved the crew. Since then, the risk assessment had not been revisited.

The Lessons

1. Fishing in extreme weather conditions is fraught with danger, but sometimes commercial pressures will influence a skipper's judgment. Seeing the worsening weather, the skipper would have been wise to have hauled the gear on board long before conditions deteriorated to such an extent. A *haul* might have been lost, but a *life* might have been saved.

2. When hauling in stern trawlers, especially in poor weather conditions, always endeavour to haul the fishing gear head-to-weather. This will afford the crew a degree of protection.

3. Whenever working on deck, especially in an exposed area, ensure the correct personal protective equipment is worn at all times. We cannot be sure that safety headgear would have made any difference in this instance, nevertheless, it can save lives.

4. In this particular case, a completed risk assessment failed to prevent the accident. All fishermen should take an active part in the risk assessment process on board their particular vessel, and should ensure that identified control measures are fully implemented.

Lookout! – unfortunately

Narrative

CASE 10

After a night's fishing, a small prawn trawler with two crew on board headed off to return to port to land her catch; speed was 7 knots and visibility was between 1 and 1.5 miles. Ahead, three other fishing vessels were seen both visually and by radar at a distance of between 0.5 and 0.75 miles. All were going faster than 7 knots, and appeared to be heading for the same harbour.

Later in the passage, when the skipper adjusted the radar display from the 1.5 miles to the 0.75 mile range scale and, at the same time, looked through the wheelhouse windows, the three other vessels were no longer visible. The skipper then left the wheelhouse to assist the deckhand who was working the fish under the shelter. From there, the view ahead was extremely restricted. Although he returned to a position outside the wheelhouse door every 3 to 4 minutes, to view the radar display, no contacts were detected. From that position, the skipper could clearly see

The Lessons

1 When two vessels are working close to each other, and neither is keeping an effective lookout, the only thing that stops them from colliding is luck. Fishing is a risky enough business without leaving things to chance. Keep a good lookout at all times, even when stopped, and never assume that the vessel approaching has seen you or will take any action to avoid you.

2 The visibility ahead from the wheelhouse on some fishing vessels is not ideal, notably on those where shelters have been added or additional fixtures installed. Not having a clear view ahead obviously increases the possibility of not seeing other vessels, particularly small ones. When this is the case, precautions, such as posting a lookout, frequent alterations of course, and using radar guard zone alarms should be considered. If a vessel ahead is stationary and not seen, there is every chance you will hit her!

not

the radar display, but could not look ahead through the wheelhouse windows.

Soon after the skipper returned to the shelter on about the fourth occasion, and with the vessel no more than 0.75 mile from the harbour, the trawler collided with another fishing vessel, which had stopped in the water to work her catch. The other vessel began taking on water; her two crew were evacuated. The vessel was taken under tow, but sank before reaching safety.

CASE 11

A 21m wooden stern trawler completed hauling and was heading back to port, which was about 12 miles away.

The skipper was in the wheelhouse, and the crew were working the catch below on the shelter deck. The vessel was heading straight into the low, bright winter sun, which reflected off the calm water and, although visibility was good, it was very difficult to see ahead. Also, the bow was 30cm higher than the skipper's height of eye, and blocked the view directly ahead. The radar was on the 3-mile range scale, and two vessels had been detected early in the passage, both ahead of the trawler and heading in the same direction.

About 15 minutes after course had been adjusted by several degrees, to give a wider berth to a small island around which smaller boats were known to work, two deckhands went on to the whaleback in front of the wheelhouse and began washing down the deck. Soon after, the skipper thought he saw a mast, or similar, directly ahead. He adjusted the autopilot to alter about 45° to port. At the same time, the hands on deck shouted that there was a boat ahead.

The engine was quickly put astern, but it was too late to prevent the trawler colliding with a 10m GRP scallop dredger.

The scallop dredger had been stopped in the water for about 10 minutes before the collision while she hauled her gear. The crew of two had seen vessels in the distance when they initially stopped, but none had caused them any concern. They didn't realise the trawler was rapidly bearing down on them until seconds before the collision. When they did, they ran into the wheelhouse and put the engine astern. Unfortunately, they were too late. The trawler's stem collided with the dredger's port shoulder; the dredger quickly rolled to starboard and capsized in one movement, trapping the crew inside the wheelhouse. The skipper managed to swim out after a few seconds, but the deckhand remained in the wheelhouse considerably longer, before he, too, managed to swim clear.

After the collision, the trawler manoeuvred alongside the capsized dredger, and quickly passed a lifebuoy and a line to the men in the water. The dredger's crew were then hauled on board using a line from the power block, after first being assisted in the water by one of the trawler's deckhands, who was dressed in a survival suit. Both men from the dredger needed hospital treatment.

3 Wheelhouses on smaller vessels rarely have the luxury of tinted windows or fancy blinds to help watchkeepers maintain an effective visual lookout on bright, sunny days. Using sunglasses instead, however, is not daft; it's common-sense. They are a remarkably simple but effective piece of equipment – just remember to take them off when you look at the radar!

4 In perfect conditions, even the smallest of boats could expect to be detected by a vigilant watchkeeper using a well-tuned radar. Sadly, sea conditions are rarely perfect, and watchkeepers and radars are of varying standards in all types of vessel. In smaller vessels, particularly those made of wood or GRP, having a radar reflector fitted can only improve your chances of being seen on radar. Being seen is not a guarantee of being safe, but it certainly helps.

5 When rescuing a person from the water, getting them on board can be extremely difficult. Few people actually appreciate the weight of an incapacitated person being lifted from the sea until they have physically tried it themselves. It is not an easy task, and unless the method of recovering people from the water has been considered and practised, the outcome could be tragic. Don't leave it to chance, think how you would recover somebody from the water in your vessel, then make sure you can.

6 The scallop dredger crew mentioned in Case 11 are alive and well today, owing to the commendable efforts, and quick thinking, of the trawler crew.

Perished in the darkness

Narrative

A 16 metre long wooden fishing vessel left her home port in western Scotland at 0530. She made passage to fishing grounds where she carried out a succession of trawls using scallop dredging gear. The last trawl was completed at about 2155 hours, and the scallops were landed on deck before the vessel began a 10-minute passage to a local anchorage position.

The weather was calm and the visibility good in fading light.

As the vessel headed towards the anchorage, the skipper was in the wheelhouse and the two crew members – one a 17-year old – were working on deck. They sorted the catch, maintained the dredges and prepared to anchor the vessel. The starboard dredge gear was to be used for this purpose.

At 2210, the skipper emerged from the wheelhouse and noticed that the 17 year old was missing. A search of the small vessel proved unsuccessful, so she was turned, to retrace her track. The skipper and remaining crew member searched the surface of the water, but couldn't see their missing colleague. A few minutes later, they called the coastguard and a full-scale search of the area got underway.

The young man was never seen again.

The cause of the man overboard has not been determined with certainty, but the MAIB considers it likely that it happened while the crew member was leaning over the side to tighten bolts on the dredge gear. He had not been wearing a lifejacket or safety harness, and the bulwark height was very low, less than 37cms (see photograph). The vessel had been exempted from compliance with the minimum bulwark height rules contained in the Fishing Vessel (Safety Provision) Rules 1975 owing to her age, and compliance would have entailed major modification.

The Lessons

1 Owners of elderly vessels with bulwark/guard-rail heights lower than that specified by modern rules must, by means of a risk assessment, consider whether they are providing a safe working platform for their crew. If it is determined that there is a risk of personnel falling over the side, control measures, such as wearing safety harnesses and/or lifejackets, must be provided. The requirement to carry out risk assessments is included in the Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997 (see MGN 20 (M+F)). The requirement to provide suitable lifejackets is included in the Merchant Shipping and Fishing Vessels (Personal Protective Equipment) Regulations 1999 (see MSN 1731 (M+F)).

2 The MAIB has, on a number of previous occasions, recommended the wearing of lifejackets on the open deck of fishing vessels – even in seemingly benign conditions. Had this young 17-year old lad been wearing one, there is a very good chance that his life could have been saved.

3 The fading light meant that the rescue services and other search craft were unable to locate the young man in the water. A personal locator beacon (PLB) might just have made the difference, and he might have been seen and rescued.

Following this terrible tragedy, the owner of the fishing vessel provided his crew with PLBs. If you own a fishing vessel, you should consider doing the same thing and, better still, ensure your crew wear inflatable lifejackets at all times.

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NUC or not?

Narrative

A fishing vessel was towing on an easterly course. It was daylight with moderate visibility and a force 4 southerly wind. A chemical tanker, which had been steaming north, stopped her engine and started to drift, awaiting clearance to enter port.

The fishing vessel skipper considered that his vessel was on a collision course with the tanker, and called her repeatedly on VHF radio in an attempt to ascertain her intentions. In response, the tanker finally worked her engines ahead and the fishing vessel, which was restricted in her ability to deviate from her course owing to a number of seabed obstructions in her immediate vicinity, was then able to pass clear of her stern.

The Lessons

1 It is common for tankers to drift at sea while awaiting berthing instructions. However, before stopping, an assessment needs to be made of the surrounding traffic situation so as to ensure other vessels are not embarrassed by the change in circumstances. In this case, the fishing vessel skipper was unexpectedly faced with a risk of collision, which he was restricted in his ability to avoid. Indeed, it was not his obligation to keep out of the way since the tanker remained a "power-driven vessel" within the meaning of the Collision Regulations. The tanker was, therefore, required to take action to ensure that the fishing vessel passed at a safe distance. Having already stopped, this was difficult since the close proximity of the fishing vessel to the tanker's stern prohibited continued use of the main engine. In the event, the fishing vessel assisted the situation by altering course to starboard at the risk of fouling her nets.

2 The reluctance of the tanker's master to respond immediately to calls from the fishing vessel skipper, indicates an assumption that his was now a privileged vessel, and that other vessels would endeavour to keep clear. This was not so. An obligation for a drifting power-driven vessel to keep out of the way would only change if she was "not under command" and was displaying the corresponding signals. However, such a vessel would have to be unable to keep out of the way through some exceptional circumstance, awaiting port clearance is not one such circumstance.

Near miss leads to grounding

Narrative

A 35m Belgian beam trawler was inward-bound for a UK port after the completion of a fishing trip. At the same time, a 12000gt Swedish laden products carrier was outbound. It was dark in the early hours of the morning.

On turning from a northerly heading into the east channel, the skipper of the fishing vessel applied only 15° of helm. This took her to the north side of the channel, the incorrect side for entering. The tanker that was also on the north side of the channel, the correct side for departing, was approaching the vicinity of the turn. The tanker did not have a pilot embarked as the master was a PEC holder.

The fishing vessel skipper had not identified the close proximity of the tanker as he was navigating from buoy to buoy by eye, standing at the front of the wheelhouse, and not using the navigational equipment that was available.

Before executing the turn, the fishing vessel skipper did inform VTS that he would navigate to the south side of the channel. It was his intention to return to the south side of the channel once the turn had been completed. However, the tanker's master, who overheard the VHF radio conversation between the fishing vessel and VTS, was mistakenly under the assumption that the fishing vessel would remain on the north side. When the fishing vessel began to alter course to starboard to return to the correct side of the channel, her course put her on a potential collision course with the tanker.

Realising this to be the case, the tanker's master altered course to port to avoid a collision. When the skipper of the fishing vessel detected the alteration of course, he came full astern on the main engine. The result of both vessels' manoeuvres was that the fishing vessel passed down the tanker's starboard side at a distance of approximately 10 metres.

Both vessels were being monitored by Port Control, but they failed to intervene to prevent the near miss.

When the fishing vessel was approximately amidships of the tanker, the master of the tanker ordered full astern on the main engine. However, his action was insufficient to prevent the tanker from leaving the channel and running aground. Fortunately there were no injuries, damage to either vessel, or pollution. However, the potential for a much more serious accident was evident.

The Lessons

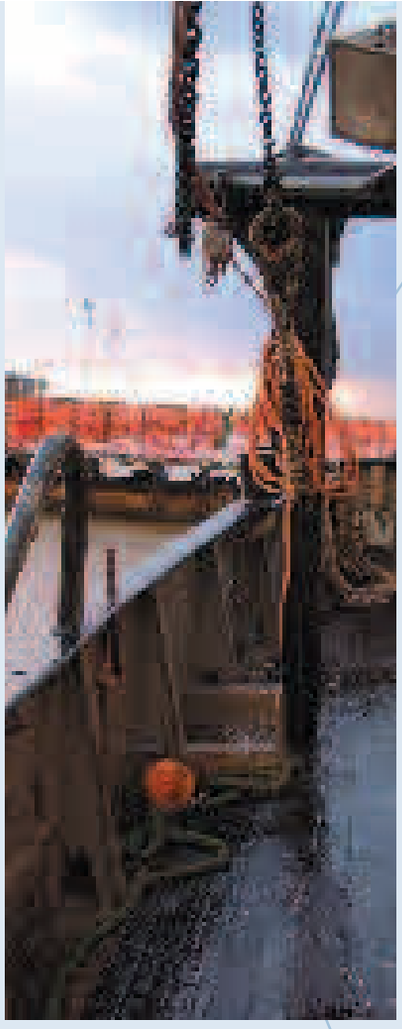
1 Always make full use of the navigational equipment available. Had the fishing vessel's skipper done so, he would have detected the tanker a lot earlier than he did.

2 When entering or leaving port, always remain on the correct side of the channel in accordance with Rule 9 of the Collision Regulations. If you do intend to alter course, for whatever reason, use the sound signals prescribed in Rule 34(d) to make your intentions clear to other vessels.

3 Never assume another vessel's intentions, especially from an overheard VHF radio call. In this instance it would have been a simple matter for the master of the tanker to confirm with VTS the fishing vessel's intentions.

4 Had Port Control intervened in a timely manner, the near miss could have been prevented. In this context, there is a need for Port Controls to adopt policies with more emphasis on the direction of traffic in clear procedural ways.

5 Training in emergency response procedures is vital. Reconstruction shows that, had the tanker's master elected to come hard to starboard and full ahead when the fishing vessel was clear, instead of full astern on the main engine, he would have prevented the vessel from running aground. However, he wasn't to know, as no training in emergency response procedures had been carried out.



Narrative

A 24m beam trawler was returning to her south coast port earlier than intended because of bad weather. The wind and sea conditions as the vessel entered the harbour breakwater at sunrise were south-south-west gale force 8, with a rough sea and heavy swell. The ebb tide had also begun.

The crew comprised the skipper, mate and three deckhands. The skipper and mate, on the bridge, used the vessel's tannoy system to call the deckhands to mooring stations. The deckhands were wearing oilskins but no lifejackets.

Two deckhands proceeded forward and started raising the derricks; the third went aft. When the derricks had been raised, one of the forward deckhands threw a line to the deckhand aft, who then tied it to a cleat attached to a stanchion on the starboard quarter.

A short while later, as the vessel lined up for the harbour lock, the skipper looked out of the starboard aft bridge window to look for the third deckhand, whose usual mooring position was also forward. The skipper saw him at the starboard quarter tying up ropes. Using the tannoy system, the skipper requested another deckhand to go forward.

The trawler moored in the lock, the derricks were lowered for greasing, and the crew, apart from the third deckhand, carried out their usual tasks. The skipper, concerned that he couldn't locate the third deckhand, asked the rest of the crew to help him search the vessel for their missing colleague. He wasn't found. The skipper alerted the rescue services and the harbourmaster.

A major air and sea search was unsuccessful and, the following day, the deckhand's body was found washed up on a beach further along the coast. The cause of death was drowning.

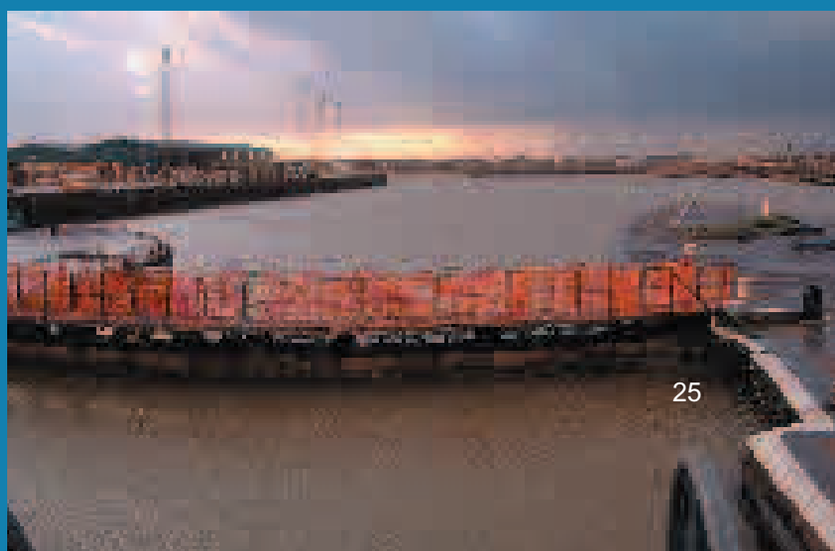
Loss of fisherman within harbour breakwater

The Lessons

1 Since there were no witnesses to this tragic accident, the reasons for the deckhand falling overboard must be speculative. A contributory factor to his death, however, was his failure to wear a lifejacket. This vital piece of safety equipment just might have afforded him those extra few minutes to enable the rescue services to reach him.

Sadly, a popular opinion among fishermen is that a lifejacket worn during fishing operations is cumbersome because it can become caught on the fishing net, which can then drag the wearer overboard. Mooring operations don't involve the use of fish netting, but they do usually involve leaning over the side of a vessel or standing on the bulwark. It takes mere seconds to don a lifejacket before going out on deck. If you unexpectedly get a ducking, you'll be glad you made good use of those few seconds.

2 Don't assume that your crew mates will see you, or will hear your call for help, if you fall overboard. Rough seas and a howling wind could mean that your survival is entirely down to you. Don't you deserve the best chance possible? Why not try that lifejacket that is normally kept in your locker; you might get used to it.



Can you see your

Narrative

A 32-year-old 14 metre wooden fishing vessel left her moorings one morning to continue creeling off the coast of Scotland. The wind was from the south-west force 4 to 5 with a light south-westerly swell. The crew had been waiting for favourable weather for 2 days, and there were already 3 tons of crabs in the vivier tank on board.

Later that morning, the three crew, including the skipper, were engaged on deck hauling a string of pots. The skipper was away from the aft wheelhouse for about 45 minutes as it was a large haul. After they had hauled and were preparing to shoot the pots, the skipper noticed the bilge alarm sounding as he walked towards the stern.

He rushed down to the engine room, where floodwater was well over the deck plates. The main engine then stopped. This was probably because water was getting into the air intake as the vessel rolled. Poor access prevented the skipper from investigating the flooding forward. He was impeded by fishing gear, ropes and other equipment. The skipper shut off the seacocks in the compartment, but this did not stem the flooding. The small electric bilge pump fitted was no match for the amount of floodwater.

On the way back to the upper deck, the skipper retrieved the lifejackets from the accommodation and gave them to the crew. The two crew readied the liferaft while the skipper tried to make a “Mayday” call. The radio signal was poor, so he raised a nearby fishing vessel and asked them to

or hear bilge alarm?

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stand by. The liferaft was launched successfully.

Everyone transferred from the sinking vessel to the rescue fishing vessel without difficulty. Roughly 6 minutes later, the casualty plunged bow-first and sank in 80 fathoms of water. The liferaft broke its tether easily and was retrieved. The EPIRB rose to the surface about 3 minutes later, and immediately started transmitting. This, too, was retrieved and was switched off.

The cause of the flooding was probably a failure of pipework, seacocks or other fittings associated with the vivier tank. The tank was fitted 12 years before the accident, and it is not known if any surveys had taken place since then.

The Lessons

1 It is one thing to have a working bilge alarm, it is quite another to be able to see or hear the alarm when it goes off. External visible or audible means of highlighting flooding alarms should be provided for just this situation. There are many examples where bilge alarms have provided vital early warning so that effective corrective action can be taken.

2 The advantage of watertight bulkheads is demonstrated clearly in this accident. Had they been fitted, the vessel might well have not been lost. Bilge alarms in the different watertight spaces will also greatly assist in pinpointing the problem, thus saving vital time if a vessel is to be saved.

3 The risk of vessel pipework failure must be considered fully in your fishing vessel risk assessments. Having a vivier tank system installed in a fishing vessel requires particular care, and regular surveys should be conducted to ensure vessel watertight integrity is maintained.

4 Keeping sea valves and critical pipework clear is essential if problems are to be located and solved quickly. In this instance, even if the skipper had been warned earlier, he might have been unable to do much to stem the flooding because all the relevant valves and pipework associated with the vivier tank were obstructed.

It is encouraging to see lifesaving procedures and equipment working well. Even if another fishing vessel had not been close at hand, the liferaft operated correctly and was ready to be boarded. The EPIRB also functioned correctly.

Bilge alarm success

Narrative

CASE 1

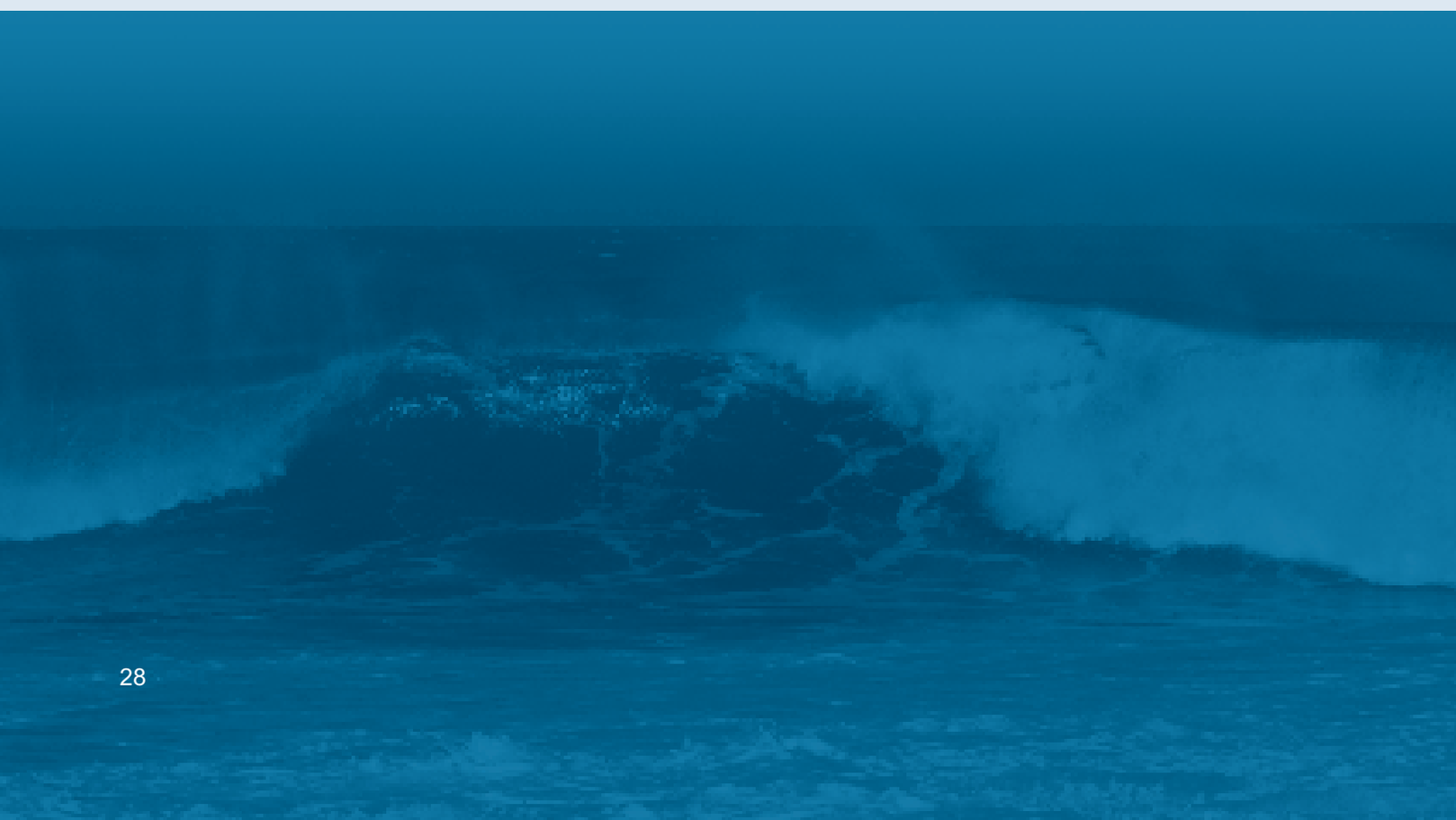
A 16m wooden creeler, off the coast of Scotland, finished fishing for the day and was heading home with her six crew. There was a light swell and the wind was south-easterly force 3 to 4. Only 8 miles from home, the bilge alarm sounded, so the skipper made straight for the engine room where he discovered water in the bilge. As a precaution, he called the coastguard to request pump assistance. Meanwhile, three pumps on board were brought into action to pump out the floodwater. The floodwater was effectively contained within the engine room by the bulkheads forward and aft, and the pumps had the flooding under control shortly after.

The lifeboat arrived alongside and, having assessed the situation, escorted the vessel back to port. On investigation, it was found that the seals and bearings of a seawater pump on the main engine had failed, causing the leak. It was a reconditioned pump and had been fitted only 4 months previously.

CASE 2

A 22m wooden twin trawler, manned by four crew, set out after having landed her catch the previous night. The weather was overcast, with heavy drizzle and a north-westerly force 4 to 5 wind.

After arriving at the fishing grounds some 5 hours later, the gear was shot away. Suddenly the bilge alarm in the fish hold sounded. On investigation, a significant ingress of water was found in the forward end of the fish hold, but the extent of flooding was restricted by the two fish hold bulkheads. The crew quickly hauled the fishing



stories 17

gear and the vessel's two bilge pumps were started. As the vessel headed for home, the crew monitored the flooding closely and called the coastguard. A coastguard helicopter delivered a salvage pump, which emptied the fish hold and stemmed the ingress of water. The local lifeboat escorted the vessel back to port where she was slipped.

The source of the leak was found to be some dislodged caulking between the keel and one of the hull planks.

CASE 3

A small GRP fishing vessel was fishing for mackerel off the south coast of England. She was stationary in the water, rolling heavily with a force 5 wind blowing. The skipper and crew were suddenly alerted by the sounding of the bilge alarm in the engine room. Shortly afterwards, the engine stopped. The skipper entered the engine room and located the source of the floodwater. A stainless steel jubilee clip on the deck wash inlet pipe had broken, allowing water to leak in slowly. The alternator belt had flicked some of the floodwater up on to the engine relays, causing the engine to cut out. The vessel had a manual bilge pump as well as an engine-driven one. The latter was obviously useless with the engine dead. The coastguard was called and a lifeboat towed the vessel back to port.

The skipper has since doubled-up all jubilee clips and has fitted another bilge pump, which is driven by the main engine and is operated by a float switch.

The Lessons

It is good to have positive lessons from cases that have gone well:

1 Here we have three examples of where bilge alarms have saved vessels and – more importantly – possibly 12 lives. Properly functioning bilge alarms enabled appropriate action to be taken in sufficient time to stem the flooding and to avert disaster.

2 It is vital to ensure your bilge alarm is working before every trip. It is also important to check that it has been reset correctly after testing. Failing to do so might result in it not sounding during an actual emergency.

3 It is also essential to position the bilge alarm sensor as low as is practicable. An early warning will maximise the chance of floodwater not reaching vital systems like the main machinery, so that pumps will be kept running.

4 Keeping your bulkheads as watertight as possible will also greatly improve your chances of containing floodwater and maintaining buoyancy.

5 Don't let your pride put your vessel and crew in unnecessary grave danger. Call the coastguard earlier, rather than later.

6 Sources of flooding are numerous and varied. Make sure your seawater systems are watertight and that sea valves are accessible and turn freely. Always double-up clips on flexible hoses and ensure pipes are aligned correctly. In particular, check the condition of any flexible pipework and fittings regularly.[1]

[1] For further guidance on preventing flooding see Marine Guidance Note (MGN) 165 (F).

18 Back rope bights back

Narrative

A 12m GRP fishing vessel was creel fishing with a crew of three. The vessel had approximately 100 creels on board and had started shooting them with the skipper posted at the helm, one crewman at the shooting position and the other passing the creels.

After ten creels had been deployed, the crewman at the shooting position stepped into a bight of the back rope. The other crew member shouted to the skipper, who immediately put the vessel astern to stop her. The trapped crewman by that time had stepped on to the gunwale and was desperately trying to hang on. The second crewman reached for a knife to cut free his entangled colleague but, as he did so, the trapped crewman was pulled over the side. As he fell into the water he came free.

The second crewman cut the back rope and then passed a line to the man in the water. The skipper and crewman heaved him on board and then called the coastguard. The coastguard helicopter evacuated the injured man to hospital, where it was found that he had dislocated his right knee.

Although a relatively experienced fisherman, the injured crewman had joined the vessel just a week before the accident.

The Lessons

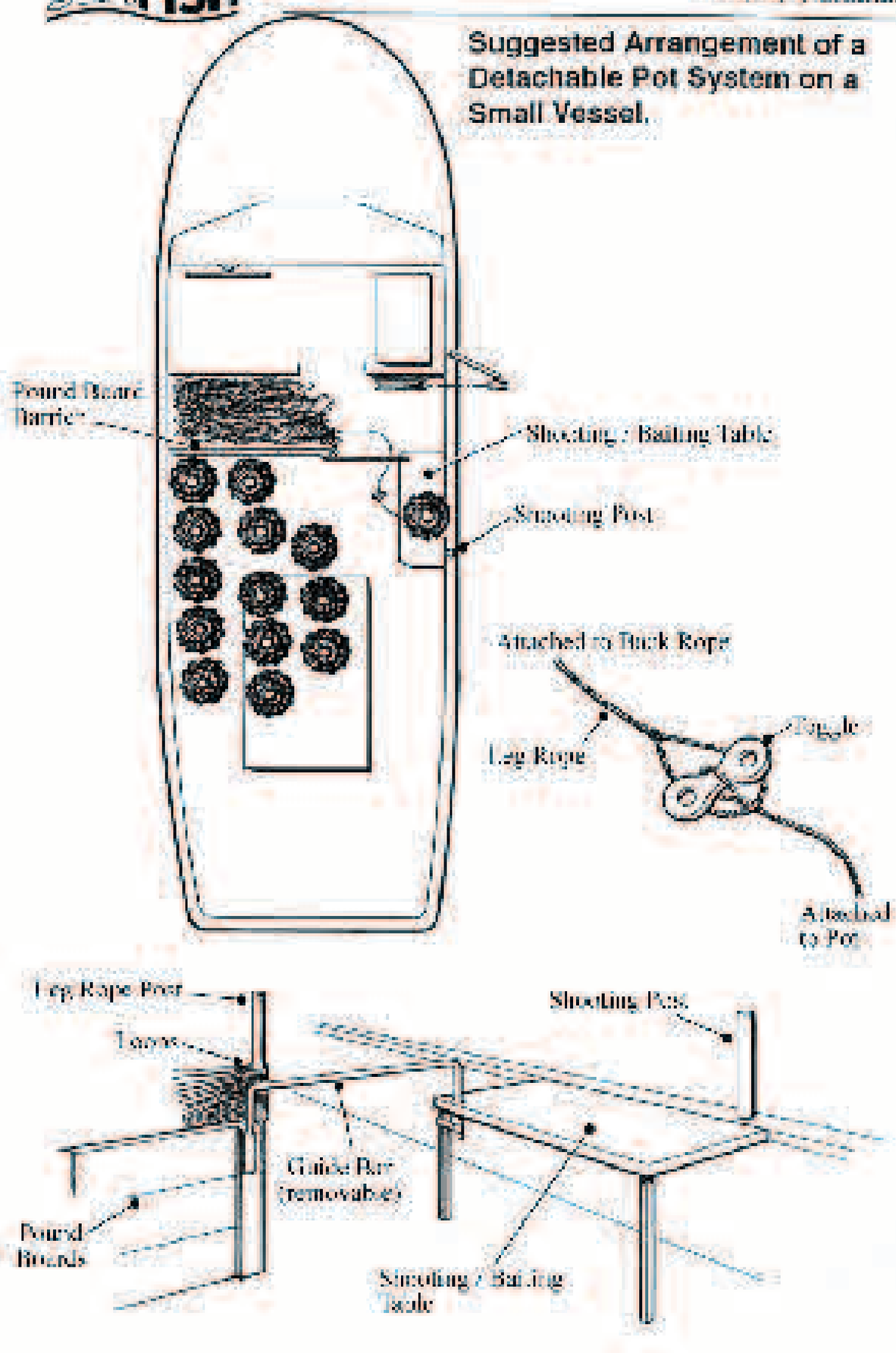
1 The crewman in this accident had a very lucky escape indeed. The back rope could so easily have dragged him to his death, as has been so tragically demonstrated by at least seven accidents reported to the MAIB during the last decade. Don't rely on your luck to stay alive!

2 Ensure you have conducted a thorough risk assessment of the fishing operations on board your fishing vessel. Involve all the crew, so that hazards can be identified and measures taken to minimise their risk as far as possible. Establish the training needs of each crew member and take nothing for granted. Making assumptions about the competence of a newcomer – albeit experienced newcomer – is risky. And ensure that each crew member knows exactly what to do in the event of an emergency.

3 The swift actions taken by the skipper and the other crewman, to rescue their entangled fellow worker, prevented a potential fatality. Having two crew left to deal with the situation undoubtedly helped to avert a disaster. Think carefully before you decide how many crew you require.

4 It is essential to arrange your working deck so as to keep the back rope away from the crew. This could be achieved by simply carrying fewer creels, providing more clear deck space, and/or by adopting the arrangement suggested by the Sea Fish Industry Authority, shown in the attached figure.

Suggested Arrangement of a Detachable Pot System on a Small Vessel.



The price of Coronation

Narrative

During the late morning of a cold winter's day, a 21 metre wooden fishing vessel had most of her crew working on deck, with her skipper in the wheelhouse.

Although there was nobody in the main cabin, it was usual practice to leave the cabin's TV switched on. A 24Volt to 240Volt inverter in the cabin supplied power to the TV.

Since beginning work that morning, all had run smoothly, except for a few rather odd problems with the two plotters and radar in the wheelhouse. At intervals of several minutes, each of these pieces of kit had given 'loss of power' signals, or had spontaneously shut down and restarted. Although the skipper went to the engine room to check the electrical system, he could find no problems or explanation for these symptoms. However, he did not look into the cabin because he saw no need to do so.

About 30 minutes after the radar shut down and restarted, the skipper smelled smoke coming from the area of the galley. After knocking the engine out of gear, he went to the galley and found smoke coming from the hatch leading to the cabin. Looking down into this hatch, he saw flames and smoke coming from the open cabin door.

He immediately contacted the coastguard by VHF and alerted the crew working on deck.

One of the crew promptly tackled the fire with a foam extinguisher. This appeared to put out the flames, but the smoke then changed from white to black, rapidly filling the galley and wheelhouse and forcing everybody onto the open deck.

Street 19

In the meantime, the remainder of the crew had launched the liferafts and had prepared them for embarkation. Brief consideration was given to tackling the fire with a hose, but this was quickly dismissed as thick smoke and flames coming from the cabin door prevented access to the engine room to engage the fire pump.

After closing the windows and doors of the wheelhouse and galley, all the crew then assembled on the forward deck ready to take to the liferafts, if necessary. The skipper released the EPIRB from its mounting, unsuccessfully attempted to activate it and then carried it forward. However, nobody was wearing a lifejacket as these had been stowed in the cabin, with survival suits, and the fire prevented access.

About an hour after calling the coastguard, skipper and crew were safely lifted from the vessel by helicopter. The still burning boat drifted for several more hours before sinking.

The Lessons

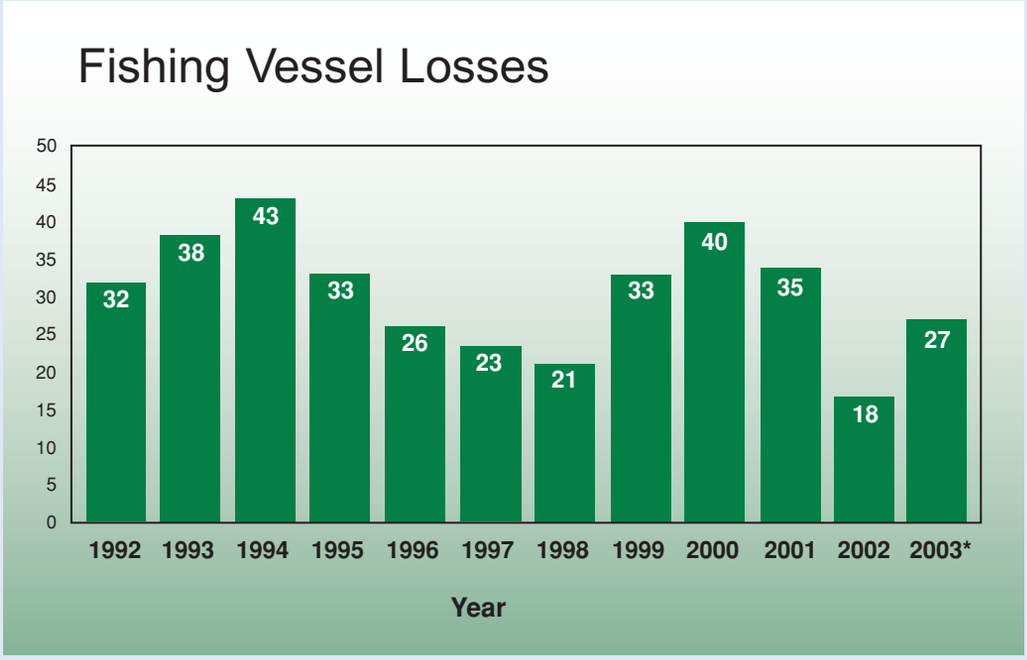
1 Domestic TV sets might not be capable of operating continuously, day and night, under the conditions of vibration, shock and humidity found on fishing vessels. When they fail, they might do so in a way that results in a fire. Similar comments can apply to inverters, particularly those aimed at the budget end of the market. When not in use, keep these non-essentials switched off.

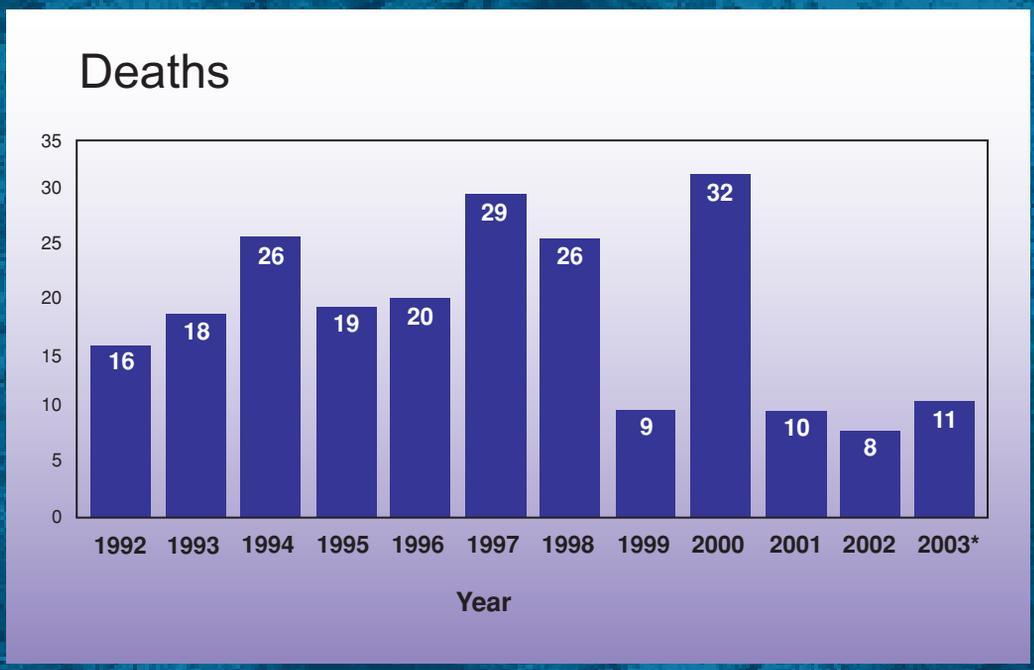
2 An early warning from a fire alarm and detection system might have given the crew time to tackle the fire in its very early stages, but this vessel was not fitted with a system covering the accommodation and galley. This incident shows their potential value.

3 Keeping the cabin door open at all times obviously made day-to-day access easier. However, the open door allowed flames and smoke to escape into the access trunk between the cabin and the galley. As access to the engine room door was also from this trunk, the crew were prevented from getting into the engine room to engage the fire pump. An important fire-fighting system was thus disabled. Fire doors have no value unless they are kept closed.

4 Although not affecting the outcome of this incident, the unsuccessful attempt to manually activate the EPIRB could have been important if the skipper had not been able to contact the coastguard with a position. It is important to know how to manually activate a vessel's EPIRB, as it provides an important method of raising the alarm and giving the coastguard the vessel's position in an emergency.

Fishing vessel accident





* Figures for 2003 are provisional at time of publication. (May 2004)

statistics

Fishing Vessel Accident Statistics 1990–2003

YEAR	LOSS OF LIFE					PERSONAL ACCIDENTS	VESSELS LOST
	Lost with vessel	Fell overboard	Involved Machinery	Onboard Accidents	**Total**		
1990	22	4	4	0	30	128	17
1991	25	5	0	2	32	165	41
1992	7	4	3	2	16	133	32
1993	9	7	0	2	18	115	38
1994	16	5	0	5	26	155	43
1995	10	8	1	0	19	108	33
1996	9	4	1	6	20	97	26
1997	16	7	0	6	29	138	23
1998	18	5	0	3	26	112	21
1999	3	4	0	2	9	89	33
2000	21	6	2	3	32	104	40
2001	1	6	0	3	10	81	33
2002	4	4	0	0	8	50	16
2003*	4	5	1	1	11	58	27
TOTAL	**165**	**74**	**12**	**35**	**286**	**1533**	**423**

* Figures for 2003 are provisional at time of publication. (May 2004)

Major accident locations

MAIB published reports

List of fishing vessel accident reports published since 1999

Alma C – report on the death of Michael John Beedie, a fisherman from the fishing vessel Alma C, on Turbot Bank about 55 miles west-by-south of Thyboron in Denmark on 25 January 2001

Amber – loss of a fishing vessel in the Firth of Forth on 6 January 2003

Amber Rose – foundering of a fishing vessel with the loss of one life off the Isle of Man on 15 October 1998

Angela – capsize and foundering of a fishing vessel in the North Sea on 6 February 2000

Annandale – flooding and foundering of a fishing vessel 16 miles north-north-east of the Shetland Islands on 23 March 2000

Arosa – grounding and total loss of UK fishing vessel on Doonguddle rock off the west coast of Ireland with the loss of 12 crew members on 3 October 2000

Astra II – loss of two crewmen attempting to board the vessel while berthed at Carbost pier, Loch Harport, Isle of Skye on 2 April 2000

Atlantic Princess – man overboard incident from vessel in the English Channel on 23 November 2000

Aurelia – flooding and loss of fishing vessel Aurelia, 78 miles west of St Kilda on 13 August 2001

Be Ready – fire on board the fishing vessel while fishing 30 miles north-west of the Orkney Islands on 22 January 2000

Betty James – grounding and subsequent loss of a fishing vessel off Isle of Rhum on 10 July 2000

fv Beverley Ann II/Cypress Pass – collision between vessels on 9 March 1999

Blue Hooker – loss of a fishing vessel with two lives off Blackchurch Rock, North Devon on 12 November 1998

Bro Axel/fv Noordhinder – near miss between Bro Axel and fv Noordhinder and the subsequent grounding of Bro Axel at Milford Haven 5 December 2002

Catrina – capsize of a UK registered fishing vessel south of Newhaven on 13 October 1998

Celtic King/De Bounty – collision between UK registered feeder container ship Celtic King and Belgian registered fv De Bounty to the south of The Smalls traffic separation scheme off the south-west coast of Wales on 19 March 2000

Charisma – capsize of the fishing vessel Charisma (OB588) with the loss of one crew member in Carlingford Lough on 30 January 2002

Christine Nielsen – flooding and foundering of a fishing vessel 120 miles north-east of the River Tyne on 18 March 2001

Constancy – sinking of a fishing vessel on 30 July 1998 with the loss of one life

Constant Faith – loss of a fishing vessel about 100 miles north-north-east of Peterhead on 30 June 2001

Crimond II – loss of a fishing vessel 30 miles north-east of Scarborough on 24 April 2001

De Kaper – fire on board a trawler off Hanstholm, Denmark on 12 February 1999

Donna M – capsize of a fishing vessel off the Orkney Islands with the loss of two lives on 31 August 1999

Dunan Star – fatal accident on board a fishing vessel 1.5 miles south-west of the Isle of Arran on 10 August 2000

mv Elm/mfv Suzanne – near miss incident on 11 February 1999

European Tideway and Vrouw Grietje – collision between vessels in the North Sea on 16 October 2000

Fishing Vessel Safety Study 1/2002 – report on the analysis of fishing vessel accident data 1992 to 2000

Flamingo – capsize of a fishing vessel east of Harwich on 7 July 2002

Fleur de Lys – explosion on board vessel which then foundered 18 miles south-east of Portland Bill on 16 April 2000

Fraoch Ban – capsize of a fishing vessel off the coast of the Shetland Islands on 15 August 1999

Geeske – death of one person while fishing off Beachy Head on 9 December 1998

Gemma Fidelis – fatal accident on board Gemma Fidelis 9 miles east of the River Tees on 23 October 2001

Girl Alice – loss of skipper from vessel 1.5 miles south-east of Burnmouth on 19 November 2000

Gradeley – manoverboard fatality off the west coast of the Island of Mull on 28 October 1999

Gudermes and Saint Jacques II – collision between vessels in the Dover Strait on 23 April 2001

Harbour Lights – loss of a fishing vessel off Polperro, Cornwall on 8 January 2000 with the loss of one life

Horizonte Claro – grounding of a fishing vessel on Soyea Island, Loch Inver, on 21 October 2000

Jasper III – foundering of vessel 90 miles north-east of Fraserburgh on 10 September 1999

Kirsteen Anne – loss of a fishing vessel in the Firth of Lorn on 31 December 2002 with the loss of her two crew

Lomur – grounding of a fishing vessel in the approaches to Scalloway, Shetland Islands on14 June 2001

Luc and Toisa Puffin – collision between two vessels 8.5 miles due east of the river Tyne on 13 June 1999

Lysfoss – grounding of a fishing vessel in the Sound of Mull, Scotland on 7 May 2001

Marbella/Bravo Delta offshore platform – collision between UK registered fishing vessel and offshore platform in the Rough Gas Field about 25 miles south-east of Flamborough Head on 8 May 2002

Mariama K – carbon monoxide poisoning on board a fishing vessel in Douarnenez, France on 10 June 2000 – one fatality

Mathilda and fv Lady Hamilton of Helford – near miss incident between Mathilda and fv Lady Hamilton of Helford, 7 miles eastsouth-east of Lizard Point, Cornwall on 28 June 2001

Ocean Star – failure of a warp block on board a UK registered fishing vessel north of the Shetland Islands resulting in one fatality on 26 November 2001

Opportune – man overboard fatality from a fishing vessel 35 miles east of Wick on 23 February 2000

Osprey – fatal accident to a man overboard from a fishing vessel in Lochinver Harbour on 20 April 2002

Our Nicholas – grounding and loss of the crabber Our Nicholas near the entrance to Stornoway Harbour on 24 July 2001

fv Our Sarah Jayne/Thelisis – collision between vessels in the Thames Estuary on 20 June 2001

Pescalanza – sinking of a fishing vessel with the loss of six lives on 2 November 1998

Philomena – fatal accident on board vessel in the Moray Firth on 6 March 2001

Primrose – grounding of vessel on the Island of Rhum on 15 June 2001

Purbeck II – injury of crew member on board on 7 June 1999

Purdy – man overboard fatality from angling boat at Shipwash Bank off Harwich, on 17 July 1999

Rachel Harvey – grounding and loss of fishing vessel off Peninnis Head on 1 October 1999

Radiant – capsize and foundering of a fishing vessel about 45 miles north-west of the Isle of Lewis with the loss of one life on 10 April 2002

Radiant Star III – foundering of a fishing vessel 60 miles northeast of Fraserburgh on 6 August 1999

Random Harvest – flooding of a fishing vessel south-west of Brighton on 3 July 1999

Rebecca Kay – loss of a fishing vessel off Bideford Bar Buoy on 20 April 2001

Resplendent – grounding of a fishing vessel in Bluemull Sound, Shetland Islands on 13 June 2001

Ross Alcedo – fire on board vessel while underway about 32 miles north-west of the Isles of Scilly on 16 January 2000

Sally Jane – capsize alongside in Shoreham Harbour on 27 July 1998

mv Sand Heron and fv Celtit – collision between vessels NE Traffic Lane, Dover TSS on 30 July 2001

Sharona – flooding and foundering of a fishing vessel 80 miles north-east of Peterhead on 3 August 1999

Silvery Sea/Merkur – collision between Merkur/ Silvery Sea which then foundered about 35 miles west of Esbjerg, Denmark with the loss of five lives on 14 June 1998

Solstice II – investigation of a fatal accident to a crew member, 25 miles south-west of Rockall on 13 May 2000

Solway Harvester – summary report on the investigation of the capsize and sinking of fv Solway Harvester 11 miles east of the Isle of Man on 11 January 2000 with the loss of 7 lives

Sundance – capsize and foundering of a fishing vessel off Gilkicker Point, East Solent with the loss of one life on 10 September 2001

Suzanne – see Elm

Tullaghmurry Lass – sinking of a fishing vessel with the loss of three lives in the Irish Sea on 14 February 2002

Union Arbo/Philomena – collision between Bahamian cargo ship Union Arbo and UK fv Philomena about 10 miles south of Newlyn, Cornwall on 2 September 1999

Van Dijck – loss overboard of a fisherman from fishing vessel while fishing 30 miles south-west of Guernsey on 16 April 2001

Vertrauen – investigation of the loss of Vertrauen about 75 miles north-east of Peterhead on 19 July 2001

Wakil II – investigation of an accident to the skipper of a fishing vessel 3.5 miles south-west of St Bees Head on 10 April 2000

SAFETY DIGEST

MAIB *Safety Digest 1/2003* – Published April 2003
MAIB *Safety Digest 2/2003* – Published August 2003
MAIB *Safety Digest 3/2003* – Published December 2003

Copies of the Safety Digest publication can be obtained, free of charge, on application to the Marine Accident Investigation Branch (Mrs Judith Blackbourn – 023 8039 5509).

GLOSSARY of abbreviations

ARPA	Automatic radar plotting aid
EPIRB	Emergency position indicating radio beacon
GRP	Glass reinforced plastic
MGN	Marine guidence note
NUC	Not under command
PEC	Pilot exemption certificate
VHF	Very high frequency
VTS	Vessel traffic services

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