



MCIB

Marine Casualty Investigation Board
Bord Imscrúdú Taisní Muirí

**REPORT OF THE
INVESTIGATION INTO THE
DEATHS OF
MR. MARTIN ROCHE AND
MR. NEIL BYRNE AT
ST. MULLINS WEIR ON THE
BARROW RIVER ON THE
30th OCTOBER, 2004**



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1. SYNOPSIS

- 1.1 Mr. Neil Byrne and Mr. Martin Roche were among a group of canoeing enthusiasts making a trip from Borris, Co. Carlow to New Ross, Co. Wexford by canoe. The group got into difficulties at St. Mullins Weir and Mr. Roche and Mr. Byrne were drowned.

2. FACTUAL INFORMATION

The Conoeing Party

Mr. Martin Roche, deceased
Ferrybank
Co. Waterford

Mr. Neil Byrne, deceased
Kiltegan
Co. Wicklow

Mr. Paul Byrne
Kiltegan
Co. Wicklow

Mr. Ken Gummerson
Gorey
Co. Wexford

Ms. Eileen Nolan
Tullow
Co. Carlow

A Russian National whose name was given as Mr. Valery.

EVENTS PRIOR TO THE INCIDENT

3. EVENTS PRIOR TO THE INCIDENT

- 3.1 Prior to the incident, the South Coast had been subjected to severe weather conditions. The River Barrow was swollen with rainwater.
- 3.2 The normally placid section of river at St. Mullins weir was deeper than usual and large amounts of floating debris were passing downriver.
- 3.3 Mr. Martin Roche and Mr. Neil Byrne had planned to travel with a larger party of canoeists but due to a lack of wet weather gear the group was reduced from 14 to 6 and the original venue, Glendalough, had been changed to Borris.
- 3.4 One vehicle had been left at St. Mullins Weir, Co. Carlow on the outward trip and two canoes and an inflatable boat were brought on to Borris further upriver and launched at 14.30 hours.
- 3.5 The inflatable boat was 3.8 meters long with a plywood transom to take an outboard motor. No outboard was brought that day, the dinghy being propelled with two paddles.
- 3.6 Both canoes were stunt craft. This type of canoe is shorter than the kayak type. Mr. Neil Byrne had a Wavesport Bigez and Mr. Martin Roches' craft was an Eskimo Salto.
- 3.7 All participants were wearing exposure suits, 70 newton PFD's and the two canoeists were wearing helmets. The available helmets were swapped amongst the party when the places in the canoes were exchanged so that the canoeists were always wearing a helmet.
- 3.8 As the party proceeded downriver a number of weirs were encountered and "playing" in the weirs by the canoeists took place. The canoes were portaged back up river to get a second transit of any particular weir.
- 3.9 The two places in the canoes were swapped at Gaignamanagh after a short break.
- 3.10 The party continued downriver with Mr. Martin Roche in one canoe and Mr. Neil Byrne in the other.
- 3.11 In the Dinghy were Mr. Ken Gummerson, Mr. Paul Byrne, Ms. Eileen Nolan, and Mr. Valery.

4. THE INCIDENT

- 4.1 The survivors of the incident estimate they arrived at the St. Mullins weir at 17.45 hours.
- 4.2 When the group arrived at the weir the dinghy successfully shot the turbulence on the east or lock side of the river and the two canoeists followed the dinghy.
- 4.3 On clearing the weir the two canoes were portaged back up river re-launched and again shot the weir. On this occasion passage over the weir was made on the west bank.
- 4.4 The dinghy again preceded the canoes over the weir and was heading back upriver to watch the canoes stunting in the weir when they observed the canoeists were in difficulty.
- 4.5 Mr. Martin Roche's canoe was standing upright in the weir and Mr. Neil Byrne's capsized canoe was washed past the dinghy.
- 4.6 The dinghy crew paddled towards the weir and initially saw Mr. Martin Roche face down in turbulent water below the weir.
- 4.7 Mr. Neil Byrne was observed also below the weir but separated horizontally from Mr. Martin Roche towards whom he was attempting to swim.
- 4.8 Both men were trapped in the "stopper" which is a violent backwash of water, which curves out of the weir but back against the downriver flood.
- 4.9 Both men were observed repeatedly disappearing below the water and bobbing to the surface a few seconds later.
- 4.10 No throw bag was available to the dinghy crew. It had been noted at Borris that it was missing when the gear was assembled prior to setting off downriver.
- 4.11 Without a throw bag the only option left to the dinghy crew was to try and get within arms reach of the two men in the water.
- 4.12 As they approached Mr. Martin Roche the dinghy also became trapped in the "stopper" and was overturned.
- 4.13 Ms. Nolan who was in the dinghy became trapped under it and the other occupants clung to the sides of the boat.
- 4.14 Ms. Nolan extricated herself from under the inflatable and the other former occupants helped her onto the now upturned boat while they clung to the sides.



- 4.15 After a few minutes the survivors in the water realised they could touch the bottom and were able to edge their way to shore.
- 4.16 When the dinghy capsized the occupants lost sight of Mr. Martin Roche and Mr. Neil Byrne.

5. EVENTS AFTER THE INCIDENT

- 5.1 By bouncing off the river bottom the survivors pushed the dinghy to a nearby island on the lock side (eastern side) of the river. The dinghy was righted and then paddled to shore.
- 5.2 Ms. Nolan remained on the island.
- 5.3 On reaching the riverbank proper Mr. Gummerson made his way to a house beside the lock and raised the alarm.
- 5.4 Mr. Valery made his way down river to search for the canoeists, while Mr. Paul Byrne ran upriver towards the weir with the same intention.
- 5.5 The Gardai were notified of the situation from the lock house and simultaneously local people on both sides of the river were alerted and began a search of the banks.
- 5.6 The survivors estimate that they reached land at 18.25 hours. High water at the St. Mullins Weir occurred at 19.30 hours and the river was in darkness at 18.30 hours.
- 5.7 River Rescue, a voluntary organisation operating out of New Ross, Co. Wexford were alerted at 18.50 hours and proceeded to launch two craft from the boat club at New Ross.

New Ross to St. Mullin is about 6 miles by river.
- 5.8 River Rescue proceeded towards St. Mullins with each boat designated to search a sector from the centre of the river to either bank respectively.
- 5.9 Great care had to be taken by the crews due to the large amount of debris floating in the river, which endangered the rescue boats. This required the use of their searchlights both to look for the victims and as an aid in the safe navigation of the boats.
- 5.10 The first victim was located at 21.05 hours and the second victim was recovered at between 21.30 and 21.35 hours. Both were floating face down and the searchers commented that they were difficult to see as their clothing and Personal Flotation Devices (PFD's) were of dark colour.

CONCLUSIONS

6. CONCLUSIONS

- 6.1 The large volume of water produced by the storm had turned a normally placid river into a fast flowing torrent.
- 6.2 In such conditions the hydraulic characteristics of features on and in the river could not be predicted and were considerably different from what would be experienced with normal ambient flow.
- 6.3 Large quantities of debris had been washed from the river banks far above St. Mullins and such debris was passing over all the weirs.
- 6.4 However not all debris cleared the weirs and there was a danger that debris was lodged in the weir but remain unseen above the rivers surface.
- 6.5 70 Newtons of buoyancy are recommended by the Irish Canoeing Union as the minimum buoyancy for canoe PFD's.
- 6.6 It is a desirable feature of canoe PFD's that canoeists can capsize without being hindered by excessive buoyancy.
- 6.7 The PFD's were of a dark colour and without reflective panels.
- 6.8 In turbulent water, which has become aerated the buoyancy of a device, in this case the PFD's, will be reduced. Nevertheless aerated water will not permit breathing when a swimmer is immersed.
- 6.9 Unlike a lifejacket a PFD is not designed to float an unconscious person with their airways clear of the water.
- 6.10 The party had no throw bag. A throw bag is a weighted line contained in a bag, which can be thrown to a canoeist in the water while the rescuer can keep a distance from the casualty.
- 6.11 At the time of the incident none of the party had any training in river rescue and no evidence has been produced that any member of the group had any formal canoeing training.
- 6.12 The survivors of the dinghy almost certainly owe their lives to its flotation characteristics

7. RECOMMENDATIONS

- 7.1 All participants in an adventure activity should undertake basic training in rescue and survival techniques in respect of their chosen activity. All participants in adventure sports should also undertake a basic first aid course.
- 7.2 Information on basic training courses and proficiency courses for canoeists can be obtained from the Irish Canoe Union.
- 7.3 A full risk assessment should be carried out prior to all river, lake and open sea canoe / kayak trips. Fundamental to any such risk assessment should be the ability of the weakest member of the group to cope with the worst conditions likely to be experienced.
- 7.4 Rivers in flood are extremely dangerous and passage down such a river should not be contemplated no matter how familiar an individual might be with the area.
- 7.5 All PFD's sold to the general public should have retro-reflective tape attached at appropriate locations on the jacket.
- 7.6 Purchasers of PFD's should make themselves fully aware of the limitations of these devices.
- 7.7 Other articles of protective gear such as helmets gloves and exposure or wet suits should also be marked with retro-reflective tape.
- 7.8 On those rivers where the sea at high-tide meets a weir and conditions not dissimilar to those experienced in this incident have occurred. The MCIB recommends that danger notices should be placed both upstream and at such weirs to alert all boaters and the general public to this danger.

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! MR. Michael Malone
have no comments or observations
to make on this draft report

Yours Sincerely
Michael Malone
Co-ordinator River Search & Rescue



MCIB RESPONSE

The MCIB notes the contents of this letter.



Cumann Curachóireachta na hÉireann

John G. O'Donnell B.L.
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Marine Casualty Investigation Board
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Dublin 2

Irish Canoe Union

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Dear Mr. O'Donnell

Thank you for your correspondence of April 12, 2005 inviting the Irish Canoe Union to comment or make observations on your draft report of the incident.

We are pleased to set out hereunder information gleaned by the ICU to date concerning the incident and to make known our views on the situation.

Shortly after the incident the board of the ICU met and considered what steps should be taken by us in order that events of this nature may be avoided in the future. The first thing noted was that neither casualty was a member of the ICU or any affiliated club. It was decided to establish a sub-committee of the board to conduct an investigation of the incident and bring forward recommendations for publication that would be designed to create an awareness of the hazards of canoeing in certain circumstances. It was also decided not to publish our findings pending the outcome of the MCIB investigation and not until the outcome of the inquest.

You may be interested in the fact that another group of paddlers from 180 Kayak Club preceded the party involved in the incident down St. Mullins Weir on the evening in question and that they also got into serious difficulty.

Amongst other things, that I will come to later, is the fact that the Barrow River is tidal up to St. Mullins Weir and in high tide the sea backs-up to the weir creating unusual and very unsafe conditions. This was undoubtedly a significant factor in the tragic deaths of our two colleagues.

I set out hereunder some details about canoeing in Ireland that may be of some interest to the MCIB and that may also be significant in the context of any recommendations emerging that are designed to avoid incidents of this nature arising in the future.

CANOEING DISCIPLINES

There are eight specific canoeing disciplines practised in Ireland as follows:

- Marathon Racing
- Wild Water Racing
- Canoe Slalom
- Flatwater Racing
- Paddle Surf
- Freestyle
- Canoe Polo
- Sea Kayaking

Member of the Olympic Council of Ireland, International Canoe Federation & European Canoe Association

Each of these disciplines is highly organised through their own committees that arrange training for their members and organise competitions nationally and internationally.

The elected chairman of each discipline is automatically a member of the board of the Irish Canoe Union.

However, there are many individuals not involved in organised canoeing and who are not members of the ICU that are individual enthusiasts who engage in "touring canoeing" and who venture onto the water without training or leadership of any kind on an ongoing basis.

RIVER GRADING SYSTEM

Water conditions on rivers in Ireland are graded as follows:

Grade 1 – Flat Water

- Water stationary or slow moving
- Without any obstructions

GRADE II – Moderately Difficult

- Down river clear – Simple obstructions do exist
- Small stoppers and small drops can be present
- Places where the flow accelerates
- There is a choice of routes

Grade III – Difficult

- Route 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, inspection is advisable
- Rapids are continuous and breakouts are few and small
- Stoppers are powerful
- Continual manoeuvring with precise control
- Good decision making is required

Grade V – Extremely Difficult

- Inspection is essential, 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

NOTE: The grade of a river may change as a direct result of flooding.

ICU - KAYAK PROFICIENCY AWARDS

The ICU organise kayak proficiency awards at five different levels as follows:

Level 5 – Kayak Proficiency (*Advanced Kayak Techniques & Rescue*)

Holders can kayak competently on rivers of Grade 11+ and has successfully completed the requirements of the Level 5 Kayak Proficiency Syllabus

Level 4 – Kayak Proficiency (*Advanced Kayak Proficiency*)

Holders can kayak competently on rivers of Grade 11 and has successfully completed the requirements of the Level 4 Kayak Proficiency Syllabus

Level 3 – Kayak Proficiency (*Intermediate Kayak Proficiency*)

Holders can kayak competently on rivers of Grade 11 and has successfully completed the requirements of the Level 3 Kayak Proficiency Syllabus

Level 2 – Kayak Proficiency (*Basic Kayak Proficiency*)

Holders can kayak competently on rivers of Grade 1 and has successfully completed the requirements of the Level 2 Kayak Proficiency Syllabus

Level 1 – Kayak Proficiency (*Introductory Kayak Proficiency*)

Holders can perform fundamental kayaking skills and is familiar with general safety recommendations.

NOTE: Canoeists are encouraged to paddle at or below their trained level of proficiency and never to paddle at a level beyond their competence.

BARROW RIVER CONDITIONS

The Barrow River in normal conditions would be described as a Grade 2 river. However, on the 30th October 2004 the river was swollen with rainwater having been subjected to severe weather conditions. The weir at Graignamanagh, approximately five miles up-stream from St. Mullins, that would normally reveal an eight to ten foot drop showed no drop whatever on the day in question. The water was flowing straight over the top of that and subsequent weirs. The river condition on that day is best described as a Grade 4/5 river. At the time of the incident, approximately 5.45pm, it was already dark and the sea was reaching high tide causing a major impediment to the water flow away from St. Mullins Weir.

The "tow-back" at the weir was very significant, visibly drawing the surface water downstream of the weir back into the weir from a distance of 15 to 25 meters with varying degrees of force causing a "stopper" of major proportions.

MATCHING RIVER CONDITIONS WITH KAYAK PROFICIENCY

To competently kayak on a Grade 4/5 river it necessary for a canoeist to possess the knowledge, skill and competence to Level 5 Kayak Proficiency.

RIVER CONDITIONS

Grade 4/5 river conditions that exist due to flood conditions should not be paddled unless an inspection is carried out of known hazards and the canoeists contemplating such an undertaking are all suitably proficient for to cope with the contemplated river trip. The standard must at all times be set to match the proficiency of the least experienced paddler.

MCIB DRAFT REPORT

To comment briefly on the MCIB draft report.

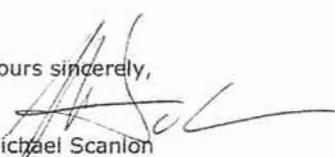
Based on our own investigation your observation and conclusions are correct.

In relation to your recommendations 7.1 to 7.7 we fully concur with these and 7.3 in particular needs to be particularly emphasised and developed into a code of practice that should be published and implemented.

There are a small number of rivers in Ireland where the sea at high-tide meets a weir and conditions not dissimilar to those experienced in this incident have occurred. It is our considered view that danger notices should be placed both upstream and at such weirs to alert all boaters and the general public to this danger.

In conclusion we trust that you find our observations useful and if we can be of any further assistance please do not hesitate to contact the undersigned.

Yours sincerely,


Michael Scanlon
Chief Executive
Irish Canoe Union

May 9, 2005

MCIB RESPONSE

The MCIB notes the contents of this letter and would like to note recommendation 7.8 at page 9.

An Cheannfort,
An Garda Síochána,
Ros Mhic Treoin,
Chontae Loch Garman

Tel/Teileafon: 051 421346
Fax/Facs: 051 420417
Please quote the following ref. Number:



Superintendent,
An Garda Síochána,
New Ross,
Co. Wexford.

Web Site:
E-mail:
Date: 20.4.05



Mr. Dick Heron,
Secretary,
Marine Casualty Investigation Board,
Leeson Lane,
Dublin 2.

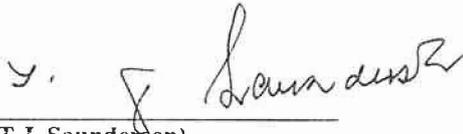
Re: Draft report of the investigation into the deaths of Mr. Martin Roche and Mr. Neil Byrne at St. Mullins Weir on the river Barrow on the 30.10.04.

Dear Sir,

I am in receipt of Draft Report in connection with above incident.

I am in agreement with the recommendations of MCIB in that it would be good practice to have a throw rope in inflatable boats and that Personal Floatation Devices should be marked with reflective tape.

Yours Sincerely,



(T.J. Saunderson)
Superintendent.

MCIB RESPONSE

The MCIB notes the contents of this letter.

Kiltegan
Co. Wicklow.
20/4/05

Re Draft Report into death of Neil Byrne and Martin Roche

Attention of Mr Dick Heron.

We do not wish to change anything in the report

We would appreciate it if you could recognise Neil Byrne's Mother Catherine Byrne.

Yours Sincerely,


Kevin Byrne


Catherine Byrne



MCIB RESPONSE

The MCIB notes the contents of this letter and would like to also extend our sincere sympathies to Mrs. Catherine Byrne and Mr. Kevin Byrne on their very sad loss.