

Extract from The United Kingdom Merchant Shipping (Accident Reporting and Investigation) Regulations 2012 – Regulation 5:

“The sole objective of the investigation of an accident under the Merchant Shipping (Accident Reporting and Investigation) Regulations 2012 shall be the prevention of future accidents through the ascertainment of its causes and circumstances. It shall not be the purpose of an such investigation to determine liability nor, except so far as is necessary to achieve its objective, to apportion blame.”

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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The collision between the commercial fishing vessel *Vertrouwen* and recreational motor cruiser *James 2* resulting in the sinking of *James 2* and loss of three lives Shoreham-by-Sea 6 August 2017

SUMMARY

At 0026 on 6 August 2017, the 5.64m recreational motor cruiser *James 2* and the 26.24m commercial fishing vessel *Vertrouwen* collided in Sussex Bay, 1.6 miles south-east of Shoreham harbour. Neither vessel was damaged by the impact but *James 2* was swamped by *Vertrouwen*'s wash and sank. At the time of the accident the four men on board *James 2* were rod fishing for mackerel; *Vertrouwen* had just left port and was on passage to Grimsby. Three of the men on board the motor cruiser drowned; a fourth was rescued from the water 5 hours later by a passing fishing vessel.

The collision occurred because *Vertrouwen*'s lone watchkeeper did not see *James 2*, and once the sea anglers realised the danger, they had insufficient time to manoeuvre *James 2* clear of the approaching fishing boat. The three sea anglers drowned because they were not wearing lifejackets or buoyancy aids and were unable to raise an alarm.

The investigation found that neither vessel was keeping a proper lookout: *Vertrouwen*'s watchkeeper allowed himself to become distracted by using his mobile phone and working on a laptop computer; the sea anglers on board *James 2* were focused on fishing.

James 2 had not been sufficiently prepared or equipped to go to sea. It had inadequate freeboard, its navigation lights did not meet the standards required, and basic safety equipment was either not carried or not worn. If the sea anglers had been able to raise the alarm and been wearing lifejackets or buoyancy aids, all four of them would almost certainly have survived.

Recommendations aimed at improving standards of watchkeeping have been made to *Vertrouwen*'s owners, Macduff Shellfish (Scotland) Ltd. In addition, the Chief Inspector of Marine Accidents has written to the editors of major sea angling publications, inviting them to bring the safety lessons identified in this report to the attention of their readers.

FACTUAL INFORMATION

Environmental conditions

On 6 August 2017, in Sussex Bay, the wind was north-westerly in direction at 5kts, the sea was slight with a low swell from the south-west. The weather was fine, with a clear sky and a nearly full moon.

High water at Shoreham occurred at 2300 on 5 August and the tidal stream was setting to the north-west into the bay.

The water temperature was 16°C.

Narrative

On 1 August 2017, the UK registered fishing vessel *Vertrouwen* (**Figure 1**) arrived at Shoreham harbour and entered the port's dry dock for repairs to a leaking propeller shaft seal. The vessel was scheduled to sail on Friday 4 August, but problems with the supply of spare parts and extra-emergent work delayed its departure by 24 hours.

On the afternoon of 5 August, *James 2*'s owner, Mircea Bebi Ilie; his brother-in-law, Irinel Popovici; a friend visiting from London (the survivor); and the friend's boss, Traian Dumitrache, met in Brighton for a planned night of sea angling in Sussex Bay. At the start of the evening, the four men had dinner and shared a few bottles of beer at Mircea's home. They then drove to *James 2*'s mooring at Riverside Yard marina in Shoreham-by-Sea. At 2145, the men arrived at the marina and began to load their fishing gear and provisions onto the boat and prepare it for sea.

Mircea contacted the port authority on his VHF radio and gained approval for *James 2* to transit through the harbour lock. He then manoeuvred *James 2* out of the marina and into the lock (**Figure 2**). Shoreham Port radar¹ showed that at 2210, the boat was steered out of the port and headed south-south-east toward the Rampion Windfarm construction site. After approximately 20 minutes, about 1.6 miles offshore, Mircea stopped the boat, switched off its engine and allowed it to drift with the wind and tide (**Figure 3a**). The anglers opened a bottle of whiskey and shared a drink while they prepared their rods, and they lowered LED lights into the water on each side of the boat to attract fish. After drift fishing for about an hour, the sea anglers started to catch mackerel.



Figure 1: fv *Vertrouwen*

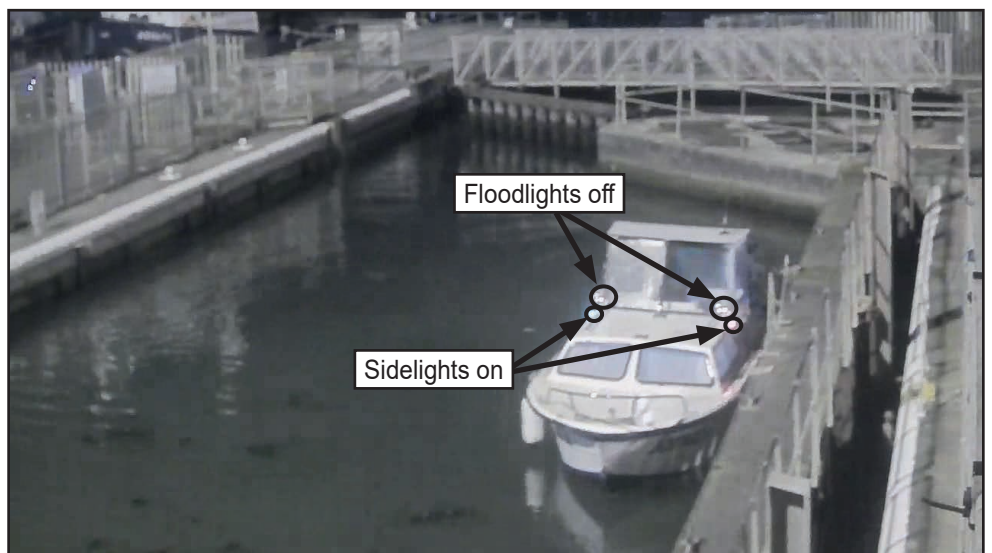


Figure 2: *James 2* in locks

¹ Shoreham port radar system is not monitored for vessel traffic services and is used solely for review of incidents and accidents.

At 2354, *Vertrouwen's* skipper manoeuvred his vessel out of the dry dock and into the harbour lock. About 15 minutes later, *Vertrouwen* left the lock and proceeded out of the port, passing the outer breakwaters at 0015 (6 August). As the skipper brought the vessel out of the port, his crew made their way from the deck to the wheelhouse. The skipper told the crew that he had no other work for them to do and that he would take the first watch. The crew left the wheelhouse and went to their bunks. Once clear of Shoreham, the skipper increased *Vertrouwen's* speed to about 7kts and set a southerly course on the autopilot. At 0020, he altered course slightly to port, putting the vessel on a south-south-easterly heading (Figure 3b).

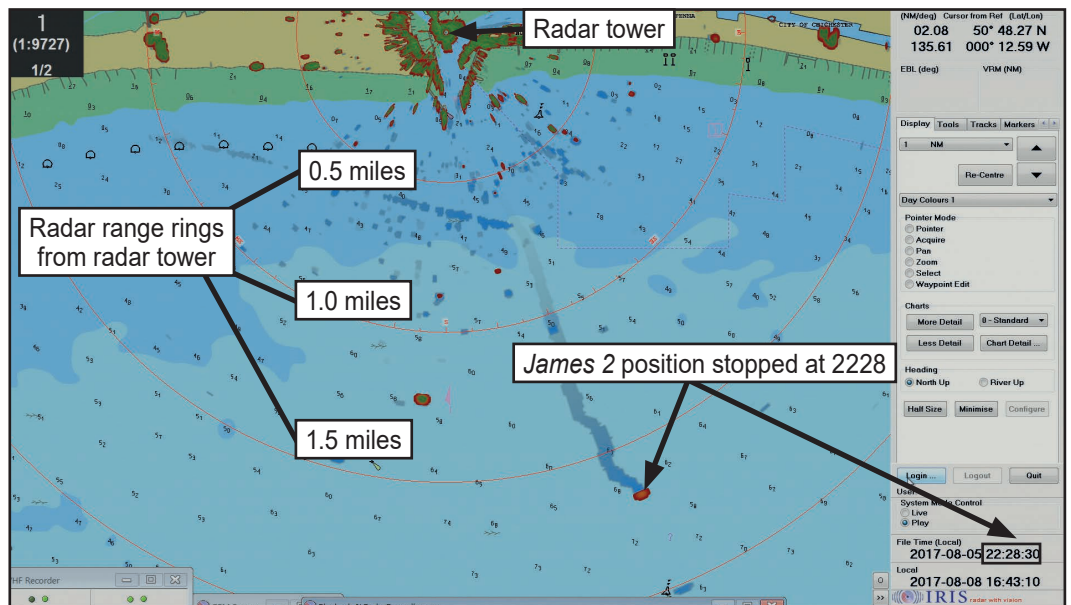


Figure 3a: *James 2* stopped and drifting having left Shoreham

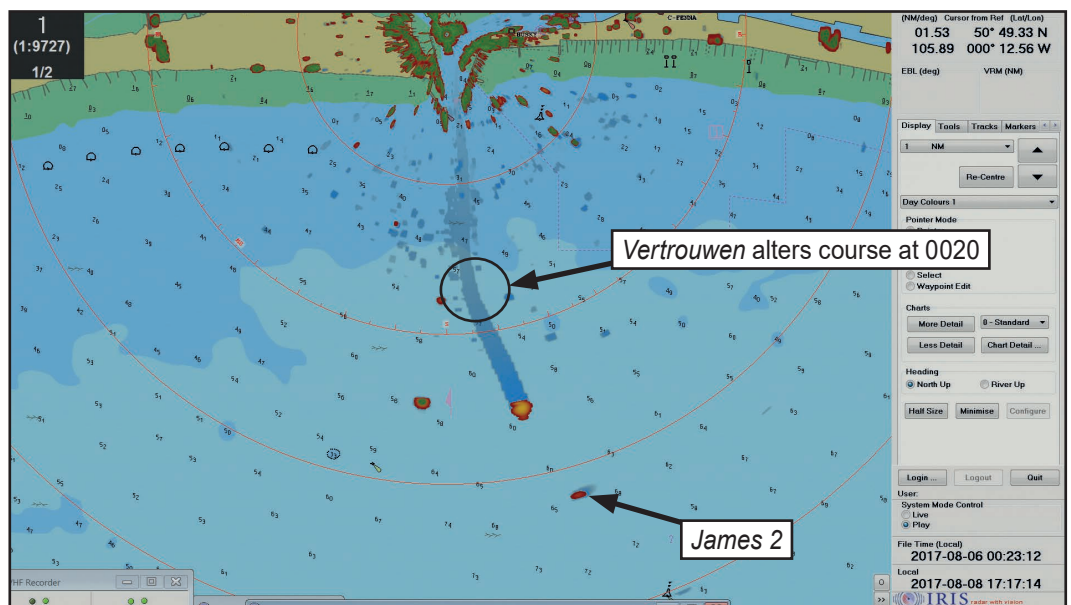


Figure 3b: *Vertrouwen* passage from Shoreham

At 0024, *Vertrouwen's* skipper used his mobile phone to send a message on social media to a friend on board another fishing vessel; *Vertrouwen* was about a quarter of a mile from *James 2* and on a collision course with the boat (Figure 3c). The skipper then started to compile his electronic departure report.

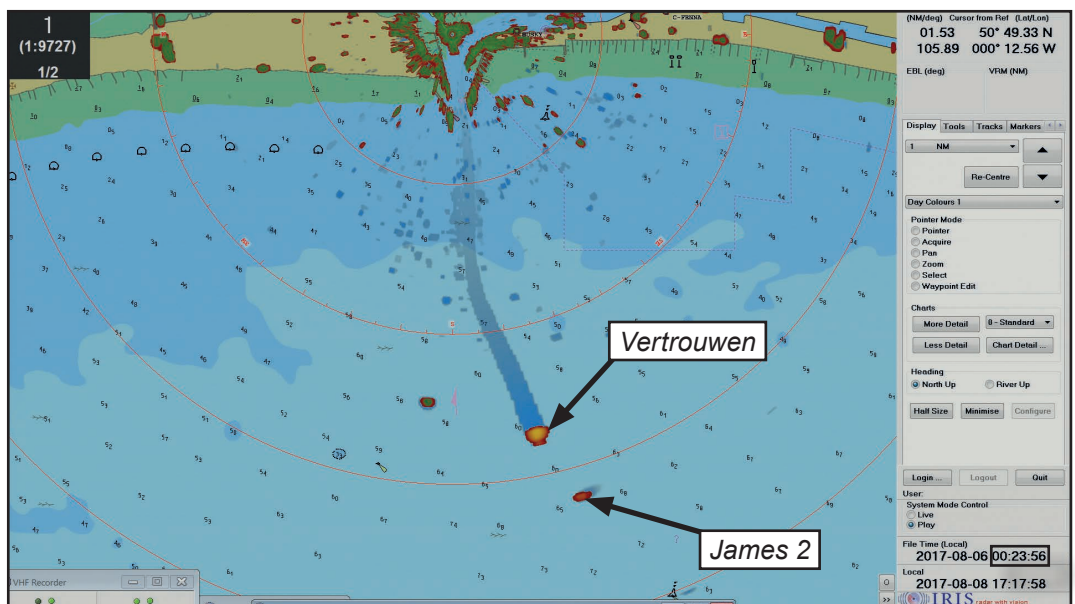


Figure 3c: *Vertrouwen* position as skipper uses his mobile phone

At about the same time, Mircea went into *James 2*'s cabin to shelter from the wind to roll and smoke a cigarette. While he was in the cabin, the other sea anglers saw *Vertrouwen*'s deck lights. Initially, they thought the approaching vessel would pass clear of them, and they continued to fish.

As *Vertrouwen* began to emerge over *James 2*'s stern as a large black shadow with two bright floodlights, the sea anglers suddenly realised the danger they were in, and called Mircea to the deck. Mircea immediately started the boat's engine while the other three men shouted and waved torches toward the approaching vessel. Mircea accelerated *James 2* forwards and turned the boat to starboard in an attempt to get out of the way.

At 0026, *Vertrouwen* struck *James 2* on its starboard quarter with a glancing blow (**Figure 3d**) and its bow wave washed over the motor cruiser's stern. *James 2* started to sink by the

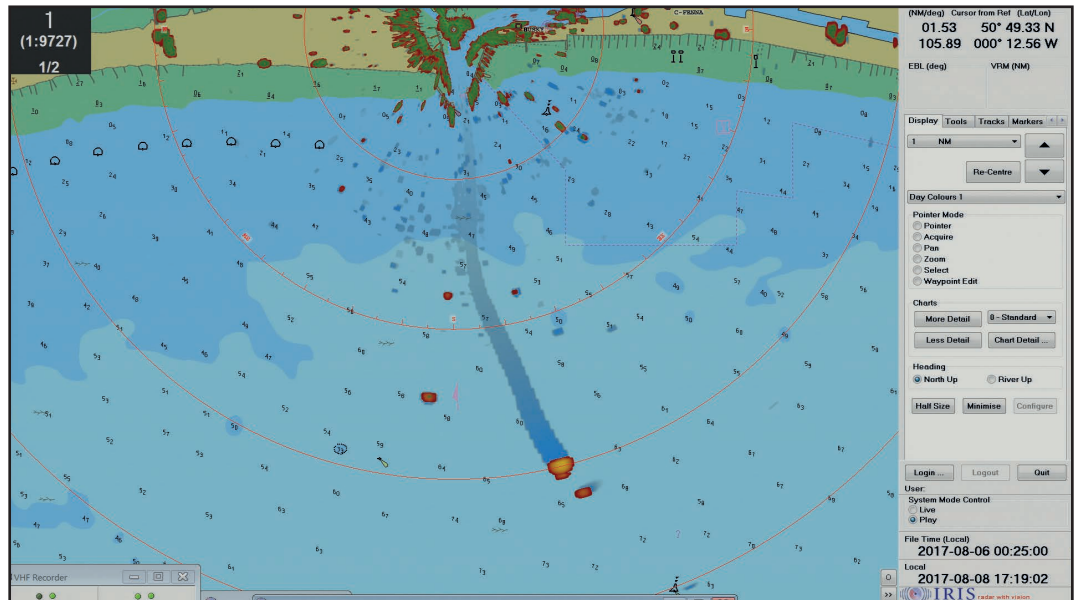


Figure 3d: *Vertrouwen* and *James 2* immediately before the collision

stern as water continued to flood over the low transom. The anglers tried frantically to bail the boat out and also gain the attention of the crew on board *Vertrouwen* by shouting and flashing their torches, but

Vertrouwen did not stop (**Figure 3e**).

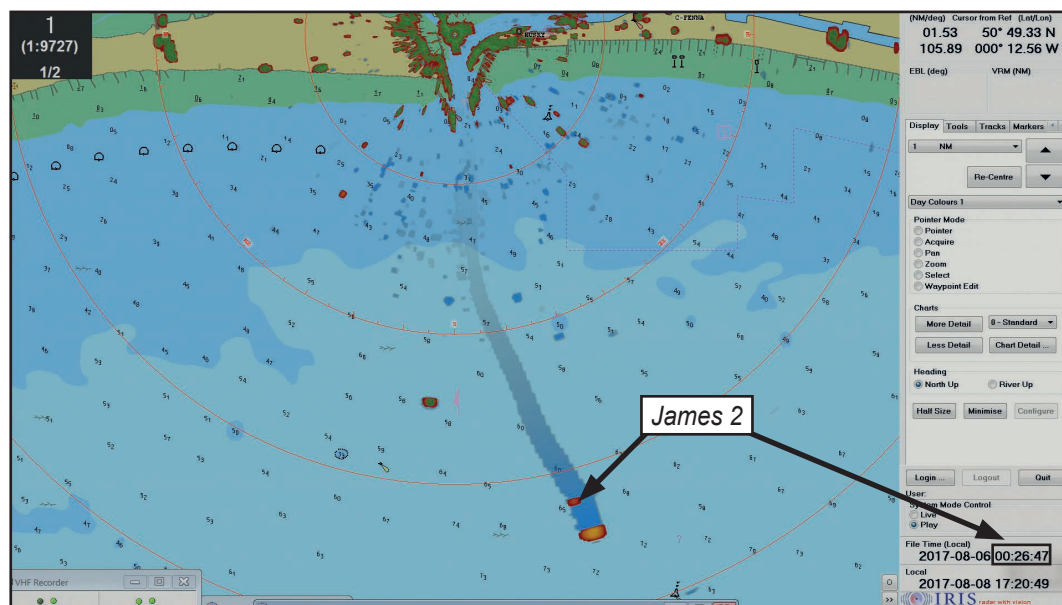


Figure 3e: *Vertrouwen* and *James 2* shortly after the collision

As *James 2*'s bow started to rise out of the water and it became apparent that the boat was going to sink, Mircea told everyone to jump into the water. Before jumping in, Traian grabbed and emptied a fuel can to use as a float. While in the water, Irinel used his knife to cut a fender free to use as a float. He then

passed his knife to the survivor, who managed to cut a second fender free as *James 2* sank less than 2 minutes after the collision (**Figure 3f**).

Within minutes, the men began to drift apart; Mircea and Traian continued to shout out for help while Irinel and the survivor decided to swim for the shore. After a short time, the survivor lost sight of Irinel and could no longer hear the other men shouting. With his fender under his arm he continued to swim towards the shore.

Vertrouwen continued on passage, and at 0030 the skipper altered course to head toward the Dover Strait. Throughout his watch he continued to send and receive social media messages on his mobile phone, until he was relieved by the mate at about 0330.

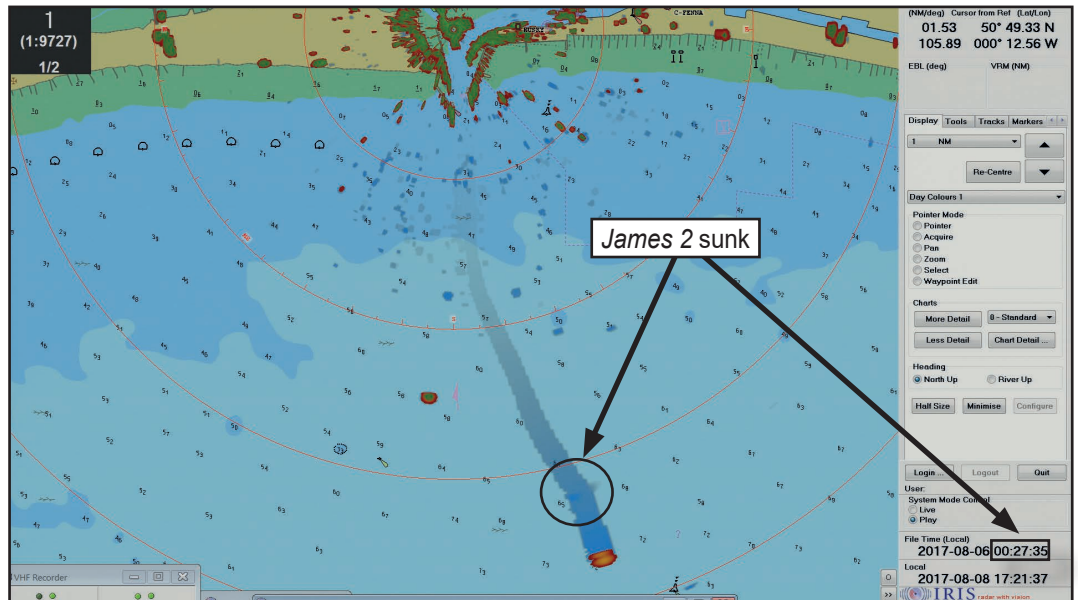


Figure 3f: *James 2* sunk position

At about 0545, the survivor was spotted clinging to the boat fender by the skipper of a passing fishing boat, who immediately went to his aid and alerted the coastguard. The coastguard tasked Shoreham's RNLI all-weather lifeboat to assist with the recovery of the survivor, and instigated a major search and rescue (SAR) operation for other sea anglers.

During the search, Traian was spotted by the crew of a coastguard SAR helicopter and recovered ashore by the crew of an RNLI lifeboat. He was pronounced deceased at the scene. The bodies of Mircea and Irinel were found 8 days later. The postmortem reports confirmed that all three men had drowned. The survivor was treated and monitored in hospital overnight and, although traumatised by his experience, he was discharged the following day.

James 2

James 2 was a glass-reinforced plastic hulled 'Norman 18.5' motor cruiser with a cabin forward and an open deck aft. It had been manufactured by Norman Cruisers Ltd in the early 1970s. The Norman 18.5 was principally designed for recreational use on lakes, rivers and inland waterways, but was also marketed as being suitable for use in coastal waters. The main propulsion engine on *James 2* was a 30hp Mercury outboard motor; it also had a 5hp Suzuki outboard motor as a back-up engine.

Mircea purchased the boat for £600 from an online auction website in March 2017 and brought it to Shoreham-on-Sea, where he renamed the boat *James 2*. Between May and August 2017, Mircea carried out several modifications, including fitting a large rigid canopy over the open deck cockpit and mounting a second-hand Swiftech m-168 marine VHF radio on the main steering console. He also had a waterproof TEQStone 6-switch LED lightbar panel installed on the console to control the boat's navigation, cabin and forward-facing spotlights, and to control the engine ignition switch and cabin electrical current inverter.

Mircea (age 43), Irinel (age 41), Traian (age 51) and the survivor (age 45) were all Romanian nationals who were working and living in the UK. Mircea was a keen angler and he spent much of his free time at sea in his boat. Prior to *James 2*'s purchase he owned a smaller inflatable boat (about 2.5m in length), which he had used for daylight fishing trips off the coast of Brighton. The four sea anglers had no formal boating qualifications and little or no experience of going to sea in small boats at night.

Vertrouwen

Vertrouwen was a steel hulled, beam rigged scallop dredger. It had been built in 1968, was owned by Macduff Shellfish (Scotland) Ltd and was registered in Dumfries, Scotland. It was manned by a crew of four British nationals who all held the certification required for operating the vessel, and had completed the mandated safety training.

Vertrouwen's wheelhouse was equipped with two Furuno X-band radar screens, two electronic chart systems with independent satellite navigation units, a Class A automatic identification system, and an echo sounder. The radars were hired and both had been installed and set up by a manufacturer's representative during the stay in Shoreham. Both electronic chart systems were switched on prior to leaving port; one was set up to record the vessel's track and the other to display the skipper's planned route out to sea. On departure, the skipper had selected a 6-mile range on both radar screens, which was his usual preference.

Macduff Shellfish (Scotland) Ltd operated 13 fishing vessels and provided them with a generic safety management system (SMS) that contained vessel-specific operational risk assessments. *Vertrouwen's* SMS did not include guidance or procedures for watchkeeping. *Vertrouwen* was surveyed and its UK Fishing Vessel Certificate reissued by the Maritime and Coastguard Agency (MCA) in May 2017.

Wreck location and recovery

The wreck of *James 2* was located using side-scan sonar 6 days after the accident. The wreck was initially surveyed on the seabed by divers and, on 14 August 2017, it was raised and landed ashore (**Figures 4a, b and c**).

Close examination of the wreck revealed that *James 2* had suffered no structural damage as a result of the collision. Some minor scuff marks were found on the starboard quarter of the hull, but these appeared to be old and similar to other scuff marks found around the hull. The inspection also identified that the engine throttle was in the neutral position and the cabin lights were switched off.

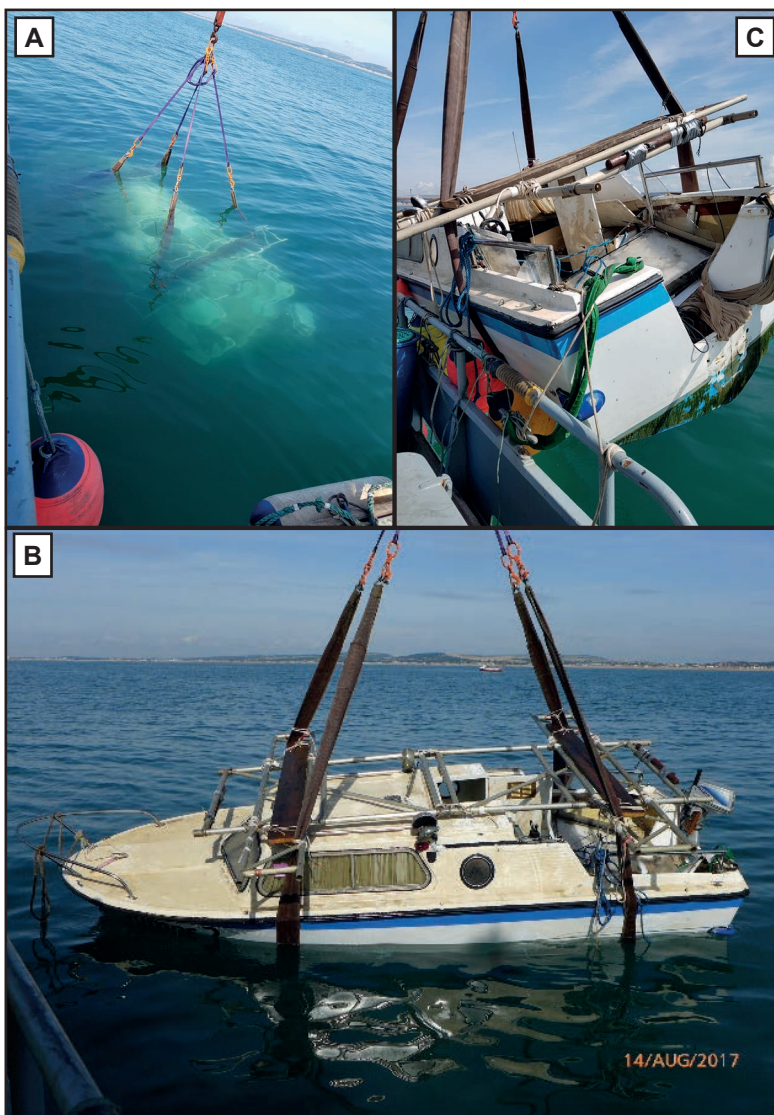


Figure 4a, b and c: *James 2* wreck recovery

Emergency equipment

Safety guidelines provided for sea anglers by the RNLI's Sea Safety Liaison Working Group² recommended that: personal flotation devices (PFDs) (lifejackets/buoyancy aids) be worn on deck at all times; and distress flares and a portable foghorn be carried on board seagoing boats.

² The Sea Safety Liaison Working Group comprised representatives from the MCA, the Royal Yachting Association, the British Marine Industries Federation, the Royal Life Saving Society, the Royal Society for the Prevention of Accidents, the National Federation of Sea Anglers and the Anglers Trust.

Four PFDs were recovered from *James 2*'s cabin after the accident: two adult sized buoyancy aids and two children's lifejackets. Mircea and his friends did not wear PFDs when they went out on the boat for fishing trips. Distress flares and a portable foghorn were not carried on board.

Maintaining a safe navigational watch

The rules for the prevention of collisions at sea are set out in the International Regulations for the Prevention of Collisions at Sea, 1972 (as amended) (COLREGS) and apply to all vessels at sea; commercial and recreational. The COLREGS require every vessel to maintain a proper lookout at all times by sight and hearing as well as by all available means appropriate to the prevailing circumstances and conditions.

The MCA provided guidance to UK fishermen on keeping a safe navigational watch in its Marine Guidance Note (MGN) 313(F). In the MGN, the MCA warned that poor watchkeeping practices were often identified as a causal factor in many fishing vessel collisions and groundings. The common contributory factors listed in the MGN included lone watchkeeping, poor standard of lookout and distractions. The MGN recognised that lone watchkeeping might be sufficient during daylight hours but stated that: *two people should always be on watch during the hours of darkness.*

Guidance provided for sea anglers by the RNLI's Sea Safety Liaison Working Group emphasised the need to maintain a good lookout and comply with the rules set out in the COLREGS. The guidance also advised sea anglers not to drink alcohol afloat and warned that it might impair judgment.

Navigation lights

The COLREGS set out the requirements for the visual identification of vessels during the hours of darkness. Power-driven vessels underway³ are required to display a white masthead light, red and green (port and starboard) sidelights and a white sternlight. The minimum visible range of *Vertrouwen*'s masthead light was required to be 5 miles, and its side and sternlight 2 miles. For vessels less than 12m in length, such as *James 2*, a single all-round white light can be displayed in lieu of the masthead light and sternlight. The minimum range of the white navigation lights should be 2 miles and the sidelights 1 mile. The sidelights should be fixed to show the light from right ahead to 22.5° abaft the beam on its respective side (Figure 5).

The COLREGS require navigation lights to be shown from sunset to sunrise. They also state that *during such*

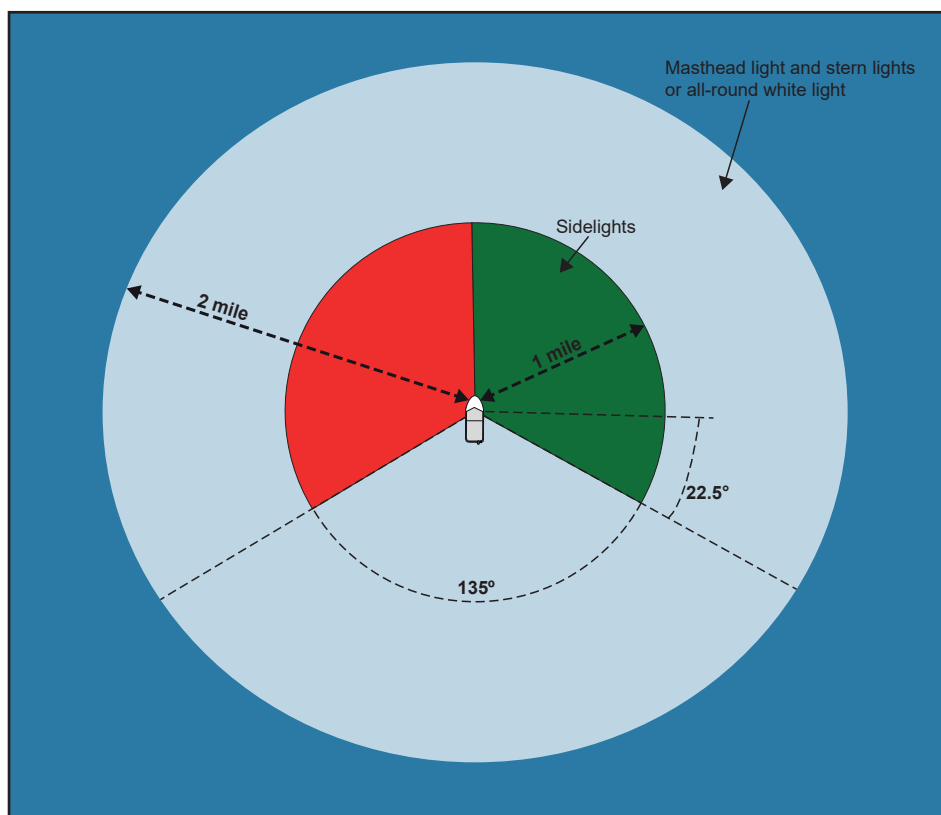


Figure 5: Navigation lights required for a vessel the size of *James 2*

³ A vessel is 'underway' when it is not at anchor, made fast to the shore, or aground

times no other lights shall be exhibited, except such lights as cannot be mistaken for the lights specified in these Rules or do not impair their visibility or distinctive character, or interfere with the keeping of a proper look-out.

James 2 had port and starboard sidelights and these were on when the boat departed Shoreham (**Figure 2**). It did not have a masthead light, sternlight or all-round white light. Mircea used *James 2*'s forward-facing spotlights to assist his manoeuvre off the pontoon in the marina and out of Riverside Yard, but they were switched off before the vessel entered the lock and left the port. Mircea and Irinel wore LED head torches on the evening of the accident, and they also had hand torches available on board.

When *Vertrouwen* departed Shoreham harbour its navigation lights were showing. *Vertrouwen* had halogen and LED floodlights for illuminating its forward and aft working decks. It also had two forward-facing halogen floodlights to illuminate the port and starboard dredge bag landing areas (**Figure 6**). The skipper usually left these on at night, and they were on when *Vertrouwen* left the harbour.



Figure 6: *Vertrouwen*'s forward facing dredge deck floodlights visible from ahead

downflooding height) of about 470mm. Additionally, boats of less than 6m in length that are susceptible to swamping when used in their design category, should be provided with appropriate means of flotation in the swamped condition.

James 2 was built prior to the introduction of the RCD, it had an open deck with no internal subdivision, built-in flotation or means of pumping out flood water. Its freeboard aft, with no people on board, was 250mm. This was in way of a cut-out in the transom that had been provided by the boat-builders for

MAIB inspectors conducted a set of night time visibility trials in the accident location, using boats of similar sizes to *Vertrouwen* and *James 2* provided by Shoreham Port. The trials were carried out under similar environmental conditions to gain an understanding of the visibility of lights from each vessel's perspective.

Freeboard and damaged stability

Since 1994, the design and technical requirements for recreational boats have been set out in the Recreational Craft Directive 94/25/EC, as amended (RCD). The stability and buoyancy assessment criteria for boats of less than 6m in length are covered in the international standard ISO 12217-3⁴.

The RCD requires new-build boats to have sufficient stability and freeboard considering its design category (based on anticipated environmental conditions), and the manufacturer's recommended maximum load. For fully loaded small motor boats, similar to *James 2*, operating in waters such as Sussex Bay, the RCD (Category C) would require a minimum freeboard (or

⁴ ISO 12217-3: Small craft – Stability and buoyancy assessment and categorization – boats of hull length less than 6m.

mounting the outboard motor. Inspection of the boat identified that previous owners had fitted transom boards on the inside of the cut-out to increase the boat's freeboard to about 740mm. Mircea never used transom boards (**Figures 7a and b**).

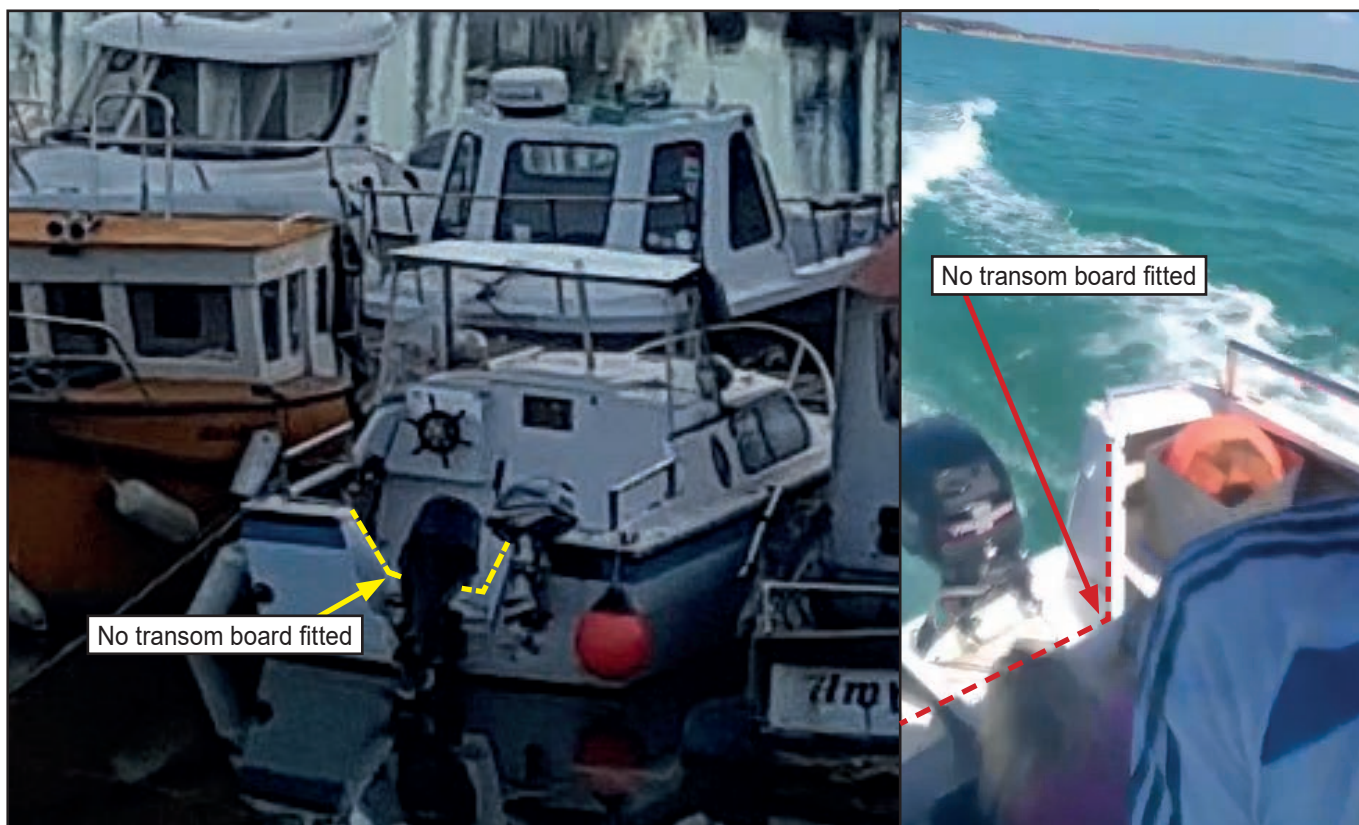


Figure 7a: *James 2* on its berth in Riverside Yard July 2017

Figure 7b: *James 2* at sea summer 2017

Fishing vessel electronic departure reports

In accordance with European Union requirements⁵, *Vertrouwen's* skipper was required to send an electronic departure report to Marine Scotland before leaving port. To achieve this, the vessel was provided with E-log software.

The laptop computer that held *Vertrouwen's* E-log software was located in the wheelhouse on the port aft bulkhead. Most of the information fields within the departure message on *Vertrouwen* were pre-populated, and compiling the message would typically have taken about 1 minute to complete once the computer was running. Interrogation of *Vertrouwen's* E-log data identified that the skipper opened the departure report software at 0026 and sent the report at 0043. *Vertrouwen's* SMS contained no procedures or guidance for E-log reporting.

⁵ Article 47 M1 1a of the Council Regulation (EC) No 404/2011 relating to the EU Common Fisheries Policy

ANALYSIS

The collision

At 0020, shortly after *Vertrouwen* cleared Shoreham harbour breakwaters, its skipper set an autopilot heading that put his vessel on a collision course with the drifting *James 2*. *Vertrouwen* continued on this course at a speed of about 7kts for 6 minutes before the collision, and for 5 minutes afterwards. It was, therefore, apparent that *Vertrouwen*'s skipper did not see or hear *James 2*, nor acquire it on his radars before, during, or after the collision.

When the sea anglers on board *James 2* first saw *Vertrouwen*'s lights they did not recognise that a vessel was heading towards them on a collision course, and so took no action. The collision between *Vertrouwen* and *James 2* occurred because *Vertrouwen*'s skipper did not see *James 2*, and the sea anglers did not realise that they were in danger of being run down until it was too late.

The loss of *James 2*

James 2 was undamaged by the impact of the collision. It sank because it was swamped by *Vertrouwen*'s wash and had insufficient reserve buoyancy to remain afloat in the flooded condition. The cut-out in *James 2*'s transom had reduced the boat's freeboard, and therefore its downflooding height to less than 250mm. This was inadequate for a boat of its size and design when operating at sea. Had a watertight board been fitted on the inboard side of the transom cut-out, the boat's freeboard would have been almost three times greater and the risk of it becoming swamped would have been significantly reduced. If the boat had had the reserve buoyancy through built-in flotation required of similar sized boats, built to comply with the RCD, it would not have sunk. At worst, the boat would have floated awash, providing something for the sea anglers to cling to while in the water.

Keeping a Safe Navigational Watch

During the critical minutes leading up to the collision, *Vertrouwen*'s skipper was alone in the wheelhouse and his three crew were in their bunks. On board *James 2*, no-one had been nominated to keep a lookout for other vessels, and the boat's owner was sitting in the forward cabin.

The MCA warned the fishing industry of the risks associated with lone watchkeeping in MGN 313(F), and advised that *two people should always be on watch during the hours of darkness*. *Vertrouwen*'s skipper had three well-rested crew on board and there was the opportunity to set a two-man watch for the night passage to Grimsby. However, *Vertrouwen* was routinely operated with lone watchkeepers during the hours of darkness, and the skipper had not considered posting a dedicated lookout.

The watchkeeping and lookout activities undertaken by *Vertrouwen*'s skipper prior to setting his first course on the vessel's autopilot, and altering course to port just before the collision are unclear. However, it is a fact that the skipper used his mobile phone routinely throughout his watch, and he was interacting with a laptop computer on the port aft side of the wheelhouse at the time of the collision. It is apparent that the skipper allowed himself to become distracted to the extent that he was not keeping a proper lookout. A dedicated wheelhouse lookout would have significantly reduced the likelihood of the collision and subsequent loss of life, as would the completion and submission of the E-log report prior to departure.

The sea anglers on board *James 2* had little or no experience of operating a boat at sea during the hours of darkness. They were focused on enjoying the evening's fishing and were not monitoring the movements of other vessels in the area. They had also consumed alcohol socially during the day and while on the water. The level to which they might have been intoxicated is unknown, but alcohol, even in small quantities, can affect cognitive function and judgment. This safety issue has been identified previously by the MAIB following numerous investigations, and recommendations have been made

aimed at the introduction of maximum alcohol limits for the skippers and crew of recreational craft. Until such time as regulation is introduced, there is a continuing need to educate leisure craft users about the dangers of consuming alcohol when operating afloat.

It was clear that the sea anglers did not realise the dangers associated with night fishing so close to a port entrance and a major windfarm construction site. Had they maintained a vigilant lookout it is likely that they would have spotted *Vertrouwen* earlier and been able to manoeuvre *James 2* out of its way.

Identification of *James 2* from *Vertrouwen*'s wheelhouse

James 2 was not showing all the navigation lights required for a boat of its size; it did not have either a masthead light and sternlight, or an all-round white light. If *James 2* was facing head or beam onto the approaching *Vertrouwen*, its sidelights should have been visible from *Vertrouwen*'s wheelhouse at a distance of at least 1 mile; or for at least 8 minutes prior to the collision (**Figure 8a**).

The night time visibility trials conducted by the MAIB confirmed that *James 2* would have been clearly visible from the harbour breakwater if it had been showing the white navigation lights mandated in the COLREGS. The trials also showed that *James 2* would not have been visible from *Vertrouwen*'s wheelhouse until it was in very close range if the motor cruiser was drifting with its stern, or port or starboard quarters facing toward the fishing boat (**Figure 8b**).

The brightness of *Vertrouwen*'s floodlights would almost certainly have created backscatter from its deck, superstructure, and equipment forward of the wheelhouse. This would have adversely affected the skipper's night vision and diminished his ability to visually identify small craft with low levels of illumination, such as *James 2*.

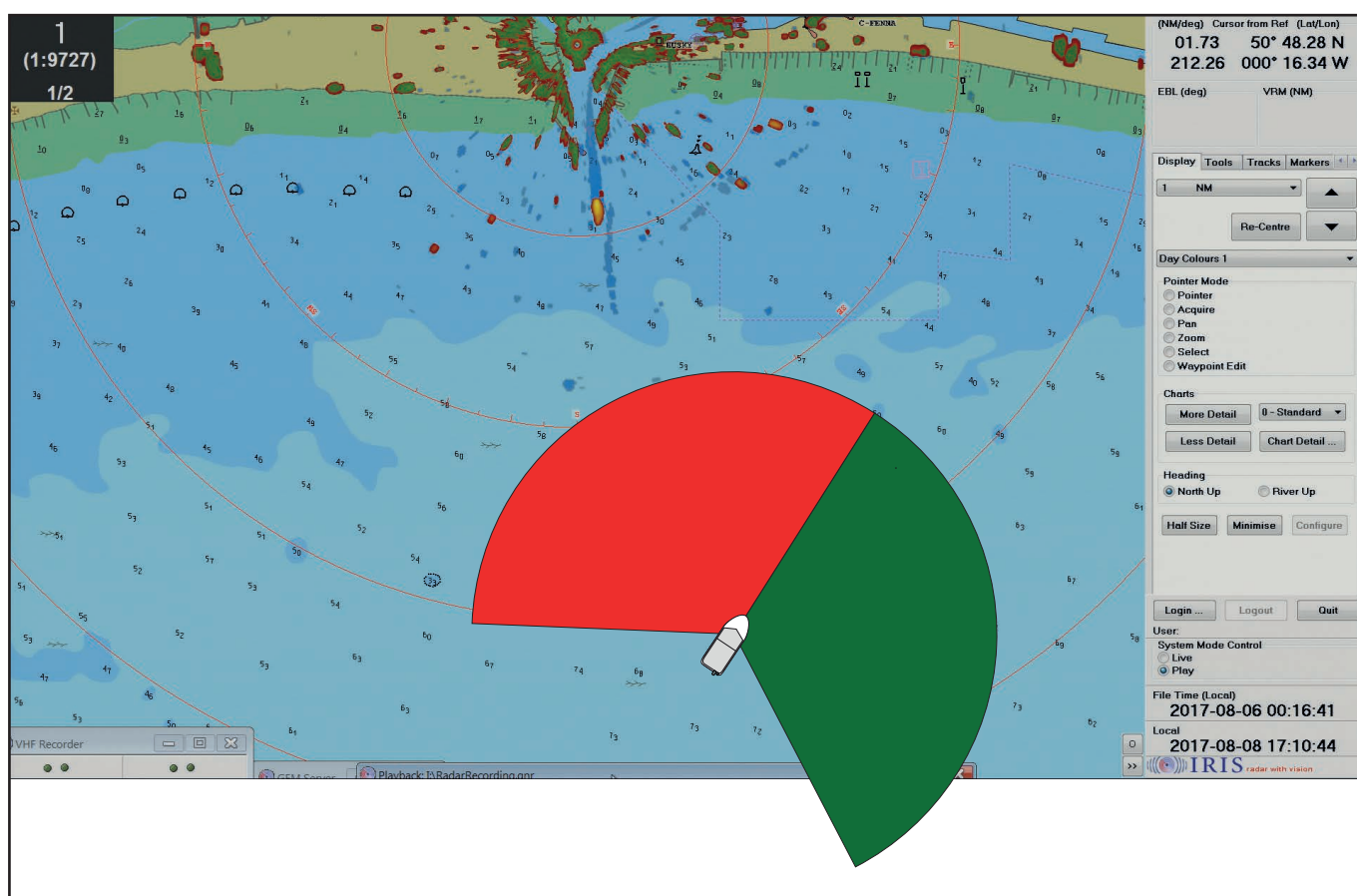


Figure 8a: Most likely orientation of the lights shown by *James 2* when it stopped to fish

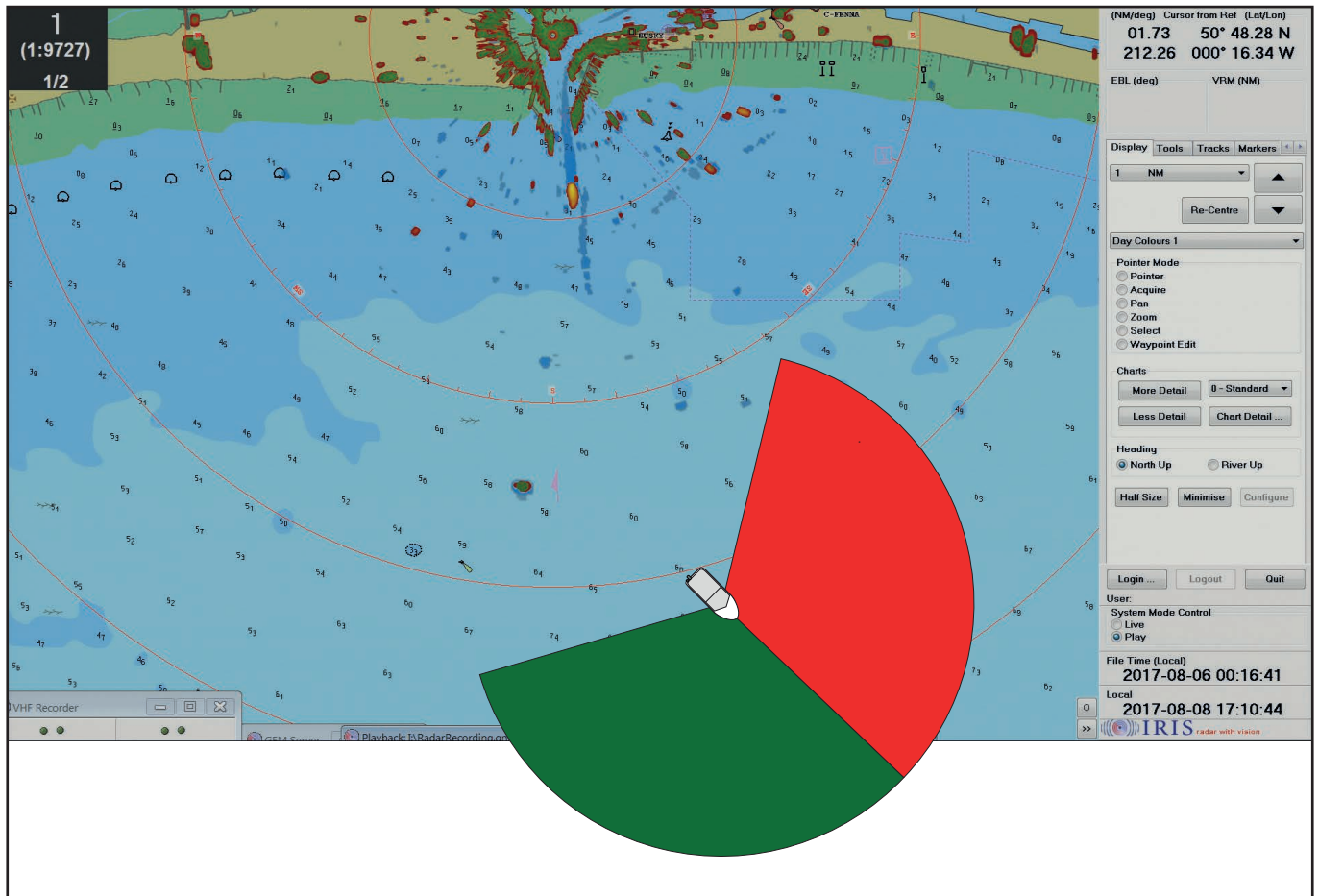


Figure 8b: Most likely orientation of the lights shown by *James 2* as *Vertrouwen* approached

James 2 might not have been visible from *Vertrouwen*'s wheelhouse when the vessel left the harbour and the skipper altered its heading onto a collision course; however, there was no reason for it not to have been showing on the vessel's radars. *James 2* was presenting a good echo on Shoreham Port's radar system and *Vertrouwen*'s replacement radars had just been installed and set up by a manufacturer's representative. Furthermore, the similar sized boat used to simulate *James 2* in the MAIB visibility trials painted a good echo on the radar of the vessel used to simulate *Vertrouwen*.

After *Vertrouwen* had cleared the harbour, the skipper occasionally glanced at the radar displays, both of which he had set to the 6-mile range. However, he did not systematically plot or assess any of the contacts displayed to determine if a risk of collision existed. *James 2* was drifting and therefore would not have been presenting a trail on *Vertrouwen*'s radar screens. To have observed such a small, almost stationary craft at close range on a radar screen set at a 6-mile range, the skipper would have needed to pay very close attention to the display. A better practice, with two displays available, would have been to set them at different range scales so as to achieve both long range scanning and monitoring of any contacts close by.

During the critical moments prior to the collision, when *James 2* would have been visible from *Vertrouwen*'s wheelhouse windows, and the sea anglers were shouting and shining their torches toward the fishing vessel, the skipper was compiling his E-log departure report. To do this, he would have been facing aft and therefore unable to see the lights being shone by the occupants of *James 2*.

Identification of *Vertrouwen* from *James 2*

Vertrouwen was showing the navigation lights required by the COLREGS for a motor vessel of its size while underway. However, the brightness of its forward-facing floodlights would have made it harder to see the vessel's navigation lights from *James 2*'s deck and so determine its direction of travel.

It was also noted during the MAIB visibility trials that the background lights from ashore might have made it difficult for the sea anglers on board *James 2* to see *Vertrouwen*'s navigation lights as the fishing vessel left the port and motored towards them.

James 2 emergency preparedness

Emergency preparedness is achieved through a combination of equipment, procedures and training. This investigation has identified shortcomings in all three of these areas.

Mircea was very proud of his boat and had spent time maintaining and modernising it. However, his knowledge of boating was very limited. He had not undertaken any formal training courses in seamanship, navigation, use of safety equipment or the application of the COLREGs, and did not have the required Certificate of Competency to operate a marine VHF radio.

James 2 was equipped with a VHF radio, but Mircea did not transmit a "Mayday" broadcast. This was probably because initially he was focused on manoeuvring *James 2* out of *Vertrouwen*'s way, and did not have time after the collision as *James 2* foundered quickly. Once in the water, the sea anglers had no way of raising the alarm. If *James 2*'s VHF radio had been fitted with a GNSS⁶ enabled digital selective calling (DSC) function⁷, the opportunity to transmit a "Mayday" would have been significantly increased. Similarly, if the boat had carried distress flares or the sea anglers had electronic personal locator beacons (PLBs) they would have had the ability to raise the alarm while in the water. None of these safety devices are mandated for recreational activities, but for a relatively low cost they can be life savers.

None of the men on board *James 2* were wearing PFDs when they entered the water. The one survivor was fortunate not to drown; he was a strong swimmer and, with the aid of a buoyant fender, demonstrated a strong desire to survive. The two adult buoyancy aids and two children's lifejackets recovered from the wreck had been stowed in the forward cabin. This case, and many similar cases investigated by the MAIB, highlight how little time there often is to locate and don a stowed PFD before entering the water in emergency situations. PFDs should be worn on deck at all times while on the water in small craft, no matter how benign the conditions might appear.

James 2 and the sea anglers were not suitably prepared for operating at sea, particularly during the hours of darkness, and the sea anglers had not been equipped or trained to deal with emergencies. The motor cruiser did not have sufficient freeboard or any internal subdivision, built-in flotation or means of pumping out flood water, and therefore was highly susceptible to flooding and sinking. In addition, it was not equipped with the minimum level of safety equipment recommended by the MCA, RNLI, Royal Yachting Association, Sea Angling Trust and other organisations providing guidance for the owners of small boats operating in the UK's inshore waters. The boat did not carry distress flares or a fog horn and the sea anglers did not wear PFDs. Had they been wearing PFDs and been able to raise an alarm, their chances of survival would have been significantly improved.

⁶ GNSS – Global Navigation Satellite System – a means of accurate position fixing using satellite derived data.

⁷ The distress protocol for vessels fitted with GNSS enabled DSC radios allows the radio operator to send an initial alert before commencing voice communications. On most radios, the DSC function is activated by a push button that needs to be held depressed for between 3 and 5 seconds. The basic DSC distress alert then automatically transmits the vessel's identification, its position and time of transmission without any further input from the radio operator.

CONCLUSIONS

- *Vertrouwen* and *James 2* collided because *Vertrouwen*'s wheelhouse watchkeeper did not see the drifting motor cruiser and the sea anglers on board *James 2* did not realise that they were in danger of being run down until it was too late.
- *James 2* was easily swamped by *Vertrouwen*'s wash due to its low freeboard aft, and did not have the required level of internal subdivision or built-in flotation to remain afloat in the flooded condition.
- Neither vessel was maintaining a proper lookout by sight and hearing. *Vertrouwen*'s skipper was a lone watchkeeper and he allowed himself to become distracted by using his mobile phone and working on his laptop computer. The sea anglers were focused on enjoying a social evening fishing and did not keep a lookout.
- There is a continuing need to educate leisure craft users of the dangers of consuming alcohol while operating afloat.
- *James 2* did not have all the navigation lights required to operate at sea at night and, as a result, it is likely that the motor cruiser was not visible from *Vertrouwen*'s wheelhouse.
- *James 2* presented a good radar echo on Shoreham Port's radar system, and should have been identifiable on *Vertrouwen*'s radar screens.
- The 6-mile range set on *Vertrouwen*'s radar screens made it more difficult for the skipper to detect the drifting *James 2*.
- The brightness of *Vertrouwen*'s illuminated deck floodlights diminished the level of night vision from the vessel's wheelhouse and made its navigation lights less distinguishable to other vessels. This, therefore, increased the likelihood of a collision.
- *James 2* and the four sea anglers were ill-prepared to make a short trip offshore at night:
 - *James 2* did not have sufficient freeboard, any reserve buoyancy or a means of pumping out flood water.
 - *James 2* was not carrying distress flares or a fog horn.
 - The sea anglers were not wearing PFDs.
 - None of the sea anglers had undertaken any formal maritime safety training for operating the boat offshore, nor for the operation of the marine VHF unit.
- Had the four sea anglers been able to raise the alarm and been wearing lifejackets or buoyancy aids, their chances of survival would have been significantly improved.

ACTION TAKEN

MAIB actions

The **MAIB** has:

- Issued a safety flyer to the fishing industry highlighting the importance of maintaining a proper lookout and avoiding wheelhouse distractions.
- Issued a safety flyer focusing on the lessons identified in this report for the sea angling community and owners of small recreational craft.
- Written to the editors of major sea angling publications, inviting them to bring the safety lessons identified in this report to the attention of their readers.

RECOMMENDATIONS

Macduff Shellfish (Scotland) Ltd is recommended to:

- 2018/102** Provide guidance within its safety management system regarding the keeping of a safe navigational watch, and to promulgate MGN 313(F) to all its skippers and crews.
- 2018/103** Provide guidance within its safety management system to skippers with regard to the completion of E-log departure reports to ensure that it does not impact on the ability to maintain a safe navigational watch.

Safety recommendations shall in no case create a presumption of blame or liability

SHIP PARTICULARS

Vessel's name	<i>James 2</i>	<i>Vertrouwen</i>
Flag	British	British
IMO number/fishing numbers	n/a	DS11
Type	Pleasure craft	Fishing vessel
Registered owner	Privately owned	Macduff Shellfish (Scotland) Ltd
Manager(s)	n/a	Macduff Shellfish (Scotland) Ltd
Year of build	Approx. 1972	1968
Construction	GRP	Steel
Length overall (m)	5.64	26.24
Registered length	n/a	23.30
Gross tonnage	Approx. 0.75	144.5
Minimum safe manning	n/a	n/a
Authorised cargo	n/a	Shellfish

VOYAGE PARTICULARS

Port of departure	Shoreham	Shoreham
Port of arrival	n/a	Grimsby
Type of voyage	Leisure	Transit
Cargo information	n/a	None
Manning	4	4

MARINE CASUALTY INFORMATION

Date and time	6 August 2017 at 0026	
Type of marine casualty or incident	Very Serious Marine Casualty	
Location of incident	Near Shoreham	
Place on board	Deck	Hull forward
Injuries/fatalities	3	0
Damage/environmental impact	Vessel sank	None
Ship operation	Stopped	Underway
Voyage segment	Mid	Mid
External & internal environment	Night; wind: north-west Force 2; slight sea; tide setting to north-west; sea temperature 16°C	
Persons on board	4	4