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**REPORT OF THE INVESTIGATION
INTO
AN INCIDENT INVOLVING
A RIB ON LOUGH REE,
ATHLONE,
CO. WESTMEATH
ON
14th JULY 2012**

**REPORT NO. MCIB/219
(No.5 OF 2014)**



Report MCIB/219 published by The Marine Casualty Investigation Board.
Printed 11th November 2014.



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1. SUMMARY

- 1.1 At approximately 22.20 hrs on the 14th July 2012, a rigid inflatable boat (RIB) departed from Athlone Town Marina on route to Shankaragh, with a helmsman and 3 passengers on-board.
- 1.2 The helmsman was an experienced motorboat enthusiast who holds a level 2-powerboat certificate as well as sailing instructor qualifications.
- 1.3 Shortly after departure the RIB hit the centre support pillars of the Athlone Railway Bridge.
- 1.4 The helmsman and passenger No. 1 were thrown from the RIB into the water, whilst passenger No. 2 hit the bridge support pillars, suffering head injuries.
- 1.5 All parties were rescued and after a stay in hospital they were released.
- 1.6 The RIB, which did not belong to the helmsman or the any of the passengers, was damaged beyond repair.

2. FACTUAL INFORMATION

2.1 RIB details:

Type:	Caribe C13 plus.
Length:	4 metres (m).
Hull Material:	GRP and Rubber.
Motor:	50 Hp Outboard Engine Yamaha Auto Lube.
Fuel Type:	Petrol.
Tank Type:	Internal housed under the Steering console.
Year of Build:	Unknown (no serial number or RCD plate found).

2.2 Other Equipment on-board included:

- GPS.
- VHF.
- Compass.
- Navigation Lights.

2.3 Safety Equipment:

- Personal Flotation Devices (PFDs) x 2.

3. NARRATIVE

- 3.1 On the evening of the incident the weather was overcast and cloudy but generally dry. The wind was from the north to northwest force 2 to 3. Visibility was good to moderate and the river state was good. (See Appendix 7.1 Weather for the Period).
- 3.2 The helmsman and the three passengers had spent the early part of the evening with friends on a riverboat.
- 3.3 The group was planning to go to a party later that night by RIB, however several friends turned up unexpectedly and as a result their party was too large for one RIB.
- 3.4 Some members of the group decided to travel upstream by RIB to Shankaragh to collect a second RIB.
- 3.5 At approximately 22.20 hrs the helmsman and the three passengers departed the Town Marina in Athlone. (See Appendix 7.2 Aerial Photograph of the Incident Site).
- 3.6 A very short time after their departure, the RIB struck one of the centre support pillars of the Athlone Railway Bridge. (See Appendix 7.3 Photograph of Athlone Railway Bridge).
- 3.7 The helmsman and passenger No. 1 were thrown into the water.
- 3.8 Passenger No. 2 struck their head on the bridge support pillars and was rendered unconscious.
- 3.9 Passenger No. 3 remained conscious and in the boat and was able to cut the engine, assist the unconscious passenger No. 2 and help the helmsman back into the boat.
- 3.10 At 22.23 hrs a local man was walking on the east bank of the Shannon just up river of the Railway Bridge. He heard the RIB impact with the bridge and ran to see what had happened. Upon arriving at the scene he saw the RIB was in distress, he noted that there were 3 persons in the boat and 1 person in the water. He called the emergency services on 999.
- 3.11 At 22.24 hrs a resident of a riverboat that was moored on the west bank of the river arrived to the scene in his own RIB.
- 3.12 At 22.25 hrs the riverboat resident took passenger No. 1 from the water and then proceeded downstream to catch up with the damaged RIB, as it was afloat and adrift.
- 3.13 At 22.26 hrs the riverboat resident came alongside the damaged RIB and took passengers Nos. 2 & 3 from the RIB leaving the helmsman aboard.

- 3.14 The riverboat resident then travelled upstream to Marine View on the east bank; landing at approximately 22.28 hrs, where he was met by an ambulance.
- 3.15 The helmsman remained with the RIB, which was drifting towards the Town Marina.
- 3.16 Upon arriving back to the Town Marina the helmsman was assisted by the group members that remained aboard the riverboat.
- 3.17 At 22.30 hrs members of An Gardaí Síochána arrived at the Town Marina and brought the helmsman to the ambulance at Marine View.
- 3.18 At 22.37 hrs a lifeboat was launched and proceeded to the scene.
- 3.19 At 22.43 hrs after confirming that only 4 persons were aboard the RIB and all were accounted for the lifeboat stood down.
- 3.20 Shortly afterwards the ambulance proceeded to Ballinasloe Hospital. Passenger No. 3, who had lost consciousness, was later transferred to Beaumont Hospital in Dublin.

4. ANALYSIS

- 4.1 The RIB's sponson is a three-chamber arrangement and upon inspection the forward and port side chambers were deflated. Further investigation found the forward chamber was torn in at least 2 places. These were both on the underside of the tube at the bow. These tears were approximately 80 mm in length, which would have instantly deflated the forward chamber. (See Appendix 7.4 Photograph No. 1).
- 4.2 The forward mooring post is a GRP moulding that is glued to the sponson. It was damaged with a transverse crack on the forward bottom edge where it meets the sponson and on the top surface travelling in a 45-degree angle aft on the starboard side.
- 4.3 The hull failed in two positions. The first was on the bow stem just below the hull flange, where the sponson meets the GRP hull. The second was about 300 mm aft of the stem, where the chain locker starts. The forward damage was a result of the collision energy being transferred into the GRP hull in this area, causing total failure of the laminate. The painter ring (stainless steel U bolt on the bow of the boat) had been driven back and the glass surrounding had been crushed. About 100 mm aft of the bow tip, the hull laminate was split on both the port and starboard sides, running from stem to the top of the GRP hull. (See Appendix 7.4 Photograph No. 2).
- 4.4 The second damaged area was about 300 mm aft, in this area the hull was split transversely from the keel to the sponson flange. This was caused by the collision energy travelling along the hull laminate until it met the transverse bulkhead that forms the forward part of the chain locker. At this point the bulkhead acted as a stress raiser, spreading the collision energy out board along the bulkhead causing the hull laminate to split on the port side and fold on the starboard side. (See Appendix 7.4 Photographs No. 3 and No. 4).
- 4.5 The centre console was fixed to a GRP deck plate that doubles up as a cover for the inboard fuel tank. This cover board was fixed to the rest of the deck by means of stainless steel screws. The aft side of the cover board had lifted and the stainless steel screws were pulled from the deck beams. This damage was most likely due to the force exerted on the console by the momentum of the helmsman. (See Appendix 7.4 Photograph No. 5).
- 4.6 With the exception of a broken windshield there was no other damage noted to the console. As there were no fragments of the windshield found in the RIB it was not possible to determine if this was damaged during the impact described in this report.

- 4.7 It was not possible to ascertain from the examination of the damaged RIB as to which direction the craft was travelling in prior to the collision. This is normal when investigating RIB collisions, as the sponson tends to spread the focal point of the impact.
- 4.8 The extent of damage was consistent with the RIB travelling quickly at speeds of and above 15 knots.
- 4.9 The speed limits on the Shannon are set down by the Shannon Navigation Bye Laws, S.I. 80 of 1992, 13.1 (b) as being not in excess of 5 kilometres per hour when within 200 m of a bridge, quay, jetty or wharf, when in a harbour or canal or when passing within 100 m of a moored vessel or boat.

5. CONCLUSIONS

- 5.1 The collision occurred less than 300 m from the RIB's departure point. Therefore it is likely that the craft was accelerating until very shortly before the collision. This may explain the sponson damage being on the underside of the tube as RIBs tend to sit quite bow up as they accelerate onto the plane.
- 5.2 The extent of damage was consistent with the RIB travelling quickly at speeds of above 15 knots.
- 5.3 The collision occurred at or around sunset. Given the weather that evening, it is likely that the light conditions would not have been good.
- 5.4 Only two of the occupants in the RIB were wearing Personal Flotation Devices (PFDs).
- 5.5 The RIB was in good order prior to the incident and was not a contributory factor to this incident.

6. SAFETY RECOMMENDATIONS

- 6.1 Owners and operators of recreation craft should be aware of and have studied the Department of Transport, Tourism and Sport's Code of Practice for the *Safe Operation of Recreational Craft* and any Bye Laws that pertain to the navigation of a body of water.
- 6.2 All persons operating or using small pleasure craft must wear Personal Flotation Devices (PFDs) in accordance with S.I. (2005) 921, as amended.
- 6.3 Local Authorities are recommended to prominently display signage along applicable waterways with a message regarding the relevant Bye Laws, safety of navigation, the dangers of navigating in low light conditions and the need for operators to adjust their speed accordingly.

7. APPENDICES

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Appendix 7.1 Weather for the Period.



Appendix 7.1 Weather for the Period.



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The Irish Meteorological Service

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8/8/2012

Our Ref. WS3018/2_14698
Your Ref. MCIB/219

**Estimate of weather conditions in the Lough Ree, Athlone, Co.
Westmeath, on the 14th July 2012, between 18 and 24 hours**

General Situation
A weak ridge of High Pressure over and to the west of Ireland, gave a slack north-westerly airflow.

Details
18-24 hours

Winds: Light, Force 2 to 3, mainly from a north-west to west direction

Weather: rather cloudy, especially later in the period and generally dry.

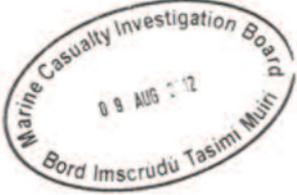
Visibility; good (no evidence of fog etc)

Temperatures: a sharp fall in air temperatures during the period, from 15°C to 8°C

[Redacted]

[Redacted]

Research & Applications Division
Met Éireann



Appendix 7.1 Weather for the Period.



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Beaufort Scale of Wind					
Force	Description	Speed* knots km/hr	Specification -sea	Wave height** (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	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 (-)

*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.
Bracketed figures indicate the probable maximum wave height.

Wave Heights / State of Sea

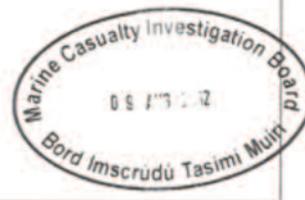
The wave height is the vertical distance between the crest and the preceding or following trough. The table below gives a description of the wave system associated with a range of significant wave heights. The Significant wave height is defined as the average height of the highest one-third of the waves.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

Sea State (Descriptive)	Significant Wave height 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 of visibility mean the following:

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 (< 1 km)



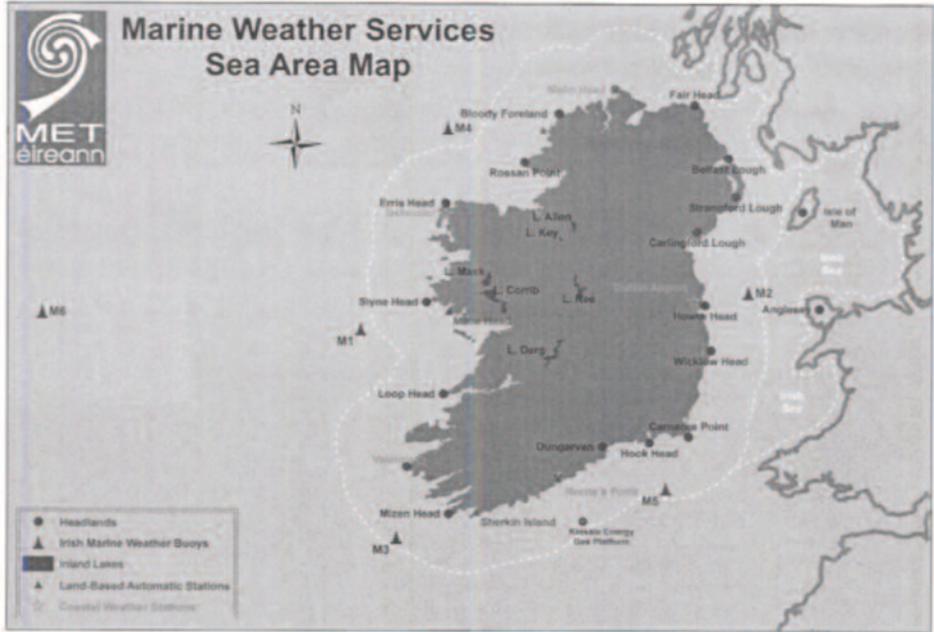
Appendix 7.1 Weather for the Period.



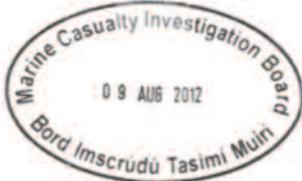
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**Marine Weather Services
Sea Area Map**

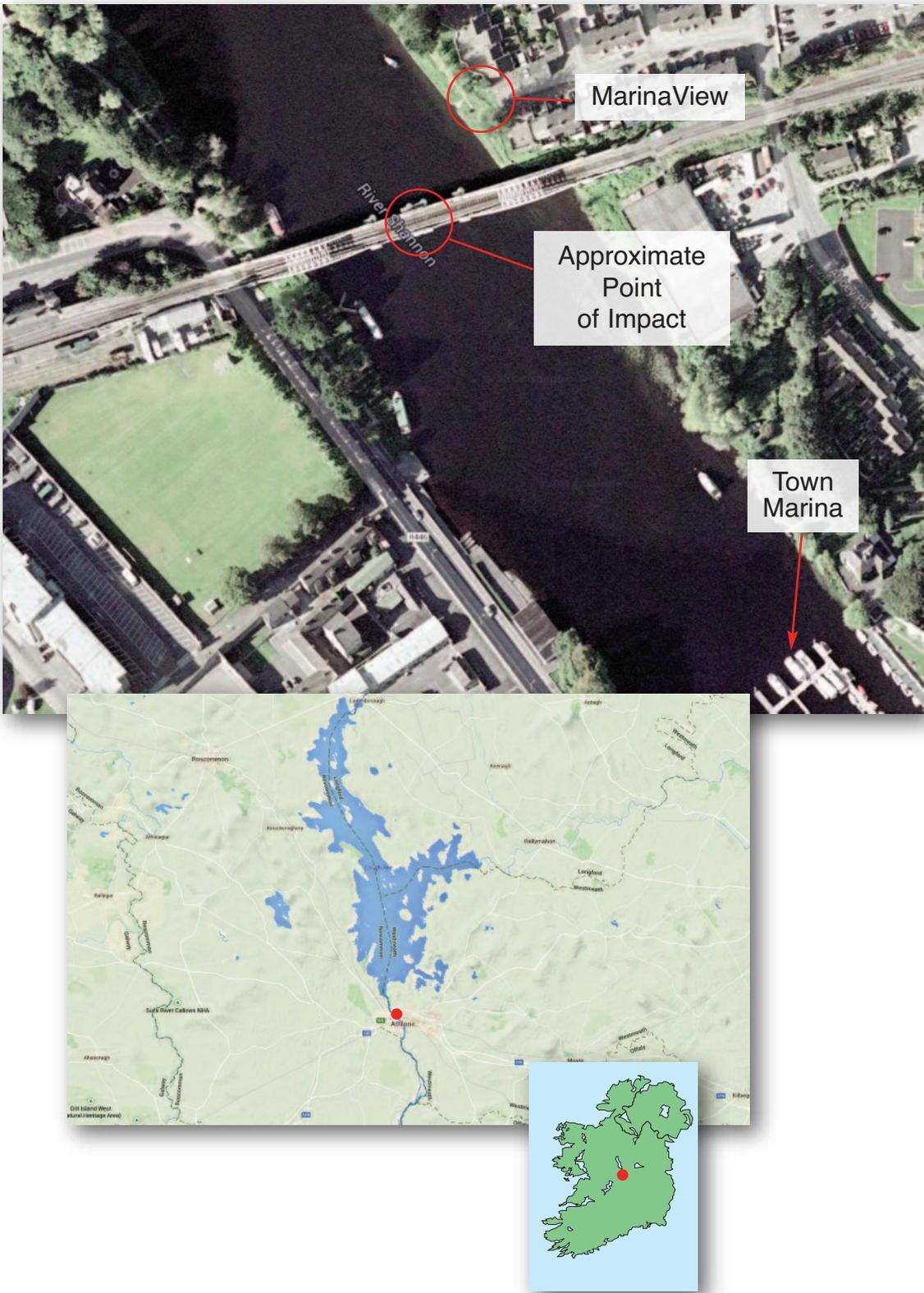


http://www.met.ie/marine/marine_map.asp



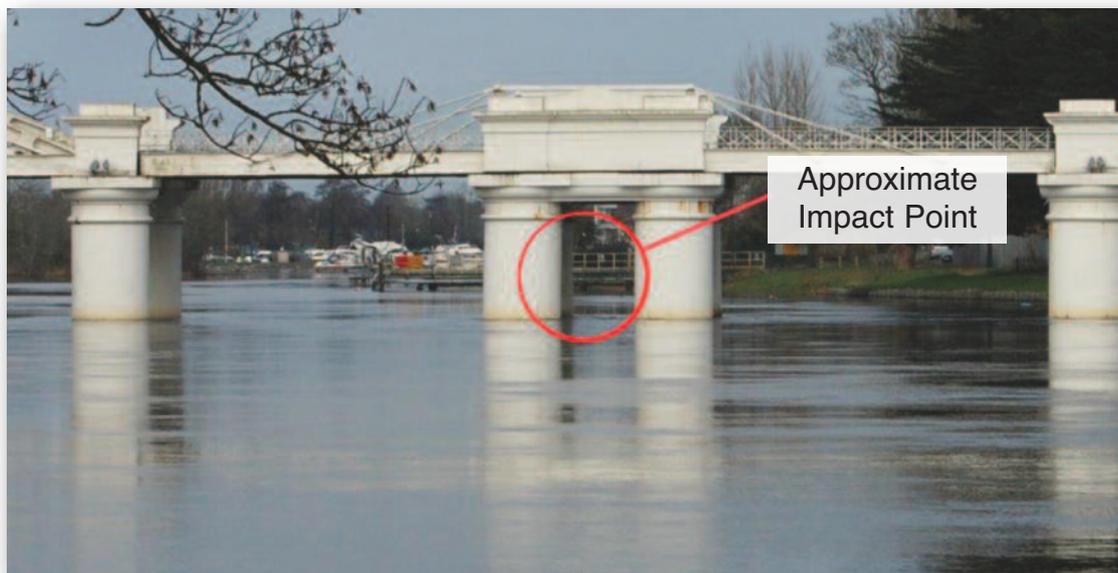
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09 AUG 2012
Bord Imscrúdú Tasimí Muir

Appendix 7.2 Aerial Photograph of the accident site.



APPENDIX 7.3

Appendix 7.3 Photograph of the Athlone Railway Bridge.



Appendix 7.4 Damage to RIB at time of inspection in Athlone Garda station.



Photograph No. 1: Shows two of the tears that caused the forward chamber to deflate



Photograph No. 2: Shows the smashed glass on the stem N.B. the rope is attached to the painter ring

Appendix 7.4 Damage to RIB at time of inspection in Athlone Garda station.



Photograph No. 3: Split in the hull laminate on the port side



Photograph No. 4: Fold in the hull laminate on the starboard side

Appendix 7.4 Damage to RIB at time of inspection in Athlone Garda station.



Photograph No. 5: Console and the deck lifted to reveal the inboard fuel tank beneath

8. CORRESPONDENCE RECEIVED

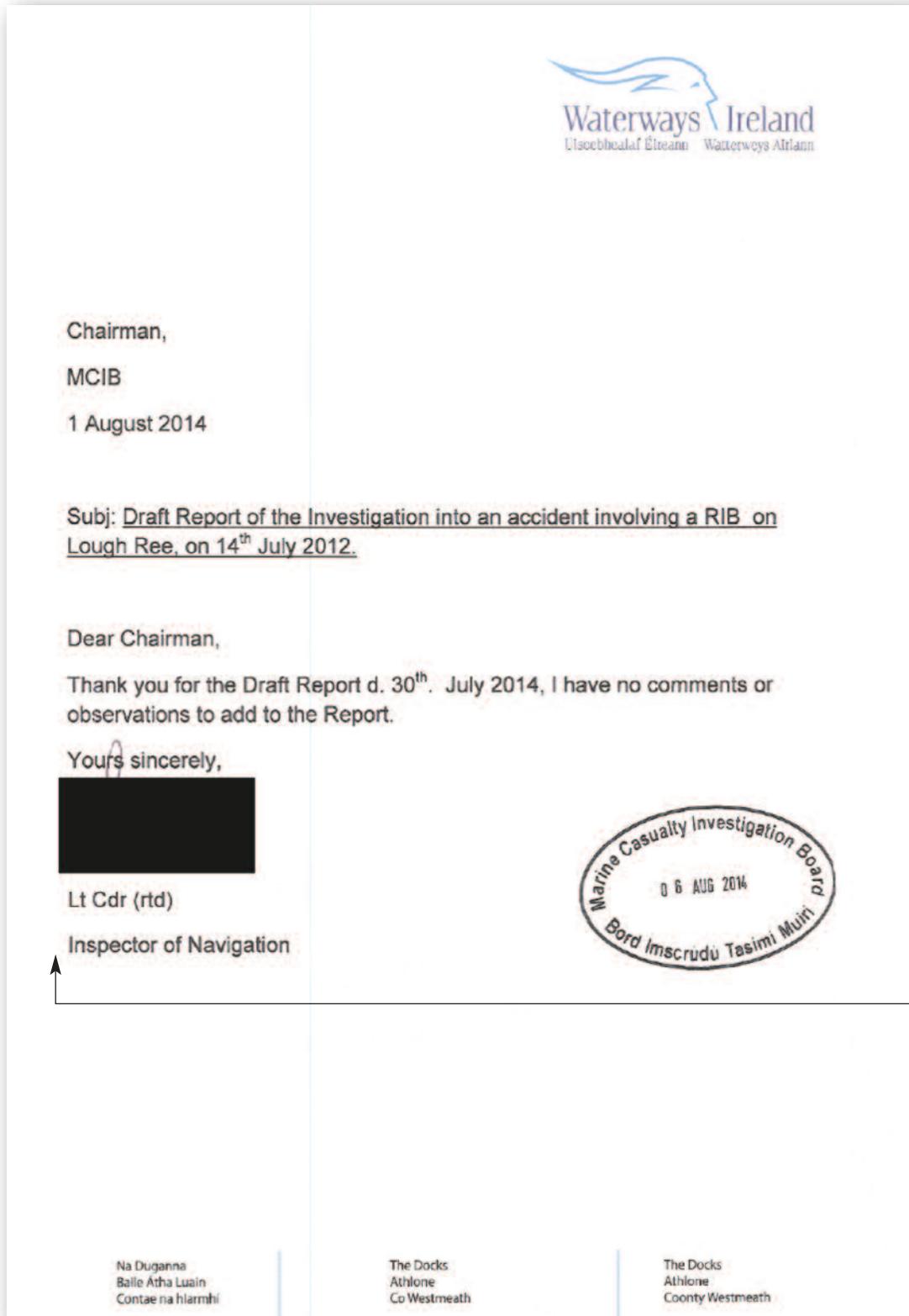
PAGE

8.1 Correspondence received from Waterways Ireland

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Note: The name and contact details of the individual respondent have been obscured for privacy reasons.

Correspondence 8.1 Waterways Ireland and MCIB response.



MCIB RESPONSE:
The MCIB notes the contents of this correspondence.

