ANNUAL REPORT

2016

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

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

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

JULY 2017

MAIB
MARINE ACCIDENT INVESTIGATION BRANCH

MAIB ANNUAL REPORT 2016


recommendation
received
UK
lost
deployments
year
addresses
fishing
reported
Inspector
Branch
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accident
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leisure
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Cemfjord
CMA CGM Vasco de Gama
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commercial
MAIB
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death
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despite
lives
actioned
flag
investigation
implemented
publication
business
media
average
Louisa
Transocean Winner
Carbon Monoxide

CHIEF INSPECTOR'S REPORT

2016 became a momentous year for the United Kingdom but for the MAIB it has been business as usual. By that, I mean it has been a typically busy year; there were 1190 accidents reported (1057 in 2015) and 30 investigations were started (28 in 2015).

Ironically, there was a relatively quiet start to the year and MAIB teams deployed only three times up to the end of March. However, this changed in April when five deployments occurred in quick succession. The most notable of these was the foundering of the fishing vessel *Louisa*, off Mingulay, Outer Hebrides with the loss of three of her four-man crew. As I write this introduction, the MAIB is about to publish its report on the causes and circumstances of this particularly tragic accident, which resulted in the largest loss of life from one of our fishing boats for several years.

There were four deployments in May and then a further five up to the beginning of August. One of these involved the death of a couple who were poisoned by the exhaust fumes from their cabin cruiser's engine whilst taking a holiday on the Norfolk Broads. Carbon monoxide, the "silent killer", has been responsible for too many unnecessary deaths on small leisure boats and fishing vessels. Indeed, in October the MAIB was required to deploy to yet another fatal accident in which the owner of a private leisure boat was overcome by carbon monoxide that had escaped from a leaking exhaust system. Despite the good work of CoGDEM[1] and others, more needs to be done to raise public awareness about the dangers of carbon monoxide and the measures that can be taken to prevent such accidents. A simple, inexpensive carbon monoxide alarm fitted in the cabin of a leisure boat will save lives, yet despite being a mandatory requirement for equivalent land-based units e.g. caravans, such devices are still not routinely required on the leisure craft that use our inland waterways.

August saw MAIB inspectors deploy on four occasions to accidents, which included the grounding of the semi-submersible rig *Transocean Winner* on the Isle of Lewis and the grounding of the ultra-large container vessel *CMA CGM Vasco de Gama* in the Solent. Both provided spectacular visual footage for the media! There were three deployments in September and a further six investigations started during the last quarter of the year.

Twenty-seven investigation reports, two Safety Digests and two Safety Bulletins were published in 2016. The average time taken to complete an investigation and publish the MAIB investigation report was 10.8 months (11.8 months in 2015). The time taken to publish our reports can often be affected by external factors, such as the need to employ external consultants as well as internal issues such as Branch workload and the complexity of the task in hand. Some delays are unavoidable, nonetheless it is important that the MAIB continues to focus on completing its investigations and publishing its reports as quickly as possible while maintaining the traditional quality and intellectual rigour of the final product. The collective goal of the Branch is to drive down the average time taken to produce its investigation reports to below 10 months.

[1] CoGDEM: the Council of Gas Detection and Environmental Monitoring

Of particular note was the publication in April of the MAIB's report into the sinking of the Cyprus registered cargo vessel *Cemfjord* with the loss of her entire 8-man crew. This was a tragic, yet avoidable accident, but at the time it received very little attention from the mainstream media. Similarly, the publication of the MAIB's report received only muted interest despite the death toll. I would urge all mariners to read the report as it provides a sobering example of what can happen if we fail to respect the awesome power of the sea. A link to this report can be found here:

www.gov.uk/maib-reports/capsize-and-sinking-of-cement-carrier-cemfjord-with-loss-of-8-lives

For the seventh successive year there were no UK merchant vessels of >100gt lost in 2016. The overall accident rate for UK merchant vessels >100gt has fallen to 78 per 1000 vessels from 85 per 1000 vessels in 2014. Three crew lost their lives on UK merchant vessels >100gt during 2016. Two UK registered small vessels (<100gt) losses were reported to MAIB in 2016 compared with one in 2015.

Eight commercial fishing vessels were lost in 2016 compared with 13 in 2014. The average age of the boats lost was 30 years; 63% of these were small vessels under 15 metres (loa). An average of 16 commercial fishing vessels per year have been lost during the last 10 years.

Nine fishermen lost their lives in 2016 compared with seven lives lost in 2015.

One foreign flag vessel was lost when trading in UK waters and there was only one reported death of crew working on foreign flag vessels.

RECOMMENDATIONS

Fifty-seven recommendations were issued during 2015 to 64 addressees. However, one recommendation was subsequently withdrawn. 90.6% of the recommendations were accepted. This compares with 83.7% in 2015.

There were no recommendations rejected, however the MAIB received no response from three of the addressees. All were fishing vessel skippers/owners, of which two were foreign nationals operating foreign registered boats.

Two recommendations were partially accepted.

Of the 306 recommendations that had been accepted, but had not been implemented between 2005 and 2015, 78% were reported to be fully implemented at the time this report was published. Of the 39 recommendations issued between 2008 and 2014, that were accepted, but have yet to be actioned, 85% of these were addressed to the Maritime and Coastguard Agency. The MAIB receives updates from the MCA on the status of these recommendations on a quarterly basis. However, it is clear that the optimistic completion dates that are provided to MAIB staff in these reports do not bear close scrutiny. As deadlines approach, the dates for action are slipped, with the consequence that promises made as long ago as 2007 have yet to be actioned. This cannot continue and action will be taken to establish a more coherent action plan with the MCA over the next few months.

FINANCE

The annual report deals principally with the calendar year 2016. However, for ease of reference, the figures below are for the financial year 2016/17, which ended on 31 March 2017. The MAIB's funding from the Department for Transport is provided on this basis, and this complies with the Government's business planning programme.

£ 000s	2016/17 Budget	2016/17 Outturn
Costs – Pay	2841	2762
Costs – Non Pay	1146	1296
Totals	**3987**	**4058**

The salvage costs of FV *Louisa*, which sank at anchor off Mingulay, Outer Hebrides on 9 April 2016, resulted in a non-pay overspend.

Steve Clinch
Chief Inspector of Marine Accidents

PART 1: 2016 OVERVIEW

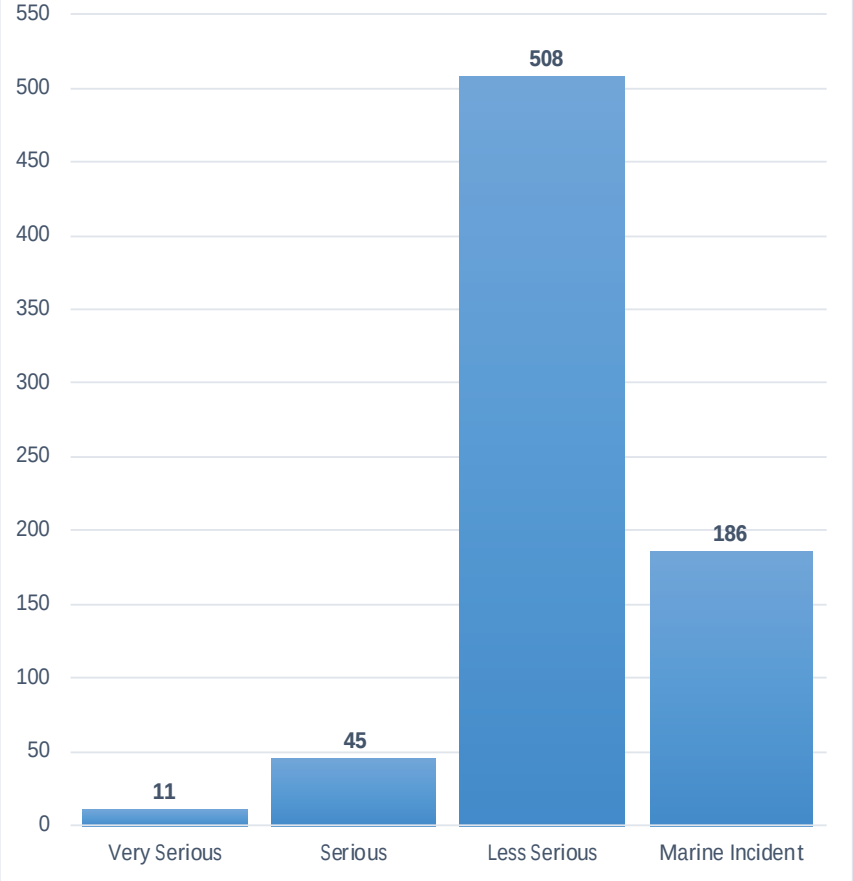
2016: OVERVIEW OF CASUALTY REPORTS TO MAIB

In 2016 1190 accidents (casualties and incidents[2]) to UK vessels or in UK coastal waters were reported to MAIB, these involved 1310 vessels.

42 of these accidents involved only non-commercial vessels, 471 were occupational accidents that did not involve any actual or potential casualty to a vessel.

There were 687 accidents involving 750 commercial vessels that involved actual or potential casualties to vessels. These are broken down in the following overview:

Chart 1: UK occurrences: commercial vessels



[2] As defined in Annex B on page 97.

Chart 2: UK merchant vessels of 100gt or more

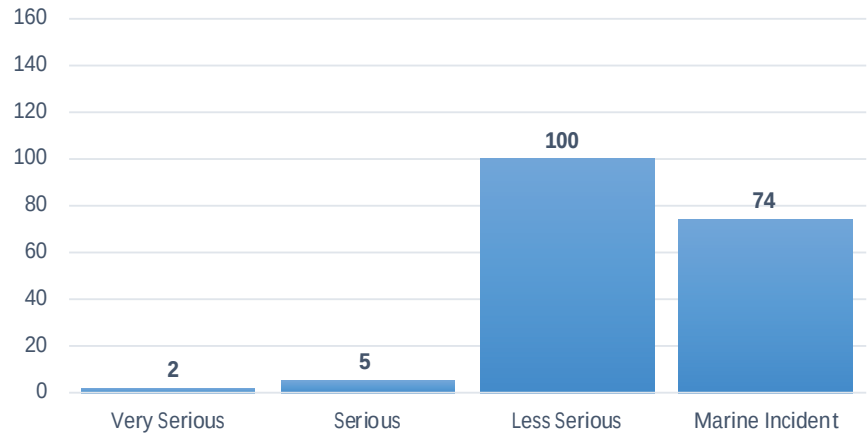


Chart 3: UK merchant vessels of under 100gt (excluding fishing)

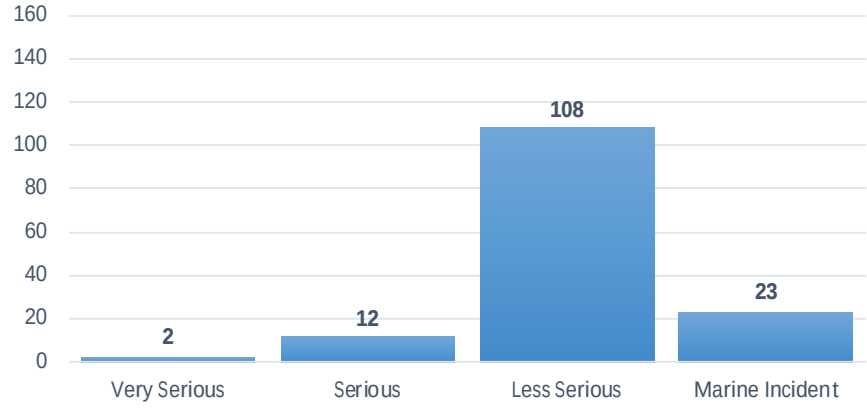


Chart 4: UK fishing vessels

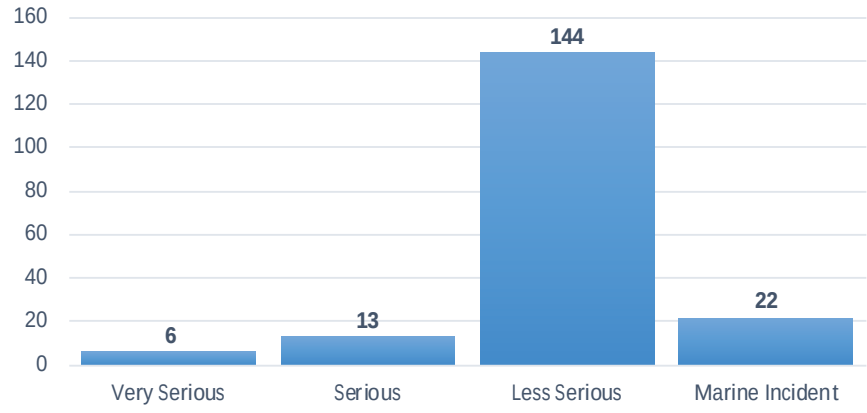
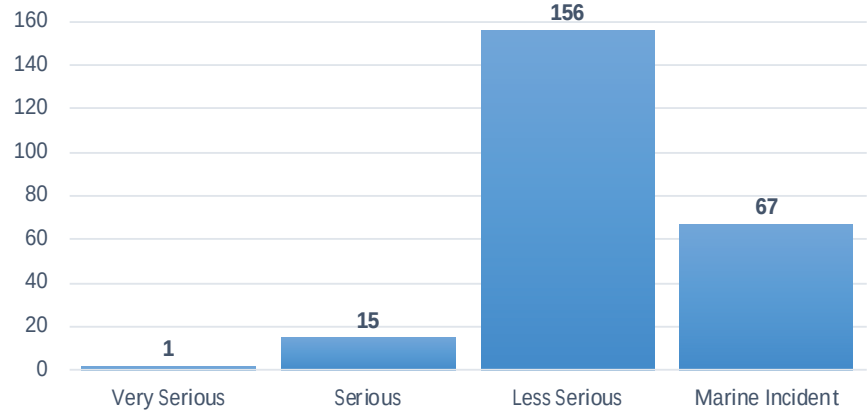


Chart 5: Non-UK commercial vessels - in UK 12 mile waters



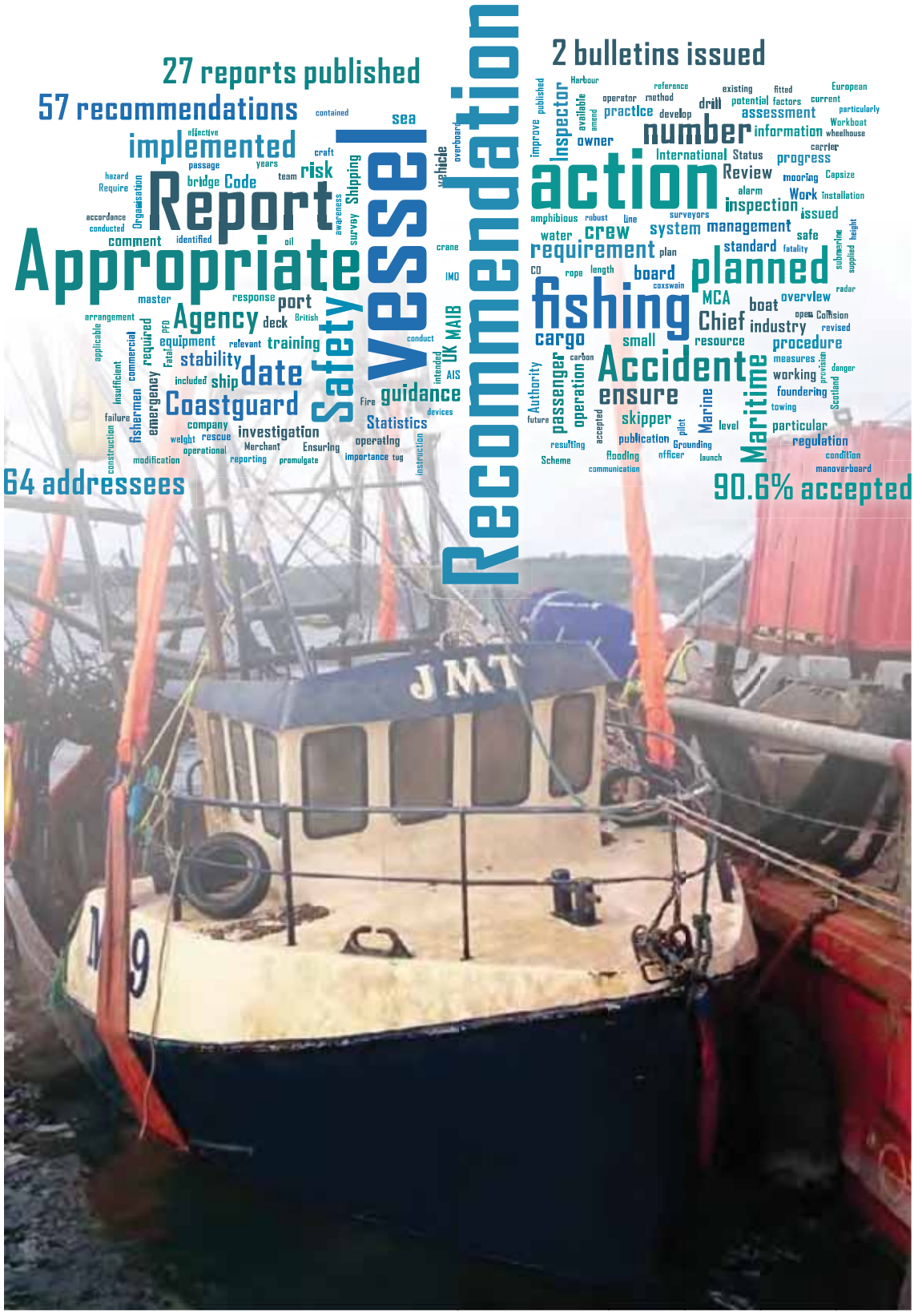
2016: SUMMARY OF INVESTIGATIONS STARTED

Date of occurrence	Occurrence details
21 Jan	The 16m potter ***Majestic*** flooded and sank close to a gas pipeline off the Point of Fethaland, Shetland. The skipper and his crewman successfully abandoned to a liferaft and were rescued by another fishing vessel that was close by.
15 Feb	A crew member on the commercially operated ocean-going rowing boat ***Toby Wallace*** was swept overboard and lost in mid-North Atlantic.
10 Mar	The French fishing vessel ***Saint Christophe 1*** grounded while alongside in Dartmouth. On a falling tide it took on a list, rolled onto its side and subsequently flooded. The crew successfully evacuated to the shore.
1 Apr	A crew member was swept over the side in mid-Pacific from the sailing yacht ***CV21*** while taking part in the Clipper Round the World Race. She was recovered in severe weather conditions but could not be revived.
6 Apr	The fishing vessel ***Fredwood*** grounded while alongside in Maryport, Cumbria. It listed away from the wall and became damaged below the waterline and flooded on the subsequent rising tide. The crew were rescued uninjured.
9 Apr	The fishing vessel ***Louisa*** sank at anchor off the Isle of Mingulay, Outer Hebrides resulting in the deaths of three of its four crew.
18 Apr	A crewman fell overboard and was lost from the fishing vessel ***Apollo*** while raising nets 30nm north-west of the Orkney Islands.
28 Apr	Both crew members from the potter ***Harvester*** are assumed to have fallen overboard and drowned while shooting pots. The vessel grounded on rocks in Abereiddy Bay, Pembrokeshire but no-one was on board. The body of one of the crew was found 3 miles from the site of the grounding but the other crew member was not found.
11 May	The chief officer of the general cargo vessel ***Johanna C*** fell and sustained fatal injuries during cargo operations in the port of Songkhla, Thailand.
13 May	The passenger ferry ***Uriah Heep*** made contact with and became wedged in the structure of Hythe Pier on Southampton Water. There were no serious injuries.

Date of occurrence	Occurrence details
15 May	The passenger vessel ***Surprise*** hit rocks and began to take on water in the Isles of Scilly. The passengers were transferred to a lifeboat but the crew remained on board and with the help of salvage pumps was escorted back to harbour.
19 May	The ro-ro freight ferry ***Petunia Seaways*** collided with the motor launch ***Peggotty*** in dense fog on the River Humber. There were no injuries.
9 Jun	A crewman was lost overboard from the potter ***Our Sarah Jane*** while trying to clear a fouled propeller in mid-English Channel.
9 Jun	Two people and their dog died from carbon monoxide poisoning on board the motor cruiser ***Love for Lydia*** on Wroxham Broad, Norfolk.
23 Jun	A crewman fell overboard from the scallop dredger ***King Challenger*** while retrieving damaged gear 12nm south-west of Scalloway, Shetland Islands. He was recovered from the water after 10 minutes but could not be revived.
10 July	The passenger ferry ***Royal Iris*** of the Mersey struck an underwater obstruction while approaching Eastham locks at the western end of the Manchester Ship Canal. The passengers were safely evacuated and there were no injuries.
19 Jul	A collision between two commercially-operated RIBs, ***Osprey I*** and ***Osprey II*** in the Firth of Forth resulted in a serious injury to one of the passengers.
3 Aug	A crew member received serious injuries on board the fishing vessel ***Sea Harvester*** in the Firth of Clyde while recovering fishing gear.
8 Aug	The Dutch-registered anchor handling tug ***Alp Forward*** lost its tow of the semi-submersible rig ***Transocean Winner*** west of the Outer Hebrides in severe weather. The rig grounded the next day on the north coast of the Isle of Lewis where it caused some pollution.
16 Aug	A fire broke out on the fishing vessel ***Ardent II*** while it was alongside in Peterhead harbour. There were no injuries but the vessel was declared a constructive total loss.
22 Aug	The container ship ***CMA CGM Vasco de Gama*** grounded while transiting the Thorn Channel on the approach to Southampton. It was refloated with the help of tugs.

Date of occurrence	Occurrence details
3 Sep	The crewman of potting vessel ***Pauline Mary*** became tangled in the vessel's fishing gear and was pulled overboard while shooting pots east of Hartlepool. Although he was recovered back onboard, the crewman did not survive.
20 Sep	The Madagascar-registered tug ***Domingue*** girted and capsized while assisting the UK-registered container ship ***CMA CGM Simba*** out of the port of Tulear, Madagascar. Two of the tug's crew died as a result.
25 Sep	The ro-ro passenger vessel ***Hebrides*** grounded while approaching Lochmaddy, North Uist, Outer Hebrides. The vessel sustained damage but there were no injuries.
5 Oct	A pilot on the River Thames near Gravesend suffered fatal injuries when he was crushed between the pilot vessel ***Patrol***, and the Bahamas-registered general cargo vessel ***Sunmi***.
12 Nov	The owner of the motor cruiser ***Vasquez*** was found dead on board in the marina at Cardiff Yacht Club, as a result of carbon monoxide poisoning.
20 Nov	The Hong Kong-registered cargo ship ***Saga Sky*** collided with the anchored barge ***Stema Barge II*** in the English Channel between Dover and Dungeness.
3 Dec	The Spanish-registered cargo ship ***Muros*** grounded on Haisborough Sands off the Norfolk coast sustaining some damage. The vessel was refloated on 9 December.
5 Dec	The passenger vessel ***Typhoon Clipper*** collided with the workboat ***Alison*** near Tower Bridge on the River Thames. Both crew of the workboat entered the water as it capsized but were safely recovered.
18 Dec	A crew member was killed while discharging cargo from the UK-registered bulk carrier ***Graig Rotterdam*** in the port of Alexandria, Egypt.

PART 2: RECOMMENDATIONS AND PUBLICATIONS



INVESTIGATIONS PUBLISHED IN 2016 INCLUDING RECOMMENDATIONS ISSUED

The following pages list the accident investigation reports and safety bulletins published by the MAIB during 2016. 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 102.

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 that can be published 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 may range from those organisations which 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.

It is required by the Merchant Shipping (Accident Reporting and Investigation) Regulations 2012 that the person or organisation to whom a recommendation is addressed, consider the recommendation, and reply to the Chief Inspector within 30 days on the plans to implement the recommendation or, if it is not going to be implemented, provide an explanation as to why not. The Regulations also require the Chief Inspector "*to inform the Secretary of State of those matters*" annually, and to make the matters publicly available. This Annual Report to the Secretary of State for Transport fulfils this requirement.

***Status as of 30 April 2017**

RECOMMENDATION RESPONSE STATISTICS 2016

57 recommendations were issued to **64** addressees in 2016. The percentage of all recommendations that are either ***accepted and implemented*** or ***accepted yet to be implemented*** is **90.6%**.

Year	Total*	Accepted Action		Partially Accepted	Rejected	No Response Received
		Implemented	Yet to be Implemented			
2016	64†	38	20	2	0	3

†**1** recommendation has since been withdrawn by the MAIB

RECOMMENDATION RESPONSE STATISTICS 2005 TO 2015

The following table shows the equivalent status of recommendations issued in 2005 to 2015 as published in the MAIB's previous Annual Reports.

Year	Total*	Accepted Action		Partially Accepted	Rejected	No Response Received
		Implemented	Yet to be Implemented			
2015	79††	33	33	7	5	0
2014	63††	38	18	2	1	3
2013	90††	56	31	1	1	-
2012	54	41	10	-	1	2
2011	57	33	21	2	-	1
2010	50	36	14	-	-	-
2009	117	74	29	7	-	7
2008	110	71	31	5	-	3
2007	136	109	23	1	1	2
2006	139	103	30	3	3	-
2005	140	122	14	1	1	2

††**3** recommendations have since been withdrawn by the MAIB, the first was issued in 2013, the second in 2014 and the third in 2015.

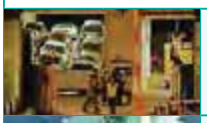
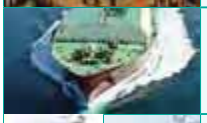
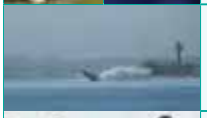
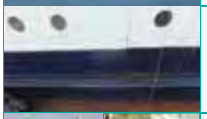
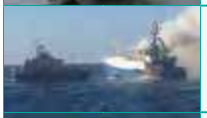
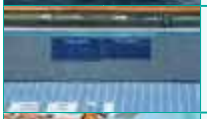
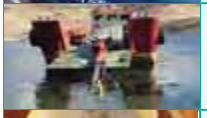
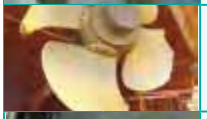
Of the **306** recommendations listed as ***accepted – yet to be implemented*** (at time of publication of relevant annual report):

78.0% have now been ***fully implemented***

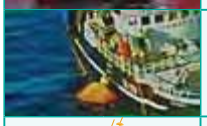
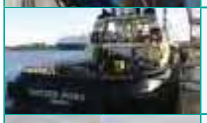
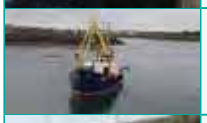
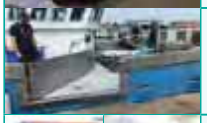
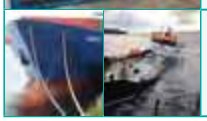
22.0% remain ***planned to be implemented***.

***Total number of addressees**

SUMMARY OF 2016 PUBLICATIONS AND RECOMMENDATIONS ISSUED

Vessel name(s)	Category	Publication date (2016) and report number	Page
 ***St Helen***	Serious Marine Casualty	4 February (No 1/2016)	15
 ***Zarga*** (Safety Bulletin)	Less Serious Marine Casualty	11 February (No SB1/2016)	16
 ***City of Rotterdam/ Primula Seaways***	Very Serious Marine Casualty	n/a, recommendation issued pre-publication by letter①	17
 ***Vector 40R***	Serious Marine Casualty	24 February (No 2/2016)	17
 ***Oldenburg***	Very Serious Marine Casualty	25 February (No 3/2016)	18
 ***Good Intent/Silver Dee***	Very Serious Marine Casualty	9 March (No 4/2016)	18
 ***Kairos***	Very Serious Marine Casualty	9 March (No 5/2016)	19
 ***Hoegh Osaka***	Serious Marine Casualty	17 March (No 6/2016)	19
 ***Karinya***	Very Serious Marine Casualty	14 April (No 7/2016)	19
 ***Cemfjord***	Very Serious Marine Casualty	21 April (No 8/2016)	22
 ***Pacific Dawn***	Very Serious Marine Casualty	5 May (No 9/2016)	23
 ***Asterix***	Very Serious Marine Casualty	12 May (No 10/2016)	24
 ***Carol Anne***	Very Serious Marine Casualty	9 June (No 11/2016)	26
 ***Hamburg***	Serious Marine Casualty	16 June (No 12/2016)	27
 ***Enterprise***	Very Serious Marine Casualty	23 June (No 13/2016)	28

① *City of Rotterdam/Primula Seaways* investigation report (no 3/2017) published on 8 February 2017.

	Vessel name(s)	Category	Publication date (2016) and report number	Page
	***St Apollo***	Serious Marine Casualty	30 June (No 14/2016)	29
	***JMT***	Very Serious Marine Casualty	7 July (No 15/2016)	30
	***Majestic***	Very Serious Marine Casualty	27 July (No 16/2016)	32
	***Love for Lydia*** (Safety Bulletin)	Very Serious Marine Casualty	9 August (No SB2/2016)	33
	***Arco Avon***	Very Serious Marine Casualty	1 September (No 17/2016)	34
	***Aquarius***	Very Serious Marine Casualty	6 October (No 18/2016)	35
	***Svitzer Moira***	Very Serious Marine Casualty	7 October (No 19/2016)	36
	**Royal Navy Submarine/*Karen***	Serious Marine Casualty	12 October (No 20/2016)	37
	***Annie T***	Very Serious Marine Casualty	3 November (No 21/2016)	38
	***Harvester***	Very Serious Marine Casualty	3 November (No 22/2016)	39
	***Apollo***	Very Serious Marine Casualty	3 November (No 23/2016)	40
	***Saint Christophe 1***	Serious Marine Casualty	16 November (No 24/2016)	40
	***Fredwood***	Serious Marine Casualty	17 November (No 25/2016)	42
	***Our Sarah Jayne***	Very Serious Marine Casualty	8 December (No 26/2016)	43
	***Daroja/Erin Wood***	Very Serious Marine Casualty	22 December (No 27/2016)	44

St Helen

Report number: 1/2016

Ro-ro ferry | Accident date: 18/07/2014

Investigation into the collapse of a mezzanine deck on a ferry, at Fishbourne ferry terminal, Isle of Wight

Safety Issues

- Maintenance policy inadequate. Failure to apply LOLER regulation through thorough inspections and follow-up actions. Over-reliance on external inspections
- Crew training inadequate. Awareness and understanding of inspection needs, and responsibilities post competent person inspections
- Inadequate paper-based planned maintenance system. No greasing programme and no nominated responsible person
- Manning arrangement. Insufficient time/personnel to allow proper maintenance/ inspections to be conducted

No	Recommendation(s) to:	Wightlink Ltd
101	Review and, as necessary, improve its safety management system to ensure the company: • Acts promptly in response to non-conformities affecting important and critical equipment on board its vessels. • Applies a proactive response to the management of observations and deficiencies identified during the thorough examination of its vessels' lifting equipment. • Notifies the relevant authority in the event of damage to a vessel that requires structural repair.	

Appropriate action implemented

No	Recommendation(s) to:	British Engineering Services Limited
102	Ensure its policy on the scrutiny of its thorough examination reports: • Identifies the instances when its customers have repeatedly failed to address shortcomings identified during lifting equipment examinations, and • Provides a mechanism for bringing shortcomings to the attention of its customers and, where appropriate, the relevant authorities. **Appropriate action implemented**	

No	Recommendation(s) to:	Maritime and Coastguard Agency
103	Ensure its audit inspections of Wightlink vessels provide specific focus on the effectiveness of the company's maintenance procedures. **Appropriate action implemented**	

Zarga

Safety Bulletin number: **SB1/2016**

LNG tanker | Accident date: 02/03/2015

Mooring line failure alongside South Hook LNG terminal, Milford Haven resulting in serious injury to a deck officer

Safety Issues

- Snap back of the mooring line was not considered a major concern due to the low elasticity of the line. However, the line was connected to a high elasticity penant, or tail. When the line failed, the energy absorbed by the tail under load caused the mooring line to snap back and cause a severe injury to the deck officer
- Suitability of low twist, jacketed HMPE mooring lines for shipboard use
- Recognition of axial compression fatigue failure mode in HMPE rope
- Jacketed rope construction prevents inspection of load bearing yarns
- Rope purchase guidance and order specifications inadequate to account for complex operating constraints applicable to HMPE rope mooring ropes
- Conflict between rope manufacturers' guidance on factors of safety and the ship industry operating guidance

No recommendations have been issued as a consequence of this bulletin. However, the full report of the investigation was published on 15 June 2017 containing recommendations to Shell International Trading and Shipping Company Ltd, The Oil Companies International Marine Forum, Bridon International Ltd and Eurocord.

City of Rotterdam/Primula Seaways

Recommendation issued pre-publication by letter

Vehicle carrier/Ro-ro cargo ship | Accident date: 03/12/2015

Collision between a vehicle carrier and a ro-ro cargo ship

Safety Issues

- Bridge ergonomics
- Bridge design approval
- Bridge resource management

No	Recommendation(s) to:	Fairmont Shipping (Canada) Ltd
104	Take action to reduce the likelihood of distorted spatial awareness on the bridges of *City of Rotterdam* and *City of St Petersburg*, taking into account, inter alia: • The importance of emphasising to crew and embarked pilots the risk of spatial distortion occurring on these bridges. • The increased risk of distorted spatial awareness when standing away from the centreline or a navigation station, including when using the fixed VHF radios. • The need to monitor pilots' actions at all times and to challenge when appropriate.	

Appropriate action implemented

Vector 40R

Report number: 2/2016

Powerboat | Accident date: 13/05/2015

Contact with a navigation buoy in Southampton Water

Safety Issues

- Safety equipment provided (seat harnesses) but not used
- Trials risk assessment not completed
- No notification given to harbour authority of high speed trial

No	Recommendation(s) to:	Vector World Limited
105	Ensure that whenever its powerboats are driven on the plane, the activity is carried out in accordance with the safety requirements of UIM/RYA Race Rules.	

Partially accepted - closed

Oldenburg

Report number: 3/2016

Cargo vessel | Accident date: 03/08/2015

Fatality of a shore worker while disembarking from a vessel in Ilfracombe Harbour

Safety Issues

- Hazard of leaving shell doors open and unguarded was not recognised and hence no control measures were in place prior to the accident
- No procedure in place for monitoring visitors to the vessel
- Training of shore workers was not recorded and did not include reference to shipboard access

No recommendations have been issued as a consequence of this investigation.

Good Intent/Silver Dee

Report number: 4/2016

Fishing vessels | Accident date: 29/07/2015

Collision between fishing vessels resulting in the foundering of *Silver Dee* in the Irish Sea

Safety Issues

- Training - radar and COLREGS - watchkeeper *Good Intent*
- Neither vessel keeping lookout

No	Recommendation(s) to:	The skippers of both vessels
106	Take steps to improve the standard of watchkeeping on board vessels they are in charge of in the future, taking particular account of the guidance contained in MGN 313 (F) - *Keeping a Safe Navigational Watch on Fishing Vessels*.	

Skipper of ***Good Intent*** - appropriate action implemented

Skipper of *Silver Dee* - no response received

MAIB comment:
It is disappointing that the skipper of *Silver Dee* has not felt it necessary to respond to this recommendation.

Kairos

Report number: 5/2016

Fishing vessel | Accident date: 18/05/2015

Foundering of a fishing vessel 70 nautical miles west of the Isles of Scilly

Safety Issues

- Human Factors - crew/master relationship
- Contingency planning
- Construction - no aft space bilge alarm or pumping arrangement
- Liferafts - design and construction

In light of the recommendations/guidance already issued, no recommendations have been made.

Hoegh Osaka

Report number: 6/2016

Car carrier | Accident date: 03/01/2015

Listing, flooding and grounding of a car carrier on Bramble Bank, The Solent, UK

Safety Issues

- Stability condition incorrectly assumed to be safe
- No accurate stability calculation carried out prior to departure
- Unsafe practices allowed to become the norm

No	Recommendation(s) to:	Hoegh Autoliners Shipping Pte
107	Enhance its internal procedures and instructions to ensure that the stability of its vessels is maintained throughout the operating cycle by, inter alia: • Involvement of the master and chief officer as early as practicable in the preparation of a pre-stowage cargo plan, and in the approval of any proposed updates as a result of itinerary changes or before additional cargo is accepted for shipment. • A requirement that cargo handlers use actual weights of cargo units rather than estimated weights (when available) in preparing a ship's final cargo tally, and that due diligence is given to establishing the actual weight of used high and heavy cargo when presented for shipment. • Ensuring *Hoegh Osaka*'s Cargo Securing Manual (CSM) is appropriately updated in respect of web lashing MSL rating and the required MSL of web lashing used to secure road vehicles, and that the ship is appropriately equipped.	

- Ensuring the Hoegh Autoliners Cargo Quality Manual reflects or refers to the ship's CSM, particularly with regard to the provision of clearly marked lashing points as a condition of acceptance for shipment and the importance of block stowage or secure positioning of part cargo.
- Reinforcement of the method of cargo securing required by the Hoegh Autoliners Cargo Quality Manual.

Appropriate action implemented

No	Recommendation(s) to:	Wallem Shipmanagement Pte Ltd, Singapore
108	Noting the actions it has already taken, further review its procedures and instructions to ensure that: • Clear guidance is given to its master and chief officers as to what actions should be taken prior to the ship's departure if, after checking, there remains a significant difference between a ship's calculated displacement and that obtained from actual draught readings. • Checklists are revised and rationalised so that they can be used effectively, and that safety critical items are not lost among a large number of minor tasks. • Its revised and enhanced PCC/PCTC Operations Manual is promulgated and fully implemented throughout its PCC/PCTC fleet.	

Appropriate action implemented

No	Recommendation(s) to:	Southampton Cargo Handlers
109	When available, use actual weights of cargo units rather than estimated weights in preparing a ship's final cargo tally, and give due diligence to establishing the actual weight of used high and heavy cargo when presented for shipment.	

Appropriate action implemented

No	Recommendation(s) to:	Maritime and Coastguard Agency
110	Promulgate the amended version of IMO Resolution A.581(14) in respect of the minimum MSL of lashings to be used when securing road vehicles: • Through its forthcoming Marine Guidance Note, providing guidance on the safe stowage and securing of specialised vehicles; and • Within the next edition of its publication *Roll-on/Roll-off Ships - Stowage and Securing of Vehicles – Code of Practice*.	

Appropriate action planned: 2018 MARCH 31

No	Recommendation(s) to:	Association of European Vehicle Logistics
111	Promulgate to its members the findings of this investigation and, in particular, the MAIB safety flyer.	

Appropriate action implemented

No	Recommendation(s) to:	International Chamber of Shipping
112	Bring the safety lessons of this accident to the attention of its members by circulating to them the MAIB safety flyer, and providing emphasis to the essential requirement that an accurate calculation of stability should be conducted once loading is complete but before a vessel sails to ensure its stability is adequate for its intended voyage.	

Appropriate action implemented

Karinya

Report number: 7/2016

Fishing vessel | Accident date: 04/10/2015

Fire and foundering of a fishing vessel on the Moray Firth

Safety Issues

- Fire probably caused by poorly discarded cigarette
- Fire alarm not heard because no one was in the wheelhouse
- Open door allowed smoke to spread

No recommendations have been issued as a consequence of this investigation.

Cemfjord

Report number:	8/2016
Cement carrier	Accident date: 02/01/2015

Capsize and sinking of a cement carrier in the Pentland Firth, Scotland with the loss of all eight crew

Safety Issues

- Insufficient passage planning
- Commercial pressures to press ahead with passage
- Insufficient stability management
- Pentland Firth reporting zone not monitoring traffic using AIS
- Flag State not assessing risk associated with exemptions to safety regulations (SOLAS)

No	Recommendation(s) to:	Brise Bereederungs GmbH
113	Ensure that its masters and chief officers receive training in their vessels' newly installed stability and cargo management tools and are familiar with the company's revised cargo loading and passage planning procedures.	

Appropriate action implemented

114	Take robust measures to improve the safety culture on board its vessels and within the company as a whole. In particular, monitor the use and effectiveness of its upgraded accident reporting and information sharing software system.	

Appropriate action implemented

No	Recommendation(s) to:	Maritime and Coastguard Agency
115	Review the arrangements for the safety of shipping in the Pentland Firth, giving particular consideration to: • Defining the purpose of the Pentland Firth voluntary reporting scheme. This should include the information to be provided by vessels in the area and the subsequent use of that information by the coastguard. • The potential benefits of making the Pentland Firth voluntary reporting scheme compulsory. • Identifying the level of surveillance and monitoring required of vessels operating in the Pentland Firth. In particular, establishing operational routines for the use of AIS information and operator procedures to monitor AIS tracks and respond to loss of AIS contact. • Whether, given the frequent and extreme local sea conditions, advisory information should be broadcast to ships in addition to routine maritime safety information.	

Appropriate action planned: Progress Ongoing — NO DATE GIVEN

MCA comment:
The MCA is waiting for survey results from Marico before taking further action.

No	Recommendation(s) to:	The Cyprus Department of Merchant Shipping
116	Undertake a thorough review of its revised processes for the management of regulatory exemptions and the conduct of Flag State inspections. In particular, assure itself that: • Vessel owners and managers are providing the levels of information required to allow exemptions to be issued based on reliable assessments of risk; and • The training provided to, and the supervision of, its non-exclusive surveyors is effective.	

Appropriate action planned: 2017 DECEMBER 31

Pacific Dawn

Report number: 9/2016

Cruise ship | Accident date: 09/11/2015

Drowning of a passenger in a swimming pool on board a cruise ship in the Coral Sea, South Pacific Ocean

Safety Issues

- Delayed swimming pool emergency response
- No dedicated swimming pool attendant
- No formal documented risk assessment for swimming pool use

In light of the actions taken by stakeholders following the accident no recommendations have been made.

Asterix	Report number:	10/2016
Mooring launch	Accident date:	30/03/2015

Girting and capsize of a mooring launch at Fawley Marine Terminal, Southampton

Safety Issues

- Tug crew not sufficiently trained in using gog rope to best effect
- Lack of proactive communications between tug coxswain and pilot
- Tug crew lacked preparedness in operating the towing hook emergency release

No	Recommendation(s) to:	Østensjø Rederi AS

117 In implementing its action plan, have full regard to the findings and references to best practice included in this investigation report. In particular, it should:

- Review and enhance its risk assessment relating to the hazard of girting.
- Introduce comprehensive instructions and guidance relating to operations requiring the use of a gog rope.
- Enhance its in-house training and assessment programme to ensure mooring launch coxswains attain the competence requirements of the Voluntary Towage Endorsement Scheme, including the necessary skill and experience required to prevent girting.
- Emphasise the importance of proactive and detailed communication with pilots both before and during a towing operation.
- Include towline emergency release as an emergency drill training requirement; and
- Ensure its instruction for closing hatch covers and doors before a towing operation is implemented and supplemented using appropriate training and signage.

Appropriate action implemented

No	Recommendation(s) to:	Associated British Ports Southampton

118 Review its assessment of towage operations within the port of Southampton to ensure, in accordance with the Port Marine Safety Code, that mooring launches operating in the port are fit for the purpose to which they are assigned. In particular, it should:

- Review its requirements for the competence and training of coxswains.
- Ensure pilots engage in proactive and detailed communication with coxswains both before and during a towing operation; and
- Ensure pilots engage in joint training with mooring launch crews as a means of enhancing operational liaison.

Appropriate action implemented

No	Recommendation(s) to:	National Workboat Association
119	In its ongoing development of guidance on towing operations, have full regard to the findings and references to best practice included in this investigation report. In particular, the guidance should include: • Specific information on the danger of girting and the action required to avoid it. • The correct use of a gog rope. • The need for proactive and detailed communication between launch coxswains and pilots both before and during a towing operation. • Crew emergency preparedness in the form of regular drills in operating the towline emergency release system; and • The need to close all relevant watertight and weathertight hatch covers and doors, so as to maintain the towing vessel's watertight integrity, prior to commencing a towing operation. **Appropriate action implemented**	

No	Recommendation(s) to:	Maritime and Coastguard Agency
120	Inform tug operators and port authorities of the importance of ensuring that masters engaged in towing operations have the necessary knowledge and skills. **Appropriate action planned:** 2017 JUNE 30	

No	Recommendation(s) to:	UK Major Ports Group
121	Promulgate to its members the findings and references to best practice included in this investigation report, with particular regard to the need for proactive and detailed communication between pilots and launch coxswains both before and during a towing operation, and that coxswains engaged in towage operations at least meet the competence requirements of the Voluntary Towage Endorsement Scheme. **Appropriate action implemented**	

Carol Anne

Report number: 11/2016

Workboat | Accident date: 30/04/2015

Collapse of a crane on board a workboat resulting in one fatality on Loch Spelve, Isle of Mull, Scotland

Safety Issues

- The crane was supplied and fitted with the incorrect size of tie bolts and insufficient number for a statically mounted crane
- The grade of locknuts that were supplied with the installation kit were of a lower grade than indicated by their markings
- The statutory thorough examination and testing of the crane lacked rigour and failed to identify a number of deficiencies
- The manufacturer or distributor did not supply any installation guidance

No	Recommendation(s) to:	Atlas Maschinen GmbH
122	Ensure that installation information and guidance is provided with its cranes irrespective of whether they are intended as mobile or static installations or for use inside or outside the European Community.	

Appropriate action implemented

No	Recommendation(s) to:	Association of Lorry Loader Manufacturers and Importers
123	Work with the Maritime and Coastguard Agency to ensure that the maritime requirements and regulation covering the inspection and testing of shipborne lorry loader cranes is included in its training syllabi and examiners' manuals.	

Appropriate action planned: Progress Ongoing NO DATE GIVEN

MAIB comment:
ALLMI is currently awaiting a response from the MCA before taking further action.

No	Recommendation(s) to:	Maritime and Coastguard Agency
124	Instruct certifying authorities to ensure that their procedures for the agreement of the fitting or modification of lifting appliances on board workboats take into account, inter alia, the importance of assessing the suitability of installation arrangements and the impact on vessel stability.	

Appropriate action planned: 2017 JUNE 30

No	Recommendation(s) to:	Inverlussa Marine Services
125	Ensure that it meets the requirements of LOLER 2006 and informs the applicable certifying authority of any intended changes or modifications to its vessels.	

Appropriate action implemented

Hamburg

Report number: 12/2016

Cruise ship — Accident date: 11/05/2015

Grounding of a cruise ship in the Sound of Mull, Scotland

Safety Issues

- Poor bridge team management led to the bridge team working in isolation rather than as a cohesive team
- Passage plan was not reviewed when berthing delayed
- Master and bridge team did not implement or follow the emergency procedure as specified in the company's SMS
- Master's actions and omissions not challenged by bridge team
- There was no shared plan and no assignment of roles so bridge team were unable to support the master
- The master took the vessel back out to sea without a full assessment of the vessel's condition
- Rapidly unfolding events led to a loss of situational awareness

In light of the actions taken by stakeholders following the accident no recommendation have been made.

Enterprise

Report number: 13/2016

Fishing vessel | Accident date: 09/07/2015

Fatal man overboard from a fishing trawler in North of Dogger Bank, North Sea

Safety Issues

- Introduction of unguarded net shooting ports at the time of the vessel's conversion from beam trawler to stern trawler
- Net shooting ports, not in accordance with bulwark height requirements
- Unsafe working methods of crew (repairing nets in close proximity to open shooting ports during rough seas)
- Skipper not wearing a lifejacket while working on the nets during rough seas
- The unpreparedness of the crew to react to a crisis situation in the absence of the skipper
- Delayed transmission of "Mayday" call

No	Recommendation(s) to:	Maritime and Coastguard Agency
126	Take steps to ensure that fv *Enterprise* complies with the minimum bulwark height requirements of the *Torremolinos International Convention for the Safety of Fishing Vessels* as referred to in Council Directive 97/70/EC and in accordance with the revised requirements contained in MSIS 27.	

Appropriate action planned: 2017 JULY 31

No	Recommendation(s) to:	Ekofish Group
127	Review the risk assessments for all vessels under its management to ensure that they properly consider the risks of falling overboard and the loss or incapacitation of the skipper while at sea.	
		Appropriate action implemented
128	Establish procedures to ensure compliance with the statutory reporting requirements stipulated in the Merchant Shipping (Accident Reporting and Investigation) Regulations 2012, as amended.	
		Appropriate action implemented

St Apollo

Report number: 14/2016

Fishing vessel | Accident date: 24/08/2015

Grounding and flooding of a fishing vessel in Inninmore Bay, Sound of Mull, Scotland

Safety Issues

- The skipper was unaware of the limitations of the watchkeeper's competency
- The reactions of the wheelhouse watchkeeper were impaired by insufficient situational awareness, a lack of equipment knowledge and a low state of arousal
- The watchkeeper was wholly reliant on electronic navigational equipment

No	Recommendation(s) to:	Vessel owner/skipper
129	Enhance the safety of any vessel he may own in the future by applying the best practice guidance promoted in MGN 313 (F) and complying with the requirement to operate AIS.	
		Appropriate action implemented

JMT	Report number:	15/2016
Fishing vessel	Accident date:	09/07/2015

Capsize and foundering of a small fishing vessel resulting in two fatalities 3.8nm off Rame Head, English Channel

Safety Issues

- The modifications made impacted on the vessel's top weight and centre of gravity.
- Small fishing vessels are vulnerable to capsize due to the danger of unassessed and insufficient stability.
- *JMT*'s skipper had not completed stability training and was probably unaware of the adverse effect on stability of carrying little fuel, stowing the catch on deck and leaving doorways and hatches open.
- There is no requirement for stability training for skippers of small fishing vessels.
- The survivability of the crew was limited due to the lack of use of personal flotation devices (PFDs)

No	Recommendation(s) to:	Maritime and Coastguard Agency
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 planned:	2020 DECEMBER 31
131	Require skippers of under 16.5m fishing vessels to complete stability awareness training.	
	Appropriate action planned:	2020 DECEMBER 31

No	Recommendation(s) to:	Sea Fish Industry Authority
132	Amend its construction standards to include a requirement for new fishing vessels and vessels joining the UK fishing vessel register to be fitted with a Wolfson freeboard mark.	

Appropriate action planned: 2018 JANUARY 31

No	Recommendation(s) to:	Maritime and Coastguard Agency/ Sea Fish Industry Authority
133	Work together to ensure that the inspection regime for assessing existing vessels against the Seafish Construction Standards is consistently robust through critical evaluation of the condition of each vessel at the time of survey.	

MCA - Appropriate action planned: 2017 JUNE 30

Seafish - Appropriate action planned: 2017 DECEMBER 31

No	Recommendation(s) to:	Maritime and Coastguard Agency/ Sea Fish Industry Authority/ Scottish Fishermen's Federation/ National Federation of Fishermen's Organisations
134	Through membership of the Fishing Industry Safety Group, collectively explore ways to encourage owners of fishing vessels of under 15m LOA that are engaged in trawling, scalloping and bulk fishing to affix a Wolfson Mark to their vessels and operate them in accordance with the stability guidance provided.	

MCA - Appropriate action planned: 2017 SEPTEMBER 30

Seafish - Appropriate action planned: 2017 AUGUST 31

SFF - Appropriate action implemented

NFFO - Appropriate action implemented

Majestic	Report number:	16/2016
Fishing vessel	Accident date:	21/01/2016

Sinking of a fishing vessel 5 nautical miles off Yell, Shetland Islands, Scotland

Safety Issues

- Safety critical alarms usually sound in the wheelhouse of a fishing vessel. If the wheelhouse is unmanned these alarms will be unheeded especially when working on deck. The crew will have less time to react to a developing situation
- Regular flooding drills and 'table-top' discussions covering the actions to take and the equipment available to deal with floods in different compartments make a huge contribution to the development of ship-specific plans and procedures and the safety of the crew when such an event occurs
- Not wearing a PFD when working on the open deck at sea is taking an unnecessary risk. Not donning lifejackets when abandoning ship is foolhardy, even if assistance is close at hand

No	Recommendation(s) to:	Vessel owners

135 Take steps to ensure on any vessel they own or skipper in the future that:

- The dangers of leaving the wheelhouse unattended are fully assessed so that practical measures can be adopted to mitigate such risks;
- Emergency drills are conducted in accordance with MSN 1770 (F) and;
- PFDs are worn by all crew when working on the open deck at sea.

Vessel owner A: Appropriate action implemented

Vessel owner B: Appropriate action implemented

Love for Lydia

Safety Bulletin number: **SB2/2016**

Doral 250 SE motor cruiser | Accident date: 06/06/2016

Carbon monoxide poisoning on board a motor cruiser at Wroxham on the Norfolk Broads resulting in two fatalities

Safety Issues

- The eight-cylinder petrol engine was being run at mid RPM to charge batteries and its un-catalysed exhaust fumes contained high levels of CO
- The risk of engine emissions entering the boat's enclosed spaces was significantly increased by 'station-wagon' effect, which can occur when a boat is stationary or underway
- Habitable spaces were not adequately ventilated; the forepeak cabin's deck hatch and port holes were shut
- A domestic CO alarm would have alerted the occupants to the presence of CO but the boat was not fitted with one
- There is no requirement for recreational craft, including those intended for overnight sleeping, to be fitted with a CO alarm
- Other than ensuring the ability to ventilate habitable spaces, the essential requirements of the RCD do not protect the occupants of recreational craft from the CO contained in external exhaust emissions

No recommendations have been issued as a consequence of this bulletin. However, the full report of the investigation was published on 11 May 2017 containing recommendations to the Maritime and Coastguard Agency, British Marine, and the Boat Safety Scheme.

Arco Avon

Report number:	**17/2016**	
Dredger	Accident date:	18/08/2015

Engine room fire on a suction dredger, 12 miles off the coast of Great Yarmouth with loss of one life

Safety Issues

- Inappropriate autonomous action in a culture of lone working
- Hot work hazard not recognised
- Routine periodic inspection of fuel system pipework not implemented

No	Recommendation(s) to:	Maritime and Coastguard Agency

136 Review International Maritime Organization circular MSC.1/Circ.1321 – *Guidelines for measures to prevent fires in engine-rooms and cargo pump-rooms*, and, as appropriate, promulgate its contents to the shipping industry.

Appropriate action Planned: 2017 DECEMBER 31

No	Recommendation(s) to:	Hanson Aggregates Marine Limited

137 Review and, as appropriate, amend its safety management system to ensure:

- Its planned maintenance system includes a 6-monthly inspection of all low pressure fuel system components, as recommended in IMO circular MSC.1/Circ.1321.
- Manning levels, watchkeeping duties and communication procedures provide for safe engine room operations at all times.
- Portable angle grinding is included and addressed as a hot work activity.
- Fire-fighting training is enhanced to address and correct re-entry techniques.
- A procedure is included for entering the CO_2 cylinder room following system activation.
- Improved oversight by shore management to identify operational inconsistencies, particularly with regard to the use of risk assessments and permits to work.
- The master's role and responsibilities, when dealing with medical casualties, is reinforced.

Appropriate action implemented

No	Recommendation(s) to:	Bureau Veritas

138 Advise its surveyors of the contents of IMO circular MSC.1/Circ.1321 – *Guidelines for measures to prevent fires in engine-rooms and cargo pump-rooms*.

Appropriate action implemented

Aquarius

Report number:	**18/2016**	
Fishing vessel	Accident date:	17/08/2015

Fatal man overboard from the fishing vessel 2 miles east of Aberdeen harbour

Safety Issues

- Not wearing lifejackets
- Safety consciousness
- No training or drills since 2013
- Lack of supervision of crew on deck, no identified leading hand
- Cultural and language barriers
- Lack of training comprehension
- No pro-active safety management on board vessel

No	Recommendation(s) to: Maritime and Coastguard Agency
139	Develop the capability within its new Consolidated European Reporting System/Single Vessel Database to automate the management of inspection and survey deficiency records so that consistently sub-standard vessels can be quickly identified and targeted, and marine offices are alerted if deficiencies are not rectified within stipulated time frames. **Partially accepted - closed**
140	Review its monitoring and enforcement of "*The Working Time: Sea Fishermen Regulations 2004*" to ensure that fishermen, and in particular foreign fishermen living on board their vessels, are achieving the statutory levels of rest and annual leave. **Appropriate action planned:** 2017 DECEMBER 31

No	Recommendation(s) to: Vessel owners
141	Conduct a thorough review of the vessel's safety management system and take robust actions to improve the safety culture on board *Aquarius* and any other vessels they might own or operate. Particular attention should be given to ensuring compliance with all appropriate health and safety regulations, the 15-24m FV Code and the hours of work and rest regulations. **Appropriate action implemented**
142	Ensure that *Aquarius* and its crew are properly prepared to deal with emergency situations through the conduct of regular and realistic emergency drills. **Appropriate action implemented**

No	Recommendation(s) to:	PG Manning Ltd
143	Amend its fishermen's contracts of employment to include reference to *The Working Time: Sea fishermen Regulations 2004* and the employees' hours of rest and leave entitlements.	

Appropriate action implemented

Svitzer Moira

Report number: 19/2016

Tug

Accident date: 29/12/2015

Fatal accident while manoeuvring *Svitzer Moira* alongside an unmanned tug, Royal Portbury Dock, Bristol

Safety Issues

- No tool-box talk conducted for routine task.
- Appropriate personal protective equipment not worn
- Lack of oversight and control of deck operations

In light of the actions taken by stakeholders following the accident no recommendations have been made.

RN submarine/*Karen*

Report number: 20/2016

Royal Navy submarine/Fishing vessel | Accident date: 15/04/2015

Collision between a dived Royal Navy submarine and a trawler in the Irish Sea

Safety Issues

- Insufficient passage planning by submarine command team
- Submarine command team prioritised operational posture ahead of fishing vessel avoidance
- Evidence that collision had happened was either ignored or misinterpreted on board submarine
- DSC alert not used by fishing vessel skipper
- Submarine headquarters did not direct submarine to report in after it was apparent (ashore) that submarine may have been responsible for reported snagging

No	Recommendation(s) to: Royal Navy
144	Review the procedures and training necessary to ensure that: • Dived submarine operations in the vicinity of vessels engaged in fishing are conducted safely by complying with guidance on fishing vessel avoidance (BR0095). • Collisions with fishing gear do not go undetected/unrecognised. The Maritime and Coastguard Agency and the UK fishing industry should be consulted in this review; updated versions of the *Fishing Vessel Code of Practice and Marine Guidance Note 12 (F)* should also be considered. **Appropriate action implemented**
145	Provide assurance to Defence Ministers and the fishing industry that the causes and circumstances of this accident have been thoroughly investigated and all necessary actions have been put in place to minimise the risk of recurrence. **Appropriate action implemented**

Annie T

Report number: 21/2016

Fishing vessel | Accident date: 04/10/2015

Man overboard from a creel fishing vessel with the loss of one life in the Sound of Mingulay, Scotland

Safety Issues

- The practice of manhandling the weight during creel shooting prevented the crew from adhering to the safe working practice of separating people from the gear
- Lack of manoverboard (MOB) drills
- Very little guidance on MOB recovery and no requirement to carry recovery equipment on small fishing vessels
- The lack of appreciation by fishermen of the difficulty of recovering a casualty from the sea and not recognising that cold water shock can be debilitating
- Not wearing a constant wear lifejacket on deck during fishing operations

No	Recommendation(s) to:	Maritime and Coastguard Agency
146	Prioritise the introduction of legislation that will require the compulsory wearing of personal flotation devices on the working decks of all fishing vessels while at sea.	
	Appropriate action planned:	Progress Ongoing NO DATE GIVEN
147	Issue guidelines regarding manoverboard recovery equipment for fishing vessels under 15m in length.	
	Appropriate action implemented	✓

Harvester

Report number:	**22/2016**	
Fishing vessel	Accident date:	28/04/2016

Man overboard and subsequent loss of fishing vessel with the loss of two lives off the Pembrokeshire Coast, Wales

Safety Issues

- Insufficient separation of crew from running gear
- Personal flotation devices and personal locator beacons not worn
- Automatic identification system unit switched off

In light of the recommendations/guidance already issued, no recommendations have been made.

Apollo	Report number:	23/2016
Fishing vessel	Accident date:	18/04/2016

Fatal man overboard 30nm north-west of the Orkney Islands, Scotland

Safety Issues

- The casualty fell overboard while undertaking a task for which no safe system of work had been identified
- The casualty was overcome by cold water incapacitation having been in the sea for 7 minutes
- The crew had no adequate procedure for recovering a casualty from the water and had not undertaken practical manoverboard drills
- The crew had worked on deck for the last few years without PFDs or safety harnesses, despite these having been identified as necessary by risk assessments undertaken following a fatal accident on the same vessel 9 years earlier

No	Recommendation(s) to: Blue Motion Fishing Company Ltd
148	Review its risk assessments and develop safe systems of work to minimise the risks to its crews when working on deck.
	Appropriate action implemented
149	Ensure that realistic manoverboard drills are carried out to prepare the crew for the challenge of recovering a non-responsive person from the water in a timely manner, particularly in adverse weather conditions.
	Appropriate action implemented

Saint Christophe 1 /Sagittaire

Report number: 24/2016

Fishing vessels | Accident date: 10/03/2016

Grounding of French fishing vessels while alongside in Dartmouth resulting in the flooding and sinking of *Saint Christophe 1*

Safety Issues

- Misunderstanding of communication in a foreign language and use of hand gestures led to assumptions by both the port staff and the vessel's skipper
- The allocated berth was not suitable for use by the vessel over low water
- The vessel could not be made watertight
- There were missed opportunities by the port staff to obtain and provide information

No	Recommendation(s) to:	Maritime and Coastguard Agency
150	Perform a Port Marine Safety Code health check upon the Dartmouth Harbour and Navigation Authority in 2017.	

Appropriate action planned: Progress Ongoing — NO DATE GIVEN

No	Recommendation(s) to:	Dart Harbour Navigation Authority
151	• Provide guidance to its duty harbourmasters and river officers about the information they are required to exchange with visiting vessels before approving their entry into the harbour. • Review the control measures identified in its risk assessments and ensure procedures are in place to make them effective.	

Appropriate action planned: 2017 JUNE 30

No	Recommendation(s) to:	Owners of *Saint Christophe 1* and *Sagittaire*
152	Review their carriage arrangements to ensure appropriate charts and publications are available for likely ports of refuge in their area of fishing operations, in compliance with Chapter 6, Division 226 of Volume 5 du réglement applicable aux navires: Navires de Pêche.	

Owner of *Saint Christophe 1*: No response received

Owner of *Sagittaire*: No response received

Fredwood

Report number:	**25/2016**	
Fishing vessel	Accident date:	06/04/2016

Flooding of a fishing vessel after taking the ground on a drying berth, Maryport, England

Safety Issues

- Failure of skipper to ensure safety of his vessel on known drying berth
- Poor deployment of mooring ropes
- Failure to act and verify watertight integrity of the vessel when it listed
- No maritime expertise present or contracted within the operational port management structure. No harbourmaster appointed
- Lack of control over commercial vessels using the port. Lack of authority existing and lack of recognition of authority by commercial fishermen
- Lack of commercial revenue income is restricting port operational improvements

No	Recommendation(s) to:	Maryport Harbour Authority
153	Ensure that sufficient resources are in place to manage its commercial docks and maintain and develop its port safety management system.	

Appropriate action implemented

Our Sarah Jane

Report number: 26/2016

Fishing vessel | Accident date: 09/06/2016

Fatal man overboard from a potter in the English Channel

Safety Issues

- Accessibility of life-saving equipment
- Lack of awareness of the risk of cold water shock
- Use of recreational drugs
- Not following the skipper's instructions

No	Recommendation(s) to:	The Parker Fishing Ltd
154	Take action to ensure that its vessels' crews are able to respond effectively in emergency situations, taking into account, among other things: • The regulatory requirements regarding the minimum lifesaving equipment to be carried. • The benefits of emergency drills. • The likelihood of a propeller becoming fouled when potting.	

Appropriate action implemented

Daroja/Erin Wood

Report number: 27/2016

Cargo ship/Oil bunker barge | Accident date: 29/08/2015

Collision between a general cargo ship and an oil bunker barge, 4 nautical miles south-east of Peterhead, Scotland

Safety Issues

- Effective lookout not being kept (both vessels)
- Opportunities for detection and analysis of shipping not utilised (visual/radar/AIS - both vessels)
- *Erin Wood* damaged stability poorly managed (pumped more water into already flooded vessel)
- Coastal state (UK) unaware of hazards associated with *Erin Wood*'s operations, despite repeated detention of other company vessels
- *Erin Wood*'s owner/manager (Northern Oils) lacked marine industry experience

No	Recommendation(s) to:	The St Kitts and Nevis International Shipping Registry

155 Ensure that, for vessels applying to join the Registry:

- A Flag State inspection of the vessel takes place to review compliance with relevant regulations.
- Manning negotiations with owners/managers take into account all relevant factors set out in the IMO Principles of Safe Manning.

Appropriate action planned: 2018 DECEMBER 31

No	Recommendation(s) to:	Northern Oils (Scotland) Limited

156 Develop a company safety management system to ensure that:

- All company vessels are safely manned to meet the requirements of international and national regulations.
- Vessel crews are suitably trained, qualified and experienced to operate the company's vessels.
- Shore-based staff are suitably trained and experienced to manage a fleet of small tankers.

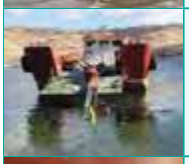
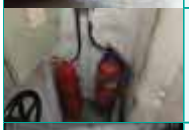
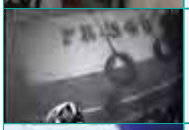
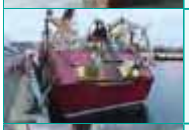
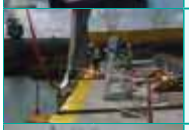
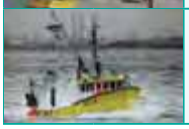
Withdrawn

MAIB comment:
This recommendation has been withdrawn as the company is no longer involved in supplying or transporting fuels by sea.

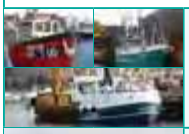
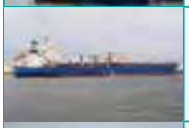
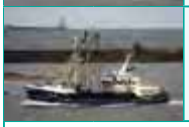
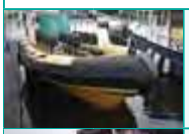
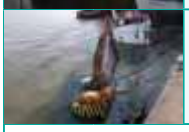
No	Recommendation(s) to:	United Shipping Companies Barnkrug GmbH & Co.KG
157	Improve standards of bridge watchkeeping by introducing measures to ensure that: • On each occasion prior to lone watchkeeping, all relevant factors are considered in accordance with the ICS Bridge Procedures Guide. • Standards of onboard bridge team monitoring are reviewed in order to ensure that watchkeepers are effectively supervised and watchkeeping standards maintained, in particular: the effective use of all bridge navigational aids and alarms.	

Appropriate action implemented

Progress of recommendations from previous years

Vessel name		Publication date and report number	Page
2015 RECOMMENDATIONS - PROGRESS REPORT			49
	***Arniston***	16 January (No 2/2015)	49
	***Wanderer II***	12 February (No 6/2015)	49
	***Cheeki Rafiki***	29 April (No 8/2015)	50
	***Millennium Time/Redoubt***	17 June (No 13/2015)	51
	***Carol Anne***	n/a, recommendation issued pre-publication by letter①	52
	***Commodore Clipper***	6 August (No 18/2015)	52
	***Dieppe Seaways***	7 October (No 20/2015)	53
	***Ocean Way***	18 November (No 23/2015)	53
	***Dover Seaways***	19 November (No 24/2015)	54
	***Beryl***	2 December (No 26/2015)	54
	***Norjan***	3 December (No 27/2015)	55
	***Stella Maris***	10 December (No 29/2015)	55

① *Carol Anne* investigation report (no 11/2016) published on 9 June 2016.

Vessel name		Publication date and report number	Page
2012 RECOMMENDATIONS - PROGRESS REPORT			66
	***Karin Schepers***	17 May 2012 (No 10/2012)	66
	***Tombarra*** (parts A and B)	19 July 2012 (No 19a and 19b)	66
2011 RECOMMENDATIONS - PROGRESS REPORT			67
No recommendations outstanding for 2011			
2010 RECOMMENDATIONS - PROGRESS REPORT			68
	***Korenbloem/Optik/ Osprey III***	19 May 2010 (No 6/2010)	68
	***Bro Arthur***	19 August 2010 (No 9/2010)	68
	***Olivia Jean***	26 August 2010 (No 10/2010)	69
2009 RECOMMENDATIONS - PROGRESS REPORT			70
	***Celtic Pioneer***	21 May 2009 (No 11/2009)	70
	***Abigail H***	1 July 2009 (No 15/2009)	70
2008 RECOMMENDATIONS - PROGRESS REPORT			71
	**Fishing Vessel Safety Study 1992 to 2006**	28 November 2008	71
2007 RECOMMENDATIONS - PROGRESS REPORT			72
	***Danielle***	29 March 2007 (No 5/2007)	72

2015 RECOMMENDATIONS - PROGRESS REPORT*

Arniston

Report number: 2/2015

Motor cruiser — Accident date: 01/04/2013

Carbon monoxide poisoning with two fatalities on Windermere

No	Recommendation(s) to: The Boat Safety Scheme
104	Encourage its boat examiners, during the course of periodic boat examinations, to explain to boat users, where present, the risk of carbon monoxide poisoning; highlight the potential sources of carbon monoxide; and promote the use of carbon monoxide alarms.

Appropriate action planned: 2017 APRIL 30

Wanderer II

Report number: 6/2015

Fishing vessel — Accident date: 19/11/2013

Serious injury to a crew member while 1 mile south-east of Wiay Island, Outer Hebrides

No	Recommendation(s) to: Maritime and Coastguard Agency
109	Review and amend MGN 415 to include guidance on the safe operation of winch whipping drums.

Appropriate action planned: 2017 DECEMBER 31

110 In developing the revised Code of Safe Working Practices for the Construction and Use of 15 metre length overall to less than 24 metres registered length Fishing Vessels, ensure that the safe operation of winches is properly considered, including that:

- Hauling and hoisting gear shall be controlled by a dedicated winch operator;
- The winch operator shall give exclusive attention to that task and not carry out any other tasks while operating the equipment;
- Appropriate safety devices, including emergency stop facilities, are within easy reach of personnel using the equipment.

Such provision should be applied to all vessels constructed, and all existing vessels that are substantially structurally or technically modified, from the date the revised Code is introduced.

Appropriate action planned: 2017 OCTOBER 31

*Status as of 30 April 2017

Cheeki Rafiki

Report number: 8/2015

Sailing yacht | Accident date: 16/05/2014

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

No	Recommendation(s) to:	British Marine Federation[3]
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: 2018 DECEMBER 31

No	Recommendation(s) to:	British Marine Federation[2]/ Chantiers Bénéteau SA
118	In collaboration propose to the International Organization for Standardization that the requirements for '*information connected with the risk of flooding*' and 'other information' detailed in ISO 10240 (Small craft - Owner's manual) be enhanced to include: • The keel area as a potential source of water ingress on vessels where the keel has been attached to the hull. • Guidance on the action to be taken in responding to flooding events. • Warning of the potential consequences of running aground, and the need to carry out an inspection following any grounding incident, taking into account the danger of potential unseen damage, particularly where a GRP matrix and hull are bonded together.	

British Marine: Appropriate action implemented

Chantiers Bénéteau SA: Appropriate action implemented

No	Recommendation(s) to:	Maritime and Coastguard Agency

119	Issue operational guidance to owners, operators and managers of small commercial sailing vessels, including:
	• The circumstances in which a small vessel is required to comply with the provisions of the SCV Code and those in which it is exempt from compliance.
	• Management responsibilities and best practice with regard to:
	  • Vessel structural inspection and planned maintenance by competent personnel, particularly prior to long ocean passages,
	  • Passage planning and execution, including weather routing,
	  • The provision of appropriate lifesaving equipment, including liferafts, EPIRBs and PLBs, and the extent to which they should be float-free and/or readily available, and
	  • The provision of onboard procedures, including the action to be taken on discovering water ingress.	

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

- The need for an inspection following any grounding, taking into account the danger of potential unseen damage, particularly where a GRP matrix and hull have been bonded together.

Appropriate action planned: 2017 DECEMBER 31

120 Include in the SCV Code a requirement that vessels operating commercially under ISAF OSR should undergo a full inspection to the extent otherwise required for vessels complying with the SCV Code.

Appropriate action planned: 2017 DECEMBER 31

Millennium Time/Redoubt

Report number: 13/2015

Passenger vessel/Motor tug | Accident date: 17/07/2014

Collision on the Kings Reach, River Thames, London

No	Recommendation(s) to:	Maritime and Coastguard Agency

131 Assess the steering arrangements on board domestic passenger vessels with non-powered steering and, where deemed to be beneficial and pragmatic, require these vessels to have rudder angle indication in the wheelhouse.

Appropriate action implemented

No	Recommendation(s) to:	Maritime and Coastguard Agency/ Port of London Authority/Transport for London/Passenger Boat Association

133 Work together to explore the use of technology to improve the accuracy of the passenger count on board passenger vessels on the River Thames.

MCA/PLA/TfL/PBA: Appropriate action planned: 2017 JUNE 30

No	Recommendation(s) to:	City Cruises Plc

135 Take action to improve the safe operation of its vessels by addressing the recommendations made by the Port of London Authority in its investigation report, but also focusing on:

- The advantages of having additional Boatmasters' Licence holders on board.
- The problems inherent in masters giving commentaries while their vessel is underway.
- Compliance with company instructions.
- Wheelhouse ergonomics.
- The importance of accurate passenger numbers.
- Crew training records.
- The management of passengers in an emergency.

Appropriate action implemented

Carol Anne

Recommendation issued pre-publication by letter

Workboat | Accident date: 30/04/2015

Collapse of crane on workboat at Loch Spelve, Isle of Mull, Scotland with one fatality

No	Recommendation(s) to:	Atlas Cranes UK Ltd
142	Take action to ensure that: • All Atlas 170.2 cranes supplied in the UK have been installed using fastenings of the diameter, grade and number of fastenings as promulgated by Atlas GmbH. • The M24 nylon insert lock nuts supplied are of the same grade or higher than their associated studs. • The operators of all other Atlas crane installations in the UK, for which Atlas UK has supplied fastenings, are made aware of the potential that the nuts that have been supplied may be of an insufficient grade.	

Appropriate action planned: Progress Ongoing — NO DATE GIVEN

Commodore Clipper

Report number: 18/2015

Ro-ro passenger ferry | Accident date: 14/07/2014

Grounding and flooding in the approaches to St Peter Port, Guernsey

No	Recommendation(s) to:	Condor Marine Services Ltd
144	Continue to improve the standard of passage planning by its bridge teams through implementing measures to ensure that: • Proper account is taken of all factors affecting draught and available depth of water; in particular, an assessment of how such factors affect the width of safe water available. • Use of ECDIS safety features is improved, including adjustment of the safety contour relevant to the local conditions and observation of all alarms.	

Appropriate action implemented

No	Recommendation(s) to:	Government of Guernsey
145	Improve the standard of vessel traffic services within the Guernsey Ordnance statutory pilotage area by implementation of an information level service to shipping as guided by the applicable elements of the Maritime and Coastguard Agency's Marine Guidance Note 401.	

Appropriate action planned: 2017 DECEMBER 31

146	Implement measures designed to provide assurance that, post-qualification, its Special Pilotage Licence holders continue to demonstrate the required level of proficiency when conducting acts of pilotage.	

Appropriate action planned: 2017 DECEMBER 31

Dieppe Seaways

Report number: 20/2015

Ro-ro passenger vessel | Accident date: 01/05/2014

Fire on the approach to, and subsequently alongside, the Port of Dover, UK

No	Recommendation(s) to: Det Norske Veritas Germanischer Lloyd
149	Provide guidance to its surveyors on: • Previous incidents involving PWT DW III thermal oil heaters; and • Appropriate and effective methods for examining welded connections on thermal oil heater coils, to reinforce its existing recommendation for hydraulic pressure testing where coils are not accessible for visual external inspection.

Appropriate action implemented

Ocean Way

Report number: 23/2015

Fishing vessel | Accident date: 02/11/2014

Capsize and foundering 100 miles north-east of Tynemouth resulting in three fatalities

No	Recommendation(s) to: Maritime and Coastguard Agency
154	Take action to ensure that the EPIRBs required to be carried on UK registered fishing vessels are equipped with integral GNSS receivers.

Appropriate action planned: 2017 OCTOBER 31

Dover Seaways

Report number:	**24/2015**	
Ro-ro passenger vessel	Accident date:	09/11/2014

Contact with the South Breakwater, Dover

No	Recommendation(s) to:	DFDS A/S
155	Take steps to improve its vessels' crews' responses to emergency situations by, inter alia: • Including simulated ship systems failures in its bridge resource management training, and • Ensuring that its standard operating procedures prioritise the need for passengers and crew to be provided with a timely warning, especially when impact is imminent, so that the risk of injuries can be reduced.	

Appropriate action implemented

Beryl

Report number:	**26/2015**	
Fishing vessel	Accident date:	10/02/2015

Fatal person overboard west of the Shetlands Islands

No	Recommendation(s) to:	Maritime and Coastguard Agency/ Scottish Fishermen's Federation/ National Federation of Fishermen's Organisations/ Sea Fish Industry Authority
156	Through membership of the Fishing Industry Safety Group, collectively explore ways of: • Ensuring fishermen conduct regular emergency drills as required by statute. • Procuring rescue dummies which could be made available to the owners/skippers of fishing vessels to facilitate realistic manoverboard drills. • Using the results of onboard risk assessments to promote behavioural change and develop robust safety cultures.	

MCA: Appropriate action planned: 2017 DECEMBER 31

NFFO: Appropriate action planned: 2017 SEPTEMBER 30

Seafish: Appropriate action planned: Progress Ongoing NO DATE GIVEN

SFF: Partially accepted - closed[4]

[4] Refer to page 46 of 2015 MAIB Annual Report for MAIB comment: www.gov.uk/government/uploads/system/uploads/attachment_data/file/541432/MAIB_AnnualReport2015.pdf

No	Recommendation(s) to:	Maritime and Coastguard Agency
157	Strengthen and enforce its policy regarding manoverboard drills on board fishing vessels by ensuring that during surveys: • The witnessed drills are realistic, and practise recovery procedures as well as initial actions. • Owners are instructed to have sufficient crew available • The frequency of manoverboard drills conducted is similar to other emergency drills. **Appropriate action planned:** Update requested NO DATE GIVEN	

No	Recommendation(s) to:	Sea Fish Industry Authority
158	Conduct research into the manoverboard recovery systems suitable for use on board fishing vessels and promulgate advice on the systems to the fishing industry regarding their suitability, capabilities and limitations. **Appropriate action planned:** Progress Ongoing NO DATE GIVEN	

Norjan

Report number: 27/2015

Cargo vessel — Accident date: 18/06/2014

Chief officer's fall from a hatch cover at Southampton

No	Recommendation(s) to:	Reederei Erwin Strahlmann GmbH & Co. KG
160	Implement the applicable additional requirements for ships equipped to carry containers in the amendments contained in Annex 14 of the CSS Code. **Appropriate action implemented**	
161	Apply, as far as is reasonably practicable, the principles of a cargo safe access plan to its non-standardised cargo stowage and securing operations. **Appropriate action implemented**	

Stella Maris

Report number: 29/2015

Fishing vessel — Accident date: 28/07/2014

Capsize and foundering 14 miles east of Sunderland

No	Recommendation(s) to:	Maritime and Coastguard Agency
165	Introduce intact stability criteria for all new and significantly modified decked fishing vessels of under 15m in length. **Appropriate action planned:** 2020 DECEMBER 31	

166 Revise as necessary and re-issue its guidance to fishing vessel owners and skippers on the application to fishing vessels of:

- The Merchant Shipping (Provision and Use of Work Equipment) Regulations 2006, and
- The Merchant Shipping (Lifting Operations and Lifting Equipment) Regulations 2006.

Appropriate action planned: Progress Ongoing — NO DATE GIVEN

No	Recommendation(s) to:	Sea Fish Industry Authority

167 Amend its construction standards for new registered vessels to increase the angle at which downflooding occurs by reviewing the placement of ventilation ducts in or adjacent to the bulwarks.

Appropriate action planned: 2017 SEPTEMBER 30

No	Recommendation(s) to:	Marine Management Organisation

168 Mandate stability verification for current and future European Commission-funded projects involving decked vessels undergoing significant modifications that might impact on their stability.

Appropriate action planned: Update requested — NO DATE GIVEN

169 Include vessel stability verification as an eligible safety related undertaking for attracting grant aid from European Commission fund schemes.

Appropriate action planned: Update requested — NO DATE GIVEN

170 Require scale drawings, machinery installation details, winch power information and all other relevant details of proposed structural modifications to vessels to be included in all applications for assistance from future European Commission funded schemes.

Partially accepted: Update requested — NO DATE GIVEN

No	Recommendation(s) to:	Maritime and Coastguard Agency/ Marine Management Organisation

171 Work together to ensure European Commission funded modifications are fully reviewed for their impact on vessel stability and safety by agreeing the remit of such reviews and setting realistic target times to enable such co-operation.

MCA: Appropriate action planned: 2017 MAY 31

MMO: Appropriate action planned: Update requested — NO DATE GIVEN

2014 RECOMMENDATIONS - PROGRESS REPORT*

Danio

Report number: 8/2014

General cargo vessel | Accident date: 16/03/2013

Grounding off Longstone, Farne Islands, England

No	Recommendation(s) to:	Maritime and Coastguard Agency
110	Working closely with the European Commission and EU member states, make a proposal to the International Maritime Organization that all vessels engaged in short sea trades be required to carry a minimum of two watchkeepers in addition to the master.	

Appropriate action planned: 2017 NOVEMBER 30

CMA CGM Florida/ Chou Shan

Report number: 11/2014

Container vessel/Bulk carrier | Accident date: 19/03/2013

Collision between container vessel *CMA CGM Florida* and the bulk carrier *Chou Shan* in open water 140 miles east of Shanghai

No	Recommendation(s) to:	Maritime and Coastguard Agency
117	Update Appendix IV of MGN 324 (M+F) to: • Acknowledge the growing trend of integrating AIS data with radar systems. • Acknowledge the increased availability and use of radar functions that focus on and prioritise targets for collision avoidance on the basis of AIS target CPA and TCPA rather than radar target tracking information. • Warn of the danger of limiting situational awareness through over reliance on radar functions that focus on and prioritise AIS target CPA and TCPA.	

Appropriate action planned: 2017 OCTOBER 31

*Status as of 30 April 2017

Eshcol

	Report number:	**14/2014**
Fishing vessel	Accident date:	15/01/2014

Carbon monoxide poisoning on board fishing vessel in Whitby, resulting in two fatalities

No	Recommendation(s) to:	Maritime and Coastguard Agency
120	At the earliest opportunity, include in the Code of Practice for the Safety of Small Fishing Vessels a requirement for a carbon monoxide detector to be fitted in the accommodation on all vessels.	
	Appropriate action planned:	2017 OCTOBER 31
121	In developing a Code of Practice for the Safety of Small Fishing Vessels based on the Small Commercial Vessel and Pilot Boat Code, and in implementing the requirements of International Labour Organization Convention C188 in national regulations (when in force), take into account the circumstances of this accident, including, inter alia: • The disparity in the requirements for Liquid Petroleum Gas installations on board small fishing vessels and other small commercial craft and larger fishing vessels. • The need for suitable accommodation to be provided when crew are expected or required to stay on board overnight. • The operating patterns of small fishing vessels and the need to protect fishermen from fatigue.	
	Appropriate action planned:	2017 DECEMBER 31

Ovit

	Report number:	**24/2014**
Chemical tanker	Accident date:	18/09/2013

Grounding of oil/chemical tanker in the Dover Strait

No	Recommendation(s) to:	Transport Malta in co-operation with the Maritime and Coastguard Agency
141	Propose to the Paris Memorandum of Understanding Committee that a Concentrated Inspection Campaign be conducted of ECDIS-fitted ships to establish the standards of system knowledge among navigators using a list of pre-defined questions.	
	Appropriate action planned:	Update requested NO DATE GIVEN

No	Recommendation(s) to:	International Chamber of Shipping/ Oil Companies International Marine Forum
142	In conjunction with ECDIS experts, develop and promulgate a set of focused questions for use by surveyors and auditors when conducting audits and inspections on ECDIS fitted ships.	

ICS: Appropriate action implemented

OCIMF: Appropriate action implemented

Wacker Quacker 1/ Cleopatra

Report number: 32/2014

Amphibious passenger vehicles — Accident dates: 15/06/2013 & 29/09/2013

Combined report on the investigations of the sinking and abandonment of the DUKW amphibious passenger vehicle *Wacker Quacker 1* in Salthouse Dock, Liverpool and the fire and abandonment of the DUKW amphibious passenger vehicle *Cleopatra* on the River Thames, London

No	Recommendation(s) to:	Maritime and Coastguard Agency/ Driver and Vehicle Standards Agency
153	Identify single points of contact for amphibious vehicle issues and put processes in place to allow them to work together, in consultation with the industry, to explore potential cross agency synergies, identify regulatory conflicts and agree a coherent approach to the survey and certification of new and existing amphibious passenger vehicles.	

MCA: Appropriate action planned: 2017 DECEMBER 31

DVSA: Appropriate action implemented

No	Recommendation(s) to:	Maritime and Coastguard Agency

154 Provide amphibious vehicle survey guidance and instructions to its surveyors.

Appropriate action planned: 2017 DECEMBER 31

155 Work with industry to develop an amphibious vehicle operators' code of practice.

Appropriate action planned: Progress Ongoing NO DATE GIVEN

MCA comment:
The MCA has worked with the International Amphibious Passenger Vehicle Association (IAPVA) to develop a Code of Practice for amphibious vehicles. We have offered our comments on the latest draft, however this still sits with the IAPVA for completion. We have not been provided with an estimated publication date at this time, and are unsure to offer an estimated date on behalf of IAPVA.

156 Ensure that measures to reduce the risk of passenger entrapment and improve the levels of passenger survivability are included in its proposed technical standard for amphibious passenger vehicles.

Appropriate action planned: Progress Ongoing NO DATE GIVEN

MCA comment:
Public consultation complete, however publication delayed due to ongoing discussions with Amphibious Craft industry.

157 Require existing DUKW operators, which may choose to rely on the insertion of buoyancy foam to meet the required damaged survivability standards, to demonstrate through risk based analysis that the foam does not adversely affect the safe operation of the vehicles.

Appropriate action planned: 2017 APRIL 30

No	Recommendation(s) to:	London Duck Tours Ltd

158 Use the safety lessons identified in this report to take further action to ensure, as far as is reasonably practicable, its vehicles, crew and passengers are best prepared to deal with emergency situations. In particular, attention should be given to:

- The readiness and use of PFDs: the practicalities of the current arrangements should be reviewed and consideration given to requiring all passengers to wear PFDs whenever DUKWs are waterborne.
- Establishing appropriate and achievable emergency procedures: these should include the marshalling of passengers, alerting potential responders and abandonment.
- Development of effective training drills.
- Engine compartment shut-down and fire-fighting.
- Lowering the risk of passenger and crew entrapment: assess in particular whether the current canopy arrangements are appropriate.

Appropriate action planned: Update requested NO DATE GIVEN

MAIB comment:
No response to recent requests for an update on progress.

2013 RECOMMENDATIONS - PROGRESS REPORT*

St Amant

Report number: 1/2013

Fishing vessel | Accident date: 13/01/2012

Loss of a crewman from fishing vessel off the coast of north-west Wales

No	Recommendation(s) to: Maritime and Coastguard Agency
2013/102	Ensure that its current policy of reviewing and deleting exemptions granted to fishing vessels that pre-date current regulatory requirements is applied robustly. As part of this process, the ambiguity between its Instructions to Surveyors and the 15-24m Code regarding the ongoing acceptance of standard exemptions should be resolved. **Appropriate action planned:** 2017 DECEMBER 31
2013/103	Provide guidance to the owners and skippers of fishing vessels which operate at sea for more than 24 hours on appropriate accommodation standards. The guidance should also recommend consideration of hygiene and sanitation facilities in a vessel's risk assessments, and the application of appropriate control measures. **Appropriate action planned:** 2017 DECEMBER 31
2013/105	Improve the management of fishing vessel surveys and inspections by ensuring that: • Existing survey and inspection procedures and guidance are reviewed to improve the clarity of the guidance and ensure that it is consistent throughout. • There is an effective and readily accessible system to record and provide information to surveyors on the status of all identified deficiencies. • Existing instructions requiring a photographic record of a vessel's principal features are followed. **Appropriate action planned:** 2017 DECEMBER 31

*Status as of 30 April 2017

Heather Anne

Report number: 2/2013

Fishing vessel | Accident date: 20/12/2011

Capsize and foundering resulting in the loss of one crewman in Gerrans Bay, Cornwall

No	Recommendation(s) to: Maritime and Coastguard Agency
2013/106	Revise MGN 427 (F) in order to provide clearer and more comprehensive guidance to surveyors and fishermen on the methods available to assess small fishing vessel stability, taking into account, inter alia: • The limitations of the alternatives to a full stability assessment. • The suitability of the alternative stability assessments for small fishing vessels. • A vessel's stability is dependent on several factors including its upright GM, freeboard and hull form. • The need for skippers to be aware of the maximum loading of their vessels and the benefits of a freeboard mark. • The impact of vessel modifications. • Owners' and skippers' awareness of stability considerations while fishing. **Appropriate action planned:** 2017 DECEMBER 31
2013/108	Specify the improvement in safety culture/behavioural change that it is seeking with respect to the voluntary wearing of personal flotation devices by individuals working on the decks of fishing vessels, and the timescale within which it is to be achieved; and Make arrangements to rapidly introduce the compulsory wearing of personal flotation devices on the working decks of fishing vessels if the sought after changes are not delivered. **Partially accepted[5] - Action planned:** 2020 DECEMBER 31

No	Recommendation(s) to: Maritime and Coastguard Agency/ Marine Management Organisation
2013/109	Work together to link the funding provided for modifications to small fishing vessels with a full assessment of the impact such modifications will have on such vessels' stability, particularly where the proposed modifications will substantially alter the method of fishing to be undertaken. **MCA: Appropriate action planned:** 2017 MAY 31 **MMO: Appropriate action planned:** 2017 MAY 31

[5] Refer to page 18 of 2013 MAIB Annual Report for MCA and MAIB comments: www.gov.uk/government/uploads/system/uploads/attachment_data/file/359941/MAIB_Annual_Report_2013.pdf

Purbeck Isle

Report number: 7/2013

Fishing vessel | Accident date: 17/05/2012

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

No	Recommendation(s) to: Maritime and Coastguard Agency
2013/203	Take action to implement Recommendation 2008/173, issued in the MAIB's 1992-2006 Fishing Vessel Safety Study, specifically by: • Introducing a requirement for all fishing vessels of <15m length overall to carry EPIRBS. • Ensuring that the *Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997* apply in respect of all fishermen on board fishing vessels, irrespective of their contractual status. **Appropriate action planned:** 
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*. **Appropriate action planned:** 

Sarah Jayne

Report number: 13/2013

Fishing vessel | Accident date: 11/09/2012

Capsize and foundering of fishing vessel 6nm east of Berry Head, Brixham resulting in the loss of one life

No	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 planned:** 

Vixen

Report number:	**16/2013**	
Passenger ferry	Accident date:	19/09/2012

Foundering in Ardlui Marina, Loch Lomond

No	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: Appropriate action planned:

West Dunbartonshire Council: Appropriate action planned:

Arklow Meadow

Report number:	**21/2013**	
General cargo vessel	Accident date:	05/12/2012

Release of phosphine gas during cargo discharge, Warrenpoint, Northern Ireland

No	Recommendation(s) to:	Maritime and Coastguard Agency

2013/225 In consultation with the Health and Safety Executive, the Port Skills and Safety Organisation, and other industry bodies as appropriate, review, consolidate and reissue the guidance provided to UK stakeholders on the loading, carriage and discharge of fumigated cargoes to highlight the importance of:

- The potential for a fumigant to remain active due to factors such as temperature, relative humidity, voyage length and fumigant method.
- The retention of suitably trained and qualified fumigators at both the load and discharge ports.
- Ships' crews being aware of their responsibilities.
- UK port authorities having robust procedures and contingency plans when receiving vessels with fumigated cargoes.

Appropriate action planned:

MAIB comment:
MCA has advised that a draft document has been produced; we are currently awaiting publication of the finalised document.

No	Recommendation(s) to:	UK Marine Ports Group/ British Ports Association
2013/226	Through its Marine and Pilotage Working Group, develop a revision of the Guide to Good Practice on Port Marine Operations to reflect the revised guidance to be issued by the MCA, and in the meantime ensure that ports are aware of: • The potential dangers posed by fumigants. • The importance of suitably qualified fumigators certifying, where applicable, that the cargo can be safely discharged and that all fumigant has been removed and safely disposed of. • The importance of developing procedures and emergency plans to cover the inadvertent or unexpected release of fumigant from a fumigated cargo.	UKMPG: Appropriate action implemented BPA: Appropriate action implemented

Audacious/Chloe T

Report[6] number: 27/2013

Fishing vessels — Accident dates: 10/8/2012 & 01/09 2012

Flooding and foundering of fishing vessel *Audacious* 45 miles east of Aberdeen on 10 August 2012

◀▶

Flooding and foundering of fishing vessel *Chloe T* 17 miles south west of Bolt Head, Devon on 1 September 2012

No	Recommendation(s) to:	Maritime and Coastguard Agency
2013/249	Review the conduct of its surveys and inspections of fishing vessels in order to ensure that: • The scope is credible and that it can be achieved in practice. • The whole scope is routinely applied. • Records are accurate and complete.	Appropriate action planned: 2017 OCTOBER 31
2013/250	Implement a robust system to manage the scheduling of surveys and inspections on fishing vessels. Such a system should be capable of readily identifying vessels that are overdue for any surveys or inspections.	Appropriate action planned: 2017 SEPTEMBER 30

[6] Due to similarities between the accidents MAIB took the decision to publish its findings as a combined report.

2012 RECOMMENDATIONS - PROGRESS REPORT*

Karin Schepers

	Report number	10/2012
Container vessel	Accident date:	03/08/2011

Grounding at Pendeen, Cornwall, UK

No	Recommendation(s) to:	Maritime and Coastguard Agency
2012/115	Assess the desirability of, and, where appropriate, develop operational guidelines for using Automatic Identification Systems (AIS) data to monitor marine traffic movements. Special consideration should be given to using AIS data to monitor marine traffic movement in areas of high traffic concentrations, including traffic separation schemes, where there is limited or no radar coverage.	

Appropriate action planned: 

MAIB comment
We are expecting a completion letter from MCA shortly.

Tombarra

	Report number:	19A ◊ 19B/2012
Car carrier	Accident date:	07/02/2011

Fatality to a rescue boat crewman, Royal Portbury Docks, Bristol

Report Part A - The weight of the rescue boat		
No	**Recommendation(s) to:**	**Maritime and Coastguard Agency**
2012/129	Submit to the IMO a proposal to mandate a maximum height of the davit head used in conjunction with rescue boats and survival craft fitted on board both cargo and passenger ships, based upon: • Recognition of the severe difficulties faced by the crews of high-sided vessels such as *Tombarra* when attempting to launch rescue boats in a seaway. • The increased hazards to which the crews of rescue boats and survival craft are exposed when operating at height. • The action taken by Wilhelmsen Lines Car Carriers Ltd to change the design of its future vessels to lower the height of the rescue boat davit head. • The maximum height of davit heads used in conjunction with survival craft already recommended for passenger vessels in SOLAS III/24; and, • The guidance provided in MSC Circ 1094 regarding the height of davit heads used for fast rescue boats on board passenger ships.	

Appropriate action planned 

MAIB comment
We are expecting a completion letter from MCA shortly.

***Status as of 30 April 2017**

Report Part B - The failure of the fall wire		
No	**Recommendation(s) to:**	**Maritime and Coastguard Agency**
2012/128	Submit to the IMO proposals for the LSA Code to: • Reflect a requirement for a 'system approach' to davit and winch installations with the aim of eliminating the possibility of any component being overstressed to the point of failure. • Provide clarification on the fitting and use of 'safety devices' on davit and winch systems, using a goal-based approach to their application. **Appropriate action planned:** 	
MAIB comment **We are expecting a completion letter from MCA shortly**		
2012/134	Submit to the IMO proposals to amend the LSA Code designed to: • Ensure any water entering foam-filled buoyancy chambers within the enclosed hulls of rescue boats and lifeboats can be easily removed. • Require the actual weight of the rescue boat or lifeboat supplied to the vessel, rather than its prototype, to be provided in its certification. **Appropriate action planned:** 	
MAIB comment **We are expecting a completion letter from MCA shortly**		
2012/135	Submit to the IMO proposals to amend MSC.1/Circ.1206/Rev.1 designed to require the annual weighing of rescue boats and lifeboats which use buoyancy foam within internal spaces, as soon as practicable. **Appropriate action planned:** 	
MAIB comment **We are expecting a completion letter from MCA shortly**		

2011 RECOMMENDATIONS - PROGRESS REPORT

No outstanding recommendations for 2011

2010 RECOMMENDATIONS - PROGRESS REPORT*

Korenbloem/Optik/Osprey III

(Combined) report number: 6/2010

Fishing vessels | Accident dates: November 2009

Fatal person overboard accidents

No	Recommendation(s) to:	Department for Transport
2010/112	Recognise the consistent and disproportionate rate of fatalities in the UK fishing industry and take urgent action to develop a comprehensive, timely and properly resourced plan to reduce that rate to a level commensurate with other UK occupations.	Appropriate action planned: 31 MAY 2017

DfT comment:
2016 comment: DfT comment: The Draft FISG Strategy was put forward to the FISG Executive Board in May 2016. However, it was agreed at that meeting that the wider FISG group should consider further amendments, including some arising from MAIB investigations, and that an amended Strategy would be presented to the next FISG meeting in May 2017.

Following a series of tragic incidents, an extraordinary meeting of the FISG Executive Board took place in January 2017 to consider what further actions might be necessary to address safety in the sector. Proposals put forward at the meeting are currently being considered and will be presented in greater detail at the May 2017 FISG meeting.

Bro Arthur

Report number: 9/2010

Oil/chemical tanker | Accident date: 19/02/2010

Fatality of a shore worker in No 2 cargo tank while alongside at Cargill Terminal, Hamburg

No	Recommendation(s) to:	International Chamber of Shipping
2010/120	Include guidance on the following in the respective International Chamber of Shipping publications during their next periodic review: • TSGC - Management of contractors and sub-contractors with emphasis on the master's and other officers' and crew members' related health and safety responsibilities. • TSGC and ISGOTT - The need for the provision of lightweight, portable casualty recovery equipment suitable for recovery from deep cargo tanks and for the crew to be fully trained in its use.	Appropriate action planned: 31 DECEMBER 2019

MAIB comment:
The ICS publication TSG (Chemicals) has been completed. The update to ISGOTT is due by the end of 2019.

***Status as of 30 April 2017**

Olivia Jean	Report number:	10/2010
Fishing vessel	Accident date:	10/10/2009

Injury to fisherman

No	Recommendation(s) to: Maritime and Coastguard Agency
2010/123	Consider the findings of this investigation when assisting the Department for Transport to address MAIB Recommendation 2010/112, including the need to improve fishing vessel standards and occupational safety by: • Reviewing the application of LOLER, PUWER, risk assessment and working time regulations on board fishing vessels to ensure that they are suitable for the task of improving safety and reducing accidents. • Providing clear and robust guidance to its surveyors and the fishing industry at large. • Ensuring that accurate records are maintained such that surveyors are provided with the information required to survey fishing vessels effectively. • Improving its recording of accidents on vessels' SIAS records to identify trends and act upon them. **Appropriate action planned:** 2017 SEPTEMBER 30

2009 RECOMMENDATIONS - PROGRESS REPORT*

Celtic Pioneer

Report number: 11/2009

Rigid-hulled Inflatable Boat | Accident date: 26/08/2008

Injury to a passenger on board RIB in the Bristol Channel

No	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: 2018 SEPTEMBER 30

MCA comment:
The MCA has worked together with the RYA and BMF to agree the text to be included in the new code, and the responsibility for the publication is now in the hands of the RYA/BMF. We have not been provided with an estimated publication date at this time.

Abigail H

Report number: 15/2009

Grab hopper dredger | Accident date: 02/11/2008

Flooding and foundering in the Port of Heysham

No	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 planned: 2018 SEPTEMBER 30

*Status as of 30 April 2017

Fishing Vessel Safety Study

Fishing vessels | Accident dates: 1992 to 2006

Analysis of UK Fishing Vessel Safety 1992 to 2006

No	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 planned:** 2017 NOVEMBER 30

No	Recommendation(s) to:	Department for Transport/ Maritime and Coastguard Agency
2008/174	Agree the coherent resourced plan for reducing the fatality rate in the fishing industry (see recommendation 2008/173). **DfT: Appropriate action planned:** 2017 APRIL 30 **MCA: Appropriate action planned:** 2017 APRIL 30

Note:
For comment refer to the DFT statement under recommendation 2010/112 on page 68.

*Status as of 30 April 2017

No	Recommendation(s) to:	Maritime and Coastguard Agency
2008/177	Review the current requirements for safety training with particular reference to training assessment and refresher training.	

Appropriate action planned: 2017 SEPTEMBER 30

2007 RECOMMENDATIONS - PROGRESS REPORT*

Danielle

Report number: 5/2007

Fishing vessel — Accident date: 06/06/2006

Major injuries sustained by a deckhand

No	Recommendation(s) to:	Maritime and Coastguard Agency
2007/119	Amplify and expand on current advice contained in MSN 1768 (M&F) such that fishermen are reminded: • Medical scale requirements provide the minimum levels of medical stores only. Additional stores may be provided at the skipper's/owner's discretion. Such advice should also specify the need for skippers to consider the level of additional medical stores carried on individual vessels as part of the statutory risk assessment process.	

Partially accepted - action planned : 2017 SEPTEMBER 30

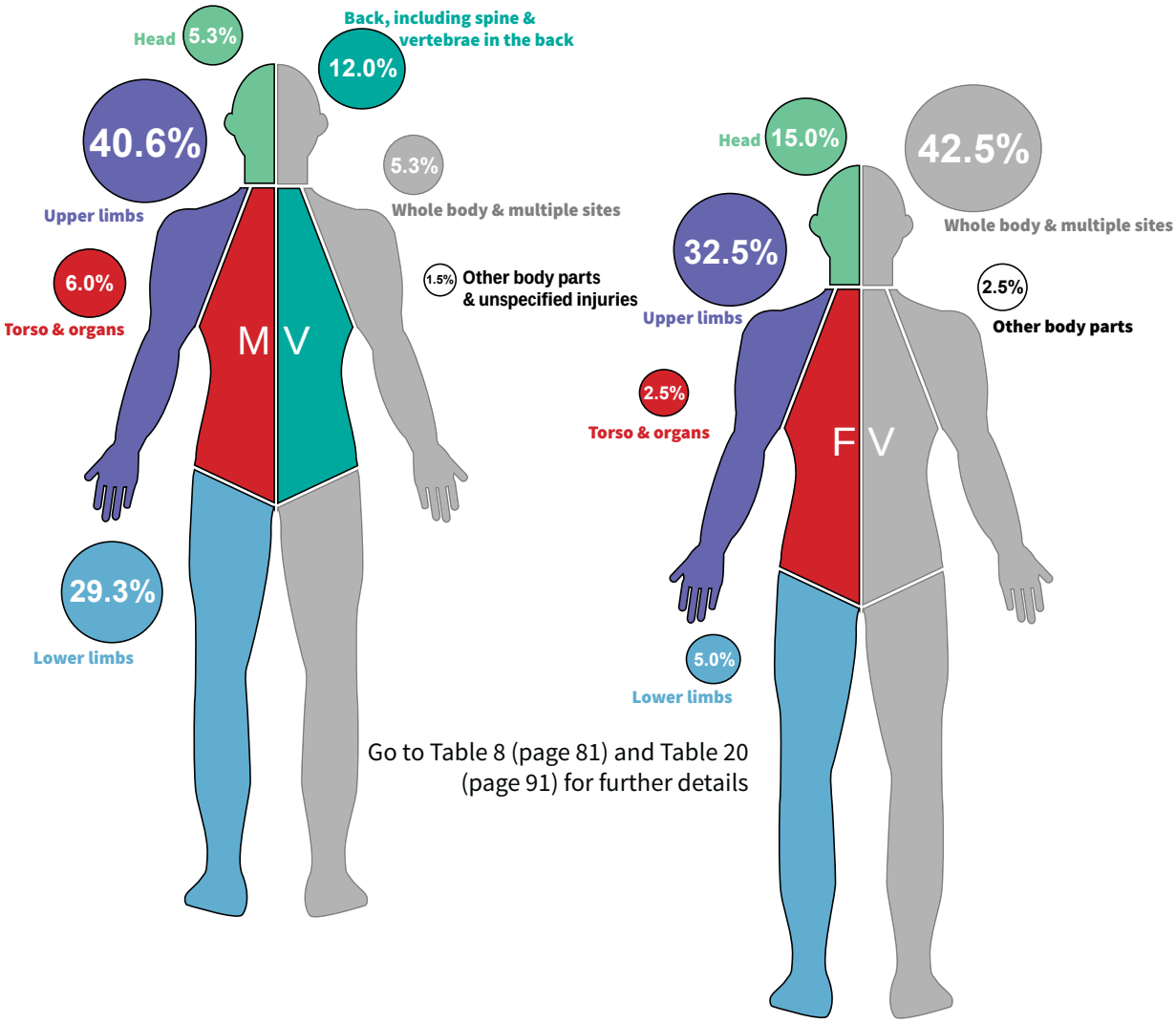
*Status as of 30 April 2017

PART 3: STATISTICS

STATISTICS - TABLE OF CONTENTS

For details of reporting requirements and terms used in this section please see Annex - Statistics Coverage on page 96 and Glossary on page 102.

Charts 6 and 7: Deaths and injuries of merchant vessel and fishing vessel crew by part of body injured



Go to Table 8 (page 81) and Table 20 (page 91) for further details

UK VESSELS: ACCIDENTS INVOLVING LOSS OF LIFE

Table 1: Loss of life in 2016 reported to the MAIB

Date	Name of vessel	Type of vessel	Location	Accident
Merchant vessels 100gt and over				
24 Mar	***Pacific Aria***	Passenger ship	Maré, New Caledonia	A passenger fell down stairs resulting in fatal injuries.
11 May	***Johanna C***	General cargo	Songkhla, Thailand	The chief officer fell and sustained fatal injuries during cargo operations.
18 Dec	***Graig Rotterdam***	Bulk carrier	Alexandria, Egypt	A crew member was killed while discharging cargo.
Merchant vessels under 100gt (excluding commercial recreational)				
20 Sep	***Domingue/ CMA CGM Simba***	Tug/container ship	Tulear, Madagascar	Two crew members died when their Madagascar-registered tug *Domingue* girted and capsized while assisting the UK-registered container vessel *CMA CGM Simba* out of harbour
5 Oct	***Patrol/ Sunmi***	Pilot vessel/ general cargo vessel	River Thames near Gravesend	A pilot suffered fatal injuries when he was crushed between the pilot vessel *Patrol*, and the Bahamas-registered general cargo vessel *Sunmi*.
Fishing vessels				
9 Apr	***Louisa***	Vivier creel boat	Off the Isle of Mingulay, Outer Hebrides	The vessel sank at anchor resulting in three fatalities
18 Apr	***Apollo***	Stern trawler	30nm NW of the Orkney Islands	A crewman fell overboard and was drowned while nets were being raised.
28 Apr	***Harvester***	Potter	Off the Pembrokeshire coast	Both crew members are presumed to have fallen overboard and drowned while shooting pots.
9 Jun	***Our Sarah Jane***	Potter	English Channel	A crewman was lost overboard while attempting to free a fouled propeller.
23 Jun	***King Challenger***	Scallop dredger	12nm SW of Scalloway, Shetland Islands	A crewman fell overboard while retrieving damaged gear. He was recovered from the water but could not be revived.
3 Sep	***Pauline Mary***	Potter	East of Hartlepool	A crewman fell overboard while shooting pots. He was recovered from the water but could not be revived.
Recreational craft (*including commercial recreational)				
13 Jan	-	Inflatable kayak	Sound of Arisaig, west coast of Scotland	Presumed capsize/person overboard.
15 Feb	***Toby Wallace***	Commercial ocean-going rowing boat*	North Atlantic Ocean	A crew member was swept overboard and lost.
28 Mar	-	Kayak	River Wey, Guildford	Capsize following which the kayaker got into difficulties and was unable to be resuscitated.

Date	Name of vessel	Type of vessel	Location	Accident
Recreational craft continued				
1 Apr	***CV21***	Commercial racing yacht*	North Pacific Ocean	A crew member was swept overboard. She was recovered from the water but was unable to be revived.
6 Apr	-	Kayak	River Medway, Kent	Presumed capsize/person overboard
19 Apr	***Rum Runner***	Small motorboat	Off Deal, Kent	The vessel, which was being used by father and son, became swamped and capsized. The son swam to the shore but the father did not survive.
21 May	-	Drascombe Lugger open day boat	Findhorn Bay, Moray, East Scotland	The boat capsized in a squall following which the single-handed sailor got into difficulties and could not be revived.
9 Jun	***Love for Lydia***	Motor cruiser	Wroxham Broad, Norfolk	Two people and their dog died from carbon monoxide poisoning.
17 Jun	-	Kayak	Pease Bay, Berwickshire, Scotland	Capsize following which the kayaker was unable to be revived.
27 Jun	-	Sailing dinghy	Fortrose, Moray Firth	Capsize following which the single-handed sailor could not be revived.
11 Jul	-	Open angling boat	Leysdown Beach, Isle of Sheppey, Kent	The boat became swamped and capsized. One of the two men on board got into difficulties and could not be revived.
24 Jul	-	Kayak	Clacton-on-Sea, Essex	Person overboard.
25 Jul	***Sonskit***	Narrowboat	Droitwich Junction Canal	A man drowned in a lock as the vessel became trapped by the stern and flooded as the lock was filling.
3 Aug	-	Open angling boat	Loch of Boardhouse, Orkney Islands	Two brothers died when they fell overboard.
31 Aug	-	Small angling boat	Off Aberystwyth harbour	Both occupants fell overboard leaving the vessel circling. One was unable to be revived.
4 Sept	-	14ft sailing dinghy	Sanday, Orkney Islands	Dinghy capsized leaving both occupants in the water. One was unable to be revived.
10 Sep	Tender to yacht ***Windrush***	Rowing inflatable tender	Brixham Harbour	Person overboard between shore and yacht.
20 Oct	-	Kayak	Croyde Beach, North Devon	Capsize following which the kayaker was unable to be revived.
6 Nov	Tender to yacht ***Norisle***	Dinghy with outboard	Keyhaven, Hampshire	Person overboard between shore and yacht.
12 Nov	***Vasquez***	Motor cruiser	Cardiff Yacht Club	The owner died as a result of carbon monoxide poisoning.

UK MERCHANT VESSELS >= 100GT

Table 2: Merchant vessel total losses

There were no losses of UK merchant vessels reported to MAIB in 2016.

Table 3: Merchant vessel losses — 2006-2016

	Number lost	UK fleet size	Gross tons lost
2006	-	1480	-
2007	5	1518	54304
2008	2	1578	645
2009	1	1564	274
2010	-	1520	-
2011	-	1521	-
2012	-	1450	-
2013	-	1392	-
2014	-	1361	-
2015	-	1385	-
2016	-	**1365**	-

Table 4: Merchant vessels in casualties by nature of casualty and vessel category❶

	Solid cargo	Liquid cargo	Passenger	Service ship	Total
Collision	1	2	8	8	**19**
Contact	8	2	8	6	**24**
Damage to ship or equipment	1	1	7	2	**11**
Fire/explosion	1	-	6	2	**9**
Grounding	5	1	2	10	**18**
Loss of control	4	2	13	7	**26**
Total	**20**	**8**	**44**	**35**	**107**

❶ Vessel groups include vessels operating on inland waterways.
Note: 107 Casualties represents a rate of 78 casualties per 1 000 vessels on the UK Fleet.

Table 5: Deaths and injuries to merchant vessel crew — 2006-2016❷

	Crew injured	Of which resulted in death
2006	233	3
2007	243	12
2008	224	5
2009	199	6
2010	222	3
2011	185	5
2012	186	3
2013	134	1
2014	142	-
2015	141	2
2016	**133**	**2**

❷ From 2012 this table excludes injuries/fatalities that were not in connection with the operation of a ship

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

Rank/specialism	Number of crew
Master/skipper	1
Officer, deck	8
Officer, engineering	7
Rating	24
Other crew	93
Total	**133**

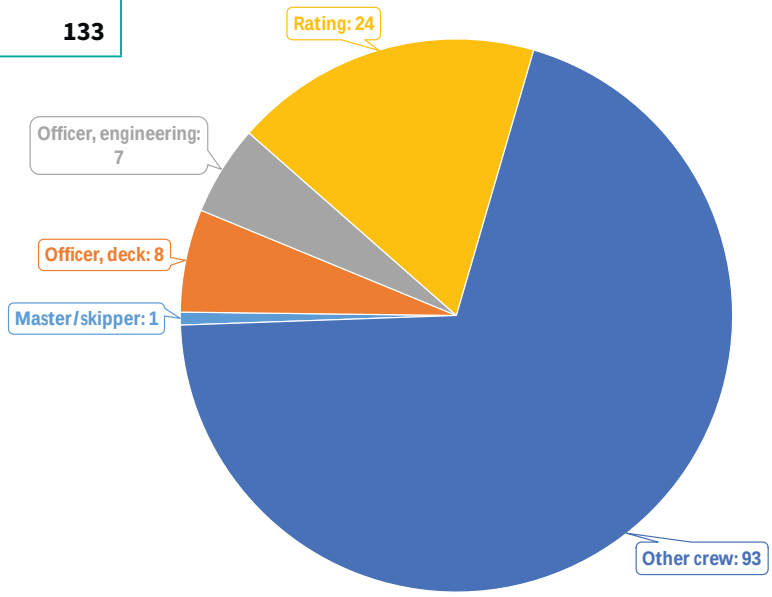


Chart 8: Deaths and injuries of merchant vessel crew by rank

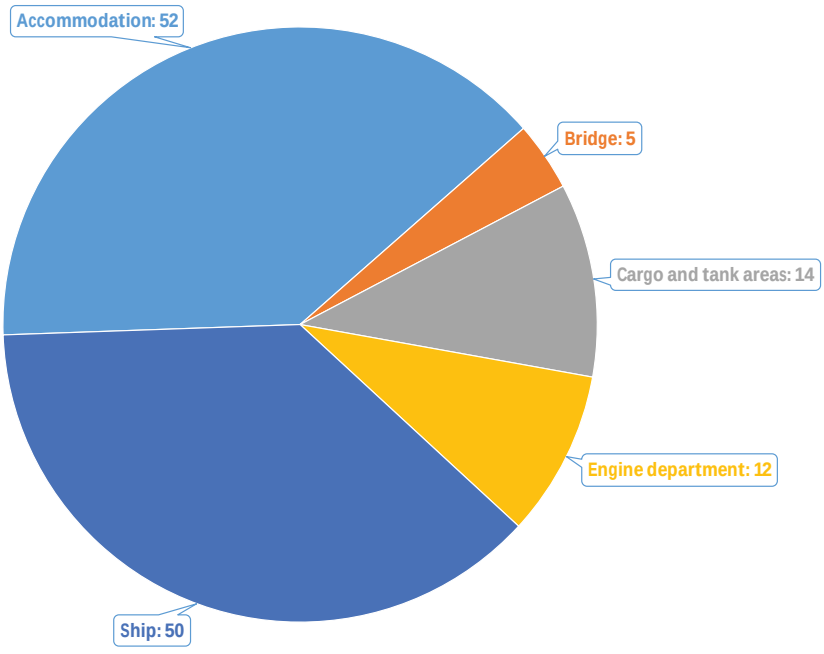


Chart 9: Deaths and injuries of merchant vessel crew by place

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

Place		Number of crew
Accommodation	Bathroom, shower, toilet	5
	Cabin space - crew	7
	Corridor	4
	Elevator/lift	1
	Galley spaces	13
	Gymnasium	3
	Mess room, dayroom	1
	Provision room	1
	Restaurant/bar	4
	Stairway/ladders	6
	Theatre	1
	Accommodation, other	6
Bridge	Wheelhouse	5
Cargo & tank areas	Cargo hold	5
	Cofferdam/void space	1
	Open deck cargo space	1
	Ro-Ro vehicle deck ramp	2
	Vehicle cargo space	4
	Other	1
Engine department	Boiler room	1
	Compressor room	1
	Control room	1
	Engine room	4
	Steering gear room	1
	Workshop/stores	1
	Cargo tank and tank areas, other	3
Ship	Boat deck	11
	Freeboard deck	8
	Forecastle	2
	Forecastle deck	4
	Gangway	1
	Poop deck	2
	Superstructure deck	2
	Stairs/ladders	8
	Over side	2
	Ship, other	10
	Total	**133**

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	Whole body	1
	Multiple sites	6
Head	Facial area	1
	Eye(s)	1
	Ears(s)	2
	Head, brain, cranial nerves and vessels	2
	Head, other	1
Upper limbs	Shoulder and shoulder joints	4
	Arm, including elbow	5
	Hand	16
	Finger(s)	21
	Wrist	7
	Upper limbs, multiple sites affected	1
Back, including spine and vertebrae in the back		16
Torso and organs	Rib cage, ribs including joints and shoulder blade	4
	Chest area including organs	2
	Pelvic and abdominal area including organs	2
Lower limbs	Leg, including knee	23
	Ankle	9
	Foot	3
	Toe(s)	1
	Lower limbs, multiple sites affected	3
Other parts of body injured, not mentioned above		1
Not specified		1
Total		**133**

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	7
	Pushing, pulling	4
	Putting down, bending down	3
	Twisting, turning	2
	Treading badly, twisting leg or ankle, slipping without falling	6
	Other	1
Body movement without any physical stress (generally leading to an external injury)	Being caught or carried away, by something or by momentum	25
	Uncoordinated movements, spurious or untimely actions	12
	Other	2
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)	2
	Slip, fall, collapse of Material Agent* - from above (falling on the victim)	3
	Other	1
Deviation by overflow, overturn, leak, flow, vaporisation, emission	Liquid state - leaking, oozing, flowing, splashing, spraying	5
Loss of control (total or partial)	Of machine (including unwanted start-up) or of the material being worked by the machine	3
	Of means of transport or handling equipment, (motorised or not)	3
	Of hand-held tool (motorised or not) or of the material being worked by the tool	1
	Of object (being carried, moved, handled, etc)	11
Slipping - stumbling and falling - fall of persons	Fall of person - to a lower level	19
	Fall of person - on the same level	19
	Fall overboard of person	2
	Other	1
	Total	**133**

*See "Terms" on page 103

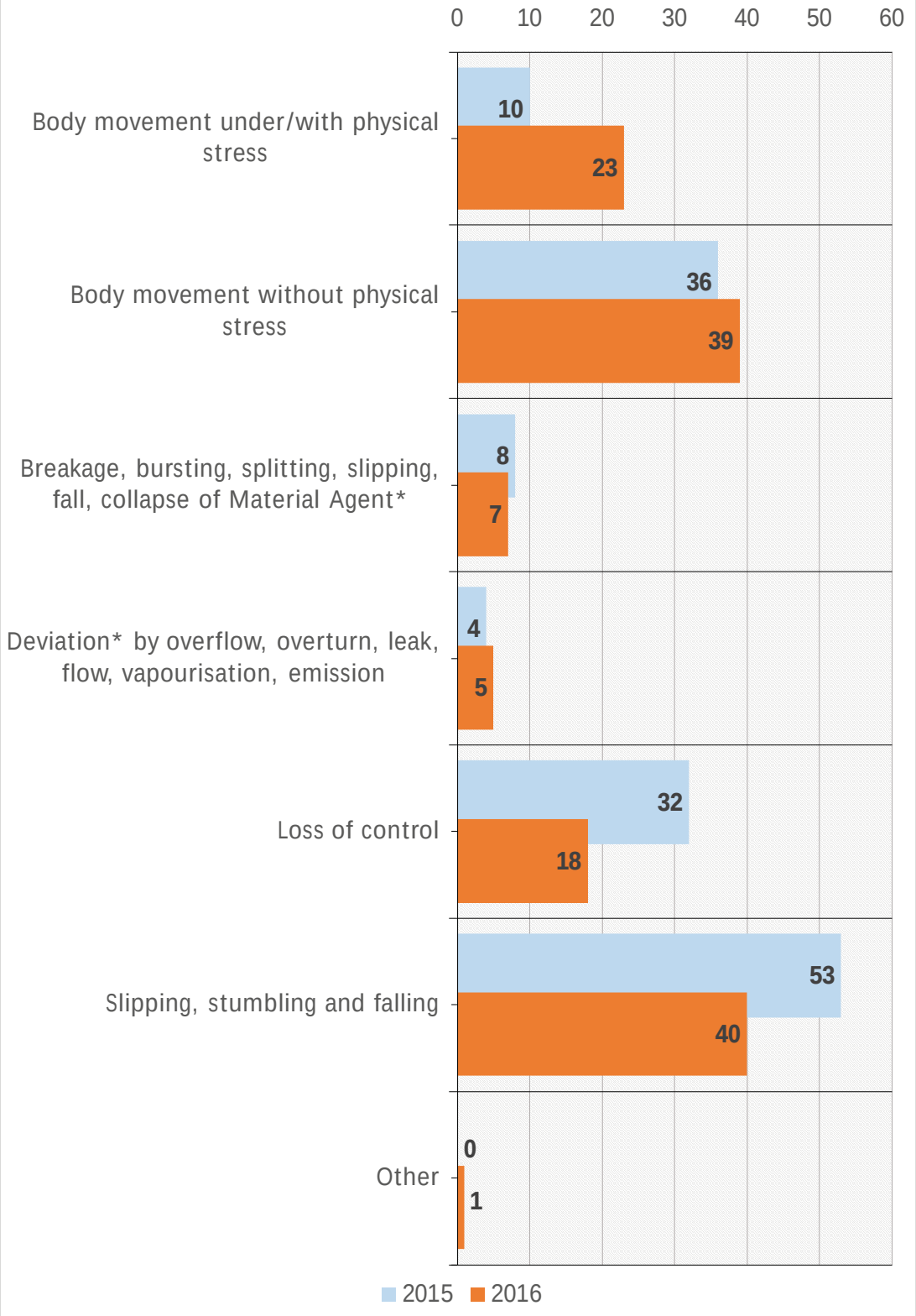


Chart 10: Deaths and injuries of merchant vessel crew by deviation*

*See "Terms" on page 103

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

Main injury		Number of crew
Bone fractures	Closed fractures	28
	Open fractures	3
Wounds and superficial injuries*	Superficial injuries*	14
	Open wounds	7
Dislocations, sprains and strains	Sprains and strains	44
Concussion and internal injuries	Internal injuries	1
Burns, scalds and frostbites	Burns and scalds (thermal)	7
Drowning and asphyxiation	Drowning and non-fatal submersions	1
Effects of sound, vibration and pressure	Acute hearing losses	1
	Effects of pressure (barotrauma)	1
Traumatic amputations (loss of body parts)		3
Other specified injuries not included under other headings		9
Multiple injuries		6
Unknown or unspecified		8
Total		**133**

*See "Terms" on page 103

Table 11: Deaths and injuries to passengers — 2006-2016❸❹

	Number of passengers	Of which resulting in death
2006	114	1
2007	106	-
2008	170	2
2009	115	1
2010	92	2
2011	109	1
2012	50	-
2013	46	-
2014	56	1
2015	55	1
2016	**51**	**1**

❸ From 2012 this table excludes injuries/fatalities that were not in connection with the operation of a ship.

❹ Between 2009 and 2011 eight cruise ships left the UK flag.

Table 12: Deaths and injuries of passengers by injury

Main injury		Number of passengers
Bone fractures	Closed fractures	36
	Open fractures	1
Concussion and internal injuries	Concussion and intracranial injuries	3
Dislocations, sprains and strains	Dislocations and subluxations	2
Wounds and superficial injuries*	Superficial injuries*	1
	Open wounds	1
Traumatic amputations (loss of body parts)		2
Multiple injuries		3
Other specified injuries not included under other headings		2
Total		**51**

*See "Terms" on page 103

UK MERCHANT VESSELS < 100GT

Table 13: Merchant vessels < 100gt - losses

Date	Name of vessel	Type of vessel	loa	Casualty event
20 May	*D-739 Peterborough Beer Festival IV* (RNLI inshore lifeboat)	Service ship - SAR craft	5.00 m	Fire
05 Dec	*Alison*	Inland waterway vessel - Worksite craft	7.25 m	Collision

Table 14: Merchant vessels < 100gt

	Solid cargo | Barge	Passenger ship	Recreational craft | Power	Recreational craft | Sailboat	Recreational craft | Rowboat	Service ship | Offshore	Service ship | SAR craft	Service ship | Tug (Towing/Pushing)	Service ship | Other	Total
Capsizing/listing	-	-	1	-	-	-	2	-	1	**4**
Collision	-	8	8	6	-	-	-	-	4	**26**
Contact	-	4	1	1	-	1	1	-	4	**12**
Damage to ship or equipment	1	-	-	3	-	-	-	-	3	**7**
Fire/explosion	-	-	2	1	-	3	1	1	2	**10**
Flooding/foundering	1	2	3	1	-	-	1	-	2	**10**
Grounding/stranding	1	2	2	12	-	3	1	-	4	**25**
Loss of control	-	7	10	5	-	-	1	1	1	**25**
Total per vessel type	**3**	**23**	**27**	**29**	**-**	**7**	**7**	**2**	**21**	**119**
Deaths	-	-	-	1	1	-	-	-	1	**3**
Injuries	-	2	9	11	-	-	12	-	5	**39**

UK FISHING VESSELS

There were 5 745 UK registered fishing vessels at the end of 2016. During 2016, 163 casualties to vessels involving these vessels were reported to the MAIB. Figures in the following tables show casualties to vessels and injuries involving UK registered vessels that were reported to the MAIB in 2016.

8 fishing vessels were reported lost (0.14% of the total fleet) and there were 9 fatalities to crew.

Table 15: Fishing vessel total losses

Date	Name of vessel	Age	Gross tons	Casualty event
Under 15m length overall (loa)				
09 Apr	*Louisa**	8	32.00	Flooding
28 Apr	*Harvester*	23	27.00	Loss of control
08 Jul	*Hope III*	45	7.23	Foundering
12 Oct	*An Cuantach*	32	7.09	Foundering
04 Nov	*Trace Sea*	21	6.03	Foundering
15m length overall - under 24m registered length (reg)				
21 Jan	*Majestic*	39	51.00	Flooding
06 Apr	*Fredwood**	41	45.17	Flooding
Over 24m registered length (reg)				
16 Aug	*Ardent II*	30	251.00	Fire

* Constructive total loss

Table 16: Fishing vessel losses — 2006-2016❺

	Under 15m loa	15m loa to <24m reg	24m reg and over	Total lost	UK registered	% lost
2006	11	7	1	19	6 346	0.30
2007	16	5	-	21	6 330	0.33
2008	14	4	3	21	6 763	0.31
2009	11	4	-	15	6 222	0.24
2010	11	3	-	14	5 902	0.24
2011	17	7	-	24	5 974	0.40
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**

❺ From 2012 this table excludes losses that were not in connection with the operation of a ship.

Table 17: Casualties to fishing vessels

	Number of vessels involved	Incident rate per 1 000 vessels at risk (to one decimal place)
Collision	10	1.7
Contact	4	0.7
Damage to ship or equipment	2	0.3
Fire/explosion	2	0.3
Flooding/foundering	18	3.1
Grounding	15	2.6
Loss of control	112	19.5
Total	**163**	**28.4***

*Rates may not add up to total due to rounding.

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

	Number of vessels involved	Incident rate per 1 000 vessels at risk
Under 15m length overall (loa) — vessels at risk: 5 115		
Collision	6	1.2
Contact	4	0.8
Flooding/foundering	13	2.5
Grounding/stranding	13	2.5
Loss of control	82	16.0
Total	**118**	**23.01**
15m loa - 24m registered length (reg) — vessels at risk: 486		
Collision	3	6.2
Fire/explosion	1	2.1
Flooding/foundering	5	10.3
Grounding/stranding	2	4.1
Loss of control	26	53.5
Total	**37**	**76.1**
24m reg and over — vessels at risk: 144		
Collision	1	6.9
Damage to ship or equipment	2	13.9
Fire/explosion	1	6.9
Loss of control	4	27.8
Total	**8**	**55.6***
Total	**163**	**28.4***

*Rates may not add up to total due to rounding.

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

Main injury		Number of crew
Drowning and asphyxiation	Asphyxiation	1
	Drowning and non-fatal submersions	9
Multiple injuries		2
Traumatic amputations (Loss of body parts)		3
Bone fractures	Closed fractures	2
Concussion and internal injuries	Concussion and intracranial injuries	4
Dislocations, sprains and strains	Sprains and strains	4
Poisonings and infections	Acute poisonings	1
	Other types of poisonings and infections	4
Wounds and superficial injuries	Superficial injuries	5
	Open wounds	4
Other specified injuries not included under other headings		1
Total		**40**

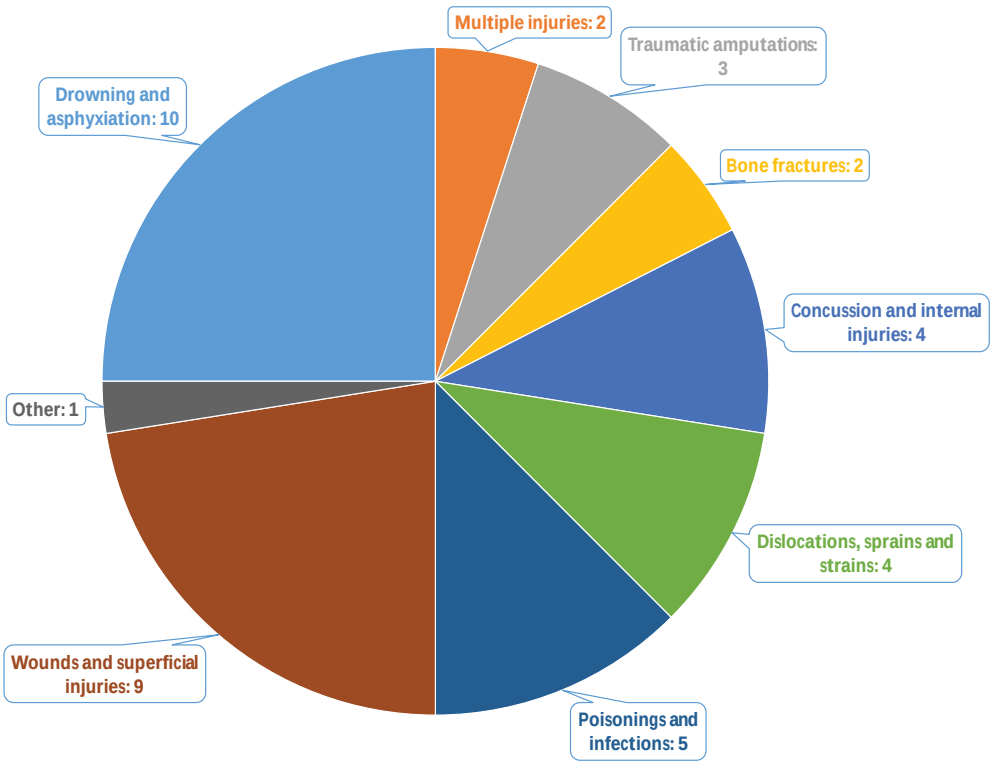


Chart 11: Deaths and injuries to fishing vessel crew by injury

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)	14
	Multiple sites of the body affected	3
Head	Head, brain and cranial nerves and vessels	5
	Head, multiple sites affected	1
Upper limbs	Arm, including elbow	2
	Hand	1
	Finger(s)	7
	Wrist	3
Torso and organs	Chest area including organs	1
Lower limbs	Leg, including knee	1
	Ankle	1
Other parts of body injured, not mentioned above		1
Total		**40**

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

Deviation*		Number of crew
Body movement without any physical stress (generally leading to an external injury)	Being caught or carried away, by something or by momentum	8
Body movement under or with physical stress (generally leading to an internal injury)	Lifting, carrying, standing up	1
Breakage, bursting, splitting, slipping, fall, collapse of Material Agent*	Slip, fall, collapse of Material Agent* - from above (falling on the victim)	1
	Other	1
Deviation by overflow, overturn, leak, flow, vaporisation, emission	Gaseous state - vaporisation, aerosol formation, gas formation	1
	Other	4
Loss of control (total or partial)	Of machine (including unwanted start-up) or of the material being worked by the machine	1
	Of means of transport or handling equipment, (motorised or not)	5
	Of hand-held tool (motorised or not) or of the material being worked by the tool	2
	Of object (being carried, moved, handled, etc)	2
Slipping - stumbling and falling - fall of persons	Fall of person - to a lower level	3
	Fall overboard of person	7
	Fall of person - on the same level	1
	No Information	3
	Total	**40**

*See "Terms" on page 103

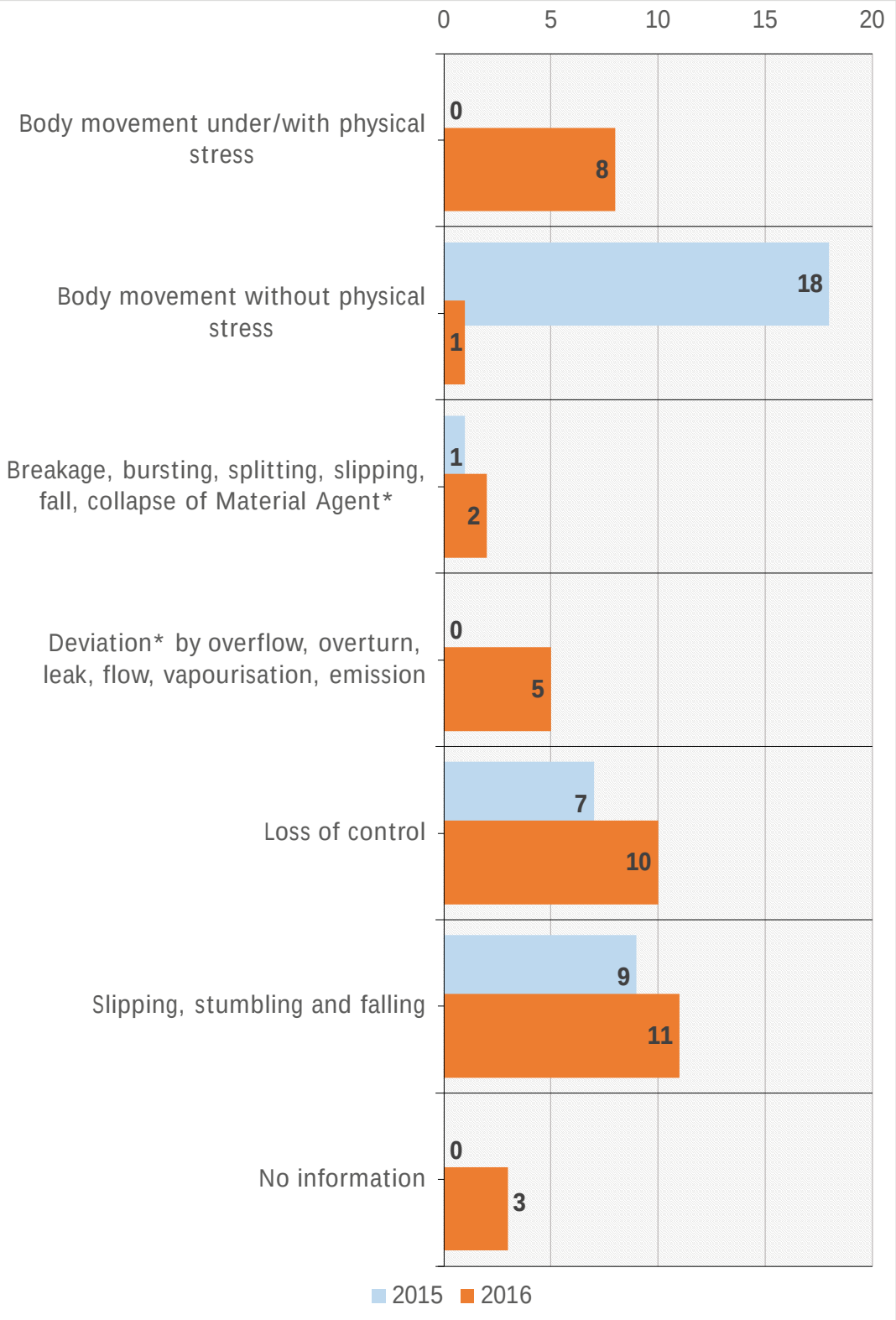


Chart 12: Deaths and injuries of fishing vessel crew by deviation*

*See "Terms" on page 103

CHIEF INSPECTOR'S REPORT
PART 1 2016 OVERVIEW
PART 2 REPORTS AND RECOMMENDATIONS
PART 3 STATISTICS
ANNEX GLOSSARY RESOURCES

Table 22: Deaths and injuries to fishing vessel crew by vessel length (of which, deaths shown in brackets) 2006-2016❷

	Under 15m loa		15m loa - under 24m reg		24m reg and over		Total	
2006	21	(6)	30	(8)	18	(2)	69	(16)
2007	25	(4)	24	(3)	15	(1)	64	(8)
2008	19	(3)	22	(4)	19	(1)	60	(8)
2009	32	(5)	30	(7)	13	(1)	75	(13)
2010	22	(4)	10	-	13	(1)	45	(5)
2011	20	(7)	27	(1)	11	-	58	(8)
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)**

❷From 2012 this table excludes injuries/fatalities that were not in connection with the operation of a ship.

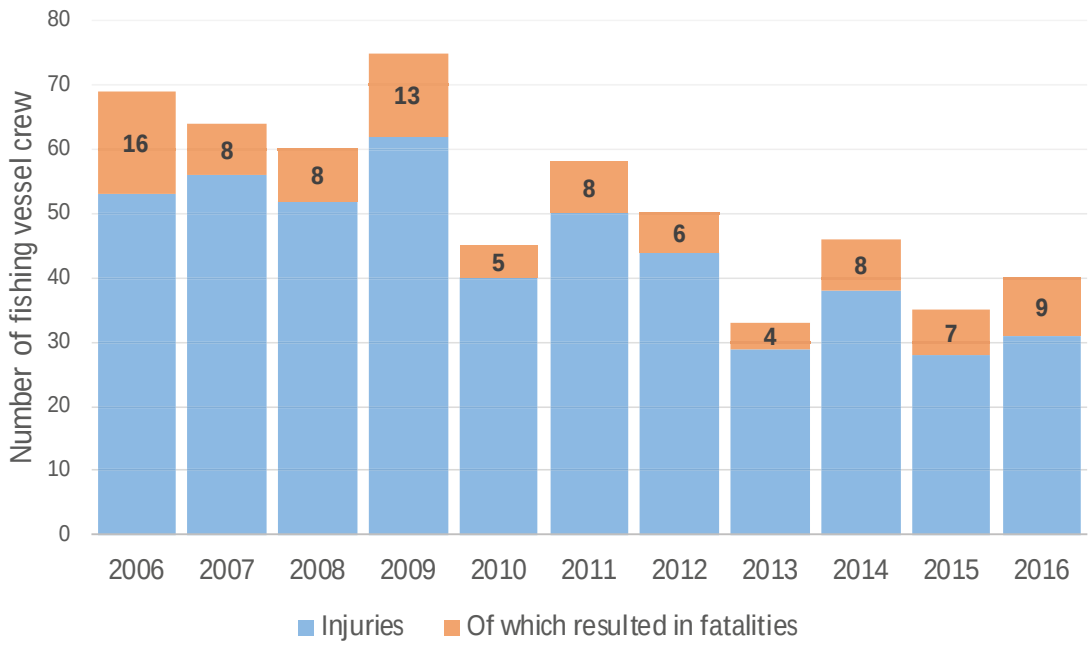


Chart 13: Deaths and injuries to fishing vessel crew

NON-UK COMMERCIAL VESSELS

Table 23: Non UK commercial vessels total losses in UK waters

Date	Name of vessel	Type of vessel	Flag	Gross tons	loa	Casualty event
10 Mar	*Saint Christophe 1**	Fishing vessel	France	141.00	22.00 m	Grounding

* Constructive total loss

Table 24: Non UK commercial vessels in UK waters

	Cargo solid	Liquid cargo	Passenger	Service ship	Fishing vessel	Total
Capsizing/listing	1	-	-	1	-	2
Collision	16	3	4	4	-	27
Contact	40	5	6	2	1	54
Damage to ship or equipment	5	6	-	-	1	12
Fire/explosion	4	-	2	2	-	8
Grounding/stranding	13	1	1	2	1	18
Loss of control	30	3	2	3	4	42
Total per vessel type	**109**	**18**	**15**	**14**	**7**	**163**
Deaths	1	-	-	-	-	**1**
Injuries	17	2	14	11	1	**45**

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[7] 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 97) 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 100.
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 H.M. 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.

[7] 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[8]

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 Casualties (VSMC)

Marine Casualty which involves total loss of the ship, loss of life, or severe pollution.

Serious Marine Casualties (SMC)

Marine Casualty where an event results in one of:

- immobilization 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).

Note that under some IMO guidelines Less Serious Marine Casualties INCLUDE Marine Incidents. In UK data Less Serious Marine Casualties (and any other Marine Casualties) EXCLUDE 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.

[8] http://www.legislation.gov.uk/uksi/2012/1743/regulation/3/made

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).

Changes to UK MAIB Casualty Event Definitions - with introduction of EU Directive 2009/18/EC1 (the Directive).

Data presented in MAIB Annual Reports, up to and including 2012 used "old" definitions, with the exception that 2012 data excluded events that were not in connection with the operation of a ship. Annual Report data from 2013 uses "new" definitions.

Please refer also to **Casualty Definitions used by the UK MAIB - from 2012** which provides details on what constitutes a Marine Casualty or Marine Incident.

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.

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 floating freely or is anchored.

Contact - vessel hits an object that is immobile and is not subject to the collision regulations e.g. buoy, post, dock (resulting in damage), etc, moored vessel. Also floating logs, containers etc.

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 **EU** requires injuries to be 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[9] (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."

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

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;

The IMO Casualty Investigation Code[10] 4.8 **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 off-duty are considered to be included with occupational accidents in MAIB Annual Reports[11].

Machinery/Loss of control/Damage to Equipment

Until 2012

The UK used the generic term "Machinery" 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

While the IMO does not specify Machinery in its list of serious casualty events (MSC-MEPC.3/Circ.3[12]), it does define a Marine Casualty by the results and uses the term "etc" in the list of serious casualty events.

The European Union and the UK may interpret machinery failures as 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 is the loss of the electrical supply to the ship or facility;
  - Loss of propulsion power is the loss of propulsion because of machinery failure;
  - Loss of directional control is the loss of the ability to steer the ship;
  - Loss of containment is 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.

Stranding/Grounding

Until 2012

Grounds 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.

[10] http://www.imo.org/blast/blastDataHelper.asp?data_id=22633&filename=A849(20).pdf

[11] http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:91:0::::P91_SECTION:MLC_A4 (Article II 1.(f) & Standard A4.3)

[12] http://www.imo.org/blast/blastDataHelper.asp?data_id=30432&filename=MSC-MEPC.3-Circ.3.pdf

Vessel Types included in MAIB Annual Report statistics from 2013 to date

1. MAIB use definitions in line with those used by the European Maritime Safety Agency (EMSA) and the International Maritime Organization (IMO). EXCEPT that the data presented in the MAIB Annual Reports includes certain vessels types that are outside the scope of EU Directive 2009/18/EC[13] (the Directive).
2. Vessel types outside the scope of the Directive that are INCLUDED in MAIB Annual Report statistics:
   - Fishing vessels of under 15 metres;
   - Government owned vessels used on government service (except Royal Navy vessels);
   - Inland waterway vessels operating in inland waters;
   - Ships not propelled by mechanical means;
   - Wooden ships of primitive build;
   - Commercial recreational craft with fewer than 13 persons on board.
3. Vessel types outside the scope of the Directive that are EXCLUDED from MAIB Annual Reports:
   - Royal Navy vessels;
   - Fixed offshore drilling units.
4. Vessel Types (potentially) inside the scope of the Directive that are EXCLUDED from MAIB Annual Report statistics:
   - Recreational craft | Personal watercraft;
   - Recreational craft | Sailing surfboards;
   - Ships permanently moored which have no master or crew.
5. One "vessel" type, offshore drilling rigs, are inside the scope of the Directive, but usually outside the scope of MAIB. For UK flagged installations, broadly, if an accident occurs while the installation is in transit MAIB investigate and record details, otherwise the Health and Safety Executive (HSE) is responsible for investigating and recording details. More information can be found on pages 40 to 41 of the Memorandum of Understanding between MAIB, MCA & HSE[14].
6. Until 2012 the UK considered Search and Rescue (SAR) craft to be non-commercial. From 2013 onwards they are considered commercial.

[13] http://emsa.europa.eu/emsa-documents/legislative-texts/72-legislative-texts/28-directive-200918ec.html

[14] Refer to pages 11 and 12 of the Operational Working Agreement between HSE, MCA and MAIB: http://www.hse.gov.uk/aboutus/howwework/framework/mou/owa-hse-mac-maib.pdf

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

Merchant Vessels >=100gt

Trading and non-trading vessels of 100 gross tonnage 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[15]. It excludes Royal Navy vessels and platforms and rigs that are in place.

Merchant vessels <100gt

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

Commercial recreational

May be a sub-set of either of the above two entries. Those over 100 gross tonnage may be, for instance, a tall ship or luxury yacht. Those under 100gt may be a chartered yacht or as small as 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 search and rescue craft (SAR).

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).

[15] http://emsa.europa.eu/emsa-documents/legislative-texts/72-legislative-texts/28-directive-200918ec.html

GLOSSARY OF ABBREVIATIONS, ACRONYMS AND TERMS

▸ Abbreviations and Acronyms ◂

AIS	-	Automatic Identification System
ALLMI	-	Association of Lorry Loader Manufacturers and Importers
CI	-	Chief Inspector
Circ.	-	Circular
CO	-	Carbon monoxide
CO_2	-	Carbon dioxide
COLREGS	-	The International Regulations for Preventing Collisions at Sea 1972 , as amended
CPA	-	Closest Point of Approach
CPP	-	Controllable Pitch Propeller
CSM	-	Cargo Securing Manual
CSS Code	-	Code of Safe Practice for Cargo Stowage and Securing
DHNA	-	Dart Harbour Navigation Authority
DfT	-	Department for Transport
DSC	-	Digital Selective Calling
ECDIS	-	Electronic Chart Display and Information System
EPIRB	-	Emergency Position Indicating Radio Beacon
EU	-	European Union
FISG	-	Fishing Industry Safety Group
FRS	-	Fire and Rescue Service
FV	-	Fishing Vessel
GM	-	Metacentric height
GNSS	-	Global Navigation Satellite System
GRP	-	Glass Reinforced Plastic
HMPE	-	High Modulus Polyethylene
IAPVA	-	International Amphibious Passenger Vehicle Association
ICS	-	International Chamber of Shipping
IMO	-	International Maritime Organization
ISAF	-	International Sailing Federation (now World Sailing)
ISGOTT	-	International Safety Guide for Oil Tankers and Terminals
ISO	-	International Organization for Standardization
LOA	-	Length overall
LOLER	-	Lifting Operations and Lifting Equipment Reguations
LNG	-	Liquefied Natural Gas
LSA	-	Life Saving Appliance
Ltd	-	Limited (company)
m	-	metre
MCA	-	Maritime and Coastguard Agency
MGN	-	Marine Guidance Note (M+F) - Merchant and Fishing (F) - Fishing

MMO	-	Marine Management Organisation
MOB	-	Manoverboard
MSC	-	Maritime Safety Committee
MSIS	-	Merchant Shipping Instructions to Surveyors
MSN	-	Merchant Shipping Notice
N/A	-	Not Applicable
No.	-	Number
nm	-	nautical mile
OSR	-	Offshore Special Regulations
PCC	-	Pure car carrier
PCTC	-	Pure car and truck carrier
PFD	-	Personal Flotation Device
PLB	-	Personal Locator Beacon
PTE	-	Private Limited
PUWER	-	Provision and Use of Work Equipment Regulations (1998)
PWT	-	Prozess-Wärmeträgertechnik GmbH
RCD	-	Recreational Craft Directive
RIB	-	Rigid Inflatable Boat
RN	-	Royal Navy
Ro-cargo	-	Roll on cargo vessel
Ro-ro	-	Roll on, roll off vessel
Ro-pax	-	Roll on passenger vessel
RYA	-	Royal Yachting Association
SAR	-	Search and Rescue
SCV Code	-	Small Commercial Vessel Code
SIAS	-	Ship Inspections and Surveys
SMS	-	Safety Management System
SOLAS	-	Safety of Life at Sea
TCPA	-	Time to Closest Point of Approach
TSGC	-	Tanker Safety Guide (Chemicals)
UK	-	United Kingdom
VHF	-	Very High Frequency

▶ Terms ◀

DUKW	-	A DUKW (commonly pronounced “duck”) is an amphibious landing vehicle that was designed to transport military personnel and supplies for the US Army during World War 2. The acronym DUKW indicates that it was designed in 1942 (D), it is an amphibious (U) vehicle and has both front-wheel and rear-wheel drive capability (K and W, respectively).
Material Agent	-	A tool, object or instrument.
MSL	-	Maximum Securing Load. MSL can be expressed in kN, kg or t; e.g. a 100kN lashing is also referred to as a 10,000kg or 10t lashing. The variations in quantifier in the report reflects the variation in the source documentation. It is a term used to define the allowable load capacity for a device used to secure cargo to a ship.

Subluxation	-	Incomplete, or partial dislocation.
Superficial injuries	-	Bruises, abrasions, blisters etc.
Deviation	-	The last event differing from the normal working process and leading to an injury/fatality.

FURTHER INFORMATION

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

Email
maib@dft.gsi.gov.uk

General Enquiries
+44 (0)23 8039 5500

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

Press enquiries
01932 440015

Press enquiries (out of office hours)
020 7944 4292

Online resources

www.gov.uk/maib

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