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NOTE

This report is not written with litigation in mind and, pursuant to Regulation 14(14) of the Merchant Shipping (Accident Reporting and Investigation) Regulations 2012, shall be inadmissible in any judicial proceedings whose purpose, or one of whose purposes is to attribute or apportion liability or blame.

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Fatal man overboard from the single-handed creel fishing boat *May C* (SY213) at Loch Carnan, Outer Hebrides, Scotland on 24 July 2019

SUMMARY

At about 1230 on 24 July 2019, Michael Monk, the owner/skipper of the single-handed creel fishing boat *May C* was found face down and unconscious in the sea by the crew of the fishing boat, *Sparkling Star*. Despite being recovered by *Sparkling Star's* crew, *May C's* skipper had drowned and could not be resuscitated.

May C's skipper had fallen overboard at some point earlier in the day, but this had not been witnessed. Nevertheless, because the boat's outboard engine was found in the raised position, the investigation concluded that it was most likely that the skipper fell into the water while attempting to clear seaweed or some other obstruction from the propeller.

The skipper could not swim, was probably tired and was not wearing a personal flotation device so would have been incapacitated rapidly through the effects of immersion in cold seawater, and unable to self-rescue. Alone and not equipped with a personal locator beacon, the skipper was also unable to raise the alarm and summon help.

In view of fishing industry initiatives and the recommendations made in the MAIB's report into the fatal man overboard from the single-handed fishing boat *Sea Mist*, no recommendations have been made in this report.



May C

FACTUAL INFORMATION

Narrative

At about 0600 on 24 July 2019, *May C*'s skipper left home and, 20 minutes later, arrived at Peter's Port, Benbecula (**Figure 1**) where the boat was kept on a swinging mooring. The weather was overcast, there was a gentle south-westerly breeze and the sea temperature was 14°C. After rowing out to *May C* in his tender with his bait and provisions for the day, the skipper started the engine, departed from the mooring and headed across to Loch Carnan (**Figure 1**) to start tending his creels. During the morning,

both crewmen of another creel boat, *Sparkling Star*, periodically saw *May C*'s skipper working in the same vicinity; their last sighting was at about 1200.

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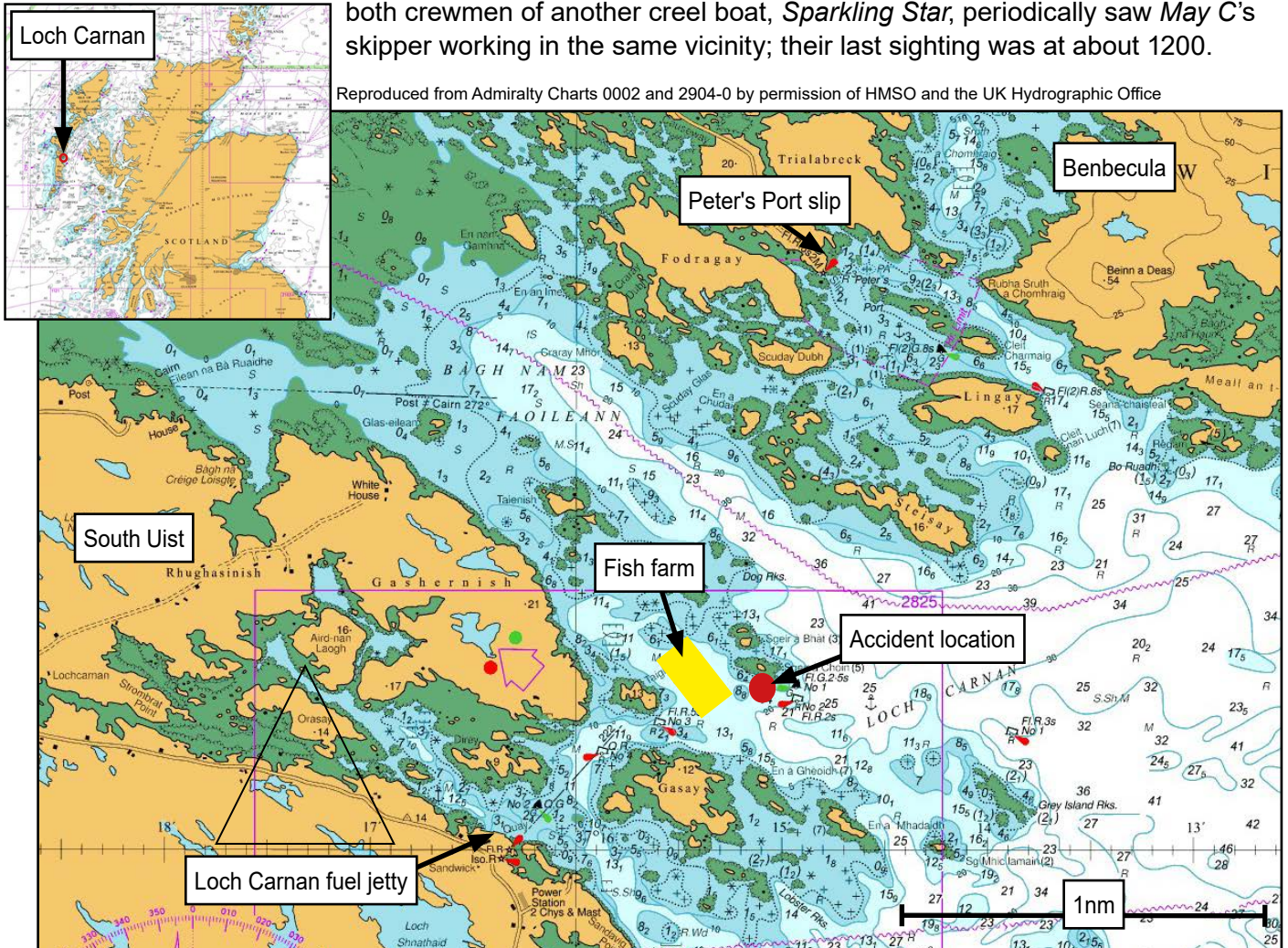


Figure 1: Chart showing accident location, Peter's Port, the fish farm and Loch Carnan fuel jetty

At about 1230, the crew of *Sparkling Star* were concerned about *May C* and its skipper as the boat seemed to be very close inshore near rocks, away from the skipper's creels and not moving, so they headed over to investigate. As they approached *May C*, *Sparkling Star*'s crew could see that there was no-one on board, the outboard engine was in the raised position and the hauler was turning. *Sparkling Star*'s crew started shouting out to *May C*'s skipper, but there was no response. Moments later, *May C*'s skipper was spotted lying face down in the sea close to his boat; *Sparkling Star*'s crew managed to get hold of the skipper, who was unconscious, and tried to lift him on board, but they were unable to do so.

At 1253, *Sparkling Star*'s skipper made a "Mayday" call using very high frequency (VHF) radio; the coastguard acknowledged the emergency call and tasked an RNLI¹ lifeboat, a coastguard helicopter, a coastal rescue team and an ambulance to attend.

Sparkling Star's crew rigged a rope under the skipper's arms to keep his head above water and then manoeuvred him alongside a nearby fish farm cage, where they managed to lift him on to its low walkway (**Figures 1 and 2**) and commence cardio pulmonary resuscitation (CPR).

¹ Royal National Lifeboat Institution.



Figure 2: Fish farm pens

May C's skipper did not respond to the CPR, and on the advice of the coastguard *Sparkling Star*'s crew took the skipper to Loch Carnan fuel jetty (**Figure 1**), where an ambulance was waiting; CPR continued during the short crossing. After examination by an ambulance paramedic at the fuel jetty, *May C*'s skipper was declared deceased.

Owner/skipper

Michael Monk was 57 years old and an experienced fisherman who had owned and operated *May C* for 12 years. He had completed all the mandatory training required to operate a small fishing vessel.

The skipper had suffered an illness often necessitating medical treatment, and he had been discharged from hospital 6 days before the accident. He was not taking any prescribed medication but was reported by family and friends to have been physically weaker than before. Nevertheless, his work as a fisherman was important to him and a significant element of his rehabilitation.

The skipper could not swim. On the day of the accident, he was wearing overalls, oil skin trousers and rubber boots; he was not wearing a personal flotation device (PFD) or carrying a personal locator beacon (PLB). The postmortem examination report stated that the skipper's cause of death was drowning.

May C

May C was a UK-registered 5.79m fibreglass fishing boat built in 1989 that was used for creel fishing, mainly catching velvet crab. *May C* was fitted with a raised guardrail, a petrol-driven hydraulic hauler for heaving in creels on the starboard side, and a wooden baiting table on the port side (**Figure 3**). *May C* was propelled by a 25 horse power outboard engine that was protected by a transom rail (**Figure 3**); the engine was operated, and could be raised and lowered, using controls at the cuddy near the bow.

Creel fishermen in the area tended to work strings of 20 to 30 creels. Due to his physical limitations and the constraints of his very small boat, *May C*'s skipper had rigged his gear into strings of 12 creels. The skipper's typical fishing routine was to be underway by 0630 (only in good weather), tend each of his 12

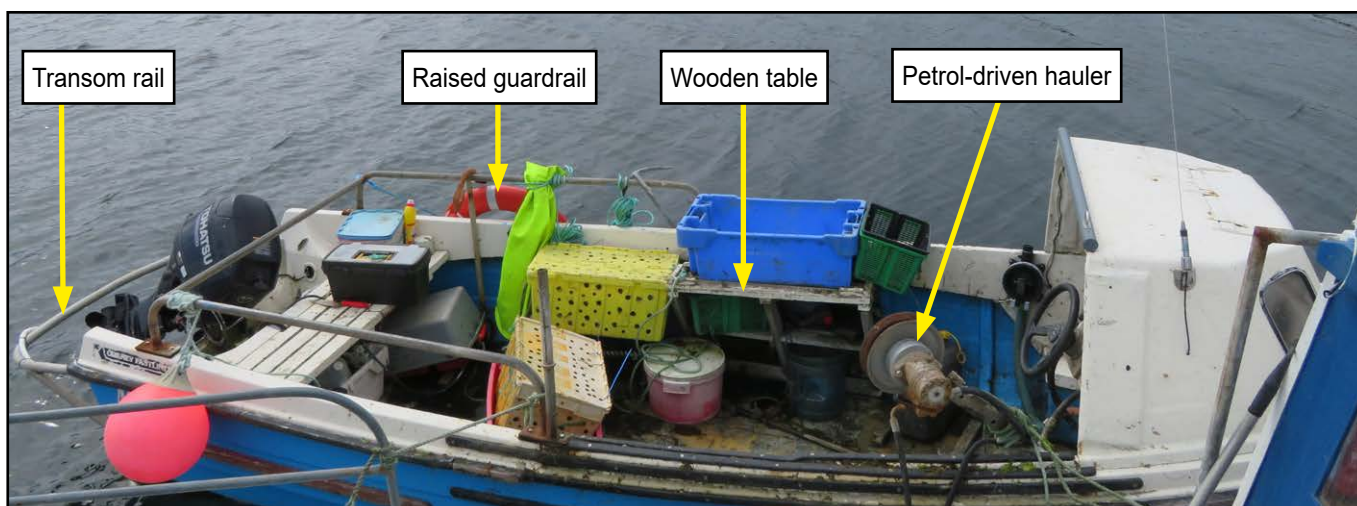


Figure 3: *May C* fittings

strings then return to Peter's Port by about 1400. When underway, *May C*'s engine would be kept in the lowered position and running continuously as the skipper manoeuvred between strings and tended his creels.

After the accident, the crew of *Sparkling Star* brought *May C* back to Peter's Port. When *May C*'s outboard engine was lowered, it started immediately and ran normally. There was no evidence that any attempt had been made by the skipper to use the lifebuoy rigged for self-rescue. There was a knife and a toolbox on the thwart by the stern, and two full boxes of crabs on board.

Regulation and certification

May C had been inspected on 22 March 2017 by a Maritime and Coastguard Agency (MCA) surveyor to ensure compliance with Merchant Shipping Notice (MSN) 1813(F), *The Code of Practice for the Safety of Small Fishing Vessels* (The Code of Practice).

The surveyor's inspection report included a deficiency requiring the '*man overboard means of recovery to be defined*'. In response to this deficiency, the skipper rigged a tyre, later replaced by a lifebuoy, over the port side to aid self-rescue (**Figure 4**). The lifebuoy was held just above the waterline by an elastic strap. This arrangement would allow someone in the water to reach up and release the elastic strap, causing the lifebuoy to drop into the water for use as a foothold for climbing back on board.



Figure 4: Lifebuoy rigged as a means of self rescue

The MCA surveyor's report also stated that the skipper would, in future, be required to carry a global positioning system (GPS) capable PLB; this was in anticipation of a replacement Code of Practice that was nearing introduction.

Accordingly, on 23 October 2017, the MCA published MSN 1871(F), an updated Code of Practice for under 15m length overall fishing vessels. For fishing vessels under 10m, the replacement Code of Practice obligated the carriage of a PLB by each crewman. Although the requirement to carry a PLB did not come into force until 23 October 2019, the MCA strongly encouraged fishermen to comply as soon as possible.

After receiving notification that the deficiencies identified during inspection had been rectified, the MCA issued a UK Fishing Vessel Certificate (UKFVC) for *May C*, valid until 16 April 2022. Ongoing validation of the UKFVC was to be sustained through annual self-certificate assessments; there was no record of self-certification by *May C*'s skipper for 2018 or 2019. When inspected by MAIB inspectors, there was no PLB or PFD on board *May C*.

Guidance

The MCA's *Fishermen's Safety Guide* provided guidance on safe working practices and emergency procedures. For single-handed operations, it stated:

- *'If you fall overboard, there is no-one to raise the alarm or stop the vessel, or help recover you to the vessel. In the event of a sudden vessel loss then there is no one to raise the alarm.*
- *Consider how you can eliminate or reduce the risk, for example, non-slip decks, separate yourself from ropes and wires, bulwark heights, etc. Remember, if you cannot eliminate the risk you MUST wear a PFD or a safety harness.*
- *Always wear your PFD and ensure that it has sufficient buoyancy to turn you on your back keeping your mouth clear of the water even if you become unconscious.*
- *Equipping your vessel with an EPIRB will ensure that should the vessel capsize or sink an automatic distress call will be made and the location transmitted. A PLB that you can wear on your PFD will assist search and rescue to locate you in the water.'*

Immersion in cold water

Sudden immersion in cold water² results in the lowering of skin temperature causing a rapid rise in heart rate and, therefore, blood pressure, accompanied by a gasp reflex followed by uncontrollable rapid breathing. This is known as the cold shock response and peaks within 30 seconds and lasts for 2 to 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 is considered to be the cause of the majority of drowning deaths in cold water³.

If the cold shock response is survived, cold incapacitation usually occurs within 2 to 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 PFD is worn, death by drowning occurs as a result of impaired swimming.

Industry Safety Initiatives and the Work in Fishing Vessel Convention

The MAIB's *Lifejackets: a Review*⁴ published in 2016 identified that, despite a safety recommendation⁵ and intensive industry campaigns reaching back to 2013 to persuade commercial fishermen to wear a PFD, there was no evidence of a downward trend of drowning accidents.

On 8 January 2019, the UK ratified the International Labour Organization's *Work in Fishing Vessels Convention, 2007 (No.188)* (ILO188). ILO 188, Article 8, required fishing vessel owners to provide sufficient resources and facilities to operate their vessels safely, and skippers to be responsible for the safe operation of their vessel. In providing guidance to the industry on implementing these requirements, the MCA published Marine Guidance Notice (MGN) 588(F), *Compulsory Provision and Wearing of Personal Flotation Devices on Fishing Vessels*. The MGN stated that, *unless measures are in place which eliminate the risk of fishermen falling overboard, all fishermen must be provided with and must wear PFDs or safety harnesses*.

To promote ILO 188 and improve fishermen's awareness of its guidance, the MCA has delivered a safety campaign including roadshows, introduced the revised Code of Practice and developed a robust enforcement policy. The key themes of the MCA's safety campaign included: measures to avoid falling overboard, the importance of wearing a PFD and the benefit of regular drills. Supporting the MCA's guidance, wider industry initiatives included the provision of PFDs and sea survival refresher training for fishermen. The RNLI also promoted the wearing of PFDs through its '*Useless Unless Worn*' campaign.

The Western Isles Fishermen's Association (WIFA), a local trade body, had provided *May C's* skipper with a PLB; he had also received a PFD funded by the European Maritime Fisheries Fund. WIFA had emailed the skipper on several occasions offering him sea survival refresher training, an offer that he had not taken up. WIFA had also updated its members by email reminding them of the requirement to wear PFDs when at sea.

Similar accident

Four months prior to the accident described in this report, the skipper of the single-handed creel fishing boat, *Sea Mist*, lost his life when he went overboard. Although the circumstances of the *Sea Mist* accident were different, the MAIB report⁶ stated that '*despite the recent publication of improved safety guidance, the frequency of serious and fatal accidents involving single-handed fishermen shows no sign of reducing*'.

² Water under 15°C.

³ Golden and Tipton, *Essentials of Sea Survival*, 2002, page 59.

⁴ <https://www.gov.uk/government/publications/lifejackets-a-review>.

⁵ MAIB Recommendation 2013/108.

⁶ MAIB Report 14/2019: <https://www.gov.uk/maib-reports/man-overboard-from-single-handed-creel-boat-sea-mist-with-loss-of-1-life>.

The MAIB report of the *Sea Mist* accident made recommendations to the Fishing Industry Safety Group's Co-ordination Group to revise safety guidance for single-handed fishermen to ensure it remains fit for purpose, and to ensure that such guidance was readily available by improved promulgation. In response to the recommendations made in January 2020, the MCA published the guidance leaflet *Single handed fishing*. The leaflet provided guidance on the actions to take to prevent accidents and maximise chances of survival, which included the wearing of PFDs and carriage of PLBs. Similar information was also included in a revised version of the Fishermen's Safety Guide. The MCA has taken significant steps to ensure its *Single handed fishing* leaflet is widely promulgated to fishermen, industry bodies and training centres.

ANALYSIS

Entry into the water

The exact circumstances of this accident are unknown as *May C*'s skipper was working alone when he fell overboard, and his fall was not witnessed. Although the hauler was running when *May C* was found, the boat was in very shallow water and not in the immediate vicinity of the skipper's creels; this means that it was unlikely that the skipper was lost overboard when actively working creels.

When underway, *May C*'s engine would be lowered and running continuously, so it was very unusual that the boat was found with the engine stopped and in the raised position. It was highly unlikely to have been raised for a mechanical repair as the engine started and ran normally after the accident and, although there was a box of tools on board, the motor's cowling was in place. Therefore, the most likely explanation was that the skipper had raised the engine to remove weed, or some other obstruction such as a rope or fishing line, which was fouling the propeller. The presence of a knife near the stern underpins this analysis. To reach the outboard's propeller, the skipper would have had to climb over the raised guardrail and crouch on the narrow transom, as illustrated at **Figure 5**. Although the propeller was not fouled when the boat was found, the skipper might have lost his balance when trying to climb inboard over the guardrail after clearing the propeller.

Crouching at the transom would have been hazardous as the skipper would have been outside the raised guardrail, the safety barrier designed to prevent him from falling overboard. Probably weakened after around 6 hours of strenuous physical effort tending 144 creels, it is most likely that the skipper fell overboard while attending to the raised engine.

Cause of drowning

Accidental immersion in water has immediate and profound effects on the human body. If during the initial cold shock response the head goes underwater, it can lead to water ingestion and subsequent drowning. The most effective mitigation of cold shock is to wear a PFD as it improves the chance of survival by keeping the head above water. If the cold shock response is survived, then cold incapacitation can set in within 2 to 15 minutes of immersion. This response includes the incapacitation of limbs as the body restricts blood flow to its extremities to preserve vital organs. Again, a PFD is useful as it provides essential buoyancy as the individual loses the ability to swim effectively.

Once *May C*'s skipper had fallen overboard, without a PFD his chances of survival were very low. The weed growth on *May C*'s hull near the lifebuoy was undisturbed, indicating that the skipper had made no attempt to self-rescue. The skipper was also still wearing his boots when he was found, suggesting he had not tried to kick them off, probably because he had fallen unconscious very soon after entering the



Figure 5: Reconstruction of outboard motor propeller being cleared

water. However, the critical factor in the cause of drowning was that the skipper was not wearing a PFD. He could not swim, and was likely tired from his day's fishing, and without a PFD would not have been able to keep his head above water. Had the skipper been wearing a PFD and survived the cold shock, he still would have had difficulty raising the alarm to summon assistance as he was not carrying his PLB.

All fishing vessels should have an effective method of recovering someone out of the water. The initiative of *Sparkling Star's* crew to rescue the skipper and lift him out of the water at the nearby fish farm pens was commendable. However, the difficulty they experienced was a salutary reminder that *Sparkling Star* did not have an effective means for recovering an unconscious person from the water.

Managing risk in single-handed fishing

Single-handed fishing operations are particularly hazardous because there is no-one else immediately available to assist in an emergency.

May C's skipper responded positively to the man overboard deficiency in the MCA's inspection report, avoided bad weather and worked short strings of creels; all these actions demonstrated a positive attitude to safe operations. However, the skipper had not completed the annual self-certifications of *May C* or attended the sea survival refresher training on offer from WIFA. Moreover, the skipper's decision not to wear his PFD or carry his PLB indicate that he underestimated the significant hazard of falling overboard when working alone.

Despite industry initiatives reaching back many years, this accident demonstrates that the message about the importance of wearing a PFD is not always getting across. To help address this, the MAIB's recent report into the loss of the skipper of *Sea Mist* made safety recommendations to improve and sustain both the content and availability of safety guidance for single-handed fishermen.

CONCLUSIONS

- *May C's* skipper drowned because he fell overboard and became incapacitated quickly by the effects of immersion in cold water.
- Although the exact circumstances of the accident are unknown, it is most likely that the skipper fell overboard when trying to clear the boat's propeller of weed or other fouling.
- Had the skipper been wearing his PFD and carrying his PLB, his chances of survival would have been significantly increased.
- Although the skipper had shown awareness of safe operations, his decision not to wear a PFD or carry a PLB demonstrate that he was probably unaware of the severe hazard associated with falling overboard.

ACTION TAKEN

The **Marine Accident Investigation Branch** has issued a safety flyer for the fishing industry highlighting the lessons from this accident.

In response to the recommendations made in the *Sea Mist* report, the **Maritime and Coastguard Agency** has published, in January 2020, the guidance document *Single handed fishing*. This pamphlet highlights the specific dangers associated with single-handed fishing and offers guidance to always wear a PFD, and carry a PLB.

RECOMMENDATIONS

Given the industry initiatives to increase the awareness of the importance of wearing a PFD, and the MAIB's safety recommendations made in the *Sea Mist* report, no further recommendations regarding single-handed fishing have been considered necessary for inclusion in this report.

SHIP PARTICULARS

Vessel's name	May C
Flag	UK
Classification society	Not applicable
IMO number/fishing numbers	SY213
Type	Creel fishing boat
Registered owner	Privately owned
Year of build	1989
Construction	Fibreglass
Length overall	5.79m
Registered length	5.79m
Gross tonnage	1.67t
Minimum safe manning	Not applicable
Authorised cargo	Fish

VOYAGE PARTICULARS

Port of departure	Peter's Port, Benbecula
Port of arrival	Peter's Port, Benbecula
Type of voyage	Commercial fishing
Cargo information	Velvet crab
Manning	One

MARINE CASUALTY INFORMATION

Date and time	24 July 2019 at 1230
Type of marine casualty or incident	Very Serious Marine Casualty
Location of incident	Loch Carnan, South Uist
Place on board	Upper deck
Injuries/fatalities	One fatality
Damage/environmental impact	None
Ship operation	Underway
Voyage segment	Coastal
External & internal environment	Wind: south-westerly force 2-3, sea state: smooth, visibility: good
Persons on board	One