SHERIFFDOM OF GRAMPIAN, HIGHLAND AND ISLANDS AT INVERNESS

[2020] FAI 7

INV-B185-19

DETERMINATION

BY

SHERIFF MARGARET M NEILSON

UNDER THE INQUIRIES INTO FATAL ACCIDENTS AND SUDDEN DEATHS ETC (SCOTLAND) ACT 2016

into the death of

DUNCAN JOHN MATHESON

Inverness, 4 February 2020

The Sheriff, having resumed consideration of the Fatal Accident Inquiry into the death of Duncan John Matheson, Determines in terms of section 26 of the Inquiries into Fatal Accidents and Sudden Deaths Etc (Scotland) Act 2016 ("the Act") as follows:-

1) Section 26(2)(a) – where and when the death occurred

The late Duncan John Matheson, born on 9 January 1956 and resident at Temperance Brae, Shieldaig, Strathcarron, Ross shire, died at around 08.15 on 7 August 2018 in an area of water known as Loch Beag near Ardheslaig, Ross shire.

2) Section 26(2)(b) – when and where any accident resulting in the death occurred

The accident resulting in the death of Duncan John Matheson occurred between 08.10 and 08.15 on 7 August 2018 on board a small dinghy in Loch Beag near Ardheslaig, Ross shire.

3) Section 26(2)(c) – the cause or causes of the death

The cause of the death of the said Duncan John Matheson was drowning.

4) Section 26(2)(d) – the cause or causes of any accident resulting in the death

The cause of the accident resulting in the death was a man overboard event.

5) Section 26(2)(e) – any precautions which (i) could reasonably have been taken and (ii) had they been taken might realistically have resulted in the death, or any accident resulting in the death being avoided

Had said Duncan John Matheson been wearing a personal flotation device ("PFD") or similar, this might have kept his head above water and might have prevented drowning. If conscious, he might have been able to call for assistance and David Smith, the skipper, might have been able to retrieve him from the water sooner. The wearing of a PFD is a precaution which could reasonably have been taken and death might have been avoided. Had emergency drills taken place, David Smith, the skipper, might have responded differently to the emergency situation that he suddenly found himself in. Assistance from the emergency services or members of the public might have been

received sooner if flares had been activated or if the Digital Selective Calling button ("DSC") had been pressed as soon as the deceased entered the water. The carrying out of emergency drills are precautions which could reasonably have been taken and if they had been carried out and had the deceased been wearing a PFD, the death might realistically have been avoided.

6) Section 26(2)(f) – any defects in any system of working which contributed to the death or any accident resulting in the death

No defects were identified. The reason for the deceased entering the water is unknown.

7) Section 26(2)(g) – any other facts which are relevant to the circumstances of the death

A substantial quantity of material is published by the Maritime and Coastguard Agency ("MCA") and is also issued by the Marine Accident Investigation Branch ("MAIB") and others for the benefit of fishermen. The MCA publications are detailed and they cross-reference multiple pieces of legislation and MCA publications. The relevant publications do not appear to be making their way to the intended recipients. Neither Mr Smith nor Mr Livingstone was aware of the existence of MCA issued guidance which was relevant to the incident even at the time of the inquiry. Fishermen are required to undertake mandatory training in order to be permitted to work on commercial fishing vessels. Regardless of training, a culture still exists in which commercial fishermen prefer not to wear PFDs and opt not to wear them. There was no evidence before the

inquiry to suggest that fishermen receive or are made aware of the existence of this MCA published material.

8) <u>Section 26(1)(b) – such recommendations (if any) as to any matters mentioned in subsection 4 as the sheriff considers appropriate</u>

In terms of section 26(1)(b) of the 2016 Act I recommend that:

a) All small fishing vessel owners, operators and managers, employers of fishermen and skippers and fishermen on small fishing vessels should make themselves aware of the terms of the following and ensure that they are followed:

1. Marine Guidance Note 588(F) (Compulsory Provision and Wearing of Personal Flotation Devices on Fishing Vessels).

2. Marine Guidance Note 570(F) (Fishing Vessels – Emergency Drills).

3. Marine Guidance Note 571(F) (Fishing Vessels – Prevention of Man Overboard).

4. Marine Shipping Notice 1871 Amendment 1(F) (The Code of Practice for the Safety of Small Fishing Vessels of less than 15m Length Overall). and

5. that all small fishing vessel owners, operators, managers and employers of fishermen should ensure that all those aboard small commercial fishing vessels have current working knowledge and understanding of the relevant content of 1, 2, 3 and 4 above and if they do

not have that knowledge and understanding, provide access to training internally or externally to provide them with that knowledge and understanding.

and

b) That fishermen do not board any vessels when they are intoxicated by alcohol or drugs and that skippers and crew are reminded of the dangers to themselves and others when a crew member is intoxicated.

Sheriff Margaret M Neilson

NOTE

Introduction

[1] This inquiry was held in terms of section 1 of the Inquiries into Fatal Accidents and Sudden Deaths Etc (Scotland) Act 2016 and was governed by the Act of Sederunt (Fatal Accident Inquiry Rules) 2017. This was a mandatory inquiry in terms of section 2 of the Act as the deceased died as a result of an accident in the course of his employment or occupation.

[2] The purpose of the inquiry is set out in section 1(3) of the Act as being to establish the circumstances of the death and to consider what steps, if any, might be taken to prevent other deaths in similar circumstances. It is not intended to establish liability, either criminal or civil. It is an inquisitorial process. The Crown, in the form of the procurator fiscal, represents the public interest.

[3] In terms of section 26 of the Act, the inquiry must determine certain matters, namely where and when the death occurred, when any accident resulting in the death occurred, the cause or causes of the death, the cause or causes of any accident resulting in the death, any precautions which could reasonably have been taken and might realistically have avoided the death or any accident resulting in the death, any defects in any system of working which contributed to the death, and any other factors relevant to the circumstances of the death. It is open to the sheriff to make recommendations in relation to matters set out in subsection 4 of section 1 of the Act.

[4] At this inquiry the only party represented was the Crown, by procurator fiscal depute Ms Laura Arthur. No other parties to whom the inquiry had been intimated took part in it.

[5] I was grateful to the Crown representative for her professional conduct of the inquiry. In particular she had arranged for affidavit evidence to be obtained from some witnesses to avoid them having to attend and arrangements were also made for one of the witnesses to give evidence by video link to avoid a long journey from Southampton to Inverness. Some evidence, that was clearly not going to be controversial in any way, was included in a Notice to Admit. This document was considered at a preliminary hearing in draft and there were a number of matters which I did not feel were necessarily entirely uncontroversial and asked the Crown to obtain affidavits from witnesses covering that evidence, which the Crown did.

[6] The Crown lodged an inventory of productions as follows:

1. Post-mortem report
2. Toxicology report
3. MAIB report
4. Photographs
5. Maps of locus
6. Marine Guidance Note 588 (F)
7. Marine Guidance Note 570 (F)
8. Marine Guidance Note 571 (F)
9. Merchant Shipping Notice 1871 Amendment 1 (F) – relevant pages

[7] I heard oral evidence from David Smith, the skipper and Kenneth Livingstone, the owner of the "Fram of Shieldaig" ("Fram") as well as Captain Emma Tiller, Marine Accident Investigation Branch.

[8] Affidavit evidence of Dr Helen Stewart, GP, Torridon Medical Practice and Police Constable Alasdair MacKenzie was read into the record at the inquiry.

[9] I found all witnesses who gave oral evidence to be credible and generally reliable. I had the impression that they were all trying to assist the inquiry as much as possible.

[10] Witnesses used "lifejacket" and "PFD" interchangeably to mean the same thing and I have done likewise, simply reflecting what was said in evidence, likewise for "tender" and "dinghy".

The evidence

[11] Duncan John Matheson, born 9 January 1956, resided at 6 Temperance Brae, Shieldaig, Strathcarron and worked on the fishing vessel Fram of Shieldaig as a share fisherman.

[12] At about 08.50 on 7 August 2018 a call was made by a member of the public to request Coastguard assistance at Ardheslaig Bay following a report of a suspected drowning incident there. The helicopter was despatched and arrived at around 09.10. Resuscitation efforts began on a male, identified as Duncan John Matheson, who was lying in a small tender in the bay.

[13] At about 08.52 a call was received by the Scottish Ambulance base at Strathcarron, from Ambulance Control. An ambulance was despatched and arrived at the locus around 09.15. The ambulance crew assisted the crew from the Coastguard helicopter with resuscitation efforts.

[14] In due course police officers attended. Police Constable Alasdair MacKenzie had reported for duty at Kyle Police Station around 07.00 on 7 August 2018. At about 09.00 he received a call on his personal radio informing him of a sudden death in the bay at Ardheslaig. He was advised that a male had been recovered from the water and assistance from the Coastguard and RNLI had been requested. He made his way to the locus and arrived at Ardheslaig Bay around 10.20. He was met by paramedics who told him that a male had died. The deceased was identified to him by David Smith the skipper of Fram of Shieldaig. He noted that the deceased was a white male wearing seaman's attire but no lifejacket. He noticed a small graze on the bridge of his nose. He arranged for the remains to be moved to await the arrival of undertakers and while other investigations were carried out. At around 17.05 undertakers arrived and assisted him in searching the deceased for personal belongings. A pink lighter and a hip flask containing liquid were recovered. During this search he noticed a bleeding wound to the rear of the deceased's head. There were two cuts.

[15] Dr Natasha Inglis, consultant pathologist, carried out a post mortem examination on the deceased on 10 August 2018. Her findings and conclusion are contained in the post mortem and pathology reports (Crown productions 1 and 2). The cuts on the deceased's head could have been caused by a strike to the head as he fell from the

dinghy, while he was floating in the water between the vessel and the dinghy (he could have struck either or both of the vessel or dinghy) or while rescue efforts were made. It was in any event clear from the post-mortem report that they were not causative of the death.

[16] Detective Sergeant Bryan Ronald took photographs of the locus and the deceased (Crown production 4) on the same day as the accident.

[17] On 28 May 2019 at Kyle Police Station the hip flask which was retrieved from the person of the deceased on 7 August 2018 was examined by Police Constable Bryan Chalmers. It was found to be almost full of a clear liquid. A small sample was taken for rudimentary testing. It was the police officer's opinion that it contained alcohol.

[18] The deceased had completed sea survival, fire fighting and first aid training in 1988 and 1989. In 2003 he completed safety awareness training. In 2014 he voluntarily re-attended safety awareness training.

[19] Dr Helen Stewart is a GP at Torridon Medical Practice, Fassaig, Torridon. She was the on-call GP on 7 August 2018. She received information from the receptionist at the practice that a male had downed at Ardheslaig Bay and immediately made her way there arriving at around 09.25. She observed paramedics from the Scottish Ambulance Service and Coastguard helicopter carrying out CPR on Duncan Matheson for about 15 minutes. He was within a dinghy at the bay at Ardheslaig. He had a tube in his mouth to provide air to the lungs. His chest was exposed. She did not observe any injuries. She could not recall if he was wearing a life vest. The ECG machine display informed her that there was no activity detected from his heart. There was no

spontaneous breathing and no return of heart rhythm. It appeared to her that the deceased had died prior to him being pulled from the water. The paramedics had seen no heart activity on first applying the ECG monitor and there was no spontaneous respiration observed on being recovered from the water. No response was being achieved from CPR. She pronounced life extinct at 09.41 on 7 August 2018 at the bay at Ardheslaig. The deceased was registered as a patient at her practice. She had known him since 2000 in a professional capacity. He rarely attended the practice. She suspected that he was an alcoholic. He had attended the practice for treatment for excessive alcohol consumption on an annual basis since 2003. He was not on any medication.

[20] David Smith, the skipper of the Fram of Shieldaig, had worked on that vessel for around 10 years at the time of the accident and had been a fisherman for around 36 years. He had worked with the deceased for a number of years. Two people would work at any given time, either himself and Kenny (Kenneth Livingstone, the owner), the deceased and Kenny or himself and the deceased. On the evening before the accident he had stayed at the deceased's house. They had gone to the pub for a few drinks the night before and got back to the house about 11.00pm. The deceased seemed fine and they got up around 6.45am, had a cup of tea and then went to work. Mr Smith drove to Ardheslaig. They got there around 7.30am and got their oilskins and boots on. There was nothing unusual. He organised the bait and boxes and the deceased organised the tender (dinghy). The normal routine would be to take the boxes to the shore then the deceased would bring the tender to the shore, the boxes would be put into the tender

and then they would go to Fram and unload the boxes and bait. Mr Smith got into Fram and tied the dinghy up. The deceased then passed the boxes up to him. The dinghy was tied near the bow. Mr Smith then untied the dinghy and the deceased went to the raft to get the "partials" (partially filled boxes of langoustine from the previous day). Mr Smith stayed to set up the boat, put the engines on, put the kettle on and waited for the deceased to come back. It would generally take 5 minutes maximum to take the dinghy to the raft and come back again. He had seen the deceased picking up the "partials" and putting them on the dinghy. Mr Smith was standing near the stern, close to the raft. He could see the dinghy approaching. He moved the boat round to the port side closest to the bow, the same area he had got into the boat from. He had last seen the deceased in the dinghy as it arrived, about 10 feet or so away from Fram, but by the time he got to the area to tie the dinghy up the deceased was already in the water. He was not moving. He was right beside the boat with just the top of his head sticking out. The dinghy was starting to drift away. Mr Smith did not notice any injuries at the time but did later on. He shouted to the deceased but there was no response. He dropped a life ring but the deceased did not move for it. There was no response at all. Mr Smith got a boat hook and got the deceased by the back of his oilskin trousers and tried to pull him out of the water but he was too heavy and the boat was too high. There was no movement from him. He had not heard the deceased fall into the water. He could not hold him up and thought he would have to try and get him to the raft which was lower and he would be able to pull him in. He jammed the boat hook in the railings to hold the deceased up just to hold him. The boat hook jammed and held him at the front of the boat. The wind

was blowing the boat towards the raft. It can be steered from the outside. It took about 5 minutes to get to the raft. He tied the Fram to the raft then dragged the deceased off the boat and on to the raft with the boat hook. He tied him to the raft and tried to pull him up onto it but he was too heavy. He tied him under the arms with the rope across his chest. There was no response at all. He was not breathing. Mr Smith thought he was dead. After he secured the deceased to the raft, he got back on to the Fram to rescue the dinghy which was going out to sea as there was no other way to get ashore. When he had last seen the deceased on the dinghy, he was still sitting at the rear. He did not see him stand up. He seemed to have gone very quickly from being sitting down to being in the water. The dinghy was out of gear as he would have expected. Mr Smith returned to shore and found another fisherman. The two of them went out and tried to lift the deceased out of the water onto the raft but were still unable to do so. They went back ashore to get a third fisherman. That fisherman's partner called 999 and the coastguard. All three went back out and managed to get the deceased on to the dinghy and took him ashore. He thought it would have been about 45 minutes from the deceased being in the water to getting him onto the dinghy. They all went back ashore to Ardheslaig. The emergency services and the coastguard helicopter were there. Paramedics worked on him. An ambulance arrived but it took a while. He saw injuries on the back of his head but thought they could have been caused when they were getting him in to the dinghy.

[21] Mr Smith had attended mandatory training a while ago. He never wore lifejackets as he felt they were clumsy when pulling up creels. He wears one now. He

finds the new ones to be much better. He was aware of the dangers of entering cold water and how quickly a body can succumb. It is the culture to wear lifejackets now on Fram. He had not seen Crown production 6. He was not aware that it was mandatory to wear PFDs but is aware now. He had not seen production 7 about emergency drills but is aware of it now. They did not receive these notes. He thought they were probably sent to the owner of the boat. He had not seen production 8 before and was not even aware of its existence. He had never practiced emergency drills before. They had never really discussed what to do in an emergency because they knew what to do. They could contact the emergency services by radio, VHS or fire off flares. He has not been out fishing much since the incident. He had not been aware before the accident just how difficult it was to get someone out of the water. He had seen production 9 but did not know how or when.

[22] Kenneth Livingstone owns the Fram of Shieldaig and is a part time fisherman. He had been a fisherman for around 30 years and had had the Fram of Shieldaig for about 15 years since new. He lives in Shieldaig and fishes from Ardheslaig, on the Applecross north coast. He has a skipper's ticket for a 16.5 metre boat and is allowed to fish anywhere in the UK up to 60 miles offshore. He had owned other boats beforehand. He has had four fishing boats and one tourist boat in the last 30 years. David Smith and the deceased worked on the boat with him. He was born and brought up in Shieldaig as was the deceased. He had known him almost all his life. He would work two days a week on Fram. The deceased had started working on Fram about 5 or 6 years ago. They had all done mandatory training. The deceased already had his certificates before he

came to work on the Fram. He had been to previous courses at the same time as the deceased. The deceased had worked at the Kishorn yard and then spent the rest of his adult life as a fisherman. Mr Livingstone had not been working on 7 August. He was renovating a house near Ardheslaig. Someone came to tell him about the accident. It was fairly early in the morning as he had been discussing with the builders what to do that day. He was aware of the helicopter arriving. He went to Ardheslaig and by the time he got there David Smith and another fisherman had recovered the deceased. The helicopter arrived around the same time.

[23] He had seen the report from the MAIB. Since the report they had changed their work practice. They now make sure everyone on the tender wears lifejackets and there are always two people on the tender, not one. It is the only means of access to the vessel. They also wear lifejackets on the boat. They are much more aware of safety now. Historically they never wore lifejackets. He never wore them when acting as a fisherman but always wore them when he sailed. He had never seen the crew wearing a PFD before. They now wear them all the time unless everyone is in the wheelhouse. When they are at sea they wear them all the time and they are also trialling a flotation trouser as well as a lifejacket. They had been given new lifejackets which were much better; smaller, more compact and less restrictive compared to the old ones. He had not seen anyone wear PFDs in the 30 years he had worked as a fisherman. Historically they did not carry out any emergency drills. They were aware of procedures but just did not consider doing drills. Now they do risk assessments and have added man overboard practices. They are used to recovering buoys at sea and they are very proficient in that.

They also would alert authorities by DSC radio. They would not do that in a drill as that would activate an emergency. He had seen production 6 but only recently, he thought, through an MCA surveyor. He used to operate a tourist boat and there was an annual inspection and general discussion. He had not seen production 7. He was not aware of it. He was unaware they were required to carry out emergency drills and never carried any out on the fishing boat. He became aware only because of this inquiry. He had not seen production 8 in relation to preventing man overboard. He was not aware of its existence. He was aware how quickly people could succumb to the cold water as he used to act as a safety vessel for the local triathlon so that they could recover swimmers if required. They had always had MCA inspections but they focussed on the boat itself and firefighting equipment and so on rather than how they were used. It was more about whether the fire extinguisher was in date and whether they had life crafts. There was a 5 yearly periodic inspection by the MCA which was mandatory. He had seen production 9, the Code of Practice. He was aware there had been a change. The MCA inspector had told him that emergency drills were now required and PFDs were required as mandatory. He did not know how these documents were issued.

[24] Captain Emma Tiller gave evidence by video link. She is an inspector of marine accidents at the Marine Accident Investigation Branch (MAIB). She has been lead investigator in around 20 accidents and has worked there for 10 years. Before that she was a Master Mariner Class 1. Her report is Crown Production 3. She had attended at Ardheslaig Bay. She had been mobilised on the day of the accident and was on scene on 8 August. She gave evidence in accordance with her report.

[25] This was the fifth fatal person overboard accident investigated by the MAIB since October 2015 involving fishing vessels based in remote Scottish locations. Alcohol consumption was considered to be a contributing factor in 17 of 24 other fatal accidents between 1994 and 2016 involving fishermen boarding fishing vessels. In each of these accidents, the crew did not regularly carry out person overboard recovery drills, and did not wear PFDs, even when they were available on board.

[26] She had spoken to the eye witnesses to the accident. She had no concerns about the engine ticking over on the dinghy. That was normal practice. She had no particular concerns with the way of accessing the boat from the dinghy. It as a well tried out system. The Fram required to have (and did have) two lifejackets on board. However they were new and in their original packing which indicated that they had never been used. She thought they had been supplied as part of a safety initiative in around 2008 or so. The law in August 2008 was that there was no mandatory requirement for them to be worn but it was mandatory for the risk to be assessed.

[27] The owner of Fram has reviewed the vessel's risk assessments and has introduced a policy requiring his crews to wear lifejackets at all times while working on deck and boarding and leaving the vessel. The owner has been recommended to introduce and enforce a strict alcohol and drugs policy.

[28] Toxicology test results showed Duncan Matheson's blood alcohol concentration ("BAC") to be 276 milligrams per 100 millilitres. Under the Railway and Transport Act 2003, the BAC limit for seafarers is 50 milligrams per 100 millilitres. The post-mortem report concluded that he was under the influence of alcohol at the time of

his death. Post-mortem examination did not provide evidence of a medical event prior to death; moderate coronary artery atheroma could have contributed to the death in the stressful situation of drowning (once Mr Matheson was already in the water; the atheroma did not cause him to go overboard into the water). It is likely that this level of blood alcohol would have affected the deceased's perception, balance and co-ordination and may have caused him to stumble and go overboard from the dinghy. It is possible that alcohol intoxication caused the deceased to fall from the dinghy after he had put the engine into neutral. Alcohol would have impaired the deceased's ability to react to the man overboard event (if he was conscious when he fell into the water).

[29] In recent years, the MAIB, MCA, RNLI, Seafish and several fishing federations have supported safety initiatives aimed at improving safety for fishermen and to encourage commercial fishermen to wear PFDs and improve fishing practices. The campaigns included the distribution of printed brochures, trials of PFDs by volunteers, and the distribution of free lifejackets and training to commercial fishermen.

[30] The MAIB's investigation report into a previous fatal person overboard accident included a review on the use of PFDs and the campaigns and measures used to encourage their use among commercial fishermen. This review concluded that campaigns succeed in changing entrenched behaviours only when backed by mandatory regulations.

[31] Alcohol consumption was considered to be a contributing factor in 17 of 24 other fatal accidents between 1994 and 2016 involving fishermen boarding UK fishing vessels.

[32] The deceased drowned because he was not wearing a lifejacket when he entered the water from the tender, and the skipper was unable to recover him on board.

[33] The precise circumstances of the accident were unknown as the skipper, who was on deck at the time, had not seen or heard the deceased enter the water. The skipper last saw the deceased when the tender left the raft after collecting the partials. Although the skipper saw the tender pass Fram's stern, he could not see the helming position at that time, and he next saw the unmanned tender adjacent to Fram's port side with its outboard engine on tick-over.

[34] The deceased's location in the water, between the tender and Fram, suggested that he had entered the water either as he rose from his seated position by the outboard engine or as he moved forward to pass the boat's painter to the skipper. It was possible that the deceased's foot became caught in the deckwell just forward of his seated position or that he tripped over the partials. It was also possible that he just lost his balance or slipped on the deck.

[35] Immersion in cold water (water under 15^{o}C) can lead to death in one of three ways: cold shock response, cold incapacitation and hypothermia. On immersion in cold water the sudden lowering of skin temperature causes a rapid rise in heart rate, and therefore blood pressure, accompanied by a gasp reflex followed by uncontrollable rapid breathing. The onset of cold shock occurs immediately, peaking within 30 seconds and lasting for 2-3 minutes. If the head goes underwater during this stage, the inability to hold breath will often lead to water entering the lungs in quantities sufficient to cause death. Cold shock response is considered to be the cause of the majority of drowning

deaths in UK waters. Cold incapacitation usually occurs within 2-15 minutes of entering cold water. The blood vessels are constricted as the body tries to preserve heat and protect the vital organs. This results in the blood flow to the extremities being restricted, causing cooling and consequent deterioration in the functioning of muscles and nerve ends. Useful movement is lost in hands and feet, progressively leading to the incapacitation of arms and legs. Unless a lifejacket is worn, death by drowning occurs as a result of impaired swimming. Hypothermia onset occurs when the human body's core temperature drops below 35°C (normally about 37°C). Depending on circumstances, this can occur after 30 minutes. The body's core temperature can continue to drop even after the casualty has been recovered from the water if the re-warming efforts are not effective.

[36] The deceased was a non-swimmer and was not wearing a lifejacket when he entered the water. This meant that his continued survival depended on his limited ability to keep himself afloat and the skipper's ability to recover him on board in a timely manner. As the sea temperature was 12.8°C, despite his warm clothing the deceased would almost certainly have experienced a cold shock response upon immersion. When the skipper saw him moments after he had entered the water, he was already floating motionless in a vertical position with his airways under the water. This, and the cut to the top of his head, suggests that he was knocked unconscious by a bang to his head as he fell or resurfaced from under the water. A lifejacket would have provided the buoyancy necessary to keep his airways clear of the water. This, in turn, would have provided the time necessary for the skipper to recover him ashore.

[37] Fram's safety folder did not include a risk assessment for boarding and leaving the vessel, and the use of PFDs was not included as a control measure in the vessel's risk assessments for working on deck. This was due to the presence of the deck guardrails and there being no requirement for the crew to be on deck when shooting the gear. Nevertheless, Fram's owner had provided 150N auto-inflatable lifejackets for crew use when there was a reasonably foreseeable risk of falling or being dragged overboard. Fram's crew, including its owner, had been boarding and leaving the fishing vessel using a tender for over 10 years without incident. However, as foreseen by Seafish, the risk of falling into the water from the tender, or while stepping between it and the fishing vessel, and drowning, was ever present, therefore PFDs should have been worn. Regardless of the risk, it was evident that the auto-inflate lifejackets provided for the safety of Fram's crew were never worn.

[38] This accident demonstrated the difficulty of changing the working behaviours of many experienced fishermen. In order to minimise the consequences of a marine accident, a fishing vessel and crew need to be prepared to deal with a variety of emergency situations. Vessels are prepared through design and the provision of safety equipment. Fishing vessel owners/skippers prepare their crews by providing them with guidance and procedures, and through the delivery of training. To ensure training has been effective and emergency procedures are fully understood, fishing vessel crews should conduct realistic emergency response drills on a regular periodic basis. Fram was well equipped, its crew had attended the required mandatory safety training for UK

fishermen and its safety folder contained a person overboard recovery procedure, but regular drills were not completed.

[39] The *Person Overboard* checklist contained in Fram's Seafish safety folder prompted the crew to carry out the following tasks: Throw a life-ring into the sea as close as possible to the person overboard; Raise the alarm by shouting; Commence recovery procedure; Inform the coastguard via DSC and/or VHS ch 16 Mayday.

[40] Fram's person overboard rescue sling, like its lifebuoys, required the person in the water to assist in their own recovery. As the deceased was unconscious, the skipper had had to use one of the vessel's boathooks to recover him alongside. Once alongside, the deceased was too heavy and Fram's freeboard too high for the skipper to recover him from the water unaided. Given that the deceased was non-responsive in the water, it was urgent he was recovered from the water and CPR commenced immediately. When the accident occurred, the skipper focused all his efforts on preventing him from sinking under the water and attempting to recover him on board, and he omitted to alert the coastguard. By the time the alarm was raised by the partner of one of the fishermen who came to help, the deceased had been immersed in the water for about 30 minutes. Although CPR was initiated by the paramedics once they reached the scene, this was at least 75 minutes after the deceased first entered the water. Had the skipper pressed the DSC alert button when he first saw the deceased in the water, the paramedics would have been on scene 30 minutes earlier. However, given the circumstances in this case it is unlikely that this would have changed the outcome of the accident. However, had Fram's crew conducted regular and realistic person overboard drills, they would have

fully appreciated the difficulty of recovering an unconscious person back on board and the effectiveness and usefulness of the vessel's procedures and person overboard recovery equipment.

[41] Mr Matheson's BAC at the time of the post-mortem examination was 276 milligrams per 100 millilitres of blood, over five times the UK BAC limit for seafarers and commercial fishermen. The high BAC and presence of the hip flask strongly indicated that he had intended to consume alcohol during the working day. Given Mr Matheson's known history of alcohol addiction, he might have appeared to be functioning normally before he boarded the tender. However, it is almost certain that his alcohol consumption was a significant factor in this accident. Mr Matheson's BAC would have adversely affected his risk perception, reaction time and co-ordination.

[42] Captain Tiller's report concluded that the deceased drowned because he was not wearing a lifejacket when he fell into the water, and Fram of Shieldaig's skipper was unable to recover him on board. He had probably fallen overboard from the tender as he moved forward to secure it alongside the fishing vessel. It is likely that he had struck his head as he entered the water. He had either lost consciousness as a result of the bang to his head or through the effects of cold-water immersion. His chances of survival would have been significantly increased had he been wearing a lifejacket. Fram's crew had not completed regular emergency drills, and the difficulty of recovering an unconscious person from the water had not been recognised. The skipper focused on recovering the deceased from the water and omitted to broadcast a "Mayday". This led to a 30-minute delay in the attendance of paramedics, but probably did not alter the

tragic outcome of this accident. The deceased was under the influence of alcohol and this almost certainly contributed to the accident.

[43] The MAIB has issued a Safety Flyer to the Fishing Industry highlighting the lessons to be learned from this accident. Fram of Shieldaig's owner has purchased new compact 150N automatic inflation lifejackets and implemented a policy that crew must always wear them while working on deck, and while boarding and leaving the vessel and has ceased the practice of lone working in the tender. In addition he has been recommended to add an alcohol and drugs policy statement, to Fram of Shieldaig's safety management folder, and ensure it is adhered to.

Discussion

[44] The inquiry had the benefit of direct eye witness evidence from the one witness who had seen the accident, Mr David Smith, the skipper. He had not, however, seen the deceased actually fall from the dinghy. It was clear from his evidence that the accident had happened extremely quickly. One minute he could see the deceased on the tender coming close to the boat, the next the deceased was in the water and seemingly unresponsive. Mr Smith had last seen him sitting down then he saw him in the water.

[45] In addition, the inquiry had the benefit of a very detailed report from witness Captain Emma Tiller which she spoke to in evidence. She had taken statements from the one eye witness and owner during the course of her investigations and her account of what they said to her coincided virtually exactly with what they said to the inquiry in their oral evidence.

[46] I have chosen to summarise the report she spoke to in her evidence in some detail in this determination as it seems to me to be a comprehensive and detailed report which contains useful information about other similar accidents as well as the one the inquiry is looking into. Its conclusions are persuasive. It is to be hoped that an understanding that similar accidents have been happening so regularly might change the culture of not wearing PFDs on fishing boats in the future. That seems to be the most important lesson to learn from this accident.

[47] Taking the evidence I heard together with the detailed MAIB report, there is no doubt about how the accident took place, when it took place and where it took place. What is unclear is the exact mechanism whereby the deceased went from a seated position in the dinghy close to the boat to being unresponsive in the water but it is clear that he must have stood up or at least tried to stand up at one point to have then gone overboard. It is possible that he simply slipped, got his foot caught or perhaps the level of intoxication may have played a part in making him unsteady. In any event he did go overboard and it matters not exactly what the mechanism was. He was found there very shortly after he entered the water, in an unconscious state. The inquiry heard that fishermen no longer work alone when in the dinghy which is a positive step towards preventing a death in similar circumstances.

[48] As is clear from the MAIB report, relatively high numbers of fishermen are losing their lives during the course of their employment. Fishermen are regularly not wearing PFDs or lifejackets. Emergency drills are not always carried out as required and alcohol is a recurrent relevant contributor. Steps have been taken by the fishing industry to

overcome the issue involving the non-wearing of PFDs but it seems that no checks are made to ensure that fishermen receive, understand and follow the notices issued by the MCA. It is obvious that much effort is made by the MCA to issue guidance for fishermen on safety but it is apparent that the guidance is not getting through where it needs to and further work needs to be done on that. It was concerning to find that experienced and articulate skippers like Mr Smith and Mr Livingstone were unaware of the various guidance notices that have been issued by the MCA. Mr Smith, the skipper, thought that he had seen Crown Production No 9, although he did not know when that was or how he had been made aware of it. He had no prior knowledge of the existence of Crown Productions 6, 7 and 8. Mr Livingstone, the vessel owner, was aware of Crown Production No 6 but only as it had been brought to his attention by an MCA surveyor after the fatal accident. He had had no prior knowledge of the existence of Crown Production Nos 7, 8 and 9 and did not even know how he would access the said notices. It seems that the relevant information is available but people do not seem to be accessing it for whatever reason. For this reason I have made recommendations in terms of section 26(1)(b).

[49] With regards to training, the inquiry heard that all parties involved had carried out mandatory training required. From Captain Tiller's report and evidence the inquiry learned that new entrants require to attend for 4 days for basic training (Basic Sea Survival, Basic Fire Safety, Basic First Aid and Basic Health and Safety). Basic Sea Survival must be completed before commencing work as a commercial fisherman and Basic Fire Safety, Basic First Aid and Basic Health and Safety must be completed within

3 months of commencing work as a commercial fisherman. In addition to this, after 2 years in the role they are required to attend for 1 day for safety awareness. The deceased had completed his basic mandatory training in 1988 and 1989, almost 30 years prior to the accident. He completed safety awareness in 2003 and voluntarily attended a further day of safety awareness training in 2014. It seems that fishermen can work for, perhaps, 30 or 40 years without attending further mandatory training beyond their 5 days training. The MCA are planning to consult within the industry on whether further mandatory training for fishermen beyond the initial mandatory training is required. Although this has no direct bearing on this accident it seems to me that it would be a positive step to take.

[50] Working at sea is an occupation which necessarily carries risks, however these risks can be mitigated if proper steps are taken to make fishermen aware of those risks and how to deal with them. Regular mandatory training might assist (for example the inquiry heard evidence that fishermen did not wear PFDs, calling them clumsy, but also heard further evidence that in fact the new ones were much better). Had they been aware of this, by up to date training or by other means, the culture of not wearing them might have changed earlier and lives might have been saved.

[51] At the start of the inquiry and at the end I extended my condolences to Mr Matheson's family, friend and colleagues. His colleagues who gave evidence were understandably and visibly affected by the incident. I was joined in so doing by the procurator fiscal depute. I would wish formally to repeat those condolences in this Determination.