

MCIB

Marine Casualty Investigation Board
Bord Imscrúdú Taisní Muirí



**REPORT OF AN INVESTIGATION
INTO AN INCIDENT INVOLVING
KAYAKERS ON MULROY BAY,
CO. DONEGAL
19 MARCH 2022**

**REPORT NO. MCIB/318
(No.4 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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Glossary of Abbreviations and Acronyms

AGS	An Garda Síochána
C	Celsius
CI	Canoeing Ireland
CGU	Coast Guard Unit
CoP	Code of Practice: The Safe Operation of Recreational Craft*
ETB	Education and Training Board
EU	European Union
FEC	Further Education College
HW	High Water
IRCG	Irish Coast Guard
IMO	International Maritime Organisation
ISO	International Organisation for Standardisation
OETC	Outdoor Education and Training Centre
MCIB	Marine Casualty Investigation Board
MN	Marine Notice
MRSC	Marine Rescue Sub-Centre
NAS	National Ambulance Service
NEOC	National Emergency Operations Centre
PAN-PAN	International Urgency Signal
PFD	Personal Flotation Device
PLB	Personal Locator Beacon
R118	Coast Guard Helicopter
RIB	Rigid Inflatable Boat
RNLI	Royal National Lifeboat Institution
S.I.	Statutory Instrument
SITREP	Situation Report
Spraydeck	A waterproof skirt worn by a kayaker, which attaches around the cockpit on the kayak's deck to keep water from entering into the kayak.
UK	United Kingdom
UTC	Co-ordinated Universal Time
VHF	Very High Frequency
Z	Zulu time (Co-ordinated Universal Time)
Feet	ft
Kilogram	kg
Kilometre	km
Knot	kt
Litres	lts
Metre	m
Nautical mile	NM

*Updates to the Code of Practice: The Safe Operation of Recreational Craft (2017), (Marine Notice No.51 refers), were published in November 2019. The updates can be downloaded in electronic format at: <https://www.gov.ie/en/publication/66ff7e-safe-operation-of-recreational-craft/>

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1. SUMMARY

- 1.1 On Saturday 19 March 2022 a group of six kayakers set out on a morning's kayaking trip on Mulroy Bay, Co. Donegal. This is a tidal sea lough that extends 19 kilometres (km)/10 nautical miles (NM) inland from the north Atlantic coast. This was a commercial, guided trip consisting of the Trip Organiser and five clients. The clients were adults who typically had little or no kayaking experience. Only one client wore a wetsuit as thermal protection against the effects of cold water immersion, while the others wore clothing such as jeans and winter coats.
- 1.2 The group got into difficulty when the wind speed increased and the sea state deteriorated. The double kayak capsized but its two clients were able to right the kayak and make their way to one side of the lough. Another two clients, in single kayaks, separately made their own way to the other side of the lough, after one of them capsized and swam for about 20 minutes to reach the shore. The remaining client and the Trip Organiser both capsized and lost contact with their kayaks. They drifted in the water for approximately one hour, isolated about mid-way across the lough, until they were rescued by the Coast Guard. They required hospital treatment before being released later that day. This rescue only became possible because of the diligent actions of a member of the public, who saw people in the water and notified the emergency services.
- 1.3 The Marine Casualty Investigation Board's (MCIB) investigation identified how this marine casualty event occurred due to a combination of the following causal and contributory factors:
 - a. Unsuitable weather conditions.
 - b. Inadequate training and qualifications.
 - c. Inadequate trip planning.
 - d. Inadequate contingency planning.
 - e. Inadequate safety equipment.
 - f. Inadequate protective clothing.
 - g. Inadequate safety environment.
- 1.4 The MCIB's investigation identified systemic factors of an organisational and regulatory nature that are likely to affect similar activities in the future, particularly relating to the commercial paddlesports sector. Voluntary standards set by national governing bodies exist to mitigate the risks associated with going afloat, but these standards must be adhered to by those with the responsibility for taking persons afloat, if similar marine casualty events are to be prevented.
- 1.5 The MCIB has made safety recommendations addressed to the Trip Organiser, Canoeing Ireland (CI) and Sport Ireland, Water Safety Ireland, the Minister for Transport, and all providers of paddlesports activities.

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

2. FACTUAL INFORMATION

2.1 Trip Particulars

2.1.1 The trip was a commercial, guided kayaking tour on Mulroy Bay sea lough in north Co. Donegal. The group consisted of six persons, comprising the Trip Organiser and five clients who were novice or first-time kayakers. The trip was intended to be approximately 3 km/1.5 NM in overall length. The trip included a crossing of the sea lough, which is approximately 1 km/0.5 NM in width. The trip's point of departure (and its intended return point) was the public pier on east shore along the R246 Millford - Kerrykeel road. See Figures 1 and 2.



Figure 1: Aerial overview of north Co. Donegal, annotated to highlight the area in which this marine casualty event occurred. Image Source: Google Earth.

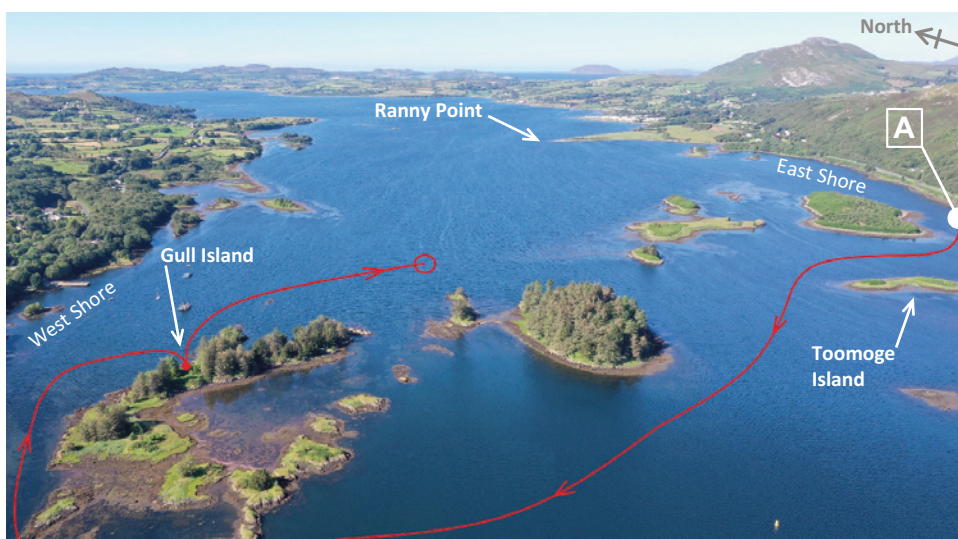


Figure 2: Aerial overview of the southern end of Mulroy Bay, annotated to highlight the route taken, the main landmarks, and (A) the start point/intended finish point. Image Source: Geraldine Hennigan.

2.1.2 The trip particulars and their relevance to this marine casualty event are analysed in section 4.1 of this report.

2.2 Vessel Information

2.2.1 The vessels involved in this incident were kayaks. A kayak is a small, narrow vessel that the occupant propels by means of a paddle. The European Union's (EU) Directive on Recreational Craft and Personal Watercraft is Directive 2013/53/EU (as amended). Kayaks are recreational craft, but the design and construction requirements set out in the Directive's Part A of Annex 1 do not apply as kayaks are designed to be propelled solely by human power.

2.2.2 This kayaking group used three different types of kayaks, which this report refers to as Type 1, Type 2 and Type 3 kayaks. See Figures 3 and 4. The Trip Organiser had purchased these kayaks new in 2019.



Figure 3: The three types of kayaks in use on this trip, highlighting (1) the double kayak, (2) the 12-foot single kayak, (3) the 14-foot single kayak.

Source: www.venturekayaks.com and www.horizonkayaks.com



Figure 4: The three types of kayaks in use on this trip, highlighting (1) the double kayak, (2) the 12-foot single kayak, (3) the 14-foot single kayak.
Source: www.venturekayaks.com and www.horizonkayaks.com

Type 1: Blue Fin Double

Builder: Horizon Kayaks/Vanhunks Kayaks.

Length Overall: 3.7 metres (m)/12 feet (ft) 2 inches.

Breadth: 0.90 m.

Weight: 32 Kilogram (kg).

Construction: Roto-Moulded/Polyethylene.

This vessel is a two-person/double 'sit-on-top' kayak intended for use by beginner kayakers.

Type 2: Islay 12

Builder: Venture Kayaks.

Length Overall: 3.65 m/12 ft.

Breadth: 0.66 m.

Weight: 25.5 kg.

Construction: Roto-Moulded/Polyethylene.

This vessel is a touring kayak intended for use by beginner and intermediate kayakers. It has an enclosed cockpit and compartments with water-tight bulkheads towards the bow and stern.

Type 3:	Islay 14
Builder:	Venture Kayaks.
Length Overall:	4.27 m/14 ft.
Breadth:	0.60 m.
Weight:	26 kg.
Construction:	Roto-Moulded/Polyethylene.

This vessel is a touring kayak intended for use by beginner and intermediate kayakers. It has an enclosed cockpit and compartments with water-tight bulkheads towards the bow and stern.

- 2.2.3 All of the kayaks had toggle handles on their bow and stern, which are a means of assistance for a capsized person in the water to hold onto the kayak. The Type 1 'sit-on-top' kayak was also fitted with a rigid loop handle on either side as another means of holding onto the kayak if capsized. The Type 2 and Type 3 kayaks were fitted with a rope that extended along the sides of the deck as another means of holding onto the kayak if capsized.

2.3 Marine Incident Information

Type of Incident:	Marine Casualty.
Incident Date:	19 March 2022.
Time of Incident:	12.00 hrs.
Position:	Latitude 55° 07.47' N, Longitude 007° 40.86' W.
Location:	Broad Waters, Mulroy Bay, Co. Donegal. 3.5 km/1.9 NM north of Milford, Co. Donegal.
Vessel Operation:	A commercial kayaking trip.
Human Factors:	Operations Management. Safety Management.
Consequences:	Two persons hospitalised, discharged same day. Capsized vessels recovered.

- 2.3.1 This incident resulted in a marine casualty as defined in Section 2 of the Merchant Shipping (Investigation of Marine Casualties) Act, 2000, and the International Maritime Organisation's (IMO) Code of the International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or Marine Incident.

2.3.2 The Act defines a marine casualty and a vessel in the following terms:

“marine casualty” means an event or process which causes or poses the threat of—

- (a) death or serious injury to a person;*
- (b) the loss of a person overboard;*
- (c) significant loss or stranding of, or damage to, or collision with, a vessel or property; or*
- (d) significant damage to the environment,*

in connection with the operation of—

- (i) a vessel in Irish waters.*
- (ii) an Irish registered vessel, in waters anywhere; or*
- (iii) a vessel normally located or moored in Irish waters and*

under the control of a resident of the State, in international waters contiguous to Irish waters, and includes an accident or damage referred to in section 26(1)(b).

“vessel”, in relation to a marine casualty, means a vessel or craft (or part of a vessel or craft) which at the time of the casualty—

- (a) is registered in the State, or*
- (b) is located in the State (including in Irish waters), or*
- (c) being a vessel normally located or moored in Irish waters, is under the control of a resident of the State in international waters contiguous to Irish waters,*

and capable of being used, or intended to be used, for navigation or transportation on water, but does not include a seaplane.”

2.4 Emergency Services Response

2.4.1 The Marine Rescue Sub-Centre (MRSC) at Malin Head co-ordinated a multi-agency emergency response, involving land, sea and air resources from the Irish Coast Guard (IRCG), the National Ambulance Service (NAS) and An Garda Síochána (AGS). The speed of response was prompt. Two casualties were located in the water, removed to shore and hospitalised. The other trip participants, who had made their own way to shore, were assisted by the emergency services. The IRCG Situation Report (SITREP) provides the following summary of the emergency services’ response:

- 12.07 hrs A member of the public makes a 999 call about multiple kayakers in difficulty. The call was received at MRSC Malin.
- 12.09 hrs MRSC Malin alerts Mulroy Coast Guard Unit (CGU).
- 12.14 hrs Mulroy CGU proceeds to the scene.
- 12.15 hrs MRSC Malin tasks R118 (Coast Guard helicopter) to respond.
- 12.30 hrs R118 proceeds to the scene.
- 12.33 hrs MRSC Malin broadcasts a PAN-PAN urgency message on Very High Frequency (VHF) Channel 16.
- 12.36 hrs Mulroy CGU's rescue boat launches from Cranford pier and proceeds to search.
- 12.56 hrs R118 arrives in the incident area.
- 12.57 hrs Two casualties are sighted in the water.
- 13.03 hrs Mulroy CGU reports all casualties are out of the water with AGS and IRCG, awaiting NAS.
- 13.25 hrs MRSC Malin releases R118 to return to base.
- 13.41 hrs All casualties are now in the care of the NAS.
- 14.06 hrs R118 confirms they have returned to base.
- 15.08 hrs Mulroy CGU returns to base. Emergency response completed.

2.5 The Clients

2.5.1 The five clients were adults who typically had little or no kayaking experience.

- Client 1, a male, had kayaked before, but only in calm conditions. He described himself as a good swimmer but not in cold water conditions. He was allocated the double kayak to share with Client 2. He had previous training in emergency incidents as part of his career, which had involved training in water survival. This had been many years before, but he described how the training 'kicked in' as soon as they entered the water and it helped him manage the situation he faced.
- Client 2, a female, had kayaked once before. She could not swim. She was allocated the double kayak to share with Client 1.
- Client 3, a male, had never kayaked before. He could swim. He was allocated a single seat kayak.

- Client 4, a female, had kayaked a number of times and could swim. She had previously been on an organised kayaking trip on the sea in a ‘sit-on-top’ kayak with a group led by an instructor. She had also kayaked on the sea in an enclosed/sit-in kayak about five or ten times with a friend. She had other past experience of kayaking on lakes in the summer when she was younger. She was allocated a single seat kayak.
- Client 5, a male, had kayaked two or three times on a lake and could swim. He was allocated a single seat kayak.

2.6 The Trip Organiser

2.6.1 The Trip Organiser described how he grew up in the area, and that he was familiar with the sea and this section of water, having kayaked in this area many hundreds of times over the years. He could swim and had swum in the bay many times before.

2.6.2 The Trip Organiser’s training was primarily in seamanship skills for the crew of a ship, which he undertook about seven years ago, followed then by about one year working offshore as a crewmember on a commercial fishing boat. He had attended a three day first aid course about nine months before this incident.

2.6.3 The Trip Organiser had the Level 2 Kayak Skills Award from CI, which he had received about nine months before this incident. This is a basic skills award that demonstrates how the holder has the ability to:

- *“Kayak safely and competently on flat water, Grade 1 rivers and very sheltered coastal areas as a member of a group of peers.*
- *Be able to carry out basic safety techniques with the assistance of another member of the group or the person in the water.*
- *Be able to safely plan and carry out a trip in a flat-water environment considering all relevant factors.”*

See Appendix 7.1 - Level 2 Kayak Skills Award, Canoeing Ireland.

2.6.4 The Trip Organiser’s website describes how:

“We are an experienced team and we are all certified kayaking instructors that will take you on an amazing kayaking trip in any of the locations we operate in”.

However, the MCIB’s investigation identified how the Trip Organiser is not the holder of a kayaking instructor qualification from either CI or any other national governing body.

2.6.5 The Trip Organiser had no formal training in the planning or navigation of kayaking trips, such as the Essential Coastal Navigation award from CI. This training course has the stated aim to:

“...enable participants to plan and develop navigational tools to undertake coastal journeys in moderate sea conditions. Following the training participants will be able:

- To know the different resources available to them to plan coastal journeys. (i.e. Pilots, almanacs, sailing directions, charts and other digital available data).*
- To know how to interpret and apply data from the various resources to aid them in trip planning.*
- To be able to plan a coastal journey and have taken into account, weather, tide and other anticipated hazard.*
- To source, apply and interpret a marine forecast.”*

See Appendix 7.2 - Essential Coastal Navigation Award, Canoeing Ireland.

2.6.6 The Trip Organiser described how he had undertaken his own kayak rescue training on the lough. He had no formal training in the methods of rescuing kayaks or capsized kayakers, or the management of kayaking incidents.

2.6.7 The Trip Organiser described how he had sought to gain kayaking training and qualifications:

- He had been in contact with one of CI’s tutors, who had given him advice on proceeding with CI’s training and qualifications schemes.
- He had started this process, by travelling to Dublin to attend an introduction-to-kayaking course, which resulted in the Level 2 Kayak Skills Award. This was about nine months before this incident.
- He had wanted to progress up through the CI programme for skills awards and qualifications, but stated that he had been unable to find a course provider in his area. He had found a course provider about two hours’ drive away and he had been booked on two courses but these had been cancelled at short notice.

2.6.8 The subject of the Trip Organiser’s experience and qualifications, and their relevance to this marine casualty event, are analysed in sections 4.8-4.10 of this report.

2.7 Trip Planning

2.7.1 The Trip Organiser described how:

- a. This Saturday morning trip had come about because he had received a phone call three days earlier (on Wednesday 16 March) from one of the participants, requesting that they go on a kayaking trip the next day. He had said no, as he was aware that the weather was not suitable. He received another phone call the next day from the same participant, requesting they go kayaking the following day. He again said no, as the weather was still not suitable. Early on the Friday morning, he received a third phone call from the same participant, requesting they go kayaking the next day (Saturday). He agreed to organise this trip.
- b. He was told by this participant that they had all kayaked before and that they could all swim; however, when the trip commenced he found out that most of them had little or no kayaking experience, and that one of them could not swim.
- c. He does not operate a process of a written questionnaire or forms to be completed by participants in advance of a booking, such as those describing their swimming ability, kayaking experience or details of health or medical conditions.
- d. This trip's starting point and route were selected because this is what he always uses for these trips. His standard trip route was to go out across the lough from a pier on the east shore to the opposite (west) shore, taking the group around the small islands in this area. He did not have a written passage plan for this trip, as he does not operate such a process.
- e. The meeting time of 09.00 hrs was selected to suit the tide, being near the time of high water (HW). He obtained the tide times from an app, for a nearby port. He also did a visual check on the tidal state when he arrived at the pier earlier on the morning of the trip.
- f. He used the Met Éireann app to check the wind conditions. His normal rule was to only take a group of adults on a trip if the wind conditions were 10-15 km/h (5-8 kts/force 2-3). He was aware the wind conditions that morning were forecasted to be stronger than this, of 'more than 28 km/h' (15 kts/force 5) but he decided to proceed anyway. He thought that these forecasted wind conditions would be ok for this group, having been told that they all had kayaking experience.
- g. He did not consider in advance what the water temperature might be.
- h. He was aware of the Code of Practice (CoP) for the Safe Operation of Recreational Craft, but this was not a document he would use or refer to.
- i. He did not have an emergency plan in place.
- j. He did not operate a shore contact system; he had not told someone on the shore he was departing on this trip, what their intended destination would be, or what time they would be off the water.

- k. He had identified the benefits of using a rigid inflatable (RIB) safety boat, to accompany the kayaking trips. He had purchased such a safety boat and had used it once on a trial run, earlier in the year. He had not identified the use of a safety boat as a pre-requisite for guided tours. The safety boat was tied-up at the pier at the starting point but was not used on this tour.
- l. His organisation does not operate the following documentation:
 - Standard Operating Procedures.
 - Generic Hazard Identification and Risk Assessments.
 - Session-Specific Trip Planning.
 - Session-Specific Risk Assessments.

2.7.2 The subject of trip planning and the Trip Organiser's safety environment, and the relevance to this marine casualty event, are analysed in sections 4.2 and 4.11 of this report.

2.8 Weather Conditions

2.8.1 On the morning of this incident, Met Éireann published a Sea Area Forecast at 06.00 hrs, which was three hours before this kayaking trip commenced. This was a professional meteorologist's assessment of what the weather conditions were likely to be in the forecast area. Winds of force 5 to force 7 were forecast along the north coast for the following 24 hours. The wind direction was forecasted to be from the southeast. A Small Craft Warning was in effect for all Irish coastal areas, meaning that winds of at least force 6 were expected.

See Appendix 7.3 - Met Éireann (Pre-Incident) Weather Forecast.

2.8.2 Met Éireann has prepared a weather report with a professional meteorologist's assessment of what the weather conditions are likely to have been in Mulroy Bay on the day of this incident.

See Appendix 7.4 - Met Éireann (Post-Incident) Weather Report.

This report describes how:

“During the morning (between 04:00 and 08:00 hours) southeasterly winds were light for a time: Beaufort Force 2 or 3. After 08:00 hours, winds gradually increased and reached strong Beaufort Force 6 to near-gale Beaufort Force 7 by mid-morning with mean wind speeds of 25 to 33 knots for the remainder of the day with occasional gusts up to 45 knots. The wind direction throughout the 24 hours was southeasterly. Local effects may have caused winds to occasionally reach Gale Force 8 on Mulroy Bay due to the orientation of the bay.”

2.8.3 The subject of the weather conditions and its relevance to this marine casualty

event are analysed in section 4.3 of this report.

2.9 Tidal Conditions

2.9.1 Mulroy Bay is a tidal sea lough that has a navigable channel along its full length. On the day of this incident, HW at the southern end where this incident occurred was at 08.56 hrs (the guidebook *Sailing Directions for the East and North Coasts of Ireland* (Irish Cruising Club, 2019) describes how HW in this part of Mulroy Bay is three hours 15 minutes after HW in Galway). This was a spring tide, as there had been a full moon the previous day. A wind-over-tide situation did not occur, as the wind and tide were both generally travelling in the same direction.

2.9.2 The subject of the tidal conditions and their relevance to this marine casualty event are analysed in section 4.3 of this report.

2.10 Protective Clothing

2.10.1 Only two participants wore wetsuits as a form of protective clothing against the effects of cold water immersion; the Trip Organiser and Client 4. The Trip Organiser does not provide wetsuits to clients as part of the service. The clothing worn by the trip participants is summarised below in Table 1:

Participant	On Legs	On Chest	Base Layer	On Head	On Feet
Trip Organiser	Wetsuit (Long-John type). Raincoat		None	None	Runners
Client 1	Denim jeans	Winter-type coat	Shirt	None	Runners and socks
Client 2	Fleece leggings	Winter-type coat	Turtleneck top	None	Runners and socks
Client 3	Tracksuit bottoms	Bomber-type jacket	T-shirt	None	Runners and socks
Client 4	Wetsuit (long sleeve type). No raincoat		Swimsuit	Wool hat	Neoprene shoes
Client 5	Tracksuit	Raincoat	T-shirt	Wool hat	Socks

2.10.2 The subject of protective clothing and its relevance to this marine casualty event are analysed in sections 4.4 - 4.6 of this report.

2.11 Personal Flotation Devices

2.11.1 All members of this kayaking group wore Personal Flotation Devices (PFDs), in the form of buoyancy aids. These were the Scream 50 product marketed by Sola. See

Figure 5. The kayaking group had available to them two sizes of this buoyancy aid, being:

- Medium/Large size, intended for persons of 50-70 kg weight, providing 75 Newtons of buoyancy.
- Large/XX-Large size, intended for persons exceeding 70 kg weight, providing 85 Newtons of buoyancy.

2.11.2 The buoyancy aids were correctly provided with a whistle, located within a chest pocket and attached by string. The buoyancy aids include the CE mark and identify how this product was designed in accordance with the standard EN ISO 12402-5 published by the EU and the International Organisation for Standardisation (ISO).



Figure 5: The type of buoyancy aid used by the kayaking group, highlighting the provision of a whistle and this product's compliance with the European Standard for PFDs, EN ISO 12402-5.

2.11.3 The subject of PFDs and their relevance to this marine casualty event are analysed in section 4.6 of this report.

2.12 Safety and Emergency Equipment

- 2.12.1 The Trip Organiser had on his person a mobile phone placed within the pocket of his raincoat. This became inoperable when exposed to water after he capsized and entered the water.
- 2.12.2 The Trip Organiser had a first aid kit stowed in his kayak.
- 2.12.3 The Trip Organiser did not have a phone in a waterproof pouch or the following safety and emergency equipment recommended in Chapter 7 of the CoP for the Safe Operation of Recreational Craft:
- a. VHF radio.
 - b. Personal Locator Beacon (PLB).
 - c. Signalling flares.
 - d. Spray deck (to prevent water ingress down into the cockpit of the Trip Organiser's kayak).
 - e. Tow rope.
 - f. Spare clothing.
 - g. Emergency shelter.
- 2.12.4 Client 2 had on her person a mobile phone in a waterproof pouch. Client 2 described how she made use of this phone to call the emergency services. She described how the immersion in the cold water had happened so suddenly, and its effects were so severe, that she was only able to make use of the phone after arriving at the shore and regaining some composure.
- 2.12.5 The Trip Organiser described how he had a RIB safety boat available for use, but he chose not to make use of it on this trip. The safety boat contained two tow ropes and three signalling flares (one red parachute flare and two red handheld flares). See Figures 6 and 7. The Trip Organiser had tested the use of this safety boat on one trial outing earlier in the year, and had an operator whom he intended to appoint on an ad-hoc basis to assist with kayaking trips, but he did not consider this safety boat to be an essential part of his kayaking trips' safety equipment. The Trip Organiser had no Standard Operating Procedures for the use of the safety boat.
- 2.12.6 On the day of this incident, the safety boat remained tied-up at the pier at the start/finish point. The Trip Organiser took the key to operate the boat's engine out with him on the trip. When a member of the public notified the nominated operator of the safety boat that there was a developing incident, the nominated operator made his way to the pier with the intention of taking the safety boat out to try and assist the group; however, this person was unable to proceed out onto the water as the Trip Organiser had the key on his person and there was no spare key available.

- 2.12.7 The single kayaks had enclosed decks and were designed to receive a spraydeck to seal the cockpit opening against water ingress. Spraydecks were not worn by either the Trip Organiser or the clients.
- 2.12.8 The subject of safety and emergency equipment, and their relevance to this marine casualty event, are analysed in section 4.6 of this report.



Figure 6: The rescue boat the Trip Organiser opted not to use on this trip.



Figure 7: The signalling flares stored on the rescue boat that was not in use on this trip.

2.13 Water Safety Regime in Ireland

2.13.1 Water Safety Ireland is a body under the aegis of the Department of Rural and Community Development. It has a statutory role that includes the promotion of both public awareness of water safety and measures to prevent accidents in water. Its website (www.watersafety.ie/boating) has specific guidance for boating including kayaking, which states:

“ALWAYS:

- *Get suitable training on how to use all of your equipment*
- *Check the weather and tides before you depart; be aware of wind strength, especially offshore winds*
- *Wear a suitable personal flotation device (buoyancy aid)*
- *Wear suitable clothing for the conditions and take a drink and snack with you*
- *Paddle in a group where possible and tell someone back on land where you are going, how long you intend to be out for and advise the local coastguard of your planned journey*
- *Carry suitable means of calling for help (VHF radio or flares)*
- *Keep your kayak and equipment well maintained and ready for the water. Make sure hatches and drainplugs are secure and watertight, the paddle is in good condition, the seat firmly attached and all gear secured safely*
- *Learn and practise techniques to get back on board your kayak if you should capsize*
- *Ensure you are a confident swimmer who can swim a minimum of 50m in the sea.”*

2.13.2 National Water Safety Awareness Week is Water Safety Ireland’s annual national campaign to communicate water safety message to the public. The Awareness Week in June 2022 included the following specific advice for kayakers:

“We see kayaks and paddle boards getting caught up in rip currents, changing tides and offshore winds. The right training is essential.”

2.13.3 The Department of Transport’s approach to the safety of recreational craft is described in the Irish Maritime Directorate Strategy 2021-2025 and includes work on policy development, statutory regulation, safety awareness promotion and enforcement.

2.13.4 Marine Notices (MN) are information notices issued by the Department of Transport to publicise important safety, regulatory and other information relating to the maritime sector in Ireland. All MNs are published and catalogued online at

www.gov.ie/en/collection/e762fd-marine-notice and are issued by email directly to those who subscribe to the relevant mailing list. MNs that relate to the use of recreational craft are specifically addressed to the owners and operators of such craft. All MNs provide contact details for persons seeking further technical assistance on the subjects raised. The following recent MNs relate to issues raised in this investigation report:

Number	Date Published	Subject
No. 37 of 2022	15th June 2022	Important safety advice for those involved in Canoeing and Kayaking
No. 32 of 2022	2nd June 2022	Code of Practice for the Safe Operation of Recreational Craft
No. 40 of 2021	25th June 2021	Code of Practice for the Safe Operation of Recreational Craft
No. 30 of 2020	27th June 2020	Safety Advice in relation to Canoeing and Kayaking
No. 27 of 2020	21st July 2020	Code of Practice for the Safe Operation of Recreational Craft
No. 40 of 2019	30th September 2019	Limitations of Mobile Phone Use for Emergency Communications at Sea
No. 31 of 2019	28th August 2019	Code of Practice for the Safe Operation of Recreational Craft: Canoeing and Kayaking

2.13.5 The CoP for the Safe Operation of Recreational Craft was published by the Department of Transport, Tourism and Sport in 2017, with updates in 2019 (Source: www.gov.ie/en/publication/66ff7e-safe-operation-of-recreational-craft). Kayaks are recreational craft and the CoP applies to the use of kayaks in Ireland. Chapter 7 of the CoP sets out recommendations for kayaking and canoeing. While not mandatory in terms of legal enforceability, the CoP is an authoritative guidance document that encourages compliance with its safety recommendations. The CoP was prepared with the assistance of CI, CH Marine Ltd, the Inland Waterways Association of Ireland, the Irish Sailing Association, Irish Water Safety, the United Kingdom's (UK) Maritime and Coastguard Agency, Met Éireann, the Royal National Lifeboat Institution (RNLI) and Waterways Ireland. The Department of Transport has commenced a review and updating of the CoP, which remains ongoing.

2.13.6 On the subject of training, the CoP recommends that recognised training courses should be undertaken so that participants are completely familiar with relevant rescue and recovery drills. The CoP notes that CI has a comprehensive training and accreditation scheme that covers sea kayaking, river kayaking and open canoes.

2.13.7 The CoP (Chapter 7, paragraphs 7.1 to 7.6) include the following recommendations that are particularly relevant to the incident that is the subject of this investigation:

“In addition to the basic safety precautions mentioned previously, operators should observe the following additional checks and advice:

- *Ensure you are a competent swimmer and capable of surviving in the water in the areas you operate in.*
- *Use a spray deck, with quick release where relevant, and be completely familiar with its use.*
- *Ensure that you carry a mobile phone or Marine VHF radio in a suitable watertight cover for use to summon assistance in emergency situations.*
- *Ensure you are suitably attired for the type of activity, area of operation and time of the year.*
- *Be aware of the dangers of hypothermia when wet and exposed to the elements.*
- *When making descents on remote rivers of Grade 3 and higher, and while sea-kayaking, you should carry a registered Personal Locator Beacon (PLB). This will enable early alerting of the rescue services in the event of an emergency.*

Sea kayakers should observe the following additional precautions:

- *Be aware of the weather forecast and sea area forecast. Only operate within your limits and ability. Canoeing in a windforce 4 or above should only be considered for the very experienced.*
- *Be aware of the tidal conditions for the areas that you are operating in.*
- *Be aware of the effects of interaction between wind and tide on sea states.*
- *Carry a chart for the area of operation. These can be laminated and attached to the kayak deck.*
- *Carry a hand held compass.*
- *Ensure a nominated person ashore is aware of your itinerary, departure and return times.*
- *Have a passage plan and alternative emergency plans, e.g. safe landing area down wind, etc.*

- *If capsized and floating outside your craft, remain with it. It offers a better target to rescuers and has a high buoyancy factor. Do not attempt to swim for shore unless adjacent to the shore.*

The following additional equipment should be considered:

- *Flares*
- *Towrope/throw bag*
- *Torch*
- *Suitable knife*
- *Portable waterproof VHF radio*
- *Portable GPS unit*
- *Personal EPIRB*
- *First Aid Kit*
- *Spare food/drink*
- *Paddle float/leash*
- *Sun cream and sun hat*

Essential equipment should be carried on the person or in an easily recoverable buoyant grab bag.”

See Appendix 7.5 - Code of Practice: The Safe Operation of Recreational Craft, Chapter 7.

- 2.13.8 The guidance aimed at kayakers from Water Safety Ireland and the Department of Transport does not include particular guidance on the importance or practice of risk assessment, incorporating the principles of hazard identification, analysis, evaluation and control measures. This subject is addressed in detail in other parts of the maritime sector, such as fishing, diving, ports/docks and offshore mineral exploration, and the Health and Safety Authority has risk assessment guidance published specifically for these environments as they relate to workplace settings.
- 2.13.9 The guidance on Water Safety Ireland’s website is short and concise. However, one discrepancy with the CoP was noted in respect of recommended methods/equipment for communications. Water Safety Ireland’s website limits their guidance on the means of communication to stating: “*Carry suitable means of calling for help (VHF radio or flares)*”. The CoP recommends (in Section 7.4)

that sea kayakers should consider including both a VHF radio and a personal Emergency Position Indicating Radio Beacon (i.e PLB) and flares. Section 7.2 of the CoP also recommends ensuring that “*you carry a mobile phone or marine VHF radio in a suitable watertight cover*”. So, there is an inconsistency between the two sets of guidance with Water Safety Ireland’s guide approving of flares being an acceptable option to a VHF radio (or, at the very least a mobile phone in a watertight cover). The MCIB has in a number of reports emphasised the importance of the use of VHF radio and notes that the Code provides for flares as an additional method rather than an alternative one.

- 2.13.10 The subject of water safety in Ireland and its relevance to this marine casualty event is analysed in section 4.11 of this report. The subject of the CoP and its relevance to this marine casualty event is analysed in sections 4.2, 4.6, 4.7 and 4.11 of this report.

3. NARRATIVE

3.1 The Witnesses' Narrative

A member of the public who witnessed the development of this marine casualty event and notified the emergency services has provided her recollection of that day's events.

- 3.1.1 She has lived in the area for many years and had kayaked on this sea lough many times before. She had considered going out kayaking on the day of this incident but had dismissed this idea because it was too windy. Her experience is that the lough is generally safe for kayaking, but it has a noticeable tide, and the weather needs to be calm for kayaking to take place safely. There is a deep channel about mid-way across; a strong current and choppy sea conditions can develop here.
- 3.1.2 Earlier on the morning of this incident, she had noticed on social media that the Trip Organiser was advertising a kayaking trip for that day. She was surprised to see this, because of how windy it was.
- 3.1.3 At about 11.55 hrs she was driving home along the main road that overlooks the lough. She noticed a kayaking group out on the water, about mid-way across the lough. The kayakers appeared to be aiming for the east side of the lough.
- 3.1.4 She arrived home at about 12.00 hrs. Her house overlooks the lough. She could see that the kayakers were still out on the water, and they were still about mid-way across the lough. She became more concerned about this, as there were white caps/white horses on the water, which she knew meant windy and challenging conditions for kayakers.
- 3.1.5 She got a set of binoculars and then saw clearly that three kayaks had capsized. This was the double kayak and two single kayaks. There were four people in the water, separated from their kayaks. She called the emergency services.
- 3.1.6 She drove down to the pier to see if there was anyone there but it was empty. She saw the Trip Organiser's RIB safety boat tied-up at the pier. She returned to the house, arriving back at about 12.20 hrs.
- 3.1.7 She continued using the binoculars to keep a look-out on the kayakers. She was particularly concerned about two kayakers who were floating together in the water, separated from their kayaks, including one person who was wearing a hat.
- 3.1.8 A relative of hers drove down to the nearby headland known as Ranny Point and met one of the kayakers (Client 4) who had landed and exited their kayak. This person was shouting out, calling for help. This person was in a wetsuit and was dry, and was in a composed state. They made their way down to the shore and met a second kayaker (Client 3) who had landed. This person was in normal

winter clothes and was soaking wet and shocked, was very cold, and was shivering and complaining of pains. The two kayakers were clearly relieved to have landed. Her relative drove the kayakers back to the house.

- 3.1.9 Back at the house, Client 3's condition remained very cold, so she phoned for an ambulance. This was at about 12.50 hrs.
- 3.1.10 At about 13.00 hrs, she saw a rescue boat had launched from the west side of the lough, and that a second rescue boat was making its way down the lough (from north to south). The rescue helicopter then flew up the lough (from south to north). She phoned the emergency services to tell them the persons in the water were further to the south of the rescue boats. Soon afterwards, one of the rescue boats reached the two remaining kayakers in the water and brought them to safety.

3.2 The Casualties' Narrative

The following narrative has been compiled from the descriptions provided by the Trip Organiser and the five clients.

Prior to the Trip Commencing

- 3.2.1 The five clients were holidaying in the area and saw the Trip Organiser's company signage on the roadside and then found him on Google.
- 3.2.2 Client 1 initially contacted the Trip Organiser on Wednesday, 16 March 2022 to ask if they could go on a kayaking trip the next day. The Trip Organiser had said no, as he was aware that the weather forecast for Thursday was not suitable for kayaking. Client 1 phoned the Trip Organiser again on Thursday, 17 March 2022 to ask if they could go on a kayaking trip the next day. The Trip Organiser said no, as he was aware that the weather forecast for Friday was still not suitable for kayaking. Client 1 phoned the Trip Organiser on Friday, 18 March 2022 to ask if they could go on a kayaking trip the next day. The Trip Organiser agreed to organise a kayaking trip on Mulroy Bay on Saturday, 19 March 2022.
- 3.2.3 Client 1 had contacted three other providers of kayaking trips in the area beforehand, who had all said they could not run an activity on Saturday, 19 March 2022 as the weather forecast was not suitable for kayaking.
- 3.2.4 Client 1 had asked the Trip Organiser if wetsuits would be provided. This was when they spoke by phone the day before the trip. The Trip Organiser said he did not provide wetsuits.
- 3.2.5 The Trip Organiser described how he had been told by Client 1 that the group had all kayaked before and that they could all swim; however, when the trip commenced he found out that most of them had little or no kayaking experience, and that one of them could not swim.

3.2.6 The Trip Organiser did not require the clients to fill out any forms, such as those describing their swimming ability, kayaking experience or details of health or medical conditions.

Prior to Departure

3.2.7 Early on the morning of the trip, the Trip Organiser went down to the pier and checked on the conditions. The wind and sea were calm. He used Met Éireann's weather app and he recalls that wind conditions were forecasted to be "*more than 28 km/h*" (15 kts/force 5) later that day. He sent a text message to Client 1 to confirm that the trip would be going ahead. The group met at the pier at about 09.00 hrs.

3.2.8 Client 4 was aware that the group would be departing without the use of wetsuits, but she was uncomfortable with this because of how cold it was. She had her own personal wetsuit in the car, so she decided at the last minute to get changed into it when they were in the car park.

3.2.9 The Trip Organiser delivered a safety briefing, which the clients variously recalled as involving:

- The route they were going to take.
- The kayaks and their parts, and the differences between the kayaks.
- How to sit in the kayak; how to move the paddle through the water; how to turn the kayak.
- What to do if the kayak capsizes.
- The need to stay together when out on the water, and not to engage in racing or fooling about.
- The group was asked if anyone had health issues, but nobody did.

3.2.10 Clients 3 and 4 described being unaware of most of this safety briefing, as they missed this part because Client 4 was getting changed into a wetsuit. They described the group as inadvertently becoming spilt in two for this on-shore part, as three of them got a briefing and were issued with buoyancy aids and equipment, while the other two lagged behind because one was changing her clothes.

3.2.11 The Trip Organiser issued buoyancy aids to everyone. Client 4 noticed that those around her were wearing the buoyancy aids loosely on their body. She recalled that the Trip Organiser did not check if the straps had been tightened. She saw this and tightened her own buoyancy aid and those of two others, but she did not get to check on the final two participants.

- 3.2.12 The Trip Organiser gave one of the clients a waterproof pouch for their phones. The Trip Organiser did not use a waterproof pouch for his phone.
- 3.2.13 The group commenced the trip at the pier. The clients embarked one-by-one, with the Trip Organiser observing how they proceeded. The weather conditions were calm at the start.

The Initial Part of the Trip

- 3.2.14 The group departed the start point at about 9.30 hrs. They kayaked out beyond the shore towards the first island, known as Toomoge Island. The weather conditions were still calm at this stage. However, Client 3 struggled to maintain his course from the start; he had no kayaking experience and he found that the kayaking soon became hard and uncomfortable. His kayak capsized and he fell into the water very soon after departing the pier, before he had reached the first island. The Trip Organiser helped him to get back into his kayak. His tracksuit bottoms, t-shirt and heavy bomber-type jacket were all soaking wet. He stopped at the first island for two to three minutes before proceeding out across the lough with the rest of the group towards the opposite shore.
- 3.2.15 They reached the opposite shore and landed on Gull Island, located just offshore. They all got out of the kayaks and talked, took photographs and had some food. The wind had become noticeably stronger by then.

The Latter Part of the Trip

- 3.2.16 They got back into the kayaks with the intention of kayaking back across the lough, repeating the route they had taken. The clients recalled that the wind was now much stronger and the water had become choppy.
- 3.2.17 The difficulties started when the group was about mid-way back across the lough. The wind was now so strong that it kept pushing them out along the channel, towards the north. The wind was blowing on their front and side, and there was now a current and waves that were trying to carry them out along the lough, away from the shore. The Trip Organiser was encouraging them to paddle on towards the far shore but the clients described how the wind, waves and current were too strong and they struggled to make progress.
- 3.2.18 Client 3, and the double kayak with Clients 1 and 2, were at the back of the group. The Trip Organiser was in the middle of the group. Clients 4 and 5 were at the front of the group. They had crossed the channel and were waiting together in their single kayaks near an island. They could see that the situation was deteriorating.
- 3.2.19 The Trip Organiser made his way back to the double kayak to assist them. Client 3 in the single kayak had started to drift away from the back of the group and the Trip Organiser went to him and got him back towards the group. Client 4

could see what was happening and left her position with the intention of going to the assistance of Client 3 as she could see he was drifting away.

The Incident

- 3.2.20 All five clients recalled how the Trip Organiser was the first person to capsize on the way back towards the start point. They all described seeing this occur when the Trip Organiser was near the double kayak, about 5 m away from it. The Trip Organiser described how he capsized because of how strong the wind was and because he lost his balance when looking over his shoulder. He had not been wearing a spraydeck. He exited the kayak and swam around to one end and lifted it up out of the water, thereby draining the water out from the cockpit and allowing him to turn the kayak back over.
- 3.2.21 Client 5 left his position near the start point and kayaked back towards the group to try and help the Trip Organiser, whom he saw was struggling in the water. It took Client 5 about ten minutes to re-cross the channel but he capsized and entered the water as he was nearing the Trip Organiser. He tried to re-enter the kayak from the side but was unable to. He then tried to re-enter the kayak from its end but he lost his grip on the kayak and it drifted away from him.
- 3.2.22 The Trip Organiser described how, when he was in the water, he noticed that Client 5 had capsized. He was concerned that his client might still be in the kayak, upside down under the water. He left his own kayak and swam towards this capsized kayak, which was about 50 m away. This took him quite some time, but when he reached the kayak and turned it over, he found that it was empty. He then saw that Client 5 was in the water about another 50 m away. They both swam towards each other. At this point, they were near mid-channel, in the tidal current, about 500 m from either shore.
- 3.2.23 Meanwhile, the double kayak had already capsized in the waves and Clients 1 and 2 entered the water. They floated in the water, screamed for help and blew a whistle. This happened shortly after the Trip Organiser had capsized. Client 2, who could not swim, realised that her buoyancy aid had been loose; it had not been tightened when they set out, so when she entered the water she sank into the buoyancy aid, up to her nose. Client 1 was immediately concerned about their predicament and described how he knew that hypothermia was going to be a problem as they had quickly become very cold. He tried four or five times to turn the kayak back over, but was unable to. He eventually used an oncoming wave to lift the side of the kayak and he used this motion to turn the kayak back over. By now he had been in the water for what felt like about 30 minutes and he knew it was essential that he got up onto the kayak, out of the water. His winter coat was soaking wet, which made it much harder for him to move. He did gym weightlifting as a hobby and recalled that the coat felt like it weighed 20-30 kg. He knew he now had the strength for only a single lift up onto the kayak. He steadied his body and used a weightlifting technique to drive his body up out of the water and onto the top of the double kayak.

- 3.2.24 Client 2 remained in the water at this time. She had been kicking her feet in the water in an attempt at trying to stay warm. She recalls feeling so cold, her hands and legs were frozen cold, and she could not move her fingers. She thought she was going to die. She estimates being in the water for about 45 minutes. Client 1 reached down to pull her out of the water but he found she was too heavy because of the weight of the wet jacket. He eventually managed to lift her out of the water onto the top of the kayak. She was too cold to be able to sit up into the seat so she lay across the width of the kayak.
- 3.2.25 They had lost their paddles when the kayak capsized, so even though they were back up on the kayak they were unable to make any progress towards the shore. Client 1 used his hands in the water to position the kayak on the waves, so that it was carried along by the waves towards the shore. They landed and started to make their way towards a road in the distance but they were unable to make progress across the wet ground. A member of AGS came to them and helped them to the road. About 20 minutes later they heard the sound of the Coast Guard helicopter overhead.
- 3.2.26 Meanwhile, Clients 3 and 4 in their single kayaks had started to make their own way to the east shore, downwind from where they had set off that morning.
- 3.2.27 Client 3 had been the kayaker furthest downwind of the group. He recalls trying to get back to the east shore but he struggled to stay upright while also trying to make progress against the wind. He described a lonely feeling out on the water and being terrified of what was happening, unaware of whether his friends were still alive. He capsized near a marker buoy offshore from the headland known as Ranny Point. He described a long swim to reach the tip of the headland, which took about 20 minutes. When he landed on the shore, he was very cold and could not walk. He fell down, shivering.
- 3.2.28 Client 4 had left her position near the island close to the start point and had gone to try and help Client 3. The wind was pushing both of them out along the channel and towards the opposite shore, so it was hard for her to paddle in the direction she wanted to go. She eventually landed on the east shore near the start of the Ranny Point headland. She was exhausted and fell down. She was not cold; she described herself as being too warm from the exertion and from the wetsuit. Client 3 made his way over towards her and they then walked on towards the road where they met the member of the public (referred to above) who drove them to a house. Looking out from the house they could see white splashing waves out on the lough. An ambulance came to them at the house after a while.
- 3.2.29 Although the rest of the group had landed on the east shore and west shore, the Trip Organiser and Client 5 were still out in the water, drifting together mid-channel.
- 3.2.30 The Trip Organiser recalled being in the water for a long time, perhaps one hour.

He described it as the coldest he has ever been, he was shaking badly and his hands would no longer work. He recalls feeling the situation closing-in on him. It seemed to him that Client 5 alongside him was in an even worse condition.

- 3.2.31 Client 5 recalled floating together in the water with the Trip Organiser. They tried to shout at a car on the road but this was about 500 m away so they could not be heard. Client 5 realised the predicament they were in and the need to contact the emergency services. His phone was in his raincoat but not in a waterproof pouch so it got wet and would not work. He asked the Trip Organiser if he had a phone but this was also in a raincoat without a waterproof pouch, so it was also wet and did not work.
- 3.2.32 They tried to swim back to the island where they had stopped earlier to rest. They swam for what seemed like 20 minutes but made no progress. They then decided to swim towards the west shore but they were unable to make any progress in that direction. They realised they had no option but to drift with the tide and wind.
- 3.2.33 Client 5 described how the simple act of floating in the water was difficult as he was slipping out of the buoyancy aid and slipping below the water when waves went past. He was struggling in the water and kept having to pull the buoyancy aid down onto him because it had not been tightened before they set out on the trip.
- 3.2.34 Client 5 recalled the steady progression of the effects of the cold water. He initially tried to move his limbs in the water as much as possible to circulate blood flow, in what he now knows was the mistaken belief that this would help his body. He lost feeling in his legs and arms, and then in his torso. He worked in the healthcare sector and was aware that he was now experiencing hypothermia. He was wearing a waterproof watch on his wrist and could see that time was progressing, and that he was progressing through the stages of hypothermia. He lost feeling in his face. His chin and lips would no longer move so he could no longer talk. He recalled floating in this state alongside the Trip Organiser, staring blankly at each other. It appeared to him that the Trip Organiser was in shock. He knows from his watch that they spent about one hour in the water.

The Rescue

- 3.2.35 Client 5 recalled seeing a red-coloured rescue boat off in the distance, moving from side to side, and about ten minutes later the Coast Guard helicopter came into sight. He realised the Coast Guard was searching a large area of water but he had no way to signal them. Then the helicopter hovered overhead and the Coast Guard's rescue boat came straight over to them. He started to lose consciousness then; he could hear the rescuers helping him but he couldn't see them.

- 3.2.36 The two casualties were taken from the water and taken in the rescue boat to the pier on the west shore, near where they had departed for the return part of the trip. They were treated initially at the shore by AGS and the Coast Guard before an ambulance arrived. Client 5 recalled that his wet clothes were taken off him and he received an intravenous saline drip. The two casualties were treated in hospital for about four to five hours before they were both discharged later that evening.
- 3.2.37 All casualties described their appreciation for the emergency services and their awareness that the rescuers had saved their lives.

4. ANALYSIS

4.1 Trip Particulars

4.1.1 The trip was a guided kayaking tour on Mulroy Bay sea lough and around its small islands in Co. Donegal. The group consisted of six participants, being the Trip Organiser and five clients. The trip was intended to be approximately 3 km/1.5 NM in overall length. The trip included a crossing of the sea lough, which is approximately 1 km/0.5 NM in width. This took the group approximately 500 m/0.25 NM out from the shore. Figure 8 shows:

- Position A: This was the trip's point of departure, and its intended final destination. This was the public pier on the R246 Millford - Kerrykeel road in Co. Donegal.
- Position B: This was the approximate position where the kayaking group exited their kayaks onto Gull Island for a short break before commencing the return part of the trip.
- Position C: This is the approximate position where members of the group started to capsize during the latter part of the journey, when heading back towards the start point. This was near the middle of the navigable channel that extends along the length of the lough. This involved the capsize of the double kayak (containing Clients 1 and 2) and two of the single kayaks (containing the Trip Organiser and Client 5).
- Position D: This is the approximate position where the final two casualties (the Trip Organiser and Client 5) were rescued from the water by the Coast Guard, approximately one hour and ten minutes after entering the water.

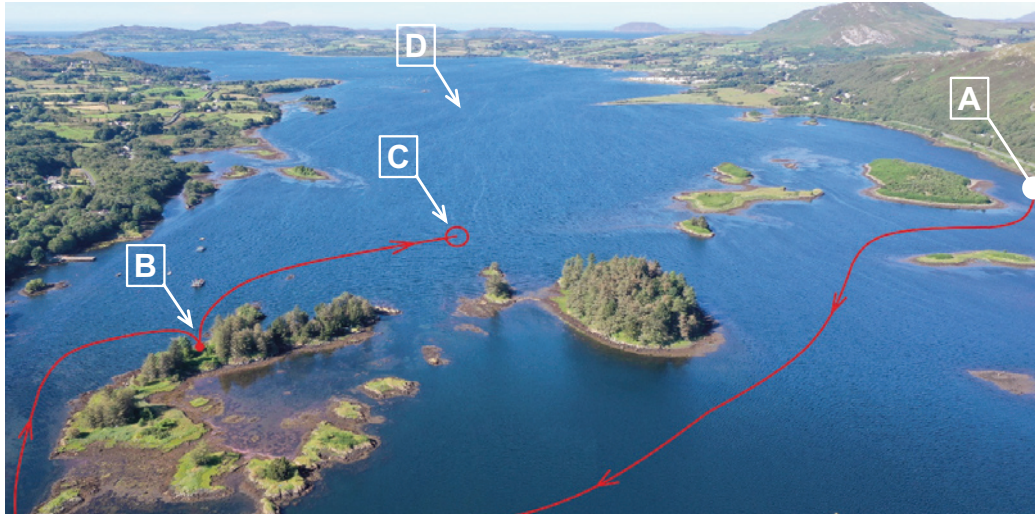


Figure 8: Aerial overview of the southern end of Mulroy Bay, annotated to show the approximate positions of:

- (A) the start point/intended finish point.
- (B) where the group exited their kayaks on Gull Island.
- (C) where the capsize commenced on the return part of the trip.
- (D) where the final two casualties were rescued.

Image Source: Geraldine Hennigan.

4.1.2 The wind direction was across the lough (travelling from the southeast) and the tidal stream was along the length of the lough's shores (travelling towards the northeast). See Figure 9. The topography of the land along the east shore is steeply sloping, with the result that a person standing on the shore at this kayaking trip's start point (A) is likely to experience wind conditions that are more benign than those away from the shore, out on the lough, on days when the wind is from the southeast. This is likely to have been the situation on the day of this marine casualty event.



Figure 9: Aerial overview, annotated to highlight the approximate direction of wind and tide. Image Source: Geraldine Hennigan.

- 4.1.3 After the capsizes commenced, Clients 1 and 2 in the double kayak made their way to the west shore. See Figure 10.



Figure 10: Aerial overview, annotated to highlight the approximate route taken by Clients 1 and 2 after their double kayak capsized. Image Source: Geraldine Hennigan.

- 4.1.4 After the capsizes commenced, Clients 3 and 4 in single kayaks separately made their own way to the east shore. See Figure 11.



Figure 11: Aerial overview, annotated to highlight the approximate route taken by Clients 3 and 4 who separately made their own way to the east shore. Image Source: Geraldine Hennigan.

- 4.1.5 Client 5 and the Trip Organiser both capsized and separated from their single seat kayaks. They drifted in the water for approximately one hour and ten minutes, being carried by the tidal stream, until they were rescued from the water by the Coast Guard at a position off Ranny Point headland. See Figure 12.



Figure 12: Aerial overview, annotated to highlight the approximate drift of Client 5 and the Trip Organiser after they capsized and separated from their kayaks, until being rescued by the Coast Guard. Image Source: Geraldine Hennigan.

4.2 Trip Planning and Contingency Planning

- 4.2.1 The foreword to the CoP describes succinctly the importance of trip planning:

“every trip on the water should be a safe one, which means planning for a safe trip every time, behaving responsibly once afloat, and maximising the chances of survival in the water should an incident occur.”

- 4.2.2 The MCIB concurs with the following concise summary in *Essentials of Sea Survival* (Golden & Tipton, 2002, Page 11):

“Many accidents, both large-and small-scale, result from a similar set of circumstances. Usually a number of factors are involved, any one of which would have little effect but which in combination result in a deadly spiral of events leading to disaster. This coincidental combination of events may be a mixture of human omissions, errors of judgment, inadvertent actions, poor communication, and adverse weather together with a host of contributory personal and extraneous factors. Therefore, vital components of a good survival strategy are recognition of the warning signs and awareness of the most appropriate corrective response to avert disaster. Accomplishing this requires knowledge, experience, and avoidance of denial.”

- 4.2.3 Trip planning and contingency planning are fundamental skills that are learnt by those undertaking CI's intermediate level sea kayaking skills awards and instructor qualifications. This is discussed further in section 4.7 of this report.
- 4.2.4 Planning for an activity requires planning for what is to happen if someone gets into difficulty. The emergency services responded promptly after they were notified, but the practical distances involved meant that a period of approximately 56 minutes still elapsed between 12.07 hrs when the member of the public contacted the emergency services and 13.03 hrs when the last of the casualties were removed from the water. The descriptions provided by the trip participants indicate that casualties had started to capsize into the water about 15 minutes before the member of the public noticed their predicament. This is a dangerous immersion time of at least one hour and ten minutes in cold, 8° Celsius (C) water.
- 4.2.5 The use of a RIB safety boat should ordinarily not have been necessary for a kayaking group of five participants and one guide, but its use was one control measure that could have mitigated the particular risks associated with this trip. Unfortunately, the contingency planning did not extend to the operating procedures needed to ensure that this available resource would actually be used on this kayaking trip.
- 4.2.6 The MCIB's analysis indicates that inadequate trip planning and contingency planning on this kayaking trip contributed to this marine casualty event.

4.3 Weather and Tidal Conditions

- 4.3.1 Appendix 6 of the CoP explains the importance and implications of weather and tidal conditions for recreational craft going afloat:

“Met Eireann regularly forecasts for small boats operating in coastal waters, including essential information on the expected wind direction and strength, the state of the sea and swell, visibility, and changes expected during the forecast period. Forecasts are issued in the early morning for the remainder of the day until midnight, at about midday for the rest of the day and the following day, and in the late afternoon for that night and the following day. Check well ahead of your planned trip - you can get an idea of the changes in the weather pattern from the forecasts issued 24 hours or longer before you leave shore. Strong wind warnings are issued whenever winds of 25 knots or more are expected. The direction and strength of the wind, sea and swell information and an indication of expected developments are also given...”

“The small craft warning is issued for expected winds of Force 6 or more, and it is issued at all times of the year. The small craft warning covers the large internal lakes as well as coastal areas...”

“Along with the weather, an understanding of tides and how they affect sea

states is important... Tides can also influence marine activities in that they result in water movements (tidal streams). This movement can be significant inshore such as on estuaries and near headlands.”

See Appendix 7.6 - Code of Practice: The Safe Operation of Recreational Craft, Appendix 6.

4.3.2 The Trip Organiser described how:

- His normal rule is to only proceed with a trip if the wind conditions are less than 10-15 km/h (5-8 kts/force 2-3 ‘light breeze’ or ‘gentle breeze’).
- Before the trip commenced, he was aware that the wind conditions were forecasted to be “*more than 28 km/h*” (15 kts/force 5, ‘fresh breeze’).
- He decided to proceed with this trip in the knowledge of the likely wind conditions.

4.3.3 At 06.00 hrs on the morning of this incident, Met Éireann had published a Sea Area Forecast for all Irish coastal waters (see Appendix 7.3 - Met Éireann (Pre-Incident) Weather Forecast). This was three hours before this kayaking trip commenced. This was a professional meteorologist’s assessment of what the weather conditions were likely to be in the forecast area. Winds of force 5-7 (‘near gale’) were forecast for the north coast for the following 24 hours. The wind direction was forecasted to be from the southeast. A Small Craft Warning was in effect for all Irish coastal areas, meaning that winds of at least force 6 were expected.

4.3.4 Met Éireann has prepared a weather report with a professional meteorologist’s assessment of what the weather conditions are likely to have been in Mulroy Bay on the day of this incident (see Appendix 7.4 - Met Éireann (Post-Incident) Weather Report). The early morning air temperature was cold, at 6-7°C, and the water temperature was cold, at 8°C. The wind was from the southeast, as forecasted. The wind speed increased from an initial force 2-3 in the early morning hours to force 6-7 by mid-morning, and may have occasionally reached force 8 (‘gale’) conditions because of the orientation of the bay. There were occasional gusts up to 45 kts (83 km/h).

4.3.5 The force 6-7 conditions that occurred in Mulroy Bay are what had been forecasted to occur, when that morning’s Sea Area Forecast had been published at 06.00 hrs. Therefore, the Trip Organiser’s recollection of seeing a forecast for wind speed of more than force 5 is somewhat correct.

4.3.6 That morning’s south-going flood tide had already turned at 08.56 hrs when this kayaking group set out on their trip approximately 30 minutes later. As a result, this kayaking trip commenced in the first hour of the north-going ebb tide, which was travelling back up the sea lough towards the coast. This was a spring tide as there had been a full moon the previous day, so there was a faster tidal

flow than normal. This all meant that the trip's return journey back to the start/end point occurred when the tide was travelling at its fastest. A wind-over-tide situation did not occur, as the wind and tide were both generally travelling in the same direction.

- 4.3.7 The wind and tidal conditions match the experiences described by the trip participants. These conditions exceeded the capabilities of the participants. These conditions were foreseeable prior to departure, using standard trip planning skills.
- 4.3.8 The skills and importance of both understanding and interpreting weather forecasts, and tidal conditions, are a fundamental part of the training received by those undertaking CI's skills awards and their instructor qualifications specific to sea kayaking. This is analysed further in section 4.7 of this report.
- 4.3.9 The MCIB's analysis indicates that unsuitable weather conditions were a causal factor in this marine casualty event.

4.4 Cold Water Immersion

- 4.4.1 Cold water is defined as water of 15°C or less (*Essentials of Sea Survival*, Chapter 4). The Met Éireann weather report for the date of this incident describes the water temperature as 8°C (see Appendix 7.4 - Met Éireann (Post-Incident) Weather Report). Outlined below are important aspects from Chapters 4 and 6 of *Essentials of Sea Survival* dealing with the critical effects on the human body of the initial and short-term responses that occur following immersion in cold water, followed then by the long-term hypothermia effects. The MCIB notes the similarities between these descriptions and those provided by the persons involved in this marine casualty event.

Initial and Short-Term Responses

- 4.4.2 The initial response is known as cold shock. The cold water causes a sudden lowering of skin temperature, which has a significant effect on a person's circulation and breathing. The body's responses commence almost immediately upon immersion, peaks during the first 30 seconds, and lasts for two to three minutes. This effect is believed to be responsible for the majority of immersion deaths in cold water, not the later onset of hypothermia.
- 4.4.3 The initial changes to the circulation system occur because of constriction of the skin's blood vessels. This increases the resistance to blood flow in the skin. Blood pressure rises dramatically. The heart works harder as it tries to pump blood through constricted blood vessels.
- 4.4.4 In cold water an initial breathing gasp of up to two or three litres (lts), close to the total lung capacity for an adult, is followed by uncontrollable rapid over-breathing (hyperventilation). The rapid over-breathing can result in a tenfold

increase in the volume of gas entering and leaving the lungs each minute, which can cause dizziness and confusion, and can create a sensation of breathing difficulty or suffocation. These are physiological effects that can contribute to the feelings of panic experienced by a person.

- 4.4.5 The reduction in breath-hold time that occurs after initial immersion in water is a major danger for a person who is otherwise fit and healthy. While a person may normally be able to hold their breath on average for over one minute, this reduces to less than ten seconds upon immersion in cold water. Consequently, in choppy or turbulent water where small waves may intermittently submerge the head or airway, a person is at risk of inhaling water during the first few minutes until they can regain control over their breathing. Breath-holding to facilitate escape from a capsized or submerged vessel may be difficult and can result in entrapment and drowning. Near drowning can occur after someone has inhaled only a small volume of water, of 0.25-0.5 lts for an average individual, which is a particularly small volume when compared with breathing volumes of over 150 lts recorded in the first minute after immersion in cold water.
- 4.4.6 Many of the activities that are critical to survival require effective use of the hands. However, in some cases as short as just minutes, the ability to use the hands is impaired in cold water as they, and the muscles in the forearms that help control them, experience cooling. This can lead to a significant decrease in manual dexterity, handgrip strength, and speed of movement. This loss of ability can have serious consequences for activities such as righting or re-entering an overturned kayak, manipulating the inflation valve of a lifejacket or activating a manually-inflating lifejacket, tightening straps, locating a whistle and other survival aids, holding onto a flotation aid or activating a signalling device such as a flare.
- 4.4.7 Having survived the initial responses, those without a flotation aid will have to make swimming movements to remain afloat or swim to a safe refuge, but it has been shown to be extremely difficult to swim during the first minutes after immersion in cold water, even for those considered to be 'good' swimmers in warm water, even to save their lives.
- 4.4.8 A common misconception about drowning is that it is caused by the weight of saturated clothing dragging a person under, which can lead to the misguided action of undressing in the water, which has the undesired effect of removing insulation between a body and cold water. As buoyant air within the clothing gradually escapes from within the fabric the person experiences a lowering in the water, which requires them to try and lift the head higher out of the water to breathe, which can further exacerbate the effects. Even small waves on the surface can have the effect of bringing the mouth close to water, thereby tending to cause inhalation of water.
- 4.4.9 Rescuers have described how the sound of a rescue boat's arrival sometimes prompts a person in the water to wave, but this can disturb the air trapped in

and under clothing, which further reduces the person's buoyancy in the water. A person who finds themselves immersed in water should try and remain as motionless as much as possible.

Hypothermia Response

- 4.4.10 If a casualty survives the initial and short-term effects of immersion in cold water, they remain at risk from the effects of impaired sensation and muscle function, leading to loss of consciousness, drowning or cardiac arrest through the response known as hypothermia. The signs of hypothermia can include a visible shivering; slurred speech; quieter/less communicative; uncharacteristic behaviours or personality; uncoordinated limb movements; a general slowing in physical and mental activity; increased errors or forgetfulness, poor judgment, bad decisions; reduced perception; or the dropping or damaging of vital equipment. As the cooling progresses, the person will become progressively more withdrawn until there is eventually a loss of consciousness leading to death.
- 4.4.11 The type of buoyancy aids that are typically worn by kayakers are intended to provide additional buoyancy to a conscious person who can swim, is confident in the water, and is within easy reach of rescue, for a short interval until they extract themselves or are rescued. To do this the buoyancy aid must be correctly secured to the person. A buoyancy aid is not intended for someone experiencing cold shock, especially in turbulent water, or someone in the early stages of hypothermia when consciousness is declining and muscle coordination is impaired.
- 4.4.12 The rate of cooling, and the rate of onset of hypothermia can be reduced by remaining as motionless as possible in the water while adopting a position to reduce heat loss. Ideally a person should get out of the water as soon as possible, even if this is only a partial removal from the water by floating on a wooden plank, inverted hull, or open boat. Although being out of the water may feel colder than being in it, the rate of cooling while in water is far greater than in air. Because a person cannot always remove themselves from water, it is essential to have some form of personal protective clothing against the effects of cold water.
- 4.4.13 The importance of remaining as motionless as possible in the water while adopting a position to reduce heat loss is advocated by the RNLI with the guidance shown in Figure 13 and described as follows:
1. *If you're struggling in the water - fight the urge to thrash around.*
 2. *Lean back - extend your arms and legs.*
 3. *Gently move them around - to help you float if you need to.*
 4. *Float - until you can control your breathing.*

5. Only then, call 999 or 112 for help - or swim to safety.”

Two of the casualties who found themselves submerged in the water during this incident were unaware of the importance of trying to simply float in the water; they incorrectly tried to maximise their movement instead of minimising it.



Figure 13: RNLI’s recommended posture if struggling in the water.
Source: <https://rnli.org/safety/float>

4.4.14 The MCIB’s analysis indicates that cold water immersion contributed to this marine casualty event.

4.5 Protective Clothing

4.5.1 Only two participants wore wetsuits as a form of protective clothing against the effects of cold water immersion. This was the Trip Organiser and Client 4. The Trip Organiser does not provide wetsuits to clients as part of the service.

4.5.2 Figure 14 is a graph reproduced from *Essentials of Sea Survival* that illustrates the significant difference in outcomes following exposure to cold water, depending on the type of clothing worn. Sea water temperature in Ireland typically varies from a low of 8-10°C in spring to a high of 15-16°C in late summer (Source: www.met.ie/science/marine-meteorology/marine-climatology). For the 8°C water temperature that occurred during this incident, the graph shows how the average ‘time of useful consciousness’ was likely to have been considerably better (approximately 3¼ hours instead of 1½ hours) for the trip participants who wore a wetsuit (the Trip Organiser and Client 4) compared to those who wore only ordinary clothing (Clients 1, 2, 3 and 5).

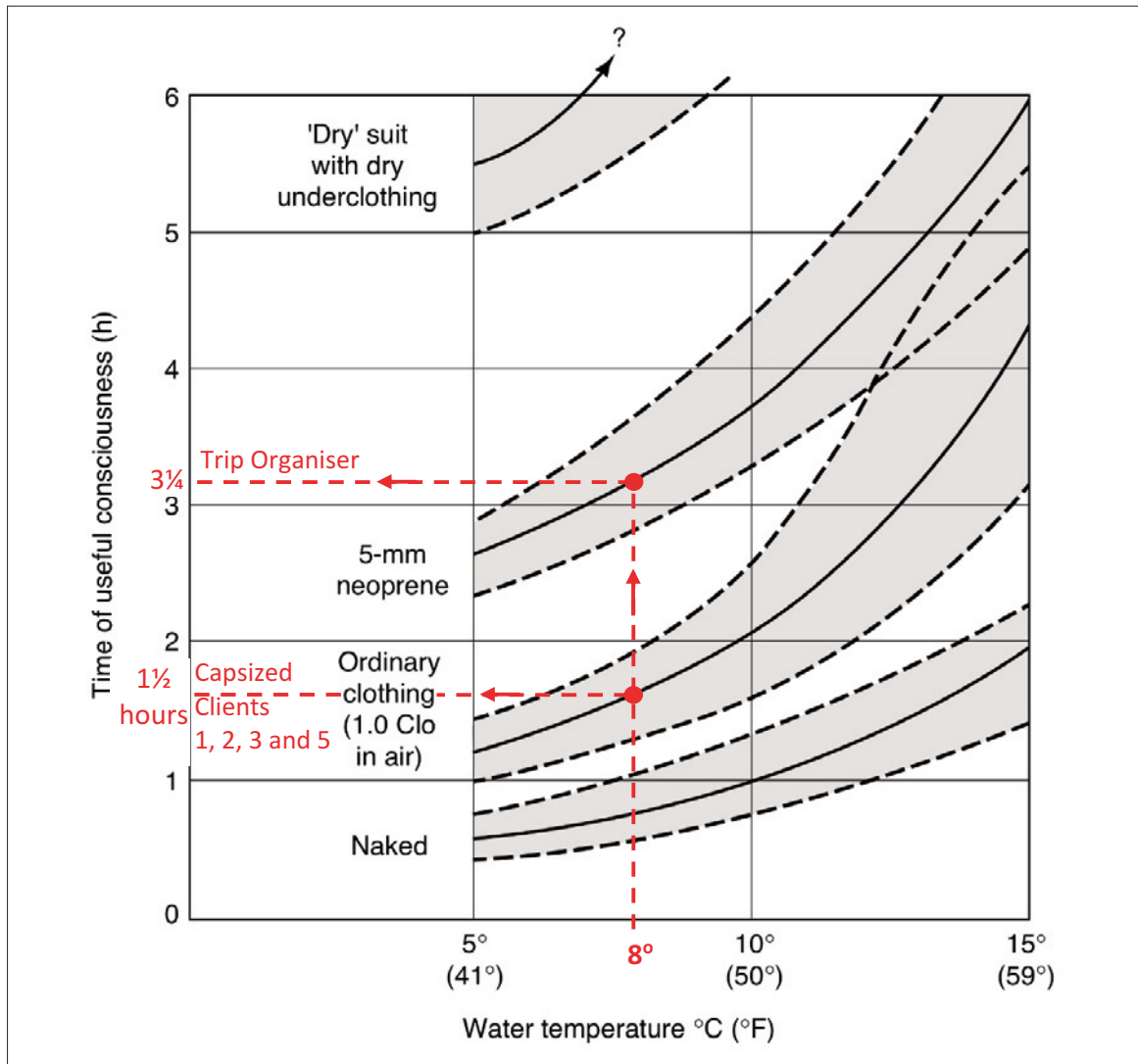


Figure 14: The ‘times of useful consciousness’ of individuals immersed in cold water in different clothing under laboratory conditions, highlighting the effects of 8°C cold water. Source: Fig 7.5, *Essentials of Sea Survival*, Golden & Tipton, 2002.

4.5.3 The MCIB’s analysis indicates that the omission of protective clothing contributed to this marine casualty event.

4.6 Safety and Emergency Equipment

4.6.1 All members of this kayaking group wore PFDs, in the form of buoyancy aids. These were the Scream 50 product marketed by Sola.

4.6.2 When worn correctly, a buoyancy aid is intended to provide the user with a specific amount of buoyancy to increase the likelihood of survival in water. The buoyancy aids worn by the group include the CE mark and identify how this product was designed in accordance with the standard EN ISO 12402-5 published by the EU and the ISO. This Standard describes how this type of PFD:

- Is recommended for water users who might reasonably expect to end up in the water, such as kayakers who can swim.
- Is intended for use by those who are competent swimmers, who are near to the bank or shore or who have help and means of rescue close at hand;
- Cannot be expected to keep the user safe for a long period of time, and does not have sufficient buoyancy to protect those who are unable to help themselves, as it requires active participation by the user to position their face out of the water.

4.6.3 Buoyancy aids are not designed to be used in the conditions experienced by some of the participants on this kayaking trip, being those who could not swim and those who found themselves adrift far from shore or help for a long period of time.

4.6.4 For any buoyancy aid to perform its intended function, it must be correctly secured to the user at each of its securing points. There were six securing points on the buoyancy aids worn by this kayaking group, being:

- Two compression straps on the shoulders.
- Two compression straps under the left arm.
- Two compression straps under the right arm.

4.6.5 Two of the clients on this trip described how they did not observe the Trip Organiser carrying out a systematic check that the group was wearing their buoyancy aids secured correctly. Client 4 described seeing that one of the group was embarking on the trip without their buoyancy aid secured correctly, and so tightened the straps for this person and two others. Clients 2 and 5 described learning that their buoyancy aids had not been correctly secured, as upon immersion in water, it remained floating near the water surface whereas their bodies tended to sink beneath the surface, thereby resulting in the buoyancy aid lifting up around their faces.

4.6.6 This kayaking trip took place in what is effectively a remote area, with considerable practical distances between larger population centres, which influences the practical response times that the emergency services can be expected to achieve. Standard safety equipment exists to mitigate and manage the associated risks, such as a phone in a waterproof pouch, a marine VHF radio, a PLB, signalling flares, a tow rope, spare clothing and an emergency shelter. In particular, an effective means of swiftly contacting the emergency services in the event of an emergency is critically important. All kayakers, and especially those in a leadership role, need to appreciate that they are responsible for the safety of themselves and those within their group. This responsibility extends to ensuring an effective means of both contacting and signalling the emergency services if the situation requires it.

- 4.6.7 The Trip Organiser did not make available the following safety equipment for use by him on this trip, as recommended in Chapter 7 of the CoP for the Safe Operation of Recreational Craft:
- a. Phone in waterproof pouch.
 - b. Marine VHF radio.
 - c. Personal Locator Beacon.
 - d. Signalling flares.
 - e. Spraydeck (to prevent water ingress down into the cockpit of the Trip Organiser's kayak).
 - f. Tow rope.
 - g. Spare clothing.
 - h. Emergency shelter.
- 4.6.8 Client 2 had on her person a mobile phone within a waterproof pouch. Client 2 described how she made use of this phone to call the emergency services, but only after they had landed the kayak on the shore. She described how the immersion in the cold water had happened so suddenly, and its effects were so severe. She was only able to make use of the phone after landing on the shore and regaining some composure.
- 4.6.9 The Trip Organiser had on his person a mobile phone placed within the pocket of his raincoat. This inevitably became inoperable when exposed to water after he capsized and entered the water. Client 5 described the realisation that he and the Trip Organiser were helpless, adrift in cold water out in the middle of the bay, experiencing the onset of hypothermia but with no means of either making initial contact with the emergency services or signalling their position when the rescue boat and helicopter arrived in the area.
- 4.6.10 Marine VHF radios are a basic piece of safety equipment for kayakers embarking on trips on the sea. Unlike mobile phones, waterproof VHF radios can be operated when wet, or when the touch-screen technology of modern mobile phones fails to operate as intended, because of either wet fingers or wet plastic pouches. VHF radios do not rely on mobile phone signals, which can have intermittent coverage in rural or remote areas. However, the users of VHF radios must appreciate that this equipment operates on a line-of-sight basis with a receiving station, with the result that shoreline locations or inland coastal areas such as Mulroy Bay can experience a limited or absent means of communication with the emergency services' receiving stations. Notwithstanding this, a VHF radio signal can be received by any VHF receiver within range that is on the same channel e.g. Channel 16 (the emergency channel/listening channel) and an emergency message received by any station can be relayed on to the emergency

services. It can be an important signalling device to allow a casualty to communicate with the emergency services when they arrive in the search area.

- 4.6.11 The satellite technology of PLBs can mitigate the risks associated with relying on either a mobile phone or marine VHF to communicate with the emergency services. When activated, this equipment is designed to broadcast an emergency signal to satellite receivers, to identify the position of the device and the name and contact details for its owner. To control for the foreseeable risks of there being difficulty with making contact with the emergency services, the MCIB's investigation reports have repeatedly recommended the use of PLBs for those going afloat, and in particular for kayakers undertaking trips in remote areas. See the MCIB's report 241 (No. 9 of 2015) and report 283 (No. 7 of 2019).
- 4.6.12 The Trip Organiser described how he had a RIB safety boat available for use, but he chose not to make use of it on this trip. The safety boat contained two tow ropes and three signalling flares that would undoubtedly have assisted when this casualty situation was developing. The Trip Organiser did not consider this safety boat to be essential part of his organisation's safety equipment, and he had no Standard Operating Procedures for the use of the safety boat. The process of preparing and implementing Standard Operating Procedures exists to formally identify risks and control measures relevant to an organisation, and seeks to prevent an informal decision-making process from influencing when and how safety equipment is used.
- 4.6.13 The single kayakers had enclosed decks and were designed to receive a spraydeck to seal the cockpit opening against water ingress. A spraydeck was not worn by the Trip Organiser. Section 7.2 of the CoP states: *"Use a spraydeck, with quick release where relevant, and be completely familiar with its use"*. The use and benefits of a spraydeck are a fundamental part of CI's intermediate level skills awards. In a group setting, the guide or instructor's use of a spray deck facilitates their implementation of basic rescue techniques, both individually (with an eskimo roll, to avoid a capsize situation escalating into a swimming situation) and collectively (to assist with the emptying and recovery of a capsized kayak).
- 4.6.14 The alert to the emergency services only came about because of the actions of a diligent member of the public who became concerned about the visible presence of kayakers out on the water that day, and who then acted on this concern to check on their condition. By then, four people were adrift, separated from their kayakers and immersed in cold water in unsuitable clothing, with no means of summoning help. But for the diligent actions of this member of the public, there is a high likelihood that the threat of death associated with this marine casualty event is likely to have escalated to the loss of life.
- 4.6.15 The MCIB's analysis indicates that the omission of safety and emergency equipment contributed to this marine casualty event.

4.7 Kayaking Training and Qualifications

4.7.1 The Trip Organiser’s website describes how *“We are an experienced team and we are all certified kayaking instructors that will take you on an amazing kayaking trip in any of the locations we operate in”*. However, the MCIB’s investigation identified that the Trip Organiser is not the holder of a kayaking instructor qualification from either CI or any other national governing body.

4.7.2 CI is recognised by the Irish Sports Council and the Olympic Federation of Ireland as the governing body of the sport and recreation of paddlesports in Ireland, including kayaking. CI is affiliated to the International Canoe Federation and the European Canoe Association. CI is a non-statutory body and has no legislative power to regulate or accredit instructors. CI has no regulatory remit in respect of commercial paddlesports providers. It is tasked with the development and promotion of paddlesports in Ireland and is grant funded to achieve these objectives. It is an acknowledged contributor to the CoP.

4.7.3 CI operates on the basis that its accreditation is recognised by kayakers and members of the public as a valued and respected accreditation, and that its instructor qualifications are a commensurate verification that the holder has demonstrated an ability to provide a safe, enjoyable paddlesports experience. CI relies on their accredited instructors conducting themselves in accordance with their training, and the organisation’s standards, rules and regulations. CI has no legal basis to enforce standards of conduct. CI reports that it believes its accredited instructors do conduct themselves in compliance with the CI safety regime, and thereby contribute to safety standards in clubs and commercial providers of paddlesport activities.

4.7.4 As noted at Section 7.1 of the CoP, CI has a comprehensive training and accreditation scheme that covers the various paddlesports disciplines. Each of these has specific criteria for the craft and environments within which they operate. CI has clear guidance on the different skills awards and instructor qualifications, and the remit of these. CI makes a distinction between its different instructor qualifications to operate at sea or on a river, for the following stated reasons:

“It is our view that Sea and River are two entirely separate disciplines, thus our training and assessment scheme reflects that difference.”

“While some of the skills are transferrable across the two disciplines, there is a requirement for an individual to be trained and assessed for the specific environment in which they are paddling in order to comply with our safety guidelines.”

“River or whitewater kayaking takes place on fresh water with challenges such as rapids, boulders, drops, stoppers etc. to navigate. Sea kayak training focuses on wind, weather and tides.”

4.7.5 Under CI’s qualifications framework, a person who aspires to be a qualified instructor must first obtain the Level 2 Kayak Instructor qualification before they become eligible to specialise as either Level 3 Sea Kayak Instructor or a Level 3 River Kayak Instructor. The remit of each qualification is illustrated in Figure 15.

Kayaking	Level 1 Instructor	Qualified to lead and teach groups of kayakers on flat water within close proximity of their launch point.	Can assess for Level 1 Skills Awards.	Instruct on flat water with a ratio of 1:6. Instructors and participants must stay within 300 metres of launch site
	Level 2 Instructor	Qualified to lead and teach on flat water journeys on inland and sheltered waters that remain close to bank/shore.	Can train and assess for Level 1 and 2 Skills Awards.	Instruct on flat water with a ratio of 1:6. Journeying on flat water allowed.
	Level 3 Instructor	Qualified to lead and teach groups on Grade II rivers.	Can train and assess for Level 1 – 3 Skills Awards.	Instruct on flat water with a ratio of 1:8. Instruct on Grade II rivers with a ratio of 1:6.
	Level 4 Instructor	Qualified to lead and teach groups on Grade 3 and advanced white water	Can train and assess for Level 1 – 4 Skills Awards.	Operate within any of the ratios above. Instruct on water above Grade II with a ratio of 1:4.
	Level 5 Instructor	Qualified to lead and teach groups on Grade IV and above white water. As well as in advanced conditions	Can train and assess for Level 1 – 5 Skills Awards.	Operate within any of the ratios above. Instruct on water above Grade 3 with a ratio of 1:4.
Sea Kayaking	Level 3 Instructor	Qualified to instruct and lead groups safely on coastal trips with waves averaging 0.5m in height and average wind speeds of 15km/h	Can train and assess for Level 1 – 3 Skills Awards.	Instruct on flat water with a ratio of 1:8. Instruct on seas of 0.5m and wind 15km/h with a ratio of 1:6
	Level 4 Instructor	Qualified to instruct and lead groups safely on seas with waves averaging 1m in height and average wind speeds of 30km/h	Can train and assess for Level 1 – 4 Skills Awards.	Operate within the ratio above. Instruct on seas of 1m waves and wind of 30 km/h with a ratio of 1:4.
	Level 5 Instructor	Qualified to instruct and lead groups safely on advanced seas with waves exceeding 2.5m in height and average wind speeds of 35km/h and higher	Can train and assess for Level 1 – 5 Skills Awards.	Operate within any of the ratios above. Instruct on seas of 2.5m with winds of 35 km/h with a ratio of 1:4.

Figure 15: Extract from Canoeing Ireland’s instructor qualification scheme, highlighting the Level 3 Sea Kayak Instructor qualification for kayaking trips of the type that was being undertaken on the day of this kayaking trip.

Source: www.canoe.ie/become-an-instructor-or-coach

4.7.6 The remit of the instructor qualifications as they apply to this marine casualty event is that:

- A Level 2 Kayak Instructor is only qualified to lead groups of up to six participants on sheltered waters that remain close to the shore; they are specifically not qualified to journey across open water such as a lake or sea lough.
- A Level 3 Sea Kayak Instructor is qualified to lead groups of up to six participants to journey across open water, such as a lake or sea lough, if the wind speed does not exceed 15 km/h (8 kt/force 3, ‘gentle breeze’).

See Appendix 7.7 - Level 2 Kayak Instructor Qualification, Canoeing Ireland.

See Appendix 7.8 - Level 3 Sea Kayak Instructor Qualification, Canoeing Ireland.

- 4.7.7 The appropriate CI instructor qualification for the kayaking trip that is the subject of this marine casualty event is that of a Level 3 Sea Kayak Instructor, but only if the force 3 limitation on wind speed is respected.
- 4.7.8 A pre-requisite for the Level 3 Sea Kayak Instructor qualification is the successful completion of the Essential Coastal Navigation award by CI, or an equivalent, which teaches participants to:
- Know the different resources available to them to plan coastal journeys.
 - Know how to interpret and apply data from the various resources to aid them in trip planning.
 - Plan a coastal journey and take into account, weather, tide and other anticipated hazard.
 - Source, apply and interpret a marine-based weather forecast.
- See Appendix 7.2 - Essential Coastal Navigation Award, Canoeing Ireland.
- 4.7.9 MCIB's analysis of CI's skills awards and instructor qualifications indicates that they provide a means of addressing the factors that have been identified as causing or contributing to this marine casualty event. In particular, the MCIB notes the critically important training and experience that a qualified Level 3 Sea Kayak Instructor will have acquired in:
- Analysing weather forecasts, tides and tidal streams.
 - Trip planning in a coastal environment, including timing, group ability and environment factors.
 - Incident management and dealing competently with rescue situations in deep water and challenging conditions.
 - Personal kayaking skills in sea states that are challenging for a kayaker, including an ability to control a kayak in breaking waves and when the sea state is acting on the rear or side of a kayak.
 - Selecting appropriate clothing.
- 4.7.10 MCIB's analysis indicates a potential opportunity for CI to further promote formal training in risk assessment procedures as part of their skills awards and instructor qualifications, and as part of the continuing development of the skills of their members.
- 4.7.11 The MCIB's analysis indicates that inadequate training and qualifications contributed to this marine casualty event.

4.8 Availability of Kayaking Training and Qualifications

4.8.1 Data provided by CI demonstrates that there has been availability of skills awards and instructor training in recent years, including during the period in which Ireland experienced COVID-19 restrictions. In the three year period between 2019 and 2021, there were:

- a. 625 skills awards issued (Level 3 award: 574, Level 4 award: 51).
- b. 81 instructor training courses delivered, which provided training for 538 persons. The majority of these courses were part of the education curriculum for persons training to work in the outdoor activity sector i.e. through Education and Training Boards (ETBs), Outdoor Education and Training Centres (OETCs) and Further Education Colleges (FECs). The other courses were provided either directly by CI at their training centre in Dublin, locally by CI's full-time Training and Development Officer, or by CI affiliated course providers.

4.8.2 Data provided by CI demonstrates that there have been steps taken in recent years to improve access to skills training and awards, and instructor qualifications, including:

- a. The 2018-2019 review of the awards and qualification's framework, which led to actions to improve access to the schemes, including a reduction in pre-entry requirements for instructor assessments, a reduction in the costs of course curricula, and changes in the assessor-to-trainee ratio.
- b. In 2019, the hiring of a full-time Training and Development Officer.
- c. In 2020, the publication of the 2021-2023 Strategic Plan, with a focus on developing training, safety and governance within clubs, including a focus on instructor qualifications within clubs, the creation of the Club Leader Award, and changes to the Level 2 Kayak Skills Award.
- d. In 2021 and 2022, improved support to clubs to access CI training and awards. This included a training needs analysis survey to assist with aligning clubs' training needs with the capacities available within course providers.
- e. In 2021, CI committed to run at least:
 - One Level 3 Canoe Instructor training course and assessment every two years.
 - One Level 3 Sea Kayak Instructor training course and assessment each year.
 - Two Level 3 River Kayak Instructor training courses and assessments each year.

- f. In 2021, the introduction of a short-programme Level 3 River Kayak Instructor development course, in partnership with Waterford and Wexford Education and Training Board. This intensive course took 12 aspiring instructors (four from clubs and eight professionals from the outdoor sector) through a 14-week programme to assessment as a qualified instructor. This course has been run again in 2022.
- g. In 2021 and 2022, a full review of Sea Kayak Skills Awards at all levels was carried out, with the aim of making it easier for those aspiring to the awards to demonstrate their competence in the full award criteria. The revised scheme is scheduled to be introduced in 2023.
- h. In 2022, the introduction of a qualified Instructor Developer role within CI, with plans to introduce an additional three Instructor Developers. The purpose of this role is be the trainer of those who will deliver instructor qualification courses.
- i. Scheduled for 2023, is a full review of the Sea Kayak Instructor qualifications, with the aim of making it easier for aspiring instructors to demonstrate their competence in the full qualification criteria.
- j. Since the early 2000s, CI has had a well-established equivalency programme with British Canoeing (the national governing body for paddlesports in Northern Ireland, England, Scotland and Wales), which sees British Canoeing awards recognised as equivalent to CI awards and allows for their transfer to equivalent CI awards.

4.8.3 The MCIB’s analysis indicates that the availability of kayaking training and instructor qualifications did not cause or contribute to this marine casualty event.

4.9 Availability of Qualified Kayaking Providers

4.9.1 CI has a Partnership Agreement with qualified instructors who choose to be associated with CI’s Course Provider scheme. See Figure 16. CI explains the rationale for this scheme in the following terms:

“Canoeing Ireland has a responsibility to participants in our sport to provide a basis on which to evaluate the structure and effectiveness of our programmes. This will be the primary aim of the Partnership Agreement. In conjunction with our plans to strengthen capabilities within our clubs, we are establishing a strong link with providers who are teaching our syllabus in a mutually beneficial partnership.”

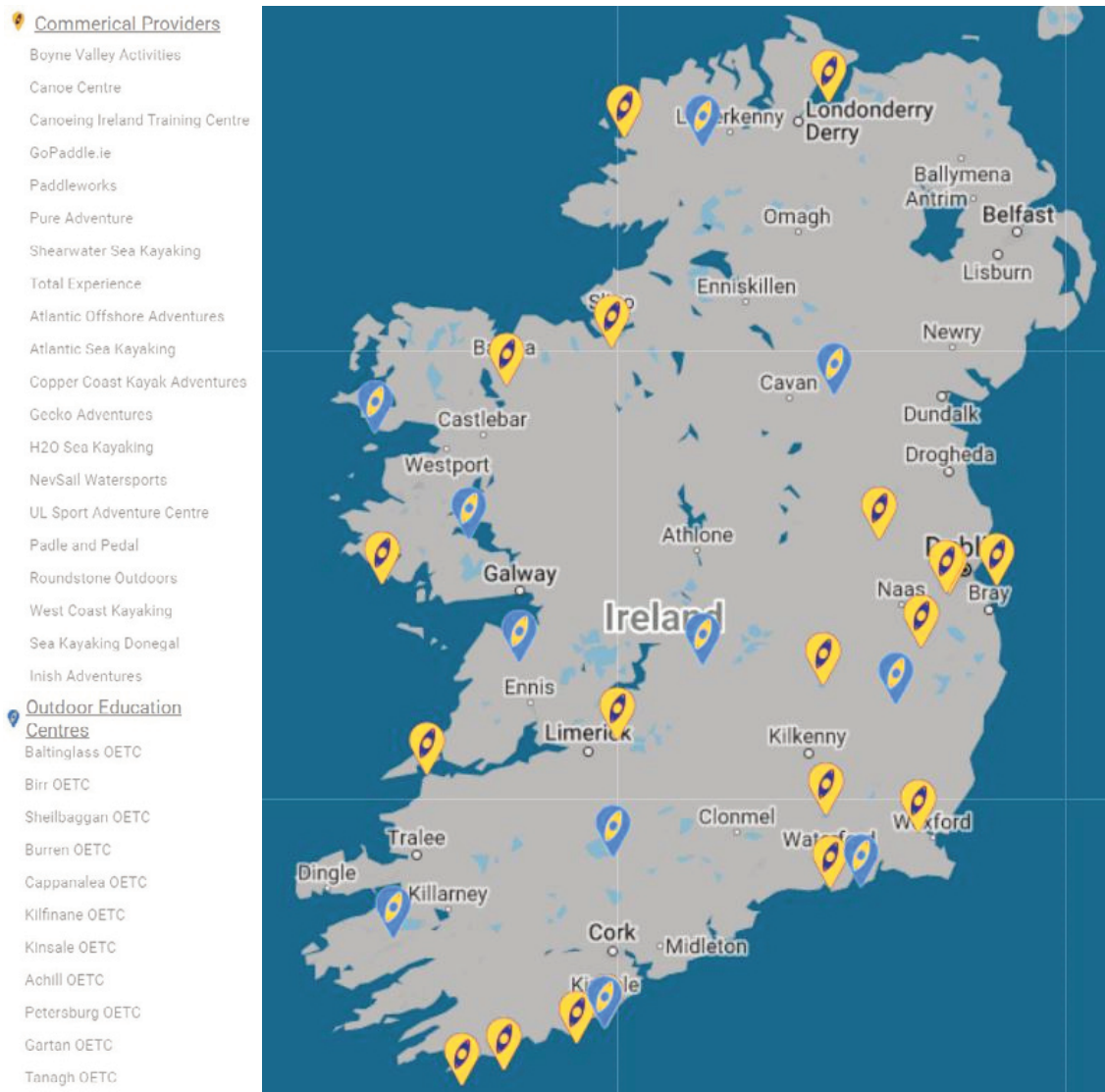


Figure 16: Map identifying Canoeing Ireland’s registered Course Providers.

Source: www.canoe.ie/registered-provider-map and www.canoe.ie/registered-providers

4.9.2 Course Providers who are eligible for the Partnership Agreement are those defined as:

“individuals, clubs, businesses, schools, ETB’s, OEC’s and social, community, educational or commercial organisations who offer Paddlesports activities including courses in a commercial framework and who meet the Canoeing Ireland Quality Assurance and Safety Standards.”

4.9.3 A Course Provider that has entered into the CI Partnership Agreement commits to complying with CI’s Quality Assurance and Safety Standards requirements, which include a commitment to inter alia:

- Accept a CI audit visit on any courses they run.

- Have adequate liability insurance to cover students, themselves and any additional trainers.
- Use appropriately qualified staff/members, ratios and equipment for the environment and groups with which they are operating.
- Ensure qualified staff/members are registered members of CI.
- Ensure that the Course Providers and additional trainers have appropriate and up-to-date CI Garda Vetting, Safeguarding and CI recognised first aid qualifications.
- Run courses in suitable locations for the safety of students and for delivering the relevant syllabus.
- Ensure that any training and assessment courses offered are in accordance with CI Quality Assurance and Safety Standards and operating procedures.
- Allow moderation by an appointed CI officer, of course delivery, including course services and equipment used, at any time.
- Partake in the CI Garda vetting process for all CI members and staff.
- Have an appointed Children’s Officer as a member of staff or committee.
- Have an appointed safeguarding Designated Liaison Person as a member of staff or committee.
- Are familiar with the Sport Ireland *Code of Ethics and Good Practice for Children in Sport*.
- Comply with sex, age and race discrimination legislation.

See Appendix 7.9 - Quality Assurance and Safety Standards for Course Providers and Facilitators, Canoeing Ireland.

4.9.4 The CI Course Provider/Partnership Agreement therefore has the capacity to improve safety standards on organised kayaking activities, by extending the CI regulatory regime through its accredited instructors operating within those Course Providers.

4.9.5 CI created and maintains the website www.getIrelandpaddling.ie for the specific purpose of making it easier for members of the public to access information on safety resources and the qualified providers of either training or an introductory paddlesports experience. The MCIB notes that the website displays prominently the contact details for the three CI registered providers of training or introductory paddlesports experiences that operate in Co. Donegal.

- 4.9.6 Data provided by CI demonstrates that there have been steps taken in recent years to improve access to qualified paddlesports providers, for members of the public interested in going afloat, including:
- a. In 2019, establishment of the registered Course Provider scheme.
 - b. In 2019 and 2020, the signing of a memorandum of understanding with the national representative body for the 16 ETBs operating in Ireland. This allows CI to promote and actively seek collaboration with 35 paddlesports providers operating as OETCs and FECs, and has allowed for these providers to be listed on CI's website (www.canoe.ie).
 - c. In 2020, publication of the 2021-2023 Strategic Plan that identified the need to develop the club system, and in so doing, to create improved access for members of the public to the training opportunities available within clubs and administered by the qualified instructors operating therein.
 - d. In 2021, introduction of the www.getIrelandpaddling.ie website to improve access to information on safety resources and the qualified providers of either training or an introductory paddlesports experience.
 - e. Since 2019, actively working on the promotion of safe paddlesports through:
 - Working with stakeholders such as the national governing bodies for other water sports, rescue services, the Coast Guard, Irish Water Safety, Ireland's Association for Adventure Tourism, Comhairle na Tuaithe, Fáilte Ireland, Waterways Ireland, and Sport Ireland.
 - Responding to enquiries from Local Authorities about beach trading licences for paddlesports providers.
 - Responding to enquiries from the public on how to access paddlesports experiences.
- 4.9.7 The MCIB's analysis indicates that the availability of qualified kayaking providers did not cause or contribute to this marine casualty event.

4.10 Trip Organiser's Safety Environment

- 4.10.1 Kayaking, whether at sea or on an inland waterway, is an adventure activity that is potentially rewarding for the participants, but is also a potentially high risk activity. When undertaken in a commercial setting, there is an onus of responsibility on the organiser to take all reasonable steps to ensure the safety of their clients. An organisation that operates in the absence of the safety environment facilitated by basic safety documentation, is an organisation that exposes itself and those under its care to potentially unsafe conditions.

- 4.10.2 The Trip Organiser was a commercial provider of kayaking trips for members of the public, most of whom were first-time or novice kayakers. The Trip Organiser had been operating since 2020 without any of the following safety protocols that are widely regarded as being an essential part of safety protocols. Such documentation is typically used in commercial and non-commercial entities as a means of avoiding, reducing or managing foreseeable risks.
- a. Standard Operating Procedures: To codify what are the safe conditions for the operation of an organisation's kayaking trips, such as limits on wind conditions, sea conditions, group size, group experience, area of operation and clothing requirements.
 - b. Generic Hazard Identification and Risk Assessment: To ensure that an organisation has the means of providing kayaking trips in a safe manner.
 - c. Session-Specific Trip Planning: To ensure that standard planning processes are implemented for each particular kayaking trip, and to demonstrate that this took place before each trip.
 - d. Session-Specific Risk Assessment: To ensure that each kayaking trip can be undertaken safely, and to demonstrate that this took place before each trip.
- 4.10.3 The Trip Organiser had an informal operating rule about the limit on weather conditions for a kayaking group: he would only take a group of adults on a trip if the wind conditions were 10-15 km/h (5-8 kts/force 2-3). The Trip Organiser did not apply this rule on the day this marine casualty event occurred. The Trip Organiser stated that he was aware the weather forecast for that morning exceeded this limit, as he was aware of a forecast for winds of more than 28 km/h (15 kts/force 5) but he decided to proceed anyway. The Trip Organiser stated that he thought these wind conditions would be suitable for this group, having been told they all had kayaking experience. However, the MCIB notes that:
- Winds of force 5-7 for that day were forecasted by Met Éireann. A Small Craft Warning for winds of at least force 6 was in effect.
 - Kayaking in wind of force 4 or above should only be considered by experienced kayakers, as described in Section 7.4 of the CoP.
 - Even the holders of CI's Level 3 Sea Kayak Skills Award, who have acquired considerable experience and training, are only trained to operate in force 3 wind conditions. None of the trip participants had this skills award, and none of the clients had the skills needed to acquire this award.
 - The holder of CI's Level 3 Sea Kayak Instructor qualification has the training and experience needed to take participants afloat in force 3 conditions, but the Trip Organiser was not a qualified instructor and he did not have the training or awards needed to acquire this qualification.

- 4.10.4. An effective system of safety protocols exists, in part, to reduce the likelihood of an informal decision-making process leading to a poor decision to proceed afloat in conditions that indicate otherwise.
- 4.10.5 The MCIB’s analysis indicates that the safety environment around this kayaking trip contributed to this marine casualty event.

4.11 General Safety Environment

- 4.11.1 Incidents involving recreational craft in Ireland account for significant effort and costs to search and rescue organisations, and a human cost to users, family and friends. In 2015, the then Minister for Transport, Tourism and Sport published the Maritime Safety Strategy 2015-2019, which records how there were 137 fatalities in the maritime sector in the 12-year period from 2002 to 2013, including 67 fatalities in the recreational sector. The strategy report describes how:

“The recreational craft sector accounts for almost half (49%) of all maritime fatalities and the majority (65%) of all IRCG call-outs in the sectors concerned. The sector includes sailing craft, motorboats, ski boats, craft with outboard engines, personal watercraft (jet-skis), canoes, kayaks and non-powered craft. Regulation of recreational craft in Ireland is focused on the safe operation of craft, the provision of certain items of safety equipment, the carriage and use of personal flotation devices (PFDs) (lifejackets/buoyancy aids), and the manufacture and sale of safe recreational craft under the EU Recreational Craft Directive. The... Code of Practice for the Safe Operation of Recreational Craft... provides information on legislative requirements and gives safety advice on best practice to operators and owners of recreational craft...”

See Appendix 7.10 - Maritime Safety Strategy 2015-2019, Sectoral Analysis of Factors Contributing to Maritime Fatalities.

- 4.11.2 The Maritime Safety Strategy recognised that safety is a wide-ranging issue in the recreational sports domain, which a number of organisations including CI and other national governing bodies seek to improve. However, lives continue to be lost on the water, despite certain regulations, inspections, training, certification, safety information and the work by the MCIB to investigate incidents and fatalities and to highlight their causes. The Maritime Safety Strategy 2015-2019 described how:

“MCIB investigation reports indicate that there are similarities in the events which contribute to the loss of life in the maritime sector. Based on analysis of MCIB reports, on fatalities arising since 2002, combined with information from IRCG incident reports, ten factors have been identified which tend to arise most frequently, as set out Figure 6 below...”

Figure 6: *Top ten factors contributing to loss of life at sea in Ireland* – all maritime craft and vessels



Although the focus is on fatalities, similar factors contribute to incidents where there has been no loss of life. Thus by tackling the factors highlighted, both fatalities and incidents overall can be reduced. The prevalence of these factors is borne out by the practical experience of the IRCG in its management of emergency response in the maritime sector. Each of the factors listed is important and it is noteworthy that there are often multiple factors identified in relation to each fatality.

A common underlying factor when reading through the MCIB reports over the years is the need for an enhanced culture of safety in the maritime sector; this factor is therefore listed first. There is a strong sense that insufficient attention is paid by individuals to maritime safety as a matter of course. Taking to the water is so familiar that it risks being taken for granted, and basic safety checks overlooked. The safety culture will only change when it becomes second nature for people to think ‘safety first’ when planning and undertaking a voyage or water-based activity...

The MCIB reports have indicated that a lack of compliance with maritime safety requirements can be a factor in marine casualties and that better enforcement could address this issue. Enforcement can be improved, and additional deterrents can be put in place, but these actions alone will not be enough - a dramatic change in attitudes and practice across the maritime sector is the main requirement to improve maritime safety.”

4.11.3 The MCIB has investigated a number of kayaking and canoeing incidents at sea and on inland waters since 2007, as a result of which eight fatalities occurred. The incidents are as follows:

1. MCIB 155 - Gaddagh River, 2007.

2. MCIB 180 - Clodagh River, 2010.
3. MCIB 241 - Inchavore River, 2014.
4. MCIB 275 - River Suir, 2017.
5. MCIB 283 - Roughty River, 2018.
6. MCIB 285 - Lough Gill, 2019.
7. MCIB 296 - Caragh River, 2019.

4.11.4 The circumstances of the above kayaking incidents have some common features in that:

- Incidents occurred in winter or spring months. This has implications for cold water shock and the onset of hypothermia.
- Skills levels of the kayaker/instructor are not sufficient for the type of water conditions.
- Mixed ability groups do not have sufficiently qualified leaders/instructors.
- Incidents occurred during the latter half of the excursion.

4.11.5 The MCIB's Annual Reports for 2020 and 2021 strongly encouraged all organisations (especially clubs and commercial entities) associated with water sports and water recreational activities to audit their safety systems, and to have regard to the CoP for the Safe Operation of Recreational Craft and all guidelines or recommendations issued by any governing sports bodies. In the MCIB's report No. 304, published in 2021, a number of recommendations were made in relation to the paddlesports sector including ones related to commercial entities, including consideration of:

- The establishment of a directory of commercial providers of coastal sea and river paddle facilities;
- How best to enhance safety standards within the commercial paddlesports provider sector;
- A mandatory registration or licencing scheme of instructors and their qualifications.

It is disappointing to note that the MCIB continue to be advised of situations where little or no regard was paid to governing body safety guidelines. The MCIB has observed a continuing increase in the number of very serious incidents involving paddlesports, some of which could very easily have led to fatalities.

- 4.11.6 The MCIB's analysis indicates that the general safety environment around paddlesports in Ireland was a systemic factor in this marine casualty event. This is defined as any causal or contributing factor of an organisational, managerial, societal or regulatory nature that is likely to affect similar and related occurrences in the future.

5. CONCLUSIONS

- 5.1 This kayaking trip resulted in a marine casualty event that posed a threat of death or serious injury to persons who had been operating recreational vessels in Irish waters.
- 5.2 This marine casualty event occurred because a combination of the following causal and contributory factors:
- a. Unsuitable weather conditions.
 - b. Inadequate training and qualifications.
 - c. Inadequate trip planning.
 - d. Inadequate contingency planning.
 - e. Inadequate safety equipment.
 - f. Inadequate protective clothing.
 - g. Inadequate safety environment.
- 5.2.1 **Weather Conditions:** The weather conditions during this kayaking trip were a causal factor in this marine casualty event. The weather conditions were unsuitable for this type of kayaking trip. The trip participants lacked the skills needed to be able to manoeuvre the kayaks effectively or safely in the conditions. The trip participants all described how the trip deteriorated when the forecasted wind conditions occurred, leading directly to the capsize of four kayaks. When this kayaking group set out on that day's trip, a Small Craft Warning was in effect for all Irish coastal waters, meaning that winds of at least force 6 were likely to occur. The force 6-7 conditions that were forecasted to occur, did occur; they were not unexpected. Kayaking in winds of force 4 or above should only be considered by experienced kayakers, as described in Section 7.4 of the CoP for the Safe Operation of Recreational Craft.
- 5.2.2 **Training and Qualifications:** The disregard for the skills and experience that are obtained through the training and qualification schemes for a sea kayak instructor or guide was a major contributory factor in this marine casualty event. Having regard to the route taken by this group across a tidal sea lough, being up to 500 m from shore, under the CI scheme the required level of qualification for this trip was that of Level 3 Sea Kayak Instructor, if the wind speed limitations of this qualification had been respected. Despite what is suggested by the Trip Organiser's website, the Trip Organiser does not have this instructor qualification, or any equivalent qualification needed to safely lead a sea kayaking group in this environment.

The Trip Organiser had expressed an interest in obtaining training and qualifications through CI's schemes, but described facing difficulties with obtaining a position on such a course. The MCIB's analysis indicates that these difficulties were not insurmountable. The Trip Organiser established a commercial organisation that offered guided tours to members of the public without having first obtained the training and qualifications recommended by CI for such a commercial operation. While it is the case that CI has neither a statutory nor a mandatory remit in relation to instructor training and qualifications, CI is the national governing body for paddlesports.

- 5.2.3 **Trip Planning:** The omission of trip planning procedures, such as those described in the CoP, contributed to this marine casualty event. The foreword to the CoP describes succinctly the importance of trip planning: *“every trip on the water should be a safe one, which means planning for a safe trip every time, behaving responsibly once afloat, and maximising the chances of survival in the water should an incident occur.”* Most of the trip planning procedures trained by CI were absent from this kayaking trip.
- 5.2.4 **Contingency Planning:** The omission of contingency planning on this kayaking trip contributed to this marine casualty event. Planning for an activity requires planning for what is to happen if someone gets into difficulty. The emergency services responded promptly after they were notified, but the practical distances involved meant that a period of approximately 56 minutes still elapsed between first notification of this incident and the casualties being removed from the water. Participants were in dangerously cold water in a helpless state for at least one hour and ten minutes. The use of an accompanying RIB safety boat should ordinarily not have been necessary for a kayaking group of five participants and one guide, but this was one control measure that could have mitigated the particular risks associated with this trip. Unfortunately, the contingency planning for this trip did not extend to the operating procedures needed to ensure that this available resource would actually be used on this trip.
- 5.2.5 **Safety Equipment:** The omission of standard safety equipment on this kayaking trip contributed to this marine casualty event. This kayaking trip took place in what is effectively a remote area, which influences the practical response times that the emergency services can be expected to achieve. Standard safety equipment exists to mitigate and manage the associated risks but these were largely omitted from this trip, such as a phone in a waterproof pouch, a marine VHF radio, a PLB, signalling flares, a tow rope, and a spray deck to facilitate kayak rescue techniques. In addition, while the Trip Organiser provided PFDs, these were not fitted properly on all clients, and were only fitted properly on others because of the diligence of one client who had some kayaking experience.

The Trip Organiser took a mobile phone afloat but this was kept in the pocket of a raincoat so it inevitably became inoperable when immersed in water. A waterproof pouch is essential if a mobile phone is to be relied upon as the sole means of contacting the emergency services. A marine VHF radio can provide an

effective means of contacting, and then liaising with, the emergency services when afloat. A PLB can provide an effective means of contacting the emergency services when afloat, especially in a remote environment where there are potential limitations on mobile phone signal or VHF radio wave reception.

- 5.2.6 **Protective Clothing:** The omission of protective clothing against the effects of cold water immersion contributed to this marine casualty event. There are known dangers associated with sudden immersion in cold water, and the effects of prolonged exposure to cold water. These dangers were heightened by the particularly low 8°C temperature of the water at the time of this incident, being the coldest time of the year for Irish coastal waters. There is a significant difference in the likely outcome of exposure to the 8°C water that is typically experienced in Ireland at the end of spring, when compared to the 15°C water that is typically experienced at the end of summer/early autumn.

There was a very high likelihood that, if a participant on this trip was to capsize, they could experience the dangerous effects of either sudden immersion in cold water or prolonged exposure to cold water. While such risks can never be eliminated when afloat, the risk posed by cold water immersion can be managed in the first instance by ensuring that some form of thermal protection is worn by all participants. Only two of the six people on this trip wore wetsuits as a form of protective clothing. It should not be open to participants on a commercial kayaking trip to wear whatever clothing they might have available to them, instead of the commercial provider requiring and providing protective clothing relevant to the circumstances such as a wetsuit.

- 5.2.7 **Safety Environment:** The omission of basic safety protocols contributed to this marine casualty event. The principle of applying safety protocols within an organisation exists, in part, to reduce the likelihood of an informal decision-making process leading to a poor decision to proceed afloat in conditions that indicate otherwise.
- 5.2.8 **Systemic factors** occurred in relation to this marine casualty event that are likely to affect similar activities in the future, particularly relating to the commercial paddlesports sector. Voluntary standards set by national governing bodies exist to mitigate the risks associated with going afloat, but these standards must be adhered to by those with the responsibility for taking persons afloat, if similar marine casualty events are to be prevented.

6. SAFETY RECOMMENDATIONS

Preamble

The following safety recommendations are made in particular having regard to the findings from this investigation; the MCIB's observation of a pattern to the repeated incidence of marine casualties in the recreational craft sector; and the recommendations in the Maritime Safety Strategy 2015-2019. The MCIB is also conscious of the publicly reported, heightened popularity of recreational water activities since the effects of COVID-19 restrictions, with the greater risk of incidents occurring.

The MCIB has previously noted the provisions of Section 20 of the Merchant Shipping Act 1992, as amended by the 2000 Act, whereby the Minister for Transport may make regulations including for the following under Section 20(2). Having further regard to the current situation, and in particular to the issues raised by this investigation, the MCIB notes that the Minister for Transport may make regulations including for the following under Section 20(2) of the Act:

- “(e) for the registration of specified classes of pleasure craft and the licensing or certification of masters or persons in control of or operating pleasure craft or specified classes of pleasure craft,*
- (f) (i) regulate the use of pleasure craft or specified classes of pleasure craft by reference to the age or other qualifications of masters or persons in control of or operating pleasure craft or pleasure craft of a specified class,*
 - (ii) regulate or prohibit the use of pleasure craft or specified classes of pleasure craft in particular circumstances, and the consumption of alcohol or drugs by masters or persons in control of or operating pleasure craft or pleasure craft of a specified class,*
- (g) prohibit the use of pleasure craft or specified classes of pleasure craft unless there are in force policies of insurance under which the owners of the pleasure craft or, if the pleasure craft are on hire, the persons to whom they are on hire are insured to a specified extent against specified risks relating to the use of the pleasure craft,”*

6.1 Recommendations to the Trip Organiser

6.1.1 That the Trip Organiser should immediately review the safety regime it operates in, and immediately introduces procedures for the undertaking of commercial kayaking trips, with respect to:

- a. Amending the description used on their website to advertise the certifications or qualifications of those who provide kayaking services to members of the public.

- b. The provision of protective clothing against exposure to cold water.
- c. Standard Operating Procedures for each component part of the services they provide.
- d. Hazard identification, analysis, evaluation and the implementation of control measures.
- e. Compliance with the recommendations in the Code of Practice for the Safe Operation of Recreational Craft relating to the operation of sea kayaks.
- f. Compliance with national governing body recommendations, advice and competency standards for kayak trip guiding/instructor qualifications.
- g. The effective auditing of its operational processes.

6.2 Recommendations to Canoeing Ireland and Sport Ireland

- 6.2.1 That Canoeing Ireland, in conjunction with Sport Ireland, should consider the establishment, and promotion of a register of Canoeing Ireland qualified instructors with their qualifications that would be available to the public.
- 6.2.2 That Canoeing Ireland, in conjunction with Sport Ireland, should consider the establishment of a scheme for the audit of the safety policies and practises of entities affiliated with this national governing body.
- 6.2.3 That Canoeing Ireland, in conjunction with Sport Ireland, should consider actions to increase the number of registered course providers that operate within Canoeing Ireland's Quality Assurance and Safety Standards framework.
- 6.2.4 That Canoeing Ireland, in conjunction with Sport Ireland, should consider actions to further promote to members of the public the use of registered course providers that operate within Canoeing Ireland's Quality Assurance and Safety Standards framework.
- 6.2.5 That Canoeing Ireland, in conjunction with Sport Ireland, should consider actions to further improve for all members of Canoeing Ireland the availability of this organisation's skills awards and qualifications.
- 6.2.6 That Canoeing Ireland, in conjunction with Sport Ireland, should consider actions to further promote formal training in risk assessment procedures as part of their skills awards and instructor qualifications, and as part of the continuing development of the skills of their members.

6.3 Recommendations to Water Safety Ireland

The parties involved in this investigation received drafts of the Report including the draft recommendations. It is pertinent to note that since the circulation of

the draft Report, steps have been taken by Water Safety Ireland to action the recommendations which are addressed to them. The MCIB welcomes this.

6.3.1 That Water Safety Ireland should consider actions to further promote both public awareness of kayaking water safety and measures to prevent kayaking accidents.

6.3.2 That Water Safety Ireland should consider updating its published safety material to avoid inconsistencies with the Code of Practice for the Safe Operation of Recreational Craft.

6.4 Recommendations to the Minister for Transport

6.4.1 That the Minister for Transport should include in the Code of Practice for the Safe Operation of Recreational Craft, guidance on hazard identification, analysis, evaluation and the implementation of control measures.

6.5 Recommendations to all Providers of Paddlesports Activities

6.5.1 That all entities undertaking paddlesports activities, whether on a commercial or non-commercial basis should:

- a. Undertake an audit of their operating procedures and safety systems.
- b. Take steps to ensure that all relevant guidelines or recommendations in the Code of Practice for the Safe Operation of Recreational Craft, and those issued by Canoeing Ireland, are being implemented in their organisation.

7. APPENDICES

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Appendix 7.1 Level 2 Kayak Skills Award, Canoeing Ireland



Level 2 Kayak Skills

Home / Level 2 Kayak Skills



General Aims

The Level 2 Kayak Skills Award aims to enable participants to:

- Kayak safely and competently on flat water, Grade I rivers, very sheltered coastal areas as a member of a group of peers.
- Be able to carry out basic safety techniques with the assistance of another member of the group or the person in the water.
- Be able to safety plan and carry out a trip in a flat-water environment considering all relevant factors.
- For level two skills holders U-18 it is recommended that these paddlers be supervised by a person over the age of 18 who has suitable experience.

Requirements

To obtain the Level 2 Kayak Skills Award, a participant must successfully explain and/or demonstrate the following techniques and skills:

Strokes

- Forward
- Reverse
- Emergency Stop

Attendance Requirements

Requirements for attending a Level 2 Kayak Skills assessment:

- Candidates should be familiar with all aspects of theory and should be able to verbally answer questions on theory aspects of the award.
- The Level 2 Kayak Skills Award is not a compulsory prerequisite for any subsequent Canoeing Ireland skills awards.
- No age restriction applies to this award.
- U18 Level 2 skills paddlers should be appropriately supervised by a person who is over 18 and who has suitable experience.



Appendix 7.1 Level 2 Kayak Skills Award, Canoeing Ireland

Canoeing Ireland

- An ability to turn the canoe through 360 degrees in both directions using a combination of Forward and Reverse Sweep Strokes. Or other appropriate strokes

- Simple Draw Stroke
- Low Brace

Techniques

- Entry and exit of the kayak
- Edging/ leaning
- Turning on the moving
- Edging/ leaning while moving

Rescues and Rescue Techniques

- Capsize drill.
- T rescue or paddle presentation
- X rescue (as a swimmer)
- X rescue (as a rescuer with assistance)
- Simple tow (without equipment)
- Knowledge of (can talk through) a tow using equipment.

Theory

- Be able to list the basic safety rules of canoeing.
- Describe how to contact the emergency services.
- Be able to outline weather and environmental factors that affect a kayaking session including be able to identify the following: General weather outlook, wind direction and speed, air temperature and water conditions for in land water or coastal water.
- Be able to list the aspects of good group management and identify, explain, and give examples of the CLAP concept of group management.
- Be able to list the most important factors to trip planning

Course Documents

[Assessment Guidelines](#)

[Equipment List](#)



Appendix 7.2 Essential Coastal Navigation Award, Canoeing Ireland



Essential Coastal Navigation

Home / Essential Coastal Navigation



General Aims

The aim of the course is to enable participants to plan and develop navigational tools to undertake coastal journeys in moderate sea conditions. Following the training participants will be able:

- To know the different resources available to them to plan coastal journeys. (i.e. Pilots, almanacs, sailing directions, charts and other digital available data).
- To know how to interpret and apply data from the various resources to aid them in trip planning.
- To be able to plan a coastal journey and have taken into account, weather, tide and other anticipated hazard.
- To source, apply and interpret a marine forecast.

Attendance Requirements

Requirements for attending an ECN assessment:

- Current member of Canoeing Ireland

Course Content

Weather

- Cause and effect of weather systems and fronts
- Beaufort scale
- Sea state
- Sources of forecasts
- Obtaining and interpreting a marine forecast
- Tide
- Cause of tides, springs/ neaps / equinoctial tides
- Tide tables
- Tidal streams and sources of information on tidal streams
- Rule of 12ths and 3rds
- Awareness and predicting tidal anomalies.
- Using proformas for tidal calculations

Appendix 7.2 Essential Coastal Navigation Award, Canoeing Ireland

The screenshot displays the 'Canoeing Ireland' website. At the top left is the logo for 'Canoeing Ireland'. Below the logo, the page is organized into several sections, each with a yellow square icon containing a minus sign. The sections are: 'Charts', 'Pilotage', 'Trip Planning', and 'Other sources of information'. Each section contains a list of bullet points. Below these sections is a 'Course Documents' section with two yellow buttons: 'Assessment Guidelines' and 'Equipment List'. At the bottom of the page, there is a dark blue horizontal bar with a small white upward-pointing arrow icon on the right side.

Canoeing Ireland

Charts

- Plotting positions
- Scales and measurements
- Buoyage and lights
- Magnetic variations
- Tidal diamonds
- Using tides in conjunction with GPS

Pilotage

- Layout and sourcing information in coastal pilot / sailing directions / almanacs
- Shortcomings of the above for kayaking
- Identifying and transferring relevant data for kayaking

Trip Planning

- Various considerations to consider when planning a trip, e.g. timing, group ability, weather, environmental / local factors, logistics....
- Calculating ETAs and ETDs from looking at tide gates and other crux points.
- Planning with reference to HW
- Identifying suitable pilotage features, e.g. transits, etc.
- Planning from the deck and how to calculate EPs and use DR


Other sources of information

- GPS and plotters

Course Documents

[Assessment Guidelines](#) [Equipment List](#)

Appendix 7.3 Met Éireann (Pre-Incident) Weather Forecast



Weather Forecast From Met Éireann

24-hour Sea Area Forecast

Updated at 0000 / 0600 / 1200 / 1800


Sea Area Forecast until 0600 Sunday, 20 March 2022
Issued at 0600 Saturday, 19 March 2022

- 1. Gale warning:** Nil
Small craft warning: In operation
- 2. Meteorological situation at 0300:** An anticyclone of 1050 hPa centred over the northwest of Europe generates a fresh to strong southeast airflow over Ireland.
- 3. Forecast for Irish coastal waters from Roches Point to Erris Head to Belfast Lough**
Wind: Southeasterly force 5 to 7, strongest generally in the southwest. Decreasing force 5 or 6 later.
Weather: Fair or fine. Cloudier later with some scattered showers.
Visibility: Mostly good.

Forecast for Irish coastal waters from Belfast Lough to Carnsore Point to Roches Point and for the Irish Sea
Wind: Southeasterly mainly force 5 or 6, strongest in the south.
Weather: Fair or fine. Fair to cloudy later with showers in the south.
Visibility: Mostly good.

Warning of Heavy Swell: Nil
- 4. Outlook for a further 24 hours until 0600 Monday 21 March 2022:** Wind: Fresh to strong southeast winds moderating later. Weather: Cloudy to fair with scattered showers - mainly for southwestern and western sea areas. Some mist and fog patches.

Appendix 7.3 Met Éireann (Pre-Incident) Weather Forecast

	
Weather Forecast From Met Éireann	
Text of Gale Warning	
Nil	
Text of Small Craft Warning	
South to southeast winds will reach force 6 or higher today (Saturday) on all Irish coasts.	
Coastal Reports	5 AM Saturday, 19 March 2022
Malin Head Automatic	East-Southeast, 7 Knots, Fair, 11 Miles, 1036, Falling slowly
Dublin Airport	Southeast, 7 Knots, Fine, 10 Miles, 1037, Falling slowly
Buoy M5 51° 41'N 6° 42'W	East, 18 Knots, Wave ht: 2.1 m, The visibility at Tuskar is greater than 10 Miles, 1033, Falling
Roches Point Automatic	East, 18 Knots, Fair, 8 Miles, 1032, Falling slowly
Sherkin Island Automatic	East, 21 Knots, Fair, 7 Miles, 1030, Falling
Valentia Automatic	East-Southeast, 13 Knots, Gust 23 Knots, Fair, 18 Miles, 1029, Falling
Mace Head Automatic	East, 17 Knots, Gust 34 Knots, Fair, 26 Miles, 1031, Falling
Belmullet Automatic	South-Southeast, 16 Knots, Gust 34 Knots, Fair, 13 Miles, 1031, Falling
Buoy M1 53° 8'N, 11° 12'W	Report not available
Buoy M2 53° 29'N, 5° 26'W	East-Southeast, 9 Knots, Wave ht:0.5 m, 1038, Falling slowly
Buoy M3 51° 13'N, 10° 33'W	East-Southeast, 27 Knots, Gust 35 Knots, Wave ht: 3.7 m, 1027, Falling
Buoy M4 55° 0'N 10° 0'W	Southeast, 15 Knots, Wave ht: 4.1 m, 1032, Falling slowly
Buoy M6 53° 4'N 15° 56'W	Report not available
Disclaimer: buoy locations are approximate and are not for navigational purposes	
Sea Crossings	State of sea until 0600 Monday 21 March 2022
Dublin - Holyhead	Slight to moderate, decreasing slight.
Rosslare - South Wales	Moderate.
Cork - South Wales	Moderate.
Rosslare - France	Mostly moderate, locally rough at first.
Cork - France	Mostly moderate, locally rough at first.
Next update before 1300 Saturday, 19 March 2022	
A detailed forecast may be obtained by dialing <i>Weatherdial</i> on 1550 123 855.	

Appendix 7.4 Met Éireann (Post-Incident) Weather Report



Met Éireann

The Irish Meteorological Service

Climate Services
Glasnevin Hill
Dublin 9

Seirbhís Aeráide
Cnoc Ghlas Naíon
Baile Átha Cliath 9

Tel: +353-1-8064260
Email: enq@met.ie
Email: legal@met.ie

Our Ref: WS1730/2209_7

Your Ref: MCIB/12/318

Estimated weather conditions for Mulroy Bay, Kerrykeel Co Donegal on Saturday 19th March 2022.

Meteorological Synopsis: High pressure dominated over Ireland on 19-March-2022 with stable and settled conditions however winds increased to a strong to near-gale and gusty southeasterly. An extensive high pressure system (1051 hPa) over Scandinavia blocked the approach of an Atlantic depression (996 hPa) to the northwest of Ireland.

Wind: During the morning (between 04:00 and 08:00 hours) southeasterly winds were light for a time: Beaufort Force 2 or 3. After 08:00 hours, winds gradually increased and reached strong Beaufort Force 6 to near-gale Beaufort Force 7 by mid-morning with mean wind speeds of 25 to 33 knots for the remainder of the day with occasional gusts up to 45 knots. The wind direction throughout the 24 hours was southeasterly. Local effects may have caused winds to occasionally reach Gale Force 8 on Mulroy Bay due to the orientation of the bay.

Visibility: Visibility was good (greater than 5 nm).

Weather: Clear skies and sunshine by day. Cloud developed by evening. There was no precipitation.

Temperature: Air temperatures ranged from a minimum of 6 or 7 degrees Celsius in the early morning to a daytime maximum of 13 or 14 degrees Celsius.

Sea temperature: 8 degrees Celsius (observed at Malin Head).

This report was issued on: 20 September 2022

Met Éireann | Climate Services | Legal Unit | Email: legal@met.ie

Appendix 7.4 Met Éireann (Post-Incident) Weather Report



Met Éireann

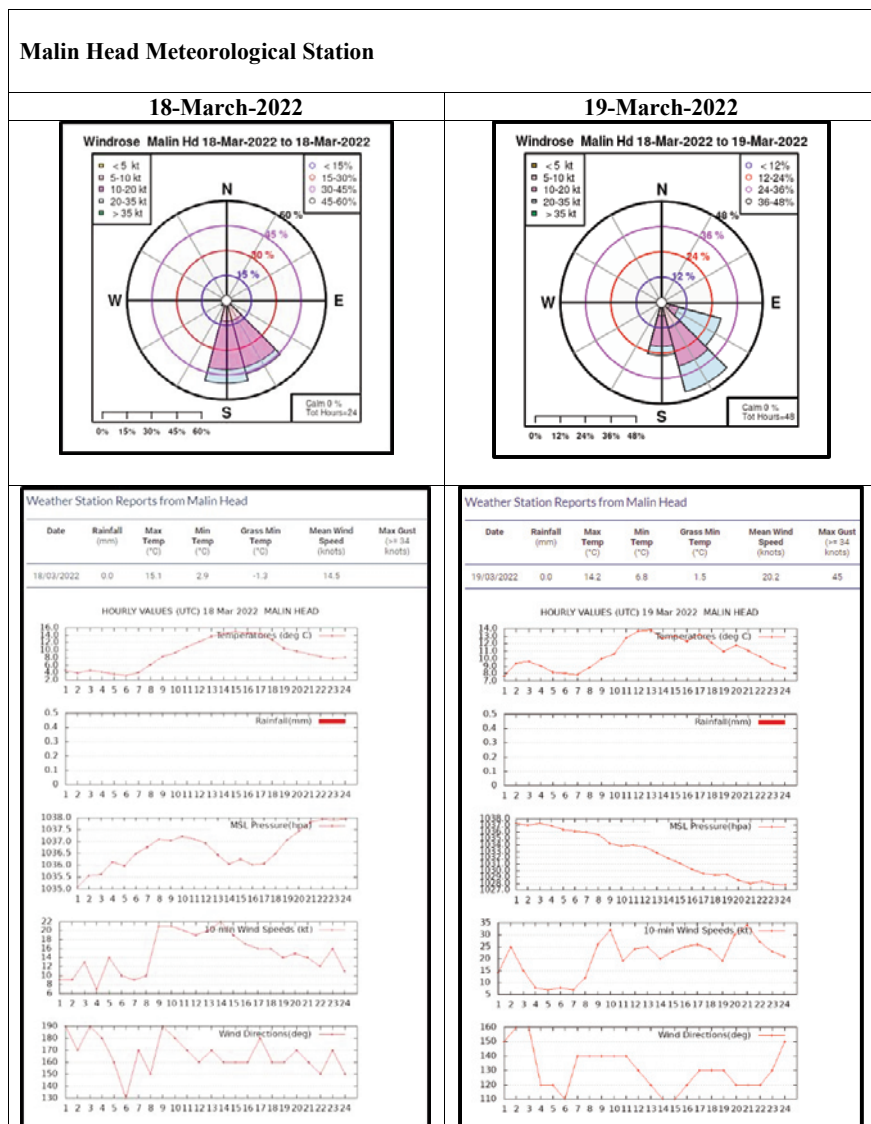
The Irish Meteorological Service

Climate Services
Glasnevin Hill
Dublin 9

Seirbhísi Aeráide
Cnoc Ghlas Naíon
Baile Átha Cliath 9

Tel: +353-1-8064260
Email: enq@met.ie
Email: legal@met.ie

Appendix 1a Meteorological Station Report Malin Head 18 – 19 March 2022



Appendix 7.4 Met Éireann (Post-Incident) Weather Report



Met Éireann

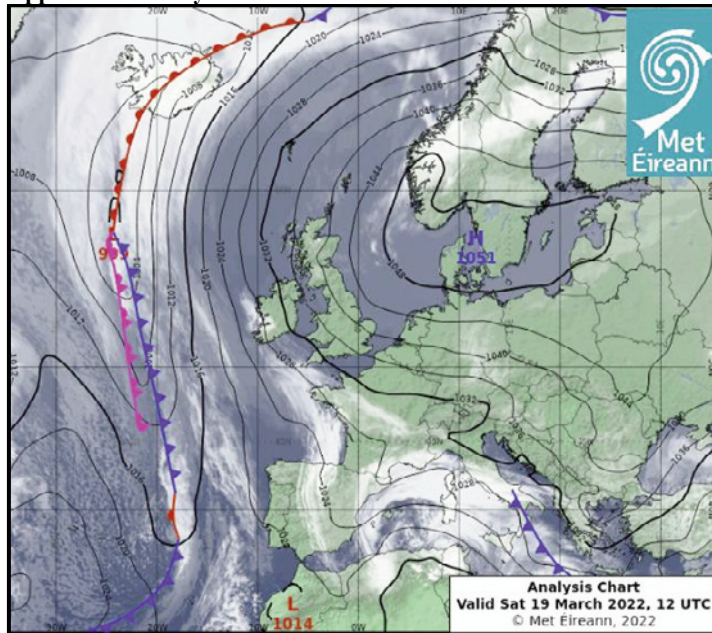
The Irish Meteorological Service

Climate Services
Glasnevin Hill
Dublin 9

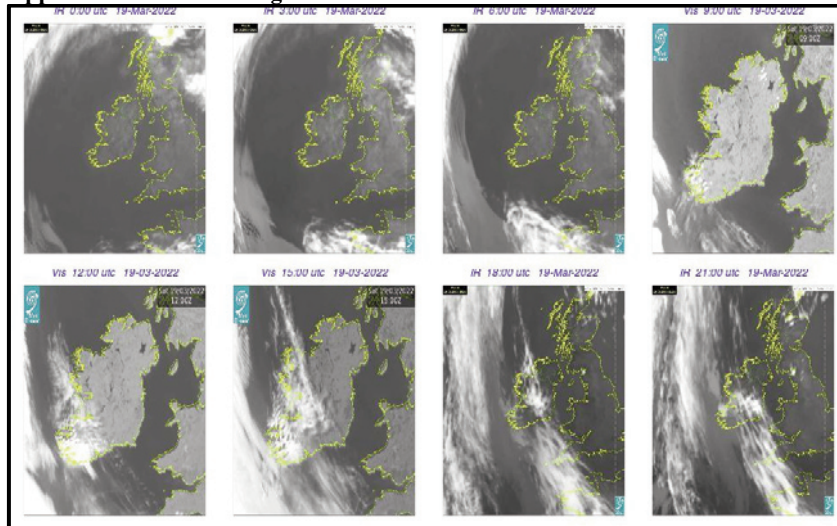
Seirbhísi Aeráide
Cnoc Ghlas Naíon
Baile Átha Cliath 9

Tel: +353-1-8064260
Email: enq@met.ie
Email: legal@met.ie

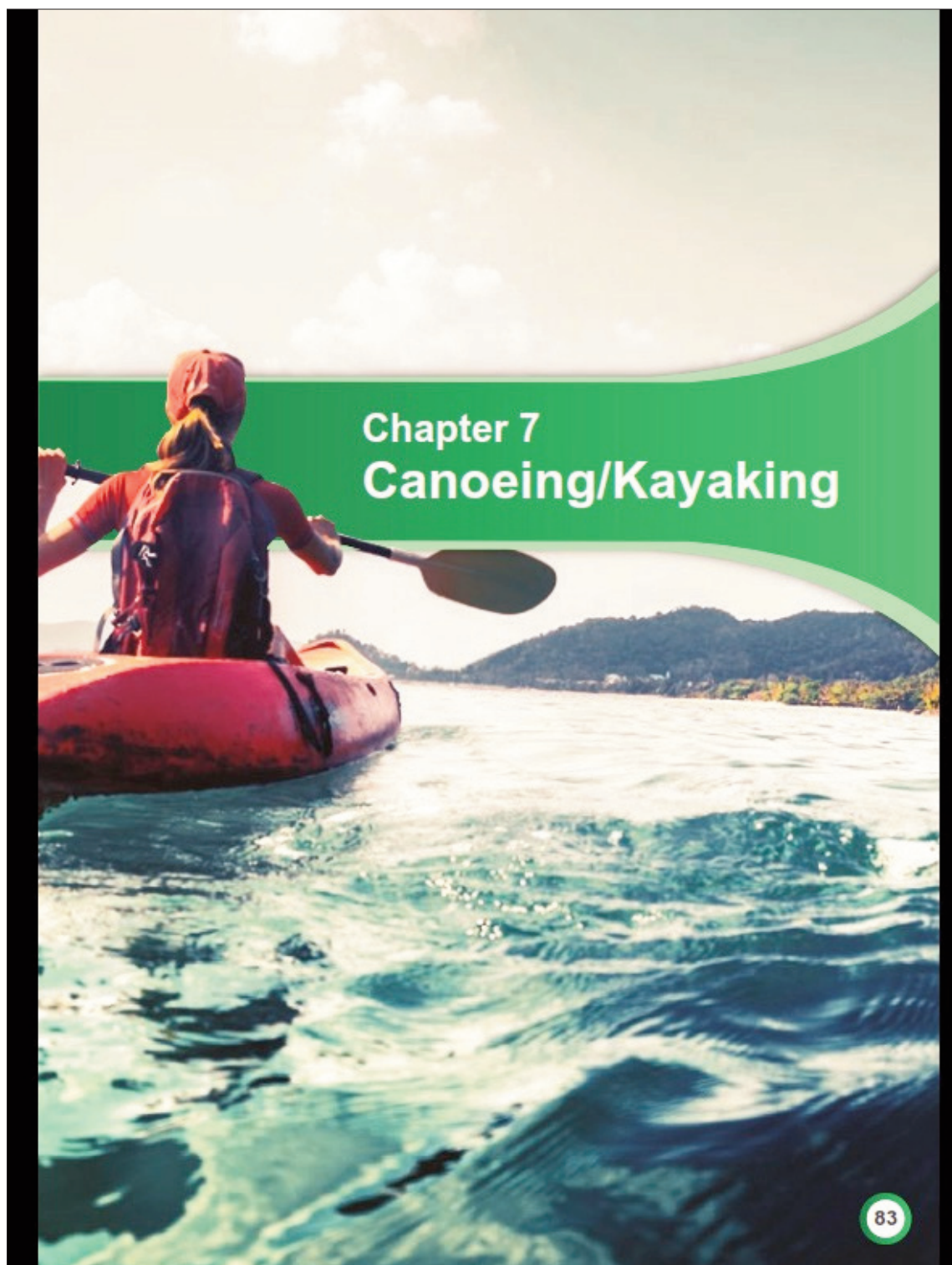
Appendix 1b Analysis Chart



Appendix 1c Satellite Images



Appendix 7.5 Code of Practice: The Safe Operation of Recreational Craft, Chapter 7



Appendix 7.5 Code of Practice: The Safe Operation of Recreational Craft, Chapter 7

Canoeing covers a wide and diverse range of disciplines including sea kayaking, white water kayaking, surf kayaking, polo, slalom, marathon, sprint, freestyle and touring.

A **canoe** is a lightweight narrow boat, typically pointed at both ends and **open** on top, propelled by one or more seated or kneeling paddlers facing the direction of travel using a single-bladed paddle.

A **kayak** is a small, narrow boat which is propelled by means of a double-bladed paddle.

In this Code of Practice, the term **canoe** when used also refers to a kayak.

There are a number of basic safety precautions that should be applied to any canoeing activity, regardless of its speciality.

7.1 Training

Undertake a recognised training course in the correct use of the specific type of canoe you wish to use. Be completely familiar with relevant rescue/recovery drills, self-righting techniques, e.g. Eskimo roll, etc. Practice such drills with fellow members of your group. Canoeing Ireland have a comprehensive training and accreditation scheme, which covers river, sea kayaking and open

canoes (see Appendix 9 for details of course providers).

7.2 Prior to entering the water

- Ensure you are a competent swimmer and capable of surviving in the water in the areas you operate in.
- Undertake a First Aid course and a life-saving course.
- Never operate alone, always canoe in company.
- Do not operate a canoe if under the influence of alcohol or drugs.
- Inspect your craft and equipment thoroughly. Check it is fitted with adequate buoyancy material and that such buoyancy is correctly distributed and secured within the hull.
- Ensure that the bung is fitted correctly.
- Do not use the canoe unless you are certain it is watertight. Boats with temporary repairs should not be used.
- If carrying additional equipment, ensure that the canoe is never overloaded.
- Use a spray deck, with quick release where relevant, and be completely familiar with its use.
- When using a spray deck, ensure that the grab loop is in good condition and is within reach.
- Always ensure that your name/contact address are permanently marked on the hull.

Appendix 7.5 Code of Practice: The Safe Operation of Recreational Craft, Chapter 7



7 Canoeing/Kayaking

The addition of strips of retro-reflective tape to the hull is recommended.

- Check the hull is fitted with grab loops/towing lines. Kayaks over 270 cm in length should have decklines fitted fore and aft. Kayaks less than 270 cm in length should have cowtails fitted.
- Ensure that a responsible person is aware of your intended departure, locations and return details.
- Ensure that you carry a mobile phone or Marine VHF radio in a suitable watertight cover for use to summon assistance in emergency situations.
- Open canoes are not suitable for the sea.

- All kayaks should have suitable footrests.

7.3 Personal Safety Equipment

- PFD/lifejacket (see Appendix 5).
- The PFD should be fitted with a whistle to attract attention, be in a Hi-Visibility colour and fitted with retro-reflective strips.
- Ensure you are suitably attired for the type of activity, area of operation and time of the year.
- Be aware of the dangers of hypothermia when wet and exposed to the elements.
- If paddling where the risk of head injury exists, a suitable helmet should always be worn.
- When making descents on remote rivers of Grade 3 and

Appendix 7.5 Code of Practice: The Safe Operation of Recreational Craft, Chapter 7



higher, and while sea-kayaking, you should carry a registered Personal Locator Beacon (PLB). This will enable early alerting of the rescue services in the event of an emergency.

7.4 Sea Kayaking

Sea kayakers should observe the following additional precautions:

- Be aware of the weather forecast and sea area forecast. Only operate within your limits and ability. Canoeing in a windforce 4 or above should only be considered for the very experienced.
- Be aware of the tidal conditions for the areas that you are operating in.
- Be aware of the effects of interaction between wind and tide on sea states.
- Carry a chart for the area of operation. These can be laminated and attached to the kayak deck.
- Carry a hand held compass.
- Ensure a nominated person ashore is aware of your itinerary, departure and return times.

- Have a passage plan and alternative emergency plans, e.g. safe landing area down wind, etc.
- Do not operate alone – kayak in company.
- If capsized and floating outside your craft, remain with it. It offers a better target to rescuers and has a high buoyancy factor. Do not attempt to swim for shore unless adjacent to the shore.

The following additional equipment should be considered:

- Flares
- Towrope/throw bag
- Torch
- Suitable knife
- Portable waterproof VHF radio
- Portable GPS unit
- Personal EPIRB
- First Aid Kit
- Spare food/drink
- Paddle float/leash
- Sun cream and sun hat.

Essential equipment should be carried on the person or in an easily recoverable buoyant grab bag.

7.5 River Kayaking/Canoeing

River kayaking ranges from touring on slow moving Grade 1 water in either open canoes or recreational kayaks, to the more extreme white water river running, which can include whitewater rapids, waterfalls and features such as

Appendix 7.5 Code of Practice: The Safe Operation of Recreational Craft, Chapter 7



7 Canoeing/Kayaking

stoppers and undercuts. Freestyle kayaking is at the more extreme end of the canoeing spectrum. Trained and competent persons only should attempt this activity.

In addition to the basic safety precautions mentioned previously, operators should observe the following additional checks and advice:

- Hulls are examined for damage each time prior to entering the water;
- Potential courses should be studied for hidden dangers, snags, currents, etc., prior to putting boats in the water;
- Boats should never operate alone on a stretch of water;
- In extreme and difficult locations, shore based rescue/recovery personnel should be in attendance, trained and equipped in the rapid recovery of persons in distress;
- Contact numbers for medical assistance/rescue authorities/lockkeepers should be available on site;
- Kayaks should have adequate buoyancy;
- Get First Aid training and carry a First Aid Kit on river trips;
- If carrying a throwbag, also carry a knife;
- Depending on the difficulty of the river, consider carrying some of the following:
 - o Split paddles;
 - o Webbing slings and carabiners;
 - o Duct tape;
 - o Dry clothes;
 - o Group shelter;
 - o Food and money;
 - o Matches/lighter.
- Be aware of the river's grading and of the water level before committing. The different grades are listed in the Table on the following page.

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Appendix 7.5 Code of Practice: The Safe Operation of Recreational Craft, Chapter 7

7
Canoeing/Kayaking

Grade I: Flat Water	Water is stationary or extremely slow moving and without any obstructions.
Grade II: Moderately Difficult	The way down a river is clear but simple obstructions do exist. Small stoppers and small drops can be present. There are places where the flow accelerates. There is a choice of routes.
Grade III: Difficult	There is a route that is easily recognisable from the water. Waves can be irregular. Boulders and obstructions can be numerous. Stoppers and small eddies exist. Inspection is advisable.
Grade IV: Very Difficult	The route is not always clear and inspection is advisable. Rapids are continuous and breakouts are few and small. Stoppers are powerful. Continual manoeuvring with precise control and good decision making is required.
Grade V: Extremely Difficult	Inspection is essential because serious dangers can exist. Large drops, narrow passages, very complex boulder fields, ever changing water and difficult holes are characteristic of this grade. Difficulties are continuous.

The Canoeing Ireland website has more detail on the levels of river grading (<http://canoe.ie/river-grading-and-area-definitions>).

- Be particularly cautious during flood water conditions.
- Inspect unknown drops before running them; be aware that drops may change or that new hazards may have formed (e.g. fallen trees, etc.). Set up bank based rescue, where appropriate.
- Consult Waterways Ireland Marine Notices and lockkeepers for local information.
- Kayaking groups making descents on remote rivers of Grade 3 and higher should carry

registered Personal Locator Beacons (PLBs). This will enable early alerting of the rescue services in the event of an emergency.

- In rivers of a high flow rate, with extended periods of rapids, it is recommended that kayaking groups should consider using waterproof radios to allow communication between group members when line of sight is not possible.

7.6 National Association

Canoeing Ireland is the national association for canoe and kayak based activities in Ireland (see Appendix 10 for contact details).

Appendix 7.6 Code of Practice: The Safe Operation of Recreational Craft, Appendix 6

Appendix 6

Weather, Sea States and Tides

Forecasts and Warnings

Met Éireann regularly forecasts for small boats operating in coastal waters, including essential information on the expected wind direction and strength, the state of the sea and swell, visibility, and changes expected during the forecast period. Forecasts are issued in the early morning for the remainder of the day until midnight, at about midday for the rest of the day and the following day, and in the late afternoon for that night and the following day. Check well ahead of your planned trip – you can get an idea of the changes in the weather pattern from the forecasts issued 24 hours or longer before you leave shore. Strong wind warnings are issued whenever winds of 25 knots or more are expected. The direction and strength of the wind, sea and swell information and an indication of expected developments are also given. Gale or storm warnings are issued when the wind is expected to reach Beaufort Scale Force 8 (34 knots).

Small Craft Warnings

The small craft warning is issued for expected winds of **Force 6 or**

more, and it is issued at **all times** of the year. The small craft warning covers the large internal lakes as well as coastal areas. A gale warning is issued for Force 8 or more and supersedes the small craft warning.

Weather forecasts should always be checked prior to departure and can be obtained from the following sources:

Primary Weather Sources:

- National Radio – shipping forecasts are broadcast on national radio stations. In addition, a service for inland waters is also broadcast for the major waterways. RTE Radio 1 broadcasts three times daily at approximately 6:02am, 12:53pm and at 11:55pm.
- Local radio stations will broadcast forecasts for local waters and inland lakes. Dublin and Galway local stations broadcast winds for the respective bays.
- National Television Channels – Met Éireann provides weather bulletins on RTE 1 and RTE 2.
- Telephone and fax – Met Éireann offers a charge service for detailed sea area forecasts.
- Internet – Met Éireann web page – www.met.ie.
- M.met.ie is a cross platform site

Appendix 7.6 Code of Practice: The Safe Operation of Recreational Craft, Appendix 6

designed to work on web enabled mobile phones.

- Coast Guard Radio – generally announced on VHF Channel 16 and broadcast on Channel 26. The Sea Area Forecast (SAF) is broadcast on the named channel at three hour intervals beginning 01:03 followed by 04:03, 07:03, 10:03, 13:03, 16:03, 19:03 and 22:03. Gale warnings are also preceded by an announcement on Channel 16 and usually broadcast on receipt, and repeated at the next one of the following times: 00:33, 06:33, 12:33 and 18:33.

Secondary Weather Sources:

- Teletext/Aertel p. 162, 163, including any small craft warnings issued.
- Harbour Offices and Marinas will post a copy of the current local sea area forecast on

noticeboards, as will yacht clubs during sailing events.

- Marine Institute Weather Buoys.
- Navtex receivers on board provide a printed forecast in addition to navigation information.
- Meteoalarm provides extreme weather alerts for Ireland and the rest of Europe (www.meteoalarm.eu). The system uses colour coding to indicate the severity of the expected hazard. An explanation of the warnings categories and thresholds can be found at www.met.ie/nationalwarnings.
- A number of websites are available that specialise in giving information on marine weather. Some examples are given below:
 - <http://passageweather.com/>
 - <https://www.windguru.cz/>
 - <http://magicseaweed.com/>

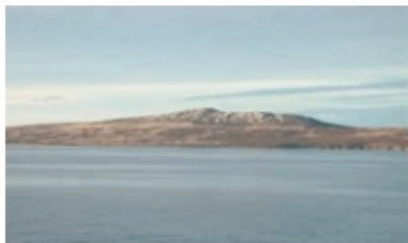
Beaufort Force 0



Wind speed (knots): Under 1
Wind description: Calm
Sea state:
 Sea is mirrorlike.

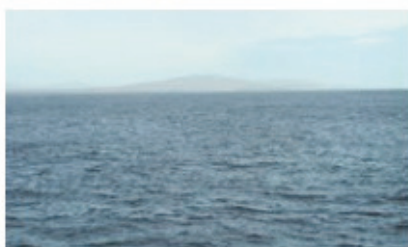
Appendix 7.6 Code of Practice: The Safe Operation of Recreational Craft, Appendix 6

Beaufort Force 1



Wind speed (knots): 1-3
Wind description: Light Airs
Sea state: Ripples with appearance of scales, no foam crests.

Beaufort Force 2



Wind speed (knots): 4-6
Wind description: Light Breeze
Sea state: Small wavelets, crests beginning to break, scattered whitecaps.

Beaufort Force 3



Wind speed (knots): 7-10
Wind description: Gentle Breeze
Sea state: Large wavelets, crests beginning to break, scattered whitecaps.

Beaufort Force 4



Wind speed (knots): 11-16
Wind description: Moderate Breeze
Sea state: Small waves, becoming longer, numerous whitecaps.

Appendix 7.6 Code of Practice: The Safe Operation of Recreational Craft, Appendix 6

Beaufort Force 5



Wind speed (knots): 17-21
Wind description: Fresh Breeze

Sea state:
 Moderate waves, taking longer form, many whitecaps, some spray.

Beaufort Force 6



Wind speed (knots): 22-27
Wind description: Strong Breeze

Sea state:
 Larger waves forming, whitecaps everywhere, much spray.

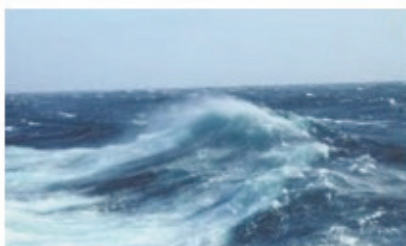
Beaufort Force 7



Wind speed (knots): 28-33
Wind description: Near Gale

Sea state:
 Sea heaps up, white foam from breaking waves begin to be blown in streaks.

Beaufort Force 8



Wind speed (knots): 34-40
Wind description: Gale

Sea state:
 Moderately high waves of greater length, edges of crests begin to break into spindrift, foam is blown into well defined streaks.

Appendix 7.6 Code of Practice: The Safe Operation of Recreational Craft, Appendix 6

Beaufort Force 9



Wind speed (knots): 41-47
Wind description: Strong Gale

Sea state:
 High waves, sea begins to roll, dense streaks of foam, spray begins to reduce visibility.

Beaufort Force 10



Wind speed (knots): 48-55
Wind description: Storm

Sea state:
 Very high waves with overhanging crests, sea takes on white appearance, foam blown in dense streaks, rolling is heavy, visibility reduced.

Tides

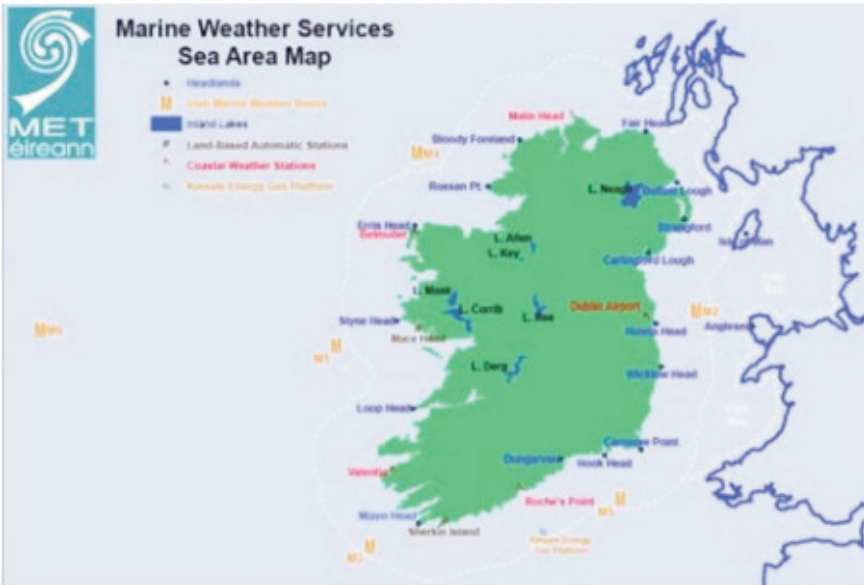
Along with the weather, an understanding of tides and how they affect sea states is important. Some knowledge of tides is desirable before going afloat on the sea.

The tide is basically the rise and fall of the sea level; is caused by the combined effects of the forces exerted by the Moon and the Sun and can have a marked effect on maritime-related activities. On Irish coastal waters, tides are semi-diurnal (two high and low waters each day). Tides can also influence marine activities in that

they result in water movements (tidal streams). This movement can be significant inshore such as on estuaries and near headlands. Tide levels/streams are important for many recreational activities including swimming, sailing, fishing, boat berthing, anchoring and passage planning. Notable hazards from tides include tide rips and races, inadvertent grounding and stray navigation. Tidal level predictions and information can be obtained from various nautical Almanacs, newspapers, websites and phone apps.

Appendix 7.6 Code of Practice: The Safe Operation of Recreational Craft, Appendix 6

Marine Weather Services Sea Area Map



This map shows areas covered by Met Éireann marine forecasts. Note the white dashed line represents the furthest coverage limit for the Sea Area Forecast.

Marine Institute Weather Buoys

The Marine Institute has 5 weather buoys around the Irish coast which aim to provide improved weather forecasts and safety at sea around Ireland.

Buoy Positions

M2 : 53.4800°N 05.4250°W

- Irish Sea: Approximately 20 nautical miles (37 km) east of Howth Head.

M3 : 51.2166°N 10.5500°W

- Off the Cork coast: Approximately 30 nautical

miles (56 km) southwest of Mizen Head.

M4 : 54.9982°N 09.992154°W

- Off the Donegal coast: Approximately 45 nautical miles (83 km) west northwest of Rossan Point.

M5 : 51.6900°N 06.7040°W

- Off the south Wexford coast: Approximately 30 nautical miles (56 km) south of Hook Head.

M6 : 53.07482°N 15.88135°W

- Deep Atlantic: Approximately 210 nautical miles (389 km) west southwest of Slyne Head.

The buoy network provides vital data for weather forecasts, shipping bulletins, gale and swell warnings as well as data for general public information and research.

Appendix 7.7 Level 2 Kayak Instructor Qualification, Canoeing Ireland



Level 2 Kayak Instructor

Home / Level 2 Kayak Instructor



General Aims

The Level 2 Kayak Instructor Qualification aims to enable candidates to

1. Become qualified to instruct basic kayaking skills and lead kayaking journeys on flat water with groups of up to 6 students.
2. Train and Assess for the Levels 1 & 2 Kayak Skills Award
3. Teach basic flat-water safety & rescue, and run RSR 1 training courses.
4. Mentor Level 1 and 2 Kayak Instructor trainees.
5. The Level 2 Instructor is specifically not qualified to journey across a lake or more than 50 metres offshore.

Attendance Requirements

Before applying to attend a Level 2 Kayak Instructor **Training Course**, a candidate must:

1. Have begun training for the Level 3 Kayak Skills Award
2. Be registered as a member with the Canoeing Ireland.
3. Be at least 16 years of age at the time of application.
4. Have unrestricted access to a fully equipped canoe personal equipment, and additional equipment as listed for a Level 2 Kayak Instructor Assessment.
5. Submitted your Garda vetting form.

Course Outline



The Level 2 Kayak Instructor Qualification requires that a candidate attend a registered two-day Level 2 Kayak Instructor training course (or a programme of similar duration) and a half day assessment.

1. A 16-hour Level 2 Kayak Instructor training course plus a log of 30 hours practical experience.
2. A 32-hour, 8 module training course.
 - Trainee Instructors who have completed the 32-hour training course have no requirement to log additional experience.
 - Candidates who have successfully completed the Training Course and Assessment can apply for Level 2 Instructor Assessment upon completion of the logbook requirements.

The training course comprises of practical and theory sessions that try to allow participants to engage in learning opportunities to explore their own instructional skills development.

The training course are usually tailored as much as possible to groups of participants attending the course, but the training course is structured to cover a number of knowledge areas, these are as follows.

Appendix 7.7 Level 2 Kayak Instructor Qualification, Canoeing Ireland



- Personal and technical skills knowledge
- Communication
- Session Planning and logistics
- Safety and rescue and risk assessment
- Professional Practice

Course Documents

Please consult the following documents prior to applying for an assessment to ensure you have complete the relevant training and certification, and for details on the format of the assessment –

[Kayak Level 2 Assessment Guidelines](#)

[Kayak Level 2 Equipment List](#)

support@canoe.ie

Your name

Your email


Subject

Your message (optional)

Submit

Instagram

Canoeing Ireland




[Load More...](#)

[Follow on Instagram](#)

CONTACT

Canoeing Ireland
Irish Sport HQ,
Sport Ireland Campus,
Blanchardstown, Dublin
15

Contact Us



Appendix 7.8 Level 3 Sea Kayak Instructor Qualification, Canoeing Ireland



Level 3 Sea Kayak Instructor

Home / Level 3 Sea Kayak Instructor



General Aims

The Level 3 Sea Kayak Instructor Qualification aims to enable participants to:

1. Become qualified to instruct intermediate sea kayaking skills and lead coastal trips in smooth seas (Douglas Sea Scale) and force 3 winds with groups of up to 6 students.
2. Become qualified to instruct basic kayaking skills and lead kayaking journeys on flat water with groups of up to 8 students.
3. Train and assess participants for Canoeing Ireland Level 1 and 2 kayak skills award and the Level 3 sea kayak skills award.
4. Mentor Level 1 and 2 Kayak Instructor trainees and Level 3 Sea Kayak Instructor trainees.
5. Understand and instruct basic sea kayaking navigation and run Essential Coastal Navigation Courses.

Attendance Requirements

Before applying to attend a Level 3 Sea Kayak Instructor Training Course, a candidate must:

1. Hold the Level 2 Kayak Instructor Qualification.
2. Hold the Level 3 Sea Kayak Skills Award.
3. Have begun training for the Level 4 Canoe Skills Award
4. Possess a current and Canoeing Ireland approved First Aid Certificate (REC 3, WFA 3 or equivalent)
5. Be registered as a [member](#) of Canoeing Ireland.
6. Be at least 18 years of age at the time of application.
7. Have unrestricted access to a fully equipped sea kayak, personal equipment, and additional equipment as listed for a Level 3 Sea Kayak Instructor Assessment.
8. [Garda vetted](#).

Course Outline

The Level 3 Sea Kayak Instructor Qualification requires that a candidate attend a registered four-day Level 3 Sea Kayak Instructor training course (or a programme of similar duration), and a two-day Assessment.

The training course is a mixed of indoor and outdoor practical and theory session, exploring various aspects of paddle sports instruction at the intermediate level. While all courses are tailored to the participant group there are a number of knowledges that are cover on the course. These are as follows:

- Personal skills and technical knowledge
- Logistics and planning

Appendix 7.8 Level 3 Sea Kayak Instructor Qualification, Canoeing Ireland

Canoeing Ireland

- Safety
- Coaching and teaching
- Leadership and guiding
- Mentorship and professional practice

Course Documents

Please consult the following documents prior to applying for an assessment to ensure you have complete the relevant training and certification, and for details on the format of the assessment –

[Sea Kayak Level 3 Assessment Guidelines](#) [Sea Kayak Level 3 Equipment List](#)

Contact Form:

Please choose department to contact
Office and Administration

Your Name (required)

Your Email (required)

Subject

Your Message

Send

Instagram: Canoeing Ireland

Load More...

Follow on Instagram

Contact: Canoeing Ireland, Irish Sport HQ, Sport Ireland Campus, Blanchardstown, Dublin 15

Contact Us

Up arrow icon

Appendix 7.9 Quality Assurance and Safety Standards for Course Providers and Facilitators, Canoeing Ireland



**Quality Assurance and Safety Standards
for**

Course Providers & Facilitators

2018

Canoeing Ireland
Irish Sport HQ, National Sports Campus
Blanchardstown
Dublin 15

Source: <https://canoe.ie/wp-content/uploads/2018/08/Quality-Assurance-Safety-Standards-2018.pdf>

Appendix 7.9 Quality Assurance and Safety Standards for Course Providers and Facilitators, Canoeing Ireland

Canoeing Ireland Quality Assurance and Safety Standards Agreement 2018

Contents

1. Canoeing Ireland Introduction
2. Registration Process
3. Obligations
4. Q.A.S.S Agreement
5. Moderation Process
6. Complaints and Appeals Procedures
7. Termination of Registration

Canoeing Ireland Quality Assurance and Safety Standards 2018

Appendix 7.9 Quality Assurance and Safety Standards for Course Providers and Facilitators, Canoeing Ireland

Canoeing Ireland Quality Assurance and Safety Standards Agreement 2018

1. Canoeing Ireland, an Introduction.

Canoeing Ireland was formed in 1964 and is recognised by Sport Ireland and the Olympic Council of Ireland (OCI) as the governing body of the sport and recreation of Paddle-Sports in Ireland. Canoeing Ireland is affiliated to the International and European Canoe Federations.

Canoeing Ireland develops, promotes and governs recreational and competitive Canoeing in Ireland for all, through a network of clubs, commercial course facilitators and members with whom it delivers high performance and participation training programmes and events.

Canoeing Ireland aims to be relevant to and representative of canoeing in Ireland, increasing participation and performance in partnership with a thriving network of clubs, social, community, educational and commercial organisations and to continually enhance our international success.

Canoeing Irelands primary objectives are:

- To be relevant to and representative of our membership.
- To nurture, develop and support pathways in recreational and high performance canoeing.
- To facilitate and support a network of relationships that benefit canoeing in Ireland.
- To build on and further Canoeing Irelands international success.
- To implement best practice in corporate governance.

Canoeing Ireland will achieve these objectives by:

- Inspiring people to go paddling.
- Encouraging and facilitating life-long participation in paddling activity.
- Providing exceptional voluntary and professional services.
- Facilitating delivery of world class activity programmes and events.
- Continually enhancing a world class awards and qualifications scheme.
- Identifying and developing facilities nationally.
- Promoting a positive, relevant and modern image of Canoeing through all media platforms.
- Developing, publishing and reviewing initiatives and policies to support the advancement of Paddle-sports in Ireland.

Canoeing Ireland is registered as a limited company in order to provide liability protection for its members

Canoeing Ireland Quality Assurance and Safety Standards 2018

Appendix 7.9 Quality Assurance and Safety Standards for Course Providers and Facilitators, Canoeing Ireland

Canoeing Ireland Quality Assurance and Safety Standards Agreement 2018

2. Registration Process

Canoeing Ireland now offers official National Governing Body registration and recognition to commercial and club course facilitators who operate within the Canoeing Ireland Quality Assurance and Safety Standards framework. Course facilitators are defined as individuals, clubs, businesses, schools, ETB's, OEC's and social, community, educational or commercial organisations who offer canoeing and kayaking activities including courses in a commercial framework.

This registration process will help to ensure a consistent brand and quality across all Paddle-sports activities around Ireland.

Canoeing Ireland will support course facilitators with advertising, marketing, branding and promotion through the Canoeing Ireland Website, Social Media and print outlets where applicable. Canoeing Ireland will represent the course facilitators to other national stakeholders such as Sport Ireland, Capital Sports Grants, Department of Transport Tourism and Sport, Waterways Ireland, local development companies, LEADER, County Councils, Scouting Ireland, youth groups and schools to help facilitate activity and grant applications. **Only** registered Canoeing Ireland course facilitators will be permitted to use the Canoeing Ireland logo, its syllabi, any trademarks and branding in a commercial context e.g. on their websites and marketing communications. Note that registered clubs can continue to use the Canoeing Ireland logo and branding in a non-commercial context.

Canoeing Ireland Quality Assurance and Safety Standards registration is a voluntary registration system. Canoeing Ireland is not a statutory body and as such any facilitator can continue to run canoeing courses without registration. Signing up for facilitator registration will help to consolidate the standard of course delivery nationally and help to build a strong brand and continuity of product for Canoeing in Ireland. Unregistered facilitators will **not** be permitted to use the Canoeing Ireland logo, any of the CI Syllabi, trademarks or branding in their marketing communications. Unregistered Facilitators will not have access to the Canoeing Ireland database. Qualifications and certification of same will only be accessible to registered facilitators.

Canoeing Ireland has developed a map of facilitators for all Canoeing activities in Ireland. Currently the map displays all known Canoe activity facilitators however in October 2018 the map will only display registered course facilitators. Furthermore the Canoeing Ireland training courses calendar will be made available to all registered course facilitators via the Canoeing Ireland database to advertise their courses through a direct input process.

This will create a single place for interested paddlers to consult for upcoming courses nationally which can be easily embedded to their own websites. Course facilitators will be able to isolate their own calendar to embed to their own website. Canoeing Ireland will also be developing an instructor checking system on its website allowing members of the public and the paddling community to search for current instructors who have CI standard requirements in place and approval to operate under the Canoeing Ireland banner.

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Registration Criteria

Registration of Canoeing Ireland course facilitators is open to all individuals, clubs, businesses and social, community, educational or commercial organisations offering canoeing or kayaking activity in a commercial context and who meet the Canoeing Ireland Quality Assurance and Safety Standards.

For each facilitator registration application Canoeing Ireland will carry out a desk based quality assurance assessment of staff qualifications, insurance, standard operating procedures and risk assessments, equipment and tax compliance as detailed below.

1. Staff Qualifications

Registered course facilitators must maintain a list of their primary/core Canoeing Ireland qualified staff, both full time and freelance and have same available on request from Canoeing Ireland. Canoeing Ireland instructor qualifications are only valid when Garda vetting has been completed successfully, Safeguarding courses have been attended and an up-to-date Canoeing Ireland recognised first aid qualification has been obtained.

Registered course facilitators should only use staff who hold the qualifications relevant to the environment and courses they are delivering. Course facilitators will be registered to run courses and operate in environments for which their staff hold the appropriate qualifications.

All qualified staff must be registered members of Canoeing Ireland. It is the responsibility of the registered course facilitator to ensure their staff have in-date Canoeing Ireland membership and relevant instructor qualifications and requirements.

Registered facilitators must maintain and provide copies of up to date first aid and Safeguarding certificates for all activity staff which will be recorded on the CI database.

2. Insurance

Registered course facilitators must maintain and provided if requested, a copy of their insurance certificate and details of their conditions of cover and operating environment. Facilitators must ensure that they maintain an appropriate level of insurance for the business that they are engaged in.

Note that Instructors & Coaches operating voluntarily are covered for liability through the Canoeing Ireland insurance policy.

3. Standard Operating Procedures and Risk Assessments

Registered course facilitators must maintain copies of their standard operating procedures and risk assessments and have same available on request from Canoeing Ireland.

4. Tax Clearance

Registered course facilitators must provide a copy of their tax clearance certificates for the previous year **if** they wish to process payments through the Canoeing Ireland database.

Duration

Registration will be valid for 12 months. Approved course facilitators will receive a certificate of compliance with Canoeing Ireland QASS on registration each year. Each certificate will list the courses and environments in which the facilitator is registered to operate.

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Canoeing Ireland registered facilitator stickers will be made available to all registered facilitators. Canoeing Ireland flags and banners are also available at cost price.

Course Delivery

The Course facilitator is solely responsible for ensuring that the courses are run safely and in accordance with Canoeing Ireland's operating procedures and safety guidelines relevant to staff instructor qualifications, ratios and weather conditions.

The course facilitator is also responsible for meeting Canoeing Ireland reporting requirements, including where necessary sending notification and confirmation of any courses to the Canoeing Ireland office and course participants, submission of course reports and assessment results, and maintaining records in case of any follow-up queries by Canoeing Ireland. The Course facilitator must be clearly identified in the promotion and advertising of any courses through Canoeing Ireland media platforms. Canoeing Ireland must be clearly identified in any award scheme courses.

As a rule, all Canoeing Ireland instructor training and assessment courses **must** be registered with the Canoeing Ireland office at a minimum of four weeks before commencement. All logbooks once checked and cleared by the course facilitator must then be submitted to the Canoeing Ireland office. The logbook will be returned to the owner along with certification.

All proficiency skills assessments from Level 4 up must also be registered with the Canoeing Ireland office via email at a minimum of 2 weeks before commencement. With the nature of courses at this level this date can be changed to allow for water level fluctuations. Any change in original date must be communicated to the Canoeing Ireland office by email for recording.

Course Facilitator Application Process

Once the pre-requirements are complete the following steps explain the process to become a Canoeing Ireland registered course facilitator.

- Complete the relevant Course facilitator application form available on the Canoeing Ireland website
Post or email any relevant supporting paper work to Canoeing Ireland;
email:info@canoe.ie,
post: Canoeing Ireland, Irish Sport HQ, National Sports Campus, Blanchardstown, Dublin 15.
- If the registration is successful and approved by Canoeing Ireland the course facilitator will receive a registered and approved course facilitator certificate and approved course facilitator stickers.
- If registration is unsuccessful the course facilitator will be provided with written feedback which must be addressed in full before the registration process can be completed.
- Course Facilitator applications will be processed by the Canoeing Ireland office.

This agreement sets out in detail what Canoeing Ireland requires from registered course facilitators and what registered course facilitators can expect from Canoeing Ireland.

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- To provide facilities and personnel for dealing with any complaints and appeals procedure for either Course Facilitators or candidates, whenever appropriate. Canoeing Ireland will ensure that all candidates and course facilitators' appeals are dealt with in a fair and open manner as set out in the Canoeing Ireland Complaints and Appeals Procedures.

Obligations of the Course Facilitator

Registering with the Canoeing Ireland as a Canoeing Ireland course facilitator binds the course facilitator to the below requirements.

Marketing

- To identify any courses on the Canoeing Ireland events/training calendar or website with the facilitator name and contact details and logo where possible.
- To identify Canoeing Ireland award scheme courses using Canoeing Ireland logos or text in any promotion, advertising or information.

Quality Assurance

- To have adequate liability insurance to cover students, themselves and any additional trainers. Instructors & Coaches operating voluntarily within their own club are covered for liability through the Canoeing Ireland insurance policy.
- To use appropriately qualified staff/members, ratios and equipment for the environment and groups with which they are operating.
- To ensure qualified staff/members are registered members of Canoeing Ireland.
- To ensure that the course providers and additional trainers have appropriate and up-to-date Canoeing Ireland Garda Vetting, Safeguarding and Canoeing Ireland recognised first aid qualifications.
- To run courses in suitable locations for the safety of students and for delivering the relevant syllabus.
- To ensure that any training and assessment courses offered are in accordance with the Canoeing Ireland Quality Assurance and Safety Standards and operating procedures.
- To allow moderation by an appointed Canoeing Ireland officer, of course delivery -including course services and equipment used, at any time.

Safeguarding

- To partake in the Canoeing Ireland Garda vetting process for all Canoeing Ireland members & staff.
- To have an appointed Children's Officer as a member of staff or committee (Safeguarding 2)
- To have an appointed Designated Liaison Person as a member of staff or committee (Safeguarding 3)
- To be familiar with the Sport Ireland Code of Ethics and Good Practice for Children in Sport covered under Safeguarding 1.

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Appendix 7.9 Quality Assurance and Safety Standards for Course Providers and Facilitators, Canoeing Ireland

Canoeing Ireland Quality Assurance and Safety Standards Agreement 2018

Obligations of Canoeing Ireland

Development

- To conduct a review of the Canoeing Ireland Award Scheme to take place every four years.
- To develop a unique junior paddle-sports syllabus and create recognisable national branding around same.
- To consistently enhance and maintain Quality Assurance and Safety Standards registration procedures for course facilitators.
- To review developments in training and seek to disseminate all relevant information to registered course facilitators.
- To participate, where possible, in Irish, European and International forums for the continuous review of the awards to maintain best international standard.
- To develop a functional online certification system making it easier for course facilitators to supply and issue certification to students/participants.
- To work towards developing a completely paperless logbook system between instructor and student.

Marketing

- To ensure the online course facilitator directory, map, course calendar and event calendar are up to date.
- To assist and represent facilitators in tenders and grant applications with letters of support.
- To provide Canoeing Ireland registered centres with quality branding and visuals.

Quality Assurance

- To complete a thorough desk based analysis of all facilitator registration submissions.
- To offer CPD workshops annually and monitor currency of qualified members.
- To ensure that the service to each training or assessment candidate, award holder and course facilitator is of the highest quality.
- To monitor the service offered and systems operated by course facilitators in order to ensure that all of its schemes and training and assessment courses are run in accordance with the guidance set out in the award scheme syllabi. To moderate/audit courses when necessary.

Administration

- To register candidates and provide a logbook or other associated materials within ten working days of receipt of relevant and appropriately lodged applications.
- To issue certification within ten working days of receipt of relevant and appropriately lodged assessment results.
- To maintain an accurate database of the training and assessment record of all registered candidates in the CI office.

Appeals and Complaints

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- To comply with sex, age and race discrimination legislation. (Equal Status Act and the Equality Act).

Administration

- To submit certification paper work within 10 working days of course or assessment.
- To keep records of clients and course information for all Canoeing Ireland courses.
- To notify the Canoeing Ireland office when required of upcoming courses by sending in the necessary Course Registrations (Instructor Courses and L4/5 skills assessments)
- To be tax compliant.

Waiver

- No failure of Canoeing Ireland to exercise any power given to it under the Quality Assurance and Safety Standards registration or to insist upon strict compliance by the course facilitator with any obligation or condition of the registration and no custom or practice of the parties at variance with the terms of this registration shall constitute a waiver of any of Canoeing Ireland's rights under the this registration.

Notices

- Each of the parties to the Quality Assurance and Safety Standards registration shall notify the other of any change of address, contact details and relevant circumstances within 48 hours of such change.

Applicable Law

- This registration and all rights and obligations of the parties of the facilitator registration shall be governed and construed in accordance with the laws of Ireland, and the parties of the facilitator registration submit to the jurisdiction of the Irish Courts.

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Appendix 7.9 Quality Assurance and Safety Standards for Course Providers and Facilitators, Canoeing Ireland

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5. Canoeing Ireland Moderation Process

Signing up to the Canoeing Ireland Quality Standards and Safety Regulation confirms that course directors and facilitators are prepared to accept a Canoeing Ireland moderator to visit any/all of the canoeing courses they run. Canoeing Ireland will carry out two lottery audits a year and may audit additional facilitators at any time.

Moderation/auditing can be any of the following:

- Moderation/audit on the course preparation and delivery including the Canoeing Ireland member status and qualifications of the participants involved
- Moderation/auditing of reports and other paperwork received at the office
- Communication between the office and course facilitator
- A visit by a Canoeing Ireland approved representative to a whole course or part of a course

The following principles will apply to a moderation visit by the Canoeing Ireland approved representative

- The Office will contact the course facilitator prior to a visit
- The role of the moderator will be explained to the candidates
- The moderator will not interfere with the course delivery
- All feedback to the course facilitator will be confidential to Canoeing Ireland. A written report will follow as soon as possible
- A copy of the moderation report will be submitted to Canoeing Ireland
- Details of moderation and a copy of the report will be retained by the Canoeing Ireland office.
- Appeals made in relation to moderation should follow the Canoeing Ireland complaints and appeals procedure

Moderation/auditing will examine any or all of the following

- Experience of the participants and any personal pre-course requirements should they exist
- Choice of venue in relation to proposed programme
- Compliance of staff with the Canoeing Ireland QASS
- Familiarity of staff with recent developments in training and best practice
- Fulfilment of the course preparation and syllabus delivery
- Methods of instruction and tuition
- Course facilitators must comply with any action points raised in the moderation report
- A second moderation may take place to monitor the implementation of action points.

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6. Termination of the facilitator registration

The course facilitator may terminate their registration at any time by notifying Canoeing Ireland in writing.

After following the complaints and appeals procedure outlined on the Canoeing Ireland website, Canoeing Ireland may terminate facilitator registration at any time by notifying the course facilitator in writing.

Subsequently any Canoeing Ireland courses that are booked must then be handed to another course facilitator or cancelled.

When a notice of termination is served by Canoeing Ireland the course facilitator can appeal according to the procedures set out in the course facilitator's complaints and appeals procedure. The course facilitator accepts that after notice of termination by Canoeing Ireland has been received and until the date of the resolution of any appeal, the course facilitator's accreditation shall be deemed suspended and the course facilitator shall not operate any course during that period.

Upon termination or expiration of the Quality Standards and Safety Code registration for any reason the course facilitator shall immediately:

- Cease to use Canoeing Ireland official paperwork or documentation materials including the Canoeing Ireland logo.
- Return to the Canoeing Ireland or otherwise dispose of or destroy all documentation belonging to Canoeing Ireland, which the course facilitator was entitled to use whilst registered.
- Remove or permanently cover all signs or advertisements or anything else identifiable in any way with the Canoeing Ireland.

The course facilitator shall not represent him/herself as being an agent, partner, employee or representative of Canoeing Ireland.

Canoeing Ireland Quality Assurance and Safety Standards 2018

Appendix 7.10 Maritime Safety Strategy 2015-2019, Sectoral Analysis of Factors Contributing to Maritime Fatalities

Annex 2

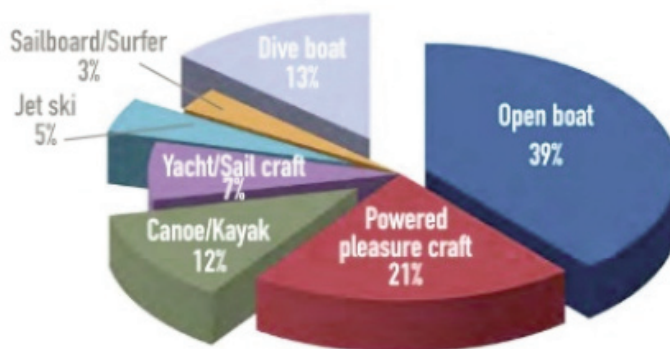
Sectoral analysis of factors contributing to maritime fatalities

1. This Annex outlines, by sector, the main factors contributing towards fatalities in relation to recreational craft, fishing vessels, passenger vessels and cargo ships. Although the data refers to fatalities, it is noteworthy that the factors contributing towards incidents where there has been no loss of life are similar.

Recreational craft

2. The recreational craft sector accounts for almost half (49%) of all maritime fatalities and the majority (65%) of all IRCG call-outs in the sectors concerned. The sector includes sailing craft, motorboats, ski boats, craft with outboard engines, personal watercraft (jet-skis), canoes, kayaks and non-powered craft. Regulation of recreational craft in Ireland is focused on the safe operation of craft, the provision of certain items of safety equipment, the carriage and use of personal flotation devices (PFDs) (lifejackets/buoyancy aids), and the manufacture and sale of safe recreational craft under the EU Recreational Craft Directive. The IMA's *Code of Practice for the Safe Operation of Recreational Craft* (available on www.dttas.ie and www.safetyonthewater.ie) provides information on legislative requirements and gives safety advice on best practice to operators and owners of recreational craft.
3. There were 67 fatalities in the recreational sector in the period from 2002-2013. Figure (i) below shows the percentages of types of craft involved. 26 of the fatalities involved an open boat; 14 fatalities involved a powered pleasure craft; 9 fatalities involved a dive boat; 8 fatalities involved a canoe or kayak; 5 fatalities involved yachts or sail craft; 3 fatalities involved personal watercraft (jet-skis); and 2 fatalities involved a sailboard/surfer.

Figure (i): Recreational craft fatalities by vessel type



Source: Based on MCIB reports 2002-2013 and IRCG Annual Statistics, combined

4. 6,722 distress/urgency calls were received by the IRCG in the period 2002-2013, involving the recreational craft sector (averaging 560 per annum). Exact figures are not available for the full period in question, due to changes in the way IRCG data was compiled prior to 2003, however, based on the data available for 2003-2013, an indicative breakdown of the type of craft involved is provided in Figure (ii) below.

Source: <https://canoe.ie/wp-content/uploads/2018/08/Quality-Assurance-Safety-Standards-2018.pdf>

Appendix 7.10 Maritime Safety Strategy 2015-2019, Sectoral Analysis of Factors Contributing to Maritime Fatalities

Annex 2

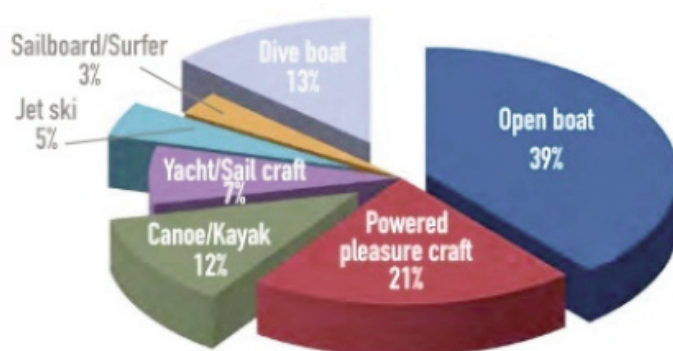
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- There were 67 fatalities in the recreational sector in the period from 2002-2013. Figure (i) below shows the percentages of types of craft involved. 26 of the fatalities involved an open boat; 14 fatalities involved a powered pleasure craft; 9 fatalities involved a dive boat; 8 fatalities involved a canoe or kayak; 5 fatalities involved yachts or sail craft; 3 fatalities involved personal watercraft (jet-skis); and 2 fatalities involved a sailboard/surfer.

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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

PAGE

8.1 Observation from Water Safety Ireland and MCIB response 106

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

OBSERVATION 8.1

8.1 Observation from Water Safety Ireland and MCIB response

From: [REDACTED]
Sent: Thursday 6 April 2023 15:20
To: [REDACTED]
Cc: [REDACTED]
Subject: Re: Draft Report of a marine incident

CAUTION: This eMail originated from outside your organisation and the BTS Managed Desktop service. Do not click on any links or open any attachments unless you recognise the sender or are expecting the email and know that the content is safe. If you are in any doubt, please contact the OGCIO IT Service Desk.

Dear [REDACTED]

Many thanks for the draft report.

In relation to recommendations, please see below:

6.3.1 - we will add further Kayaking Safety awareness in our upcoming communications.

6.3.2 - please note that we have already made this amendment to now read:

Carry suitable means of calling for help as per the Code of Practice for the Safe Operation of Recreational Craft (e.g., VHF radio in a suitable waterproof bag, a personal EPIRB (aka Personal Locator Beacon), fully charged mobile phone in waterproof bag and flares)

Kind regards,

[REDACTED]

8.1 Observation from Water Safety Ireland and MCIB response

From: [REDACTED]
Sent: Friday 7 April 2023 11:21
To: [REDACTED]
Cc: [REDACTED]
Subject: Re: Draft Report of a marine incident

CAUTION: This eMail originated from outside your organisation and the BTS Managed Desktop service. Do not click on any links or open any attachments unless you recognise the sender or are expecting the email and know that the content is safe. If you are in any doubt, please contact the OGCIO IT Service Desk.

Thanks for that [REDACTED]

I meant to clarify in my previous email.

That sentence on our website, "VHF radio or flares", was originally supposed to have read (VHF radio and flares). The word "OR" was a typo in that section that had slipped through at website redesign stage and does not reflect what we have previously issued in media comms and public talks.

Hope this clarifies.

Kind regards.
[REDACTED]

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



Leeson Lane, Dublin 2.
Telephone: 01-678 3485/86.
email: info@mcib.ie
www.mcib.ie

