

MAIB

MARINE ACCIDENT INVESTIGATION BRANCH

Annual Report 2004

May 2005

Extract from The Merchant Shipping (Accident Reporting and Investigation) Regulations 2005

The sole objective of the investigation of an accident under these Regulations shall be the prevention of future accidents through the ascertainment of its causes and circumstances.

It shall not be the purpose of an investigation to determine liability nor, except so far as is necessary to achieve its objective, to apportion blame.

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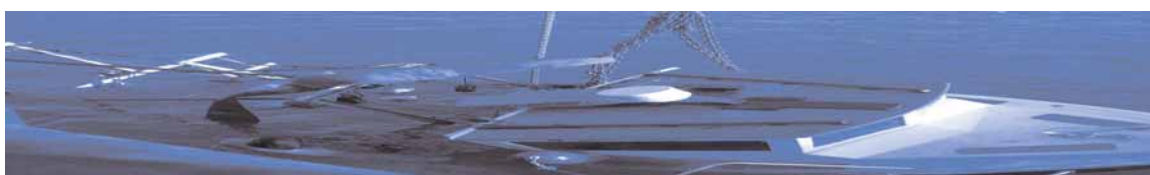
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Chief Inspector's Foreword

This has been another busy year for the MAIB. The number of accidents and incidents reported to the Branch has remained broadly constant at about 1500, of which 697 were the subject of administrative enquiries, 34 had preliminary examinations conducted, and 31 led to full investigations.

The broad spectrum of accidents and causal factors makes it difficult to generalise on trends. However, two areas remain firmly at the top of my list of concerns:

Fatigue/Safe Manning

There have been a worrying number of merchant ships involved in collisions or near misses. While the details of the accidents may vary, the fundamentals remain depressingly consistent: fatigued crews, due to undermanning; falsified hours of work records; no dedicated lookout on the bridge; and poor situational awareness/anticipation/judgement by officers of the watch - classic symptoms of fatigue.

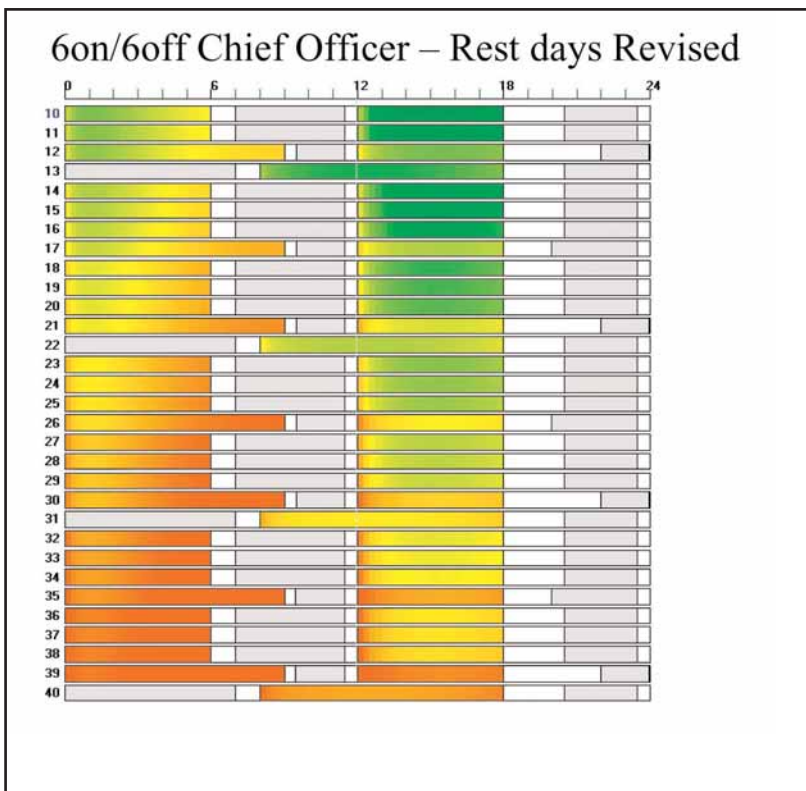
In 2004, MAIB conducted a safety study covering 1600 accidents over the last 10 years, 66 of which were examined in detail. The results showed conclusively that poor manning levels and fatigue were major causal factors in collisions and groundings. Our main area of concern is the large number of dry cargo vessels plying the short sea trade with the master and mate as the only bridge watchkeepers onboard. With only two watchkeepers, **even if they did nothing but their bridge watches**, they would work an 84-hour week. But with routine paperwork, cargo work, maintenance, entering/leaving harbours, inspections, loading/unloading, passage planning etc., their actual working hours are much longer. It is an anachronism in the 21st century, that seafarers are falsifying their timesheets to prove that they are working only a 98 hour week. And many of these seafarers work every week,

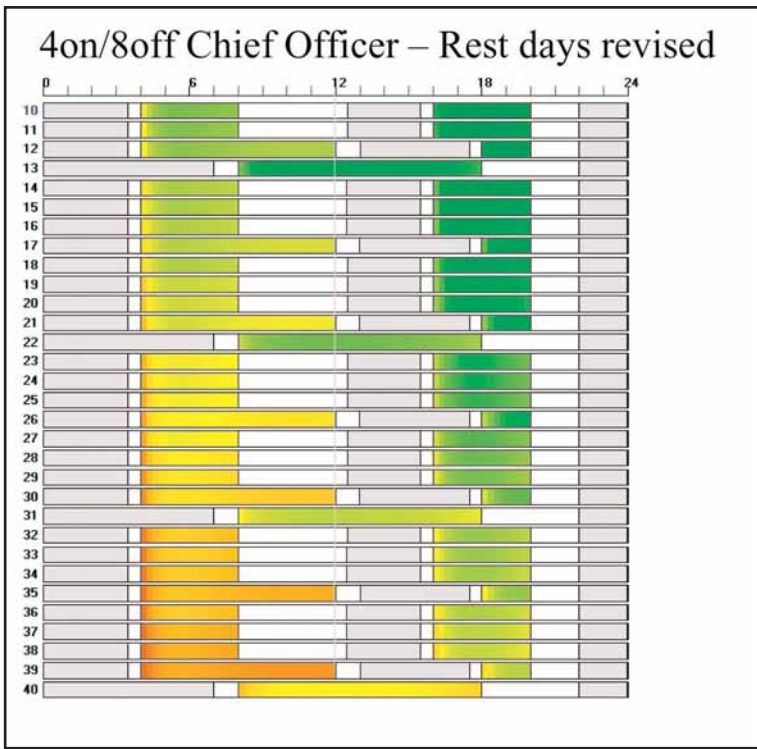
without a break, for between 4 and 9 months before getting leave.

Running these hours of work through a fatigue model produces this graph.

Key:
 Green Not Fatigued
 Yellow Some Fatigue
 Orange Badly Fatigued
 Red Dangerously Fatigued

This graph shows days 10-40 of the mate's working period. Beyond day 40, it was totally red.





The graph for the mate in another ship on a similar trade, but where there are three watchkeepers is shown on the left here.

While not perfect, it is dramatically improved.

The resultant MAIB recommendation, to ensure that all merchant vessels over 500grt have a minimum of a master plus two bridge watchkeeping officers, has gained much support around the world.

Fishing Vessels

In 2004, 24 fishing vessels were lost. Apart from a particularly bad year in 2000, the percentage of the UK fishing fleet lost each year has remained broadly steady for the past 10 years (see Annex B/Table 14). This is disappointing.

The MAIB is currently investigating three fatal fishing vessel losses; it is intended to publish the three reports simultaneously in summer 2005, with a single set of recommendations, to attempt to improve fishing vessel safety.

MAIB has worked hard this year to improve international cooperation and coordination in marine accident investigations. We are currently working with other Flags on more of our investigations than we have ever done before. While this will inevitably slow down our investigation, and so delay our report, I believe it is an important step in broadening the safety culture in our multinational industry. This is the key to MAIB's future effectiveness.

Stephen Meyer



SECTION 1

A TYPICAL WEEK IN THE LIFE OF MAIB: 12–17 DECEMBER 2004

At the beginning of the week, MAIB's staff of 12 inspectors was already working on 20 full investigations, 10 preliminary examinations, and a number of administrative enquiries.

Sunday 12

One team was in the north-east of England, engaged in the salvage of a fishing vessel, *Jann Denise II*, which had sunk with the loss of both her crew. MAIB Inspectors were onboard a heavy lift salvage vessel as the fishing boat was relocated, surveyed by remotely-operated underwater cameras, and slowly raised to the surface. She was secured alongside the salvage vessel, pumped out and carefully brought into South Shields on the Tyne at eight o'clock that evening. There was no sign of the bodies of the missing crew.

Monday 13

In Southampton, the duty team waded through the dozen or so reports of accidents that had come in over the weekend. (The duty Principal Inspector is called immediately for weekend accidents that are likely to require an urgent response; others are dealt with at the start of the working week.) News comes through of a UK-flagged tanker, *British Enterprise*, aground off Istanbul. Two Inspectors immediately start contacting all concerned, while the administrative staff swings into action to fix flights, accommodation and other arrangements. Within a couple of hours, the inspectors are en route.

Meanwhile, in South Shields the *Jann Denise II* is found to have flooded again. A crack in her hull is discovered, which will need further examination. Staff in the field liaise with others in Southampton to arrange for a metallurgist to join the team at the scene to carry out a full analysis. Interviews are given to the BBC and ITV news crews who want to feature the raising of the wreck on their lunchtime programmes. In the afternoon, the wreck is safely craned ashore for further examination.

Elsewhere, several inspectors are out in different parts of the country, following up investigations. The few inspectors who are at their desks in Southampton are busy completing accident reports, or are analysing the evidence collected from other investigations. One Inspector was working through details of interviews he had conducted relating to an explosion onboard a tanker in Grangemouth, and preparing to reinterview some of the witnesses.



Tuesday 14

In Istanbul, key contacts are made by the two MAIB Inspectors sent to the scene. They ensure that key evidence is preserved for them, and through the ship's agents, they arrange to visit the vessel, which is still aground.

In South Shields, a full examination of the *Jann Denise II* is underway with the assistance of the local shipyard. Liferaft release arrangements are studied, and the job of cleaning the vessel out begins. Bilge pumps and pipework are examined thoroughly.

In Southampton, senior staff meet to ensure that arrangements are properly in place for the coming into force of the Freedom of Information Act in the new year. Due to the high profile nature of the MAIB's work, it is envisaged that the Branch will receive a large number of requests for information.

Another team of Inspectors are in the bridge simulator at Warsash Maritime Centre in the course of their investigation of the grounding of a ferry in the approaches to a south coast port. They use the simulator to test different entry plans to the port, in different weather conditions.

Wednesday 15

In Istanbul, the Inspectors are taken out to the grounded tanker by tender. Interviews were conducted with officers and crew, and important onboard documentation was copied and taken away. Then it was back ashore to see the Istanbul harbourmaster and the manager of the Bosphorus VTS.

In South Shields, the next of kin of those lost with the *Jann Denise II* visit the dock where the examination is continuing and are briefed by the MAIB team. Parts of the hull in the area where cracks and corrosion were found are removed for laboratory analysis. Arrangements are made to have the liferaft, which had not inflated, tested by an independent company back in Southampton.

In another investigation, an Inspector has travelled to Ramsgate to interview the previous owner of another fishing vessel that had capsized in the Irish Sea in November. This type of evidence can be crucial, particularly where there are no survivors to give their account.

In Southampton, the small publications section has completed printing a draft investigation report, and despatches 24 copies to those involved in this accident, as the first part of the consultation process.



Thursday 16

Another five accidents or incidents have been reported overnight; these are all considered by the duty team. None warrant inspectors being sent to site, but four need further detail, so inspectors telephone or e-mail the person reporting the accident, companies involved, coastguard and harbour authorities.

After lightening, the *British Enterprise* is refloated. Having gathered all the information needed at this initial stage, the two Inspectors fly home. One then has to travel on immediately to Hull to attend a Formal Investigation.

The *Jann Denise II* team hand over security of the vessel, and travel south, stopping in Scarborough to interview the previous owner of the vessel.

In Southampton, final checks are made to the new MAIB website which is due to be launched the following week. A huge amount of data has been transferred from the old site, and needs to be checked; the changeover has to be seamless.

Friday 17

More overnight reports are being followed up. One Inspector is in Scotland meeting senior staff at an oil loading terminal in connection with a tanker explosion. And in Hull, the Wreck Commissioner, who has completed his re-opened Formal Investigation into the loss of the fishing vessel *Gaul* in 1974 with the loss of all 36 crew, is presenting his findings.

In Carlton House, all inspectors attend a debrief about a collision that has been the focus of a preliminary examination. An account of the accident and the investigation so far is presented by the lead inspector, and the causal events are debated. A decision is taken that the factors involved in this accident warrant it progressing to a full investigation.

Publications are finalising the report into a structural failure in the *Pride of Provence*. Artwork is completed and inserted into the document, references are all cross-checked, press notices are prepared, and letters to over 40 consultees are drafted, giving them individually the MAIB's response to each point they have raised in their consultation replies.

In the early evening, reports are received of a collision between an aggregates coaster and an amphibious passenger vessel on the River Thames close to Lambeth Bridge. Two Inspectors, who had already gone home to get changed for that evening's MAIB Christmas dinner, are called out of their showers. They have to break the news to their wives that not only are they not going to the party, but that they will also be away all weekend! Within an hour, they have collected the "go-bag" from the office and are on the road



SECTION 2

INVESTIGATIONS AND REPORTS

The MAIB received 1,492 accident and incident reports in 2004 (down 30 on 2003). Accidents to vessels accounted for 686 (down 3), with a further 610 involving accidents to people (down 21). 196 hazardous incidents (near-misses) were reported, a decrease of 6 on 2003. Although all these figures are a reduction on those for 2003, the reductions are considered too small to be statistically significant on their own.

Reporting Summary: 2004				
	<u>Accidents</u>	<u>Hazardous Incidents</u>	<u>Accidents to People</u>	<u>Totals</u>
UK Merchant Vessels ①	319	134	528	981
Full investigation	13	3	3	19
Preliminary examination (PE)	6	1	2	9
Fishing Vessels②	333	80	49	462
Full investigation	8	0	0	8
Preliminary examination (PE)	13	3	3	19
Other Non-UK Vessels	108	67	39	214
Full investigation	9	1	1	11
Preliminary examination (PE)	10	2	0	12
Total Number of Accidents and Incidents ③	686	196	610	1492
Total Number of Full Investigations③	25	2	4	31
Total Number of PEs	26	3	5	34

① UK Merchant vessels, pleasure craft, and all other vessels except fishing vessels

② Including 24 non-UK registered fishing vessels

③ The number of incidents/investigations/PEs will be lower than the number of vessels as incidents can involve more than one vessel (e.g. collisions, contacts, near-misses)



Administrative enquiries, where additional information was sought, usually by correspondence, were carried out in 697 cases. The reasons for seeking additional information include:

- To clarify or elaborate on the information initially provided so the accident can be recorded accurately in the database;
- To assist the Principal Inspector come to a judgement on whether further investigation is appropriate;
- Where there are grounds for thinking useful lessons may emerge.

At the start of the year, 23 full investigations and preliminary examinations were underway, and a further 65 were started during 2004. Where a decision has been made that an investigation will not be continued beyond the preliminary examination stage, those directly involved have been informed of the decision, and may have been given recommendations for future safety or alerted to areas of concern identified. A Safety Digest article will usually be published, and a brief account of the circumstances and findings will also be published on the MAIB website at www.maib.gov.uk.

Full investigations started in 2004

<u>Date of Incident</u>	<u>Name of Vessel</u>	<u>Type of Vessel</u>	<u>Nationality</u>	<u>Size</u>		<u>Nature of Incident</u>
29 Jan 04	Scot Venture	Dry cargo	UK	2594	GT	Contact with buoy, Drogden Channel, Denmark
30 Jan 04	Elegance	Fishing	UK	23.92	m	Fire in engine room
22 Feb 04	Pride of Provence	Ro-ro ferry	UK	28559	GT	Bow door failure
25 Feb 04	Front Viewer/ Hoo Finch	Tanker/ Dry cargo	Singapore/ UK	89004/ 794	GT GT	Near-miss in North Sea
5 Mar 04	Elegance	Fishing	UK	23.92	m	Fire, followed by flooding and foundering under tow
6 Mar 04	Reno/ Ocean Rose	Tanker/ Fishing	Portugal/ UK	2238/ 16.13	GT m	Collision in North Sea
21 Mar 04	Dart 8	Dry cargo	Bermuda	22748	GT	Accident to person following mooring rope parting
26 Apr 04	Kingfisher II	Fishing	UK	11.66	m	Fire
2 May 04	Star Clipper	Passenger	UK	61	GT	Fatal accident to person following failure of mooring bollard
15 May 04	Lord Nelson	Sail training vessel	UK	368	GT	Contact with Tower Bridge
3 Jun 04	Attilio Ievoli	Tanker	Italy	4450	GT	Grounding off Lymington, Solent
20 Jun 04	Waverley	Passenger	UK	693	GT	Grounding near Sanda Island, Mull of Kintyre
21 Jun 04	Sky Hope/ Hyundai Dominion	Dry cargo/ Dry cargo	Hong Kong/ UK	6899/ 74373	GT GT	Collision off South Korea
30 Jul 04	Daggri	Passenger/cargo Ro-ro	UK	1861	GT	Contact with breakwater, Shetland
Reported missing 7 Aug 04	Kathryn Jane	Fishing	UK	11.89	m	Fatal flooding/foundering

10 Aug 04	Coral Acropora	Gas carrier	Netherlands	3096	GT	Escape of harmful substance at Runcorn, Manchester Ship Canal
22 Aug 04	Albatros	Sailing barge	Netherlands	119	GT	Fatal accident to person
1 Sep 04	Jackie Moon	Dry cargo	Antigua and Barbuda	1616	GT	Grounding at Dunoon, Firth of Clyde
10 Sep 04	Fort Victoria	Other commercial	UK	28821	GT	Accident to person during lifeboat launching exercise
20 Sep 04	Nordstrand	Dry cargo	UK	1970	GT	Fatal accident to crewman onboard at Seville, Spain
14 Oct 04	Swan	Small passenger vessel	UK	8.8	m	Capsize of small passenger vessel on River Avon, Bath
18 Oct 04	Balmoral	Passenger	UK	735	GT	Contact with underwater object
31 Oct 04	Border Heather	Tanker	Isle of Man	2159	GT	Explosion at Grangemouth
2 Nov 04	Dorthe Dalsoe/ Scot Explorer	Fishing/ Dry cargo	Denmark/ UK	14.7/ 1882	m GT	Collision in the North Sea
10 Nov 04	Emerald Dawn	Fishing	UK	8.69	m	Capsize in Irish Sea with one fatality
17 Nov 04	Jann Denise II	Fishing	UK	9.79	m	Foundering off the Tyne with two fatalities
22 Nov 04	Ileksa/ Cepheus J	Dry cargo/ Dry cargo	Malta/ UK	4955/ 6454	GT GT	Collision in the Kattegat
1 Dec 04	Stolt Tern	Product Tanker	Cayman Islands	3206	GT	Grounding entering Holyhead
11 Dec 04	British Enterprise	Tanker	UK	23682	GT	Grounding off Istanbul
17 Dec 04	Brenda Prior/ Beatrice	Dry cargo/ Amphibious passenger vessel	UK/ UK	198/ 9.45	GT m	Collision on River Thames, London
29 Dec 04	Isle of Mull/ Lord of the Isles	Passenger/ Passenger	UK/ UK	4719/ 3504	GT GT	Contact in Oban Harbour



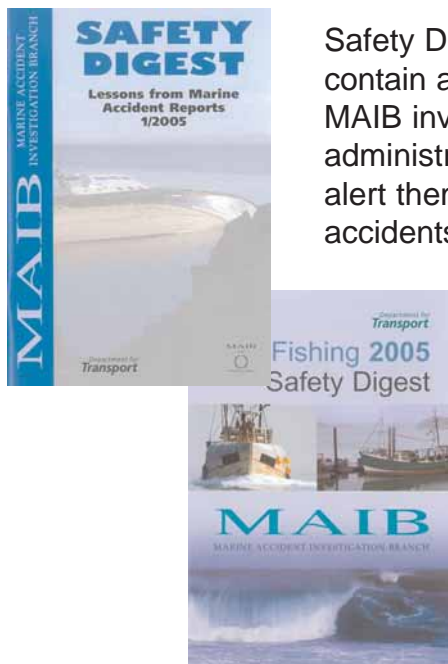
Accident Investigation Reports

MAIB accident investigation reports are published following every full investigation. They are available via the MAIB website at www.maib.gov.uk and printed and bound copies are also available free of charge.

Prior to their publication there is a statutory consultation process, as laid down by the Merchant Shipping (Accident Reporting and Investigation) Regulations 2005.

A list of MAIB accident investigation reports appears at Annex A and at www.maib.gov.uk/publications/investigation_reports.cfm

Safety Digests



Safety Digests are produced three times each year and contain a series of 'anonymous' short articles, derived from full MAIB investigations, preliminary examinations and administrative enquiries. Their aim is to inform seafarers, to alert them to dangers, to identify lessons learned from accidents and hazardous incidents, and generally to raise awareness of risks. They are produced in an easily read format and are distributed free of charge to the marine community. About 9,500 copies are sent to organisations and individuals around the world, including ships, companies, marine organisations, training establishments, naval architects, equipment manufacturers and academics. Several training courses, including those in sailing schools, use the contents as source material for shore-based and practical instruction.

The MAIB gives unqualified approval for *Safety Digest* articles to be reproduced in other publications, providing the source is acknowledged.

The MAIB welcomes requests for copies from anyone who might benefit from reading them.

Special editions of the *Safety Digest* were produced for the fishing sector and the leisure sector. The full text of all *Safety Digests* dating back to 1995 is available at www.maib.gov.uk/publications/safety_digests.cfm



Safety Bulletins

Safety Bulletins are occasionally issued to ensure that urgent safety recommendations arising from an accident are brought to the attention of those who need to act quickly after the event and before publication of the report. The *Bulletins* are produced for marine safety purposes on the basis of information available at that point in the investigation. Three were issued in 2004:

Title	Issue date
1/2004 Advice following the near lethal use of CO ₂ onboard the fishing vessel <i>Elegance</i> , 30 miles north-west of the Shetland Islands on 30 January 2004.	March 2004
2/2004 Quick release arrangements for the manual deployment of inflatable liferafts.	August 2004
3/2004 Advice following the accidental release of vinyl chloride monomer from gas carrier	August 2004

Safety Studies

Safety Studies are the product of an analysis of a particular trend or area of concern.

In July 2004 the **Bridge Watchkeeping Safety Study** was published. The study was commissioned to establish the principal factors that cause collisions and groundings, and to consider whether fatigue is as prevalent and dangerous as indicated by the *Jambo* and other similar accidents. The study produced important evidence of insufficient manning levels and fatigue.

The report of the study can be found at http://www.maib.gov.uk/publications/safety_studies.cfm or obtained in hard copy on request to the MAIB.



SECTION 3

OTHER BRANCH ACTIVITIES

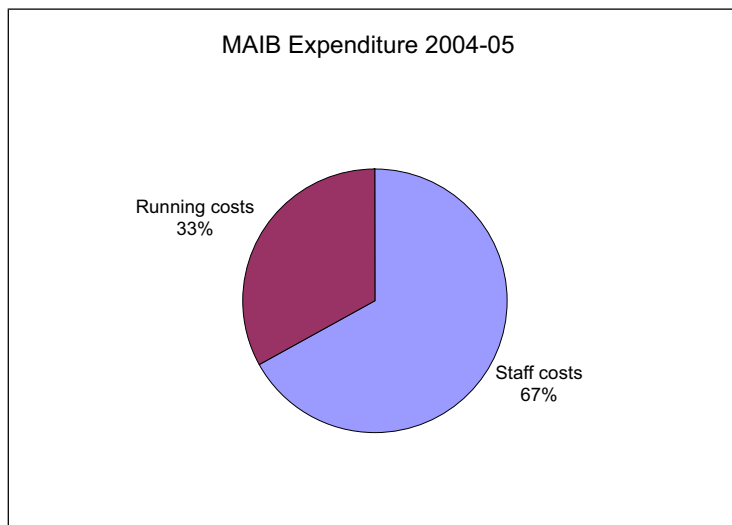
Targets

Reports of investigations to be completed and made publicly available within 7 months of the date of the accident.	Achieved in 75% of cases. This was a new self-imposed target, aimed at improving the timeliness of reports. The average time taken to complete investigations and publish reports was 7.26 months, down from 10.4 months in 2003.
MAIB Safety Digests to be issued at least three times each year.	Exceeded. As well as producing these on time, a special edition was produced for leisure craft in January, and one for the Fishing 2004 exhibition in May.
MAIB Annual Report to be published within six months of the end of the calendar year.	Achieved.
Written enquiries to be responded to within 15 days (DfT target 75%).	This was achieved in 95% of cases.

Finance

This Annual Report deals principally with the calendar year of 2004. However, for ease of reference, the financial report refers to the 2004/05 financial year which ended on 31 March 2005. MAIB's funding from the Department for Transport is provided on this basis and is also used for the business planning process.

The total funds allocated by the DfT to the MAIB for 2004/05 were £2.301m. The £259k overspend was a result of the higher than average cost of contracts in support of investigations, for example the cost of the salvage of the fishing



vessel *Jann Denise II*; unavoidable IT costs linked to Department-wide upgrades, and pay for the recently agreed expansion in the number of staff.

£ 000s	Budget	Outturn
Costs	2,326	2,584
Receipts	25	24
Totals	2,301	2,560

Investor in People

MAIB's was re-accredited in 2004 under the Investor in People scheme, having first been granted liP status in 1996. For the first time the assessment of the Branch included a 'profiling' against other organisations of a similar type and size, allowing useful comparisons to be made.

Evidence of good progress was found, particularly in the areas of training and development, and a re-assessment will not be required until 2006.

Fishing 2004 Exhibition

The MAIB stand was a well-visited feature of the annual Fishing Exhibition at the Glasgow SECC in May. MAIB staff were able to meet fishing skippers, their crews and families, and discuss issues of common concern.

A special fishing edition of the Safety Digest was produced and handed out to all those who came within hailing distance.

International

Marine Accident Investigators' International Forum (MAIIF)

Stephen Meyer attended the most recent meeting of MAIIF which was held in Cape Town in October 2004. Further progress towards establishing MAIIF with formal status at the International Maritime Organization was made, and this led to the appointment, early in 2005, of David Squire as the secretary, who will play a large part in taking this forward from his base in London.

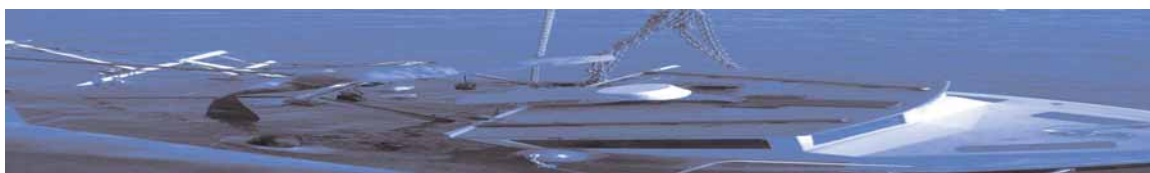
EU

The MAIB continued to work closely with the European Maritime Safety Agency (EMSA) as it worked to establish its presence and role. David Wheal, an MAIB Principal Inspector, is still with EMSA on secondment, and there have been several opportunities for other MAIB staff to become involved in related issues.

EMSA is promoting a programme of training for accident investigators from member states, with which the MAIB is closely involved.

International Maritime Organization (IMO)

IMO's Flag State Implementation sub-committee continued its work with MAIB's leading involvement. This work included that on the committee's casualty analysis working group and corresponding group whose members analysed 110



flag state and coastal state accident investigation reports for the benefit of other IMO sub-committees in their work on safety. The correspondence group also reviewed IMO's Global Integrated Shipping Information System (GISIS) database, and provided a list of suggestions for further improvement of the database.

An MAIB Principal Inspector has been involved in marine accident investigation training for MAIIF South East Asia members. Work also began on designing and developing a marine accident investigation course on the use of voyage data recorders for other administrations.

Voyage Data Recorders (VDRs)

Voyage Data Recorders (VDRs) are now mandatory equipment on passenger vessels and new cargo vessels of over 3000gt and, as a result, 2004 saw a significant increase in the use of the data from these. There was also a steady increase in the quantity of data evidence available from other sources including shore based radar facilities, electronic charts systems and vessel monitoring systems.

To ensure the best and most expedient access to this data, the MAIB established the position of the Technical Support Manager during 2004. Tasked with managing the MAIB's resources and knowledge base in respect of VDR and other recorded data, this has enabled Inspectors to get the most out of the available evidence with minimum delay. This specialist assistance has benefited the MAIB during several investigations in 2004.

MAIB has taken the lead on VDRs for MAIIF, and provides MAIIF members with up-to-date support on how to download data.

As a result of knowledge and experience gained from use of VDR data during investigations, the MAIB submitted a paper to the Maritime Safety Committee at the IMO in December. This called for the standardisation of downloading and playback of VDR data to be discussed. This area is currently unregulated, and the MAIB has found that standardisation of these processes will greatly enhance future accident investigation. This paper was accepted by the MSC and is now an agenda item for discussion and action at the IMO Navigation Committee meeting in June of 2005.



Human Factors

The provision of human factors expertise under a long-term contract with QinetiQ continued. Experts attended accident debriefs to provide a human factors perspective, and on occasion accompanied Inspectors when interviewing those involved in accidents. They also provided expert input to draft reports to ensure that key elements are properly explained.

MAIB and QinetiQ, together, designed and ran human factors training workshops for inspectors, covering human factor causative analysis and report writing.

Gaul

Following the 2002 underwater survey of the wreck of the UK registered trawler *Gaul*, which disappeared in the Barents Sea, north of Norway, in February 1974, an MAIB Inspector continued to provide support to the staff at the Attorney General's Office during the re-opened Formal Investigation which began in January 2004, and while the report was being prepared by the Wreck Commissioner. This report was published in December 2004.



SECTION 4

STAFF

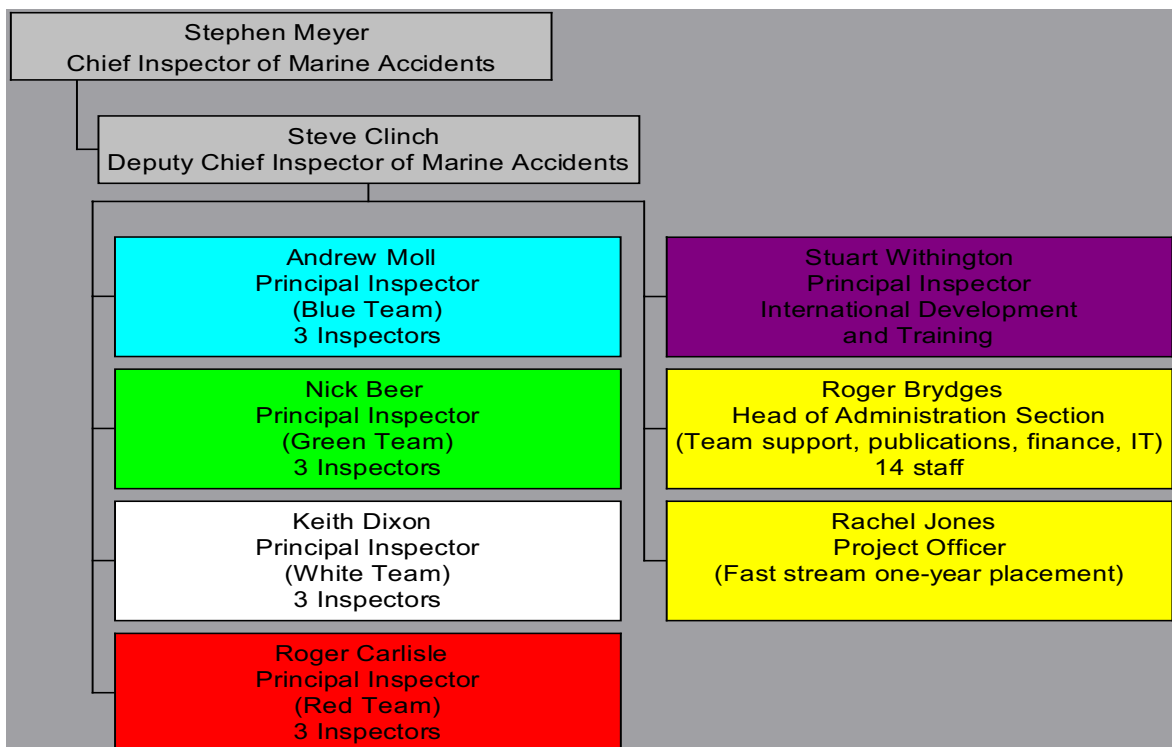
2004 saw the departure of two long-standing members of the MAIB team. Simon Harwood began his retirement following a distinguished 9 year term as Deputy Chief Inspector of Marine Accidents. Jean Panks also retired after 15 years service, as personal secretary to the Chief Inspector.

Steve Clinch was recruited as the new Deputy Chief Inspector. Steve joined the Branch from the Bahamas Maritime Authority where he had been the Deputy Director (Technical). Prior to this he had followed a career at sea and in shore management with the P&O Group culminating in a period of 7 years spent as a Director of P&O Bulk Shipping.

Roger Carlisle joined the Branch as a Principal Inspector. He had previously been Project Director with the A&P Group at its ship repair yard at Birkenhead. Andrew Moll was appointed as a Principal Inspector, leaving the Royal Navy to take up his post in January 2005. Martin Harper joined as an Inspector, following a career of 30 years with the Royal Fleet Auxiliary. The new post of Technical Support Manager was filled by Matt Rumble who joined from the Maritime and Coastguard Agency, as did Alison Lilley who became the fourth team support administrator.

Rachel Jones replaced Rod Paterson as Project Officer on a 1 year 'fast-stream' placement.

Current Organisation



SECTION 5

RECOMMENDATIONS

During the year, the MAIB made 177 recommendations in its reports of accident investigations, or following Preliminary Examinations. Six of these were to multiple recipients e.g. All fishing vessel owners. Recommendations were directed to the following:

Organisation	Number
Maritime and Coastguard Agency	33
Fishing Vessel Owners/Skippers	34
Shipping Companies	29
Maritime Unions/Federations/Associations/Organisations	19
Manufacturers	7
Classification Society	5
Port and Harbour Authorities	7
Other Government Departments or Agencies	10
Other Maritime Administrations	5
Other international organisations	16
Other	12

By the beginning of May 2005, 147 of these were fully accepted, 12 had qualified acceptance, 4 were still under consideration and 14 were rejected.

Under the new Merchant Shipping (Accident Reporting and Investigation) Regulations 2005, those who have had recommendations made to them are required to respond with details of the way in which the recommendation is being implemented, or, if it's being rejected, the reasons for this. The Chief Inspector will then make this information publicly available and inform the Secretary of State. This information will be included in future Annual Reports.



ANNEX A

PUBLICATIONS LIST

Investigation Reports

1/2004 – **Trident VI** - grounding of this inter-island passenger vessel in Percee Passage, off Herm Island near Guernsey in the Channel Islands 23 August 2003

2/2004 – **Breakaway V** - capsized of this cabin cruiser on the River Bure, Norfolk with the loss of one life on 19 July 2003

3/2004 – **Elhanan T** - flooding and foundering of this 23m fishing vessel about 110 miles east-north-east of Fraserburgh on 14 August 2003

4/2004 – **Loch Ryan cabin cruiser** - Swamping of unnamed cabin cruiser in Lady Bay on Loch Ryan, south-west Scotland, on 3 September 2003, and associated wave generation issues

5/2004 – **Open sports boat on Loch Ryan** - Swamping and foundering of a 4.6m GRP open sports boat with the loss of three lives on Loch Ryan south-west Scotland 12 July 2003

6/2004 – **Donald Redford** - heavy contact of this aggregates dredger with Hythe Pier in Southampton Water on 1 November 2003

7/2004 – **Chelaris J** - capsized and sinking of this 16.8m fishing vessel, with the loss of all four crew, south of Alderney, Channel Islands on 1 October 2003

8/2004 – **HC Katia** - Grounding of this high speed passenger vessel while undergoing sea trials in the Solent on 3 December 2003

9/2004 - **Elegance** - investigation into two engine room fires, and the subsequent flooding and foundering of this 27.9m fishing vessel 30 miles north-west of Shetland on 30 January 2004 and 8.5 miles west of Shapinsay, Orkney on 5 March 2004

10/2004 – **Hoo Finch / Front Viewer** - near collision between these cargo vessels off the River Humber on 25 February 2004

11/2004 – **Scot Venture** - contact with Number 16 buoy by this general cargo vessel in the Drogden Channel, Denmark on 29 January 2004

12/2004 – **Dart 8** - injury to person on this ro-ro cargo vessel while berthing at Europort Terminal, Dartford, River Thames on 21 March 2004

13/2004 – **Reno / Ocean Rose** - collision between chemical tanker and fishing vessel off Whitby, North Sea on 6 March 2004

14/2004 – **Lord Nelson** - contact by this sail training vessel with Tower Bridge, River Thames, London, 15 May 2004

15/2004 - **Kingfisher II** - fire on board this 11.6m fishing vessel whilst on passage to recover creels, 5 miles east of North Uist, Outer Hebrides on 26 April 2004

16/2004 - **Pride of Provence** - failure of the starboard bow door on this ro-ro passenger vessel in Calais on 22 February 2004



ANNEX B

STATISTICS

Table 1 - Accidents involving loss of life: 2004 (UK registered vessels)

<u>Name of Vessel</u>	<u>Type of Vessel</u>	<u>Location</u>	<u>Accident</u>	<u>Number of Deaths</u>
<u>Merchant Vessels of 100 GT and over</u>				
Maersk Falsterbo	Container	Near Nantes, France	Crewman slipped on wet upper deck and fatally injured head against staircase handrail	1
Muria	Tug	Liverpool	Man overboard	1
Nordstrand	General cargo	Seville, Spain	Crewman crushed by portable bulkhead	1
Star Clipper	Passenger	London	Mooring bollard torn from ship during mooring operation causing fatal injury to passenger waiting to board	1
Seaterns	Ro Ro cargo	Naples	Electrician fell from staging during routine maintenance	1
<u>Fishing Vessels</u>				
Audacious	Prawn trawler		Vessel foundered following grounding on rocks. Two crewmen survived but the skipper died.	1
Dunan Star II	Crabber		Crewman fell overboard as vessel rolled in swell. He was retrieved after four minutes but died from water immersion.	1



<u>Name of Vessel</u>	<u>Type of Vessel</u>	<u>Location</u>	<u>Accident</u>	<u>Number of Deaths</u>
Emerald Dawn			Skipper drowned following capsizing.	1
Flying Fisher		Yarmouth, Isle of Wight	Commercial bass fisherman presumed to have drowned after falling overboard in harbour.	1
Jann Denise II	Prawn trawler	4 miles off the mouth of the River Tyne	Crew of two lost when vessel foundered.	2
Kathryn Jane	Trawler		Crew of two lost when vessel foundered.	2
Sabre of Newquay	Gill netter		Crewman lost following flooding and foundering. Two survivors made it to liferaft.	1
Three Jays	Potter		Single operator fell overboard	1
<u>Other Vessels</u>				
Barmouth Harbourmaster's dory	Dory	Barmouth harbour	Harbourmaster and his assistant drowned when boat foundered during mooring-laying operations	2
Name unknown	Power boat	Off River Tees	Vessel capsized probably after flooding. One person rescued.	2
Name unknown	Sailing dinghy		Single-handed sailor hit by boom and knocked overboard.	1



Merchant Vessels

***IMPORTANT:** The following tables relate solely to **UK-flagged** vessels of 100 GT and over, reported to MAIB in 2004.*

Table 2 - Merchant Vessel Losses: 2004

Date	Name of vessel	Vessel type	Tonnage	Type of accident
7 Sep 04	Vanguard	Tug	296 GT	Grounding
16 Sep 04	Viking Victor	Standby safety vessel	536 GT	Fire

Table 3 – Merchant Vessel Losses: 1994 - 2004

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Number lost	2	-	1	1	1	-	1	1	1	-	2
Total on Reg	1,103	1,081	1,066	1,055	1,072	1,035	1,050	1,047	1,210	1,343	1,406
GT lost	337	-	382	869	3,476	-	12,778	11,217	671	-	832

Table 4 - Merchant Vessel Accidents: 1994-2004

	<u>Vessels</u>	<u>Population</u>	<u>Accidents/1000 Vessels</u>
1994	249	1,103	225.7
1995	236	1,081	218.3
1996	251	1,066	235.5
1997	237	1,055	224.6
1998	217	1,072	202.4
1999	159	1,035	153.6
2000	141	1,050	134.3
2001	133	1,047	127.0
2002	122	1,210	100.8
2003	137	1,343	102.0
2004	141	1,406	100.3



Table 5 - Accidents by Vessel and Accident Type (100gt and over) 2004

	<u>Dry cargo</u>	<u>Passenger</u>	<u>Passenger/ cargo</u>	<u>Tanker/ combination carrier</u>	<u>Other commercial</u>	<u>Total</u>
Capsize/listing	1	1	-	-	-	2
Cargo handling failure	-	-	-	-	1	1
Collision	5	5	-	1	4	15
Contact	7	11	1	4	5	28
Escape of harmful substance	-	3	-	1	-	4
Fire/explosion	4	10	-	-	10	24
Flooding/ foundering	-	2	-	-	1	3
Grounding	7	1	-	3	4	15
Heavy weather damage	1	2	-	-	1	4
Machinery failure	15	14	1	3	7	40
Person overboard	1	1	1	-	1	4
Pollution	-	-	-	-	1	1
Total	41	50	3	12	35	141

Table 6 - Merchant Vessel Accidents by Nature: 1994-2004

	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>
Capsize/Listing	-	-	5	-	-	1	-	1	-	1	2
Cargo Handling Failure	9	7	2	2	2	1	8	1	1	3	1
Collision	25	23	26	30	23	10	25	16	16	12	15
Contact	26	22	31	24	23	18	14	13	24	32	28
Escape Of Harmful Substance	24	26	20	15	27	15	4	11	-	-	4
Fire/Explosion	24	25	22	26	24	19	18	21	26	22	24
Flooding/Foundering	5	3	3	4	3	3	2	3	1	3	3
Grounding	9	19	18	21	20	16	7	18	13	15	15
Heavy Weather Damage	4	4	12	2	4	2	5	1	4	3	4
Machinery Failure	62	37	41	50	55	48	50	39	28	40	40
Person Overboard	6	6	14	15	7	10	5	9	7	3	4
Other	55	64	57	48	29	16	3	-	2	-	1

Table 7 - Accidents to Crew by Location on Vessel: 2004

<u>Where</u>	<u>Number of Crew</u>	<u>Of which resulted in death</u>
Accommodation space – crew	29	
Accommodation space – passengers	21	
Cargo or other tank space	3	1
Dry cargo space	4	
Engine control room	2	
Engine rooms	33	
External stairway/ladder/gangway	11	1
External working deck/shelter	29	
Galley	34	
Hotel service areas	18	
Internal stairway/ladder	14	
Mooring deck	28	
Navigation/communication control space	3	
Overside/aloft	3	
Ro-ro vehicle deck/ramp	7	1
Ship's boat	6	
Store space	7	
Workshop	1	
Other external deck	24	
Other internal deck/space	15	
Other machinery space	4	
Other	5	1
Not known	6	
Total	307	4



Table 8 - Deaths and Injuries of MV Crew Members By Rank: 2004

<u>Rank / Specialism</u>	<u>Number of Crew</u>	<u>Of which Deaths</u>
Master/skipper	8	
Chief engineer	6	
Officer	8	
Officer, Deck	13	
Officer, Electrical	1	
Officer, Engineering	28	
Rating	22	
Rating, Deck	64	1
Rating, Engineering	20	2
Rating, General purpose	28	
Other crew	109	1
Total	307	4

Table 9 - Deaths and Injuries of MV Crew Members By Injury 2004

<u>Main Injury</u>	<u>Number of Crew</u>
Death – confirmed	4
Amputation of hand/fingers/toe	8
Bruising	43
Burns/scalds	19
Chemical poisoning/burns from contact or inhalation	5
Concussion/unconsciousness due to head injury	2
Crush injury	12
Cuts/wound/lacerations	40
Dislocations	8
Eye injuries	7
Fracture - of the skull/spine/pelvis/major bone in arm or leg	23
Fracture – other	45
Strains - other strains/sprains/torn muscles/ligaments	37
Strains - strained back	45
Other	9
Total	307



Table 10 – Accidents to Merchant Vessel Crew: 1994-2004

	<u>Number of crew involved</u>	<u>Resulting in death</u>
1994	436	2
1995	345	4
1996	400	3
1997	326	5
1998	325	2
1999	285	4
2000	300	3
2001	293	3
2002	297	5
2003	292	3
2004	307	4

Table 11 - Accidents to Passengers by Injury: 2004

<u>Main Injury</u>	<u>Number of Passengers</u>
Amputation of hand/fingers/toes	1
Bruising	5
Concussion/unconsciousness due to head injury	4
Crush injury	2
Cuts/wound/lacerations	3
Dislocations	7
Fracture - of the skull/spine/pelvis/major bone in arm or leg	63
Fracture – other	49
Hypothermia	1
Strains/sprains	4
Unknown	2
Total	141



Table 12 - Accidents to Passengers: 1994-2003

	<u>No of Passengers Involved</u>	<u>Resulting in Death</u>
1994	79	-
1995	97	-
1996	97	2
1997	94	-
1998	119	2
1999	80	1
2000	136	1
2001	138	1
2002	133	-
2003	183	-
2004	141	-



Fishing Vessels

There were 6,693 UK-registered fishing vessels in 2004 (end-December 2004 figure). During 2004, 314 accidents and incidents involving these vessels were reported to the MAIB. Figures in these tables are accidents and incidents involving UK-registered vessels that were reported to the MAIB in 2004.

24 fishing vessels were reported lost (0.36% of the total fleet) and there were 10 fatalities to crew.

Table 13 - Losses by Registered Length: 2004

Under 12 Metres				
Date	Name of Vessel	Age	GT	Nature of Accident
9 Mar 04	Golden West	17	11.11	Foundering
14 Mar 04	Sabre of Newquay	21	9.91	Foundering
19 Mar 04	Boy Ross	17	1.01	Grounding
20 Mar 04	Charmony	13	5.76	Fire
20 Mar 04	Osprey	4	7.94	Fire
20 Mar 04	April Provider	n/a	6.39	Fire
20 Mar 04	Causeway Venture	10	4.72	Fire
20 May 04	Danallah	6	5.47	Machinery failure
16 Jul 04	Seeker	35	18.19	Foundering
7 Aug 04	Kathryn Jane	23	10.11	Foundering
5 Sep 04	Challenger	26	5.29	Fire
10 Nov 04	Emerald Dawn	18	9.05	Missing vessel
17 Nov 04	Jann Denise II	16	9.12	Foundering
21 Nov 04	Sanmar	14	18.66	Grounding
12 - Under 24 Metres				
Date	Name Of Vessel	Age	GT	Nature of Accident
24 Dec 03	Emmaleen	25	62.00	Foundering
13 Feb 04	Transcend	38	48.86	Fire
5 Mar 04	Elegance	6	357.00	Fire
30 Mar 04	Lady Marieke	12	25.75	Foundering
10 May 04	Julian Paul	46	29.35	Grounding
12 Aug 04	Chrisamie	25	118.00	Foundering
30 Sep 04	Silver Quest II	32	119.00	Foundering
5 Oct 04	Faith Ann	26	49.00	Grounding
16 Dec 04	Golden Eagle	29	56.00	Fire
19 Dec 04	Audacious	28	24.77	Grounding

Table 14 - Fishing Vessel Losses: 1994-2004

	<u>Over 24 metres</u>	<u>12-24 metres</u>	<u>Under 12 metres</u>	<u>Total Lost</u>	<u>Total on Register</u>	<u>% Lost</u>
1994	5	17	21	43	10,296	0.42
1995	1	13	18	32	9,337	0.34
1996	1	5	19	25	8,064	0.31
1997	1	11	11	23	7,779	0.30
1998	4	5	12	21	7,605	0.28
1999	6	10	17	33	7,460	0.44
2000	6	19	15	40	7,194	0.56
2001	1	18	14	33	7,200	0.46
2002	5	7	6	18	7,046	0.25
2003	4	9	14	27	6,731	0.40
2004	-	10	14	24	6,693	0.36



Table 15 - Accidents to Fishing Vessels: 2004

	Number of Vessels	Incident Rate per 1,000
<u>Nature of Accident</u>	<u>Involved</u>	<u>Vessels at Risk</u>
Capsize/Listing	2	0.3
Collision	12	1.8
Contact	3	0.4
Fire/Explosion	19	2.1
Flooding/Foundering	40	6.0
Grounding	29	4.2
Heavy Weather Damage	2	0.3
Machinery Failure	202	30.2
Missing Vessel	1	0.2
Person overboard	7	1.0
Pollution	1	0.2
Total	318	46.9

Table 16 - Fishing Vessel Accidents by Nature: 1994-2004

<u>Nature of accident</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>
Capsize/Listing	9	7	9	8	11	15	4	3	5	4	2
Collision	23	29	25	22	20	15	25	17	15	16	12
Contact	8	9	6	3		7	2	6	1	8	3
Fire/Explosion	21	17	19	17	11	15	16	10	12	13	19
Flooding/Foundering	91	74	68	51	62	54	59	46	41	50	40
Grounding	56	58	64	44	40	31	40	29	26	38	29
Heavy Weather Damage	4	5	2	1	2	4	4		2	1	2
Machinery Failure	322	385	327	316	247	232	174	212	181	221	202
Missing Vessel		1			1		1			1	1
Person overboard	14	19	8	15	9	8	11	11	2	1	7
Other				1	1		2			2	1
Total	548	604	528	478	404	381	338	334	285	355	318



Table 18 - Accidents to Crew by Vessel Length (deaths shown in brackets) 1994-2004

	<u>Under 12 metres</u>		<u>12 - Under 24 metres</u>		<u>24 metres or more</u>		<u>Total</u>	
1994	38	(11)	56	(6)	66	(8)	160	(25)
1995	31	(8)	41	(6)	47	(4)	120	(18)
1996	23	(9)	35	(3)	58	(8)	116	(20)
1997	21	(8)	73	(17)	41	(4)	135	(29)
1998	28	(12)	34	-	51	(14)	113	(26)
1999	15	(4)	29	(2)	37	(3)	81	(9)
2000	18	(4)	44	(9)	43	(19)	105	(32)
2001	12	(2)	41	(3)	34	(5)	87	(10)
2002	10	(3)	24	(4)	19	(1)	53	(8)
2003	26	(8)	26	(2)	17	(1)	69	(11)
2004	26	(9)	21	(1)	23	(-)	70	(10)

Table 19 - Deaths and Injuries to FV Crew by Rank / Specialism: 2004

	<u>Under 12 metres</u>	<u>12-24 metres</u>	<u>Over 24 metres</u>	<u>Total</u>
Master/skipper	12	2	1	14
Chief Engineer	-	-	2	2
Officers	-	2	2	4
Crew	14	17	18	50
Total	26	21	23	70



Non-UK flag vessels

This table summarises the reports received by the MAIB of accidents involving non-UK flag vessels in UK territorial waters, i.e. within the 12-mile limit.

Table 20 - Accidents to non-UK registered, commercially operating vessels (of any size) inside UK territorial waters

	<u>Dry cargo</u>	<u>Passenger</u>	<u>Tanker/ combination carrier</u>	<u>Other commercial</u>	<u>Fishing vessels</u>	<u>Total</u>
Capsize/listing	1	-	-	1	-	2
Collision	7	-	3	1	1	12
Contact	3	4	4	1	1	13
Escape of harmful substance	-	1	1	-	-	2
Fire/explosion	5	2	1	-	2	10
Flooding/foundering		1	-	1	2	4
Grounding	13	1	6	2	2	24
Heavy weather damage	1	-	-	-	-	1
Machinery failure	11	4	1	2	3	21
Person overboard	1	-	1	1	1	4
Total	42	13	17	9	12	93



