MAIB
MARINE ACCIDENT INVESTIGATION BRANCH

ACCIDENT REPORT

VERY SERIOUS MARINE CASUALTY | REPORT NO 5/2018 | APRIL 2018

Fatal man overboard from the potter *Enterprise* (SH323) 6 miles off Scarborough 6 November 2017

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SUMMARY

During the morning of 6 November 2017, Darren Morley, a deckhand on the UK registered fishing vessel *Enterprise* (SH323) died after becoming caught and dragged overboard by a moving backrope. The deckhand was hauled to the surface approximately 15 minutes later, but the remaining two crew were unable to recover him back on board. He was unresponsive and remained suspended by his left leg beneath the pot hauler for about 44 minutes until the Scarborough inshore lifeboat arrived. He was then lowered into the lifeboat but, despite the best efforts of the emergency services, could not be resuscitated.

Enterprise's crew had worked on board together for about 2 years and the deck layout and intended potting routine enabled them to remain clear of the backrope when shooting. The deckhand had moved from a safe area on the aft deck and attempted to cross the running backrope without apparent reason.

Over the last decade industry bodies such as Seafish and the Maritime and Coastguard Agency have promulgated information relating to the dangers of potting, particularly when shooting. However, this is sadly another avoidable fatality resulting from a fisherman being dragged overboard by the fishing gear.

Enterprise

Enterprise's owner/skipper retired from fishing following the accident, and the MAIB issued a 'Safety Flyer' to the fishing industry to promulgate the circumstances of this accident and the safety issues identified. No recommendations have been made in this report.

FACTUAL INFORMATION

Narrative

At approximately 0705[1] on 6 November two deckhands boarded the 8.95m potter *Enterprise* (SH323) alongside North Wharf, Scarborough, United Kingdom. The deckhands manoeuvred *Enterprise* across the harbour to West Pier, where the vessel was fuelled and bait was loaded in preparation for the day's fishing. *Enterprise*'s owner/skipper embarked at 0720, and a short while later the vessel sailed for fishing grounds approximately 6 miles to the north **(Figure 1)**.

By 0815, *Enterprise* had arrived on the fishing grounds and its crew commenced hauling the first fleet of pots. There was a moderate swell but the wind was less than 10 knots and the sea was slight. By 1109, five fleets of pots had been hauled, re-baited and shot away. A sixth fleet had also been hauled, re-baited and was stacked on the deck ready for shooting. As the shooting operation started, *Enterprise* was heading to the north-north-west and was making good a speed of about 3.5 knots over the ground. The skipper shouted from inside the wheelhouse "*chuck buoy Darren*", which was his usual signal to start shooting. Accordingly, Darren Morley, one of the two deckhands, threw the fleet's first marker buoy and anchor over the stern. He then stood behind the pound boards on the starboard side aft of the working deck **(Figures 2, 3** and **4)** as the backrope and pots started to run overboard through the shooting door. The other deckhand watched from the wheelhouse's open doorway.

Eight pots had passed through the shooting door when Darren walked forward along the vessel's starboard side towards the wheelhouse. The deckhand in the wheelhouse doorway shouted for him to wait and gesticulated to him to go back. Darren did not stop, and attempted to step over the backrope that was fleeted on the deck. As he did so, his left leg became caught in a loose bight of the rope. The rope bight immediately tightened and Darren was pulled towards the shooting door. He screamed out and caught hold of the bait tray fixed to the starboard gunnel.

The other deckhand shouted to the skipper to stop the boat. In response, the skipper put the engines to neutral, but the boat continued to make headway. Darren lost his grip on the bait tray and hit the leading edge of the pound boards. He was then pulled through the shooting door and quickly disappeared beneath the sea surface.

The remaining deckhand shouted "*man overboard*" and tried to grab the backrope to stop more pots going overboard. However, he was unable to do so until the skipper put the engines astern and the vessel was stopped in the water. The deckhand was then able to connect the backrope onto the pot hauler forward of the bait tray. At about the same time, at 1126, the skipper broadcast a verbal "Mayday" on very high frequency radio (VHF) channel 16.

Using the pot hauler, the deckhand recovered four pots before Darren resurfaced, left leg first. The deckhand hauled Darren as high as possible but his head remained in the water, so the deckhand leant over the side and lifted it clear. Darren appeared to be lifeless and the deckhand was unable to lift him over the gunnel and back on board.

Humber Coastguard responded to the "Mayday" call and confirmed the circumstances with *Enterprise*'s skipper. It then requested the launch of the Scarborough and Whitby all-weather lifeboats (ALB) and tasked rescue helicopter R912 to assist. The crew of the Scarborough inshore lifeboat (ILB) also responded and launched at 1150. The ILB was the first lifeboat to arrive on scene, and immediately went alongside *Enterprise*. At about 1210, the deckhand, who had continued to try and keep Darren's head clear of the water, lowered Darren in to the lifeboat. His leg was released from the backrope and the ILB

[1] All times are UTC

Reproduced from Admiralty Chart 0129-0 by permission of HMSO and the UK Hydrographic Office

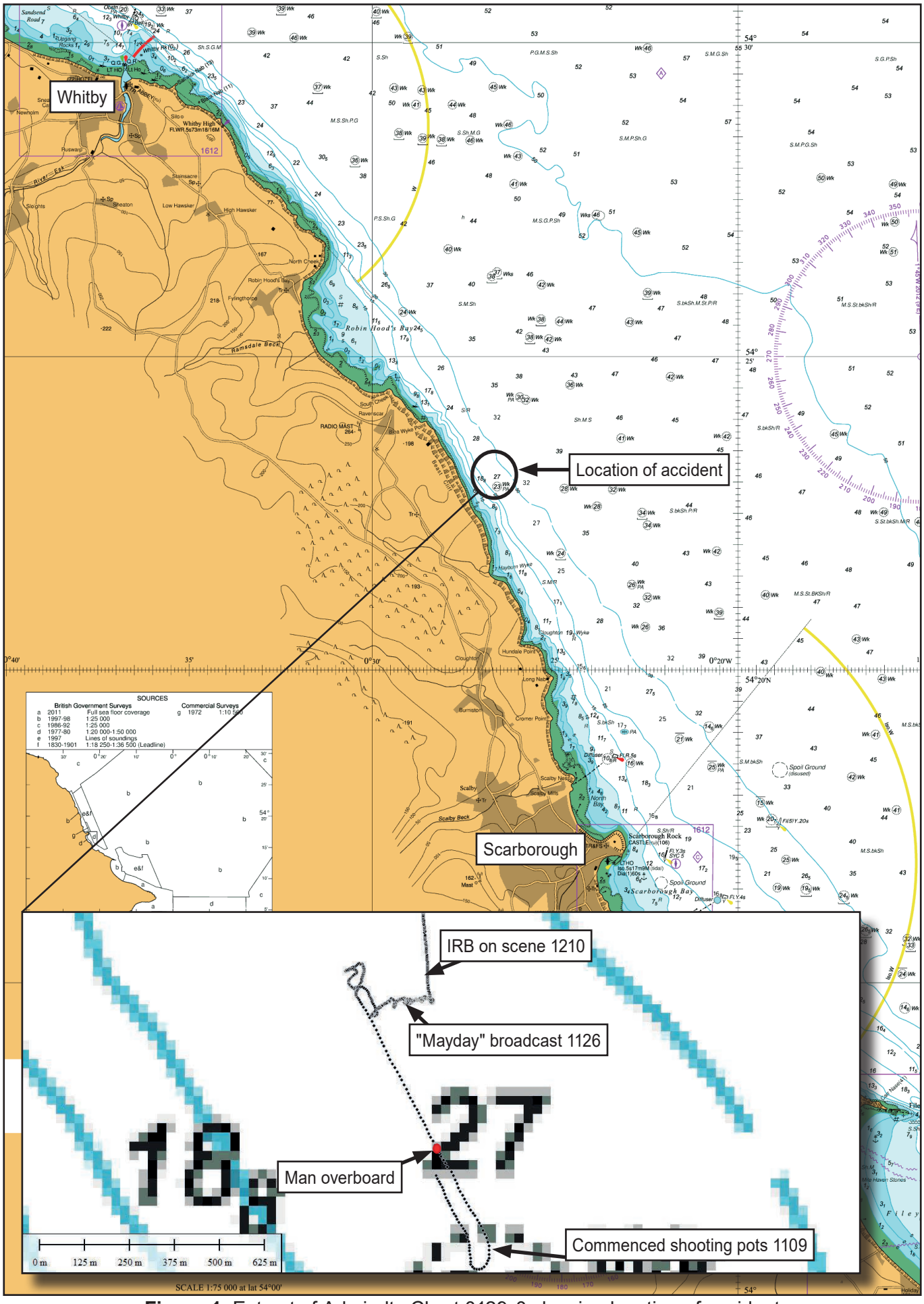

Figure 1: Extract of Admiralty Chart 0129-0 showing location of accident

crew commenced resuscitation. Darren was transferred to the Whitby ALB and then winched up to R912, which flew him to the James Cook University Hospital, Middlesbrough. Doctors declared Darren to be deceased at 1300.

A subsequent postmortem examination identified that the cause of Darren's death was immersion in water. The examination report also noted that there was an abrasion and some bruising on his scalp. Toxicology tests did not detect any alcohol or drugs.

Crew

Enterprise's owner/skipper was 70 years of age. He was a career fisherman and had attended the mandatory courses required by experienced fishermen[2]. He had owned and operated a number of fishing vessels and had purchased *Enterprise* in October 2013. The owner/skipper was unable to undertake significant manual work on deck and always employed two crewmen to assist him on board. When fishing, the skipper generally remained in *Enterprise*'s wheelhouse, driving the vessel and co-ordinating the shooting and hauling operations.

Darren Morley was 41 years of age and had been a fisherman for 4 years. He had completed four of the mandatory training courses for fishermen, but he had not completed a safety awareness course. Darren weighed 95kg and was 185cm tall. He was physically strong and, when hauling, he generally stacked the pots on deck. When shooting, it was his job to throw overboard the markers and anchors attached to the ends of each fleet. When Darren was dragged overboard, he was wearing wellington boots, a hoody, oilskin trousers, gloves, a woolly hat and a scarf.

The second deckhand was 27 years of age and became a commercial fisherman shortly after leaving college. He had been employed by *Enterprise*'s skipper for 2 years and had also completed the mandatory training courses for fishermen, apart from the safety awareness course. He operated the pot hauler when hauling and supervised Darren when shooting.

Vessel conversion and survey

Enterprise was a glass reinforced plastic catamaran built in 2007 by Gemini Workboats Ltd of Colchester to a DC9M type design. The vessel had been used as a pleasure vessel but was converted to commercial potting after being purchased by the owner/skipper in 2013. The conversion was completed in accordance with Seafish[3] Construction Standards 2012 and included the fitting of a shooting door in the transom, pound boards to provide shooting guides either side of the shooting door, a hydraulic pot hauler and a bait tray **(Figures 2, 3** and **4)**. The vessel's bilge pumping system and sea cocks were also modified.

Following *Enterprise*'s conversion, the vessel was surveyed by the Maritime and Coastguard Agency (MCA) and found to meet the requirements of Merchant Shipping Notice (MSN) 1813(F) - *The Fishing Vessels Code of Practice for the Safety of Small Fishing Vessels*[4]. At the time of the survey, a toolbox talk was conducted that identified the risks associated with potting and three "safe zones" when shooting: the wheelhouse; the deck adjacent to the hauler on the starboard side; and, the area between the pound boards and the starboard gunnel. The MCA issued a Small Fishing Vessel Certificate for *Enterprise* on 28 March 2014.

[2] Fishermen are required to attend 1-day training courses in sea survival, fire-fighting, first-aid and health and safety. Fishermen with 2 years of experience are also required to have completed a 1-day safety awareness course.

[3] Seafish is a non-departmental public body set up by the Fisheries Act 1981 to improve efficiency and raise standards across the seafood industry.

[4] MSN 1813(F) was superseded in October 2017 by MSN 1871 (F) *The Code of Practice for the Safety of Small Fishing Vessels of less than 15m Length Overall*.

Figure 2: Aft deck (from port side)

Figure 3: Aft deck (from aft)

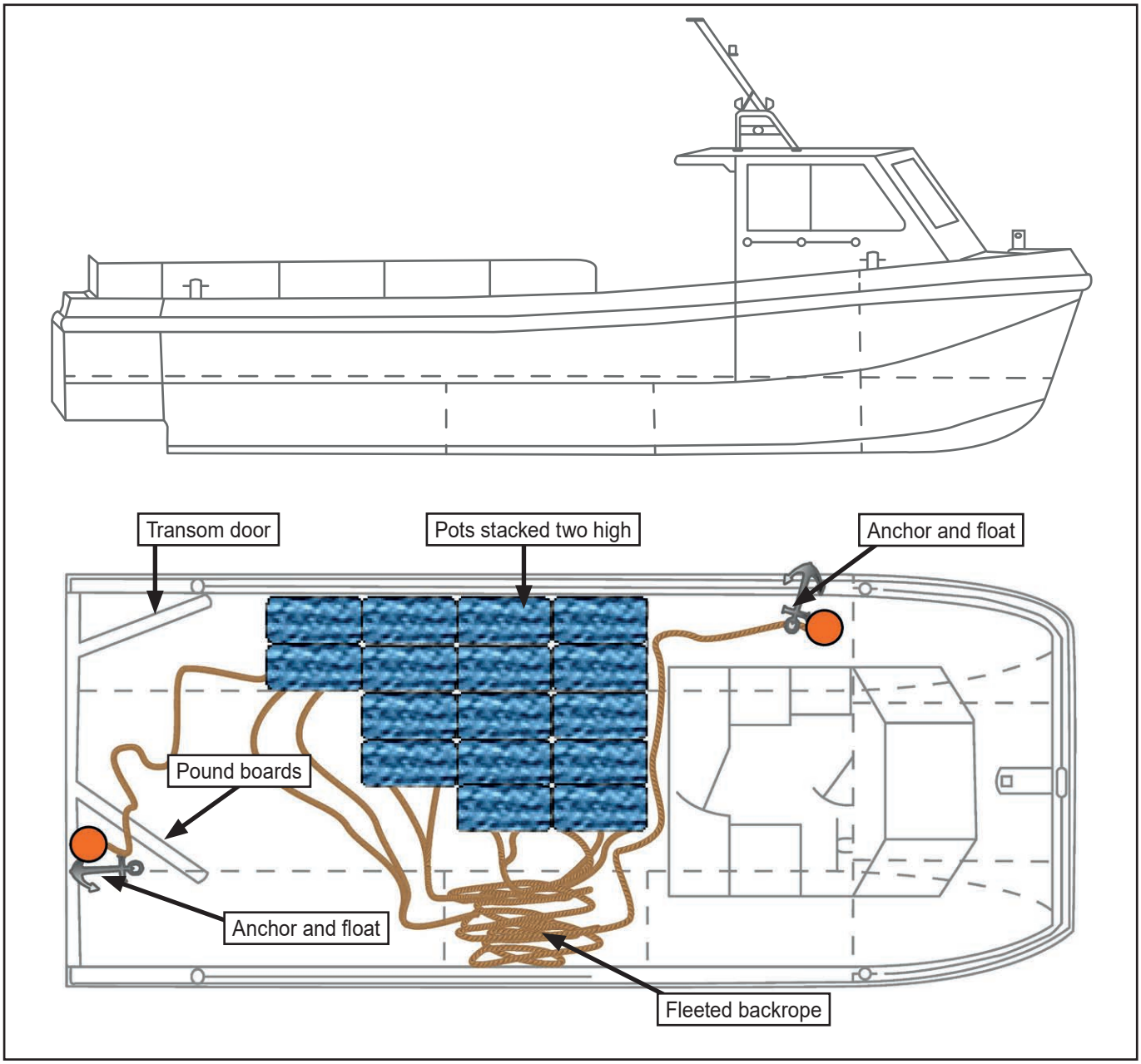

Figure 4: Schematic layout and deck plan

Potting gear and shooting procedure

Enterprise's owner/skipper worked 30 fleets of pots and operated the vessel daily, usually in the mornings and in daylight. Each fleet comprised 30 x 20kg pots, spaced at 16m intervals along a backrope. The leg ropes that attached the pots to the backrope were 1.9m in length. The backrope was approximately 620m long with a surface marker buoy attached at each end and an anchor attached 29m from each end **(Figure 5)**.

The working deck was approximately 3m x 5m. When hauling, the fleet of pots was stacked up to two high at the deck's forward end **(Figure 4)**. The pots were stacked in sequence, ready for shooting, and were biased towards the port side with most of the backrope flaked out on the deck on the starboard side in way of the bait tray. The anchor and marker float attached to the backrope's inner end were stowed on the port gunnel forward of the pots, and the anchor and marker float attached to its outer end were stowed on the starboard side of the aft transom **(Figures 2, 3** and **4)**.

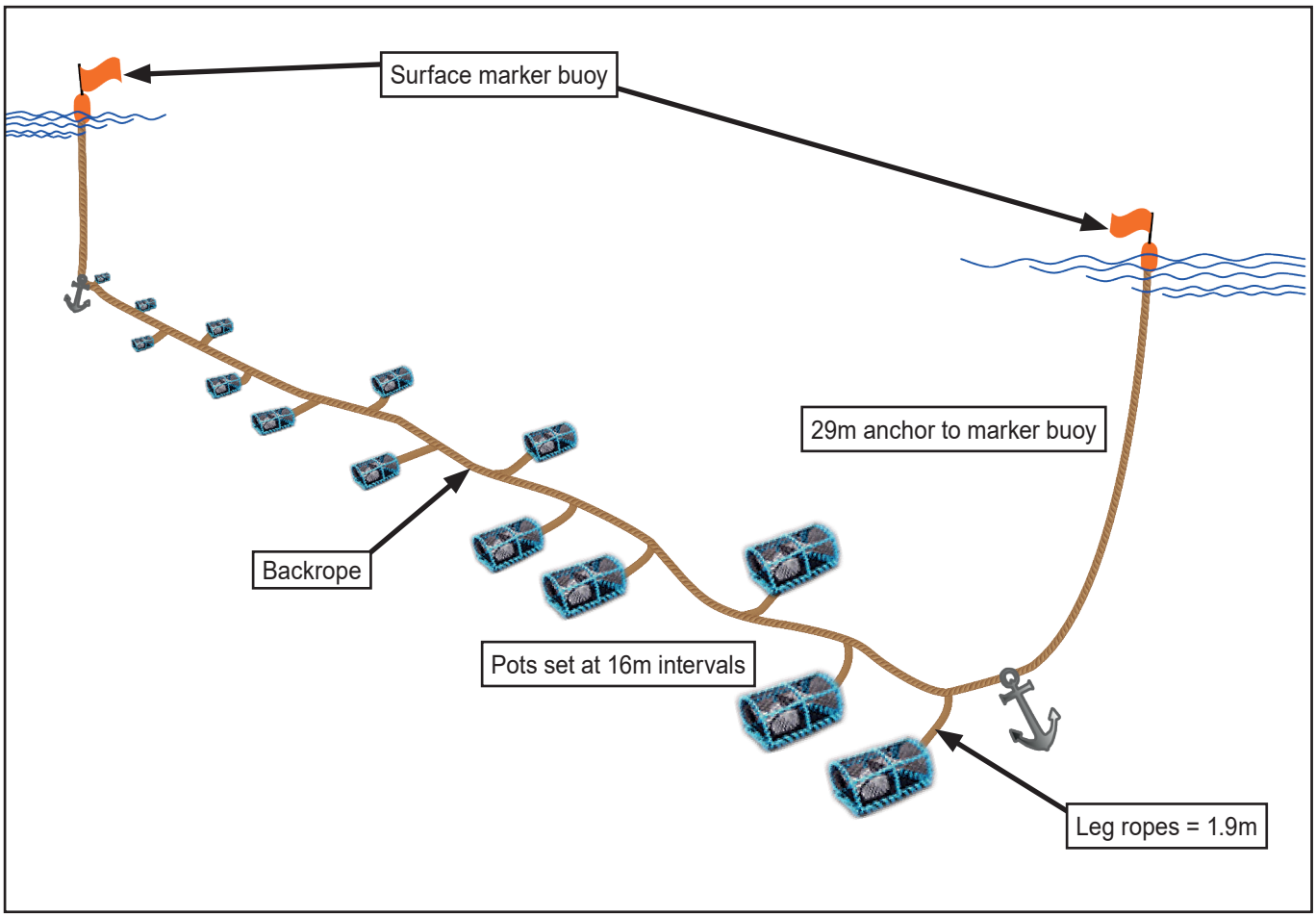

Figure 5: Arrangement of potting gear (only showing indicative 14 of the 30 pots)

Enterprise's skipper employed a self-shooting arrangement. To shoot away, the skipper set the engine speed to give a speed of about 3.5 knots and steered a steady heading. He then signalled Darren who dropped the aft anchor and marker buoy into the water. Darren then stood in the 'safe zone' between the pound boards and the starboard gunnel. As the anchor dropped to the seabed and then held, the resulting tension on the backrope as the vessel moved ahead pulled the pots through the shooting door in succession. By the time only five to six pots remained on deck, the starboard side of the deck was largely clear of the backrope and Darren moved forward to deploy the fleet's remaining anchor and marker buoy.

On occasions, Darren had walked forward prematurely and had crossed the backrope that remained on the starboard side of the deck by leaning on the stacked pots with his left hand and the bait tray with his right hand and then swinging his legs over. The owner/skipper and the other deckhand had cautioned Darren on these occasions and reminded him of the danger of entanglement.

Safety and navigation equipment

Enterprise's safety equipment included three inherent buoyancy lifejackets, two inflatable personal flotation devices (PFD), flares and two lifebuoys. Several knives were kept in the wheelhouse and adjacent to the working areas on deck. Neither the skipper nor the crew wore PFDs when fishing.

The vessel's electronic navigation equipment included a global positioning system (GPS) receiver, an automatic identification receiver, a chart plotter and a digital selective calling (DSC) enabled VHF radio. There was no input from the GPS receiver to the DSC radio.

ANALYSIS

Entanglement and immersion

Darren became snared in a bight of the backrope as he walked from behind the pound boards towards the wheelhouse. With *Enterprise* making good a speed of 3.5 knots, the backrope would have been paying out at a rate of 1.8m per second and therefore would have quickly tightened around Darren's leg. As the outboard end of the fleet was weighed down by its anchor and eight 20kg pots that had already been shot away, it is not surprising that he was unable to keep hold of the bait tray and prevent himself from being dragged towards the shooting door. The forces involved were too great. There was also no time for either Darren or the other deckhand to grab a knife and cut the backrope.

As soon as Darren entered the water, he was quickly pulled under the surface and towards the seabed by the eighth pot, which would have still been sinking as the water depth was 26m, and by the weight of the four pots that followed him into the water. That Darren remained entangled, indicates that the bight of rope around his left leg remained under tension throughout, which would have prevented his escape. In addition, it is likely that Darren would have been debilitated to some degree by cold water shock, as the water temperature was only 7˚C, and from hitting the pound boards near the shooting door, which possibly resulted in the abrasions and bruising to his scalp identified during postmortem examination.

The remaining deckhand and skipper were very quick to respond to Darren being dragged overboard. Although the deckhand's attempt to hold on to the backrope jeopardised his own safety, his alerts and prompts to the skipper were clear and timely. However, because it took at least 15 minutes to slacken the backrope sufficiently to get it onto the hauler and then haul Darren to the surface, the likelihood of him surviving was already extremely remote. The use of the pot hauler to try and recover entangled fishermen who have been dragged overboard and submerged, although instinctive, is seldom successful. As in this case, it can result in the victim being suspended for a prolonged period with the remaining crew unable to lift the crewman's weight over the gunnel (for example, see MAIB report 6/2010[5] – the loss overboard of a fisherman from the fishing vessel *Optik*).

Potting method

The self-shooting arrangement and procedures on board *Enterprise* enabled the vessel's deckhands to keep clear of the backrope and pots during shooting operations and therefore reduce the risk of entanglement and being dragged overboard. However, the usual practice followed on board relied on Darren not moving forward until it was safe to do so. On this occasion, Darren left the 'safe area' behind the pound boards prematurely and tried to cross over the moving backrope that remained on the deck.

There was no apparent reason for Darren's movement forward. The pots were running out, and over 20 remained on deck. It is likely that he intended only to join the other deckhand or the skipper ahead of throwing over the second anchor and marker buoy. That he had crossed over the backrope on previous occasions, did not heed the resulting cautions from the skipper, and ignored the warning of the other deckhand immediately before trying to step over the backrope, indicates that Darren did not fully appreciate the risk that he was taking.

With two deckhands on board it would have been possible for the second deckhand to deploy the anchor and float at the outer end of the backrope once the final pot had left the deck, and this would have avoided the need for Darren to move out of the safe zone while the pots were deployed.

[5] https://www.gov.uk/maib-reports/person-overboard-accidents-from-scallop-dredger-korenbloem-in-the-dover-strait-off-the-south-east-coast-of-england-stern-trawler-osprey-iii-off-arbroath-scotland-and-creeler-optik-off-macduff-scotland-with-total-of-3-lives-lost

The use of personal flotation devices

The two PFDs that were carried on board *Enterprise* were not worn, despite the strong recommendation in MSN 1871 that all crew working on the open deck at sea should wear them. However, although a PFD is an invaluable measure that improves the survivability of a person who has fallen overboard, it would not have increased Darren's likelihood of survival on this occasion. Darren was entangled in the backrope and the buoyancy provided by a PFD would have been insufficient to prevent him being pulled under the water.

VHF/DSC radio

Enterprise's skipper's use of the vessel's fixed VHF radio rather than DSC to transmit the "Mayday" was typical of many fishermen. In this case, the verbal "Mayday" was received and acted upon promptly by Humber Coastguard which, like other coastguard operations centres, maintained a listening watch on VHF channel 16 via loudspeaker. However, if the skipper had used the DSC function to raise the alarm, its utility would have been reduced because the radio was not connected to the GPS receiver and positional information had not been manually entered into the set. Although MSN 1871(F) states that '*The primary means of distress and urgency alerting should be via VHF DSC*', it does not specifically require the VHF DSC radio to be either equipped with or connected to a GPS receiver, nor does it highlight the need to input position data manually if the set is not GPS enabled.

Potting safety

Potting is one of the most hazardous fishing occupations. The MAIB Analysis of UK Fishing Vessel Safety 1992 - 2006[6] identified that, of the 65 fatalities resulting from persons going overboard at sea during the period covered by the Study, nearly a third occurred on potting vessels, generally when crew became entangled in ropes when shooting.

The dangers of potting have been highlighted by the MCA in its *Fishermen's Safety Guide*[7] which has a section focused on potting and creeling, and by Seafish in its Potting Safety Industry Advisory Notice, which was published in 2011. Both publications illustrate the perils of standing in a rope bight and emphasise the importance of keeping clear of moving ropes, particularly when shooting.

Despite these initiatives, the circumstances of the death of Darren Morley, which follows the recent fatalities on board *Barnacle III* (MAIB report 1/2015[8]) and *Pauline Mary* (MAIB report 8/2017[9]) indicate that the risk of entanglement when shooting pots is still not fully appreciated.

[6] https://www.gov.uk/government/publications/fishing-vessel-safety-study

[7] https://www.gov.uk/government/publications/fishermens-safety-guide

[8] https://www.gov.uk/maib-reports/person-overboard-from-creeler-barnacle-iii-off-tanera-beg-scotland-with-loss-of-1-life

[9] https://www.gov.uk/maib-reports/man-overboard-from-potting-fishing-vessel-pauline-mary-with-the-loss-of-1-life

CONCLUSIONS

- The deckhand became entangled in the fishing gear after leaving the ‘safe area’ behind pound boards before the deck was sufficiently clear of the moving backrope.

- There was no apparent reason for the deckhand to leave the ‘safe area’ when he did, and he ignored a verbal warning to wait.

- That the deckhand had moved out of the ‘safe area’ prematurely, and he had crossed over the moving backrope on previous occasions, indicates that he did not fully appreciate the risk of entanglement.

- After being dragged overboard, the deckhand remained submerged for over 15 minutes, and therefore the likelihood of his survival was slim.

- Although the remaining deckhand used the pot hauler to lift the deckhand out of the water, he was unable to lift him on to the deck.

- The skipper did not use the VHF radio’s DSC function to raise the alarm, but the radio was not connected to a GPS receiver and so would not have transmitted the vessel’s position.

ACTION TAKEN

MAIB actions

The MAIB has issued a ‘Safety Flyer’ to the fishing industry detailing the circumstances of this accident and the safety issues identified.

Actions taken by other organisations

Enterprise’s owner/skipper has fitted a closed-circuit television system to enable the working deck to be monitored from inside the wheelhouse. He has also retired from fishing and has put the vessel up for sale.

RECOMMENDATION

In view of the actions already taken, no recommendations have been made.

SHIP PARTICULARS	
Vessel's name	*Enterprise*
Flag	United Kingdom
Classification society	Not applicable
IMO number/fishing numbers	SH 323
Type	Fishing vessel (potter)
Registered owner	Privately owned
Manager(s)	Not applicable
Year of build	2007
Construction	Catamaran – glass reinforced plastic
Length overall	8.95m
Registered length	8.15m
Gross tonnage	5.57
Minimum safe manning	Not applicable
Authorised cargo	Shellfish
VOYAGE PARTICULARS	
Port of departure	Scarborough, UK
Port of arrival	Scarborough, UK
Type of voyage	Commercial fishing
Cargo information	Not applicable
Manning	3
MARINE CASUALTY INFORMATION	
Date and time	1111 on 6 November 2017
Type of marine casualty or incident	Very Serious Marine Casualty
Location of incident	6 miles north-north-west of Scarborough
Place on board	Aft deck
Injuries/fatalities	One fatality
Damage/environmental impact	None
Ship operation	Shooting pots
Voyage segment	Mid-water
External & internal environment	Wind: south-south-west at between 7 and 10 knots Sea state: slight Visibility: good Weather: clear Sea temperature: 7°C
Persons on board	3