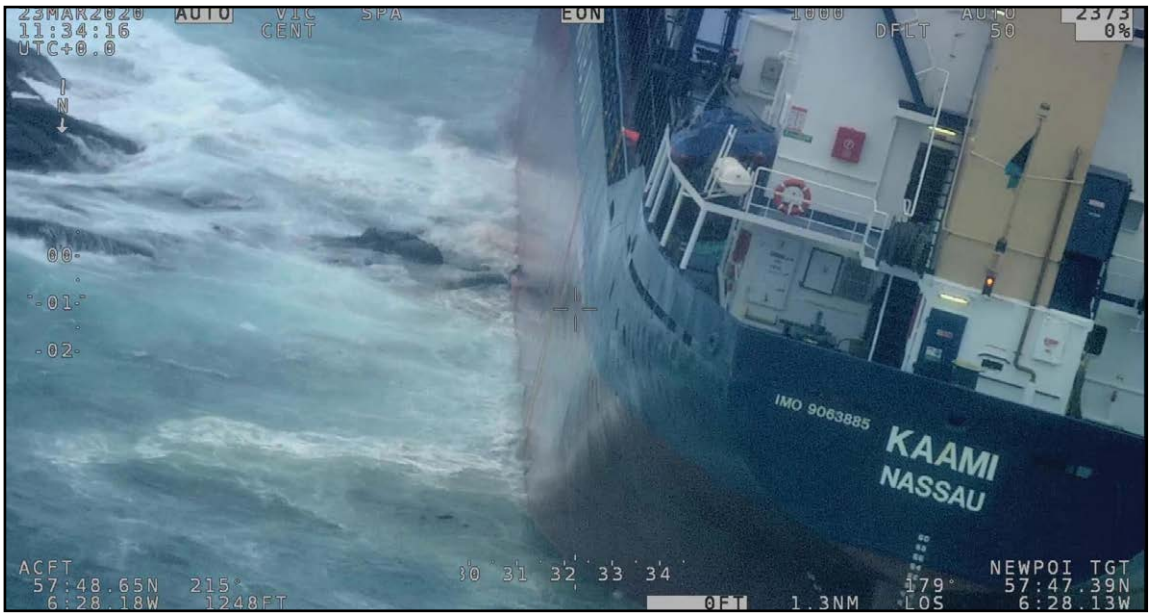
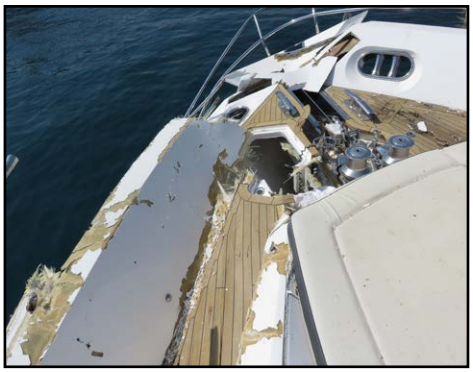
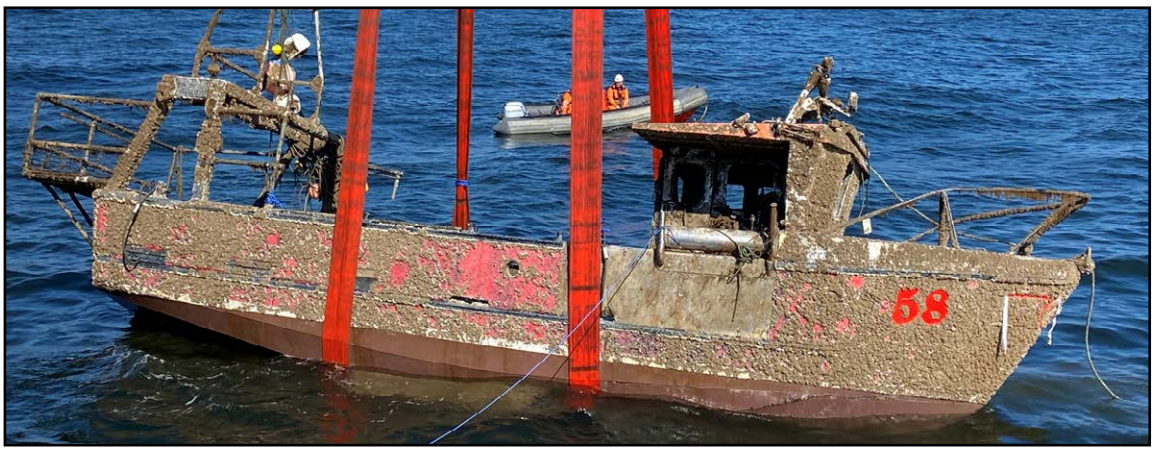
ANNUAL REPORT

2021

Marine Accident Recommendations and Statistics







MAIB
MARINE ACCIDENT INVESTIGATION BRANCH

This document is posted on our website: www.gov.uk/maib

Marine Accident Investigation Branch
First Floor, Spring Place
105 Commercial Road
Southampton, SO15 1GH
United Kingdom

Email: maib@dft.gov.uk
Telephone: 023 8039 5500

June 2022

MARINE ACCIDENT INVESTIGATION BRANCH

The Marine Accident Investigation Branch (MAIB) examines and investigates all types of marine accidents to or on board UK vessels worldwide, and other vessels in UK territorial waters.

Located in offices in Southampton, the MAIB is a separate, independent branch within the Department for Transport (DfT). The head of the MAIB, the Chief Inspector of Marine Accidents, reports directly to the Secretary of State for Transport.

CONTENTS

INTRODUCTION

I am pleased to introduce MAIB's annual report 2021. It was another busy and successful year for the branch improving safety at sea by our sustained output of safety investigation reports, safety digests, and safety bulletins despite lockdown conditions affecting work early in the year. The branch raised 1530 reports of marine accidents and commenced 22 investigations in 2021.

Year	Marine Casualties and Marine Incidents	Reported Investigations started	Investigations involving loss of life
2021	1 530	22	14
2020	1 217	19	10
2019	1 090	22	13
2018	1 227	23	7

Figure 1 shows how the number of accidents reported compares with the previous 5-year average. The increased total in 2021 is largely attributable to our industry request to report sub-standard pilot ladders along with a rise in leisure craft and small commercial craft notifications.

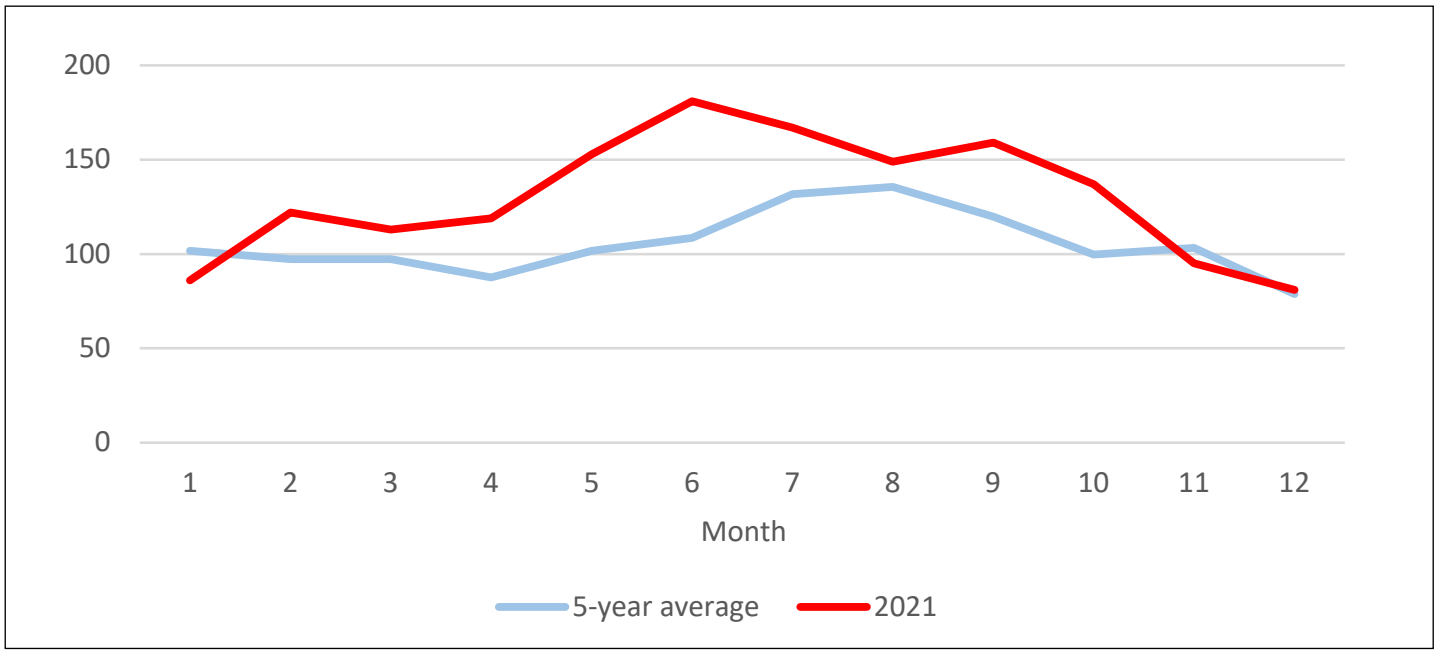


Figure 1: Reported Marine Casualties and Marine Incidents by month to MAIB

SAFETY ISSUES

Merchant Vessels

The MAIB received no reports of fatal accidents to seafarers on UK registered merchant vessels of 100gt or more during the year but did commence investigations into fatalities on two Red Ensign Group vessels and one fatality on a Cyprus registered vessel operating in UK waters. From these investigations two themes emerge: the first is that mooring deck fatalities as a result of snap-back continue to occur, despite well published guidance on the hazard; the second is that marshalling vehicles on roll-on/roll-off vessels remains extremely hazardous. More worrying is that there is a clear gap between 'work as imagined' and 'work as done', with marshallers frequently standing in unsafe areas and drivers losing sight of marshallers.

The branch issued a safety bulletin in November to highlight the problem of loading into dead-end bays and, when published, the investigation report will say more about initiatives to further improve vehicle deck safety.

At industry meetings concerns about dangerously weighted heaving lines and unsafe pilot ladders are regularly voiced. In response, the branch asked that all such incidents, no matter how minor, be reported so a fuller picture of the problems could be gained. In respect of weighted heaving lines, the branch received just 16 reports; far fewer than anecdotal reporting would suggest, perhaps indicating that this extremely hazardous practice is still being under-reported. Much stronger evidence emerged in terms of pilot ladders. In 2021, the branch received 194 reports about sub-standard pilot ladders. Of those, 172 pilot ladders (88.6%) were not rigged in compliance with SOLAS guidance, and 22 were observed by the pilot as being in a materially poor condition (Figure 2). Fortunately, serious accidents have been rare, but the potential clearly exists and the branch will continue to collate statistics in 2022.

Figure 2: Example of a failed pilot ladder

Commercial Fishing Vessels

Ten commercial fishermen lost their lives in 2021, the highest annual figure for a decade and a stark contrast to the low loss of life in 2020. That is a little short of one death per 1000 qualified fishing vessel crew; possibly a statistical blip, but a truly appalling annual fatality rate nonetheless. I therefore make no excuse for a longer than normal section on fishing safety in this introduction as commercial fishing investigations accounted for nine of the 22 investigations commenced in-year.

It is unsurprising, but disappointing, that the most significant safety issues were, again, small fishing vessel stability and man overboard fatalities. I will not decry any of the various initiatives that are ongoing to improve fishing vessel safety – a lot of people are doing some very good work – but the evidence shows that the messages are not yet changing behaviours to a significant extent.

The branch will say much more shortly as the FV *Joanna C* (BM 265) and FV *Nicola Faith* (BS 58) investigation reports are to be published very soon, but together they exemplify the small vessel stability problem, which is worth reiterating here. Firstly, it is important that owners and skippers understand their boat's

limitations, especially before embarking on any modifications. In both of the above cases the vessels had recently been modified, and those modifications had reduced their overall stability and so reduced safety margins. The second lesson is that even relatively stable boats can capsize if inappropriately laden with extra gear and a bumper catch. If it all goes wrong, the boat is lost (Figure 3), the catch is lost, and the crew are lost; so is it worth the risk?

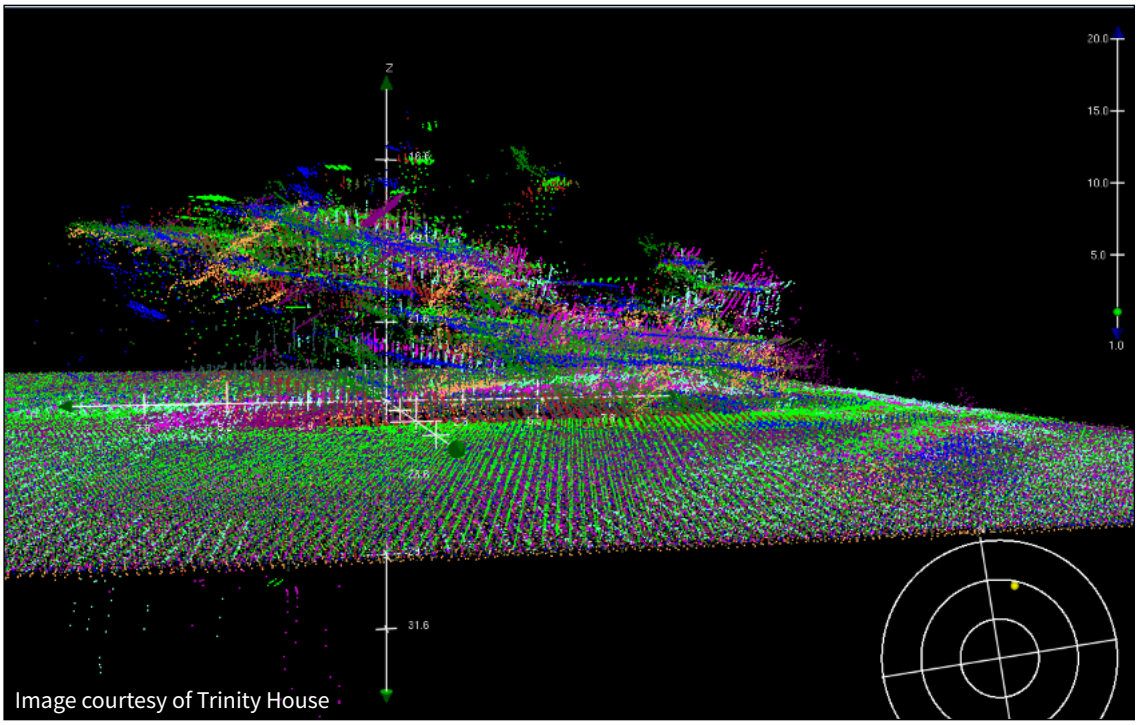


Figure 3: Survey image of *Joanna C*'s wreck from THV *Galatea*

Turning to man overboard, I recently attended an awareness event for fishing vessel crew held in an environmental pool in Aberdeen capable of creating realistic sea conditions. Each individual in turn was invited to jump into the pool wearing boots and oilskins, but without a personal flotation device. Some lasted a few minutes before being assisted into shallow water by the rescue swimmer, but all were fighting for breath at that point. They then re-entered the water wearing the same kit, plus an inflated lifejacket, and realisation dawned. They floated without effort, could breathe easily, and were able to perform rescue tasks. My feeling is that everyone understood the messages: *lifejackets save lives* and they are *useless unless worn*. I hope they spread the word so others do not have to learn the hard way.

OTHER INVESTIGATIONS

The branch commenced two investigations during the year that deserve comment due to their unusual nature.

The first is the investigation into the tragic deaths, on 30 October, of four stand-up paddleboarders while attempting to cross a weir at Haverfordwest on the River Cleddau. The sheer enormity of this tragedy selected it for attention and, inevitably, lots of safety lessons emerged as the layers were peeled away. It will be a few months before the report is published, but engagement with stakeholders has so far been excellent and I am hopeful that many safety improvements will be in place before the main UK holiday season.

The second, commenced in January this year, is the investigation into the emergency response to the presumed sinking of a boat of migrants while attempting to cross the English Channel on 24 November. At least 27 migrants perished in that accident. While the MAIB's investigation report is unlikely to be read by the traffickers, the investigation is identifying safety learning that will be of future benefit if interventions continue to be necessary to save life when migrant boats are attempting the crossing.

RECOMMENDATIONS

The MAIB made 35 recommendations to 23 separate addressees in 2021, of which 77.1% were either *accepted and implemented* or *accepted, yet to be implemented*. Three recommendations were rejected for reasons as set out in the report and there has been no response received to five recommendations made to overseas companies. While the acceptance rate is down on the high level of acceptance achieved in 2020 (>90%), it nonetheless validates our process of whenever possible involving stakeholders in the formulation of recommendations during the final stages of an investigation.

BRANCH ACTIVITY AND DEVELOPMENT

The year saw the country start to emerge from the restrictions of COVID-19 and for the MAIB a recommencement of business as normal. Inroads have been made into the backlog of training built up during lockdown and, as I write, the time taken to publish full investigation reports has reduced to 12.9 months and concise reports to 8.3 months. The reports of a few protracted investigations have yet to be published, but the trajectory is in the right direction.

During 2021, the UK was audited by the International Maritime Organisation (IMO) to assess its compliance with the standards set out in the IMO Instruments Implementation Code (III Code). This included an audit of how the MAIB discharges the UK's responsibilities under the Casualty Investigation Code, including the investigative activity it undertakes on behalf of the Red Ensign Group. I am very pleased to record that the UK passed the audit, and no observations or non-conformities were raised relating to accident investigation; a very significant achievement.

Looking ahead, two main initiatives are planned for 2022. The first is to simplify and streamline the reporting of Marine Casualties and Marine Incidents with the introduction of an online portal/app. The second is to provide public access to the statistical element of the MAIB's database. Specific case enquiries will still have to be submitted for manual handling, but access to accident data should be of significant benefit to marine organisations, companies and researchers. A potential cloud on the horizon is the recent government announcement that it intends to reduce the Civil Service by circa 20% to around 2016 levels over the next 3 years. However, that is for the future. For the present, the branch is fully staffed and able to discharge its statutory functions.

FINANCE

The annual report deals principally with the calendar year 2021. However, for ease of reference, the figures below are for the financial year 2021/22, which ended on 31 March 2022. The MAIB's funding from the DfT is provided on this basis, and this complies with the government's business planning programme.

£ 000s	2021/22 Budget	2021/22 Outturn
Costs – Pay	3429	3440
Costs – Non Pay	1435	1286
Totals	**4864**	**4726**

Captain Andrew Moll OBE
Chief Inspector of Marine Accidents

PART 1 - 2021: CASUALTY REPORTS TO MAIB

In 2021, 1530 accidents (casualties and incidents[1]) to UK vessels or in UK coastal waters were reported to the MAIB. These involved 1622 vessels.

658 are not included in this overview, e.g. they were accidents to people that did not involve any actual or potential casualty to the vessel.

There were 872 accidents involving 929 commercial vessels that involved actual or potential casualties to vessels. These are broken down in the following overview:

[1] As defined in Annex B on page 68.

Chart 1: UK accidents - commercial vessels

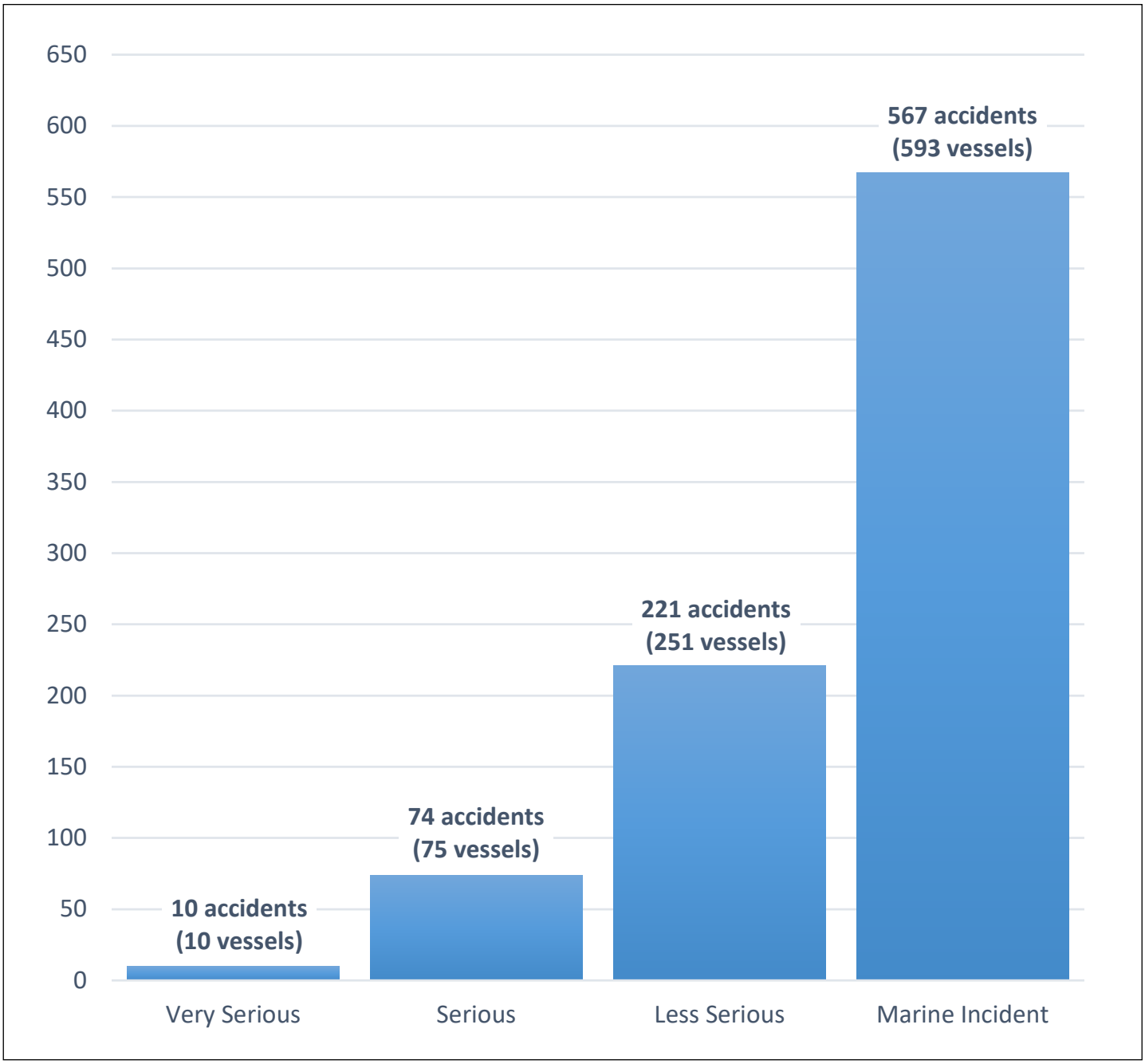


Chart 2: UK merchant vessels of 100gt or more

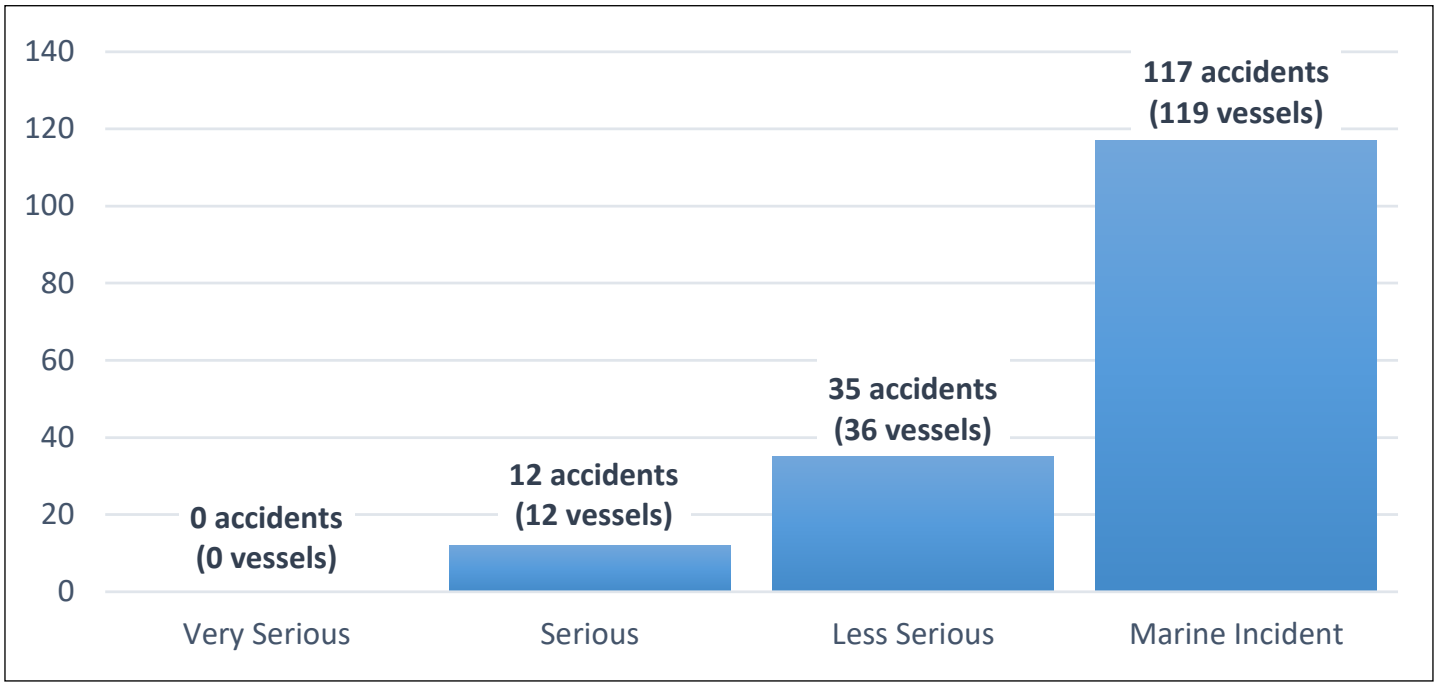


Chart 3: UK merchant vessels of under 100gt

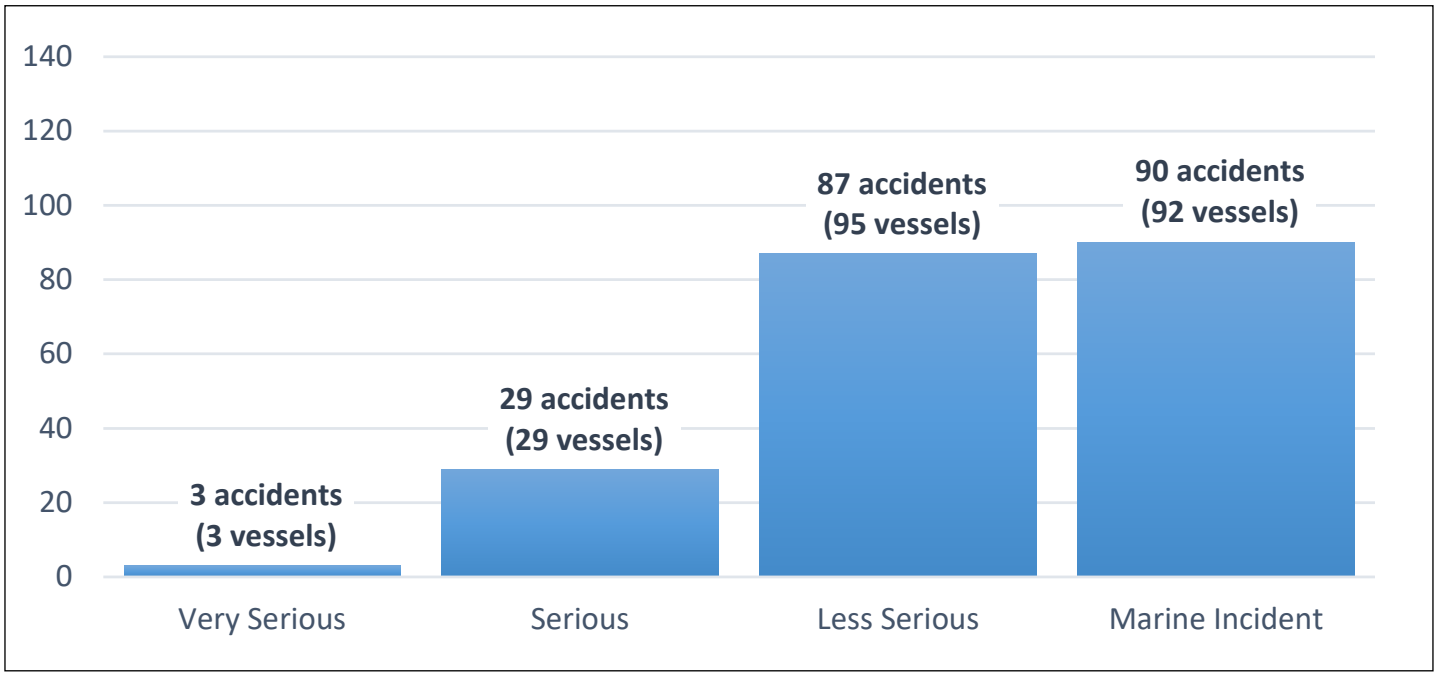


Chart 4: UK fishing vessels

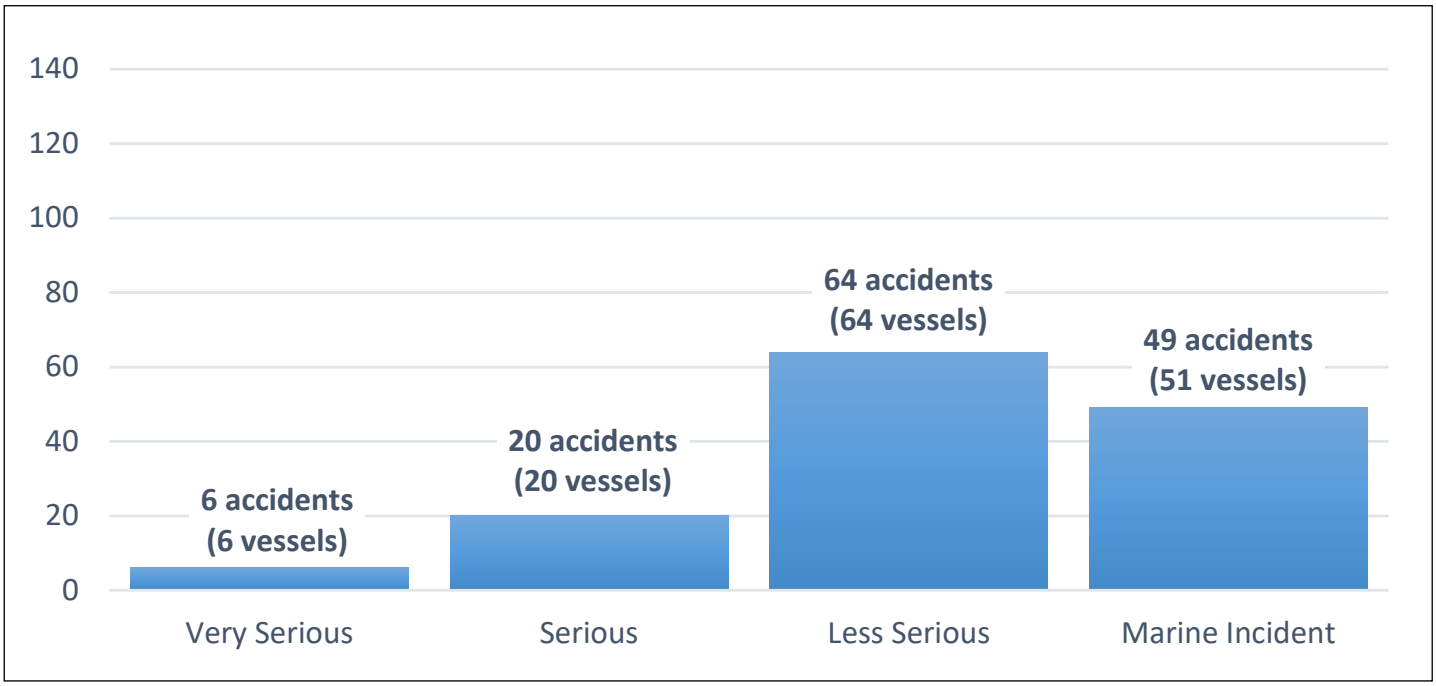
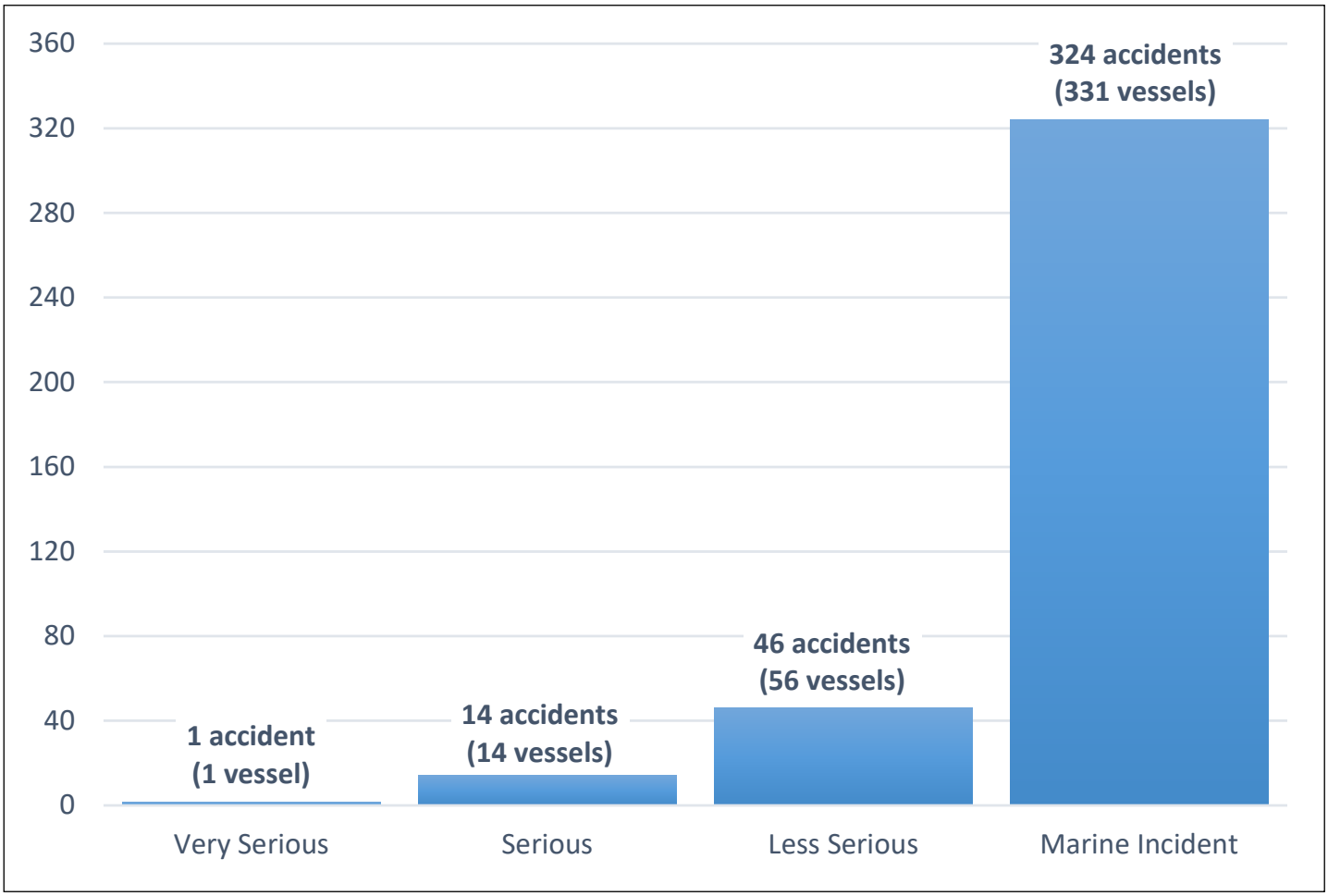


Chart 5: Non-UK commercial vessels - in UK 12 mile waters



SUMMARY OF INVESTIGATIONS STARTED

Date of occurrence	Occurrence details
27 Jan	Loss of the UK registered fishing vessel ***Nicola Faith*** **(BS 58)** along with its three crew members in the area of Rhos-On-Sea, Conwy County, North Wales.
6 Feb	Fatal accident on board the UK registered fishing vessel ***Cornishman*** **(PZ 512)**, 55nm south-south-west of the Isles of Scilly.
18 Feb	Fatal man overboard from the UK registered fishing vessel ***Copious*** **(LK985)**, approximately 30nm south-south-east of Sumburgh Head, Shetland, Scotland.
4 Mar	Injuries to crew members inside a lifeboat that rolled onto its side then fell overboard during a launching drill on the research vessel ***RRS Sir David Attenborough*** **(9798222)** in Loch Buie, Scotland.
3 Apr	Serious injury to crew member following the failure of part of the equipment during lifting operations on board the fish farm support workboat ***Annie E*** **(9827190)** near the Island of Muck, Inner Hebrides, Scotland.
2 May	Man overboard from the single-handed UK registered fishing vessel ***Saint Peter*** **(LH22)** with the loss of one life, near the port of Cove, south of Dunbar, south-east of Scotland.
18 Jun	Capsize and foundering of the UK registered fishing vessel ***Angelena*** **(BM271)**, south-east of Exmouth, England. The skipper was rescued uninjured from the vessel's liferaft.
24 Jun	Man overboard from the UK registered fishing vessel ***Reul A Chuain*** **(OB915)** with the loss of one life in the Sound of Rùm near Mallaig, Scotland.
6 Jul	The flooding and loss of the UK registered survey vessel ***Bella*** in Lynmouth Bay, England.
20 Jul	Fatal injury to crew member on the Cyprus registered vessel ***Clipper Pennant*** **(9372688)** while loading freight vehicles in the port of Liverpool, England[2].
25 Jul	Grounding of the Portuguese registered general cargo vessel ***BBC Marmara*** **(9454228)** on Eilean Trodday, north of Skye, Scotland.
29 Jul	Fatal man overboard from the UK registered fishing vessel ***Pioneer*** **(NN200)** approximately 4.5nm south of Hastings, England.
26 Aug	Fatal injury to a crew member during mooring operations on board the Isle of Man registered[3] bulk carrier ***Mona Manx*** **(9801706)** while berthing at Las Ventanas, Chile.

[2] A safety bulletin (https://www.gov.uk/maib-reports/safety-warning-about-crushing-injuries-in-stowage-spaces-after-the-loss-of-1-life-on-ro-ro-ferry-clipper-pennant) was issued on 4 November 2021

[3] Under investigation on behalf of the Isle of Man Ship Registry in accordance with our Memorandum of Understanding (https://www.gov.uk/government/publications/mou-between-maib-and-reg-category-1-registries)

Date of occurrence	Occurrence details
28 Aug	Fatal man overboard from the UK registered fishing vessel ***Harriet J*** **(AH180)** near the port of St Abbs, south-east Scotland.
30 Aug	Fatal injury to a crew member during mooring deck operations on board the Isle of Man registered[4] bulk carrier ***Teal Bay*** **(9343637)** in the Kavkaz South anchorage, Russia.
19 Sep	Auxiliary engine room fire on board the Finland registered ro-ro cargo ship ***Finnmaster*** **(9132014)** while departing Hull, England[5].
11 Oct	Poisoning of a shore worker due to inhalation of phosphine gas being used as a cargo fumigant on board the Marshall Islands registered general cargo vessel ***Thorco Angela*** **(9359935)** in Liverpool[6].
16 Oct	Capsize of the single-handed creel fishing vessel ***Goodway*** **(FR23)** with the loss overboard and presumed death of the one crew member near Cairnbulg, north-east Scotland.
25 Oct	Grounding of the Liberian registered chemical/products tanker ***Chem Alya*** **(9486166)** in the Needles Channel, west of the Isle of Wight, England[7].
30 Oct	Four fatalities during a stand-up paddleboard activity on the River Cleddau, near Haverfordwest, Wales.
24 Nov	The accident involves the presumed sinking of a migrant boat while attempting to cross the English Channel, but the exact circumstances and the number of persons or vessels involved has not been determined. However, evidence indicates that at least 27 migrants either drowned or died of hypothermia in the English Channel. The MAIB investigation will focus on the emergency response to the accident. If it is determined that none of the events leading up to the fatalities occurred in UK waters, the MAIB's investigation will cease.
13 Dec	Collision between the UK registered general cargo vessel ***Scot Carrier*** **(9841782)** and the Danish registered construction vessel ***Karin Høj*** **(8685844)** off the coast of southern Sweden, resulting in the loss of two lives.

[4] Under investigation on behalf of the Isle of Man Ship Registry in accordance with our Memorandum of Understanding (https://www.gov.uk/government/publications/mou-between-maib-and-reg-category-1-registries)

[5] A safety bulletin (https://www.gov.uk/maib-reports/safety-warning-issued-after-discovery-of-blocked-fixed-co2-fire-extinquishing-system-pilot-hoses) was issued on 10 March 2022

[6] A preliminary assessment (https://www.gov.uk/maib-reports/fumigant-poisoning-on-general-cargo-vessel-thorco-angela-with-1-person-injured) was published on 18 March 2022 and the case closed.

[7] A preliminary assessment (https://www.gov.uk/maib-reports/grounding-of-chemical-tanker-chem-alya) was published on 18 March 2022 and the case closed.

PART 2: REPORTS AND RECOMMENDATIONS

Investigations published in 2021 including recommendations issued

The following pages list the accident investigation reports and safety bulletins published by the MAIB during 2021. Where the MAIB has issued safety recommendations following an investigation, the current status of the recommendation and any applicable comments made by the MAIB accompany the entry*.

Recommendations from previous years that remain open are also included on the following pages.

For details of abbreviations, acronyms and terms used in this section please refer to the glossary on page 72.

*Status as of 13 May 2022

Background

Recommendations are a key element of MAIB investigations. They are issued to promulgate the lessons from accidents investigated by the MAIB, with the aim of improving the safety of life at sea and the avoidance of future accidents. The issue of a recommendation shall in no case create a presumption of blame or liability.

Following an investigation the MAIB will, normally, make a number of recommendations. These will be contained within the published report but will also be addressed in writing to the individuals or senior executives of organisations concerned. Urgent safety recommendations may also be made in safety bulletins or by letter from the Chief Inspector to the organisations involved, which can be published or issued at any stage of an investigation.

Recommendations are made to a variety of addressees who might have been involved in, or have an interest in, the accident. These can range from those organisations that have a wider role in the maritime community, such as the Department for Transport (DfT), the Maritime and Coastguard Agency (MCA) or an international organisation, through to commercial operators and vessel owners/operators.

The *Merchant Shipping (Accident Reporting and Investigation) Regulations 2012* require that the person or organisation to whom a recommendation is addressed considers the recommendation and replies to the Chief Inspector within 30 days of its receipt. The reply shall include details of the plans to implement the recommendation or, if it is not going to be implemented, an explanation as to why not. Under the Regulations, the Chief Inspector must annually *inform the Secretary of State of those matters* and make them publicly available. This Annual Report to the Secretary of State for Transport fulfils this requirement.

Recommendation response statistics 2021

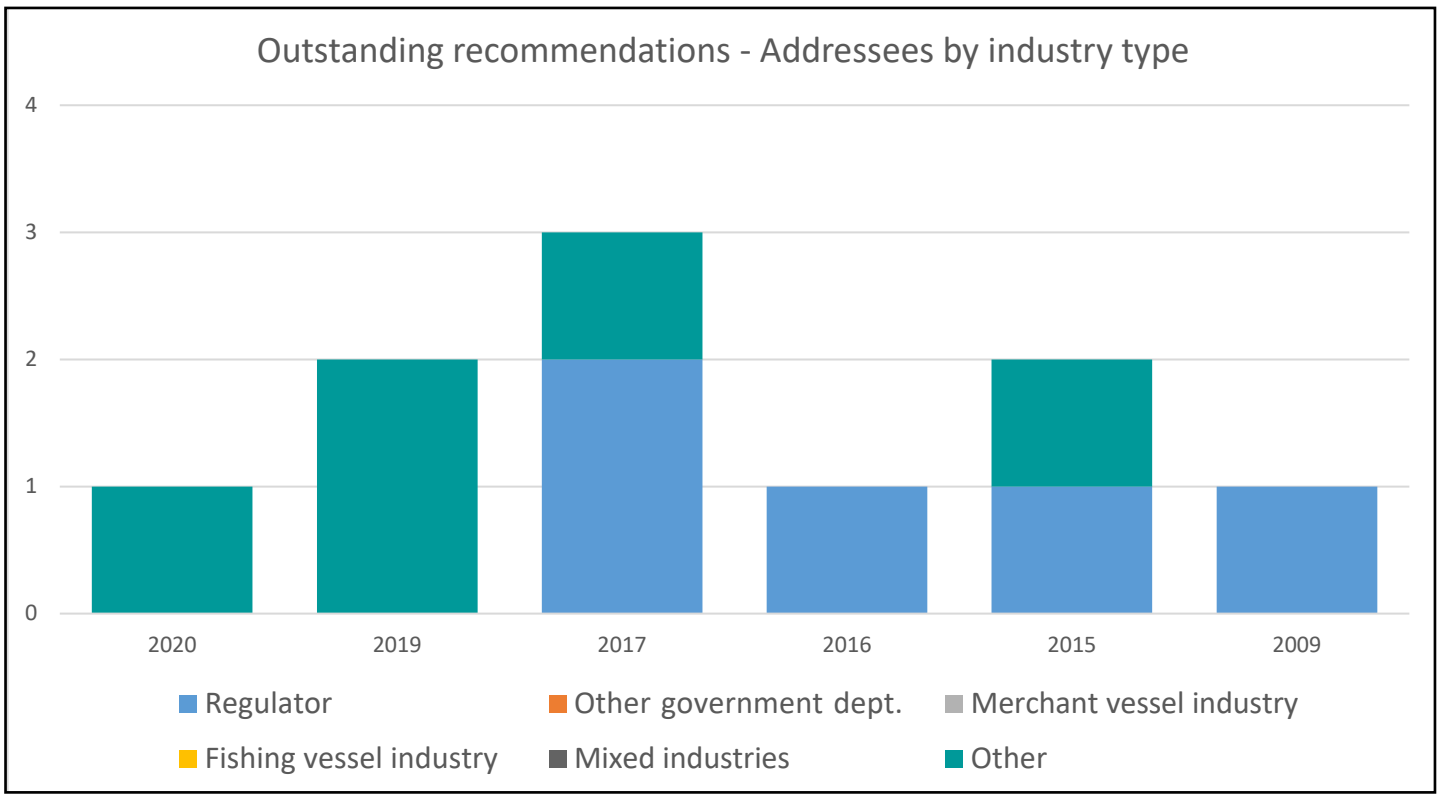
35 recommendations were issued to **23** distinct addressees[8] in 2021. The percentage of all recommendations that are either ***accepted and implemented*** or ***accepted, yet to be implemented*** is **77.1%**.

Year	Total*	Accepted Action		Partially Accepted	Withdrawn	Rejected	No Response Received
		Implemented	Yet to be Implemented				
2021	**35**	21	6	0	0	3	5

*Total number of recommendations issued

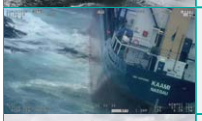
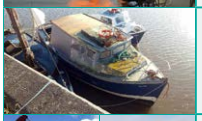
Recommendation response statistics from previous years

The chart below shows the number of recommendations issued under the closed-loop system that remain open at the time of this publication. There are no outstanding recommendations from 2004 to 2008, 2010 to 2014, and 2018.



[8] For the purposes of these statistics, recommendation 2021/109M to all UK Operators of small commercial high speed craft such as Rigid Inflatable Boats, sports boats and other vessels engaged in carrying passengers on trips and charters has been classed as 1 distinct addressee.

SUMMARY OF 2021 PUBLICATIONS AND RECOMMENDATIONS ISSUED

Vessel name(s)		Category	Publication date (2021) and report number	Page
	***Minx/Vision***	Very Serious Marine Casualty	28 January No 1/2021	14
	***Finlandia Seaways***	Serious Marine Casualty	25 February No 2/2021	15
	**Cruise ships - anchor failures**	Marine Incident	30 March No SB1/2021	16
	***Ocean Quest* (FR 375)**	Very Serious Marine Casualty	9 April No 3/2021	16
	***Diversion***	Very Serious Marine Casualty	15 April No 4/2021	17
	***Olivia Jean* (TN 35)**	Very Serious Marine Casualty	12 May No 5/2021	17
	***Seadogz***	Very Serious Marine Casualty	20 May Unnumbered interim report	18
	***Beinn Na Caillich***	Very Serious Marine Casualty	26 May No 6/2021	19
	***Kaami***	Serious Marine Casualty	3 June No 7/2021	19
	***Joanna C***	Very Serious Marine Casualty	n/a, recommendation issued pre-publication by letter	21
	***Arrow***	Serious Marine Casualty	2 July No 8/2021	21
	***Stolt Groenland***	Serious Marine Casualty	20 July No 9/2021	22
	***Globetrotter***	Very Serious Marine Casualty	6 August No 10/2021	23
	***Shearwater/Agem One***	Serious Marine Casualty	9 September No 11/2021	24
	***Cimbris***	Very Serious Marine Casualty	22 September No 12/2021	25
	***Norma G***	Very Serious Marine Casualty	14 October No 13/2021	26

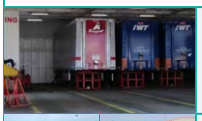
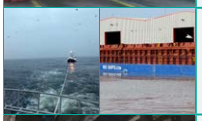
Vessel name(s)		Category	Publication date (2021) and report number	Page
	***Clipper Pennant***	Very Serious Marine Casualty	4 November No SB2/2021	27
	***Achieve/Talis***	Very Serious Marine Casualty	3 December No 14/2021	27
	***Key Bora***	Serious Marine Casualty	16 December No 15/2021	28

Image: *Shearwater*

2021 Recommendations - Progress Report*

*Status as of 13 May 2022

Minx/Vision

Report number: 1/2021

Motor yachts

Accident date: 25/5/2019

Collision with a moored yacht at Île Sainte-Marguerite, near Cannes, France with loss of one life

Safety Issues

- Unsafe navigation of the vessel – conduct of unplanned high-speed pass
- Loss of control of vessel due to hydrodynamic effects
- Use of recreational drugs by crew

No	Recommendation(s) to:	Royal Yachting Association and the Professional Yachting Association
2021/101	Promulgate the safety lessons from this fatal accident as widely as possible to owners and operators in the commercial motor yacht industry sector.	

RYA - appropriate action implemented

PYA - appropriate action implemented

Finlandia Seaways

Report number: 2/2021

Ro-ro cargo vessel

Accident date: 16/4/2018

Engine failure and fire off Lowestoft, England resulting in injury to one crew member

Safety Issues

- The failed connecting rod small end was not overhauled in accordance with the engine manufacturer's instructions and stress raisers introduced during the process increased the likelihood of failure
- Quality control and technical oversight processes did not identify the issue
- There were no Emergency Escape Breathing Devices located along the emergency escape route
- The crew were unable to determine the number of CO_2 cylinders that discharged after the fixed fire extinguishing system was activated

No	Recommendation(s) to:	DFDS Seaways AB - Lithuania
2021/102	Review and improve how its chief engineers conduct class-related equipment examinations as part of the Continuous Survey Machinery cycle to ensure that examinations are conducted thoroughly and reported accurately.	**Appropriate action implemented**

No	Recommendation(s) to:	Diesel Service Group (Klaipeda)
2021/103	Fully apply equipment manufacturers' maintenance and repair guidance and procedures.	**No response received**
2021/104	Review and, as necessary, amend its record keeping in order to generate a full and auditable record of the maintenance carried out by its staff.	**No response received**
2021/105	Review and update staff training to ensure familiarity with engineering methods appropriate for the various repair and overhaul tasks, backed up with a suitable quality assurance process to ensure standards are maintained.	**No response received**

Cruise ship anchor failures

Bulletin number: SB1/2021

Cruise ship(s)

Accident date: autumn/winter 2020-21

Multiple anchor failures off the UK south coast

Safety Issues

- The anchoring of cruise ships for prolonged periods of time in adverse weather conditions and strong tidal streams
- Anchor system design criteria exceeded and component wear rate accelerated

The MAIB identified a trend in the nature of anchoring equipment failures during the COVID-19 enforced operational pause, which saw many cruise vessels anchored off the UK south coast.

This safety bulletin was issued to the cruise industry to mitigate against further losses both in the short term and when the vessels return to normal operations. No recommendations were made.

Ocean Quest

Report number: 3/2021

Fishing vessel (FR 375)

Accident date: 18/8/2019

Flooding and foundering off Fraserburgh, Scotland

Safety Issues

- Hull failure was probably the result of shell plating or hull weld failure below the main engine
- Onboard bilge and salvage pumping arrangements not fully utilised
- Training and the conduct of drills provide critical preparation for emergencies

No recommendations were made as a result of the investigation; however, this accident highlights the importance of readiness to respond to emergency situations.

Diversion

Report number: 4/2021

Motor cruiser

Accident date: 4/12/2019

Carbon monoxide poisoning alongside the Museum Gardens quay on the River Ouse, York, England with loss of two lives

Safety Issues

- Carbon monoxide detector/alarm was not fitted on board the boat
- Diesel-fuelled cabin heater was not correctly installed and its exhaust system was not gas tight
- Diesel-fuelled cabin heater was not inspected by a suitably qualified engineer following its installation and had not been serviced
- The cabin ventilation system did not meet the accepted standard

As a result of the actions taken after the publication of safety bulletin 2/2020[9], no recommendations were made.

Olivia Jean

Report number: 5/2021

Fishing vessel (TN 35)

Accident date: 28/6/2019

Accident while off Aberdeen, Scotland with loss of one life

Safety Issues

- Ineffective supervision and control of work activities on deck
- Poor levels of spoken English by foreign crew and the lack of a common language led to communication problems
- Risk assessment control measures were not fully implemented
- Vessel safety management system incomplete and not being used or maintained on the vessel

No	Recommendation(s) to: TN Enterprises Ltd
2021/106	Review its fleet operations and ensure that the mandatory requirements of International Labour Organization Convention No. 188, The Work in Fishing Convention, and applicable Maritime and Coastguard Agency codes of practice are adhered to. In particular, take action to ensure its safety management system fully implements the recommendations made by the Maritime and Coastguard Agency in its Fishing Safety Management Code. **Appropriate action implemented** ✓
2021/107	Undertake a review of the levels of English language comprehension of its foreign crews and ensure that they share a common language. **Appropriate action implemented** ✓

[9] https://www.gov.uk/maib-reports/safety-warning-about-carbon-monoxide-poisoning-after-the-loss-of-2-lives-on-the-motor-cruiser-diversion

2021/108 Introduce a pre-employment formal evaluation process to establish the standard of English of its potential crew members.

Appropriate action implemented

Seadogz

Report Number: Interim Report

High speed passenger craft

Accident date: 22/8/2020

Collision with a navigation buoy off Southampton, England with loss of one life

Safety Issues

- The conduct of high speed manouevres in close proximity to navigation buoys and other vessels
- The single-handed operation of small commercial passenger craft
- Increased risk of hooking or spinning out
- Lack of compliance with the controls set out in the *Passenger Safety on Small Commercial High Speed Craft & Experience Rides* voluntary Code of Practice[10]

No	Recommendation(s) to:	All UK Operators of small commercial high speed craft such as Rigid Inflatable Boats, sports boats and other vessels engaged in carrying passengers on trips and charters
2021/109M	Review the risk assessments for the operation of their vessels and take measures, as appropriate, to ensure that they comply with the safe working practices and standards contained in the *Passenger Safety on Small Commercial High Speed Craft & Experience Rides* voluntary Code of Practice. Where an operator cannot comply with the provisions outlined in the Code of Practice, steps should be taken to mitigate against risk, and details of those measures included in the relevant operating procedures.	

Appropriate action implemented

MAIB comment: **The MAIB received a number of positive responses to the recommendation that reported appropriate action has been taken.**

[10] HSPV Code of Practice can be downloaded from here: https://britishmarine.co.uk/Services/Business-Support/Industry-Codes-of-Practice

Beinn Na Caillich

Report number: 6/2021

Category 2 workboat

Accident date: 18/2/2020

Accident to a fish farm worker at Ardintoul, Glenshiel, Scotland with loss of one life

Safety Issues

- Boat transfers not properly planned, supervised or controlled
- Absence of effective marine safety management system
- Crew not fully prepared to deal with the emergency – lack of safety drills

No	Recommendation(s) to: Mowi (Scotland) Ltd
2021/110	Apply the standards set out in the Workboat Code Edition 2 to all its existing workboats and, specifically, to fully implement a safety management system across its fleet that complies with the principles of the International Safety Management Code.
	Appropriate action implemented
2021/111	Ensure that appropriate marine expertise is present or provided to its senior management team to oversee the safety of its vessels and marine operations.
	Appropriate action implemented

Kaami

Report number: 7/2021

General cargo

Accident date: 23/3/2020

Grounding on Sgeir Graidach, the Little Minch, Scotland

Safety Issues

- ECDIS safety features not fully utilised
- Voyage plan not checked, navigational hazard not identified and vessel position not properly monitored
- Manning levels contributed to navigational operations

No	Recommendation(s) to: Misje Rederi AS
2021/112	Review the numbers of watchkeeping officers on vessels in its fleet with the specific aim of ensuring there are sufficient personnel to conduct essential tasks effectively during periods of high workload and to protect the watchkeepers against the effects of fatigue, taking into account the guidance contained in IMO Resolution A.1047(27) Principles of Minimum Safe Manning.
	Appropriate action implemented

2021/113 Review and amend the guidance contained in its safety management system regarding voyage planning using ECDIS to ensure that:

- a company standard for safe under keel clearance and safety depth and the method for calculation is present and followed;
- the correct application of safety contours and alert limit settings is positively confirmed on all company vessels;
- if the voyage planning must be conducted by the master then a second check by a different navigating officer must take place;
- support is given to the navigating officer to ensure they have the time to develop the voyage plan and check it for errors.

Appropriate action implemented

2021/114 Confirm fleetwide compliance with acceptable navigational procedures, specifically with ECDIS by:

- ensuring all staff auditing the fleet have an appropriate level of knowledge, through training and experience, to enable the effective audit of the use of ECDIS on board;
- engaging an independent navigational audit provider, until such time as their internal audit team is appropriately trained;
- employ a system that ensures that relevant learning opportunities are followed up and implemented.

Appropriate action implemented

2021/115 Ensure that lookouts in the fleet are being fully integrated into bridge teams using the good practice principles highlighted in the ICS Bridge Procedures Guide, and to amend the safety management system to provide the appropriate level of supporting guidance.

Appropriate action implemented

Joanna C

Recommendation letter issued by the Chief Inspector

Fishing vessel (BM 265)

Accident date: 21/11/2020

Capsize and foundering off Newhaven, England with loss of two lives

Safety Issues

- Failure of liferaft to inflate and float free
- The buoyancy of the submerged liferaft was insufficient to activate the inflation mechanism

No	Recommendation(s) to: British Standards Institution
2021/116	Propose to the International Organization for Standardization that the revised ISO 9650 standard includes a buoyancy requirement for uninflated canister-packed liferafts when intended for use with float free, automatic inflation devices. The buoyancy requirement should be sufficient to exceed, by a suitable factor of safety, the force required to activate the liferaft's inflation mechanism.

Appropriate action planned: 30 December 2022

Arrow

Report number: 8/2021

Ro-ro freight ferry

Accident date: 25/6/2020

Grounding in the approach channel of Aberdeen Harbour, Scotland

Safety Issues

- Ineffective bridge resource management; bridge team and navigation aids not fully utilised
- Inadequate passage planning and monitoring
- Lack of preparation for restricted visibility
- Poor bridge ergonomics

Given the subsequent actions taken by Seatruck Ferries Limited and Aberdeen Harbour Board to improve safety and prevent recurrence, no safety recommendations were made as a result of this investigation.

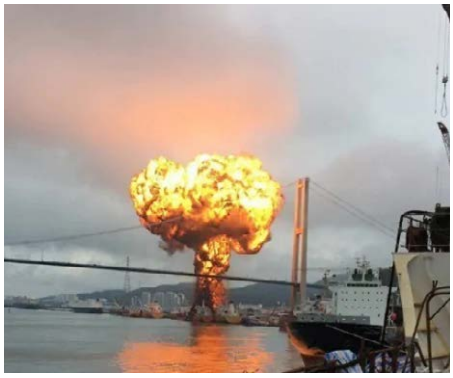
Stolt Groenland

Report number: 9/2021

Chemical tanker

Accident date: 28/9/2019

Investigation on behalf of Cayman Islands Government[11]: Cargo tank explosion and fire at Ulsan, Republic of Korea



Safety Issues

- The temperature of heat sensitive cargo was not monitored during the voyage – critical temperature reached prior to berthing
- Heat sensitive cargo was stowed without adequate recognition of the potential for heat transfer through intermediate tanks
- Similar incident on another vessel not reported

No	Recommendation(s) to: Cayman Islands Shipping Registry, through the UK as the Member Government for the Red Ensign Group to the International Maritime Organization
2021/117	Propose to the IMO a revision to Section 15.13 of the IBC Code to: • Include in the certificate of protection the actions to be taken in the event of a cargo falling outside of the manufacturer's specified oxygen and temperature limits, and that • Any actions should be realistic, taking account of the limitations on board ships regarding the monitoring, adding, and mixing of inhibitor during the voyage. **Appropriate action planned: No date given**

No	Recommendation(s) to: International Chamber of Shipping
2021/118	Promulgate this report to its members. **Appropriate action implemented**

No	Recommendation(s) to: INTERTANKO
2021/119	Promulgate this report to its members. **Appropriate action implemented**

No	Recommendation(s) to: Chemical Distribution Institute
2021/120	Amend its publication '*Chemical Tanker Operations for the STCW Advanced Training Course – A Practical Guide to Chemical Tanker Operations*' to make it clear that: • The stowage of heated and inhibited cargoes can result in a dynamic situation in which the degree of heat transfer may be complex and difficult to predict.

[11] In accordance with our Memorandum of Understanding (https://www.gov.uk/government/publications/mou-between-maib-and-reg-category-1-registries)

- One tank separation between heated and heat sensitive cargoes might not be sufficient.
- Promulgate this report to its members.

Appropriate action planned: 31 December 2022

No	Recommendation(s) to:	Plastics Europe (Styrene Producers Association)
2021/121	Work with its members to incorporate the lessons learned from this accident in its *Styrene Monomer: Safe Handling Guide*.	

Appropriate action planned: Update requested

No	Recommendation(s) to:	Stolt Tankers B.V
2021/122	Share with INTERTANKO the circumstances and lessons learned from the *Stolt Focus* incident and the results of its research into improved stowage software, to enable prediction of heat transfer and cargo behaviour.	

Rejected

MAIB comment: **Stolt rejected this recommendation as it considered the circumstances of the *Stolt Focus* incident was adequately covered in MAIB's report and following its own research felt that prediction of heat transfer rates between tanks was too complex for existing software and software currently under development.**

Globetrotter

Report number: 10/2021

Motorboat

Accident date: 31/5/2020

Foundering off Fleetwood, England with the loss of one life

Safety Issues

- Owner did not appreciate the risks of taking his boat to sea – it was in poor condition and was not seaworthy
- Vessel grounded due to inadequate passage planning and position monitoring
- Personal flotation devices not worn

No recommendations have been made as a result of this investigation; however, the MAIB wrote to the Royal Yachting Association, the UK Harbour Masters' Association, the Cruising Association, British Marine, and the Angling Trust to highlight the lessons learned from this accident and other similar accidents and requested assistance with promulgating the advice contained in Emily's Code[12] to leisure boat users.

[12] https://www.rya.org.uk/knowledge/safety/emilys-code

Shearwater/Agem One

Report number: 11/2021

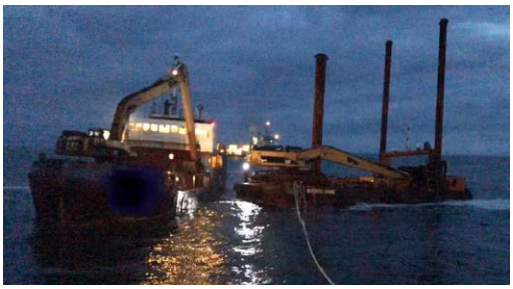
Dredger/Unmanned barge

Accident date: 9/4/2020

Immobilisation and flooding of a dredger after repeated collisions with an unmanned barge near Kinlochbervie, Scotland

Safety Issues

- Insufficient planning, risk assessments or safe systems of work for the towing operation being conducted
- *Shearwater* was not suitable for use as a coastal towing vessel
- The crew did not have the necessary competence to undertake the operation
- Flag state certification did not provide sufficient assurance



No	Recommendation(s) to:	Maritime and Coastguard Agency
2021/123	Adopt measures to ensure that the certification of vessels over 24m load line length and under 500gt includes the application of all appropriate regulatory conditions taking full account of the vessel's intended function and area of operations.	

Appropriate action planned: 31 August 2022

No	Recommendation(s) to:	Northern Dredging Limited
2021/124	Undertake risk assessments for all intended operations to identify hazards, and ensure that safe systems of work are in place to mitigate all foreseeable risks. Additionally, procedures should be in place for all potential emergencies.	

Rejected

2021/125	Ensure that company vessels are safely manned by a master and crew members who are suitably qualified and experienced for the operations being undertaken, and that obligations for hours of work and rest are met.	

Rejected

MAIB comment: **Following the accident *Shearwater*'s owner re-flagged the dredger. Despite several requests from MAIB, he has not responded on the implementation of the recommendation and therefore it has been classed as rejected and closed.**

Cimbris

Report number: 12/2021

General cargo vessel

Accident date: 14/7/2020

Investigation on behalf of Cayman Islands Government[13]: Accident while a gantry crane was moving a hatch cover at Antwerp, Belgium with loss of one life

Safety Issues

- Weak ship-to-shore safety communication
- Unsafe system of work; banksmen not used, load carried over workers
- Stevedore placed himself in a position of danger
- Stevedore was unsighted by ship's gantry crane operator

No	Recommendation(s) to:	Briese Dry Cargo GmbH & Co. KG
2021/126	Take appropriate actions to improve the level of safety culture on board *Cimbris* and its other managed vessels.	**Appropriate action implemented**

No	Recommendation(s) to:	Centrale der Werkgevers aan de Haven van Antwerpen
2021/127	Take appropriate actions to improve the level of safety culture among its registered workers.	**No response received**
2021/128	Review compliance with safe working practices on board customer vessels, to better ensure the safety of its registered workers and vessel crews.	**No response received**

[13] In accordance with our Memorandum of Understanding (https://www.gov.uk/government/publications/mou-between-maib-and-reg-category-1-registries)

Norma G

Report number: 13/2021

Motor cruiser

Accident date: 25/5/2020

Capsize in the Camel Estuary, Cornwall, England with loss of one life

Safety Issues

- The dangers of being near the Doom Bar in a small boat close to low water were not fully appreciated
- No aids to navigation marking the extremities of the Doom Bar
- Inconsistent navigation advice
- Lower safety standards on older boats – lack of buoyancy

No	Recommendation(s) to: Padstow Harbour Commissioners
2021/129	Update their port passage plan and navigation guide to provide up-to-date chart information and unambiguous guidance to mariners entering or leaving the River Camel.

Appropriate action planned: No date given

2021/130	Consider, as part of their navigation risk assessment, placing an aid to navigation to mark the north-east extremity of the Doom Bar.

Appropriate action implemented

No	Recommendation(s) to: Wadebridge Boating Club
2021/131	Review and amend the information provided to its members, including the Membership Card and Club Rules booklet, to include, inter alia: • reference to navigational safety information published by Padstow Harbour Commissioners. • reference to boating safety information published by the RYA, RNLI, and local sources of training.

Appropriate action implemented

Clipper Pennant

Bulletin number: SB2/2021

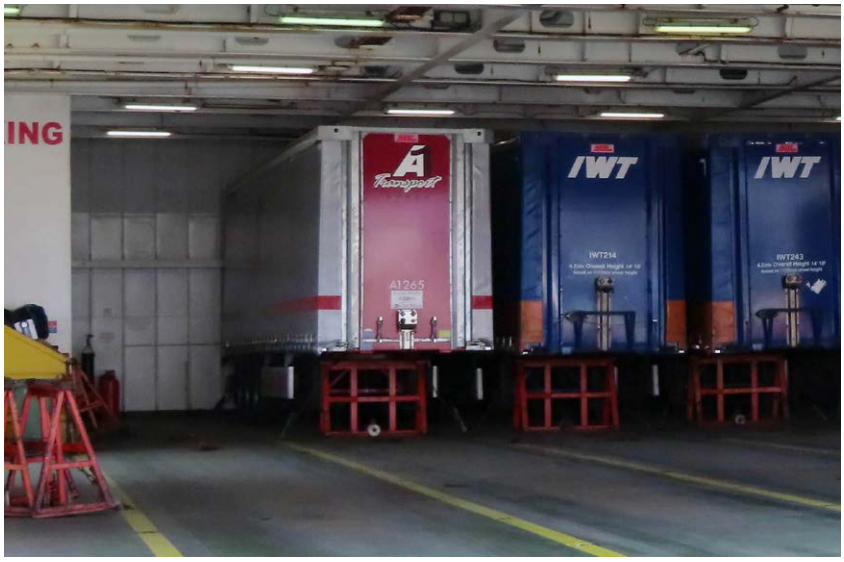
Ro-ro ferry

Accident date: 20/7/2021

Fatal crushing injury on ferry's upper vehicle deck in Liverpool, England

Safety Issues

- Extreme risk of crushing injuries in stowage spaces adjacent to the vessel's structure, with limited areas to remain clear or escape



This safety bulletin was issued to highlight to operators of vessels with roll-on/roll-off vehicle decks that, where tractor units are being used to push semi-trailers, safety procedures must be in place to ensure that deck crew are not standing in the vehicle's path. No safety recommendations were made.

Achieve/Talis

Report number: 14/2021

Fishing vessel (HL 257)/ General cargo ship

Accident date: 8/11/2020

Collision between a fishing vessel and a general cargo ship resulting in the sinking of the fishing vessel off Tynemouth, England

Safety Issues

- No effective lookout on board *Achieve* – unmanned wheelhouse
- Cargo ship *Talis*'s action to avoid collision was too late
- Ineffective use of radar in fog and no sound signals
- No radar reflector rigged on board *Achieve*

No	Recommendation(s) to: *Achieve*'s owner/skipper
2021/132	Ensure that policies and procedures are put into place on any future vessels he might own or skipper that clearly state the obligation to keep a proper lookout at all times, as required by the COLREGs.

Appropriate action implemented

No	Recommendation(s) to: WeShips Denizcilik ve Ticaret A.Ş.
2021/133	Issue a fleet safety bulletin to remind its masters and navigation officers of their obligations to comply with the COLREGs, particularly the requirements of Rule 5 (Lookout) and Rule 19 (Conduct of vessels in restricted visibility).

Appropriate action implemented

Key Bora

Report number: 15/2021

Chemical tanker

Accident date: 28/3/2020

Grounding in the approaches to Kyleakin pier, Isle of Skye, Scotland

Safety Issues

- Inappropriate use of local (inaccurate) hydrographic survey data
- Ineffective bridge team management
- ECDIS not used effectively for passage planning or execution
- Mowi's Kyleakin facility was not being operated in accordance with the Port Marine Safety Code

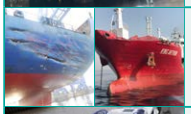
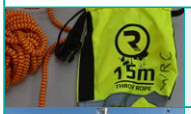
No	Recommendation(s) to: Mowi Scotland Limited
2021/134	Ensure that marine operations at Kyleakin follow the guidance in the Port Marine Safety Code and its associated Guide to Good Practice.

Appropriate action implemented

2021/135	Consider applying for a Harbour Empowerment Order in order to establish a statutory harbour authority, delivering the associated maritime safety benefits, at Kyleakin.

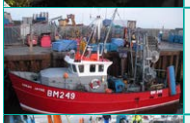
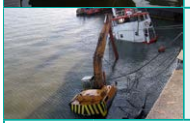
Appropriate action implemented

PROGRESS OF RECOMMENDATIONS FROM PREVIOUS YEARS

Vessel name	Publication date/report number	Page
2020 Recommendations - Progress Report		**31**
 ***Artemis*** **(FR 809)**	9 January No 1/2020	31
 ***European Causeway***	17 January No 3/2020	31
 ***Seatruck Performance***	6 February No 4/2020	32
 ***ANL Wyong/King Arthur***	19 March No 7/2020	32
 ***Diamond Emblem 1***	n/a, recommendation issued prepublication by letter[14]	33
 **Fire and rescue service boats**	4 November No 17/2020	33
 ***Rib Tickler*****/Unnamed Personal Watercraft**	n/a, recommendation issued prepublication by letter[15]	34
 ***Sunbeam*** **(FR487)**	10 December No 19/2020	35
2019 Recommendations - Progress Report		**36**
 **Unnamed Rowing Boat (throw bag rescue line)**	31 January 2019 No 2/2019	36
 ***Nancy Glen*** **(TT100)**	30 May 2019 No 6/2019	37
 ***CV30***	20 June 2019 No 7/2019	37
2018 Recommendations - Progress Report		**37**
No recommendations outstanding for 2018		
2017 Recommendations - Progress Report		**38**
 ***CV21***	12 April 2017 No 7/2017	38
 ***Osprey/Osprey II***	18 May 2017 No 10/2017	38
 ***Nortrader***	7 December 2017 No 26/2017	39

[14] A full accident investigation report was subsquently published on 5 May 2022: https://www.gov.uk/maib-reports/person-overboard-from-motor-cruiser-diamond-emblem-1-with-loss-of-1-life

[15] A full accident investigation report was subsquently published on 17 February 2022: https://www.gov.uk/maib-reports/collision-between-rigid-inflatable-boat-rib-tickler-and-a-personal-watercraft-with-loss-of-1-life

Vessel name		Publication date/report number	Page
2016 Recommendations - Progress Report			40
	***JMT* (M99)**	7 July 2016 No 15/2016	40
2015 Recommendations - Progress Report			41
	***Cheeki Rafiki***	29 April 2015 No 8/2015	41
	***Stella Maris* (HL705)**	10 December 2015 No 29/2015	41
2014 Recommendations - Progress Report			42
No recommendations outstanding for 2014			
2013 Recommendations - Progress Report			42
	***Purbeck Isle* (PH 104)**	2 May 2013 No 7/2013	42
	***Sarah Jayne* (BM 249)**	13 June 2013 No 13/2013	42
	***Vixen***	20 June 2013 No 16/2013	43
2012 to 2010 Recommendations - Progress Report			44
No recommendations outstanding for 2012, 2011 and 2010			
2009 Recommendations - Progress Report			**44**
	***Celtic Pioneer***	21 May 2009 No 11/2009	44
	***Abigail H***	1 July 2009 No 15/2009	44
2008 Recommendations - Progress Report			**45**
	**Fishing Vessel Safety Study 1992 to 2006**	28 November 2008 FV Safety Study	45

2020 Recommendations - Progress Report*

*Status as of 13 May 2022

Artemis

Report number: 1/2020

Fishing vessel (FR 809)

Accident date: 29/4/2019

Fall through internal wheelhouse hatch while berthed alongside at Kilkeel, Northern Ireland with loss of one life

№	Recommendation(s) to:	Watchful Ltd[16]
2020/102	Are recommended to: • Review and update the generic drug and alcohol policy in their safety folders to reflect the issues identifed by this investigation. These policies should include: the Railways and Transport Safety Act 2003 alcohol limits; a clear defnition of when crew are on or of duty; and, parameters under which the skipper or other authorised person may direct a crew member to undergo drug and alcohol testing.	**Appropriate action implemented**

European Causeway

Report number: 3/2020

Ro-ro passenger ferry

Accident date: 18/12/2018

Cargo shift and damage to vehicles on a ro-ro vessel during a voyage from Larne, Northern Ireland, to Cairnryan, Scotland

№	Recommendation(s) to:	P&O Ferries Ltd
2020/107	Amend its SMS to provide specific guidance on the lashing of cargo in heavy weather to all vessels in its fleet, to ensure that it meets industry best practice and the guidance provided in the MCA's Code of Practice – *Roll-on/Roll-off Ships – Stowage and Securing of Vehicles*.	**Appropriate action implemented**

[16] The original recommendation was made to Rockall Ltd (no longer trading) and Seafish. However, the SafetyFolder is now being managed by Watchful Ltd, and it has since implemented the intent of the recommendation.

Seatruck Performance

Report number: 4/2020

Ro-ro freight ferry

Accident date: 8/5/2019

Grounding of a ro-ro freight ferry in Carlingford Lough, Northern Ireland

№	Recommendation(s) to:	Seatruck Ferries Ltd
2020/108	Take further measures to enhance the safe navigation of its vessels by optimising its use of electronic navigation systems to provide real time positional information, and enhancing its Bridge Resource Management training.	

Appropriate action implemented

ANL Wyong/King Arthur

Report number: 7/2020

Container vessel/Gas carrier

Accident date: 4/8/2018

Collision between a container vessel and a gas carrier in the approaches to Algeciras, Spain

№	Recommendation(s) to:	Maritime and Coastguard Agency
2020/116	Propose to the International Maritime Organization that the navigation status information in the automatic identification system be reviewed to ensure that a vessel's status can be accurately described, including vessels underway but not making way.	

Appropriate action implemented

Diamond Emblem 1

Recommendation letter issued by the Chief Inspector

Motor Cruiser

Accident date: 19/08/2020

Fatal person overboard at Great Yarmouth Yacht Station, England

№	Recommendation(s) to:	Association of Inland Navigation Authorities

2020/129 Revise the Code of Practice for Hire Boats to include:

- A requirement for hire boat companies to assess the risk of people falling overboard and implement suitable control measures, particularly for areas that are in frequent use or where the risk of a fall is identified as high (Hire Boat Code Section 2.6 and Annex II).
- A requirement for hire boat companies operating vessels with multiple helm positions to comply, where possible, with international standards for a positive visual indication of the active helm position and interlocks to prevent inadvertent engine operation from an inactive helm position (3.2.2).
- Guidance on conduct of handover to include a thorough demonstration of a vessel's engine and steering controls where more than one helm position exists (3.3.3).
- A requirement for in-water trial, before handover, to assess the competence of those expected to drive the boat, irrespective of their previous experience or length of hire of the vessel (3.3.4).

Partially accepted - action implemented

MAIB comment: **AINA has implemented the intent of bullets 1, 3 and 4. The intent of bullet 2 was readdressed in a recommendation (2022/123) to the Boat Safety Scheme in the investigation report[17].**

Fire and rescue service boats

Report number: 17/2020

Inflatable boat/Rigid inflatable boat

Accident date: 17/09/2019

Collision on the River Cleddau, Milford Haven, Wales with loss of one life

№	Recommendation(s) to:	National Fire Chiefs Council

2020/133 Consult with the Maritime and Coastguard Agency and the UK Harbour Masters' Association to introduce a standard code for the operation of all fire and rescue service craft when in categorised or non-categorised waters.

Appropriate action implemented

[17] https://www.gov.uk/maib-reports/person-overboard-from-motor-cruiser-diamond-emblem-1-with-loss-of-1-life

Rib Tickler/Unnamed Personal Watercraft

Recommendation letter issued by the Chief Inspector

RIB/Personal Watercraft

Accident date: 08/08/2020

Fatal collision in the Menai Straits, Wales

№	Recommendation(s) to:	Royal Yachting Association

2020/136 Review and amend its Personal Watercraft and Start Powerboating handbooks to provide guidance on:

- The importance and conduct of the over-the-shoulder pre-manoeuvre check;
- How to safely operate in company with other craft, with particular focus on communication and safe distances;
- The oversight of inexperienced/untrained helms in an informal setting;
- Crossing waves and wakes, with particular focus on control of personal watercraft and safe distances from vessels creating wake, and:
- Disseminate to their members a summary of the safety messages from this accident prior to the start of the 2021 boating season.

Consideration should also be given to including the above topics in the relevant training course syllabi.

Appropriate action planned: Update requested

Sunbeam

Report number: 19/2020

Fishing vessel (FR487)

Accident date: 14/08/2018

Fatal enclosed space accident in Fraserburgh, Scotland

№	Recommendation(s) to: Maritime and Coastguard Agency
2020/137	Implement measures for the safe conduct of enclosed space operations on board fishing vessels, specifically: • Amend the Merchant Shipping (Entry into Dangerous Spaces) Regulations, 1988, or any subsequent regulations for potentially hazardous spaces, to include fishing vessels. Consideration should also be given to aligning UK regulations and guidance with the IMO terminology for enclosed spaces. • Update fishing vessel codes of practice and surveyor's checklists to reflect enclosed space safety and operations, specifically including atmosphere monitoring and crew preparation for emergencies. **Appropriate action implemented**
2020/138	Review Letters of Delegation to its Recognised Organisations in order to ensure clarity of understanding with regard to responsibility for survey of machinery items. **Appropriate action implemented**

№	Recommendation(s) to: Owners of *Sunbeam*
2020/139	Implement an onboard safety management system in accordance with the MCA's Fishing Safety Management Code, specifically ensuring that safe systems of work are in place for all operations. **Appropriate action implemented**

2019 Recommendations - Progress Report*

*Status as of 13 May 2022

Unnamed Rowing Boat

Report number: 2/2019

Rowing boat

Accident date: 24/3/2018

Failure of a throw bag rescue line during a capsize drill at a rowing club in Widnes, England

№	Recommendation(s) to:	British Standards Institution
2019/105	Develop an appropriate standard for public rescue equipment ensuring that the topic of throw bags and their rescue lines is addressed as a priority.	

Appropriate action planned: No date given

Nancy Glen

Report number: 6/2019

Twin rig prawn trawler (TT100)

Accident date: 18/1/2018

Capsize and sinking in Lower Loch Fyne, Scotland with the loss of two lives

№	Recommendation(s) to: Maritime and Coastguard Agency
2019/109	Include in its new legislation addressing the stability of existing fishing vessels of under 15m, a requirement to undertake both a freeboard check and stability check, which should be recorded and repeated at intervals not exceeding 5 years. Provide guidance on the conduct of 5-yearly stability checks to ensure the results can be effectively compared to determine whether the vessel's stability has altered. Align the text of MSN 1871 (F), The Code of Practice for the Safety of Small Fishing Vessels of less than 15m Length Overall, to mirror Statutory Instruments 2017 No. 943 Merchant Shipping, The Fishing Vessel (Codes of Practice) Regulations 2017. This amendment should be in respect of vessel owners' obligation to notify the MCA of any proposal to alter or modify a vessel's structure, remove or reposition engines or machinery or change the mode of fishing. Include in its new legislation introducing stability criteria for all new and substantially modified vessels, a requirement for this to be validated by a 5-yearly lightship check. **Appropriate action implemented**

CV30

Report number: 7/2019

Commercial racing yacht

Accident date: 18/11/2017

Fatal man overboard approximately 1500nm west of Fremantle, Australia

№	Recommendation(s) to: British Standards Institute Committee
2019/110	Review and amend ISO 12401 and ISO 15085 at the earliest opportunity in light of lessons learned from this accident to: • Ensure the danger of snagging of tether hooks is highlighted and suitable precautions are taken for terminating jackstays. • Clarify that the ISO 12401 standard test assumes that the tether is loaded longitudinally and that the hook must be free to rotate to align with the load, and lateral loading of the hook must be avoided. • Clarify what force should be applied during an accidental hook opening test. • Consider including a requirement for a tether overload indicator. **Appropriate action planned: 31 December 2023**

2018 Recommendations - Progress Report

There are no outstanding recommendations for 2018.

2017 Recommendations - Progress Report*

*Status as of 13 May 2022

CV21

Report number: 7/2017

Commercial racing yacht

Accident dates: 4/9/2015 and 1/4/2016

Combined report on the investigations of the fatal accident while 122nm west of Porto, Portugal on 4 September 2015 and the fatal person overboard in the mid-Pacific Ocean on 1 April 2016

№	Recommendation(s) to:	Royal Yachting Association/World Sailing/British Marine

2017/109 Work together to develop and promulgate detailed advice on the use and limitations of different rope types commonly used, including HMPE, in order to inform recreational and professional yachtsmen and encourage them to consider carefully the type of rope used for specific tasks on board their vessels.

RYA: Appropriate action implemented

World Sailing: Appropriate action implemented

British Marine: Appropriate action planned: No date given

MAIB comment: **The implementation project was delayed in 2020 due to the impact of COVID-19 restrictions and Brexit workloads and is yet to be restarted.**

Osprey/Osprey II

Report number: 10/2017

RIBs

Accident date: 19/7/2016

Collision between two rigid inflatable boats on Firth of Forth, Scotland resulting in serious injuries to one passenger

№	Recommendation(s) to:	Maritime and Coastguard Agency

2017/115 Include in its forthcoming Recreational Craft Code with respect to commercially operated passenger carrying RIBs:

- A requirement for the certificated maximum number of passengers to be limited to the number of suitable seats designated for passengers.
- Guidance on its interpretation of "suitable" with respect to passenger seating.
- A requirement for passengers not to be seated on a RIB's inflatable tubes unless otherwise authorised by the Certifying Authority and endorsed on the RIB's compliance certificate with specified conditions to be met for a particular activity.

Appropriate action planned: 1 January 2023

Nortrader

Report number: 26/2017

General cargo vessel

Accident date: 13/1/2017

Explosion of gas released from a cargo of unprocessed incinerator bottom ash while at anchorage in Plymouth Sound, England

№	Recommendation(s) to:	Maritime and Coastguard Agency
2017/154	Update The Merchant Shipping (Carriage of Cargoes) Regulations 1999 with appropriate references to the IMSBC Code.	

Appropriate action planned: 31 December 2022

2016 Recommendations - Progress Report*

*Status as of 13 May 2022

JMT

Report number: 15/2016

Fishing vessel (M99)

Accident date: 9/7/2015

Capsize and foundering of a small fishing vessel 3.8nm off Rame Head, English Channel with loss of two lives

№	Recommendation(s) to:	Maritime and Coastguard Agency
2016/130	Include in its intended new legislation introducing stability criteria for all new and significantly modified decked fishing vessels of under 15m in length a requirement for the stability of new open decked vessels, and all existing vessels of under 15m to be marked using the Wolfson Method or assessed by use of another acceptable method.	**Appropriate action implemented**
2016/131	Require skippers of under 16.5m fishing vessels to complete stability awareness training.	**Appropriate action planned: 30 April 2023**

2015 Recommendations - Progress Report*

*Status as of 13 May 2022

Cheeki Rafiki

Report number: 8/2015

Sailing yacht

Accident date: 16/5/2014

Loss of a yacht and its four crew in the Atlantic Ocean, approximately 720 miles east-south-east of Nova Scotia, Canada

№	Recommendation(s) to:	British Marine Federation[18]
2015/117	Co-operate with certifying authorities, manufacturers and repairers with the aim of developing best practice industry-wide guidance on the inspection and repair of yachts where a GRP matrix and hull have been bonded together.	

Appropriate action planned: 23 July 2023

№	Recommendation(s) to:	Maritime and Coastguard Agency
2015/120	Include in the SCV Code a requirement that vessels operating commercially under ISAF[19] OSR should undergo a full inspection to the extent otherwise required for vessels complying with the SCV Code.	

Appropriate action planned: 1 January 2023

Stella Maris

Report number: 29/2015

Fishing vessel (HL705)

Accident date: 28/7/2014

Capsize and foundering 14 miles east of Sunderland, England

№	Recommendation(s) to:	Maritime and Coastguard Agency
2015/165	Introduce intact stability criteria for all new and significantly modified decked fishing vessels of under 15m in length.	

Appropriate action implemented

[18] British Marine Federation now known as British Marine.

[19] International Sailing Federation (ISAF) is now known as World Sailing.

2014 Recommendations - Progress Report

There are no outstanding recommendations for 2014.

2013 Recommendations - Progress Report*

*Status as of 13 May 2022

Purbeck Isle

Report number: 7/2013

Fishing vessel (PH 104)

Accident date: 17/5/2012

Foundering 9 miles south of Portland Bill, England with the loss of three lives

№	Recommendation(s) to:	Maritime and Coastguard Agency
2013/204	Align its hull survey requirements for fishing vessels of <15m length overall with those applied to workboats under the *Harmonised Small Commercial Vessels Code*.	

Partially accepted - action implemented

MAIB comment: **MCA has enhanced the hull survey requirements for fishing vessels less than 15m length overall and this recommendation has been closed. The changes made did not fully align with the requirements applied to work boats and therefore the recommendation was assessed to be partially accepted.**

Sarah Jayne

Report number: 13/2013

Fishing vessel (BM 249)

Accident date: 11/9/2012

Capsize and foundering 6nm east of Berry Head, Brixham, England with the loss of one life

№	Recommendation(s) to:	Maritime and Coastguard Agency
2013/213	As part of its intended development of new standards for small fishing vessels, review and include additional design and operational requirements as necessary to ensure that a vessel engaged in bulk fishing remains seaworthy throughout its intended loading procedure. Specific hazards that should be addressed include: • The increased risk of capsize from swamping if freeing ports are closed. • The risk of downflooding if flush deck scuttles and fish hold hatch covers are opened at sea.	

Appropriate action implemented

Vixen

Report number: 16/2013

Passenger ferry

Accident date: 19/9/2012

Foundering in Ardlui Marina, Loch Lomond, Scotland

№	Recommendation(s) to:	Stirling Council/West Dunbartonshire Council

2013/216 Take action to:

- Establish a boat licensing system for inland waters falling under the Council's area of responsibility and which adopts the Inland Waters Small Passenger Boat Code as the standard applied for small passenger boats carrying fewer than 12 passengers on its categorised waters.
- Require such boats to be regularly surveyed by a competent person employed by a Certifying Authority or similar organisation as may be recommended by the Maritime and Coastguard Agency.

Stirling Council: Rejected

West Dunbartonshire Council: Appropriate action implemented

MAIB comment: It is disappointing that after several years of correspondence with Stirling Council they have not been able to implement this recommendation.

2012 to 2010 Recommendations - Progress Report

There are no outstanding recommendations for 2012, 2011 and 2010.

2009 Recommendations - Progress Report*

*Status as of 13 May 2022

Celtic Pioneer

Report number: 11/2009

RIB

Accident date: 26/8/2008

Injury to a passenger during a boat trip in the Bristol Channel, England

№	Recommendation(s) to:	Maritime and Coastguard Agency
2009/126	Review and revise the deck manning and qualification requirements of the harmonised SCV Code taking into account the speed of craft and the type of activity intended in addition to the distance from shore and environmental conditions.	

Appropriate action planned: 1 January 2023

Abigail H

Report number: 15/2009

Grab hopper dredger

Accident date: 2/11/2008

Flooding and foundering in the Port of Heysham, England

№	Recommendation(s) to:	Maritime and Coastguard Agency
2009/141	Introduce a mandatory requirement, for all vessels greater than 24m length and less than 500 gross tons, for the fitting of bilge alarms in engine rooms and other substantial compartments that could threaten the vessel's buoyancy and stability if flooded. These, and any other emergency alarms, should sound in all accommodation spaces when the central control station is unmanned. In addition to functioning in the vessel's normal operational modes, alarms should be capable of operating when main power supplies are shut down, and be able to wake sleeping crew in sufficient time for them to react appropriately.	

Appropriate action implemented

2008 Recommendations - Progress Report*

*Status as of 13 May 2022

Fishing Vessel Safety Study

Analysis of UK Fishing Vessel Safety 1992 to 2006

№	Recommendation(s) to:	Maritime and Coastguard Agency

2008/173 In developing its plan to address the unacceptably high fatality rate in the fishing industry, identified in its study of statistics for the years 1996 to 2005, in addition to delivering the actions outlined at 6.2, the MCA is recommended to consider the findings of this safety study, and in particular to:

- Clarify the requirement for risk assessments to include risks which imperil the vessel such as: environmental hazards; condition of the vessel; stability etc.
- Work towards progressively aligning the requirements of the *Small Fishing Vessel Code*, with the higher safety standards applicable under the Workboat Code.
- Clarify the requirements of *The Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997* to ensure that they apply in respect of all fishermen on board fishing vessels, irrespective of their contractual status.
- Ensure that the current mandatory training requirements for fishermen are strictly applied.
- Introduce a requirement for under 15m vessels to carry EPIRBs.
- Review international safety initiatives and transfer best practice to the UK fishing industry with particular reference to the use of PFDs and Personal Locator Beacons.
- Conduct research on the apparent improvement in safety in other hazardous industry sectors, such as agriculture, construction and offshore, with the objective of identifying and transferring best safety practice from those industries to the fishing industry.

Appropriate action implemented

MAIB comment: **Following the latest revision of the *Code of Practice for the Safety of Small Fishing Vessels of Less Than 15m Length Overall*, this key fishing vessel safety recommendation is considered to be closed.**

PART 3: STATISTICS

For details of reporting requirements and terms used in this section please see the annex - Statistics Coverage on page 67 and the glossary on page 72.

Table 1: Loss of life in 2021 reported to the MAIB

Date	Name of vessel	Type of vessel	Location	Accident description
Merchant vessels 100gt and over				
None reported to the MAIB in 2021				
Merchant vessels under 100gt (including commercial recreational)				
30 Oct	Paddleboards	Other craft	River Cleddau, near Haverfordwest, Wales	Organised stand-up paddleboard group crossed a weir, resulting in four fatalities.
Fishing vessels				
28 Jan	*Nicola Faith* (BS 58)	Whelk potter	Colwyn Bay, North Wales	Foundering of vessel, with the loss of three lives.
6 Feb	*Cornishman* (PZ 512)	Beam trawler	55nm south-west of the Isles of Scilly	Derrick collapsed, resulting in one injury and one fatality.
18 Feb	*Copious* (LK985)	Stern trawler	30nm south-east of the Shetland Islands	Person overboard, resulting in one fatality.
2 May	*Saint Peter* (LH22)	Potter	East of Torness Point, Scotland	Person overboard while hauling pots, resulting in one fatality.
24 Jun	*Reul A Chuain* (OB915)	Prawn trawler	Sound of Rùm, Scotland	Fall overboard while trying to recover another person in the water.
29 Jul	*Pioneer* (NN200)	Potter	South-east of Hastings, Scotland	Person overboard, resulting in one fatality.
28 Aug	*Harriet J* (AH180)	Potter	West of Fast Castle Head, south-east Scotland	Person overboard, resulting in one fatality.
16 Oct	*Goodway* (FR23)	Potter	Near Inverallochy, Scotland	Vessel found capsized and its lone crew member remains missing.
Recreational craft (excluding commercial recreational)				
22 Mar	-	Kayak	River Tweed, Scotland	Capsized sit-on kayak trapped paddler on a white water section of a river, resulting in one fatality.
3 Apr	*Honwave*	Inflatable dinghy	Inish viaduct, upper Lough Erne, Scotland	Collision between an inflatable dinghy and a jet ski. The occupant of the dinghy was recovered from the water and declared deceased.
9 May	-	Kayak	Tywyn, North Wales	Capsized kayak. The occupant was recovered from the water 30 minutes later and declared deceased.

Date	Name of vessel	Type of vessel	Location	Accident description
Recreational craft (excluding commercial recreational) continued				
1 Jun	-	Motorboat	Firth of Forth, Scotland	Capsized motor cruiser, resulting in one fatality.
12 Jun	-	Kayak	Off Pagham Harbour, West Sussex, England	Capsized kayak, resulting in one fatality.
21 Aug	*Cristomy*	Motorboat	Near Inverbervie, Scotland	Swamped and capsized angling vessel, resulting in three persons in the water and one loss of life.
19 Oct	*Athena II*	Sailboat (aux. motor)	Off Bute, Scotland	Sailing yacht crew member found deceased next to vessel.

Image: *Nicola Faith*

Table 2: Merchant vessel total losses

Date	Name of vessel	Type of vessel	loa	Casualty event
There were no losses of UK merchant vessels >= 100gt reported to the MAIB in 2021				

Table 3: Merchant vessel losses — 2012-2021

	Number lost	UK fleet size	Gross tonnage lost
2012	-	1 450	-
2013	-	1 392	-
2014	-	1 361	-
2015	-	1 385	-
2016	-	1 365	-
2017	-	1 356	-
2018	-	1 332	-
2019	-	929	-
2020	-	1 242	-
2021	**-**	**1 199**	**-**

Table 4: Merchant vessels in casualties by nature of casualty and vessel category[20]

	Liquid cargo ship	Solid cargo ship	Passenger ship	Service ship	**Total**
Capsizing/listing	-	-	-	1	**1**
Collision	-	5	4	4	**13**
Contact	-	1	2	1	**4**
Fire/explosion	-	-	2	-	**2**
Grounding	-	4	1	10	**15**
Machinery	1	3	2	7	**13**
Total	**1**	**13**	**11**	**23**	**48[21]**

Table 5: Deaths and injuries to merchant vessel crew — 2012-2021

	Number of crew injured	**Of which resulted in death**
2012	186	3
2013	134	1
2014	142	-
2015	141	2
2016	133	2
2017	153	-
2018	114	-
2019	105	3
2020	78	-
2021	**74**	**-**

[20] Vessel groups include vessels operating on inland waterways.

[21] 48 casualties represents a rate of 40 casualties per 1000 vessels on the UK Fleet.

Table 6: Deaths and injuries of merchant vessel crew by rank

Rank/specialism	Number of crew
Officer, deck	12
Officer, engineering	10
Chief mate	1
Assistant/cadet	1
Rating, deck	17
Rating, engine	12
Rating, electro-technical	1
Hotel service staff	7
Other crew member	13
Total	**74**

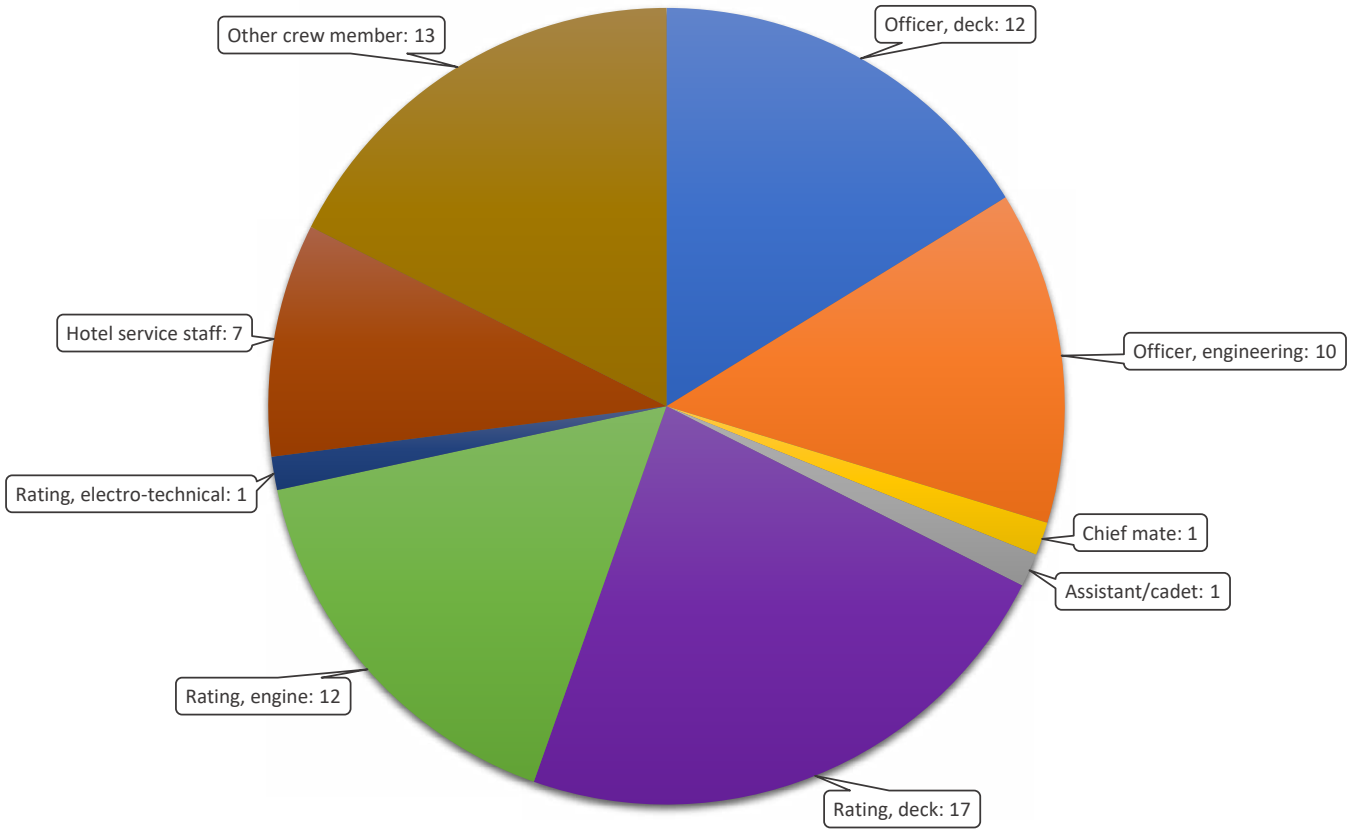


Chart 6

Table 7: Deaths and injuries of merchant vessel crew by place

Place	Number of crew
Accommodation	
Alleyway	1
Bathroom, shower, toilet	2
Cabin space – crew	1
Galley spaces	7
Mess room, dayroom	1
Stairway/ladders	3
Other	3

Place	Number of crew
Cargo and tank areas	
Cargo hold	1
Open deck cargo space	1
Ro-ro vehicle deck ramp	2
Engine department	
Engine room	12
Auxiliary engine room	2
Boiler room	1

Place	Number of crew
Ship	
Deck	22
Stairs/ladders	5
Other	6
Other	
Over side	1
Unknown	3
Total	**74**

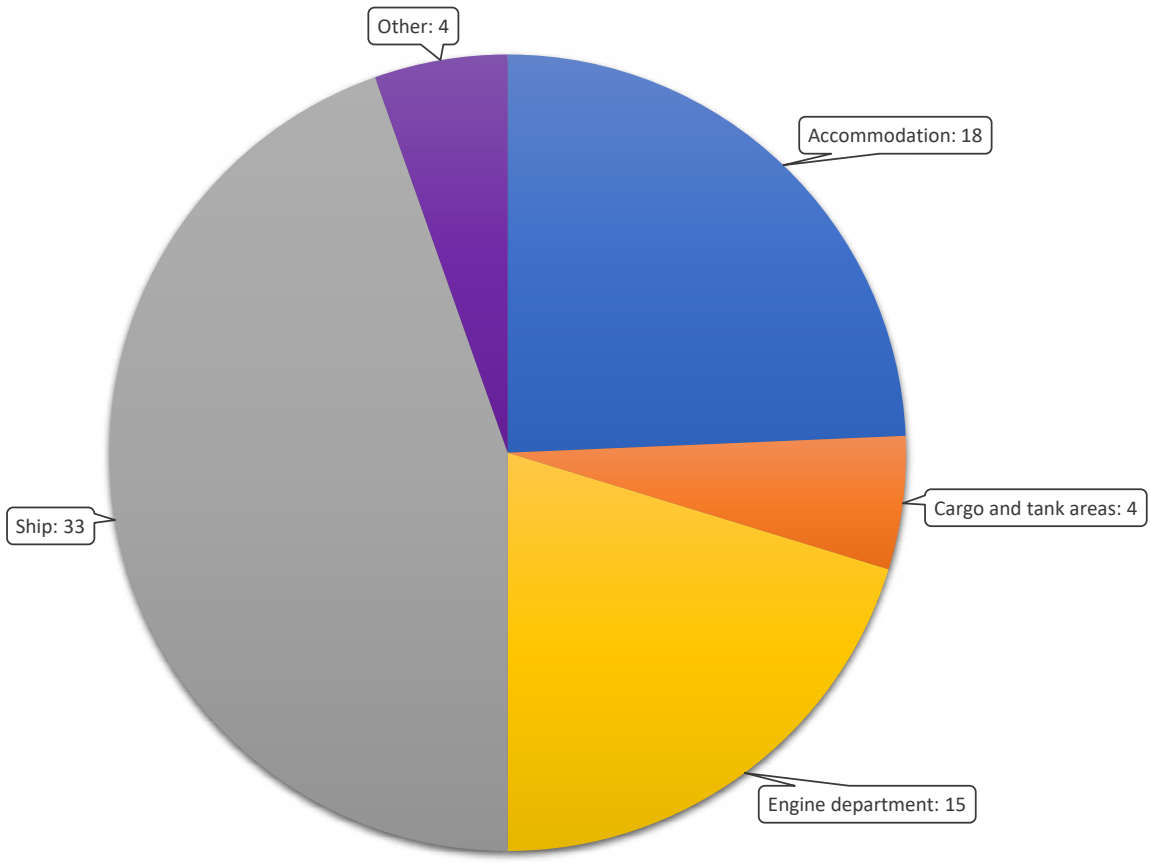
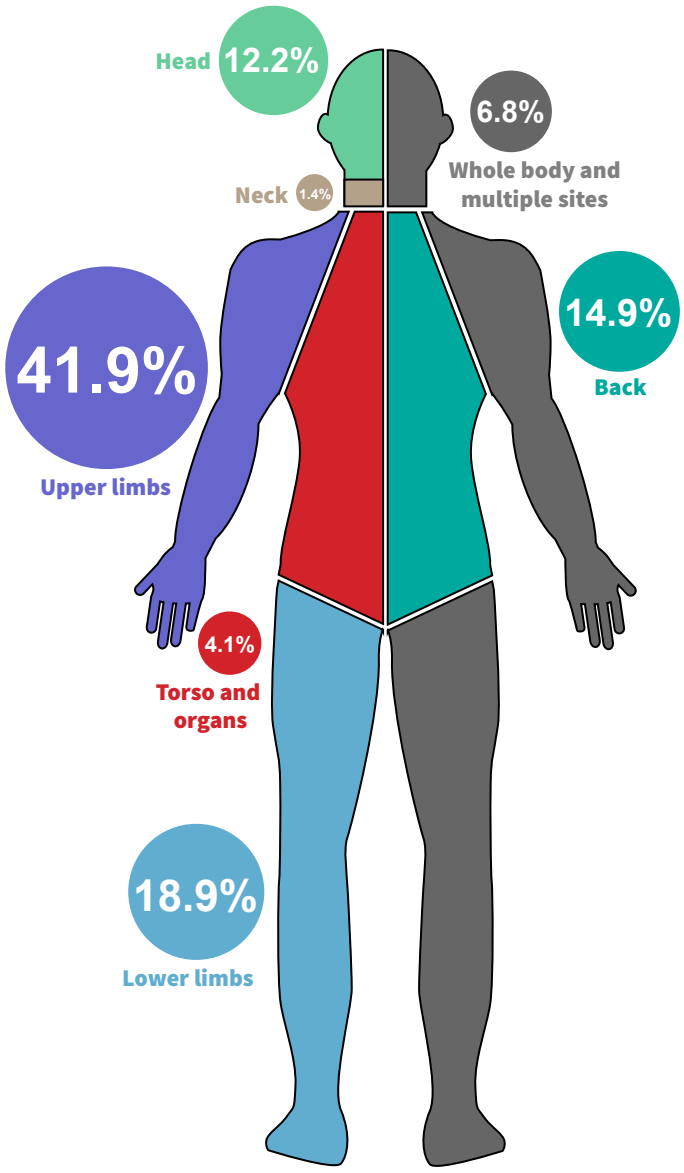


Chart 7

Table 8: Deaths and injuries of merchant vessel crew by part of body injured

Part of body injured	Number of crew
Whole body and multiple sites	
Multiple sites of the body affected	5
Head	
Eye(s)	2
Facial area	2
Head, brain and cranial nerves and vessels	3
Head, multiple sites affected	2
Neck	
Neck, inclusive spine and vertebra in the neck	1
Upper limbs	
Finger(s)	8
Hand	7
Wrist	3
Arm, including elbow	7
Shoulder and shoulder joints	6
Back	
Back, including spine and vertebrae in the back	11
Torso and organs	
Chest area, including organs	1
Rib cage, ribs including joints and shoulder blade	1
Pelvic and abdominal area including organs	1
Lower limbs	
Foot	6
Ankle	3
Leg, including knee	4
Hip and hip joint	1
Total	**74**



Note: Percentages may not add up to 100% due to rounding

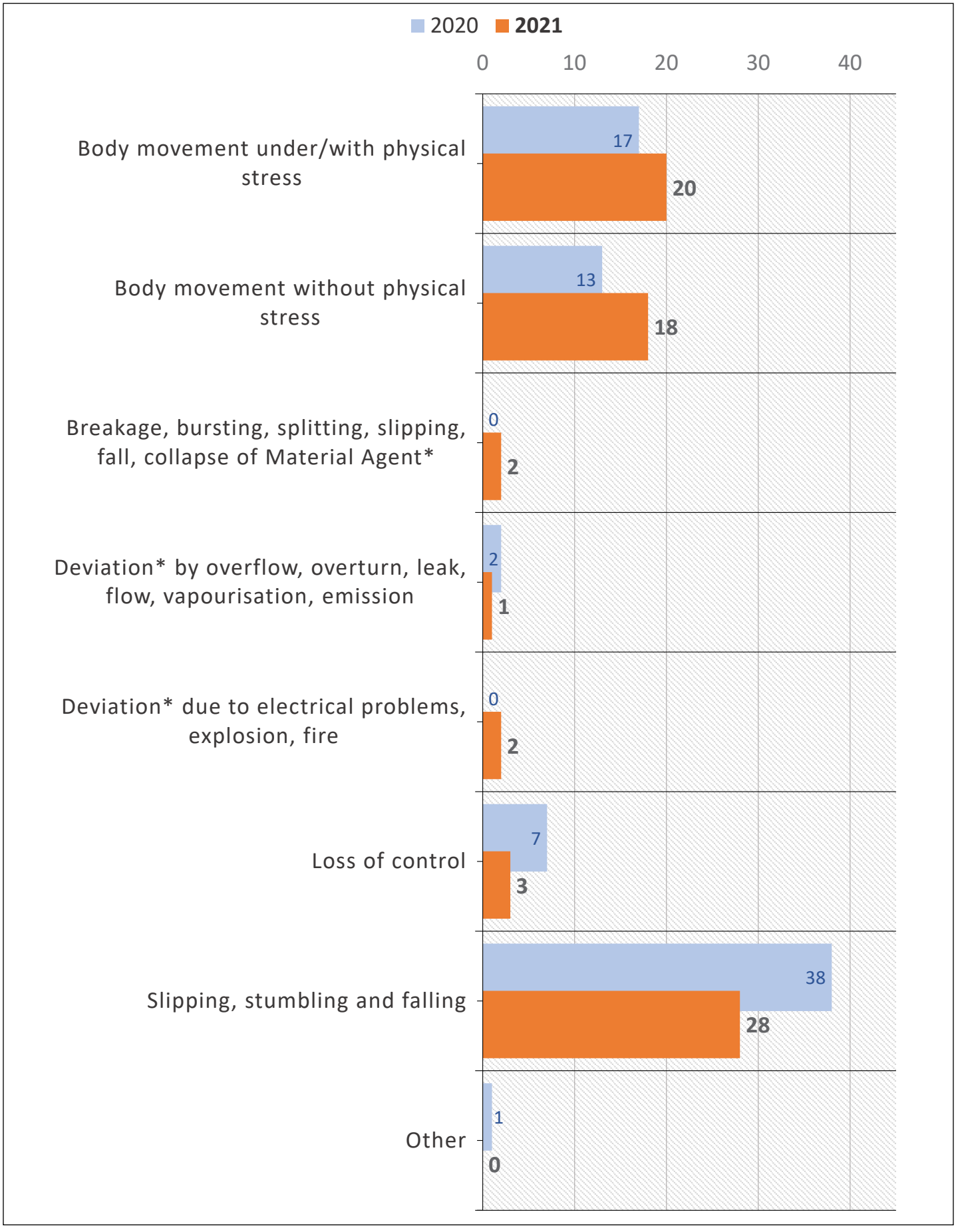
Chart 8

Table 9: Deaths and injuries of merchant vessel crew by deviation*

Deviation*		Number of crew
Body movement under or with physical stress (generally leading to an internal injury)	Lifting, carrying, standing up	3
	Pushing, pulling	6
	Putting down, bending down	3
	Treading badly, twisting leg or ankle, slipping without falling	4
	Other	4
Body movement without any physical stress (generally leading to an external injury)	Being caught or carried away, by something or by momentum	13
	Uncoordinated movements, spurious or untimely actions	5
Breakage, bursting, splitting, slipping, fall, collapse of Material Agent	Breakage of material – at joint, at seams	1
	Breakage, bursting – causing splinters (wood, glass, metal, stone, plastic, others)	1
Deviation* by overflow, overturn, leak, flow, vaporisation, emission	Liquid state – leaking, oozing, flowing, splashing, spraying	1
Deviation due to electrical problems, explosion, fire	Electrical problem – leading to direct contact	1
	Fire, flare up	1
Loss of control (total or partial) of machine, means of transport or handling equipment, handheld tool, object, animal	Of object (being carried, moved, handled, etc.)	1
	Of hand-held tool (motorised or not) or of the material being worked by the tool	2
Slipping – stumbling and falling – fall of persons	Fall of person – to a lower level	18
	Fall overboard of person	1
	Slipping – Stumbling and falling - Fall of person – on the same level	9
	Total	**74**

*See "Terms" on page 73

Chart 9: Deaths and injuries of merchant vessel crew by deviation*



*See "Terms" on page 73

Table 10: Deaths and injuries of merchant vessel crew by type of injury

Main injury		Number of crew
Bone fractures	Closed fractures	27
	Open fractures	1
Burns, scalds and frostbites	Burns and scalds (thermal)	4
Concussion and internal injuries	Concussion and intracranial injuries	4
	Internal injuries	4
Dislocations, sprains and strains	Dislocations and subluxations*	3
	Sprains and strains	15
Wounds and superficial injuries*	Open wounds	7
	Superficial injuries*	4
Traumatic amputations (loss of body parts)		1
Multiple injuries		3
Unknown or unspecified		1
	Total	**74**

*See "Terms" on page 73

Table 11: Deaths and injuries to passengers — 2012-2021

	Number of injured passengers	Of which resulted in death
2012	50	-
2013	46	-
2014	56	1
2015	55	1
2016	51	1
2017	26	-
2018	81	-
2019	107	-
2020	25	-
2021	**23**	**-**

Table 12: Deaths and injuries of passengers by type of injury

Main injury		Number of passengers
Bone fractures	Closed fractures	21
Traumatic amputations (loss of body parts)		1
Wounds and superficial injuries	Open wounds	1
	Total	**23**

Table 13: Merchant vessels < 100gt — total losses

Date	Name of vessel	Type of vessel	loa	Casualty event
3 Oct	*Still Dawn**	Motorboat	4.80m	Foundering
11 Aug	*Reine d'Azur*	Motorboat	29.00m	Fire
6 Jul	*Bella*	Research	5.62m	Flooding

*Constructive total loss

Table 14: Merchant vessels < 100gt by nature of casualty and vessel category

	Inland waterways vessel | Worksite craft	Passenger ship	Recreational craft | Power	Recreational craft | Sail	Recreational craft | Other	Service ship | Offshore	Service ship | Search and Rescue (SAR) craft	Service ship | Tug (towing/pushing)	Service ship | Other	**Total**
Capsizing/listing	1	-	1	-	-	-	2	-	1	5
Collision	-	4	8	3	-	1	6	2	5	29
Contact	-	-	2	-	-	1	3	-	2	8
Fire/explosion	1	-	2	-	-	-	1	-	1	5
Flooding/foundering	-	-	1	-	-	-	-	-	3	4
Grounding	-	2	13	11	-	2	20	-	2	50
Hull failure	-	1	-	-	-	-	-	-	-	1
Machinery	-	6	3	2	-	-	9	1	4	25
Total per vessel type	**2**	**13**	**30**	**16**	**-**	**4**	**41**	**3**	**18**	**127**
Deaths	-	-	-	-	4	-	-	-	-	**4**
Injuries	2	3	13	3	-	1	4	4	5	**35**

There were 5 378 UK registered fishing vessels at the end of 2021. During 2021, 89 casualties to vessels involving these vessels were reported to the MAIB. Figures in the following tables show casualties to vessels and injuries to crew involving UK registered vessels that were reported to the MAIB in 2021.

Six fishing vessels were reported lost (0.11% of the total fleet) and there were 10 fatalities to crew.

Table 15: Fishing vessel total losses by vessel length

Date	Name of vessel	Age	Gross tonnage	Casualty event
Under 15m length overall (loa)				
28 Jan	*Nicola Faith**	34	8.89	Capsizing
18 Jun	*Angelena*	33	19.38	Capsizing
26 Jul	*Freedom**	23	3.48	Foundering
14 Oct	*Dunan Star*	42	13.64	Grounding
16 Oct	*Goodway**	17	1.64	Capsizing
30 Nov	*Ciara Naoimh*	31	3.51	Foundering
15m length overall - under 24m registered length (reg)				
There were no losses reported to the MAIB in 2021				
Over 24m registered length (reg)				
There were no losses reported to the MAIB in 2021				

*Constructive total loss

Table 16: Fishing vessel losses — 2012-2021

	Under 15m loa	15m loa to <24m reg	24m reg and over	Total lost	UK registered	% lost
2012	5	4	-	9	5 834	**0.15**
2013	15	3	-	18	5 774	**0.31**
2014	9	3	-	12	5 715	**0.21**
2015	8	5	-	13	5 746	**0.23**
2016	5	2	1	8	5 745	**0.14**
2017	5	1	-	6	5 700	**0.11**
2018	8	-	-	8	5 603	**0.14**
2019	2	2	1	5	5 484	**0.09**
2020	7	1	-	8	5 443	**0.15**
2021	**6**	**-**	**-**	**6**	**5 378**	**0.11**

Table 17: Fishing vessels in casualties — by nature of casualty

	Number of vessels involved	Incident rate per 1000 vessels at risk (to one decimal place[22])
Capsizing/listing	4	0.7
Collision	5	0.9
Contact	2	0.4
Fire/explosion	3	0.6
Flooding/foundering	9	1.7
Grounding	18	3.3
Machinery	49	9.1
Total	**90**	**16.7**

[22] Rates may not add up due to rounding.

Table 18: Fishing vessels in casualties — by nature of casualty and by length range

	Number of vessels involved	Incident rate per 1000 vessels at risk (to one decimal place[23])
Under 15m length overall (loa) — ***vessels at risk: 4845***		
Capsizing/listing	3	0.6
Collision	4	0.8
Contact	2	0.4
Fire/explosion	2	0.4
Flooding/foundering	4	0.8
Grounding	12	2.5
Machinery	38	7.8
Total under 15m	**65**	**13.4**
15m loa - 24m registered length (reg) — ***vessels at risk: 410***		
Capsizing/listing	1	2.4
Collision	1	2.4
Fire/explosion	1	2.4
Flooding/foundering	5	12.2
Grounding	5	12.2
Machinery	6	14.6
Total 15m to 24m	**19**	**46.3**
24m reg and over — ***vessels at risk: 123***		
Grounding	1	8.1
Machinery	5	40.7
Total 24m or more	**6**	**48.8**
Fleet total[24]	**90**	**16.7**

[23] Rates may not add up due to rounding

[24] Total number of UK registered fishing vessels: *5378*

Table 19: Deaths and injuries to fishing vessel crew by type of injury

Main injury		Number of crew
Drowning and asphyxiation	Drowning and non-fatal submersions	8
	Asphyxiation	2
Traumatic amputations (loss of body parts)		3
Bone fractures	Closed fractures	8
	Open fractures	1
Concussions and internal injuries	Concussion and intracranial injuries	2
	Internal injuries	4
Dislocations, sprains and strains	Dislocations and subluxations	1
	Sprains and strains	1
Wounds and superficial* injuries	Open wounds	5
Multiple injuries		1
	Total	**36**

*See "Terms" on page 73

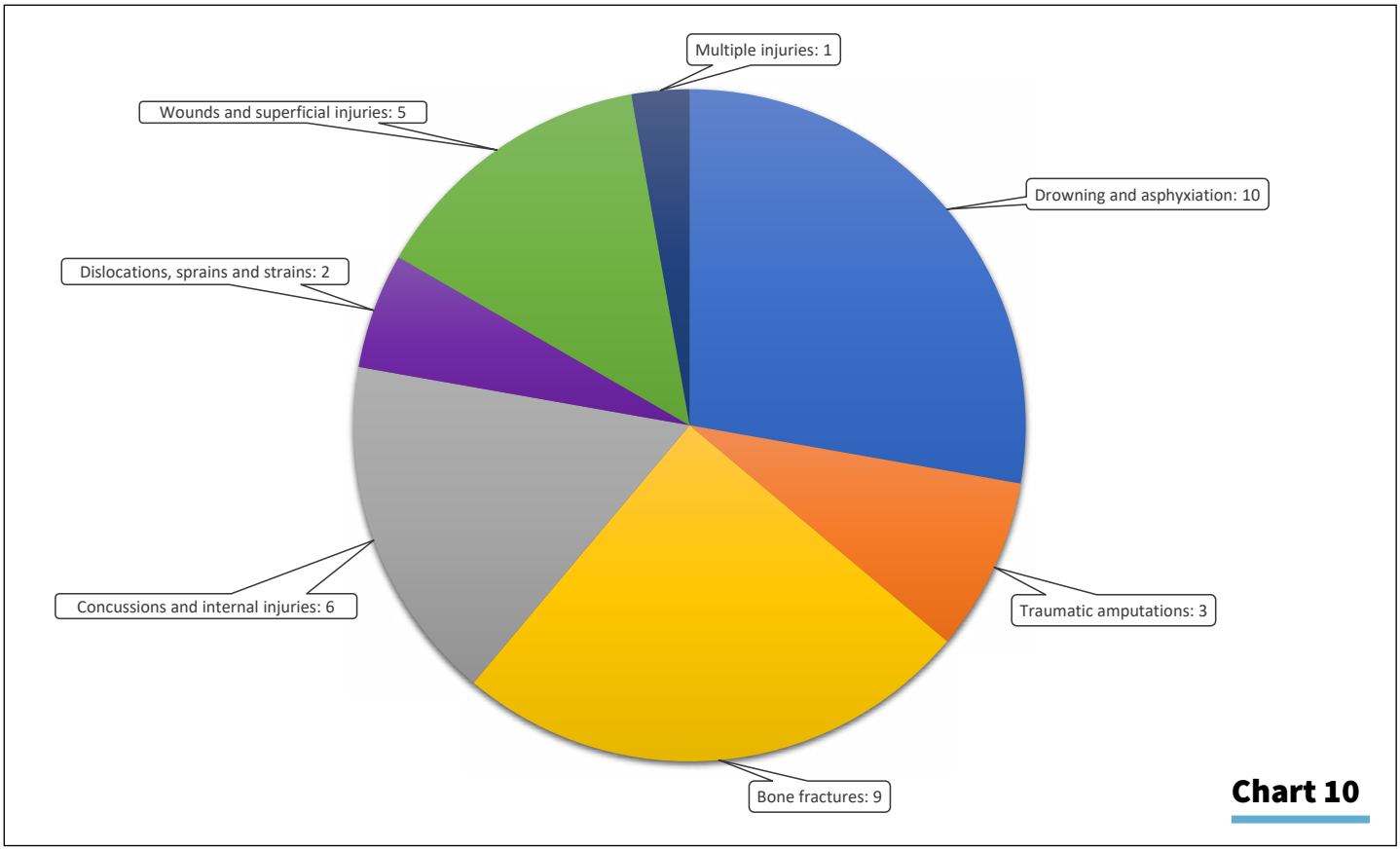
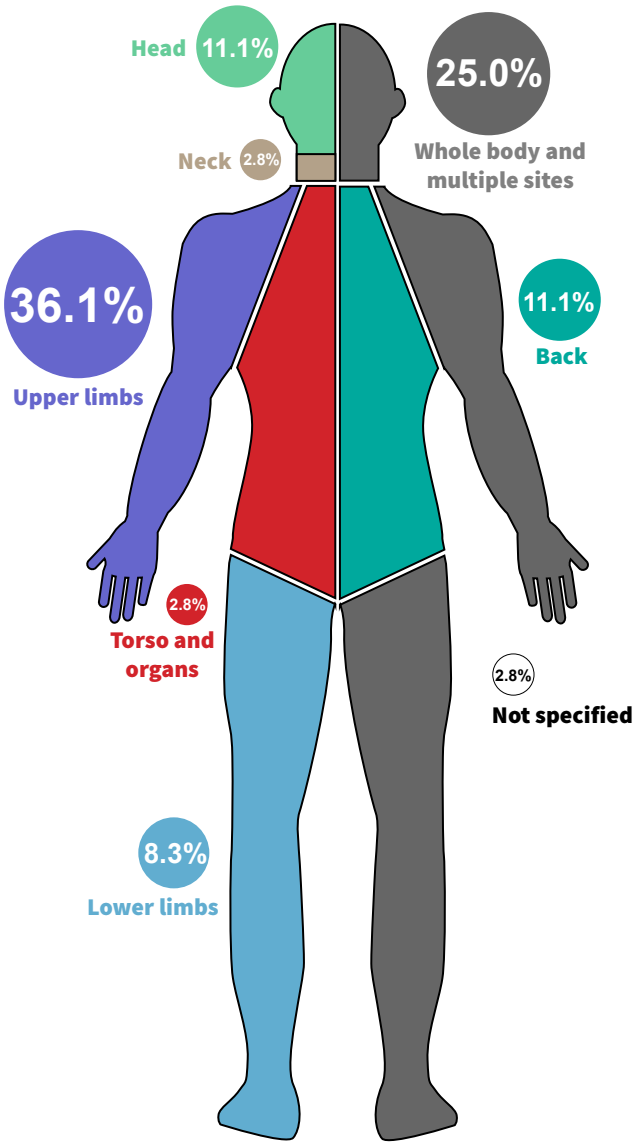


Chart 10

Table 20: Deaths and injuries to fishing vessel crew by part of body injured

Part of body injured	Number of crew
Whole body and multiple sites	
Whole body (systemic effects)	9
Head	
Facial area	1
Head, brain and cranial nerves and vessels	3
Neck	
Neck, inclusive spine and vertebra in the neck	1
Upper limbs	
Finger(s)	5
Hand	2
Wrist	2
Arm, including elbow	4
Back	
Back, including spine and vertebrae in the back	3
Back, other parts not mentioned above	1
Torso and organs	
Chest area including organs	1
Lower limbs	
Leg, including knee	2
Ankle	1
Other	
Not specified	1
Total	**36**



Note: Percentages may not add up to 100% due to rounding

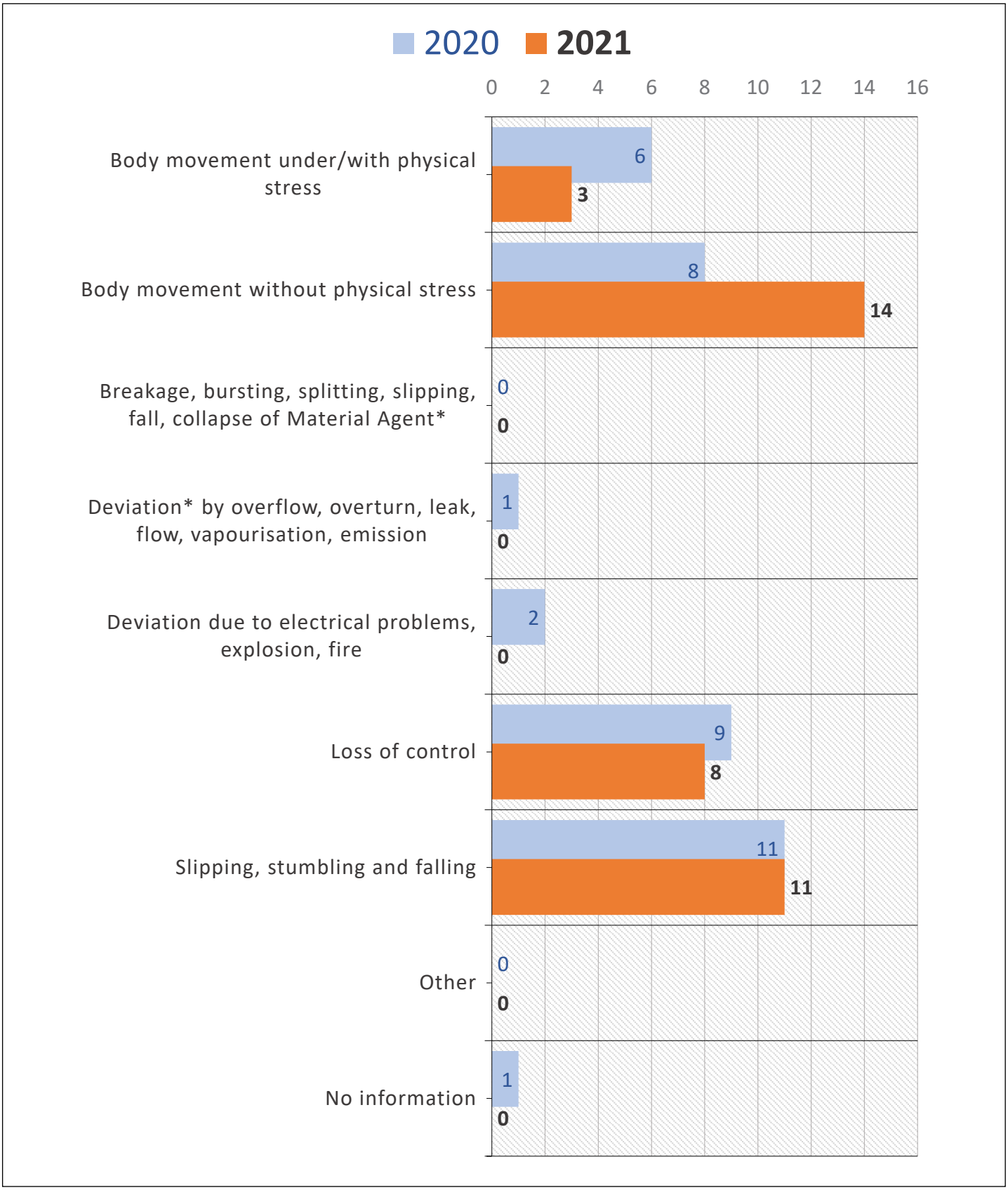
Chart 11

Table 21: Deaths and injuries of fishing vessel crew by deviation*

Deviation*		Number of crew
Body movement under or with physical stress (generally leading to an internal injury)	Treading badly, twisting leg or ankle, slipping without falling	1
	Other	2
Body movement without any physical stress (generally leading to an external injury)	Being caught or carried away, by something or by momentum	14
Loss of control (total or partial)	Of means of transport or handling equipment (motorised or not)	2
	Of object (being carried, moved, handled, etc.)	1
	Of hand-held tool (motorised or not) or of the material being worked by the tool	4
	Other	1
Slipping - stumbling and falling – fall of persons	Fall of person – to a lower level	1
	Fall overboard of person	10
	Total	**36**

*See "Terms" on page 73

Chart 12: Deaths and injuries of fishing vessel crew by deviation*



*See "Terms" on page 73

Table 22: Deaths and injuries to fishing vessel crew by vessel length (of which, deaths shown in brackets) 2012-2021

	Under 15m loa		15m loa - under 24m reg		24m reg and over		Total	
2012	21	(4)	22	(2)	7	-	50	(6)
2013	13	(3)	13	(1)	7	-	33	(4)
2014	22	(5)	14	(3)	10	-	46	(8)
2015	10	(4)	17	(1)	8	(2)	35	(7)
2016	16	(7)	19	(2)	5	-	40	(9)
2017	13	(3)	8	(2)	11	-	32	(5)
2018	14	(4)	18	(1)	6	(1)	38	(6)
2019	12	(3)	18	(1)	6	(1)	36	(5)
2020	12	(2)	16	-	10	-	38	(2)
2021	**12**	**(7)**	**19**	**(2)**	**5**	**(1)**	**36**	**(10)**

Chart 13: Deaths and injuries to fishing vessel crew by year

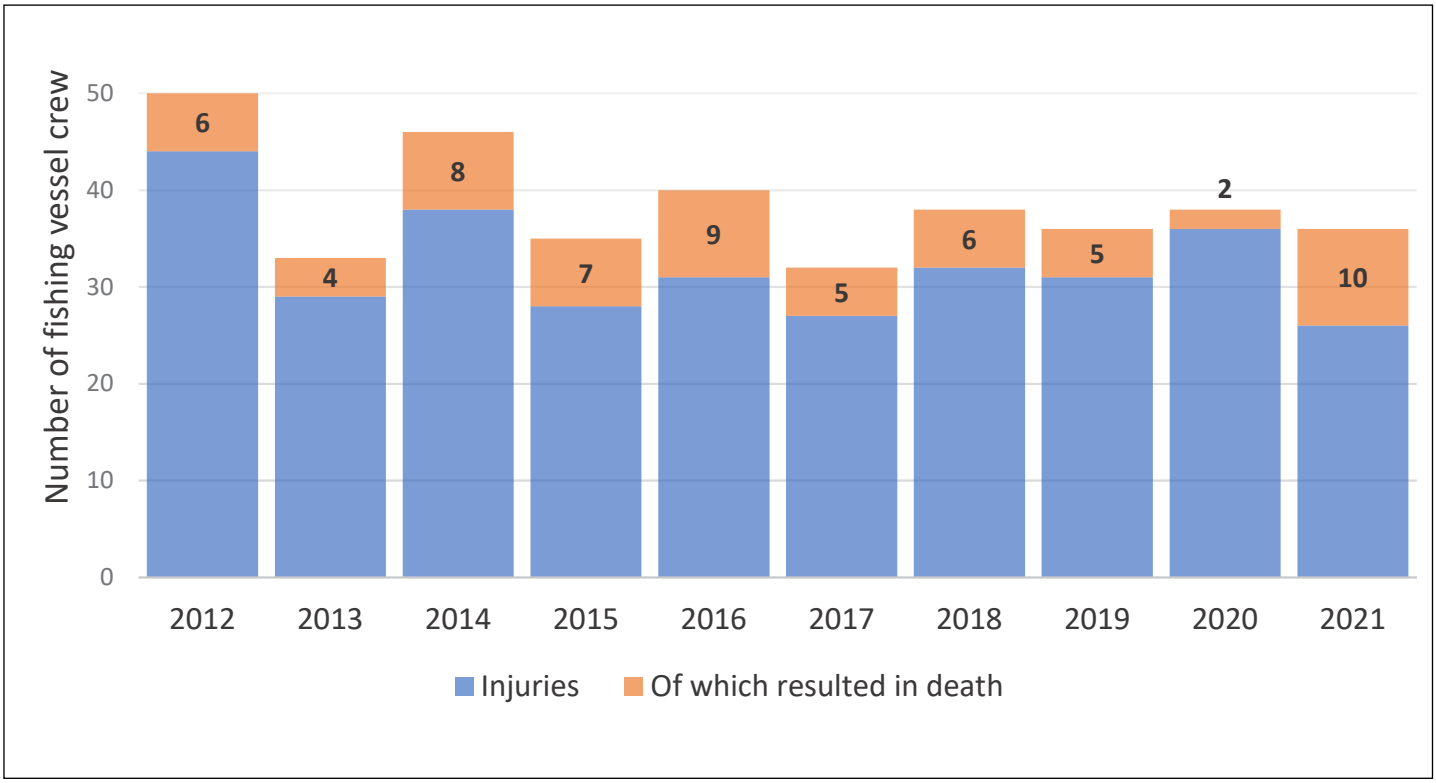


Table 23: All non-UK commercial vessels total losses in UK waters

Date	Name of vessel	Type of vessel	Flag	loa	Casualty event
24 Nov	Migrant vessel	Motorboat	None	5m	Capsizing

Table 24: All non-UK commercial vessels in UK waters — by vessel type and by nature of casualty

	Solid cargo ship	Liquid cargo ship	Passenger ship	Service ship	Fishing vessel	Recreational commercial	Total
Capsizing/listing	-	-	-	-	-	1	**1**
Collision	17	-	-	5	-	2	**24**
Contact	5	1	-	1	-	-	**7**
Fire/explosion	5	-	-	-	-	-	**5**
Grounding	10	3	1	1	-	-	**15**
Machinery	10	4	2	2	1	-	**19**
Total per vessel type	**47**	**8**	**3**	**9**	**1**	**3**	**71**
Deaths	1	-	-	-	-	27	**28**
Injuries	17	6	13	2	1	-	**39**

ANNEX A - STATISTICS COVERAGE

1. Data is presented by the year in which the incident was reported to the MAIB. Historic data tables contain information from the past 10 years.
2. Not all historical data can be found in this report. Further data is contained in previous MAIB Annual Reports.
3. United Kingdom ships are required by the Merchant Shipping (Accident Reporting and Investigation) Regulations 2012[25] to report accidents to the MAIB.
4. Accidents are defined as being Marine Casualties or Marine Incidents, depending on the type of event(s) and the results of the event(s). See Casualty definitions (see Annex B on page 68) or MAIB's Regulations for more information.
5. Details of vessel types and groups used in this Annual Report can be found in Annex B - supporting information on page 71.
6. Non-UK flagged vessels are not required to report accidents to the MAIB unless they are within a UK port/harbour or within UK 12 mile territorial waters and carrying passengers to or from a UK port. However, the MAIB will record details of, and may investigate, significant accidents notified to us by bodies such as HM Coastguard.
7. The Maritime and Coastguard Agency, harbour authorities and inland waterway authorities have a duty to report accidents to the MAIB.
8. In addition to the above, the MAIB monitors news and other information sources for relevant accidents.

[25] https://www.gov.uk/government/organisations/marine-accident-investigation-branch/about#regulations-and-guidance

ANNEX B - SUPPORTING INFORMATION

Casualty definitions used by the UK MAIB - from 2012

Marine Casualty[26]

An event or sequence of events that has resulted in any of the following and has occurred directly by or in connection with the operation of a ship:

- the death of, or serious injury to, a person;
- the loss of a person from a ship;
- the loss, presumed loss or abandonment of a ship;
- material damage to a ship;
- the stranding or disabling of a ship, or the involvement of a ship in a collision;
- material damage to marine infrastructure external of a ship, that could seriously endanger the safety of the ship, another ship or any individual;
- pollution, or the potential for such pollution to the environment caused by damage to a ship or ships.

A Marine Casualty does not include a deliberate act or omission, with the intention to cause harm to the safety of a ship, an individual or the environment.

Each Marine Casualty is categorised as ONE of the following:

Very Serious Marine Casualty (VSMC) – A Marine Casualty which involves total loss of the ship, loss of life, or severe pollution.

Serious Marine Casualty (SMC) – A Marine Casualty where an event results in one of:

- immobilisation of main engines, extensive accommodation damage, severe structural damage, such as penetration of the hull underwater, etc., rendering the ship unfit to proceed;
- pollution;
- a breakdown necessitating towage or shore assistance.

Less Serious Marine Casualty (LSMC) – This term is used by MAIB to describe any Marine Casualty that does not qualify as a VSMC or a SMC.

Marine Incident (MI)

A Marine Incident is an event or sequence of events other than those listed above which has occurred directly in connection with the operation of a ship that endangered, or if not corrected would endanger the safety of a ship, its occupants or any other person or the environment (e.g. close quarters situations are Marine Incidents).

Accident

Under current Regulations[6] Accident means any Marine Casualty or Marine Incident. In historic data, Accident had a specific meaning, broadly equivalent to (but not identical to) Marine Casualty.

Operation of a ship

To qualify as a Marine Casualty an event/injury etc must be in connection with the operation of the ship on which it occurs. MAIB's interpretation of this includes any "normal" activities which take place on board the vessel (e.g. a chef who cuts himself while preparing food is considered in connection with the operation of the ship).

[26] https://www.legislation.gov.uk/uksi/2012/1743/regulation/3

Changes to UK MAIB Casualty Event Definitions - with introduction of EU Directive 2009/18/EC (the Directive).

Collisions/Contacts – Until 2012 the UK defined a collision as a vessel making contact with another vessel that was subject to the collision regulations, after 2012 a collision is any contact between two vessels, i.e.

Until 2012

Collision - vessel hits another vessel that is underway, floating freely or is anchored.

Contact - vessel hits an object that is not subject to the collision regulations e.g. buoy, post, dock, floating logs, containers etc. Also another ship if it is tied up alongside. In order to qualify as the equivalent of a Marine Casualty the contact must have resulted in damage.

From 2013

Collision - a casualty caused by ships striking or being struck by another ship, regardless of whether the ships are underway, anchored or moored.

This type of casualty event does not include ships striking underwater wrecks. The collision can be with other ship or with multiple ships or ship not underway.

Contact - a casualty caused by ships striking or being struck by an external object. The objects can be: floating object (cargo, ice, other or unknown); fixed object, but not the sea bottom; or flying object.

Injury - The UK currently continues to follow the EU requirement that injuries are reported if they are "3 day" injuries. This is described in more detail in section 4.2 of the European Statistics on Accidents at Work (ESAW) Summary methodology[27] (Note that in this context the term "Accident" means an injury.)

> "Accidents at work with more than three calendar days' absence from work. Only full calendar days of absence from work have to be considered, excluding the day of the accident. Consequently, 'more than three calendar days' means 'at least four calendar days', which implies that only if the victim resumes work on the fifth (or subsequent) working day after the date on which the accident occurred should the incident be included."

UK injury data also includes "serious" injuries. In addition to "3 day" injuries these are:

- any fracture, other than to a finger, thumb or toe;
- any loss of a limb or part of a limb;
- dislocation of the shoulder, hip, knee or spine;
- loss of sight, whether temporary or permanent;
- penetrating injury to the eye;
- any other injury
  - leading to hypothermia or unconsciousness,
  - requires resuscitation, or
  - requiring admittance to a hospital or other medical facility as an inpatient for more than 24 hours;

In the **IMO** Casualty Investigation Code[28] (section 2.18) **Serious injury** means an injury which is sustained by a person in a casualty resulting in incapacitation for more than 72 hours commencing within seven days from the date of injury.

Due to the special working conditions of seafarers, injuries to seafarers while on board a vessel off-duty are considered to be occupational accidents in MAIB Annual Reports[29].

[27] http://ec.europa.eu/eurostat/en/web/products-manuals-and-guidelines/-/KS-RA-12-102

[28] https://wwwcdn.imo.org/localresources/en/OurWork/MSAS/Documents/Res.MSC.255(84)CasualtyInvestigationCode.pdf (page 9, 2.18)

[29] http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:91:0::NO::P91_SECTION:MLC_A4 (Article II 1.(f) & Standard A4.3)

Machinery failure/Loss of control/Damage to equipment

Until 2012

The UK used the generic term “machinery failure” to describe most mechanical failures that caused problems to a vessel. In order to be considered the equivalent of a Marine Casualty the vessel needed to be not under command for a period of more than 12 hours, or the vessel needed assistance to reach port.

From 2013

In MAIB Annual Reports a machinery failure is a Marine Casualty that is either:

- Loss of control – a total or temporary loss of the ability to operate or manoeuvre the ship, failure of electric power, or to contain on board cargo or other substances:
  - Loss of electrical power – the loss of the electrical supply to the ship or facility;
  - Loss of propulsion power – the loss of propulsion because of machinery failure;
  - Loss of directional control – the loss of the ability to steer the ship;
  - Loss of containment – an accidental spill or damage or loss of cargo or other substances carried on board a ship.

or,

- Damage to equipment – damage to equipment, system or the ship not covered by any of the other casualty types.

Grounding/Stranding

Until 2012

Grounding means making involuntary contact with the ground, except for touching briefly so that no damage is caused.

From 2013

Grounding/stranding - a moving navigating ship, either under command, under power, or not under command, drifting, striking the sea bottom, shore or underwater wrecks.

Persons overboard

Until 2012

Any fall overboard from a ship or ship's boat was the equivalent of a Marine Casualty.

From 2013

Any fall overboard from a ship or ship's boat (that does not result in injury or fatality) is a Marine Incident.

Vessel categories used in MAIB Annual Report statistics from 2013 to date

Merchant vessels >=100gt

Trading and non-trading vessels of 100 gross tonnage (gt) or more (excluding fish processing and catching). Note that this category includes vessel types such as inland waterway vessels and vessels on government service that are specifically excluded from the scope of the Directive[12]. It excludes Royal Navy vessels and platforms and rigs that are in place.

Merchant vessels <100gt

Vessels of under 100gt known, or believed to be, operated commercially (excluding fish processing and catching).

Commercial recreational

May be a subset of either of the above two entries. Those over 100gt may, for instance, be a tall ship or luxury yacht. Those under 100gt may be a chartered yacht or a rented dinghy.

UK fishing vessels

Commercial fishing vessels registered with the UK Maritime and Coastguard Agency's Registry of Shipping and Seamen. Note that this category includes under 15 metre fishing vessels that are specifically excluded from the scope of the Directive.

Passenger

In addition to seagoing passenger vessels this category also includes inland waterway vessels operating on inland waters.

Service ship

Includes, but not limited to, dredgers, offshore industry related vessels, tugs and SAR craft.

SAR craft

Until 2012 the MAIB considered SAR craft to be non-commercial. From 2013 onwards they are considered commercial.

Recreational craft

Recreational craft may be commercial or non-commercial. In the statistics section of each Annual Report only "Table 1: Loss of life…" includes non-commercial recreational craft.

Non-UK vessels in UK waters

Vessels that are not known, or believed to be, UK vessels, and the events took place in UK territorial waters (12 mile limit).

GLOSSARY OF ABBREVIATIONS, ACRONYMS AND TERMS

Abbreviations and Acronyms

circ.	-	circular
CO_2	-	carbon dioxide
COLREGs	-	International Regulations for Preventing Collisions at Sea, 1972, as amended
ECDIS	-	Electronic Chart Display and Information System
EPIRB	-	Emergency Position Indicating Radio Beacon
ESAW	-	European Statistics on Accidents at Work
EU	-	European Union
GRP	-	glass reinforced plastic
gt	-	gross tonnage
HMPE	-	high modulus polyethylene
IBC Code	-	International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk
ICS	-	International Chamber of Shipping
IMO	-	International Maritime Organization
IMSBC Code	-	International Maritime Solid Bulk Cargoes Code
ISO	-	International Organization for Standardization
loa	-	length overall
LSMC	-	Less Serious Marine Casualty
m	-	metre
MCA	-	Maritime and Coastguard Agency
MI	-	Marine Incident
MSC	-	Maritime Safety Committee
MSN (M&F)	-	Merchant Shipping Notice (Merchant and Fishing)
OSR	-	Offshore Special Regulations
PYA	-	Professional Yachting Association
reg	-	registered length
RIB	-	rigid inflatable boat
RNLI	-	Royal National Lifeboat Institution
ro-ro	-	roll-on/roll-off
RYA	-	Royal Yachting Association
SAR	-	search and rescue
SCV Code	-	Small Commercial Vessel Code
SMC	-	Serious Marine Casualty
SMS	-	safety management system
STCW	-	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers 1978, as amended (STCW Convention)
UK	-	United Kingdom
VSMC	-	Very Serious Marine Casualty

Terms

Deviation	-	The last event differing from the normal working process and leading to an injury/fatality.
Material agent	-	A tool, object or instrument.
Subluxation	-	Incomplete, or partial dislocation.
Superficial injuries	-	Bruises, abrasions, blisters, etc.
the Directive	-	EU Directive 2009/18/EC.

FURTHER INFORMATION

Marine Accident Investigation Branch
First Floor, Spring Place
105 Commercial Road
Southampton
SO15 1GH

Email

maib@dft.gov.uk

General enquiries
+44 (0)23 8039 5500

24 hour accident reporting line
+44 (0)23 8023 2527

Press enquiries
+44 (0)1932 440015

Press enquiries (out of office hours)
+44 (0)30 0777 7878

Online resources

www.gov.uk/maib
https://twitter.com/maibgovuk
www.facebook.com/maib.gov
www.youtube.com/user/maibgovuk
www.linkedin.com/company/marine-accident-investigation-branch

MAIB Annual Report