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**REPORT OF THE
INVESTIGATION INTO THE
SINKING OF THE MFV "KYLE
MHOR" AND THE LOSS OF THE
SKIPPER MR. SEAN COTTER
ON 31ST MAY 2000.**

The Marine Casualty Investigation Board was established on the 5th, June 2002 under The Merchant Shipping (Investigation of Marine Casualties) Act 2000

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1. SYNOPSIS.

- 1.1 On the 31st of May 2000 the "Kyle Mhor", with Sean Cotter as Skipper and sole crew, was trawl fishing South of Black Ball Head near Castletownbere (position latitude 51.35N 10.00.5 W) when the vessel capsized. The vessel remained on the surface for some time subsequently drifting close to the shore where it sank in approx. 20 metres of water. The weather conditions prevailing at the time were wind SE. Force 6 with visibility 3 miles (see Appendix 8.1).

2. FACTUAL INFORMATION

- 2.1 The motor fishing vessel "Kyle Mhor" was of steel construction of 15.96 Gross Tons and 7.30 Nett Registered Tons. The vessel was built in Hull, England, in 1988 by Kingston Seacraft.
- 2.2 The vessel was powered by a 88 kW Leyland Marine Diesel engine which gave a speed of approximately 7 knots.
- 2.3 The "Kyle Mhor" was a steel constructed, multi-chine, transom sterned, trawler. Arranged with forward lantern style wheelhouse set over a raised flush foredeck. Maindeck with thwartships trawl winch over a raised engine room casing immediately aft of the wheelhouse and hydraulic crane on the centreline aft.
- 2.4 There was a crew cabin under deck in the forecastle with two berths, and basic galley facilities. Engine amidships, boxed and sound insulated forward in single large hold compartment open aft to the steering flat.
- 2.5 Auxiliary and deck machinery consisted of twin drum 2 tonne hydraulic trawl winch and Atlas 122 hydraulic crane.

2.6 The Principal Dimensions are:

Registered Length:	32.6 feet (9.94m)
Registered Breadth:	13.92 feet (4.24m)
Registered Depth:	5.6 feet (1.71m)

The vessel did not have any watertight bulkheads. The vessel was first registered in the port of Skibbereen in May 1998. Fishing Register Number was S.991

- 2.7 The safety equipment on this vessel was checked at the time of registration in 1998 and all statutorily required equipment was found to be on board and in a working condition. Vessels of this size are not legally required to carry an inflatable liferaft. However, a non-SOLAS type inflatable liferaft of the "flat pack" type was lashed to the wheelhouse roof of the "Kyle Mhor", but this sank with the vessel. The lifebuoys, which appear to have been tangled with rope, also sank with the vessel.

3. EVENTS PRIOR TO THE INCIDENT

- 3.1 There was approximately 3.5 tons of ballast on board when Mr. Cotter purchased the vessel. This consisted of pieces of pig iron and pieces of steel. The ballast was loose and not secured in position.
- 3.2 The vessel was painted prior to the incident and the ballast was removed entirely to allow access for painting. However, not all of the ballast was replaced after painting.
- 3.3 The remaining ballast on board was re-distributed, probably to alter the trim of the vessel to bring her stern up higher out of the water. The reason for not replacing all of the ballast was probably to increase the freeboard.
- 3.4 The vessel originally had 6 freeing ports on each side at deck level. Mr. Cotter subsequently closed off the forward freeing ports on each side, thus reducing the total number of freeing ports from 12 to 10. The 10 freeing ports were fitted with sliding wooden boards on the inside of the bulwarks in track ways. These boards were for the purpose of temporarily closing off the ports and when not in use would be tied up and clear of the ports. The reason for closing the ports temporarily would be to prevent the loss of fish through them when fish were landed on deck and/ or to prevent seawater coming onto the deck while the vessel was underway and rolling.
- 3.5 On the 29th of May, 2000, the "Kyle Mhor" took on board 960 litres of gas oil. It is understood that this would have topped up the fuel tanks to approximately 1400 litres.
- 3.6 The "Kyle Mhor" had been fishing on the 29th and 30th of May, 2000. The catch on these two days was approximately 30 boxes of fish and one ton of ice was also kept in the fishhold.
- 3.7 On the 29th of May, 2000, when the "Kyle Mhor" returned to Castletownbere, Sean Cotter had to carry out repairs to the vessel's engine as a fuel injector pipe was leaking. He also replaced a drive belt for a hydraulic oil pump.
- 3.8 Having fished all day on the 30th of May, the "Kyle Mhor" returned to Castletownbere at approximately 20.30 hrs. The fuel injector pipe on the main engine required repairs again.
- 3.9 The "Kyle Mhor" was in the habit of setting out on fishing trips very early and may have left Castletownbere on the 31st May, 2000 as early as 04.00 hrs or 05.00 hrs.
- 3.10 The weather on the morning of the 31st of May, 2000 was not stormy but as the day went on the southerly wind freshened up to force 6.
- 3.11 The vessel was last sighted fishing at approximately midday on the 31st of May, 2000 by other fishing vessels returning to Castletownbere.

4. THE INCIDENT

- 4.1 Shortly after midday on the 31st of May, 2000, the vessel was sighted in a capsized condition by the Pilot of the Commissioner of Irish Lights helicopter who happened to be passing over the area where the incident occurred - the position from sitrep was 51° 35' North 10° 00.5' West.
- 4.2 The vessel capsized and remained on the surface for some time, drifting close to the shore where it sank in about 20metres of water. On sinking, the vessel turned upright and landed on the bottom in an upright position.

5. EVENTS FOLLOWING INCIDENT

- 5.1 On the 9th of June, 2000, Navy Divers and a local fisherman, Mr. Val McCarthy, with his fishing vessel "Lucy D", arranged a dive of the wreck. The "Kyle Mhor" was located in 20metres of water off the Slath, North East of Black Head in Bantry Bay.
- 5.2 The clock on the "Kyle Mhor", which was stopped, showed a time of 11.15 hrs. Local people who were familiar with Mr. Sean Cotter, were of the opinion that it is likely that the clock had not been adjusted for summer time. If they are correct, this incident took place at or about 12.15 hrs.
- 5.3 It was not possible to enter the engine room during the dive because the wheelhouse door was jammed in such a way as to prevent the engine room hatch being opened.
- 5.4 During the dive it was noted that the engine throttle was in the 'full ahead' position and that the alarm panel key was in the 'off' position. This indicates that there may have been engine problems. It would not be normal to have the throttle open to its fullest extent and the key would normally be in the 'ON' position. The reason for turning the key to the 'OFF' position would be to cancel the audible alarm system for the engine but still allow the engine to run.
- 5.5 The wheelhouse top had been heavily impacted during the sinking on the port side and all of the wheelhouse windows were broken. The guardrails on the fore deck were badly damaged and the vessel's anchor was not in place on the fore deck. The anchor was found hanging by its chain and the shank of the anchor was sheared.
- 5.6 From the information gained during the dive of the wreck, it appears that a lot of the sliding wooden boards fitted on the inside of the bulwarks in trackways were in a closed position thereby closing off the freeing ports. This prevented water accumulated on the deck from going out through the freeing ports.

6. CONCLUSIONS AND FINDINGS

- 6.1 It is not possible to determine exactly what caused this incident. There is no evidence to suggest a sudden failure of the hull of the vessel. Damage to the hull and to the wheelhouse, which was visible during the dive, would have occurred as the vessel sank and came into contact with the steep rocky shore and seabed.
- 6.2 This casualty was probably caused by a number of events occurring together. The ongoing fuel blockage problems may have caused engine failure. While the vessel had no power it would probably be rolling heavily which may have caused the loose ballast to shift to one side. This in turn would have caused the vessel to list to one side and in doing so may have made it possible for waves to break over the side onto the deck. Some of the ballast had been removed which may have allowed the vessel to roll more than normal. With a lot of the freeing ports closed the water would be unable to escape quickly enough thus worsening the unstable condition of the vessel. The fishhold had a raised hatch coaming, which was covered with an insulated wooden cover. The insulation used in the cover was foam and if water coming on board reached the height of the coaming the insulated cover may have floated off due to its buoyancy. This would then leave the fishhold open to flooding and lead to the capsize and sinking of the "Kyle Mhor".
- 6.3 The fact that the inflatable liferaft was lashed down with rope and not fitted with a hydrostatic release unit meant that it could not be used. The lifebuoys were of no use because they either had been lashed down or were entangled in ropes.
- 6.4 There was obviously insufficient time for the deceased to release any of the lifesaving appliances.

7. RECOMMENDATIONS

- 7.1 Single-handed operations such as this cannot be recommended, as they are inherently risky in that if an incident happens there is no one else to assist. Also, single-handed operations can lead to unsafe routine practices being obtained.
- 7.2 However it appears likely that single-handed operations will continue. Any person engaged in single-handed commercial sea-fishing should make an assessment of all perils which they might encounter, whether they be from the weather, equipment, handling of the boat single-handedly, shooting nets, hauling nets, operating pot haulers, net haulers, dredges, etc. It is also of the utmost importance that a simple risk self-assessment form, readily understood by fishermen, fishing alone, be developed with local fishing co-ops or fishing organisations, to allow any fisherman doing single handed fishing to make a simple risk assessment of what procedures should be followed to make a boat and its safety practices safe. In particular each fisherman should work out how they can get back on board or notify someone of their predicament in the event of their falling overboard.
- 7.3 All single-handed fishing vessels, whether they are trawling, netting, pot hauling, taking mussels or indeed any shellfish from lines on rafts or dredging for razor shells etc. from the seabed should as a basic minimum have on board:
- 7.3.1 A personal flotation device (PFD) which must be put on before leaving and kept on until return.
 - 7.3.2. A Safety Harness, with clip on points strategically and suitably, situated around the deck of the boat.
 - 7.3.3 A small liferaft, with hydrostatic release unit fitted, so in the event of a capsize it will float-free.
 - 7.3.4 At least two lifebuoys, which can float free.
 - 7.3.5 A Safety Helmet, to be worn at all times when working on deck.
 - 7.3.6 If it can be afforded, a float free EPIRB should be purchased and fitted on board.
 - 7.3.7 A radio, which is capable of communication with the local Coastal Radio Station (CRS), in order that, time of sailing and where the person will fish can be passed onto the CRS, also other data such as, estimated time of return. On return the CRS should be notified.
- 7.4 Before sailing and during voyage, "Weather Forecasts" should be carefully monitored, from local radio stations.
- 7.5 If possible a local "buddy system" should be developed so that another boat or boats can keep an eye out for each other, when each is fishing.

- 7.5.1 The local Harbour Master or person in charge of a port or local pier should be informed of all the vessel's daily routines, time of departure, time of return, where fishing and other relevant information as a matter of basic safety in order that if a person operating a boat single-handedly does not show up by a certain time or report in by radio, that the Emergency Services can be alerted.
- 7.6 Consideration should also be given to wearing a small personal locator beacon and carrying mini-flares.
- 7.7 Consideration must be given to fitting Emergency machinery stops on deck.
- 7.8 Before undertaking any voyage single-handed all the basic logistics for such a voyage should as a matter of routine be gone through:
- 7.8.1 Check boat is structurally safe for journey.
- 7.8.2 Check engine, filters, lube oil, adequate fuel for voyage.
- 7.8.3 Check Oil Skins, Warm Clothing, etc. are sufficient.
- 7.8.4 Draw up your own daily, weekly, monthly check list and adhere to it.
- 7.9 One page Marine Notices should be published annually in clear concise and simple language, and given the widest distribution through even the smallest fishing co-ops, reminding all concerned of at least the following:
- Free surface effect of water and fish with simple examples.
 - The dangers of blocking off freeing ports.
 - The dangers when breaking out embedded pots used for lobsters, crabs, fish etc. using a pot hauler.
 - The effects on stability, of stacking pots and their weights high up on a small boat.
 - The need to develop and follow safe working practices, with regards to boat engines, machinery on board, shooting and recovery of equipment.
 - Wearing a PFD at all times.
 - Loss of stability if using an onboard derrick for various purposes.
 - Routine engine maintenance and equipment overhauls.
 - Dangers of removal or of putting in permanent ballast on board without having a vessel's stability checked by a competent person.
- 7.9.1 It is strongly recommended, that no one should participate in any single-handed fishing of any kind, without first having completed a Basic Sea Survival Course (One day) and a basic First Aid Course such as St. John's Ambulance, Red Cross etc.

8. APPENDICES

8.1: Weather Reports.

8.1: Weather Reports.



MET ÉIREANN
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**Weather Report for the sea area near 51° 35'N, 10° 0'W
on the 31st May 2000
between 10 and 13 hours (GMT)**

General Situation

A frontal trough, associated with a complex depression in the Atlantic just west of Ireland, moved eastwards over the area.

Details

Winds: Southerly or south-south-westerly Force 4 increased rapidly to Force 6 to 7.

Weather: outbreaks of rain

Visibility: moderate to good

Seastate: Rough

There are no measurements of wave height in the vicinity of the incident however some output from our wave model shows the increase of wave height during the period. (see attached table)

Although Marathon Gas Platform is much further to the east it also reported an increase in wave height from 1.6 metres to 2.6 metres over a 3 hour period in the early afternoon.

APPENDIX 8.1

CONTD.



Met Eireann 2000

year	month	day	hour	lat	long	Hs total	Hs Sea	sea dir	Hs swell	swell dir
2000	5	30	18	51.5	-10	1.6	0	180	1.5	242
2000	5	31	0	51.5	-10	1.6	0	180	1.6	244
2000	5	31	6	51.5	-10	1.6	0.2	172	1.6	243
2000	5	31	12	51.5	-10	2.7	2.2	188	1.4	249
2000	5	31	18	51.5	-10	2.5	1.3	209	2.1	224

Wave were model output.

Hs = Significant wave height in metres

Dir = direction in degrees true north

	WeatherDial Product Code 0021	
	Central Analysis and Forecasting Office	
	Fax : (01) 8064275 Tel : (01) 8064255	
Sea Area Forecast		

**Sea Area Forecast until : 0600 hours 01-Jun-2000
Issued at 0600 hours Wednesday,31-May-2000**

Gale warning : in operation for all sea areas.

Meteorological Situation at 0300 hours : A strengthening southeasterly airflow will develop today, later veering southwesterly. A vigorous depression in Mid-Atlantic is moving northeastwards and will track close to the north and northwest coasts tonight. Its associated fronts will cross the country today and tonight.

Forecast for coasts from Erris Head to Malin Head to Carlingford Lough and for the Irish Sea North of the Isle of Man :

Wind : Mainly southwesterly at first, force 3 to 5, backing south to southeast during the morning and increasing force 4 to 6 this afternoon, Further increasing southeast to east force 6 to gale force 8 this evening. Later decreasing southwesterly force 5 to 7.

Forecast for coasts from Carlingford Lough to Howth Head to Hook Head and for the Irish Sea South of the Isle of Man :

Wind : Variable at first force 2 to 4, increasing south to southeast force 3 to 5 by afternoon, further increasing southeasterly force 6 to gale force 8 this evening, then veering southwesterly early tonight.

Forecast for coasts from Hook Head to Valentia to Erris Head :

Wind : Variable at first force 2 to 4, increasing southeasterly force 6 to gale force 8 early this afternoon, veering southwesterly this evening.

Weather for all sea areas : Rain spreading from the southwest today, with a risk of fog.

Visibility for all sea areas : Becoming moderate to poor at times today and tonight

Outlook for a further 24-hours until 0600 hours 02-Jun-2000:

Strong and gusty southwesterly winds decreasing moderate to fresh cyclonic variable. Occasional showers, or longer spells of rain, with a risk of thunder.

APPENDIX 8.1

CONTD.

Warning of heavy Atlantic swell: NIL

Text of Gale warning issued by Met Éireann at 0500 hours on 31-May-2000

Southeasterly winds will occasionally reach gale force today on all Irish Coastal Waters and on the Irish Sea, later veering southwesterly.



Ends++

Coastal Reports	at 6 am
Malin Head	Southwest 10 Knots, Gust 23 Knots, Recent Rain Shower , 15 Miles, 1015, Falling Slowly
Rosslare	Calm, Fair , 12 Miles, 1016, Steady
Roches Pt. Automatic	North 04 Knots, Greater than 10 Miles, 1016, Falling Slowly
Valentia	East Northeast 02 Knots, Cloudy , 37 Miles, 1015, Falling Slowly
Belmullet	South Southeast 08 Knots, Cloudy , 43 Miles, 1015, Falling Slowly
Dublin Airport	West 06 Knots, Fair , 31 Miles, 1016, Steady

Sea Crossings	State of sea for the next 48 hours
Dublin - Holyhead	Slight, increasing Moderate.
Rosslare - South Wales	Slight, increasing Moderate.
Cork - South Wales	Moderate increasing Rough
Rosslare - France	Moderate increasing Rough or Very Rough
Cork - France	Moderate increasing Rough or Very Rough

Next update before 1300 hours

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	WeatherDial Product Code 0021	
	Central Analysis and Forecasting Office	
	Fax : (01) 8064275 Tel : (01) 8064255	
Sea Area Forecast		

**Sea Area Forecast until : 2355 hours Wednesday 31-May-2000
Issued at 2355 hours Tuesday, 30-May-00**

1. Gale warning: in operation for all Irish Coastal waters and Irish Sea issued at 2300 hours on 30/5/2000.

2. Meteorological Situation at 2100 hours : A weak ridge of high pressure is developing over Ireland. A vigorous depression in mid-Atlantic is tracking Northeastwards. It's associated fronts will cross Ireland on Wednesday, in a strong Southeasterly airflow, veering Southwesterly.

3. Forecast for Irish coastal waters from : Erris Head to Malin Head to Carlingford Lough and for the Irish Sea north of the Isle of Man

Wind : Westerly, force 3 or 4 overnight, backing South to Southeast Wednesday forenoon and increasing force 5 or 6 in the afternoon, later increasing Southeast to East force 6 to gale force 8.

Forecast for coasts from : Carlingford Lough to Howth Head to Carnsore Point and for the Irish Sea south of the Isle of Man

Wind : Westerly or variable overnight, force 3 or less, increasing South to Southeast force 3 to 5 Wednesday morning, further increasing force 6 to gale force 8 by evening and later veering Southwesterly.

Forecast for coasts from : Carnsore Point to Valentia to Erris Head

Wind : Variable overnight, force 3 or less, increasing Southeasterly force 3 to 5 by morning, further increasing force 6 to gale force 8 Wednesday forenoon, veering Southwesterly during the afternoon and early evening.

Weather for all sea areas : Mainly fair overnight. Rain spreading from the Southwest on Wednesday, with fog patches.

Visibility for all sea areas : Good, becoming moderate to poor at times.

4. Outlook for a further 24-hours until 2355 hours Thursday 01-Jun-2000:

Strong to gale force Southwesterly winds backing Southwest to South. Occasional rain or showers.

APPENDIX 8.1

CONTD.

Warning of heavy Atlantic swell : NIL

Text of Gale warning



Southeasterly winds, later veering Southwesterly, will occasionally reach gale force on Wednesday on all Irish Coastal waters and on the Irish Sea.

Coastal Reports	at 11 pm
Malin Head	West 10 Knots, Gust 22 Knots, Fine , 43 Miles, 1015, Steady
Rosslare	West Southwest 02 Knots, Fair , 31 Miles, 1016, Rising Slowly
Roches Pt. Automatic	North Northwest 09 Knots, Greater than 10 Miles, 1017, Rising Slowly
Valentia	East 02 Knots, Cloudy , 37 Miles, 1018, Rising Slowly
Belmullet	West Northwest 06 Knots, Fine , 46 Miles, 1017, Rising Slowly
Dublin Airport	West Northwest 05 Knots, Fine , 25 Miles, 1016, Rising Slowly

Sea Crossings	State of sea for the next 48 hours
Dublin - Holyhead	Slight, increasing moderate to rough.
Rosslare - South Wales	Slight, increasing moderate to rough.
Cork - South Wales	Moderate, increasing rough.
Rosslare - France	Moderate, increasing very rough or high.
Cork - France	Moderate, increasing very rough or high.

Next update before 0700 hours

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	WeatherDial Product Code 0021 Central Analysis and Forecasting Office Fax : (01) 8064275 Tel : (01) 8064255	
	Sea Area Forecast	

**Sea Area Forecast until : 1800 hours Wednesday 31-May-2000
Issued at 1800 hours Tuesday, 30-May-00**

1. Gale warning: in force

2. Meteorological Situation at 1700 : A weak ridge of high pressure over and to the West of Ireland is moving Eastwards. A vigorous frontal depression in mid-Atlantic is tracking slowly Northeastwards, and the associated frontal system will cross the country later tomorrow and tomorrow night.

3. Forecast for coasts from : Hook Head to Valentia to Slyne Head

Wind : variable or Northwest force 2 to 4 (with sea breezes in places this evening), increasing South to Southeast force 4 to 6 later tonight, further increasing force 6 to gale force 8 tomorrow morning, veering Southwest in the afternoon (and possibly decreasing force 5 to 7).

Forecast for coasts from : Slyne Head to Malin Head to Belfast Lough

Wind : Northwest to West force 2 to 4, backing Southwest to South overnight, further backing Southeast to East tomorrow and increasing to reach force 6 to gale force 8 by late afternoon (strongest in the West of the area).

Forecast for coasts from : Belfast Lough to Wicklow Head to Hook Head and for the Irish Sea

Wind : Northwest or variable, generally force 3 or less - increasing South to Southeast force 4 to 6 tomorrow morning, further increasing Southeast force 6 to gale force 8 later.

Weather for all sea areas : Fair at first. Rain spreading Northeastwards tomorrow. Risk of fog later in the South.

Visibility for all sea areas : Good, becoming moderate or poor.

4. Outlook for a further 24-hours until 1800 hours Thursday 01-Jun-2000: Fresh or strong South to Southwest winds (with a risk of gales), later becoming cyclonic variable or Northwesterly on the West and Northwest coasts. Rain or showers. Risk of fog at first in the South.

APPENDIX 8.1

CONTD.

Warning of heavy Atlantic swell : NIL

Text of Gale warning



Southeasterly winds will reach gale force at times tomorrow on all sea areas

Coastal Reports	at 6 pm
Malin Head	Northwest 14 Knots, Fair , 46 Miles, 1014, Steady
Rosslare	North Northeast 01 Knots, Fair , 31 Miles, 1014, Steady
Roches Pt. Automatic	South 09 Knots, More than 10 Miles, 1014, Steady
Valentia	North Northwest 14 Knots, Fine , 34 Miles, 1016, Steady
Belmullet	Northwest 08 Knots, Fair , 46 Miles, 1016, Rising Slowly
Dublin Airport	Southeast 06 Knots, Fair , 43 Miles, 1013, Steady

Sea Crossings	State of sea for the next 48 hours
Dublin - Holyhead	Slight, increasing rough.
Rosslare - South Wales	Moderate, increasing rough or very rough.
Cork - South Wales	Moderate, increasing rough or very rough.
Rosslare - France	Moderate, increasing rough or very rough - possibly high later.
Cork - France	Moderate, increasing rough or very rough - possibly high later.

Next update before 0100 hours

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	WeatherDial Product Code 0021 Central Analysis and Forecasting Office Fax : (01) 8064275 Tel : (01) 8064255	
	Sea Area Forecast	

**Sea Area Forecast until : 1200 hours Wednesday 31-May-00
Issued at 1130 hours Tuesday, 30-May-00**

1. Gale warning: NIL

2. Meteorological Situation at 0900 hours : A weak ridge of high pressure is developing over Ireland as a shallow trough in the English Channel moves Eastwards a more active frontal system will approach from the Southwest later.

3. Forecast for coasts from Carnsore Point to Mizen Head to Erris Head.

Wind : Variable, mainly between Northeast and Northwest, force 3 or less. Later becoming Southerly and increasing force 5 or 6.

Weather : Mainly fair at first. Rain spreading from the Atlantic overnight. Associated fog patches.

Visibility : Good. Becoming moderate to poor later tonight or early tomorrow.

Forecast for coasts from Erris Head to Belfast Lough to Carnsore Point and the Irish Sea.

Wind : Variable, mainly between West and North, force 3 or less. Later becoming Southerly and increasing force 4 or 5.

Weather : Scattered showers at first, chiefly in the North of area, otherwise fair. Rain in the South and West of area later.

Visibility : Mostly good. Becoming moderate, locally poor, in rain later.

4. Outlook for a further 24-hours until 1200 hours Thursday 01/06/00: Winds further increasing strong to gale force South to Southwesterly. Widespread heavy or thundery rain, gradually giving way to showers.

APPENDIX 8.1

CONTD.

Warning of heavy Atlantic swell : NIL

Text of Gale warning

NIL

Coastal Reports	at midday
Malin Head	West 10 Knots, Nearby Rain , 28 Miles, 1014, Steady
Rosslare	East Northeast 04 Knots, Fine , 43 Miles, 1013, Rising Slowly
Roches Pt. Automatic	East Southeast 05 Knots, Greater than 10 Miles, 1013, Rising Slowly
Valentia	North Northwest 08 Knots, Fine , 28 Miles, 1014, Steady
Belmullet	Northwest 09 Knots, Fair , 43 Miles, 1015, Steady
Dublin Airport	East Northeast 07 Knots, Fair , 43 Miles, 1014, Steady

Sea Crossings	State of sea for the next 48 hours
Dublin - Holyhead	Slight increasing rough
Rosslare - South Wales	Slight increasing rough to very rough
Cork - South Wales	Moderate increasing very rough to high.
Rosslare - France	Moderate increasing very rough to high.
Cork - France	Moderate increasing very rough to high.

Next update before 1900 hours

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BEAUFORT SCALE OF WIND

DESCRIP- TIVE TERM	VELOCITY EQUIVALENT AT A STANDARD HEIGHT OF 10 METRES ABOVE OPEN FLAT GROUND				SPECIFICATIONS			Probable wave height* in metres	Probable wave height* in feet
	Mean velocity in knots	m s ⁻¹	km h ⁻¹	m.p.h.	Land	Sea	Coast		
1 Calm	< 1	0-0.2	< 1	< 1	Calm; smoke rises vertically	Sea like a mirror	Calm	—	—
1 Light air	1-3	0.3-1.5	1-5	1-3	Direction of wind shown by smoke drift but not by wind vanes	Ripples with the appearance of scales are formed, but without foam crests	Fishing smack just has steerage way	0.1 (0.1)	¼ (¼)
2 Light breeze	4-6	1.6-3.3	6-11	4-7	Wind felt on face; leaves rustle; ordinary vanes moved by wind	Small wavelets, still short but more pronounced; crests have a glassy appearance and do not break	Wind fills the sails of smacks which then travel at about 1-2 knots	0.2 (0.3)	½ (1)
3 Gentle breeze	7-10	3.4-5.4	12-19	8-12	Leaves and small twigs in constant motion; wind extends light flag	Large wavelets; crests begin to break; foam of glassy appearance; perhaps scattered white horses	Smacks begin to careen and travel about 3-4 knots	0.6 (1)	2 (3)
4 Moderate breeze	11-16	5.5-7.9	20-28	13-18	Raises dust and loose paper; small branches are moved	Small waves, becoming longer; fairly frequent white horses	Good working breeze, smacks carry all canvas with good list	1 (1.5)	3½ (5)
5 Fresh breeze	17-21	8.0-10.7	29-38	19-24	Small trees in leaf begin to sway; crested wavelets form on inland waters	Moderate waves, taking a more pronounced long form; many white horses are formed (chance of some spray)	Smacks shorten sail	2 (2.5)	6- (8½)
6 Strong breeze	22-27	10.8-13.8	39-49	25-31	Large branches in motion; whistling heard in telegraph wires; umbrellas used with difficulty	Large waves begin to form; the white foam crests are more extensive everywhere (probably some spray)	Smacks have double reef in main-sail; care required when fishing	3 (4)	9½ (13)
7 Near gale	28-33	13.9-17.1	50-61	32-38	Whole trees in motion; inconvenience felt when walking against wind	Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind	Smacks remain in harbour and those at sea lie to	4 (5.5)	13½ (19)
8 Gale	34-40	17.2-20.7	62-74	39-46	Breaks twigs off trees; generally impedes progress	Moderately high waves of greater length; edges of crests begin to break into the spindrift; the foam is blown in well-marked streaks along the direction of the wind	All smacks make for harbour, if near	5.5 (7.5)	18 (25)
9 Strong gale	41-47	20.8-24.4	75-88	47-54	Slight structural damage occurs (chimney pots and slates removed)	High waves; dense streaks of foam along the direction of the wind; crests of waves begin to topple, tumble and roll over; spray may affect visibility	—	7 (10)	23 (32)
10 Storm	48-55	24.5-28.4	89-102	55-63	Seldom experienced inland; trees uprooted; considerable structural damage occurs	Very high waves with long overhanging crests; the resulting foam, in great patches, is blown in dense white streaks along the direction of the wind; on the whole, the surface of the sea takes on a white appearance; the tumbling of the sea becomes heavy and shock-like; visibility affected	—	9 (12.5)	29 (41)
11 Violent storm	56-63	28.5-32.6	103-117	64-72	Very rarely experienced; accompanied by widespread damage	Exceptionally high waves (small and medium-sized ships might be for a time lost to view behind the waves); the sea is completely covered with long white patches of foam lying along the direction of the wind; everywhere the edges of the wave crests are blown into froth; visibility affected	—	11.5 (16)	37 (52)
12 Hurricane	64 and over	32.7 and over	118 and over	73 and over	—	The air is filled with foam and spray; sea completely white with driving spray; visibility very seriously affected	—	14 (—)	45 (—)

This table is only intended as a guide to show roughly what may be expected in the open sea, remote from land. It should never be used in the reverse way, i.e. for logging or reporting the state of the sea. In enclosed waters, or when near land, with an off-shore wind, wave heights will be smaller and the waves steeper. Figures in brackets indicate the probable maximum height of waves.

Wave Heights:

The wave height is the vertical distance between the crest and the preceding or following trough. The table below gives a description of the wave systems associated with a range of significant wave heights. The significant height is defined as the average height of the highest one-third of the waves. It is very close to the value of wave height given by an experienced seaman when making visual observations of wave height.

Individual waves in the wave train will have heights in excess of the significant height. The highest wave of all will have a height about twice the significant height.

STATE OF SEA

Descriptive terms	Height* in metres
Calm	0 - 0.1
Wavelets	0.1 - 0.5
Slight	0.5 - 1.25
Moderate	1.25 - 2.5
Rough	2.5 - 4
Very rough	4 - 6
High	6 - 9
Very high	9 - 14
Phenomenal	Over 14

9. INDEX OF CORRESPONDENCE RECEIVED

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Irish Coast Guard

Irish Coast Guard
GARDA CÓSTA na hÉIREANN



Mr Dick Heron
Secretary
Marine Casualty Investigation Board
Department of Communications,
Marine & Natural Resources
Leeson Lane
Dublin 2.


27th Nov. 2003.

Re MCIB 29 Draft Report on loss of IFV Kyle Mhor 31st May 2000.

Dear Mr Heron,

The Irish Coast Guard has no comment or observation to make concerning this report.

Yours sincerely,


Eamonn Torpav
SAR Operations Manager
IRCH HQ.

Department of Communications, Marine and Natural Resources, Leeson Lane, Dublin 2, Ireland.
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Commissioner of Irish Lights



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Mr Dick Heron
Secretary
Marine Casualty Investigation Board
Lesson Lane
Dublin 2

Your Ref:

Our Ref: IMS/12/69

Date: 03 November 2003

**RE: DRAFT REPORT INTO SINKING OF MFV "KYLE MHOR"
AND THE LOSS OF THE SKIPPER MR SEAN COTTER, 31ST MAY 2000**

Dear Mr Heron,

Thank you for the draft copy. The Commissioners of Irish Lights have no comment or observations to offer other than the conclusions within the report are sadly self evident and that hopefully the recommendations will help promote awareness on the dangers of single-handed operations.

Yours sincerely,

CAPT. KIERAN O'HIGGINS

For **INSPECTOR OF LIGHTS & MARINE SUPERINTENDENT**

KOH/VB



Mrs. MM Mehrtens (sister of the deceased)

MM MEHRTENS
51 Tower Road
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Wiltshire SN12 7JQ
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Home Phone 00 44 1225 708778
Email peter@pmehrtens.freemove.co.uk

04 November 2003



Mr Dick Heron
Secretary
Marine Casualty Investigation Board
29-31 Adelaide road
Dublin 2
Eire

Your Ref: MCIB 29

Re: Draft Report of the investigation into the sinking of MVF "Kyle Mhor" and the loss of the skipper Mr. Sean Cotter on 31st May 2000

Dear Mr Heron,

Thank you for the Draft Report into the sinking of my brother's fishing vessel MVF Kyle Mhor.

I agree with the Report's Conclusions especially the comment that it is not possible to determine the exact cause of this incident.

Where the Recommendations are concerned, I hope that fishermen, fishing alone will learn from this tragic incident.

Yours sincerely,

mm mehrtens

M M Mehrtens (Mrs)