Report of the Chief Inspector of Marine Accidents

into the capsize and sinking of

the Fishing Vessel

MAJESTIC

with the loss of five lives

West of the Shetlands

on 13 June 1989

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The Right Honourable Malcolm Rifkind QC MP
Secretary of State for Transport

Sir

I submit my Report following the investigation into the capsize and sinking of the fishing vessel MAJESTIC with the loss of five lives West of the Shetlands on 13 June 1989.

This accident occurred before the Marine Accident Investigation Branch (MAIB) became operational and the Merchant Shipping (Accident Investigation) Regulations 1989 came into force. The investigation was commenced by the Marine Directorate and MAIB assumed responsibility for it at a later date. The provisions of those Regulations concerning the publication of reports therefore do not apply.

However, as the accident was serious and would have been the subject of an Inspector's Inquiry if it had occurred when those Regulations were in force, it is recommended that the Report should be treated as if those Regulations applied.

I wish to place on record appreciation for the co-operation extended to the Inspectors, who carried out the Investigation, by the parties concerned and particularly those who survived the ordeal.

I am, Sir
Your obedient servant

Captain P B Marriott
Chief Inspector of Marine Accidents

CONTENTS

		Page
Section 1	SUMMARY	1
PART 1	**FACTUAL ACCOUNT**	
Section 2	Particulars of Ship and Crew	2
Section 3	Narrative	7
Section 4	Emergency Action - Search and Rescue	9
PART II	**CONSIDERATION OF POSSIBLE FACTORS**	
Section 5	Discussion - General	11
Section 6	Discussion - Stability	14
PART III	**CONCLUSION**	
Section 7	Findings	16
Section 8	Recommendations	18
Figure 1	Plan of MAJESTIC	20
Figure 2	Photographs of MAJESTIC	21
Figure 3	Relative positions of MAJESTIC and MYSTIC	22
Figure 4	Photographs of MYSTIC's trawl tracks	23
Figure 5	Examples of Notices which might be suitably posted around fishing vessels	26
Appendix	Alternative texts	27

1. SUMMARY

On 13 June 1989, the motor fishing trawlers MAJESTIC and MYSTIC were pair trawling in a position approximately 30 miles west south west of Sumburgh. This involved towing one net abaft the two boats when they were about a quarter of a mile apart. The trawl gear became fast on the sea bed, which is not uncommon for this type of operation, and the Skippers of the two boats after trying unsuccessful manoeuvres to set it free decided to heave it in. During the process of heaving on its trawl wire, MAJESTIC took on a starboard heel and capsized shortly afterwards. The boat was manned by a Skipper and six other crew members, five of whom were drowned as a result of the accident.

Following the capsize MYSTIC immediately cut its trawl wire and went to assist the people in the water. The Skipper and one of the crew members from MAJESTIC were rescued from the water by the crew of MYSTIC. The body of one of the drowned crew members was later recovered from the water by another boat. The four remaining bodies have not been recovered.

MAJESTIC was fitted with an enclosed shelter space which extended over most of the vessel's length. The shelter space's watertight integrity was dependent on two doors at the aft end and various other openings being closed using the fittings provided; with the boat totally closed she met the statutory stability requirements.

A Department of Transport approved stability information booklet, for the reference of the Skipper and crew, was carried on board.

The heaving in operation, attempted after the fishing gear had fastened/ snagged on an unknown object on the seabed, led to the accident. This operation was carried out with the shelter space closure fittings in the open position. The Skipper, who was in the wheelhouse, stopped the winch but, the control system did not allow him to reverse it. He ordered the winchman in the shelter space to slack off but for reasons unknown the tension in the heaving wire was not released and the boat capsized.

A number of recommendations have been made which, if followed, should not only reduce the probability of a similar accident occurring but should also improve safety of life at sea for fishermen.

All times in the Report are local time.

PART 1 FACTUAL ACCOUNT

2. PARTICULARS OF SHIP AND CREW

2.1 Ships Particulars

MAJESTIC

Ship Type	:	Steel-Hull Fishing Vessel
Port of Registry	:	Fraserburgh
Fishing Number	:	FR 194
Builders	:	Bideford Shipyard, Devon
Yard No	:	Y58
Keel Laid	:	September 1973
Delivered	:	1974
Dimensions	:	Length Overall 22.86m (75.0')
		Registered Length 21.05m (69.0')
		Length BP 20.40m (67.0')
		Beam 6.40m (21.0')
		Depth Moulded 3.20m (10.5')
Draught Maximum	:	3.09m
Corresponding Minimum Freeboard	:	0.26m
Displacement in Salt Water	:	218.23 Tonnes
Corresponding Deadweight	:	80.23 Tonnes
Tonnage	:	100.46 Gross
Main Engine	:	Kelvin 399 kW

2.2 A general layout of the vessel is shown in Figure 1. The photographs of the vessel in Figure 2 were taken in about 1985 since when the hatch on the shelter had been altered so that it opened on top of the shelter.

2.3 Alterations Carried Out Since New

a. Steel enclosed shelter fitted in 1980-81.

b. Net drum and new power block fitted.

c. Alignment of winch changed from forward and aft to transverse.

d. Large fish pump removed.

e. New main engine fitted 1987.

f. Two additional non-return scupper valves fitted on main deck in shelter space.

g. Gutting chutes closed off.

i. Overside scuppers blanked.

j. New hopper fitted and fish hatch moved inboard, clear of starboard side of the shelter.

2.4 Shelter Details

Precise details of the shelter fitted are not known but a guidance drawing is on the Department of Transport's file. A hatch was fitted towards the starboard side of the top of the shelter deck through which fish was loaded into a hopper which had a bottom approximately 0.75 metres above deck and was sited approximately 0.75 metres clear of the starboard side of the shelter. This left sufficient space for crew members to pass between the hopper and the side of the shelter. A small door was fitted in the lower part of the hopper to feed fish on to a tray from which crew carried out gutting and washing operations. The fish was then passed through a portable chute placed in the hatch to the hold where one of the crew packed the fish into boxes with ice and stowed them into position in the hold.

The overboard scuppers from the space, two port and two starboard, were fitted with non-return flaps which could be screwed down closed when overboard drainage was not required. The lower edges of the scuppers were in line with the main deck and clearance to the boat's waterline would normally have been in the range of 100-500mm.

Weathertight doors with 6 dog clips for closure were positioned at the aft end of the shelter, one port and one starboard. The height of the door sills was 500mm.

2.5 Winch and Controls

A model 80-2 drum hydraulic winch manufactured by Jensen & Sonner of Denmark was positioned at the forward end of the shelter space and the trawl wire was led up through the shelter deck and aft over the side through the gallow block. A gallow block was positioned approximately 2 metres above the main deck, port and starboard, just aft of deckhouse.

The winch overpressure relief valve was set to blow off at 210 BAR which related to a pull of approximately 16 tonnes on one barrel.

The controls at the winch consisted of a main control which was a spring loaded lever with three positions, one at the centre being neutral, one to heave and one to reverse; one lever to stop the winch (dead man's handle); and one lever to operate the hydraulic guide winding mechanism for the wire.

The winch controls installed in the wheelhouse could only stop the winch or adjust its speed. A winch speed indicator and tension indicator for the trawl wire were also positioned in the wheelhouse.

The Skipper in the wheelhouse was unable to see the winchman in the shelter space and communication between them was provided by a hand set in the wheelhouse with a two-way speaker at the winchman's position.

The winch was also fitted with manual brakes and a dog clutch. To allow the winch to run free the winch had to be stopped, the brake applied, the dog clutch disengaged and then the brake released. This, it is understood, could be a difficult procedure to carry out if a load was on the winch. The winch, however, could be reversed simply by placing the main control in the reverse position.

2.6 Observation of Warp Wire

The run of the warp wire from the aft gallow block into the water could be viewed by the Skipper through the starboard and aft wheelhouse windows.

2.7 Washing Water Supply and Drainage of Shelter Deck

During gutting operations water was pumped continuously through a 7.5 cm pipe to the shelter deck space; the output was dependent on the main engine speed. Water could be pumped out from the shelter deck space through a bilge system but it was normal procedure just to drain water overboard through the scuppers fitted port and starboard.

2.8 Fuel Tanks

Two fuel tanks were positioned one port and one starboard in the engine room; these were cross connected by a large bore pipe fitted with two screw down valves which allowed the tanks to be used independently if required.

2.9 Safety Equipment

Safety equipment particulars extracted from the vessel's form FV2 are reproduced below.

EQUIPMENT - MANUFACTURERS	TYPES/ SERIAL NUMBER	NUMBERS	STOWAGE
Inflatable Liferaft - Viking	EO 10986	8 Person	Casing Top P *HRU Fitted
Inflatable Liferaft - Viking	EO 40786	8 Person	Casing Top S *HRU Fitted
Survival Craft - Seafarer Portable Radio - Navigation	Mariner 16 NR MA 4026/C9	1	#
Life-jackets - Duncan		8	Distributed
Lifebuoys - Perry Buoy		2 2	Wheelhouse side P & S Casing side P & S
Table of Life-saving Signals	SOLAS No 1	1	In Wheelhouse
Line Throwing Appliance	Speedline	1	#
Parachute Flares	PW Para Red Mk3	♦	#

* Hydrostatic Release Unit

\# Not recorded

♦ Not recorded but 12 reported on board

2.10 Plotter Equipment in Wheelhouse

There was a display unit which is designed to show the run of the previous trawls and the positions of the fasteners (snags of the fishing gear) experienced.

2.11 Certificate

MAJESTIC was issued with a UK Fishing Vessel Certificate on 9 February 1989 which was valid to 30 November 1991. A satisfactory roll period test had been carried out prior to renewal of the certificate.

2.12 Crew

Crew onboard - 13 June 1989.

Skipper:	Certificate of Competency - Skipper Fishing Boat Full- issued 12.3.85.
	Aged 27 years
Crew/deckhands:	The usual complement of six were onboard, four of whom it is reported had undertaken a basic survival course.
	Five were aged between 19 and 23 years. Whilst the sixth member, who was the winchman, was aged 43 years.

3. NARRATIVE

3.1 MAJESTIC sailed from FRASERBURGH at 0100 hours on Monday, 12 June 1989 and was loaded generally according to the guidance condition No 2 in the Stability Book (Departure for fishing grounds) except the forepeak was full of fresh water and about 10 tonnes of ice was stowed on board instead of 12 tonnes.

3.2 On Tuesday 13 June 1989 MAJESTIC and MYSTIC were pair trawling in the area approximately 30 miles west south west of Sumburgh; three other pairs of trawlers were in the area. All were experiencing slight problems through fastenings on the seabed.

A single net was being towed between the boats, which were about a quarter mile apart.

MAJESTIC had loaded fish from previous trawls and it is estimated that approximately 3 tonnes were stowed in the starboard side fish hopper and half a tonne in the fish hold at the start of the vessel's final tow. During that tow and before the vessel came fast, the crew had gutted and stowed a quantity of that fish. It is also estimated that approximately 1350-1800 ltrs of oil had been used out of the port fuel tank, which had been used independently of the starboard fuel tank, (estimates made by the Skipper). As a result the boat had a list to starboard. After towing for about half an hour on the fourth tow the trawl gear came fast on the bottom: the time was about 1000 hours.

3.3 The boats usually pair-trawled at a speed of about 3 knots and it became apparent that they had a fastener when the boats stopped moving. The Skipper of MAJESTIC was also able to confirm this by reference to the increased readings on his boat's tension meter which was connected to the trawl wire.

MAJESTIC had some 850m of wire out and MYSTIC was about 0.18 mile away. The wind was SE force 3-4 on the port bow, there was a slight swell about 2-3m, and visibility was estimated at 1 mile. The depth of water was approximately 100m; the sea area was known to be tidal but the effect was negligible at the time.

3.4 The positions of persons on MAJESTIC at that time were as follows:

Skipper - in the wheelhouse.

Winchman at the winch control at the forward end of the shelter space.

Two men working inside the shelter gutting fish.

One man down the fish hold packing fish into boxes.

Two men on the open aft deckspace working on the net - MYSTIC's net was being used on that trawl.

3.5 Several unsuccessful attempts were made to free the trawl gear by the normal method of trying to make alternate boats go faster. After about 10 minutes the gear was still fast and both Skippers decided it was necessary to heave in the gear.

The Skipper of MAJESTIC then put his engine control to dead slow ahead and gave the order to heave in the wire. MAJESTIC took up a position abaft MYSTIC, (as shown in Figure 3), with its trawl wire running out through the starboard gallow block at almost 90° to the vessels centre line.

3.6 At this time the doors at the aft end of the shelter space were held open, the fish hatch was open on the top of the shelter deck and the hatch to the hold on the main deck was also open. As was common practice on MAJESTIC, it is believed the screw down non-return flaps in the overboard scuppers fitted in the side shell on the port and starboard side of the shelter space were wedged open. Washing water was being pumped into the shelter space, albeit slowly because of the low engine revs - this water would normally drain overboard via the scuppers.

3.7 The Skipper of MAJESTIC was heaving in his wire at about 15 turns a minute on a winch drum diameter of approx 1 metre and knew that he had about 400m of wire still over the side, when the boat heeled to starboard. He did not consider the heel to be "too bad" at the time but nonetheless, using the control lever in the wheelhouse, immediately stopped the winch and gave an order by handset to the winchman to slack off the winch.

4. EMERGENCY ACTION - SEARCH AND RESCUE

4.1 Two crewmen, one from the aft deck and one from the shelter space, ran into the wheelhouse but did not get a chance to say anything before the vessel capsized. Considering the layout of the stern of the vessel it is possible that the crew member from the after deck reached the wheelhouse having entered the shelter by the starboard door which led directly to the door to the galley and the wheelhouse. Had he entered by the port shelter door, he would have had to take a much longer route forward and round the forward end of the casing.

As MAJESTIC was capsizing the crewman who was down the hold came up into the shelter space after being warned to get out by another crew member. As he ran along the port side of the shelter space to escape, he recalls that there was a wave of water the full height of the starboard door coming into the shelter space. The Skipper escaped out of the wheelhouse window after the vessel had capsized and the wheelhouse was totally submerged.

The five other crewmen died as a result of this accident.

MAJESTIC floated upside down for about 15 minutes and then sank.

4.2 When he saw that MAJESTIC had capsized the Skipper of MYSTIC gave the order for his trawl wire to be cut and he steered his vessel toward MAJESTIC. He also advised other pair trawlers on his VHF radio and asked them to cut their warps and come to give assistance. Simultaneously he asked one of them, SCOTTISH MAID, to send out a distress message and to request helicopters.

4.3 Shetland and Pentland Coastguard MRSC received the MAYDAY call at 1052 hours and Pentland took the co-ordination role. The Coastguard helicopter was airborne at the time and was diverted to the position of the capsize, given as 59° 45'.2N 002° 17'.44W, with an ETA of 1128 hours.

4.4 MAJESTIC's liferafts did not float free. An EPIRB was not fitted nor was it a requirement for this vessel at the time of the accident.

4.5 When MYSTIC approached MAJESTIC her crew were seen in the water and two liferafts were launched, one being held by its painter while the other floated free. Lifebuoys were also thrown into the water and two of MYSTIC'S crew dived overboard to render assistance to the men in the water. They, however, were not wearing lifejackets and were not attached by lifelines to MYSTIC.

MYSTIC was fitted with a shelter space and only had a small deck area aft where the freeboard (distance from the water to the vessel's deck) allowed access to the water. However because of the danger from the turning propeller the Skipper had to keep this area away from the people in the water. MYSTIC's crewmen were in the water for at least a quarter of an hour and it was with great difficulty that they were hauled back on board together with the Skipper and one of the crewmen from MAJESTIC.

The fishing vessel GOLDEN SCEPTRE which was helping in the search recovered one deceased body from the water, which was later identified as one of MAJESTIC's crew.

Neither of the two surviving crew members of MAJESTIC, nor the deceased member whose body was recovered, were wearing lifejackets or buoyancy aids.

4.6 The remaining four bodies were not recovered.

Records of the Search and Rescue operation indicate that only one crew member of MAJESTIC had not been seen in the water during the operation.

4.7 Further helicopters, one from the offshore support vessel THAROS and another from the RAF, under instruction from Edinburgh RCC, were used in the search. The Aith lifeboat and several fishing vessels that had responded to the continuing distress broadcasts also assisted. The RAF helicopter, while in position, acted as on-scene-commander.

The two survivors from MAJESTIC and the two crew members of MYSTIC who had been in the water were lifted from MYSTIC by helicopter and taken to hospital for examination - where it was confirmed no serious injuries had been sustained.

When the full search was underway, there were at least 14 boats, two helicopters and the Aith lifeboat assisting.

4.8 The air search was terminated at 1317 hours while the sea search continued until 1700 hours when the lifeboat returned to its station. Several fishing vessels searched on until dusk.

PART II CONSIDERATION OF POSSIBLE FACTORS

5. DISCUSSION - GENERAL

5.1 When the Skipper of MYSTIC was asked about any signs of being dragged through the water, he was adamant that no submarine was involved. It is understood there was definitely no NATO submarine in the accident area at the time.

5.2 Information from MYSTIC's plotter has been copied which illustrates the large number of "fasteners" recorded in the area. Examples are given at Figure 4.

From the information available it is considered that the trawl wire came fast on the sea bed or on an object which was in close proximity to where MAJESTIC was when heaving in. It could have been that the net was caught first and that the wire came fast on something else after MAJESTIC started to heave. When the Skipper of MAJESTIC had about 400m of wire still to heave in, knowing that he was in 100m of water, his thoughts were that the fastener was probably at or nearer to the net.

5.3 When heaving in, the normal practice is for the Skipper to alert the crew and appoint a man to watch the wire at the aft end and report if there is any change in the angle at which the wire enters the water. This practice was not followed in this case.

5.4 On MAJESTIC the weathertight integrity of the vessel including the shelter space was required to be maintained to ensure the vessel had a standard of stability which complied with the Merchant Shipping (Fishing Vessel) Regulations 1975. To meet this requirement all external openings to the shelter space should have been effectively closed, using the fittings provided, before heaving commenced. They were not, and the lower edges of the starboard side scuppers and door sill would allow water to enter the space at heel angles of the order of 10° and 22° respectively.

5.5 With the loading on the warp acting at nearly right angles to the centre line, it would appear that the vessel was pulled over to an angle which allowed water to flow into the shelter space through the wedged open scupper non-return flaps. This would easily have been possible with the available pull on the winch and the strength of the warp wire. At the speed of winding in the wire, taking account of the Skipper's reaction time, several feet of wire could have been wound on to the drum, before the winch was stopped.

5.6 The evidence of the surviving deckhand was that when escaping from the fishhold via the shelter space the vessel was listing badly to starboard and a wave of water the full height of the starboard door was coming in to the shelter space. With the boat held over to starboard at any angle in excess of 22° the flooding of the shelter space would have been progressive. The wind was acting on the port side which would not have helped the situation and the flooding of the vessel would have been increased by the rise and fall of the waves through the open starboard door in the aft end of the shelter space. As the heel increased a wave of water flowed through the aft (starboard) shelter door, and the vessel capsized.

5.7 It is known (see para 3.7) that when the boat heeled the Skipper used the winch control in the wheelhouse to stop the winch, and gave an order by handset to the winchman to slack off. Very shortly after this the Skipper attempted to restart the winch and, if the winchman had put the main control and lever into reverse, this would have had the effect of paying out the wire and relieving the tension. (As mentioned in para 2.5, the wheelhouse control could not itself reverse the winch but only stop it or adjust its speed.) In fact, the Skipper's attempt to restart the winch had no effect. It is conjectured that the explanation for this is that the winchman on receiving the order to slack off put the main control into neutral: this would be a natural first reaction. He then probably attempted to let the wire run free. To do this is (as also mentioned in para 2.5) an operation of some difficulty with the winch under load and would take significant time; and while the main control was in neutral the wheelhouse control would have no effect.

This conjecture cannot be confirmed as sadly the winchman did not survive, and there was no communication between him and the Skipper after the order to slack off was given.

It was common practice to hold the spring loaded winch control lever, at the winch, in the desired position with a piece of cord. This would have caused a delay if the winchman's response to the Skipper's order was to attempt to reverse the winch.

5.8 The fitting of a shelter space results in the Skipper, in the wheelhouse, being "remote" from the other working areas of the vessel both visually and physically.

Closed circuit television monitors are available for fitting on such fishing vessels to improve the handset communication facilities on board. Closed circuit television cameras were fitted in the vessel's engine room and shelter deck. The winch was not within the range of vision of the shelter deck camera.

It is also feasible to retrofit a comprehensive hydraulic control unit for the winch, in the wheelhouse of a vessel such as MAJESTIC.

5.9 MAJESTIC had two 8 person inflatable liferafts stowed on the casing top above the wheelhouse, both of which were fitted with hydrostatic release units. Also carried were 8 lifejackets stowed in the accommodation area and four lifebuoys stowed on the port and starboard sides of the wheelhouse and casing.

The two liferafts and other life-saving equipment had been checked by the Department of Transport during the safety equipment survey of the vessel carried out prior to the renewal of the vessel's United Kingdom Fishing Vessel Certificate in February 1989. The liferafts and lifebuoys were in a position accepted by the Department of Transport and as advised by the vessel's naval architect.

In view of the rapid capsize of the vessel, the crew did not have time to collect and don their lifejackets.

There is no record that either the liferafts or lifebuoys floated free when the vessel capsized.

6. DISCUSSION - STABILITY

6.1 Using the estimates and information available, the loading condition and stability data for MAJESTIC as at the time of the accident have been calculated. Condition 2 of the vessel's approved Stability Data Booklet was used as the basis.

Further calculations have also been undertaken for a fishing vessel similar to MAJESTIC as built, that is without a shelter fitted.

The principal findings of these calculations are summarized below.

6.2 Assuming the shelter space closed (ie intact) and a nominal pull of 10 tonnes on the heaving wire, acting at 90° to the centre line, MAJESTIC would heel to something of the order of 32° and would still have residual stability.

For the mode of operation as it was, namely with an open (ie non-intact) shelter space, progressive flooding and the entrapped water effect would rapidly increase the heel until the vessel capsized.

6.3 Comparing the figures for with and without a shelter space fitted, it was shown that for the vessel without the shelter fitted:-

6.3.1 the vertical centre of gravity of the boat would be lower, and

6.3.2 that in turn would result in a better resistance to the boat heeling (ie bigger righting levers), up to 30°, <u>but</u> there would be less resistance to capsize above that (ie the maximum righting lever would occur at a lower angle of heel).

6.3.3 The 10 tonnes pull as referred to in para 6.2 would result in something like 18° heel rather than 32° as predicted for MAJESTIC with her shelter space closed.

6.3.4 The maximum resistance to capsize of this vessel would occur at approximately 30° rather than 60° heel plus for a vessel such as MAJESTIC with a shelter fitted and <u>maintained closed,</u> (ie intact).

6.4 The Skipper of MAJESTIC was confident as regards the stability of his boat. This confidence was based principally on his understanding of it having been <u>passed</u> by the Department of Transport, (ie the boat's Stability Data Booklet had been approved by the Department's Fishing Vessel Branch).

6.5 Approval of the Stability Data Booklet by the Department of Transport confirms only, that the information given is correct, that it is in an agreed format and that, if the vessel to which it applies is operated taking due account of it, the statutory requirements as regards stability will be complied with.

Perhaps, it should also be said that based on the basic understanding of stability, required to obtain a Certificate of Competency, many fishing vessel Skippers might not be expected to understand some of the statements made in an approved Stability Book.

6.6 In the Stability Booklet for MAJESTIC there is a general lack of simplified information for the advice of the Skipper on:

6.6.1 The contribution made by the shelter space to the stability of the boat.

6.6.2 The importance of closing openings to keep the shelter space intact, particularly when the standard of stability was so marginally acceptable in some conditions.

6.6.3 The effects of loading fish into the outboard starboard fish hopper and not using the fuel tanks as a common tank.

6.6.4 The importance of avoiding an inherent list whenever possible.

PART III CONCLUSIONS

7. FINDINGS

This was a particularly tragic accident in that it occurred during an operation which was not uncommon while trawling, at a time when the weather conditions could not be considered bad. I consider the findings of the Inspector who carried out the investigation, and which follow, are a true reflection of the actual events which occurred on that morning.

7.1 The vessel and her complement fully complied with the requirements for certification.

7.2 Due to the use of fuel from only the port tank and the landing of earlier catches into the starboard side of the vessel, MAJESTIC had a list to starboard of some 7°, while fishing, prior to the accident.

7.3 The accident occurred following the fishing gear (net and/or wire) being "fastened" on the seabed or some object thereon.

7.4 The normal practice, prior to heaving in the fishing gear, of alerting the crew and appointing a man to watch the wire from the aft end of the vessel with instructions to report as necessary, was not followed in this case.

7.5 MAJESTIC was not closed down, to ensure the vessel had the maximum effective stability, prior to commencing heaving in the fishing gear.

7.6 While attempting to heave in the fishing gear after it had become fastened/snagged on something on the seabed MAJESTIC took a heel in excess of 22° to starboard. It is not known what heel had developed when the Skipper stopped heaving prior to the vessel capsizing.

7.7 The winch was stopped but not reversed. The reasons for this have not been fully established. As a result the shelter space flooded and MAJESTIC capsized within a very short time after developing a starboard heel.

7.8 The Skipper and one crewman on MAJESTIC survived the accident, unfortunately however the other five crew members were lost, only one body being recovered.

7.9 All but two of the crew members lost were seen in the water immediately following the accident. The winchman was not seen immediately. His body was sighted some time later by GOLDEN SCEPTRE assisting in the rescue and was recovered by that vessel. Loss of life was therefore not entirely due to the loss of the vessel, and might have been reduced if the crew had been wearing personal buoyancy aids or had time to use the lifejackets or lifebuoys.

7.10 Within about 15 minutes of capsizing, MAJESTIC sank.

7.11 Neither of the two liferafts carried by MAJESTIC, although fitted with hydrostatic release units, floated free after the vessel sank to provide support for the crew in the water. Nor is there any record that any of the four lifebuoys also carried floated free.

8. RECOMMENDATIONS

The investigation into this accident results in a number of recommendations being made; they should not only reduce the probability of a similar accident occurring but should also improve safety of life at sea for fishermen. All these recommendations are addressed to the Marine Directorate, Department of Transport, for their attention.

8.1 Simplified, clear and basic stability information as to what affects the stability characteristics of the boat should be included in fishing vessels' Stability Books for the advice of the Skipper and his crew. This could take the form of a DOs and DON'Ts list for a representative set of situations or modes of operation.

8.2 Merchant Shipping Notice numbers M.974 and M.1327 already give advice on a number of operational points which need to be considered when fishing. M.1327 also advises that an adhesive label for display on fishing vessels, giving the lessons to be learnt from the losses of fishing vessels due to flooding, may be obtained from the Marine Directorate. However, it is considered that these M Notices are not having sufficient effect and therefore, in addition, readily visible, simple, instructional notices should be posted in relevant positions around fishing vessels. Some suggested examples are given at Figure 5.

8.3 On fishing vessels where the layout prevents unaided visual as well as verbal communication between the Skipper and the winchman, the winch controls should be duplicated in the wheelhouse such that the Skipper can stop and control the direction of the winch in an emergency.

8.4 All fishing vessel crew members should be advised of the benefits of wearing, at all times when working, personal buoyancy aids with built-in and/or inflatable buoyancy. Further consideration should be given to whether the wearing of such aids should be a mandatory requirement.

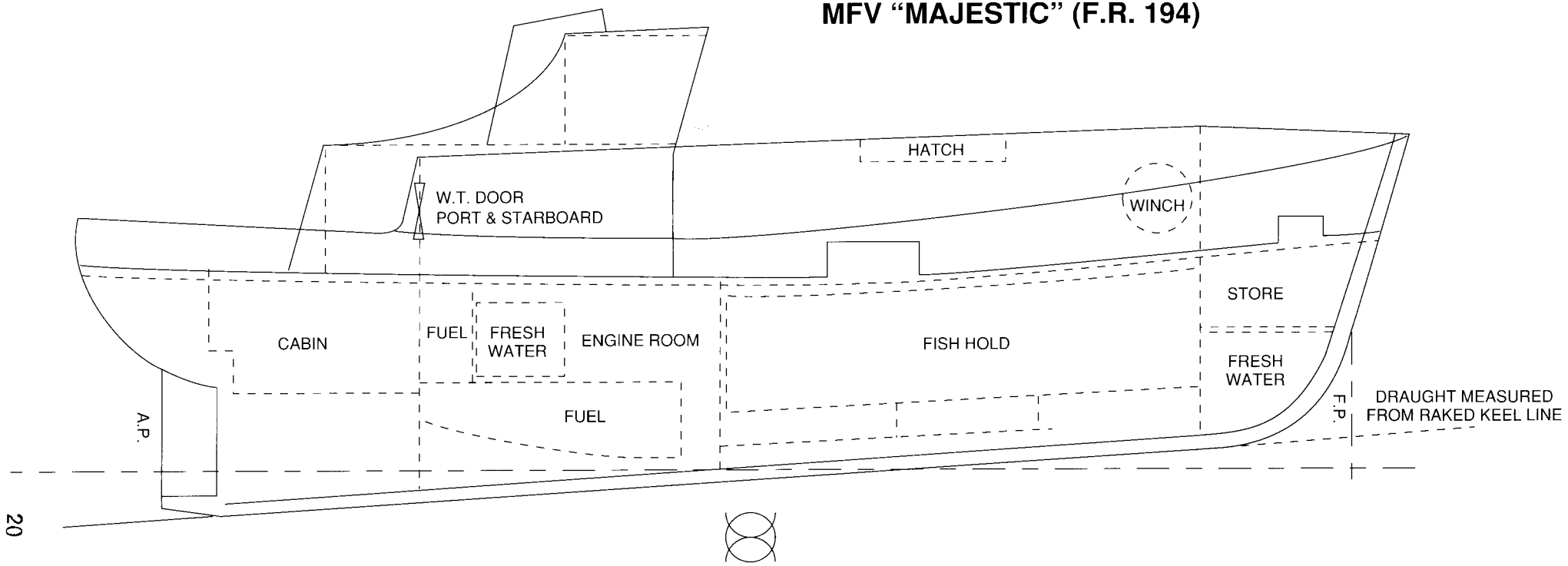
8.5 Merchant Shipping Notice number M.1400 gives advice and guidance on the stowage, launching and fitting of float-free arrangements for inflatable liferafts. The Department of Transport booklet "Fishermen and Safety" also gives some advice and a copy of the booklet is forwarded to a fishing vessel's owner when the vessel's United Kingdom Fishing Vessel Certificate is first issued or renewed. Consideration should be given to increasing the advice given in the booklet including some illustrations indicating how liferafts need to be positioned and fitted to increase the probability of them floating free when necessary.

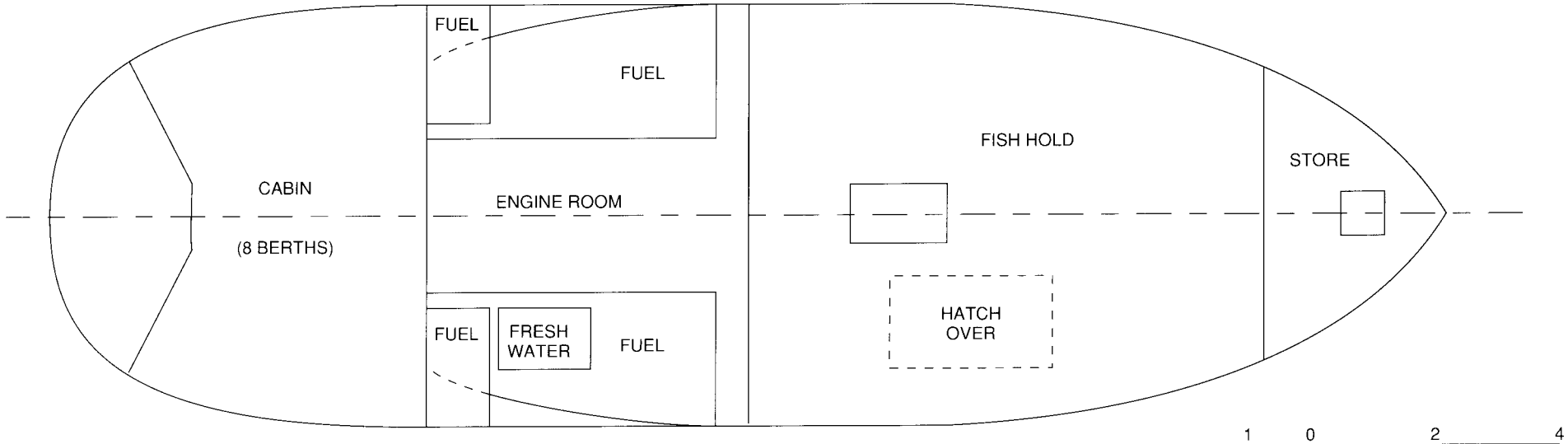
8.6 Means to assist in the recovery of a conscious or unconscious person from the sea should be provided on all fishing vessels, particularly where the freeboard to a suitable boarding area is considered excessive. This requirement should include all vessels fitted with a full length shelter space.

8.7 Further consideration should be given as to where the mandatory lifejackets should be stowed such that they might be more readily available when an accident occurs and this information should be included in the booklet "Fishermen and Safety".

8.8 An inclinometer indicating limiting heeling angles should be fitted in the wheelhouse - relevant angles of heel could then also be usefully highlighted in the vessels Stability Book.

MFV "MAJESTIC" (F.R. 194)





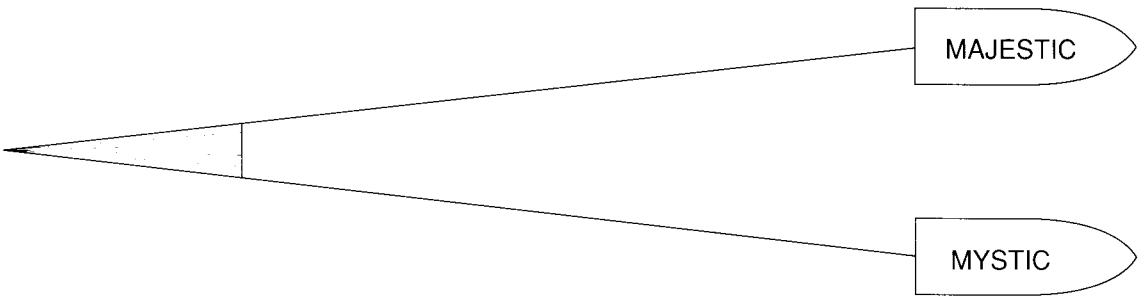
SCALE - 1:100

Figure 1

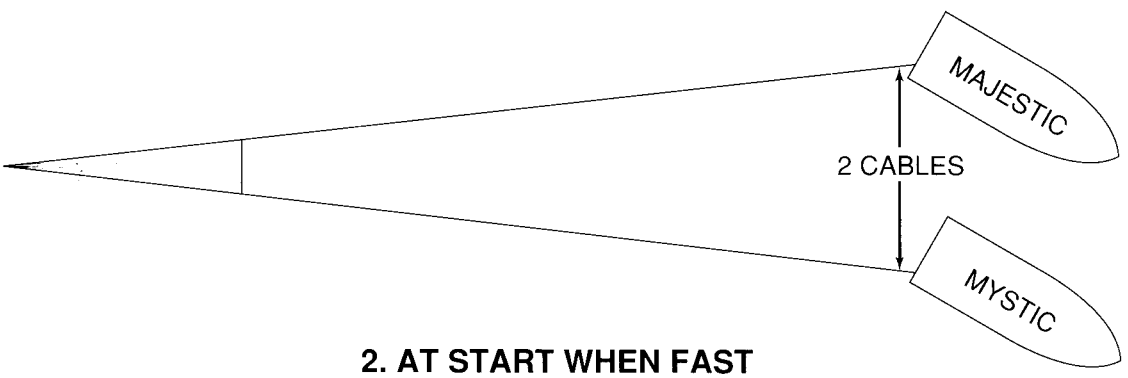
MAJESTIC (these photographs taken about 1985)

RELATIVE POSITIONS OF "MAJESTIC" AND "MYSTIC"

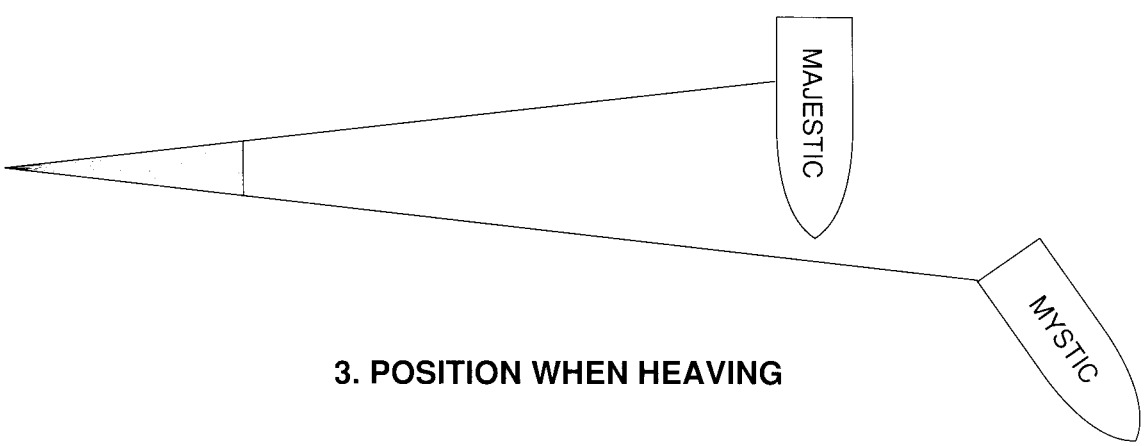
(Not to Scale)



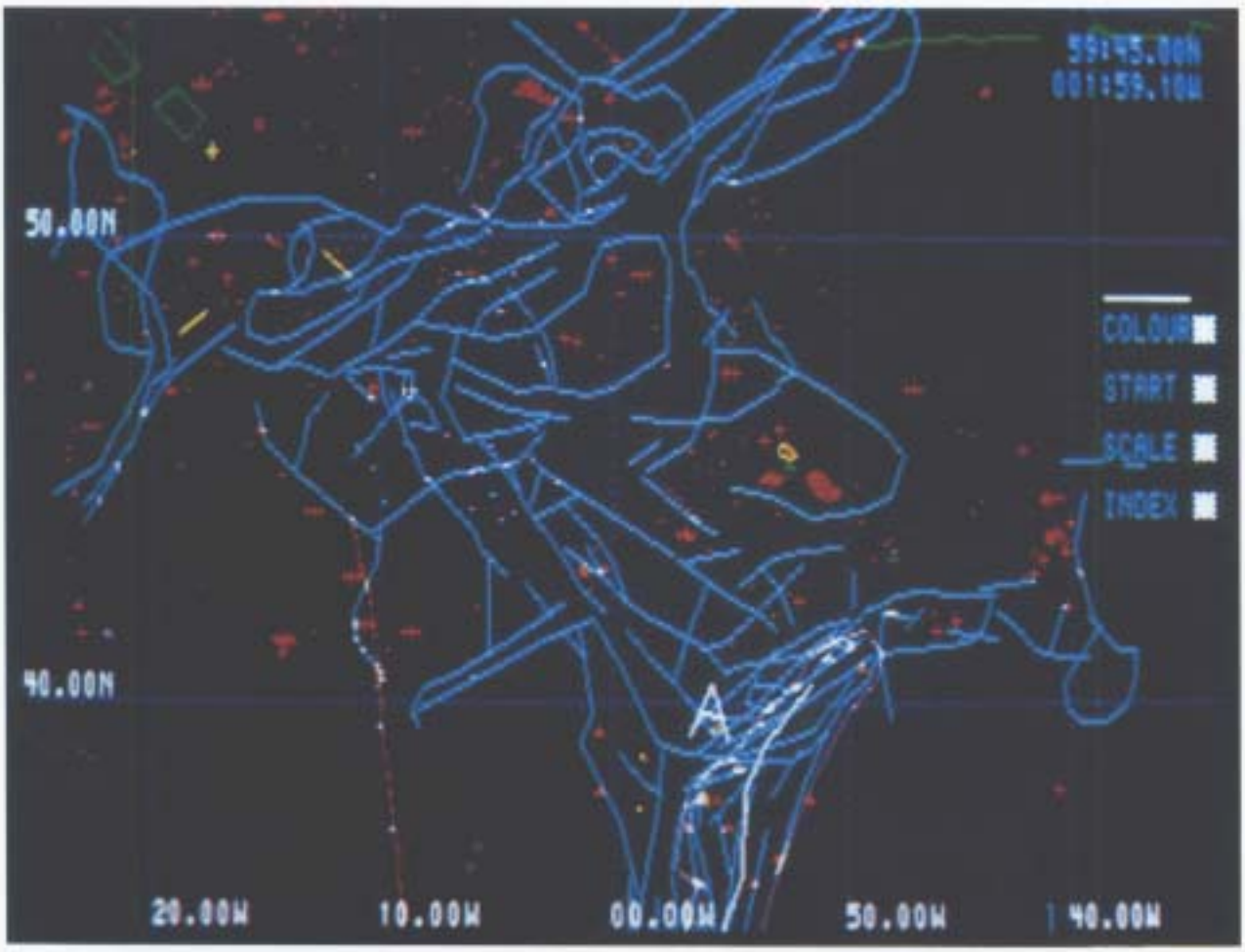
1. NORMAL TOWING



2. AT START WHEN FAST



3. POSITION WHEN HEAVING

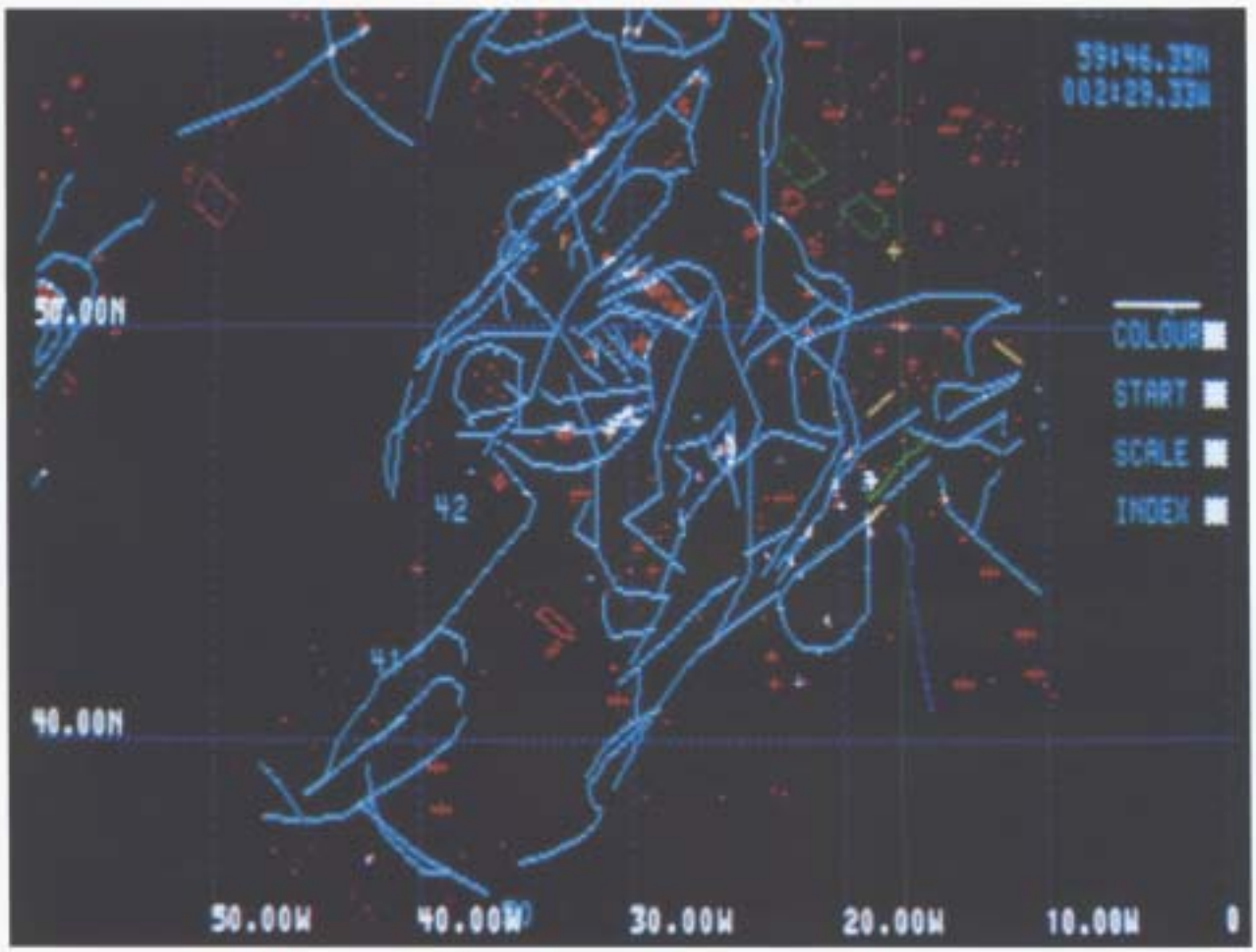


Courtesy of
Racal Marine Electronics Ltd

MYSTIC's trawl tracks

Blue lines indicate previous trawls

Orange marks indicate positions of
previous fasteners and wrecks



Courtesy of
Racal Marine Electronics Ltd

MYSTIC's trawl tracks

Blue lines indicate previous trawls

Orange marks indicate positions of
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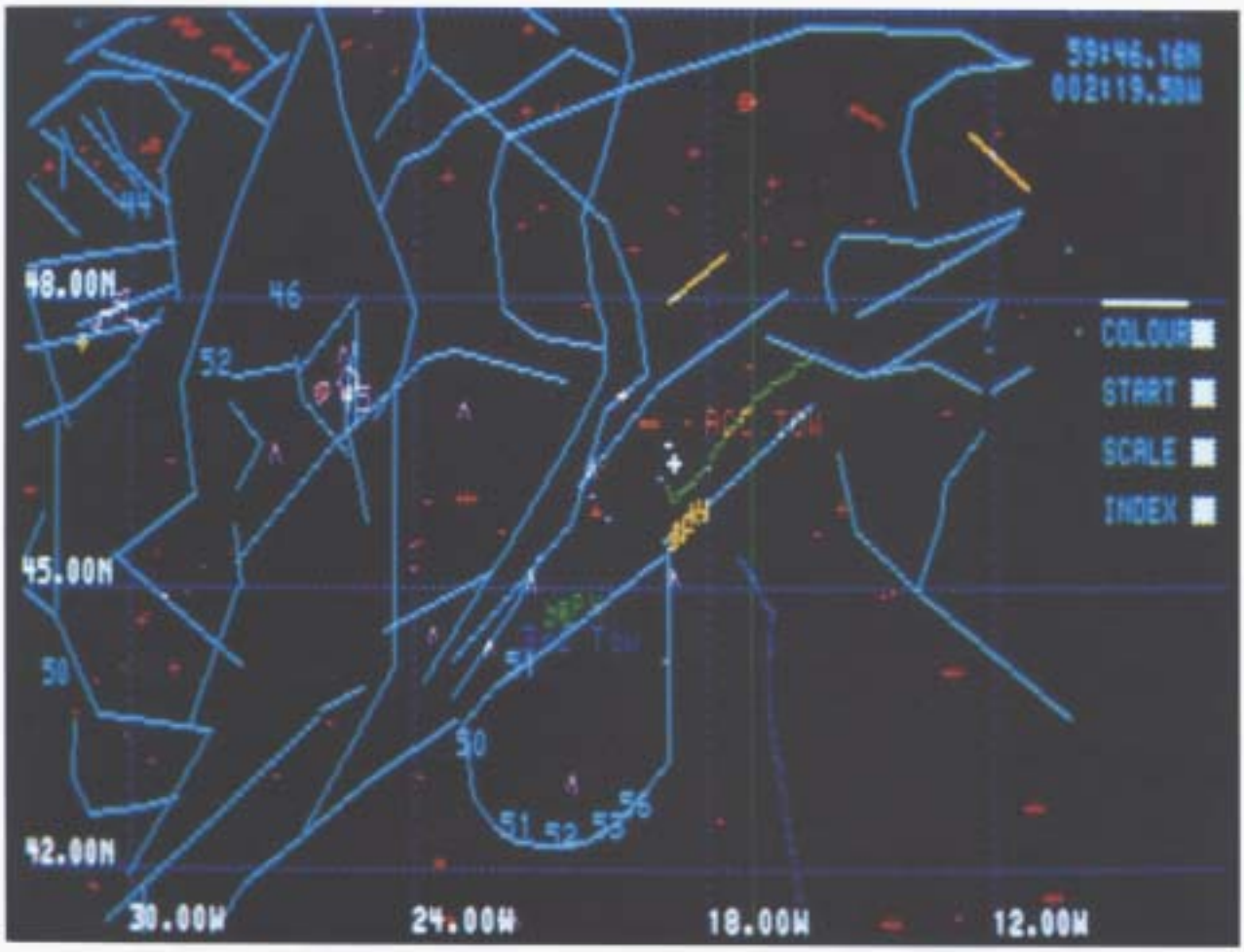

Courtesy of
Racal Marine Electronics Ltd

MYSTIC's trawl tracks

Blue lines indicate previous trawls

Orange marks indicate positions of
previous fasteners and wrecks

Green diagonal line at centre of picture
indicates last trawl of MAJESTIC and MYSTIC

White cross at centre of picture indicates
where MAJESTIC sank

THESE WT DOORS ARE TO BE
KEPT CLOSED AT SEA AND
OPENED FOR ACCESS ONLY

NON-RETURN FLAPS OF
SCUPPER VALVES SHOULD
NOT BE WEDGED OPEN

ENSURE THAT ANY EXCESS OF SLACK
WATER ON DECK IS CLEARED IMMEDIATELY

WHEN ATTEMPTING TO HEAVE IN AND/OR
FREE FASTENED FISHING GEAR ALL THE CREW
SHOULD BE ADVISED AND THE SHELTER SPACE
SHOULD BE CLOSED DOWN

Examples of Notices which might be suitably posted around fishing vessels

APPENDIX

Alternative Text

Regulation 9(4) and (5) of the Merchant Shipping (Accident Investigation) Regulations 1989 provide that any person whose reputation is likely to be adversely affected by the Report shall have the opportunity to comment on that part of the Report before it is submitted to the Secretary of State. If, following representations, passages in the Report remain in issue that person can provide an alternative text for the part in issue which must be included with the Report as an appendix.

The owners of MAJESTIC have exercised their rights in this respect with regard to Section 5 of the Report, and have submitted the following alternative texts:-

"5.3 When heaving in, normal practice is for the Skipper to alert the crew. The crew were fully aware that the vessel was heaving in and that gear had become fast. The crew were all fully aware that the Skipper was heaving in to try and haul the gear clear. The two men on the after deck were experienced fishermen familiar with the problem being dealt with. They were in close proximity to the wire and knew to alert the Skipper as to any unusual change of angle or behaviour of the wire. The crew member who entered the wheelhouse most probably did so after entering the shelter by the starboard door and passing within three to four feet of the wire itself. It is probable that he intended advising the Skipper of conditions on the after deck. The Skipper followed normal fishing practice when heaving in and while trying to clear the fastener.

5.7 When the boat heeled the Skipper used the winch control in the wheelhouse to stop the winch and gave an order by handset to the winchman to slack off. The skipper considered this a clear instruction to the winchman to set the manual control at reverse to allow the skipper to re-start the winch and pay out the wire. The winchman responded by telling the skipper to put the winch in. The skipper understood this as being an instruction to re-start the winch. He did so but to no effect. There is no evidence, given that the winchman was tragically lost, as to what the winchman actually did at the controls. In any event, the time which elapsed between the attempt by the skipper to re-start the winch and the start of the capsizing was so short that there was no time for further communication between the two men."

The owners have also questioned Finding 7.4 of the Inspector as it relates to Section 5.3 of the Report. Although they have submitted an alternative text for Section 5.3 they have not submitted an alternative text for Finding 7.4.