REPORT OF AN INVESTIGATION
INTO THE SINKING OF
FV ANNA LOUISE
NEAR GLENGARRIFF HARBOUR,
BANTRY BAY,
CO. CORK
2 JULY 2022

REPORT NO. MCIB/319
(No.3 OF 2023)
The Marine Casualty Investigation Board (MCIB) examines and investigates all types of marine casualties to, or onboard, 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

BIM                 Bord Iascaigh Mhara
CoP                 Code of Practice*
DoC                 Declaration of Compliance
EPIRB               Emergency Position Indicating Radio Beacon
FV                  Fishing Vessel
GRP                 Glass Reinforced Plastic (Fibre Glass)
IMO                 International Maritime Organization
MCIB                Marine Casualty Investigation Board
MRSC                Marine Rescue Sub-Centre
MSO                 Marine Survey Office
PFD                 Personal Flotation Device
PLB                 Personal Locator Beacon
SRC                 Short Range Certificate of Competency
SITREP              Situation Report
UTC                 Co-ordinated Universal Time
VHF                 Very High Frequency

Horsepower          hp
Kilograms           kg
Metres              m
Millimetres         mm

*Code of Practice: Design, Construction, Equipment and Operation of Small Fishing Vessels of less than 15 m Length overall - Revision 3 updated 1 March 2022 can be downloaded in electronic format at: gov.ie - Code of Practice for Fishing Vessels less than 15 m in length overall (www.gov.ie)

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6th April 2023.
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1. SUMMARY

1.1 This is considered a very serious marine casualty resulting in the sinking of the vessel.

1.2 The fishing vessel (FV) Anna Louise was an open fishing boat of 5.35 metres (m) in length with an outboard engine and on 2 July 2022 was taken on a routine fishing trip to lift lobster pots in Bantry Bay, County Cork. The boat was operated by the owner’s brother (the Skipper) and he was a qualified and experienced boat operator with valid certification. The Skipper had lifted two strings of lobster pots onboard with a total of ten pots and was retrieving the marker buoy when a wave came over the stern, flooding the boat. The Skipper tried to reach the bailing bucket, but a further wave swamped the boat, and the boat sank quickly. The Emergency Position Indicating Radio Beacon (EPIRB) floated free and was activated. The distress signal was received by Valentia Marine Rescue Sub-Centre (MRSC) who initiated rescue operations. Bantry inshore lifeboat was tasked as well as Castletownbere lifeboat and Rescue Helicopter R115.

1.3 The Skipper swam ashore and made his way through fields to a house from where he called to advise he was safe and well. The rescue operations were terminated. The boat was later salvaged from 12 m of water.

1.4 There were no injuries and no pollution.

Note: Times are local time = UTC + 1 (Co-ordinated Universal Time + 1 hour).
2. FACTUAL INFORMATION

FV Anna Louise was a glass reinforced plastic (GRP) (fibre glass) open fishing boat with an outboard engine mounted on the transom. There were two transverse seats and an open flat deck in the centre. There was a pot hauler fitted starboard aft and this was powered by a hydraulic power pack forward with hoses running down the starboard side. There was a generator fitted in the forward locker driving the hydraulic power pack and charging a battery that powers the bilge pump which was fitted in a bilge well aft. There was a hand bilge pump port aft. There was a combined chart plotter echo sounder fitted port aft.

Photo of the boat taken by Code of Practice (CoP) Surveyor 17 November 2020.

2.1 Vessel Details

Vessel Name: Anna Louise.
Vessel Type: GRP open boat (punt) with outboard engine.
Registry: Skibbereen (as commercial fishing vessel <15 m).
Length: 5.35 m.
Breadth: 1.73 m.
Depth: 0.68 m (registered). Total depth measured at 0.84 m.
Engine: Yamaha petrol outboard F25GMH (L) 25 horsepower (hp).
Builders: Geary Middleton.
Purchased by present owner 2020.

See Appendix 7.1 - Photographs No. 1 to No. 7.

2.2 Safety Equipment

- EPIRB (activated when it floated free).
- One lifebuoy (recovered by lifeboat).
- Handheld Very High Frequency (VHF) radio (lost overboard).
- Personal Flotation Device (PFD) (automatically activated 150 N approved PFD and this assisted the Skipper to swim ashore).
- Electric and hand operated bilge pumps fitted.
- Fire extinguisher.
- Pyrotechnics.

2.3 Crew Details

One person was onboard (the Skipper) who held a commercial power boat operators licence, Bord Iascaigh Mhara (BIM) training card and VHF Short Range Certificate of Competency (SRC).

2.4 Code of Practice Survey and Fishing Licence

Last CoP survey was carried out by a Marine Survey Office (MSO) panel approved surveyor on 17 November 2020 and the boat was found to comply with the applicable CoP for fishing vessel < 15 m. A Declaration of Compliance (DoC) was issued accordingly and was valid at the time of the incident. The boat had a valid Fishing Licence issued by Licensing Authority, Department of Agriculture Food & Marine.

See Appendix 7.2 - Fishing Licence.
2.5 **Voyage Particulars**

The FV Anna Louise departed from Glengarriff Harbour at around 11.00 hrs (local time) on 2 July 2022 and proceeded out of Glengarriff Harbour and turned east into Whiddy Harbour to recover the lobster pots which had been laid previously. The weather on departure was calm but the wind increased while in the fishing location. One string of five pots was lifted onboard and the boat then sailed near Castle Breaker and lifted another string of five pots. The time was around 13.10 hrs local time. While at that location, the boat took on water and sank.

See Appendix 7.3 - Charts of the Area in Bantry Bay.

- Chart No. 1 - Section of Admiralty Chart 1838 Showing Position of Casualty.
- Chart No. 2 - FV Anna Louise Position and Orientation at Time of Sinking (from Chart 1838).

2.6 **Marine Incident Information**

This is considered a very serious marine casualty resulting in the sinking of a registered commercial fishing vessel.

- Incident Date: 2 July 2002.
- Time of incident: 13.10 hrs.
- Location: 51° 42.69' N 009° 29.49' W.

2.6.1 Weather: Reported as Beaufort Force 4-5 with waves of 1.5 m to 2.5 m with moderate wind from the west north-west. This has been confirmed by the Skipper of the Bantry lifeboat who attended the scene, and he also stated that the visibility was good at that time. The low tide was at 12.46 hrs in Bantry Bay. The weather forecast was obtained from Met Éireann and there were no weather warnings in place for the location at the time of the incident.

See Appendix 7.4 - Met Éireann Weather Report and Forecast.

2.7 **Emergency Response and/or Shore Authority Involvement**

Taken from Valentia MRSC.

- EPIRB alert received by Valentia MRSC 13.10, 2 July 2022.
- Vessel identified as Anna Louise.
- Position - 51° 42.99'N 009° 30.60'W.
Number of persons - 1.

Assistance required - Locate and assist.

Description of casualty - Fishing vessel <12 m with one male person wearing lifejacket.

Weather on scene - Wind 4, W.

Initial action taken - Tasked Bantry CRBI/R115/CTB CGU/RNLI/MAYDAY relay.

Search area - Entrance to Glengarriff Harbour/Goose Rock to Carrigskye Rock.

See Appendix 7.5 - Irish Coast Guard SITREP.
3. **NARRATIVE**

3.1 The FV Anna Louise completed CoP survey and stability check on 17 November 2020. In 2021 a new sole deck (floor) was fitted along with a heavier transom bracket. Handrails were fitted on the port bulwark. A new sounder/plotter was also fitted. A bigger outboard engine was fitted around a month before this incident. The vessel was taken on a routine fishing trip on 2 July 2022 by the owner’s brother (the Skipper). The plan was to haul, bait and shoot lobster pots in Bantry Bay. Departure was at around 11.00 hrs from Glengarriff Harbour off Bantry Bay, County Cork and the weather at the time was calm. The Skipper was the sole operator on the boat and had completed the same operations many times previously. The only equipment onboard were some bait and fish boxes. The boat sailed out of Glengarriff Harbour and headed south and then east into Whiddy Harbour where the pots had been laid previously (see Appendix 7.3 - Charts of the Area in Bantry Bay - Chart No. 1). One string of five lobster pots was hauled onboard without incident and the five pots along with connecting ropes and buoys were stowed on the deck between the two seats. The boat then proceeded to a second string of five pots, and these were also hauled onboard without incident. The pots were stowed onboard along with the previously hauled five pots as well as all the associated connecting ropes.

3.2 At this time the vessel was stern-to the Castle Breaker with the bow facing east (see Appendix 7.3 - Charts of the Area in Bantry Bay - Chart No. 2). The Skipper was hauling in the rope with the marker buoy when a wave came over the stern and deposited a large amount of water into the boat. The Skipper rushed forward, past the stowed pots, to retrieve the bailing bucket but a second large wave came over the stern and swamped the boat. The boat filled with water and started to sink quickly. The Skipper jumped into the water and kicked off the wellington boots he was wearing. His PFD inflated automatically, and he swam to the rocks on the shore. He sat on the rocks for a while to get his breath back and then made his way through rough terrain to the nearest house, which was empty. He proceeded to the next house and made a call to his brother to advise he was safe.

3.3 The EPIRB had floated free and activated. The signal was received by Valentia MRSC and they coordinated a rescue response. The local community lifeboat from Bantry was tasked to attend, as well as the Castletownbere lifeboat. Rescue Helicopter R115 was also sent from base to assist. The EPIRB and a lifebuoy were retrieved from the water, and a message was received that the Casualty was safe and well and the rescue craft was stood down. The boat was salvaged on 4 July from 12 m of water in the location shown (see Appendix 7.3 - Charts of the Area in Bantry Bay - Chart No. 1).
4. ANALYSIS

4.1 The FV Anna Louise was registered as a commercial fishing vessel and had a valid CoP DoC for a vessel less than 15 m. The survey and stability test were completed by a surveyor from the approved panel of surveyors on 17 November 2020.

4.2 The Skipper operating the boat on the day of the incident had completed the required BIM safety training and held a VHF Radio Certificate. He was also the holder of a Commercial Endorsement of the National Power Boat Certificate and was a Skipper on commercial tour boats at Glengarriff.

4.3 The weather on the date of the incident was a maximum of Force 4-5 Beaufort waves of 1.5 m to 2.5 m which is at the top of the allowable range for this type of boat.

4.4 The boat had been fitted with a pot hauler, and this was fixed on the starboard side aft. The position was to allow the Fisher to operate the hauler and the engine at the same time from a position aft. This location for the pot hauler is not considered to be safe as this type of boat has a very low freeboard and heavy weights on the starboard aft corner can easily cause the gunwale to submerge allowing water to enter the boat. This can happen if a pot becomes snagged on the bottom or if inter-pot ropes are too short or tangled and more than one pot is hauled. It is reported that the pot hauler was not in use at the time of the incident, but it is considered prudent to mention this as there have been previous incidents with a similar arrangement on similar size fishing boats that have led to casualties (see MCIB/225 report “Fatal Incident Castletownbere” published 28 July 2014).

4.5 The salvaged boat was inspected, and the hull was seen to have minor chaffing marks on the starboard side of the bottom forward of midships and no other structural damage. This excludes the possibility of collision or grounding on rocks as a cause of the sinking. There were also some small knocks on the propeller.

4.6 A comparison was made with the boat in the salvaged condition and the photos of the boat that were taken at the time of the CoP survey and several important differences were noted. These differences increased the weight of the boat and reduced the working freeboard. The differences are noted below and are considered a contributing factor in this casualty:

- The outboard engine had been changed from 6 hp to 25 hp (+38 kilogram (kg)).
- A new steel transom bracket had been fitted to stiffen the area for the engine (+15 kg).
• A new echo sounder/plotter had been fitted along with box and cables (+2 kg).

• Bulwark handrails had been fitted on the top of the gunwale port side (+10 kg).

4.7 At the time of the CoP stability test (November 2020) the boat was considered both empty and loaded, and the additional weight allowed for in the loaded condition was 100 kg. The actual condition loaded at the time of the incident is calculated at 245 kg which is 145 kg excess weight compared to the condition allowed for at the time of the stability test. The additional weight is from the modifications above, as well as the following:

• The Fisher was 110 kg and estimated personal weight at test was 75 kg (International Maritime Organization (IMO) standard).

• Ten lobster pots were onboard along with ropes and gear and this was around 135 kg.

• Bait and fish boxes were around 10 kg.

4.8 As can be seen the boat was heavier than the conditions estimated at the time of the CoP survey and it can also be seen that around 88 kg extra weight was concentrated at the stern, which is the area of the lowest freeboard. The freeboard at time of CoP was maximum 370 millimetres (mm) (measured at the stern) but with the actual weights onboard at the time of the incident this freeboard would have been considerably less and has been estimated at around 350 mm at even keel. With a 5° list due to the Fisher being at the side aft, this would be reduced to 275 mm. A stability notice for this size of boat has been made based on Wolfson Unit research project 559 for vessels less than 12 m. This shows a critical freeboard of 320 mm, and any waves more than 320 mm would swamp the boat. This low freeboard condition was the main contributing factor in this casualty.

See Appendix 7.6 - Stability Notice.

4.9 At the time of the incident the boat was in a position with the stern near the Castle Breaker rocks and as the tide was changing there were rollers/breakers coming off the rock area towards the stern of the boat. This is considered a causal factor in this casualty.

4.10 The boat was fitted with an electric bilge pump and a hand operated bilge pump in accordance with the requirements for the boat but neither of these could quickly clear the amount of water that came in over the stern of the boat.
4.11 The original build had a locker forward which can be considered reserve buoyancy, but this locker had a generator and battery fitted inside and no sealing doors and therefore cannot be considered reserve buoyancy. There was a locker aft that contained the fuel tank and cannot be considered as reserve buoyancy. The lack of reserve buoyancy is considered a contributing factor in the casualty.
5. CONCLUSIONS

5.1 The boat was swamped by waves coming over the stern and filling the boat with sea water. The boat sank quickly as there was no reserve buoyancy when it was full of water.

5.2 The boat freeboard had been reduced due to additional weights onboard making it more vulnerable to swamping. The swamping risk was increased by the following:

- Heavier weights aft which would also be exacerbated by the Fisher standing up or moving to the side of the boat at the stern.
- Operating in Force 4 with waves of 1.5 m to 2.5 m with low freeboard.
- Using a larger engine, as sudden throttle movements can lift the bow and reduce the aft freeboard even further.

5.3 Modifications had been carried out that reduced the freeboard and these modifications should have been presented, for approval, to the surveyor who had issued the CoP certificate in accordance with CoP requirement 1.5.5.2.

5.4 The original freeboard was considered small but there is no minimum freeboard specified in the CoP for open boats of this size.

5.5 The Skipper was wearing an approved automatic PFD as required and this enabled him to swim ashore and prevented a more serious outcome. This clearly shows the importance of wearing a PFD, especially when operating alone. The boat did have a float free EPIRB which activated and alerted the rescue response.
SAFETY RECOMMENDATIONS

6. SAFETY RECOMMENDATIONS

6.1 The Minister for Transport should issue a Marine Notice reminding owners of fishing vessels of the dangers associated with modifying vessels, including changes to a vessel’s engine, without proper evaluation of the consequences. Owners of vessels should comply with Section 1.5.5.2 of the Code of Practice for the Design, Construction, Equipment and Operation of Small Fishing Vessels of less than 15 metres length overall which requires proposed modifications to be agreed in advance, with one of the approved Code of Practice surveyors.

6.2 The Minister for Transport should introduce rules for open commercial fishing boats < 15 m to assign a minimum freeboard based on the boat size and to ensure open boats have sufficient reserve buoyancy to allow the boat to stay afloat if swamped with sea water.

6.3 The Minister for Transport should issue instructions to panel surveyors when inspecting open commercial fishing boats that do not have a Declaration of Conformity or CE plate showing the CE category and maximum design load, to require a full load test to ensure boat skippers know the maximum safe loads allowed onboard and the minimum freeboard allowed.

6.4 The Minister for Transport should require that a Suspended Load Heel test be carried out where pot haulers are fitted to open commercial fishing boats with small freeboards, to establish load limits for the hauler and to ensure the assigned minimum freeboards are maintained in the heeled condition. Minimum freeboard to be the lowest down flooding point which may be at the stern on open boats with outboard engines.
## 7. APPENDICES

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Appendix 7.1 Photographs No. 1 to No. 7

Photograph No. 1 - FV Anna Louise on Trailer at Time of CoP Survey 17 November 2020.

Photograph No. 2 - FV Anna Louise after Salvage with Boat on the Trailer.
Appendix 7.1 Photographs No. 1 to No. 7

Photograph No. 3 - Stern View with Larger Engine (note the flat bars with bolts securing new bracket).

Photograph No. 4 - New Steel Bracket Fitted.
Appendix 7.1 Photographs No. 1 to No. 7

Photograph No. 5 - Inside the Boat with New Engine and Steel Bracket Fitted and Open Aft Locker.

Photograph No. 6 - Sounder/Plotter and Hand Bilge Pump Fitted.
Appendix 7.1 Photographs No. 1 to No. 7

Photograph No. 7 - Open Forward Locker with Generator Fitted.
Appendix 7.2 Fishing Licence

FISHERIES ACTS 1959 TO 2006
SEA – FISHING BOAT LICENCE

LICENSE NO. 353559835

The boat being a sea-fishing boat particulars of which are set out in the Schedule hereto is hereby licensed for the purposes of section 4 of the Fisheries (Amendment) Act 2003 (as inserted by section 97 of the Sea-Fisheries and Maritime Jurisdiction Act 2006) for the period commencing on 1 July 2022 and ending on 30 June 2023 in the name of:

SCHEDULE

Name of Boat to which the Licence relates: ANNA LOUISE
Country-of Registration: IRELAND
Registration Number: S715
Port of Registration: Skibbereen
Length Overall: 5.35 metres
Gross Tonnage: .8 Tonnes
Engine Capacity: 4.5 kilowatts
International Radio code or Call Sign: E1XP3
CFR Number: IR1.000115801
Type of Vessel: Multipurpose
Type of Gear: FPO - Pots, LHP - Hooks and lines Hand lines and pole lines (hand operated), GNS - Gillnets (Set)
Fleet Segment: Polyvalent [<18m LOA]
Other Information:
Date: 17 June 2022

Licensing Authority pursuant to Section 3 of Fisheries (Amendment) Act 2003 (No. 21)
Appendix 7.3 Charts of the Area in Bantry Bay

Chart No. 1 - Section of Admiralty Chart 1838 Showing Position of the Casualty.
Appendix 7.3 Charts of the Area in Bantry Bay

Chart No. 2 - FV Anna Louise Position and Orientation at Time of Sinking (from Chart 1838)
### Appendix 7.4 Met Éireann Weather Report and Forecast

**Meteorological Synopsis 1 – 2 July 2022**

A shallow depression (1006 hPa) to the northwest of Ireland directed a southwesterly airflow over the country. The depression tracked eastwards as it filled; associated frontal troughs crossed the country on Friday 1st July. A fresh to strong and stable west-southwesterly airflow followed on Saturday 2nd.

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**Estimated weather for Bantry Bay area (from Shot Head Trafrask Bay to Bantry) West Cork**

#### Friday 1-July-2022 from 00:00 hours to 24:00 hours Local Time (=UTC+1)

| Wind: | During the early morning of Friday 1st winds were light southerly. By 9am winds had increased and were then moderate to fresh Beaufort Force 4 or 5 for most of the day; occasionally reached strong Beaufort Force 6 around the middle of the day when gusts of up to 30 knots occurred. Wind direction veered from southerly during early morning to a southwesterly by forenoon and veered further to west-southwesterly in the afternoon. |
| Visibility: | Visibility was moderate or poor (1 – 4 nm) in rain or showers otherwise good (greater than 5 nm). |
| Weather: | Outbreaks of rain and drizzle between 7am and 12noon. Mostly dry and rather cloudy for the remainder of the day with just the odd passing shower. |
| Temperature: | Air temperatures ranged from an early morning minimum of 10 or 11 degrees Celsius to a day-time maximum of 15 or 16 degrees Celsius. |

#### Saturday 2-July-2022 from 00:00 hours to 15:00 hours Local Time (=UTC+1)

| Wind: | West-southwesterly winds were fresh Beaufort Force 5 overnight and for most of the day on Saturday occasionally strong Beaufort Force 6 in the afternoon with frequent gusts up to 25 knots and occasional gusts up to 35 knots. As the wind direction was the same orientation as Bantry Bay it is possible that local effects could have caused stronger winds possibly reached near-gale Force 7 at times. |
| Visibility: | Visibility was good (greater than 5 nm) occasionally moderate (3 – 5 nm) in showers. |
| Weather: | Partly cloudy with clear or sunny spells; it was dry for most of the day apart from isolated light passing showers. |
| Temperature: | Air temperature ranged from a night-time minimum 10 or 11 degrees Celsius to day-time maximum of 15 or 16 degrees Celsius. |

**The estimated sea state conditions** in Bantry Bay (towards open sea) for the period in question was moderate possibly rough with significant total wave height of 1.5 to 2.5 meters possibly 3.5 meters and a west-southwesterly wave direction. The maximum individual wave height measured offshore at M3 during the period in question was 4.5 meters.

**Sea temperature:** 14 degrees Celsius.

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This report was issued on 27 September 2022.
Appendix 7.4 Met Éireann Weather Report and Forecast

Sherkin Island Wind Rose and Data Graph from Meteorological Station

1-July-2022

2-July-2022
24-hour Sea Area Forecast

Updated at 0000 / 0600 / 1200 / 1800

Sea Area Forecast until 0000 Saturday, 2 July 2022
Issued at 0000 Friday, 1 July 2022

1. Gale warning: Nil
   Small craft warnings: In operation

2. Meteorological situation at 0300: Low pressure of 1012 NPa is centred 506 nautical miles northwest of Ireland, maintaining a southwesterly airflow over the country with a frontal system approaching.

3. Forecast for Irish coastal waters from Mallin Head to Heath Head to Dungarvan and for the Irish Sea:
   Wind: Increasing southwesterly force 2 to 4 imminent. Soon increasing force 5 or 6, and later gusting force 7 at times in the Irish Sea. Decreasing force 3 to 5 by the end of the period.
   Weather: Cloudy with rain, heavy at times. Later turning to scattered showers.
   Visibility: Decreasing moderate or poor in precipitation.

Forecast for Irish coastal waters from Dungarvan to Skyme Head to Mallin Head:
Wind: Increasing southwesterly force 4 to 6 imminent. Soon decreasing westerly force 4 or 5, occasionally gusting force 6.
Weather: Patchy rain or drizzle. Later turning to hazy, more persistent rain, followed by showers.
Visibility: Decreasing moderate or poor in precipitation.
Warning of Heavy Swells: Nil

4. Outlook for a further 24 hours until 0600 Sunday 3 July 2022: Mainly moderate to fresh west to northwest winds, increasing strong at times during the day. Scattered showers.

Coastal Reports:
- Malin Head: South-Southwest, 7 Knots, Cloudy, 20 Miles, 011, Steady.
- Dublin Airport: West, 7 Knots, Light rain, 10 Miles, 013, Steady.
- Bally M355° 41°N 14°W: West-Northwest, 8 Knots, Wave 3.0 m, The visibility at funkal is greater than 10 Miles, 014, Steady.
- Roches Point: Southwest, 6 Knots, 25 Miles, 015, Steady.
- Wexford, Automatic: South, 6 Knots, Cloudy, 20 Miles, 014, Falling slowly.
- Waterford, Automatic: West-Southwest, 7 Knots, Cloudy, 15 Miles, 012, Falling slowly.
- Lismore, Automatic: Southwest, 12 Knots, Rain shower 4 Miles, 011, Falling slowly.
- Killybegs, N15°E 1°12°W: Report not available.
- Douglas: West, 10 Knots, Wave 3.2 m, 013, Steady.
- Cork M355° 33°N 10°W: Southwest, 15 Knots, Wave 1.4 m, 014, Falling slowly.
- Cork M355° 32°N 10°W: Southwest, 15 Knots, Wave 1.9 m, 016, Falling slowly.

Sea Crossings:
- Dublin: Moderate to poor.
- Wexford: Moderate to poor.
- Waterford: Poor.
- Cork: South Wales.
- Killybegs: Poor.
- Cork: Poor.

Next update before 1200 Friday, 1 July 2022.
24-hour Sea Area Forecast

Updated at 0000 / 0600 / 1200 / 1800

Sea Area Forecast until 1200 Saturday, 2 July 2022
Issued at 1200 Friday, 1 July 2022

1. Gale warning: Nil
   Small craft warning in operation

2. Meteoroological information: Low pressure of 1003 hPa is centred over Dingle Peninsula, maintaining a moderate south to southwest airflow over the country with an associated warm front crossing the country, an associated cold front approaching the west coast.

3. Forecast for Irish coastal waters from Dungarvan to Salyne Head to Bloody Foreland
   Wind: South to southwest force 5 to 6, merrily veering southwest to west and easing force 4 or 5 and gusty. Later veering west to northwest and easing force 3 or 4 north of Salyne Head, but maintaining force 4 or 5 and occasionally gusting force 6, south of Salyne Head.
   Weather: Outbreaks of rain, heavy at times and mist. Soon scattered showers, chance of isolated thundershowers.
   Visibility: Moderate or poor in precipitation and mist. Soon, occasionally good.

4. Forecast for Irish coastal waters from Bloody Foreland to Howth Head to Dungarvan and for the Irish Sea
   Wind: Increasing south to southwest force 4 to 5 imminent. Soon increasing southwesterly force 5 or 6 and gusty, veering westly. Later decreasing west to southwest force 3 to 4, but holding force 4 or 5 west of Cork Harbour Point.
   Weather: Mostly cloudy with isolated patchy rain. Outbreaks of rain, heavy at times and mist. Later scattered showers, chance of isolated thundershowers.
   Visibility: Decreasing moderate or poor in precipitation and mist occasionally good later.

Warning of Heavy Swell: Nil

4. Outlook for a further 24 hours until 1200 Sunday 3 July 2022: Fresh to strong west to northwest winds in western and southern sea areas. Southwesterly wind force 3 to 5 in northern and eastern sea areas, veering west to northwest on Saturday night and easing force 3 or 4, in all but the northwest, where winds will remain fresh. Weather: Scattered heavy showers or thundershowers, becoming cloudy to fair with isolated showers on Saturday night.
# 24-hour Sea Area Forecast

Updated at 0000 / 0600 / 1200 / 1800

**Sea Area Forecast until 1800 Saturday, 2 July 2022**
Issued at 1800 Friday, 1 July 2022

1. Gale warning: Nil
   Small craft warning: In operation

2. Meteorological situation at 1500: Low pressure of 1003 hPa is centred approximately 200 nm northwest of Belmullet. A fresh southwest airflow will back west as its associated frontal systems cross the country.

3. Forecast for Irish coastal waters from Dunganovan to St. John's Head to Bloody Foreland
   Wind: Southwest to west force 4 or 5 and gusty. Later veering west to northwest and increasing to force 6 by 0600 tomorrow.
   Weather: Showers
   Visibility: Moderate or poor in showers, otherwise good

Forecast for Irish coastal waters from Bloody Foreland to North Head to Dunganovan and for the Irish Sea
Wind: Southwest force 4 or 5 and gusty, then decreasing force 3 or 4 and veering west to northwest for a time.
Weather: Rain clearing to showers.
Visibility: Moderate or poor in showers, otherwise good
Warning of Heavy Swell: Nil

4. Outlook for a further 24 hours until 1800 Sunday 03 July 2022: Fresh west to northwest winds will back weekly and ease for a time, strengthening again in the north later. Scattered heavy showers becoming isolated later.

---

### Coastal Reports

<table>
<thead>
<tr>
<th>Coastal Reports</th>
<th>Time of Issue</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malin Head Automatic</td>
<td>5 PM Friday, 01 July 2022</td>
<td>South-Southwest, 10 Knots, Cloudy, 10 Miles, 1018, Falling steady</td>
</tr>
<tr>
<td>Inishowen Head Automatic</td>
<td>5 PM Friday, 01 July 2022</td>
<td>North, 8 Knots, Cloudy, 10 Miles, 1016, Rising steady</td>
</tr>
<tr>
<td>Ballintoy Automatic</td>
<td>5 PM Friday, 01 July 2022</td>
<td>North, 8 Knots, Cloudy, 10 Miles, 1016, Rising steady</td>
</tr>
<tr>
<td>St. John's Head Met Office</td>
<td>5 PM Friday, 01 July 2022</td>
<td>North-Northeast, 10 Knots, Wave ht 0.5 m, 1013, Steady</td>
</tr>
<tr>
<td>Dunfanaghy Automatic</td>
<td>5 PM Friday, 01 July 2022</td>
<td>South, 10 Knots, Wave ht 0.5 m, 1012, Falling steady</td>
</tr>
<tr>
<td>Greystones Automatic</td>
<td>5 PM Friday, 01 July 2022</td>
<td>South, 10 Knots, Wave ht 0.5 m, 1012, Falling steady</td>
</tr>
<tr>
<td>Howth Automatic</td>
<td>5 PM Friday, 01 July 2022</td>
<td>South-Southwest, 10 Knots, Wave ht 0.5 m, 1012, Steady</td>
</tr>
<tr>
<td>Dunmore East Automatic</td>
<td>5 PM Friday, 01 July 2022</td>
<td>South-Southwest, 10 Knots, Wave ht 0.5 m, 1012, Steady</td>
</tr>
<tr>
<td>Ballyhalbert Automatic</td>
<td>5 PM Friday, 01 July 2022</td>
<td>South-Southwest, 10 Knots, Wave ht 0.5 m, 1012, Steady</td>
</tr>
</tbody>
</table>

---

### Text of Gale Warning

**Test of Gale Warning**

**Test of Small Craft Warning**

Northwest winds will reach force 6 at times later on coasts from Loop Head to St. John's Head to Enrights Head.

---

### Sea Crossings

<table>
<thead>
<tr>
<th>Location</th>
<th>State of sea until 1800 Sunday 03 July 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dublin - Holyhead</td>
<td>Sharp to moderate, decreasing slight Friday night</td>
</tr>
<tr>
<td>Tralee - South Wales</td>
<td>Moderate, decreasing slight later</td>
</tr>
<tr>
<td>Cork - South Wales</td>
<td>Moderate, decreasing slight later</td>
</tr>
<tr>
<td>Holyhead - France</td>
<td>Mostly moderate, increasing rough at times on Saturday night</td>
</tr>
<tr>
<td>Cork - France</td>
<td>Mostly moderate, increasing rough at times on Saturday night</td>
</tr>
</tbody>
</table>

---

**Next update before 0100 Saturday, 02 July 2022**
## 24-hour Sea Area Forecast

**Updated at 0000 / 0600 / 1200 / 1800**

**Sea Area Forecast until 0600 Sunday, 3 July 2022**
Issued at 0600 Saturday, 2 July 2022

1. **Weather:**
   - **Forecasted Conditions:**
     - **Wind:** Southwest force 4 or 5. Becoming westforce 4 or 5 soon.
     - **Visibility:** Generally good, moderate to poor in showers.

2. **Sea Area Forecast:**
   - **Wind:** Southwest force 4 or 5. Increasing westforce 5 or 6 imminent. Strong west to northwest force 5 or 6.
   - **Visibility:** Generally good, moderate to poor in showers.

### Met Éireann Weather Report and Forecast

<table>
<thead>
<tr>
<th>Coastal Reports</th>
<th>28th-29th Saturday, 3 July 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dublin Airport</td>
<td>West-Southwest, 10 Knots, Cloudy, 16 Mts, 1012, Steady.</td>
</tr>
<tr>
<td>Galway, Galway</td>
<td>West-Southwest, 10 Knots, Wave Ht 1.7 m, The visibility at Galway is under 10 Mts, 1014, Steady.</td>
</tr>
<tr>
<td>Roches Point Automatic</td>
<td>West-Southwest, 11 Knots, Cloudy, 13 Mts, 1014, Steady.</td>
</tr>
<tr>
<td>Valentia Automatic</td>
<td>West-Southwest, 8 Knots, Recent gales, 17 Mts, 1014, Steady.</td>
</tr>
<tr>
<td>Skerries, Dublin</td>
<td>West-Southwest, 14 Knots, Fair, 9 Mts, 1011, Steady.</td>
</tr>
<tr>
<td>Helm/Beacon Automatic</td>
<td>West, 9 Knots, Cloudy, 7 Mts, 1015, Steady.</td>
</tr>
<tr>
<td>Bass M35 Dn N, N17 W</td>
<td>Roayl not available.</td>
</tr>
<tr>
<td>Bass M25 Dn N, N17 W</td>
<td>West-Southwest, 13 Knots, Wave Ht 0.9 m, 1012, Rising slowly.</td>
</tr>
<tr>
<td>Bass M35 Dn N, N17 W</td>
<td>West, 10 Knots, WSW, 17 Mts, 1015, Steady.</td>
</tr>
<tr>
<td>Bass M35 Dn N, N17 W</td>
<td>West, 14 Knots, WSW, 13 Mts, 1014, Rising slowly.</td>
</tr>
<tr>
<td>Bass M35 Dn N, N17 W</td>
<td>West-Northwest, 16 Knots, WSW, 5.5 m, 1015, Rising slowly.</td>
</tr>
<tr>
<td>Bass M35 Dn N, N17 W</td>
<td>West-Northwest, 16 Knots, WSW, 5.5 m, 1015, Rising slowly.</td>
</tr>
</tbody>
</table>

### Sea Crossings

<table>
<thead>
<tr>
<th>State of sea until 0600 Monday 4 July 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dublin - Douglas</td>
</tr>
<tr>
<td>Howth - North Wales</td>
</tr>
<tr>
<td>Cork - South Wales</td>
</tr>
<tr>
<td>Rosslare - France</td>
</tr>
<tr>
<td>Cork - France</td>
</tr>
</tbody>
</table>

### Next update before 1300 Saturday, 2 July 2022
### Appendix 7.4 Met Éireann Weather Report and Forecast

#### 24-hour Sea Area Forecast

<table>
<thead>
<tr>
<th>Station</th>
<th>Wind (force)</th>
<th>Sea State</th>
<th>Visibility</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portrush</td>
<td>Force 6</td>
<td>4-5</td>
<td>Good</td>
<td>None</td>
</tr>
<tr>
<td>Whitehead</td>
<td>Force 5</td>
<td>3-4</td>
<td>Good</td>
<td>None</td>
</tr>
</tbody>
</table>

**Forecast Details:**
- Strong winds from the north-west will continue affecting the coast from Portrush to Whitehead.
- Keep a lookout for rough seas and strong waves.

**Warning:**
- Keep your distance from the coast during rough sea conditions.
Appendix 7.4 Met Éireann Weather Report and Forecast

Terminology Sea Area Map & Beaufort Scale of Wind

Beaufort Scale of Wind

<table>
<thead>
<tr>
<th>Force</th>
<th>Description</th>
<th>Speed*</th>
<th>Specification -sea</th>
<th>Wave height** (metres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Calm</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>0.1 - (0.4)</td>
</tr>
<tr>
<td>1</td>
<td>Light air</td>
<td>1-3</td>
<td>1-5</td>
<td>0.2 - (0.5)</td>
</tr>
<tr>
<td>2</td>
<td>Light breeze</td>
<td>4-6</td>
<td>6-13</td>
<td>0.6 - (1)</td>
</tr>
<tr>
<td>3</td>
<td>Gusty breeze</td>
<td>7-10</td>
<td>12-19</td>
<td>1 (1.5)</td>
</tr>
<tr>
<td>4</td>
<td>Moderate breeze</td>
<td>11-16</td>
<td>20-38</td>
<td>2 (2.5)</td>
</tr>
<tr>
<td>5</td>
<td>Fresh breeze</td>
<td>17-21</td>
<td>25-40</td>
<td>3 (4)</td>
</tr>
<tr>
<td>6</td>
<td>Strong breeze</td>
<td>22-27</td>
<td>30-49</td>
<td>4 (5.5)</td>
</tr>
<tr>
<td>7</td>
<td>Near gale</td>
<td>28-33</td>
<td>50-60</td>
<td>5.5 (7.5)</td>
</tr>
<tr>
<td>8</td>
<td>Gale</td>
<td>34-40</td>
<td>60-74</td>
<td>7 (10)</td>
</tr>
<tr>
<td>9</td>
<td>Strong gale</td>
<td>41-47</td>
<td>75-88</td>
<td>7 (10)</td>
</tr>
<tr>
<td>10</td>
<td>Storm</td>
<td>46-55</td>
<td>89-102</td>
<td>7 (10)</td>
</tr>
<tr>
<td>11</td>
<td>Violent storm</td>
<td>56-63</td>
<td>103-117</td>
<td>9 (12.5)</td>
</tr>
<tr>
<td>12</td>
<td>Hurricane</td>
<td>64-117</td>
<td>&amp; over</td>
<td>11.5 (16)</td>
</tr>
</tbody>
</table>

*Speed = mean speed at a standard height of 10 metres.
**Wave height is only intended as a guide to what may be expected in the open sea.

**Bolded figures indicate the probable maximum wave height.
Appendix 7.4 Met Éireann Weather Report and Forecast

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.)

<table>
<thead>
<tr>
<th>Sea State (Descriptive)</th>
<th>Significant Wave height in meters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calm</td>
<td>0 – 0.1</td>
</tr>
<tr>
<td>Smooth (Wavelets)</td>
<td>0.1 – 0.5</td>
</tr>
<tr>
<td>Slight</td>
<td>0.5 – 1.25</td>
</tr>
<tr>
<td>Moderate</td>
<td>1.25 – 2.5</td>
</tr>
<tr>
<td>Rough</td>
<td>2.5 – 4</td>
</tr>
<tr>
<td>Very rough</td>
<td>4 – 6</td>
</tr>
<tr>
<td>High</td>
<td>6 – 9</td>
</tr>
<tr>
<td>Very high</td>
<td>9 – 14</td>
</tr>
<tr>
<td>Phenomenal</td>
<td>Over 14</td>
</tr>
</tbody>
</table>

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:**

<table>
<thead>
<tr>
<th>Visibility (Descriptive)</th>
<th>Visibility in nautical miles (kilometres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>More than 5 nm (&gt; 9 km)</td>
</tr>
<tr>
<td>Moderate</td>
<td>2 – 5 nm (4 – 9 km)</td>
</tr>
<tr>
<td>Poor</td>
<td>0.5 – 2 nm (1 – 4 km)</td>
</tr>
<tr>
<td>Fog</td>
<td>Less than 0.5 nm (&lt; 1 km)</td>
</tr>
</tbody>
</table>

**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.
Appendix 7.5 Irish Coast Guard SITREP

ROUTINE
02 1420Z JUL 22
FROM MRSC VALENTIA
TO MRSC VALENTIA SITREP GROUP

BT
IRISH REGISTERED EPIRB F/V ANNA LOUISE
UIIN1223/22
SAR SITREP ONE AND FINAL

A - IDENTITY OF CASUALTY:
F/V ANNA LOUISE

B - POSITION
51°42.99'N 009°30.60'W

C - SITUATION
EPIRB ALERT F/V ANNA LOUISE

D - NUMBER OF PERSONS
1

E - ASSISTANCE REQUIRED
LOCATE AND ASSIST

F - COORDINATING RCC
MRSC VALENTIA

G - DESCRIPTION OF CASUALTY
FISHING VESSEL <12M VESSEL

MALE, MATURE PERSON (25-65), WEARING LIFE [*]

H - WEATHER ON SCENE
WIND: 4, W / SITREP WEATHER-TIME: 02 1307Z JUL 22

J - INITIAL ACTIONS TAKEN
TASKED BANTRY CRBI FM EXE / R115 / CTB CGU/RNL / MAYDAY RELAY BCST / [*]

K - SEARCH AREA
ENTRANCE TO GLENGARRIF HARBOUR / GOOSE ROCK TO CARRIGSKYE ROCK

L - COORDINATING INSTRUCTIONS
LOCATE AND ASSIST

M - FUTURE PLANS
INCIDENT CLOSED

N –
Appendix 7.5 Irish Coast Guard SITREP

1310 MRCC ADVSD EPIRB ALERT FOR F/V ANNA LOUISE C/S EIXP3 / BANTRY BAY / TASKED BANTRY CRBI FM EXE / R115 / CTB CGU/RNLI / MAYDAY RELAY BCST/ UNABLE TO CONTACT OWNER
1317 OWNER CONFIRMS / VSL IS AT SEA FISHING / KNOWN FISHING LOCATIONS PASSED
1329 VESSEL HARBOUR PRINCESS IN AREA SEARCHING
1340 BANTRY CRBI ONSCENE /
1339 CTB L/B LAUNCHED ON SVC ETA 35 MINS
1340 R115 DEP EINN BND BANTRY ETA 30 MINS
1344 CTB CGU PROCEEDING
1350 HARBOUR PRINCESS ADVSD CAS IS SAFE AND WELL / SWAM ASHORE / BOAT SUNK AT CARRIGSKY ROCK / NO MEDICAL ATTN REQUIRED /STOOD DOWN CTB CGU / MAYDAY RELAY CANCELLED/
1411 R115 ONSCENE / PICKING UP EPIRB HOMING SIGNAL
1423 CTB RNLI ONSCENE
1432 CTB RNLI A/SIDE EPIRB RECOVERING
1425 R115 DIRECTS BANTRY CRBI TO RECOVER LIFE RING /
1443 CTB RNLI ADVSD ALL OBJECTS RECOVERED / STOOD DOWN ALL SAR UNITS//
# Appendix 7.6 Stability Notice

<table>
<thead>
<tr>
<th>Name</th>
<th>Anna Louise</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>$715</td>
</tr>
<tr>
<td>Owner</td>
<td>xxxx</td>
</tr>
<tr>
<td>Length</td>
<td>5.35 metres</td>
</tr>
<tr>
<td>Beam</td>
<td>1.73 metres</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Loading &amp; Lifting Guidance</th>
<th>Safety Zone</th>
<th>Minimum Freeboard</th>
<th>Maximum Recommended Seastate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evon with a freeboard of at least 32 cm, swamping may be a hazard</td>
<td>Low level of safety</td>
<td>At least 32 cm</td>
<td></td>
</tr>
<tr>
<td>Excessive loading or lifting reduces minimum freeboard to less than 32 cm</td>
<td>Danger of capsize</td>
<td>Less than 32 cm</td>
<td>0.4 metres</td>
</tr>
</tbody>
</table>
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, those amendments are made. When the Board is satisfied that the report has adequately addressed the issue in the observation, then no amendment is made to the report. The Board may also make comments on observations in the report.

Response(s) received following circulation of the draft report (excluding those where the Board has agreed to a request not to publish) are included in the following section.

The Board has noted the contents of all observations, and amendments have been made to the report where required.
8. **MSA 2000 - SECTION 36 OBSERVATIONS RECEIVED**

No correspondence was received on the draft of this report.