

Accident Report
Collision
Rescue Alpha v PWC 911
13 June 2009



Maritime New Zealand

Maritime New Zealand (MNZ) is a Crown Entity appointed under section 429 of the Maritime Transport Act 1994, with the responsibility to promote maritime safety, security and the protection of the marine environment.

Section 431 of the Maritime Transport Act sets out MNZ's functions. One of those functions is to investigate and review maritime transport accidents and incidents.

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Contents

Glossaryiii

Executive summary1

Event description2

Analysis6

Introduction6

Collision regulations6

Proper lookout6

Crossing situation8

Action to avoid collision9

Reporting and communications11

Training of master and crew11

Conclusions14

Recommendations15

Appendix 1: Notice of event16

Appendix 2: Course layout17

Appendix 3: Comments by interested parties18

Figures

Figure 1 Photograph showing race participants and spectators on Narrow Neck Beach.3

Figure 2 Photograph showing damage sustained by *PWC 911*4

Figure 3 Photograph showing damage sustained by *Rescue Alpha*. Handwritten notes explaining areas of damage.4

Figure 4 Sketch diagram provided by skipper of *Rescue Alpha*7

Figure 5 Course taken by *Rescue Alpha*8

Glossary

AJSBA	Auckland Jet Sports Boating Association
AYBA	Auckland Yacht and Boating Association
CBES	Coastguard Boating Education Service
DRV	Dedicated Rescue Vessel
LLO	Local Launch Operator
MNZ	Maritime New Zealand
MTA	Maritime Transport Act 1994
NZJSBA	New Zealand Jet Sports Boating Association
PWC	Personal Water Craft (Jet ski)
VHF	Very High Frequency

Executive summary

1. This report sets out the findings following an investigation into the collision between the Auckland Coastguard vessel **Rescue Alpha** and a recreational personal water craft **PWC 911**, (also known as a jet ski) on 13 June 2009. This summary has been compiled from information obtained from the individuals involved, the Auckland Harbourmaster's office, Auckland Coastguard and the New Zealand Jet Sports Boating Association (NZJSBA).
2. As a result of the collision the rider of the **PWC 911** fractured her ankle and several ribs. The **PWC 911** was extensively damaged and has been "written off" as being uneconomical to repair.
3. The investigation sought to determine the circumstances surrounding the collision and breaches of the Maritime Rules Part 22, Collision Prevention. In this vein the investigation was restricted to an examination of the causal factors related to the collision that had a direct contribution to the outcome. In essence the investigation focused on the actions of the **PWC 911** rider, occupants of **Rescue Alpha** and the environment (both physical and organisational) in which the vessels were operating.
4. The overarching causation was determined as being the way the master of the **Rescue Alpha** applied the 'stand on' requirements contained in Maritime Rule 22.17. It was also determined that the lookout maintained by the rider of **PWC 911** was not adequate to account for vessels not involved in the race event that were approaching side on (abeam).
5. As a result of the investigation the following recommendations have been made:
 - The master and crew of the **Rescue Alpha** involved in the collision be assessed and/or retrained in the rules and practices relevant to collision prevention.
 - NZJSBA to review pre-race briefings given to race participants on their obligations under Maritime Rules Part 22 and make changes in light of this accident where necessary; briefings to ensure that participants are aware of the visibility and hearing restrictions caused by wearing a helmet and actions required to ensure a proper lookout is maintained.
 - The findings of this investigation be considered in any review of the training delivered by the Royal New Zealand Coastguard, and any review of training delivered to masters and crews of DRVs carried out under Maritime Rules Part 35 approval.

Event description

6. On 13 June 2009, the Auckland Jet Sports Boating Association (AJSBA) held an organised PWC race event off Narrow Neck Beach, adjacent to the Rangitoto Channel in Auckland harbour. This event had been endorsed by the NZJSBA in accordance with their policy.
7. The secretary/treasurer of the NZJSBA had submitted the appropriate notification to the Auckland harbourmaster's office, and this notification was processed in the usual manner within the office.
8. A public notice was subsequently placed in the North Shore Times advising of the event.¹ As a result of this notice the harbourmaster's events co-ordinator was contacted by the Auckland Yacht and Boating Association (AYBA), who planned to hold an event off Narrow Neck Beach at the same time. The event co-ordinator subsequently liaised with both groups, and arrangements were made for AYBA activities to be held later in the day.
9. The proposed course was approximately 8 kilometres long and as such was considered by the events co-ordinator as being too large to run as a closed course.² This was decided by the events co-ordinator, having considered the time of year, the location of the event and the likelihood that there would only be a small number of other vessels around. The evidence obtained confirms that the decisions made by the events co-ordinator were appropriate in the circumstances given the considerations set out above.
10. Having processed the notification and approved the racing event, the events co-ordinator hand-delivered the notifications to the Police Maritime Unit and Coastguard Northern Region. However, the Coastguard notification was not passed through their normal internal channels which meant that the Auckland Coastguard crew operating on the day of this accident were unaware that a programmed racing event was taking place.
11. The events co-ordinator also provided the race director with yellow "special mark" buoys for marking out the race course. These buoys were approximately 1 metre high and it is considered that the buoys were more than appropriate for the prevailing conditions. The "special mark" buoys are commonly used by organisations to mark out events on the water. The speed restriction of 5 knots within 200 metres of the shore, and within 50 metres of other race participants was also uplifted by the harbourmaster for race participants and emergency vessels to allow for the race to be run off the beach.
12. Several vessels were used by race marshals for the event, including a 6.6 metre aluminium runabout which was positioned near one of the "special marks" marking the first leg of the race. The master of this runabout is an ex-Coastguard volunteer, who has also worked as a member of the Police Maritime Unit where he was the master of one of their vessels and was required to hold a Local Launch Operator (LLO) certificate of competency.
13. A member of the AJSBA was also deployed on a PWC to act as a race marshal on the first leg of the race. His role was to follow the last rider around the course in case there were any breakdowns or problems. It was not the role of the race marshals to intervene or block vessels from entering the course, although they did advise a small yacht in the area that the race was about to take place and the yacht stayed clear.
14. The primary role of the race marshals was to observe and assist where possible, as well as ensure that the race participants completed the course correctly and within the race rules.
15. By 1000 hours the course had been marked and participants were congregating on the beach in anticipation of the first scheduled race, being the novice women's event, in which four individuals had registered to compete.

¹ Refer to Appendix 1.

² Refer to Appendix 2 – course plan as submitted for consent.



Figure 1 Photograph showing race participants and spectators on Narrow Neck Beach.

16. Approximately 15 minutes before this accident the race director contacted Coastguard radio on VHF channel 16 to establish what radio channel they could use for race communications. It was the race directors' understanding that a channel had been pre-assigned by the harbourmaster; however this was not the case.³ The race director was told to stand by, and was called back a short time later and advised that VHF channels 6 or 8 were available. These channel 16 calls were not heard by the crew of **Rescue Alpha**.
17. At approximately 1030 hours the women's novice event commenced. The four PWCs left the beach and raced towards the first marker buoy. This event was run over a shortened course, with the first mark being the second buoy of the full course⁴, directly adjacent to Narrow Neck beach. Two of the craft took a considerable lead, while the remaining two raced within close proximity of each other. It is understood that the PWC's were travelling in excess of 40 knots.
18. Around this time **Rescue Alpha** was making its way from North Head toward Milford marina where the crew intended to undertake a training exercise. As it rounded North Head **Rescue Alpha** was put on a heading that would take the vessel through the race course. Onboard **Rescue Alpha** was the Master and four crew members.
19. There are several varying accounts of the events that followed, but in brief the evidence shows that the crew and master of **Rescue Alpha** were aware of the risk of collision from a distance of approximately 300 metres. They also acknowledged that at approximately 150 metres distance they were aware that the **PWC 911** rider had not seen them and did not appear to be aware of the presence of **Rescue Alpha**, and had taken no action that would indicate the rider's intention to avoid **Rescue Alpha**.
20. When **Rescue Alpha** was around 150 metres away from **PWC 911**, the master gave a number of short blasts on the vessel's horn⁵, and with the understanding that **Rescue Alpha** was the stand-on vessel, maintained his course and speed. **Rescue Alpha** subsequently collided with **PWC 911** while making a last-moment hard turn to starboard.

³ The Harbourmaster does not ordinarily designate radio channels.

⁴ See appendix 2 for course layout.

⁵ There were varying accounts of the number of blasts, but it is believed that between 5–10 blasts were sounded.

21. **Rescue Alpha's** port pontoon struck the rider from the starboard quarter of **PWC 911**; riding up over **PWC 911** and striking the rider in the right side of her helmet.
22. The evidence indicates that the impact threw the rider from **PWC 911** and clear of **Rescue Alpha**. The propellers of **Rescue Alpha's** two outboard engines caused extensive damage to **PWC 911** as it passed underneath the boat. The **PWC 911** rider suffered a fractured ankle and several fractured ribs as a result of the collision.



Figure 2 Photograph showing damage sustained by **PWC 911**

23. The photograph above was taken shortly after **PWC 911** was recovered from the water.⁶ The damage is situated predominately on the starboard side, and after quarter of **PWC 911**, which indicates **Rescue Alpha's** impact with **PWC 911**, and is consistent with eyewitness accounts.



Figure 3 Photograph showing damage sustained by **Rescue Alpha**. Handwritten notes explaining areas of damage.

24. **Rescue Alpha** was taken from the water and repaired before a MNZ investigator could examine the damage. The photograph above was taken shortly after the accident and contains hand-written notes describing the damage, which were made by the repairer. There was damage to the port side and the starboard skeep of **Rescue Alpha**. The damage is consistent with witness accounts of **Rescue Alpha** riding up and over **PWC 911**. The damage to the port side of **Rescue Alpha** corresponds to the area of significant damage on the starboard after quarter of **PWC 911**.

⁶ The registration number has been coloured over for privacy purposes.

25. The collision was witnessed by the race marshal who was sitting on the stationary PWC approximately 60 metres away from the point of collision, and the skipper on the runabout, who was positioned near the first marker buoy, approximately 70 metres away from the collision.
26. **Rescue Alpha** stopped immediately after the collision and pulled the injured rider on board, where she was given first aid. A short while later the rider was transferred to the aluminium runabout and taken ashore where she received further first aid before being transported to hospital. **PWC 911** was towed ashore by the aluminium runabout.

Analysis

Introduction

27. The collision prevention rules are contained in Maritime Rule Part 22. These rules set out the obligations for those in control of vessels in varying circumstances; a code for regulating vessel traffic. The rules specify which vessel must give way in given situations and which way vessels should turn to avoid collisions. The rules also prescribe the requirement to keep a lookout, the requirement to maintain a proper speed and considerations to be taken into account when deciding on appropriate action to take to avoid the development of close quarter situations.
28. In applying the rules it is important to note that several different rules can be brought into play throughout the entire period a collision incident unfolds. Every person in control of a vessel has an obligation to avoid collisions. For this reason the speed, time and distances involved, and the awareness of the other vessel by the person in control are important considerations in analysing the responsibilities of the parties in accordance with the collision prevention rules. The analysis of the applicable rules is set out below.
29. Initially there was some contention that **Rescue Alpha** may have been the overtaking vessel. Subsequent analysis of the evidence provided from witness accounts, and the course and speed of both vessels show that this was not the case.

Collision regulations

30. There are three issues that arose as this situation unfolded and culminated in the collision. These issues are all covered by Maritime Rule Part 22 and can be summarised in chronological order as:
- lookout (Maritime Rule Part 22.5, Lookout)
 - the crossing situation (Maritime Rule Part 22.15, Crossing Situation, 22.16, Action by give-way vessel & 22.17 Action by stand-on vessel)
 - action to avoid collision (Maritime Rule Part 22.8, Action to avoid collision).

Proper lookout

31. The **PWC 911** rider's explanation that she simply had not seen **Rescue Alpha** raises the question over whether or not she was maintaining a proper lookout. The obligation to maintain a proper lookout is contained in Maritime Rule Part 22.5 which provides that:
- Every vessel must...maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions, so as to make full appraisal of the situation and the risk of collision.*
32. All aboard **Rescue Alpha** indicated that they were maintaining a proper lookout. Statements by the crew indicate that the PWCs involved in the race were sighted early and communicated effectively to the master. Although there were a number of other craft in the immediate vicinity that were not accounted for by the master and crew of **Rescue Alpha** when interviewed, the evidence indicates that the master and crew of **Rescue Alpha** were well aware of the presence of **PWC 911**, and the risk of collision it presented.
33. The extent to which the **PWC 911** rider could maintain a proper lookout was restricted by the full face helmet she wore. She later described her vision as being "cut off at about 80 degrees either side"⁷. It should be noted that International Jet Sports Boating Association (IJSBA) rules make wearing a helmet of this type compulsory for competitors.

⁷ Visual range was indicated by the rider during interview as being 80 degrees either side of the centre of the rider's face.

34. The briefing before the race made participants aware that the course was not closed, and highlighted the need to maintain a lookout for vessels that may enter the course. The **PWC 911** rider involved in this collision was aware of this, and stated during her interview, regarding keeping a lookout:

"I turned my head to the right and just as I did, [I] got hit, he hit me on the sort of right, slightly to the rear of my helmet. Until that moment I had no idea there was anything there, next thing I knew I was in the water. In a straight line, you're obviously concentrating pretty hard on what you're doing, but I was scanning left and right, like not turning my head sort of 90 degrees but in both directions just looking out for what was out there. So that's why I have to assume that the boat must have come from slightly behind because otherwise I'm sure I would have seen it."

35. The **PWC 911** rider's description of being struck on her starboard after quarter is consistent with the damage to both vessels and the accounts given by other witnesses. It is unknown whether or not **Rescue Alpha** was within the rider's field of view at any stage prior to the collision, it is possible that it was not given the witness accounts and indicated direction of travel of the vessels.
36. The crew of **Rescue Alpha** stated that they believed that the **PWC 911** rider had not seen them because the rider had not turned her head at all. This supports other evidence which indicates that the rider would have had to turn her head in order to see **Rescue Alpha**, and indicates that the angle at which **Rescue Alpha** approached **PWC 911** was from the starboard side, making contact with **PWC 911** in the starboard after quarter.
37. The race marshal who was in the runabout was unsure about whether or not **Rescue Alpha** would have been in the **PWC 911** rider's field of vision, and stated "without a helmet on, yes, with a helmet on it may not have been so easy to see".
38. When reporting the matter, the master of **Rescue Alpha** provided the following sketch showing the course of each vessel to the point of collision. From this sketch it is possible that **Rescue Alpha** may have been within the **PWC 911** rider's field of view when the crew of **Rescue Alpha** first sighted **PWC 911**. However, given the courses indicated it is possible that **Rescue Alpha** was outside the rider's restricted field of vision as the vessels converged.

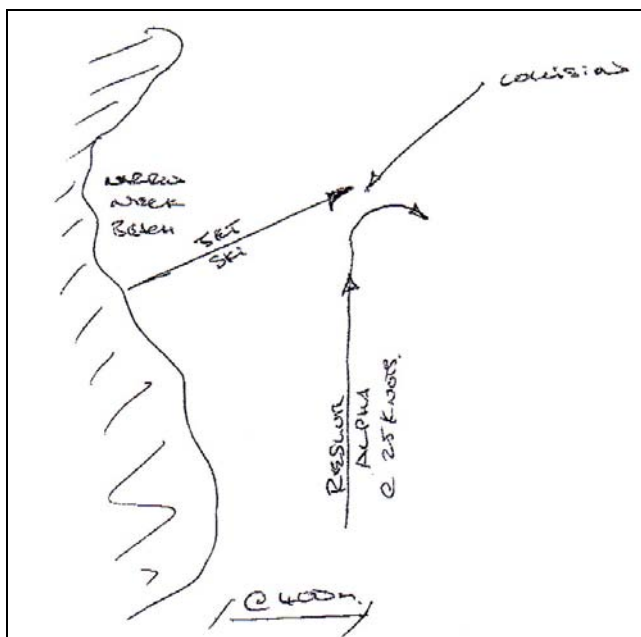


Figure 4 Sketch diagram provided by skipper of **Rescue Alpha**

39. This sketch is corroborated by the screen-shot below, taken from the Coastguard Northern Region's Global Positioning System (GPS) plotter that monitors Coastguard vessels. The GPS screen-shot provided an accurate account of *Rescue Alpha's* course. The path of the collision course is highlighted by the exclamation marks shown in yellow.

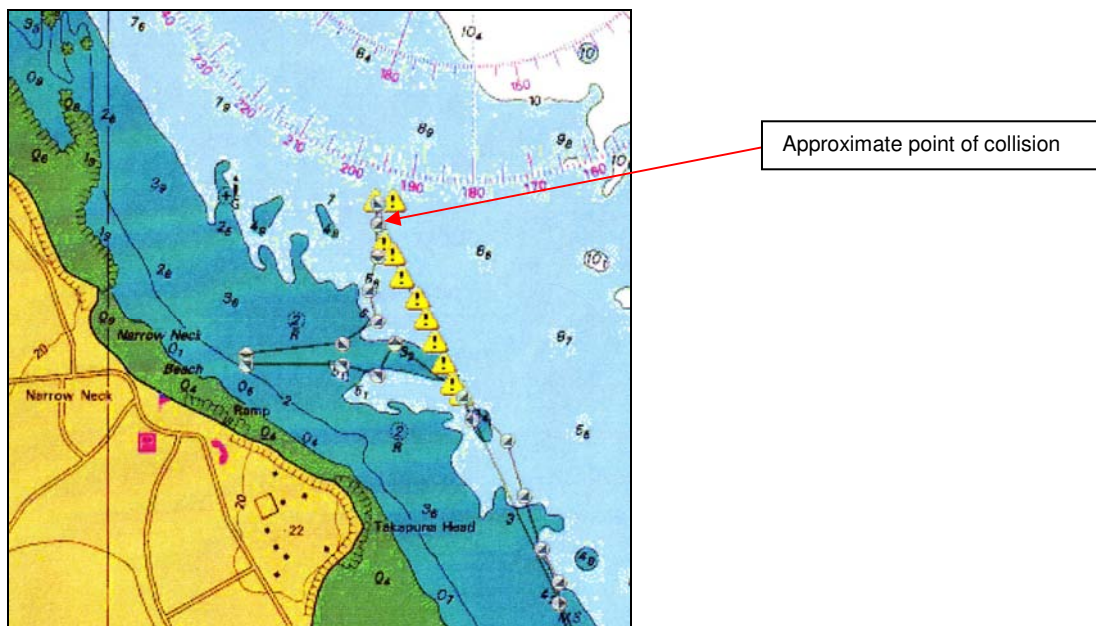


Figure 5 Course taken by *Rescue Alpha*⁸

40. The extent to which *Rescue Alpha* was within the *PWC 911* rider's view does not negate the *PWC 911* rider's obligation to maintain a proper lookout. Had the rider turned her head in a broader range of motion she would most likely have been alerted to the presence of the *Rescue Alpha* and taken action to avoid the collision. However, it appears that the race context may have contributed to the fact that the rider's attention was directed more or less to what was directly in front of her.
41. It is considered that the *PWC 911* rider's lookout was sufficient to prevent her from colliding with any vessels on the heading she was travelling. This is evident from her interview where she was able to accurately describe the marker buoy, marshal vessels and other PWC riders in front of her and awareness of competitors behind her. It is considered that by directing attention to what was more or less directly in front of her, the rider of *PWC 911* was maintaining a sufficient lookout in the context of the racing activity in which she was participating. However, the lookout was not sufficient to account for vessels approaching side on, as was the case with the *Rescue Alpha*. Furthermore, she was aware that the course was not closed and the risk of collision from vessels approaching from outside the course, from any direction, was a real possibility. The failure to keep a proper lookout constitutes a breach of Maritime Rule 22.5.

Crossing situation

42. Maritime Rule Part 22.15 outlines the requirements of vessels in a crossing situation, which this was when *PWC 911* first came into the view of *Rescue Alpha*. This rule requires the vessel which has the other on its own starboard side (in this case *PWC 911*) to give way to the other vessel (*Rescue Alpha*).

⁸ It is unknown what the exclamation marks mean, but it is not believed to be related to the collision incident.

43. In this situation Maritime Rule 22.15 required **PWC 911** to give way to **Rescue Alpha**, which was the *stand-on vessel*. In order to do this the **PWC 911** rider had to be aware of the risk of collision with **Rescue Alpha**. However, Maritime Rule 22.17, discussed below, makes provision for the stand on vessel to take action to avoid a collision in the event the give way vessel does not take action in accordance with Maritime Rule 22.16.
44. Had the **PWC 911** rider been aware of the presence of **Rescue Alpha**, then she could have taken the appropriate action as required by Maritime Rule 22.16, prescribing the manner in which she should give way. The **PWC 911** rider failed to fulfil her obligations under Maritime Rule Part 22.15.

Action to avoid collision

45. Every person in control of a vessel has an obligation to avoid collisions. Regardless of the failure by the rider of **PWC 911** to maintain a proper lookout, the master of **Rescue Alpha** had corresponding obligations to take action to avoid colliding with **PWC 911**. The master and crew of **Rescue Alpha** were aware of the risk of collision with **PWC 911**, and were also aware that the **PWC 911** rider was not aware of the presence of **Rescue Alpha**. The master of **Rescue Alpha** could have taken action to avoid the collision at any time up to the point where collision became unavoidable. The obligations on and actions of the master of **Rescue Alpha** are discussed below.
46. In accordance with Maritime Rules Part 22, **Rescue Alpha** was the stand on vessel. Rule 22.17 defines the obligations of a stand-on vessel. The relevant parts of that rule read as follows:

22.17 Action by stand-on vessel

- (1) *If one of two vessels is to keep out of the way, the other must keep its course and speed.*
- (2) *As soon as it becomes apparent to the stand-on vessel that the vessel required to give way is not taking appropriate action in compliance with this Part*
 - (a) *it may take action to avoid collision by its manoeuvre alone; and*
 - (b) *if it is a power-driven vessel in a crossing situation, if the circumstances of the case allow, it must not alter course to port for a vessel on its own port side.*
- (3) *When, from any cause, the stand-on vessel finds itself so close that collision cannot be avoided by the action of the give-way vessel alone, it must take whatever action will best avoid collision.*
- (4) *This rule does not relieve the give-way vessel of its obligation to keep out of the way.*

47. In addition to rule 22.17, action to avoid a collision must be taken in accordance with rule 22.8, which provides;

22.8 Action to avoid collision

- (1) *Any action to avoid collision must be taken in accordance with the requirements of this Section and, if the circumstances allow, be positive, made in ample time and with due regard to the observance of good seafaring practice.*
- (2) *Any alteration of course or speed or both to avoid collision must, if the circumstances of the case allow, be large enough to be readily apparent to another vessel observing visually or by radar. A succession of small alterations of course or speed or both should be avoided.*

- (3) *If there is sufficient sea-room, alteration of course alone may be the most effective action to avoid a close-quarters situation provided that –*
- (a) *It is made in good time; and*
 - (b) *it is substantial; and*
 - (c) *it does not result in another close-quarters situation.*
- (4) *Action taken to avoid collision with another vessel must be such as to result in passing at a safe distance. The effectiveness of the action must be carefully checked until the other vessel is finally past and clear.*
- (5) *If necessary, to avoid collision or to allow more time to assess the situation, a vessel must slacken its speed or take all way off by stopping or reversing its means of propulsion.*
48. The master of **Rescue Alpha** complied with Maritime Rule Part 22.17(1) insofar as he maintained his course and speed.
49. Any action taken in accordance with rule 22.17, to avoid a collision is required to be taken in accordance with rule 22.8. Rules 22.8 (3), (4) and (5) would apply in this situation. Any action taken by the master of **Rescue Alpha** should have been taken as early as possible; in this case as soon as he formed the view that the collision was likely and the **PWC 911** rider was not taking the appropriate action. Alternatively, if the master of **Rescue Alpha** was not sure of the actions of **PWC 911**, then he was required to slacken his speed to allow more time to assess the situation or to bring the vessel to a stop (22.8(5)). During interview when asked to look back on what he might have done better the master of **Rescue Alpha** stated “*I would have been far better off to have throttled off and given her a couple of hundred metres, but that’s in hindsight. I had thought I had turned enough to avoid it*”.
50. When both vessels were 300 metres apart, the master of **Rescue Alpha** formed the view that a collision was possible if both vessels continued on their current course. The master of **Rescue Alpha** states that he was aware at a distance of 150 meters that the **PWC 911** rider had not seen them and was not taking any action. From this point the master had a responsibility to consider whether it was necessary for him to take action to avoid the collision in accordance with rule 22.17. In the circumstances, a turn to starboard at this point would have been effective. Unfortunately, the master of **Rescue Alpha** attempted a turn to starboard a few seconds before the collision which caused **Rescue Alpha** to ride over the starboard quarter of **PWC 911**.
51. Rule 22.8(1) requires that all action to avoid a collision should be carried out with due regard to good seafaring practice. The term “seafaring practice” differs from the international regulations⁹ that use the term “seamanship”. However it is considered by the investigators that the differing terms have the same meaning and effect. **Rescue Alpha**’s speed of 25 knots equates to approximately 12 metres per second. From approximately 150 metres away, when the master of **Rescue Alpha** decided to sound the horn, the master had time to take any other action to avoid the collision. There was nothing preventing the master from reducing his speed, coming to a stop or turning in any direction. It is important to note that the distance between the vessels would have reduced dramatically from this point given that **PWC 911** was travelling at significantly higher speed than the **Rescue Alpha**.¹⁰ The issue of why the master took the action he did is addressed later in this report in the discussion on training.

⁹ Convention on the International Regulations for Preventing Collisions at Sea, 1972 (COLREGs)

¹⁰ At 45 knots a vessel will cover 150m in 6.5 seconds. At 25 knots a vessel will cover a distance of 150m in 11.7 seconds.

52. By not taking action to avoid the collision when he was aware that the rider on **PWC 911** was neither alert to **Rescue Alpha**'s presence, or taking action to give way, the master of **Rescue Alpha** has not acted in accordance with the requirements of rules 22.8 and 22.17.

Reporting and communications

53. It is clear from interviews with the master and crew of **Rescue Alpha** that they were unaware of the event taking place at Narrow Neck Beach. Had they known, the master and crew all stated that it is unlikely they would have taken the course they did.
54. The Coastguard Northern Region is the umbrella organisation for Coastguard divisions in the northern region, including Auckland Coastguard, and provides the information link between the Auckland Regional Council harbourmaster's office and the various Coastguard units in the Auckland region.
55. This usually involves a Coastguard Northern Region staff member receiving all notifications and preparing weekly reports on upcoming events. These reports are then disseminated amongst the appropriate Coastguard offices. On receipt of a report, Auckland Coastguard would print it off and place it on their office notice board for the duty crew to read.
56. The Coastguard Northern Region office and the harbourmaster's office are situated in the same building allowing for the event notification to be hand-delivered to the office by the harbourmaster's events co-ordinator.
57. On this occasion the person responsible for collating the information and preparing the reports was on their rostered days off. The notification was placed in that person's in-tray/pigeon hole, but lay unattended until they returned to work the day following this accident.
58. The master of **Rescue Alpha** stated that he checked the notice board for any new notifications prior to departing. He also visited the Coastguard Northern Region communications centre where he checked if any events were being held. Despite these checks he was not made aware of the event.
59. The Coastguard Northern Region has advised that the gap in this reporting system has since been rectified.

Training of master and crew

60. The Royal New Zealand Coastguard operates from a network of four regions and 68 affiliated units. They have approximately 2,500 active search and rescue personnel, the majority of whom are volunteers. Coastguard Boating Education Services (CBES) provide theoretical and practical training courses within the Coastguard organisation.
61. Masters of dedicated rescue vessels (DRVs), such as **Rescue Alpha**, are required to hold a certificate of competency issued by the Royal New Zealand Coastguard in accordance with approval granted under Maritime Rule Part 35. The training syllabus and their authority to issue these certificates have been approved by the Director of MNZ. The master of **Rescue Alpha** held a Coastguard Skippers certificate of competency issued under the Maritime Rule Part 35 approval.

62. The foundation training for a certificate of competency as Master of DRVs is either a commercial maritime qualification¹¹, or the completion of the Boatmaster course run by CBES. The Boatmaster course is a comprehensive course that covers a broad range of boating topics, involving over 30 hours of tuition. The collision prevention rules are covered as part of the course under the heading “rules of the road”. The rules of the road section of the course manual is supplemented by an additional CBES publication called The rules of the road at sea. The book most commonly used during the Boatmaster course is “Safety in Small Craft: where the collision regulations are again comprehensively covered.
63. The ‘Rules of the road at Sea’ is an A5 booklet containing a complete verbatim copy of Maritime Rule Part 22 (collision prevention). The booklet also contains additional information in the form of pictures showing the various navigation light configurations, day shapes, navigation light specifications, buoys, markers and beacons (and their meanings), chart table abbreviations, chart symbols and features. The first part of the booklet contains some elementary explanatory material on how some of the various collision prevention rules apply in practical situations, including pictorial representations of those rules being applied. The information contained in the booklet would provide a reader with all the rules relating to collision prevention.
64. During their interviews the master and crew of **Rescue Alpha** confirmed their understanding of the collision prevention rules as they applied on the day of the accident. The master and all crew members provided consistent explanations about the role of the two vessels. **Rescue Alpha** was the stand on vessel and was required to maintain course and speed. When questioned on whether there were procedures for avoiding close quarter situations, or what his understanding was of how a close quarter situation should be approached, the master stated:
- “It goes back to the collision regulations which is you know maintain your course and speed, sound a warning, and if that fails to attract attention [of] give way vessel then you must take evasive action, and I suppose the evasion action is generally noted as a hard turn to starboard.”*
65. It is clear from interviews with all those on board **Rescue Alpha** that adherence to the collision prevention rules, to the extent as occurred in this situation relating to the stand on vessel maintaining course and speed, was justified. However, those same individuals also state that at no time did the **PWC 911** rider look in their direction, give any indication of being aware of **Rescue Alpha**’s presence, or show any indication of giving way from the moment **PWC 911** was first sighted until the resulting collision.
66. Although understanding the rules relating to two power-driven vessels in a crossing situation, it appears that the master’s adherence to the stand on requirement was to the detriment of applying other rules that were appropriate as the situation developed. The possibility of taking action to reduce the risk of collision or to allow more time to assess the situation was not mentioned as a consideration by the master or crew on board **Rescue Alpha**.
67. The master of **Rescue Alpha** stated in his interview he understood that the maritime rules required him to take action once it was apparent to him that the other vessel was not giving way. The master confirmed that he made a hard turn to starboard when both vessels were approximately 30 metres apart. Given that **Rescue Alpha** was travelling at a speed of approximately 25 knots, and **PWC 911** was travelling in excess of 40 knots, a turn at 30 metres distance can not properly be regarded as early and substantial action, as required by rule 22.8.

¹¹ This means a certificate of competency issued by Maritime New Zealand that permits that person to command a commercial vessel.

68. From the accounts provided from those on board **Rescue Alpha** it is evident that their understanding of the collision prevention rules was focused within the context of this incident, namely the obligations of power-driven vessels in a crossing situation. However, the master's application of the collision prevention rules, in this situation is of concern.
69. The collision regulations apply to all vessels, and although they were possibly designed with large ships in mind, they provide a sound code of practice for the conduct of all vessels on the water. However, the rules do apply in a dynamic environment where situations can change quickly. Care must be exercised when applying the rules in a formalistic fashion as numerous factors can be operating and have an influence over the outcome of any one incident. Care must also be taken when applying the rules that consideration is given to the operating parameters and speed of the vessels involved.
70. Through the interview process it appears that the master of **Rescue Alpha** was not open to the possibility that **PWC 911** could have suffered a mechanical failure or that the **PWC 911** rider could have been incapacitated, preventing avoidance action from being taken. Although these possibilities were not the case in this instance, all mariners must be open to the need to take action to avoid collisions, regardless of the obligations on other vessels.

Conclusions

71. The lack of awareness by the master and crew of **Rescue Alpha** of the NZJBSA event taking place off Narrow Neck beach is not considered to be a major factor contributing to the collision. However, the master and crew of **Rescue Alpha** all state that had they been aware of the event it is highly likely the event would have been given a wide berth.
72. The lookout kept by the **PWC 911** rider is considered to be adequate for a participant in the race in relation to other craft taking part in the event. However, **Rescue Alpha** came from the side of **PWC 911** and it is likely that **Rescue Alpha** remained out of the **PWC 911** rider's field of vision, as the vessels converged. The lookout was not sufficient to take account of vessels approaching side on (abeam).
73. The adherence to the stand on rule by the master of **Rescue Alpha**, and his failure to recognise the need to take some form of action early in the developing situation are considered to be the most proximate failure that led to the collision. The master of **Rescue Alpha** failed to apply Maritime Rule 22.17 and take any of the available alternative courses of action, which most likely would have resulted in the collision being avoided.

Recommendations

74. As a result of the above conclusions, it is recommended that:
- a) Royal New Zealand Coastguard to ensure that the process for event notifications is reviewed periodically, and to inform the Director MNZ that this process has been put in place.
 - b) The master and crew of the **Rescue Alpha** involved in the collision be assessed and/or retrained in the rules and practices relevant to collision prevention;
 - c) NZJSBA to review pre-race briefings given to race participants on their obligations under Maritime Rules Part 22 and make changes in light of this accident where necessary; briefings to ensure that participants are aware of the visibility and hearing restrictions caused by wearing a helmet and actions required to ensure a proper lookout is maintained;
 - d) The findings of this investigation be considered in any review of the training delivered by the Royal New Zealand Coastguard, and any review of training delivered to master's and crew's of DRVs carried out under Maritime Rules Part 35 approval.

Appendix 1: Notice of event

1. Notice of event published in the North Shore Times newspaper.

**AUCKLAND JET SPORT ASSOCIATION
NARROW NECK BEACH
13 JUNE 2009
TEMPORARY REMOVAL – SPEED RESTRICTIONS**

The public are advised that the Auckland Jet Sport Association will be holding a Personal Water Craft event off Narrow Neck Beach. A course will be set between Rough Rock and St Leonards Beach. Racing will start at 10 am and finish no later than 2 pm.

During these hours the provisions of Auckland Regional Council Navigation and Safety Bylaws Clauses 3.2 (a) and (b) The 5 Knot rule are suspended with respect to competing Personal Water Craft and any emergency vessels only.

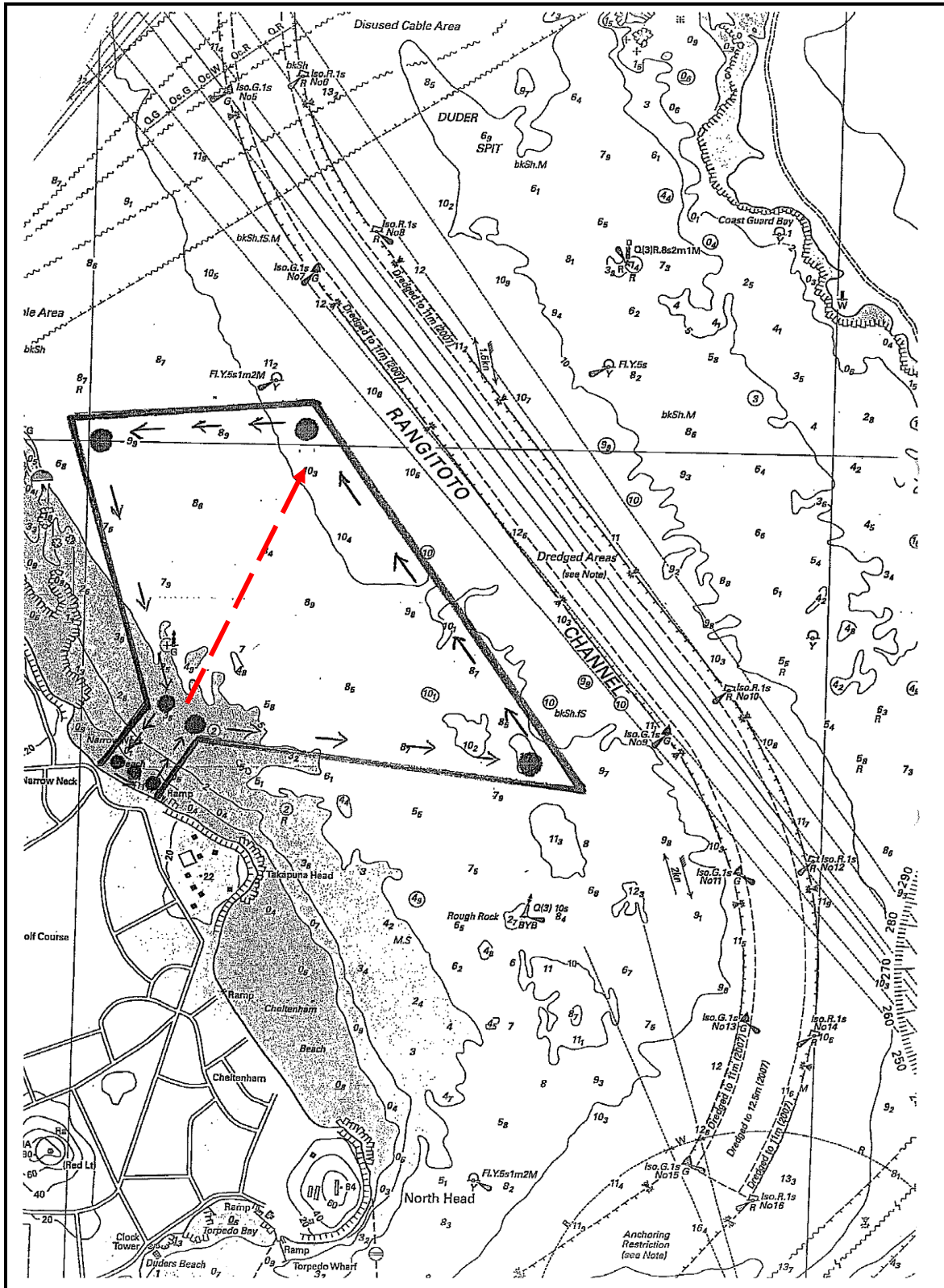
The course will be marked with large yellow buoys and patrol vessels will be stationed around the course.

All mariners are warned to navigate with caution during this event and to follow instructions given by Course Marshals.

John Lee-Richards
HARBOURMASTER

Appendix 2: Course layout

1. Layout of course as submitted to Auckland Harbour Master's office for approval.



The red dotted line indicates the shortened course for the Novice Women's event.

Appendix 3: Comments by interested parties

1. All interested parties were provided with a copy of the draft report and given the opportunity to provide comment. Comments on the draft report were received from:
 - Coastguard Northern Region / Auckland Coastguard Inc.
 - PWC 911 rider
 - One crew member of Rescue Alpha
 - New Zealand Jet Sport Boating Association
2. The report has been amended where considered appropriate in light of comments received from the above parties.