

REPORT INTO AN INCIDENT
INVOLVING THE
'FV DEARBHLA'
AT THE BLASKETS,
CO. KERRY
14th MAY 2020

REPORT NO. MCIB/301 (No.12 OF 2020) The Marine Casualty Investigation Board (MCIB) examines and investigates all types of marine casualties to, or on board, Irish registered vessels worldwide and other vessels in Irish territorial waters and inland waterways.

The MCIB objective in investigating a marine casualty is to determine its circumstances and its causes with a view to making recommendations to the Minister of Transport - for the avoidance of similar marine casualties in the future, thereby improving the safety of life at sea and inland waterways.

The MCIB is a non-prosecutorial body. We do not enforce laws or carry out prosecutions. It is not the purpose of an investigation carried out by the MCIB to apportion blame or fault.

The legislative framework for the operation of the MCIB, the reporting and investigating of marine casualties and the powers of MCIB investigators is set out in the Merchant Shipping (Investigation of Marine Casualties) Act, 2000.

In carrying out its functions the MCIB complies with the provisions of the International Maritime Organisation's Casualty Investigation Code and EU Directive 2009/18/EC governing the investigation of accidents in the maritime transport sector.



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The Marine Casualty Investigation Board was established on the 25th March 2003 under the Merchant Shipping (Investigation of Marine Casualties) Act, 2000.

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Glossary of Abbreviations and Acronyms

CoP Code of Practice: Design, Construction, Equipment and Operation

of Small Fishing Vessels of less than 15 m Length overall (2014)

COG Course Over Ground
DOS Declaration of Survey
ETA Estimated Time of Arrival

GT Gross Tonnage*Note 1

IMA Irish Maritime Administration

IRCG Irish Coast Guard
LOA Length Overall
ASO Marine Survey Office

MSO Marine Survey Office

SFLA Sea Fish Licensing Authority

S.I. Statutory Instrument SOG Speed Over Ground

UTC Co-ordinated Universal Time

VHF Very High Frequency

Kilometres km
Kilowatts kW
Litres lts
Metres m
Nautical miles NM

Gross Tonnage is a nonlinear measure of a ship's overall internal volume. In the regulations which govern the measurement of ships the 'tonnage' measurement is one of capacity, the unit of one ton being a capacity measurement of 100 feet cubed (ft 3). Gross Tonnage should not be confused with measures of mass or weight such as deadweight tonnage or displacement. Gross Tonnage is calculated based on 'the moulded volume of all enclosed spaces of the ship' and is the total internal capacity of a ship measured from the top of floors or ceiling to the tonnage deck including the fore and aft peak tanks above the floors. Gross Tonnage is used to determine issues such as a ship's manning regulations, safety rules, registration fees and port dues.

Gross tonnage is defined by the International Convention on Tonnage Measurement of Ships, 1969, adopted by the International Maritime Organization in 1969, and came into force on 18 July 1982.

Report MCIB/301 published by the Marine Casualty Investigation Board.

Produced 23rd December 2020 and republished 18th November 2021 to correct an error at Safety Recommendation 6.1. This marine casualty involved a fishing vessel of 15-24 metres in length, therefore it comes under the remit of Directive 2009/18/EC. The Directive is transposed by the European Communities (Merchant Shipping) (Investigation of Accidents) Regulations 2011 (S.I. No. 276/2011). Regulation 5 of S.I. 276 of 2011 adapts section 23 of the Act. Accordingly, the reporting obligation for this type of incident is to report to the MCIB (rather than the MSO), and the reference to Section 23 has been amended to reflect this.







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1. SUMMARY

- 1.1 At approximately 04:10 hours (hrs) on the morning of the 14th May 2020 whilst on passage from Rossaveel, Co. Galway to Howth, Co. Dublin, the fishing vessel (FV) 'Dearbhla' with five crew onboard, struck rocks at the north west peninsula of the island of Inish na Bró in the Blaskets archipelago off the coast of Co. Kerry.
- 1.2 After the initial impact the vessel was able to manoeuvre to deeper water and the crew investigated the extent of the damage. The crew were unharmed but their investigations for damage found that there was heavy contact damage to the vessel's bows. They found no water ingress below the water line. The emergency services were not informed of the grounding and the vessel continued its voyage to Howth.
- 1.3 The vessel's owner was informed of the incident at approximately 08:00 hrs that day. The owner arranged for the vessel to proceed to Castletownbere for an inspection of the damage and repairs. The inspection revealed that the vessel had considerable contact damage to its stem at the waterline and was holed above the waterline under the bows.

(see Appendix 7.1 - Photograph No.1 *'FV Dearbhla'*.

Photograph No.2 Bow damage above the waterline.)



2. FACTUAL INFORMATION

2.1 Vessel Details

Name: 'FV Dearbhla'.

Official Number: 404155.

MMSI number: MMSI 250001269.

Type: Fishing vessel - trawler.

Port of Registry: Drogheda.

Port Letters/Number: DA55.

Overall Length: 23 metres (m).

Registered Length: 19.98 m.

Breadth: 7.14 m.

Moulded Depth: 3.65 m.

Engine make and model: Enerica Caterpillar 3508B.

Engine Power: 405 kilowatts (kW).

Date of entry into Service: 01-01-1992.

Date of Registration: 29-08-2014.

Gross tonnage: 150.

Builder: Ets PIRIOU Constructions Navales.

Builders Yard: Concarneau, France.

Keel Laid: 1st January 1992.

Fishing Vessel Safety Certificate: It was understood the vessels documents had

been removed for the owners safe keeping.

2.2 Vessel Extra Information

At the time of examination by the MCIB investigator the 'FV Dearbhla' was dry-docked on a cradle on the repair yard slipway and bow damage was being assessed by repair staff. There were no members of the vessel's crew or owners'



representatives onboard the vessel at the time of the MCIB examination on the 10th June 2020.

The MCIB learned that the 'FV Dearbhla' was subject to detention in accordance with Section 459 of the Merchant Shipping Act 1984 effective from the 15th May 2020. The specific grounds for detention were 'hull damage to bow and expired certification'. The legislation allows the detention of the vessel until re-certified by the Detaining Officer who will issue a Notice of Release if satisfied as to the state of the vessel.

(see Appendix 7.2 - Notice of Detention.)

2.3 Crew Details

Relief Skipper - an experienced fisher and Skipper, Certificate of Competency (CoC 285) Cert Type Fishing and Cert Class Deck, joined the fishing vessel in Rossaveel to oversee the voyage to Howth only. At the time of the incident the Skipper was the only qualified officer onboard the fishing vessel.

Crewmember 'A' - Watchkeeper. Crewmember 'A's name is entered in the crew list page section of the vessels Official Logbook (for the 1st half of 2020) but does not appear in the Official Logbook for 2019 (2nd half). Crewmember 'A' stated he was onboard for the previous series of fishing trips which were "back to back" but stated he was fully rested after the period alongside in Rossaveel. Crewmember 'A' did not have certified navigation skills.

Crewmember B - unknown experience.

Crewmember C - unknown experience.

Crewmember D - unknown experience.

2.4 Marine Incident Information

Incident Type: This was a marine incident that resulted in damage to the hull of the fishing vessel above and below the water line which may have resulted in serious injury or death to the crew and the loss of the vessel.

2.4.1 Weather information from Met Éireann: Estimated weather and sea state conditions for the coastal area between Loop Head and Slea Head between 18:00 hrs on 13th May 2020 to 05:00 hrs on 14th May 2020:

Weather: Dry throughout the period with variable cloud at first and clear skies at the end of the period.

Air Temp: Air temperatures offshore remained at 9 or 10 degrees Celsius throughout the period.

Wind: Moderate northerly breeze, Beaufort force 4, at first (mean wind speed of 8 - 14 knots) with occasional gusts up to 20 knots. Winds gradually decreasing during the evening of the 13th May and by 23:00 hrs were light and remained light until 05:00 hrs on the 14th May, Beaufort force 2 or 3 (mean winds speed 10 knots or less) from easterly or variable direction.

Cont.

Visibility: Good, greater than 10 nautical miles (NM)

Sea State: Slight, mean significant wave height 1 m or less, mean wave period ~5 seconds. Wave direction northerly or north easterly.

Sea temp: 12 degrees Celsius (M3)

(see Appendix 7.3 - Fig.1. Sea Area 131800 to 140500 - Estimate of Weather and Sea state.

Fig. 2. Scale of Wave heights.

Fig. 3. Scale of Beaufort wind force.)

2.4.2 Voyage Particulars: Note: All times are local time = UTC +1

The vessel departed the fishing port of Rossaveel at 18:00 hrs on the 13th May 2020 with the intention of passage to Howth. The Skipper had not made a passage plan. The voyage to Howth would take approximately forty-two hours (1 day 18 hours) at 8 knots with Estimated Time of Arrival (ETA) for noon on the 15th May.

(see Appendix 7.4 - Chart No. 1, Rossaveel to Howth.)

The Skipper navigated the vessel out of Rossaveel Harbour and through Gregory Sound off the Aran Islands and made course south for the Blasket Islands.

(see Appendix 7.4 - Chart No.2, Rossaveel to Dingle Bay.)

At approximately 03:00 hrs the following morning, 14th May, the Skipper called Crewmember 'A' to take over the navigation watch in the wheelhouse. The Skipper instructed Crewmember 'A' to continue and proceed through Blaskets Sound. The Skipper left the wheelhouse and proceeded to his bunk for rest. At approximately 04:10 hrs the vessel grounded on rocks in approximate position Latitude 52° 03.820'N Longitude 010° 36.296'W which is on the north west peninsula of Inish na Bró island.

(see Appendix 7.4 - Chart No.3, 'FV Dearbhla' Grounding - position.)

The crew were able to manoeuvre the vessel off the rocks and it continued its passage to Howth. At approximately 08:00 hrs the vessel was directed by the owner to re-route to Castletownbere for assessment and inspection of the grounding damage to the vessels bow.



Whilst alongside Castletownbere the vessel was boarded, inspected and detained by a Surveyor of the MSO.

2.5 Emergency Response

The incident was not reported to the appropriate authorities and there was no distress broadcast made. Accordingly, there was no emergency response to this incident.



3. NARRATIVE

- 3.1 The 'FV Dearbhla' departed Rossaveel, Co. Galway, at approximately 18:00 hrs on the 13th May to make course for Howth, Co. Dublin. There were five crew onboard including the Skipper. The Skipper joined the vessel for the voyage only and was not the regular fishing Skipper. All other Crewmembers were permanent crew. The Skipper navigated the vessel out of Rossaveel Harbour and made passage through Gregory Sound in the Aran islands and then made course of 210 degrees (0) for the Blaskets, a distance of approximately 70 NM.
- 3.2 At 02:45 hrs the vessel's position was 52° 13.484'N, 01° 0 27.6199'W west of Sybil Head and its Course Over the Ground (COG) was 2090, Speed Over the Ground (SOG) was 8.2 knots (kn).

(see Appendix 7.4 - Chart No.4, AIS track to 02:45 hrs.)

The estimated position at 03:00 hrs was approximately northwest of Sybil Point when the Skipper called Crewmember 'A' to take over the wheelhouse watch. The Skipper gave Crewmember 'A' instructions to change course in order to proceed through Blasket Sound. Weather was good with good visibility and moderate swell. The Skipper retired to his bunk for rest before the course change was made.

(see Appendix 7.4 - Chart No.5, Blasket Islands.)

3.3 Shortly after taking over the watch Crewmember 'A' went down to the tea station in the crew mess to make a cup of tea. Before leaving the wheelhouse, Crewmember 'A' switched 'OFF' the 'Watchkeeper Alarm', a timer device designed to give an audible sound in the wheelhouse every ten minutes. The device's function is to ensure the watchkeeper remains alert and in the wheelhouse. The Watchkeeper Alarm panel is located on the main wheelhouse console to the starboard side of the helm immediately in front of the watchkeeper's chair.

(see Appendix 7.1 - Photograph No. 3, Watchkeeper Alarm Panel.)

The panel consists of four items:

- A keyed 'system enable' switch by which the device is switched 'ON' or 'OFF".
 Unless the key is inserted into the switch mechanism the switch is locked in position. The key is removable and may be taken away leaving the panel either locked in the 'ON' (enabled) position or locked in the 'OFF' (disabled) position.
- A green 'system enabled' indicator light indicating whether the system is 'ON' and enabled or 'OFF' and disabled.



- A large red press button which is the means by which the watchkeeper resets the 10-minute timer cycle to ensure the audible alarm does not sound.
- Adjacent to the keyed switch is a twist switch that cancels the audible alarm when the alarm has activated.

The device is, in essence, a timer working on a 10-minute cycle. When the alarm panel is 'ON' and enabled, the watchkeeper, by pressing the red press button, resets the timer to the beginning of the 10-minute cycle. If the watchkeeper fails to press the red button after 10 minutes have elapsed, the audible alarm sounds, first in the wheelhouse for the watchkeepers benefit and then, shortly afterwards, and louder in the vessel's accommodation to alert other members of the crew.

Crewmember 'A' switched off the alarm so as not to awaken the crew if he was delayed in making the tea.

After making the tea Crewmember 'A' returned to the wheelhouse and resumed the watch. Crewmember 'A' stated that he forgot to switch the Watch Alarm back 'ON' after he returned to the wheelhouse.

Shortly after he returned to the wheelhouse Crewmember 'A' fell asleep. There was no other person on watch and the bridge watch system alarm was switched off at this time. The vessels steering was on autopilot and its course and speed over the ground remained unchanged. The watchkeeper had made no course change to Blasket Sound.

3.4 At 03:40 hrs the vessel's position was 52° 06.6149'N, 01° 0 34.008'W midway between Great Blasket Island to the southeast and Inishtooskert immediately to the north, the vessels COG 211.90, SOG 8.7 kn.

(see Appendix 7.4 - Chart No.6, AIS track to 03:40 hrs.)

At 04:01 hrs the vessel's position was 52° 03.9650'N, 010° 36.4710'W in immediate proximity to Inish na Bró; the vessels COG was 209.80, SOG 8.7 kn and unless the watchkeeper made a safe course change the vessel was standing into danger of grounding on he island of Inish na Bró.

(see Appendix 7.4 - Chart No.7, AIS track to 04:01 hrs.)

3.5 According to the vessels AIS track at 04:10:05 the vessel's speed was 8.7 kn. Sometime shortly after and according to the Skipper's incident report the fishing vessel grounded on rocks on the northwest peninsula of Inish Na Bró.

(see Appendix 7.4 - Chart No.8, AIS track at 04:10 hrs. Chart No.3, Vessel grounding position.) The Skipper was called immediately and the crew alerted. The Skipper manoeuvred the fishing vessel away from the rocks and the crew investigated to determine the damage to the vessel. There was no water ingress to the vessel and no vibration felt from the propulsion system. The Skipper did not consider the vessel to be in distress and the emergency services were not alerted at this time. The vessel proceeded at reduced speed while a continuous assessment was made by the Skipper on the extent of the damage and the crew watched for any signs of water ingress.

3.6 At approximately 08:00 hrs the Skipper contacted the owner. The owner was informed of the incident and given details of the damage to the vessel. The vessel continued its voyage to Howth while the owner attempted to find a shipyard able to carry out repairs. The owner stated that enquiries were protracted before a yard in Berehaven was found to be available to take the fishing vessel in at short notice.

The vessel was re-routed to Berehaven for inspection and damage assessment at Bere Island Boatyard. The vessel arrived at the repair yard at approximately 09:00 hrs on the 15th May. The owner viewed the extent of the damage and contacted the vessel's insurance company at 10:00 hrs.

(see Appendix 7.5 - General Arrangement 'FV Dearbhla'.)

Damage found to the bows and stem was extensive. The hull plating was ruptured above the waterline and internal frames, beams, brackets and floors in the forepeak tank were deformed and buckled. The deck in the forward store was buckled. There was evidence of hard contact along the starboard chine and on the leading edge of the bilge keel.

(see Appendix 7.1 Photograph No. 2, Bow Damage above the waterline.

Photograph No. 4, Stem Damage below the waterline.

Photograph No. 5, Starboard Chine damage.

Photograph No. 6, Starboard Bilge Keel damage.

Photograph No. 7, Forepeak Tank damage.)

The vessel was also inspected by a Surveyor of the MSO and detained on the grounds of the damage to the bow and stem and expired certification.

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4. ANALYSIS

4.1 The 'FV Dearbhla' departed Rossaveel at approximately 18:00 hrs in the afternoon of the 13th May for a voyage to Howth, Co. Dublin, with an ETA of approximately forty-two hours' later. The voyage was routed to pass through Blasket Sound and pass several headlands which required navigational course changes before the vessel would round Carnsore Point, enter the Irish Sea and reach its destination in Howth.

(see Appendix 7.4 - Chart No. 1, Rossaveel to Howth.)

The vessel's Skipper navigated out of Rossaveel Harbour and stayed on watch until 03:00 hrs the following morning by which time he had been on watch for approximately seven hours. Crewmember 'A', who relieved the Skipper in the wheelhouse was familiar with the operation of the fishing vessel. He stated that he was fully rested and prepared to take over watch duties. The Skipper believed Crewmember 'A' was prepared to take over the watch duties and able to take the vessel through Blasket Sound. There was no indication that the Crewmember was tired and unable to take over the watch. The weather and visibility was good.

- 4.2 The facility for making beverages and other light refreshments should be available to watchkeepers at their place of duty. The facility for light refreshments to the watchkeepers onboard 'FV Dearbhla' was located outside of the wheelhouse, one deck down in the crew mess. This oversight enabled the following sequence of procedural risks that arose when Crewmember 'A' took over the watch at approximately 03.00 hrs:
 - When he took over the watch Crewmember 'A' needed some refreshmentq and left his place of duty in the wheelhouse to make tea. This action compromised the vessel's safety.
 - Compounding this action and significantly increasing the risk level, Crewmember 'A' switched 'OFF" the Watch Alarm. The Watch Alarm was not switched back 'ON' when he returned.
 - Further increasing the risk level as the vessel was approaching the Blaskets, Crewmember 'A' fell asleep on watch in the wheelhouse.

The facility for making hot beverages available in the wheelhouse of 'FV Dearbhla' may have circumvented the series of events that led to the vessel grounding on Inish Na Bró.

4.3 The Watch Alarm panel has a keyed 'ON/OFF' switch. The key is removable and may be taken away leaving the panel either locked in the 'ON', (enabled) position or locked in the 'OFF', (disabled) position (see paragraph 3.3). It would have been good practice for a senior watchkeeper onboard the fishing



vessel to switch 'ON' the Watch Alarm Panel switch, remove the key and keep the key remote from the panel. By doing so the Watch Alarm system would be locked in operation, always enabled and active during the voyage.

A voyage plan or passage plan had not been prepared and the times for course changes were not fixed. The Skipper assumed the relieving watchkeeper, Crewmember 'A', who was a regular Crewmember and considered competent by the owner, was able to make course adjustments and changes. The Skipper instructed Crewmember 'A' to make a transit through Blasket Sound. This would require a course change shortly after Crewmember 'A' took over the watch. The passage through Blasket Sound was at night and involved a number of course changes which required certain navigation skills of the watchkeeper in the wheelhouse. Also, Crewmember 'A' was not qualified for navigational purposes and whatever level of competence he had was unproven to the relief Skipper. It would have been prudent for the Skipper to arrange the wheelhouse watch system so that the vessel's navigation through Blasket Sound and around the various headlands and other navigational hazards along the coastal route was given adequate oversight by a competent watchkeeper.

CONCLUSIONS

5. CONCLUSIONS

- 5.1 By falling asleep whilst on watch in the wheelhouse the watchkeeper did not make the necessary course alteration to keep the vessel in safe and navigable waters. The vessel grounded on rocks.
- 5.2 The incident may have been averted if the required course change to navigate Blasket Sound safely was better supervised.
- 5.3 The incident may have been averted if there were adequate facilities in the wheelhouse to make beverages and therefore allow watchkeepers to take light refreshments.
- 5.4 The incident may have been averted if the Watchkeeper Alarm panel keyed switch facility had been used as intended by its designer.
- 5.5 No evidence was provided demonstrating that the crew had received adequate training to reduce the risks of endangering the health and safety of the crew or preventing accidents.



6. SAFETY RECOMMENDATIONS

- 6.1 The Minister for Transport should remind owners and operators of fishing vessels of the following requirements:
 - for crew to receive training as required under S.I. No.640 of 2007, Merchant Shipping (Safety of Fishing Vessels) (15 - 24 metres) Regulations 2007 as per below:
 - '102. (1) Owners shall ensure that their vessels are operated without endangering the safety and health of the crew.
 - (2) The crew shall be given training and instructions on health and safety matters on board fishing vessels, and, in particular on accident prevention.'
 - Under the Merchant Shipping (Investigation of Marine Casualties) Act, 2000, Part 3 Reporting of Marine Casualties as per below:
 - '23.—(1) An owner, charterer, master, skipper, person in charge, ship's agent, ship's manager or ship's husband of a ship involved in a casualty or incident shall, by using the quickest feasible means, notify the Board of the casualty or incident immediately he or she is aware that the casualty or incident has occurred or commenced, or as soon as practicable thereafter.'
- 6.2 The Minister for Transport should issue a Marine Notice:
 - To remind vessel owners and operators to ensure all navigation is planned in adequate detail and that passage plans, with contingency plans where appropriate, are compiled and made known to the crew.
 - To require fishing vessel owners and operators develop contingency plans and procedures for a grounding event or collision incident.

APPENDICES

7.3

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Photograph No. 1 - 'FV Dearbhla'.



Photograph No.2 - Bow damage above the waterline.





Photograph No. 3 - Watchkeeper Alarm Panel.



Photograph No.4 - Stem damage below the waterline.



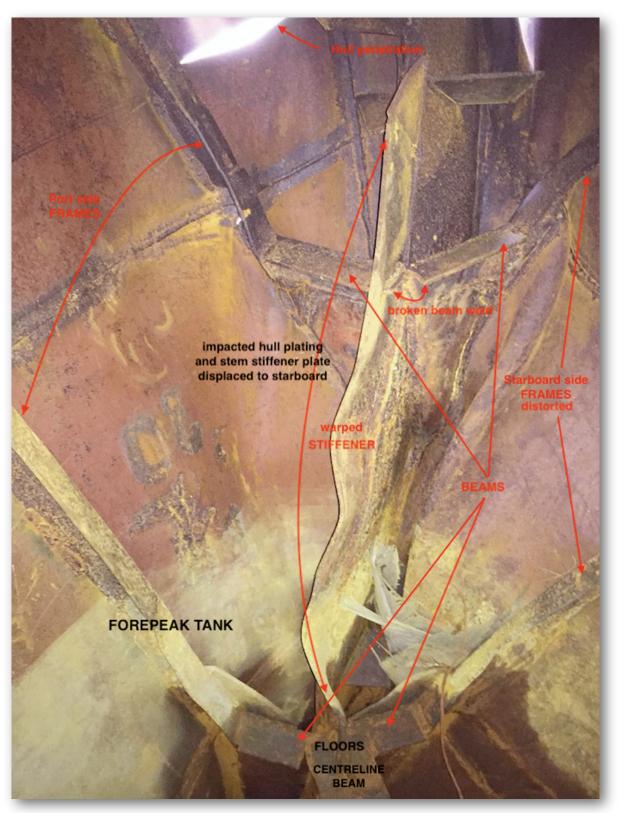


Photograph No. 5 - Starboard Chine damage below the waterline.



Photograph No.6 - Bilge Keel damage below the waterline.

Appendix 7.1 Photographs



Photograph No. 7 - Forepeak Tank damage.



Appendix 7.2 Notice of Detention

	TELEPHONE: + 353 (F)
	MARINE SURVEY OFFICE. FAX: +353 (9)1 - 6783409
	DURLIN 2, Eriginal - owaer imaster capy - ships file
	THE LAYII,
	NOTICE OF DETENTION
	To the Master of:
	Name of vessel Dearshita ON./IMO 4041 55
	O.N. / IMO
	Date of initial report 15th Meg. 2000 Place of inspection Stee Island
	Type of inspection Acad at College ve
	Type of vessel FV 15-24 Port of registry Decement
	Owner
-	The undersigned, duly appointed Surveyor under Section 724 of the Merchant Shipping Act, 1894, and Detaining Officer under Section 459 of the Merchant Shipping Act, 1894 herewith notifies you hat the vessel specified above has been detained in accordance with Section 459 of the Merchant
3	Shipping Act, 1894.
	The specific grounds for detention are detailed in the attached Report of Survey/Inspection.
	Direction to ship * Hull donnege to boun & expects certification
1	. The vessel shall not proceed on any voyage before issue of Notice of Release by a Detaining Officer.
2	. When the deficiency(ies) is (are) fully rectified the vessel must notify the Marine Survey
3	Office and request a re-inspection of the vessel. A fee, in accordance with the Merchant Shipping (Fees) Order, may be levied for re-inspection.
	understand that the vessel has been detained and is not to proceed on any voyage until all the efficiencies have been rectified and a Notice of Release has been issued to the vessel.
d	No Morse on Don's
N	faster Name
	ate of detention
D	ate of detention
D	etaining Officer
Si	gned
	his notice trust be retained on board for a period of two years and trust be available for consultation by a Department of Transport Serveyor at a times. The inspection is based on random samples and therefore deficiencies may exist which may not have been identified.

Notice of Detention

Appendix 7.3 Met Éireann Weather Report



Our Ref: WS1730/2010_3 Your Ref: MCIB/12/301

Meteorological synopsis for the West Coast of Ireland for the 24-hour period between 12:00noon on 13 May and 12:00noon on 14 May 2020:

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Email: legal@met.ie

A moderate northeasterly airflow covered Ireland on the 13th between high pressure (1028 hPa) centered near Iceland and a shallow low pressure system (1000 hPa) west of Spain. A weak cold front embedded in the flow moved westwards across the country during the afternoon and evening of the 13th. The high pressure gradually moved southwards overnight and the airflow decreased light northeasterly which allowed a sea breeze to develop in western coastal areas by mid-morning on the 14th.

Estimated weather and sea state conditions for the coastal area between Loop Head and Slea Head between 18:00 hours on 13th May 2020 to 05:00 hours on 14th May 2020:

Weather:	It was dry throughout the period with variable cloud at first and clear skies at the end of the period.
Air Temperature:	The air temperature ranged from 10 or 11 degrees at the beginning of the period then decreased to 3 or 4 degrees Celsius over land while offshore the air temperature remained 9 or 10 degrees Celsius throughout the period.
Wind:	Moderate northerly breeze, Beaufort force 4, at first (mean wind speed of 8 – 14 knots) with occasional gusts of up to 20 knots. Winds gradually decreased during the evening of the 13 th and by 23:00 hours were light and remained light until 05:00 hours on the 14 th : Beaufort force 2 or 3 (mean wind speed 10 knots or less) from easterly or variable direction.
Visibility:	Good; greater than 10 nautical miles.
Sea State:	Slight; mean significant wave height 1 m or less, mean wave period ~5 seconds. Wave direction northerly or northeasterly.
Sea Temperature:	12 degrees Celsius (M3)

Climate Services, Research and Applications Division Met Éireann

Fig.1. Sea Area Weather 131800 to 140500 May off the Blaskets.



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Appendix 7.3 Met Éireann Weather Report



Wave Heights / State of Sea:

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 system associated with a range of significant wave heights.

The Significant wave 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 when making visual observations of wave height.)

Sea State	Significant Wave height
(Descriptive)	in meters
Calm	0 - 0.1
Smooth(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

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.

Visibility Descriptions:

Visibility (Descriptive)	Visibility in nautical miles (kilometres)
Good	More than 5 nm (> 9 km)
Moderate	2-5 nm (4-9 km)
Poor	0.5 - 2 nm (1 - 4 km)
Fog	Less than 0.5 nm (< 1km)

Please Note:

If there are no measurements or observations available for an exact location, then the estimated conditions in this report are based on all available meteorological measurements and observations which have been correlated on the routine charts prepared by Met Éireann.

Fig. 2. Scale of Wave Heights and Sea States.

Appendix 7.3 Met Éireann Weather Report



APPENDIX 3. Terminology Sea Area Map & Beaufort Scale of Wind



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Force	Description	Speed*			Wave height**
		knots	km/hr	-sea	(metres)
0	Calm	<1	<1	Sea like mirror	
1	Light air	1-3	1-5	Ripples	0.1 (0.1)
2	Light breeze	4-6	6-11	Small wavelets	0.2 (0.3)
3	Gentle breeze	7-10	12-19	Large wavelets, crests begin to break	0.6(1)
4 5	Moderate breeze	11-16	20-28	Small waves becoming longer, frequent white horses	1 (1.5)
5	Fresh breeze	17-21	29-38	Moderate waves, many white horses, chance of spray	2 (2.5)
6	Strong breeze	22-27	39-49	Large waves, white foam crests, probably some spray	3 (4)
7	Near gale	28-33	50-61	Sea heaps up, streaks of white foam	4 (5.5)
8	Gale	34-40	62-74	Moderately high waves of greater length	5.5 (7.5)
9	Strong gale	41-47	75-88	High waves, dense streaks of foam,	
				spray may reduce visibility	7 (10)
10	Storm	48-55	89-102	Very high waves, long overhanging crests,	
				visibility affected	9 (12.5)
11	Violent storm	56-63	103-117	Exceptionally high waves, long white foam patches	
				cover sea	11.5 (16
12	Hurricane	64+	117 & over	Air filled with foam and spray, sea completely white	14 (-)

Fig.3 - Beaufort Scale of Wind.



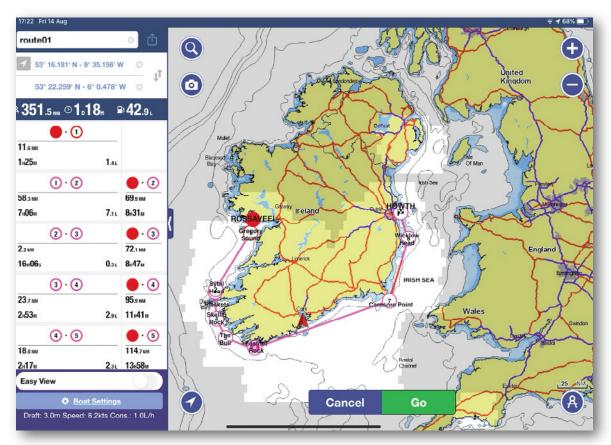


Chart No. 1. Rossaveel to Howth.

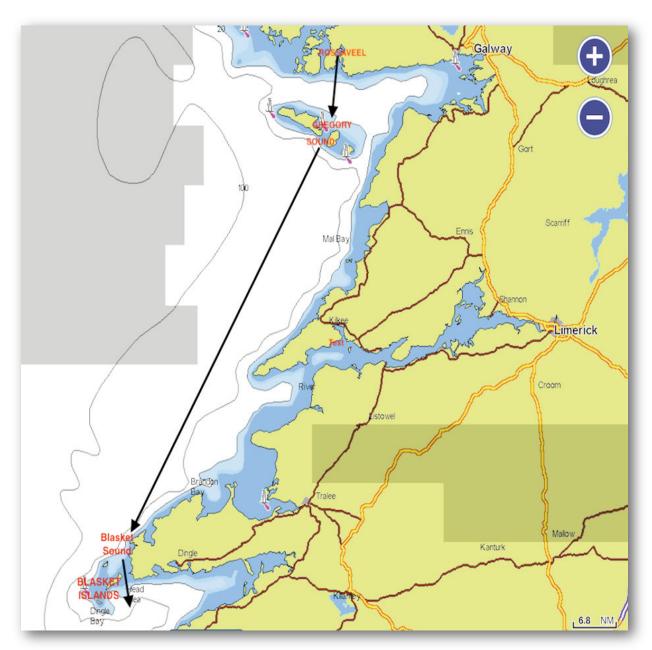


Chart No. 2. Rossaveel to Dingle Bay.



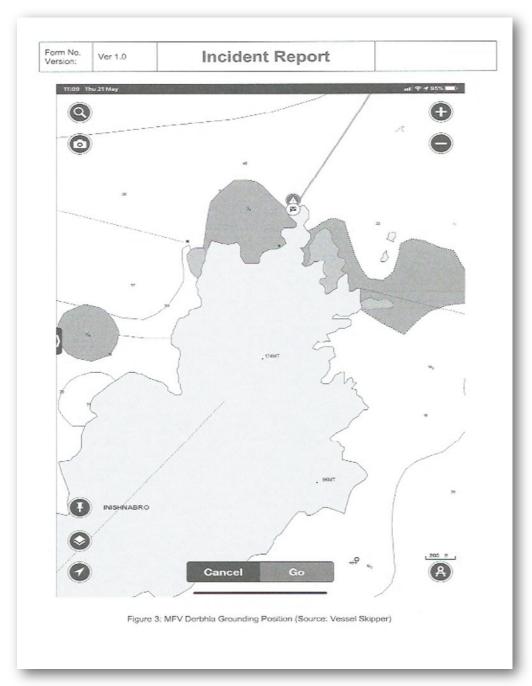


Chart No. 3. 'FV Dearbhla' Grounding Position.

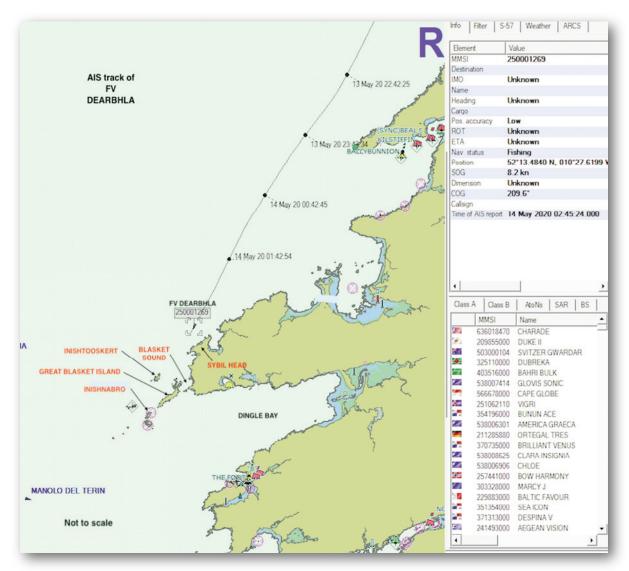


Chart No. 4. 'FV Dearbhla' AIS track to 02:45 hrs.



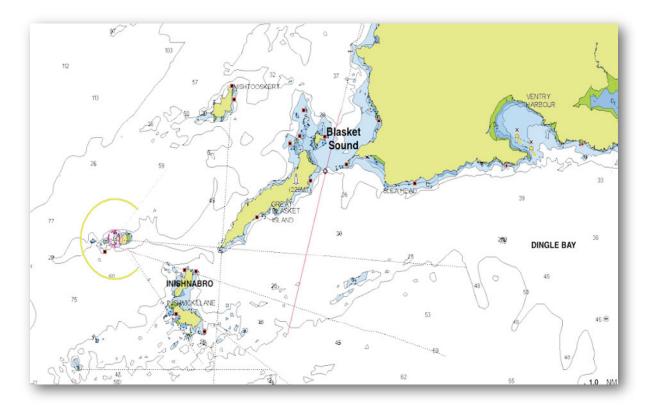


Chart No. 5. Blasket Islands.

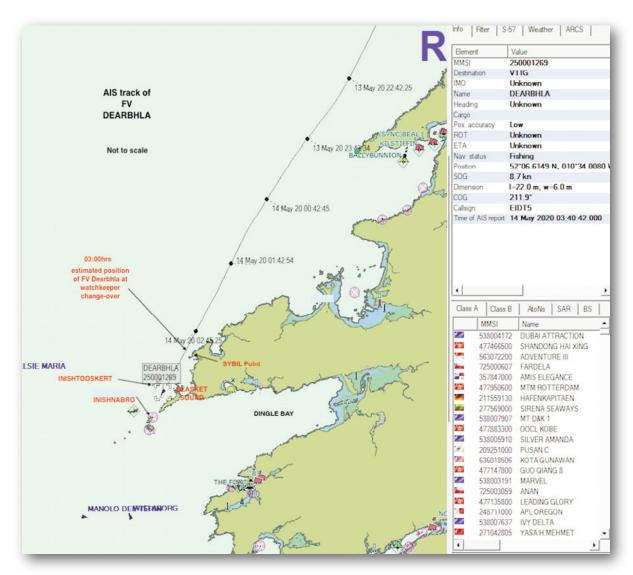


Chart No. 6. 'FV Dearbhla' AIS track to 03:40 hrs.



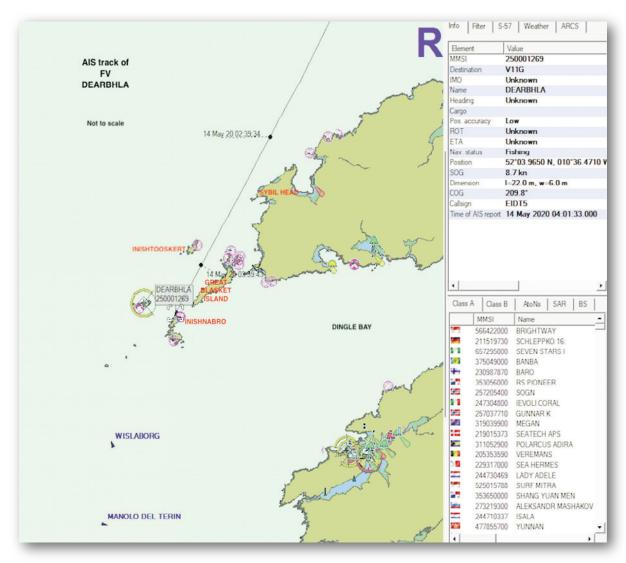


Chart No. 7. 'FV Dearbhla' AIS track to 04:01 hrs.

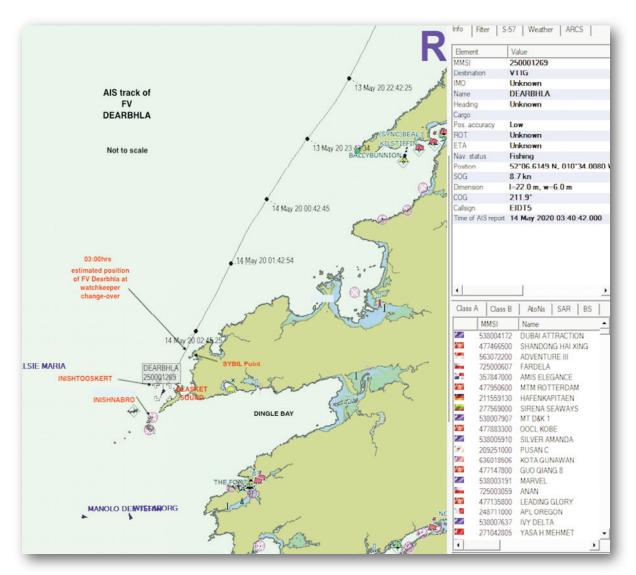
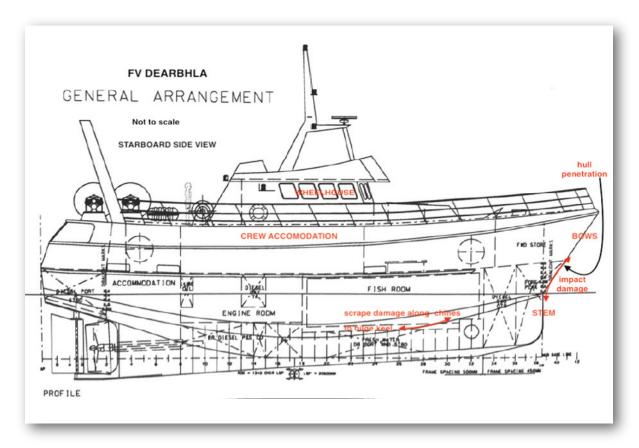


Chart No. 8. 'FV Dearbhla' AIS track to 04:10 hrs.



Appendix 7.5 General Arrangement



General Arrangement - 'FV Dearbhla'

SECTION 36 PROCESS

Section 36 of the Merchant Shipping (Investigation of Marine Casualties) Act, 2000

It is a requirement under Section 36 that:

- (1) Before publishing a report, the Board shall send a draft of the report or sections of the draft report to any person who, in its opinion, is likely to be adversely affected by the publishing of the report or sections or, if that person be deceased, then such person as appears to the Board best to represent that person's interest.
- (2) A person to whom the Board sends a draft in accordance with subsection (1) may, within a period of 28 days commencing on the date on which the draft is sent to the person, or such further period not exceeding 28 days, as the Board in its absolute discretion thinks fit, submit to the Board in writing his or her observations on the draft.
- (3) A person to whom a draft has been sent in accordance with subsection (1) may apply to the Board for an extension, in accordance with subsection (2), of the period in which to submit his or her observations on the draft.
- (4) Observations submitted to the Board in accordance with subsection (2) shall be included in an appendix to the published report, unless the person submitting the observations requests in writing that the observations be not published.
- (5) Where observations are submitted to the Board in accordance with subsection (2), the Board may, at its discretion -
 - (a) alter the draft before publication or decide not to do so, or
 - (b) include in the published report such comments on the observations as it thinks fit.'

The Board reviews and considers all observations received whether published or not published in the final report. When the Board considers an observation requires amendments to the report that is stated beside the relevant observation. When the Board is satisfied that the report has adequately addressed the issue in the observation, then the observation is 'Noted' without comment or amendment. The Board may make further amendments or observations in light of the responses under Section 36. 'Noted' does not mean that the Board either agrees or disagrees with the observation.

Response(s) received following circulation of the draft report are included in the following section.

8. SECTION 36 - CORRESPONDENCE RECEIVED

No correspondence was received on the draft of this report.

NOTES





NOTES







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