

Accident Report

# Unnamed Kayak

## Fatality

Crooked River, Rotomanu, Westland,  
New Zealand on 29 March 2004

KEEPING YOUR SEA SAFE FOR LIFE



**Maritime Safety**

MARITIME SAFETY AUTHORITY OF NEW ZEALAND  
*Kia Maanu Kia Ora*



**REPORT NO: 04 1119**

**VESSEL NAME: UNNAMED KAYAK**

**CASUALTY DETAILS:**

**Date of Casualty:** 29 March 2004

**Time of Casualty:** 1820 hours New Zealand Daylight Time (NZDT)

**Casualty Type:** Fatality

**Casualty Location:** Crooked River, Rotomanu, Westland

**Investigator:** Ian Logie



**REPORT NO: 04 1119**

**VESSEL NAME: UNNAMED KAYAK**

**VESSEL DETAILS:**

**Ship Name:** *Unnamed Kayak*

**Ship Category:** Recreational Kayak/Canoe

## **1. KEY EVENTS**

- 1.1** On Monday, 29 March 2004, at approximately 1455 hours New Zealand Standard Time (NZST), a party of three kayakers left their motor vehicles at the road bridge, 500 metres upstream of the confluence of the Crooked and Evans Rivers, Westland, New Zealand. They began walking with their kayaks towards the put-in point, for their planned kayak trip.
- 1.2** Although they had estimated that the walk in would take them around two hours, it took just about three hours to cover the two and a half kilometres. They were travelling on what is marked on the map as a track, and progress was hindered by the thick bush, and at times boggy terrain. The track was also quite steep in places. They were dragging their kayaks using a towline (*See Glossary for explanation*) attached to their personal flotation devices. At times, Kayaker 1 and Kayaker 2 fell back in order to help Kayaker 3 with her kayak, which was heavy with personal safety and rescue equipment.
- 1.3** When the party reached the put in point, around 1745 hours, they discussed their options – as to whether they should put on the river or walk back to their vehicle and then return to run the river the following day. On that day, the sun was going to set close to 1830 hours.
- 1.4** Key factors in the group’s decision to put on the river that evening included:
  - a) They believed that they had at least an hour of daylight left;
  - b) They could adopt a strategy of ‘quickly portage (*the rapid*) if at all in doubt’;
  - c) They believed that to walk back would have potentially taken them longer than paddling out;
  - d) The guide book (Charles 2002, p 180) sited the fastest time for the river trip as 40 minutes;
  - e) They felt empowered with the knowledge from the guide book of where the crux rapid (“Bent and Twisted”) was located;
  - f) They believed that once clear of the gorge, if need be they could walk out from there; and
  - g) Kayaker 3 – as the person who had struggled the most with the walk in – was keen to put on the river.
- 1.5** The group put on the river shortly before 18:00 hours and adopted a strategy of travelling as quickly and safely as possible. Kayaker 1 was first on the river and inspected each of the first three rapids from the bank. At the first rapid, Kayaker 3 did not make the boof (*See Glossary for explanation*) at all cleanly and had a short side-surf in the hydraulic before continuing on. Given that there was a tree in the second rapid and they were short of time, everyone portaged it (*See Glossary for explanation*). They proceeded through the third rapid without event.

- 1.6** As the party approached the fourth rapid they knew that they must be close to the crux rapid “Bent and Twisted”, as stated in Charles 2002. Kayaker 1 inspected the rapid from the bank, saw that it was a “relatively long rapid and we couldn’t see [...] the end of the rapid” and got Kayaker 2 and Kayaker 3 out to inspect the rapid as well.
- 1.7** After “two or three minutes” of discussion, the party decided to paddle down the river left chute to the next eddy on river right, where they would “have a better vantage point from which to view the rapids downstream.”
- 1.8** Kayaker 1 entered the rapid first, paddling down the chute between the river left bank and the rocks in the centre of the river and into the eddy on river right as planned. In the process of making this move, however, his spraydeck imploded (*See Glossary for explanation*) and his kayak took on a significant amount of water. He then whistled in order to gain Kayaker 2’s attention.
- 1.9** Kayaker 2 paddled the required line and into the eddy where Kayaker 1 was situated. He grabbed hold of Kayaker 1’s Boat and rafted up (*See Glossary for explanation*) with him. Shortly after, Kayaker 2 noticed a waving motion from a paddle blade on the upstream side of the rock in the centre of the river directly upstream of them, and alerted Kayaker 1 to the possibility of Kayaker 3 being in trouble. It was the face of the paddle blade that Kayaker 2 saw; this is congruent with a paddler trying to either brace or roll (*See Glossary for explanation*) in order to return a kayak to an upright position.
- 1.10** Kayaker 1 grabbed his throwbag (*See Glossary for explanation*) from the mounting on the front centre-pillar of his kayak; quickly dragged his kayak onto the bank and “clambered up onto a rock to see if [he] could see her”. As Kayaker 1 was grabbing his throwbag and Kayaker 2 was beginning to get out of his kayak, Kayaker 3 floated past, out of her kayak. She was floating vertically in the water, with her armpits up being above the surface; she had come from the river left side of the rock in the centre of the river directly upstream of Kayaker 1 and Kayaker 2. Neither Kayaker 2 nor Kayaker 1 was able to make eye contact with her. From the side on view however, Kayaker 2 was able to see that she had “really really big eyes.” Neither Kayaker 2 nor Kayaker 1 saw Kayaker 3 make any attempt at swimming.
- 1.11** As Kayaker 1 and Kayaker 2 hurried out of their kayaks with their throwbags, Kayaker 3 very quickly disappeared from their sight – being blocked from view by a boulder, at the bottom of the eddy that they were in. They were moving as quickly as they could downstream along the boulder-choked river bank. When the boulders began to run out to be replaced with a relatively vertical gorge wall, Kayaker 1 had not been able to sight Kayaker 3. He quickly ran back to his kayak in order to give chase on the water. After quickly emptying his kayak of water and stowing his throwbag, Kayaker 1 paddled down into the next eddy and then continued on as quickly

as possible. He was very aware of attempting to manage his own safety in the context of solo-paddling (*See Glossary for explanation*), and portaged whenever it was quicker or the risks involved in paddling were too high.

- 1.12** Meanwhile, Kayaker 2 had proceeded down river along the bank, climbing the gorge wall and up into the bush in order to continue his search for Kayaker 3. He was aware of how quickly Kayaker 3 had been travelling in the water and was hoping that she may have stopped in an eddy or on a rock. When he saw Kayaker 1, now searching by kayak, they confirmed that neither of them had seen Kayaker 3. Kayaker 2 then ran/climbed/scrambled back to his kayak and did another quick check of the immediate area. Kayaker 1 continued searching downstream by kayak.
- 1.13** It was starting “to get a little bit dark” and Kayaker 2 decided that it was too risky to paddle downriver by himself and instead decided to cross the river by initially going back upstream to the eddy, from which they had all initially viewed the rapid and to then run out along the track in order to seek help. It took him a while to climb/scramble up to the track, and it was quickly getting dark. He was able to move slowly along the track when there was moonlight. However, that did not last for long and he was soon reduced to feeling his way in the pitch black. After falling three to four metres head first down a bank, and being luckily stopped by a branch, Kayaker 2 decided to stay put for the night. In seeking shelter from the wind and cold he used branches and leaves and drew on his training from the Swedish army. He was later found by a local Search and Rescue team at approximately 0230 hours on 30 March.
- 1.14** As daylight gave way to dusk, Kayaker 1, who had been continuing to search for Kayaker 3, decided that it was now too dangerous to continue kayaking. Where he got off the river was “probably 600 metres” from the planned takeout. At times, he was on his hands and knees making his way through the thick bush in darkness. There was no mobile phone reception at his vehicle and the closest farmhouse was approximately 3.5 kilometres away – which he drove to. It was at 21:05 hours that he made the call from the Burgess’ farmhouse to the police, informing them of his two missing companions and requesting a helicopter. Kayaker 1 then went back to their vehicles, parked at the takeout, and directed the headlights up into bush in order to help anyone seeking to find their way out of the bush.
- 1.15** Kayaker 1 assisted with the land Search and Rescue team that found Kayaker 2 and then continued with them in the hope of finding Kayaker 3 until between 0500 and 0530 hours on 30 March, when they stopped searching.
- 1.16** At approximately 09:20 hours on 30 March, members of the Tasman Whitewater Response Unit located Kayaker 3’s body in a sieve, approximately 5 metres down river of where she was last seen by her companions (See paragraph **1.10**).

## 2. KEY CONDITIONS

- 2.1 Kayaker 3 (the deceased) was 19 years of age, 170 centimetres in height, tall and weighed 76 kilograms. She was on her “gap year” before studying Medicine at Edinburgh University. She had been kayaking since the year 2000 when she had joined the Dales Canoe Club in Yorkshire, England. She had “become extremely competent in a very short time” according to the club chairman. In freestyle kayaking (*See Glossary for explanation*) she had finished seventh in the Women’s K1 section (*See Glossary for explanation*) and second in the Women’s squirt section (*See Glossary for explanation*) at 2004 pre-world championships. Amongst her many other achievements, had been winning the Women’s section of the Peak 2003 Himalayan Whitewater Challenge, in Nepal. In 2002, she was placed third in the Junior Women’s K1 event, at the freestyle kayaking pre-world championships in Austria.
- 2.2 The deceased had arrived in New Zealand on February 2 and, amongst other rivers, had paddled the Arahura (class IV – V), the Lower Kakapotahi (class IV), the Taipo from Mid-Taipo hut (class II - III), the Styx (class IV+), and the Hokitika (class III - IV). On the Arahura she witnessed a “pretty nasty swim” (Le Gal, 2004a) and then had to rescue the swimmer. On the Lower Kakapotahi she watched her paddling companion be vertically pinned under water before he eventually managed to wiggle himself free. The deceased had also wet-exited (*see Glossary for explanation*) from her kayak whilst in New Zealand: Once at the bottom of Ariki falls on the Buller River; and another time at the bottom of Maruia falls.
- 2.3 Although the deceased was obviously a world class athlete in her chosen sport of freestyle kayaking and had paddled a variety of class IV and V rivers, she could not be considered “bomb-proof” (*See Glossary for explanation*) in her adventure paddling (*See Glossary for explanation*) skills or experience. Whilst paddling in Nepal in November 2003, a paddling mentor noted that river paddling was pretty new to her. “She was inexperienced, but a very quick and intelligent learner.” (Astles, 2004.) Further, after being involved in the incidents in *Paragraph 2.2*, Ms Rutter was “sick of these epics” (Le Gal, 2004a) and was looking forward to getting back to Murchison. There is a limitation to the amount of experience that a kayaker can gain in the craft of adventure paddling in just four years of paddling. This is especially the case when pursuing the sport of freestyle kayaking with the amount of passion with which the deceased did, and being a high achieving school student in England.

- 2.4** Kayaker 1 was born in 1981, and began paddling in the 1999/2000 season whilst at University in Nottingham, England. He became heavily involved in paddling almost immediately and has been so ever since. He had paddled a variety of demanding rivers all over Britain, as well as in the French Alps, Norway, Spain, Chile and New Zealand. The Rivers in New Zealand have included amongst others, the Kaituna, Rangitikei (wide variety of flows), Hollyford (Falls Creek to Gunn's Camp), and the Styx. Mr Gundry had also attended training and gained awards in a variety of skills. Kayaker 1 had also worked professionally instructing kayaking on flat water, and had led and instructed intermediate kayakers on rivers for his University Canoe Club.
- 2.5** As well as having attended the above rescue training, Kayaker 1 had also gained some experience in rescues on a wide variety of rivers. This has included rescuing a lot of swimmers and kayaks, as well as a pinned boat from Chateau Queryas, River Guil, France in high water. He had "provided safety for more rivers and drops than [he] can remember."
- 2.6** Kayaker 2 was born in April 1980, and began receiving instruction in kayaking with friends when he was 17. He spent three summers kayaking in Norway and Sjoa. "The last two years [he has] been doing pretty much creeking. (*See Glossary for explanation*). His experiences have included some first descents, high up in the Swedish mountains, and some class V+VI water with a strong team, for Swedish Television. Whilst in New Zealand, amongst other rivers, he paddled the Kaituna, Rangitikei (wide variety of flows) Shotover (upper and lower), Kawarau (Dogleg, Roaring Meg, and Citroen sections), Styx and Toaroha. Kayaker 2 had previously done a weekend long rescue course with his canoe club and had spent the two previous summers working as a white water kayak instructor.
- 2.7** In his six years of kayaking experience, Kayaker 2 had gained lots of experience at rescuing swimmers using his kayak, and had also had to use his throwbag "a few times." On the Citroen Rapid on the Kawarau he had wet exited from his kayak for the first time in two years.
- 2.8** Kayaker 1 and Kayaker 2 had been loosely travelling and paddling together since late January. The trip on which this accident took place, was the second time that Kayaker 1 and Kayaker 2 had paddled with the deceased. The other time was two days prior, on the Toaroha river. This trip had passed without incident. Given that Kayaker 1 and Kayaker 2 had paddled together many times before, they were well accustomed to communicating with each on the river. There were no issues communicating with the deceased on the river.
- 2.9** Neither Kayaker 1 nor Kayaker 2 was carrying any injuries at the time of the accident. To the best of their knowledge, neither was the deceased. Neither Kayaker 1 nor Kayaker 2 smoked or took recreational drugs. The post

mortem toxicology tests showed neither alcohol nor cannabis metabolites in the deceased's body.

- 2.10** The day prior to the accident, Kayaker 1 and Kayaker 2 walked in to and paddled the Styx. The deceased had decided not to, as she had walked into the Toaroha the previous day, and had also previously walked into the Styx. She wanted to “save herself for the Crooked” (Kayaker 1 2004). Kayaker 1 and Kayaker 2's trip was without incident and included one portage. The deceased had a relaxing day that involved some squirt boating practice on Lake Mahinapua.
- 2.11** For dinner on the evening of 28 March, Kayaker 2 had a pie and an energy bar and Kayaker 1 believes it was either fish and chips or chilli con carne that he had. Although neither Kayaker 2 nor Kayaker 1 saw what the deceased had for dinner, they noted that with her having a rest day she would have had plenty of time to cook a good meal and that she was “very organised.” None of the three visited the pub that evening. They spent time talking, decided to paddle the Crooked river together the next day. Kayaker 1 and Kayaker 2 went for a drive, looking for their equipment that had been stolen from the camp two days prior. Kayaker 1 estimates that they were all in their separate beds by 22:00 hours.
- 2.12** The next morning, on 29 March, Kayaker 1 and Kayaker 2 were up by 09:00 hours. Kayaker 2's breakfast included fruit juice, a slice of bread, noodles, and a banana. He also recollects having fish and chips for lunch. Kayaker 1 was “not a breakfast sort of person” and recollects his brunch including a lot of specialty breads and bananas – after a trip to the Hokitika supermarket. Neither Kayaker 2 nor Kayaker 1 saw what the deceased had for breakfast or lunch, but from their time together they are sure that both meals would have been appropriate preparation for a paddling trip.
- 2.13** During the morning, Kayaker 1 and Kayaker 2 dealt with insurance claims relating to their equipment that had previously been stolen. They left Hokitika shortly after 12:00 hours and drove towards the Crooked river. The deceased had previously arranged access with the land owner. Where they were to leave their vehicles is approximately ninety five kilometres from Hokitika. Some map-reading issues slowed their travel at times.
- 2.14** Whilst in Hokitika in the morning, Kayaker 1 checked the weather on the internet. He cannot remember which website he used to check the weather. The weather forecast for that day was fine with forecast high of 16 degrees Centigrade.

- 2.15** The recommended flow for the party's planned trip on the Crooked River is 10-15 cumecs (cubic meters per second) (*See Glossary for explanation*). The recommended method for checking the flow is to ensure that it is "below the bedrock/concrete interface under the old bridge piles on river left" at the takeout. It had not rained for at least two days. They had "spoken to few people around the area who'd all suggested that the river would have been at a good flow" (Kayaker 1 2004), and the river was running clear. This is confirmed by the fact that when the photographs were taken five days later the river was at a level suitable for paddling and was just marginally higher than at the time of accident (and when the deceased's body was extracted).
- 2.16** All members of the party were conversant with what the guidebook (Charles 2002, p180) had to say regarding the Crooked River. The section of the Crooked River that the party was on is known as the upper Gorge; it is 2.5 kilometres long and can be paddled in 40 minutes to 4 hours, and is classed as class IV+ to V (*See Glossary for explanation*). Spread over the full length of the river trip it has an average gradient of 28m/km and is characterised as "stunning schist canyon, steep, pool-drop rapids." It is further noted in the guidebook that "On the water you have 200m to warm up before the first drop. Once in the gorge there is no backing out and all the portages are difficult. Good boat-scouting and boofing skills are a pre-requisite." Of the walk-in, the guide book describes it as "calf, as in small cow, deep mud!"
- 2.17** The deceased was well equipped for the kayak trip. Her kayak was a Pyranha Micro 230. Her personal floatation device (pfd) and spray deck were upper-end whitewater products from ShockWave. Her pfd had an integrated chest harness and a whistle. Although her helmet did not have all of the coverage that some helmets designed specifically for adventure paddling do, it was suitable for paddling the Crooked River. Her spray deck was from Pyranha and was in good condition. She was wearing an appropriate amount of neoprene and other thermal clothing. She was carrying a medium size dry bag (approx 20 litres) containing: a bivy bag, a thermal blanket, spare warm clothing, 20 metre throwbag, 7 carabineers, a variety of slings, a headtorch, a comprehensive first aid kit, 5 glue sticks, sunscreen, water-purifying drops, and repair tape. She was also carrying some snack food and Kayaker 1 recalls her being well equipped with snacks on the river and walk in.
- 2.18** None of the deceased's kayaking clothing was brightly coloured. Her drytop was coloured light blue. Her helmet was blue and green and the back of her pfd was black. Although, without undertaking a significant experiment involving different coloured water, different coloured equipment, different amounts and angles of light, and different levels of water aeration, it is not possible to confirm the colour of her equipment was a contributing factor, such a possibility should not be ruled out.

- 2.19** Although members of the Tasman Whitewater Response Unit noted a six centimetre compression of the deck at the front of the cockpit of her kayak, and there was also an indentation just behind the cockpit where the hull meets the deck, there was nothing to suggest that either indentation hindered the deceased from exiting her kayak. It is in fact likely that both indentations occurred after she had exited her kayak, and it had taken on water. Her Kayak was found approximately one metre to the left of where she was found – broached against the upstream side of the rock in the centre of the river. The kayak had floated at some time during the night from where the deceased had wet exited her kayak to where it was found.
- 2.20** The Pyranha Micro 230 specifications are: length 237 centimetres; width 61 centimetres; volume 216 litres; weight 17 kilograms; cockpit 86x39 centimetres; Paddler weight 65 -95 kilograms.
- 2.21** Both Kayaker 1 and Kayaker 2 had good quality whitewater kayaking equipment. They had a throwbag each and both had some food. The most glaring omissions from both of their kit was a first aid kit, spare warm clothing and torch. Although it is not necessary for every member of a party to carry a first aid kit, having two, in a party of three, is considered prudent. The warm clothing and torch would have been useful to them in their after-dark quest to return to their vehicle and raise the alarm. Kayaker 1 was renting his spraydeck from a local outfitter because his own spraydeck and some other equipment had been previously stolen. The Crooked River was the third trip on which he had used the spraydeck and it had not previously showed any signs of imploding.
- 2.22** It is not known exactly how the deceased came to be struggling on the upstream side of the rock in the centre of the river (*Paragraph 1.9*). Although it is possible that she ran the river right chute, it is not considered likely. The river right chute looked decidedly more tricky than the desired line on the river left. Further, when she swam/floated from where she was struggling, it was on the river left side that she appeared (*Paragraph 1.10*). It would have been a relatively easy mistake to make and end up where she did after coming through the river left chute. There were significant currents pushing off the river left into the centre and there was a micro-eddy directly above the rock where she struggled. Both of these factors would have contributed to the mistake.
- 2.23** When the deceased was struggling in her kayak against the rock in the centre of the river, located shortly after the entrance to the rapid, it was not a situation that automatically required her to wet-exit (*See Glossary for explanation*) from her kayak. The river left face of the rock had a lot of current washing onto it and along it; was very slightly undercut and was gradually sloping downstream. Some other paddlers would have waited until they had washed off the rock, and may have hung their body and paddle blades out into the current in order to hurry the process along. Given the events as they have been recounted by Kayaker 1 and Kayaker 2 (*see*

*Paragraphs 1.9 and 1.10*) , it is very unlikely that the deceased would have been without Oxygen for anything more than 10 seconds before deciding to wet exit. Given the high quality of the deceased's equipment and the fact that she was seen trying to right herself, it is not likely that her spraydeck imploded while against the rock. The amount of water washing along the face of the rock, the lack of rock features to trap a fully buoyant kayak and that she was seen attempting to right herself means that she would not have been involuntarily ripped from her kayak by the currents.

- 2.24** Again, it is not known why the deceased did not either begin actively swimming or go into “whitewater swimming position” (*See Glossary for explanation*) when she wet exited. What is known, is that the Autopsy report noted no major injuries – which explicitly included that she had not suffered a dislocated shoulder or elbow preventing her from swimming. When she had previously wet-exited at the bottom of Ariki falls on the Buller river (*Paragraph 2.2*) she had swum to shore without assistance.
- 2.25** With Kayaker 1's kayak having taken on a significant amount of water (*Paragraph 1.8*), it was not possible for him to ferry glide from the eddy that he was in and into the current to see where the deceased had swum/floated. This is not to say that he would have necessarily even considered it as an option. Kayaker 2's paddling history points to his experience level being such that it was entirely appropriate for him to grab his throw bag and run along the bank in order to assist the deceased – rather than risk paddling a drop (*See Glossary for explanation*) that he had no knowledge of. It would not have been appropriate for either Kayaker 1 or Kayaker 2 to consider attempting to immediately rescue the deceased using their kayaks. This is because they had not scouted the rapid immediately downstream and in such a situation it could have been putting both themselves and the deceased in even more danger.
- 2.26** After the deceased had swum/floated past the eddy which Kayaker 1 and Kayaker 2 were in (E2), the currents were such that she drifted into a slot/sieve located five metres downstream of them (*See Paragraph 1.16*). Although it is not common that someone or something that is drifting on the river left side of centre, ends up on the hard right of the current, the deceased must have had the misfortune to hit the slight eddy line situated directly above the slot/sieve, in exactly the right place, for her to cross the eddy line. The chances of her crossing the slight eddy line and not sliding down it and washing along the rock and buffer wave beside the slot/sieve would have been significantly heightened by both her hanging vertically in the water, and that water was draining out the bottom of the slight eddy, into the sieve.

- 2.27** The fact that the deceased was not found by Kayaker 1 and Kayaker 2 is the result of two different decisions, as well as how she was positioned. The first decision was not to stay on the water and watch where she went. As discussed in *Paragraph 2.25*, this was totally appropriate given their circumstances. The second decision – albeit an unconscious one – was to not check the slot/sieve when searching for her. As can be seen in *Paragraph 1.11* and those following, Kayaker 1 and Kayaker 2 were operating under the assumption that the deceased had floated downstream. It proved to be a poor assumption, and one that many paddlers would have made, given the speed at which the deceased had floated past the eddy. However, it is unlikely that the deceased would have been visible in the slot in which she was trapped from either the downstream or upstream perspective. Further, “Search” is not a standard part of most river rescue manuals/texts nor is it a standard part of most New Zealand river rescue/safety courses.
- 2.28** When the deceased was found by the Tasman Whitewater Response Unit, they spotted her from a point directly above the slot/sieve. Kayaker 1 and Kayaker 2 had not been able to see her because they had not had the advantage of being able to look from a helicopter directly above the slot/sieve, nor had they sought a position on the nearby rocks that would have given them a view from a similar angle. Her head and shoulders were approximately 10 centimetres beneath the surface of the water. She was draped, facing forward, over a submerged boulder in the slot/sieve, with her legs and feet hanging vertically in the water. Her left shoulder was beneath a small lip on the side of the boulder to the river left of her. It was not a massive effort to extract her, and it was one that her two companions would have had the strength to do by themselves. A representative from the Tasman Whitewater Response Unit believes that in the position in which they found the deceased, she would have been able to breathe during the intermittent surges of the river - for a short period of time – before her strength was exhausted.
- 2.29** When the Pathologist carried out an Autopsy at Christchurch hospital on 1 April, his opinion was that “death was due to drowning”.

### **3. CONTRIBUTING FACTORS**

*N.B. These are not listed in order of importance.*

**3.1** In a variety of different situations, the Crooked River would have been paddled easily by the deceased. She had previously paddled rapids of similar difficulty well and without concern. However, the deceased was “light” on adventure paddling experience for paddling the Crooked River with people she had not known for long. Some of the benefits that usually come with experience are:

- Increased judgement skills
- In the face of adversity, increased confidence and skills that come from having been in similar positions before
- A long list of mistakes that you’ll never make again
- Increased awareness of one’s tendencies and limitations when low on energy.

With the benefits of greater experience, the deceased most likely would not have put on the Crooked River on the day of the accident; she would have taken the following into greater consideration:

- She had struggled at times with a heavy kayak on the very muddy and at times steep walk into the Crooked River. This was going to leave her low on energy and down on judgement skills.
- The fastest times in a guidebook are usually based on the trips of a few very fit people who know the river trip (and walk in) very well.
- It is not advisable to undertake an adventure paddling trip at the upper end of one’s comfort level when you are going to have to hurry – especially when the option is there to do the same trip without hurrying.
- When undertaking an adventure paddling trip that members of the party have not paddled before, planning to have at least two hours of daylight in reserve at the end of the trip is advisable.
- She possessed an immense amount of drive and determination. There are times when drive and determination needs to be moderated in order to increase one’s safety levels.
- Given that she had swum out of her kayak on two recent occasions, and had been shaken up by watching two nasty swims, it was a time to make conservative judgements.

**3.2** With or without more experience, the deceased, when swimming, may not have moved instinctively into the “white water swimming position”. If she had however, it is most likely she would not have drowned – she would have floated through either the chute to the left of the rock in the centre of the river or through the slot to the right of the rock. This is because without her legs dangling in the water she would have interacted almost exclusively with the surface currents rather than those well beneath the surface.

- 3.3** The walk in to the Crooked River did not take as much out of Kayaker 2 and Kayaker 1. Their kayaks were lighter and they were probably stronger than the deceased. With a greater variety of leadership experience, either Kayaker 2 or Kayaker 1 could have adopted a more assertive leadership style, deciding to postpone the kayak trip (until the next morning) and walked back out to the vehicles. *In commenting on the draft report, Kayaker 2 stated that with regard to leadership, he and Kayaker 1 asked the deceased if she wanted to go or if they should postpone until the following day. It was only when she was “so confident” about going that they decided to continue.*
- 3.4** If the party had planned to paddle their day so as to paddle first and attend to personal administrative details later, they would have given themselves more slack during their adventure. This would have meant more chance to rest during their walk-in, and some time to recover when they reached their put-in point. It also would have meant less of a sense of hurry when on the river. They also would have most likely had more energy paddling earlier in the day.
- 3.4** Although the safety management strategies employed by the group would have been sufficient on most days, they were not sufficient on the day of the accident. If they had not been in a hurry, due to the lateness of putting on the river, and if anyone had a clearer picture of the deceased’s strength’s and weaknesses at that exact time, then they most likely would have used throwbag protection at the rapid.
- 3.5** As noted in *Paragraph 2.18*, the fact that none of the deceased’s clothing was brightly coloured may have contributed to her not being sighted in the slot/sieve by Kayaker 1 or Kayaker 2.
- 3.6** If Kayaker 1 and Kayaker 2 had not made the assumption that the deceased had floated downstream well past the eddy where they were situated, it is possible they would have found her before she had drowned. *In commenting on the draft report, Kayaker 1 disputed whether they would have found the deceased before she drowned. He stated that the rescue team only found her with the aid of a helicopter. Further, that without proper rescue equipment they would not have been able to extricate her from the sieve.*

## 4. CAUSE

### **Human Factor**

<input type="checkbox"/> Failure to comply with regulations	<input type="checkbox"/> Drugs & Alcohol	<input type="checkbox"/> Overloading
<input type="checkbox"/> Failure to obtain ships position or course	<input checked="" type="checkbox"/> Fatigue	<input type="checkbox"/> Physiological
<input type="checkbox"/> Improper watchkeeping or lookout	<input checked="" type="checkbox"/> Lack of knowledge	<input checked="" type="checkbox"/> Ship Handling
<input type="checkbox"/> Misconduct/Negligence	<input checked="" type="checkbox"/> Error of judgement	<input type="checkbox"/> Other . . .

### **Environmental Factor**

<input type="checkbox"/> Adverse weather	<input type="checkbox"/> Debris	<input type="checkbox"/> Ice	<input checked="" type="checkbox"/> Navigation hazard
<input checked="" type="checkbox"/> Adverse current	<input checked="" type="checkbox"/> Submerged object	<input type="checkbox"/> Lightning	<input type="checkbox"/> Other . . .

### **Technical Factor**

<input type="checkbox"/> Structural failure	<input type="checkbox"/> Wear & tear	<input type="checkbox"/> Steering failure
<input type="checkbox"/> Mechanical failure	<input type="checkbox"/> Improper welding	<input type="checkbox"/> Inadequate firefighting/lifesaving
<input type="checkbox"/> Electrical failure	<input type="checkbox"/> Inadequate maintenance	<input type="checkbox"/> Insufficient fuel
<input type="checkbox"/> Corrosion	<input type="checkbox"/> Inadequate stability	<input type="checkbox"/> Other . . .

- 4.1** The deceased drowned on the Crooked river after exiting her kayak and drifting onto an unseen sieve.

## **5. OPINIONS & RECOMMENDATIONS**

- 5.1** This accident illustrates how a series of naïve judgment calls and some bad luck can occasionally come together in the outdoors to result in tragic consequences.
- 5.2** It is noted that of the five recreational whitewater kayaking deaths in New Zealand since the beginning of 2002, four of them have been kayakers from overseas. It is recommended that the New Zealand Maritime Safety Authority ensure that an article or flyer is published that points out to overseas paddlers visiting New Zealand
- a) some of the relatively unique aspects of paddling in New Zealand, and  
b) some of the common mistakes that are made by holidaying overseas paddlers in New Zealand.
- 5.3** The Author of *New Zealand Whitewater – 125 Great Kayaking Runs*, should be asked to include in the next edition a brief outline on how to interpret the times given in his book.
- 5.4** It is recommended that New Zealand providers of river rescue courses include the following learning outcomes in their courses:

### **Introductory River Rescue Courses**

*By the end of the course, students will be able to explain the importance of maintaining sight of a swimmer and outline the basic principles of searching in the New Zealand river environment.*

### **Advanced River Rescue Courses**

*By the end of the course, students will be able to demonstrate safe and effective search procedures in the New Zealand river environment.*

- 5.5** It is recommended that under the direction of the New Zealand Maritime Safety Authority, this report be summarised into a more readable format and then circulated amongst the members of the New Zealand Recreational Canoeing Association, and the New Zealand Outdoor Instructors' Association. The report should remind people of the following issues
- The fastest times in guidebooks are usually based on the trips of a few very fit people who know the river trip (and walk in) very well.
  - A person who is dressed in very bright colours is going to stand out a lot more on the river than someone in darker or water-like colours
  - Maintaining sight of a person swimming in the river is a high priority in a rescue situation. This of course should be balanced with the need for quick rescue and the over-riding priority of maintaining personal safety.

- If you do lose sight of a person swimming in the river, take a deep breath and be methodical in your search methods. Be critically aware of every assumption that you make in a search.
- A person being a world-class athlete in the sport of free-style kayaking does not necessarily mean that they are an experienced adventure kayaker.
- In the craft of adventure kayaking, there is no substitute for experience. Even if a person is highly skilled, it will still be beneficial to them to have a lot of learning experiences on a wide variety of class III-IV river runs. Class III-IV water is often, but not always, more forgiving than class IV-V water when making the small errors of judgement which are necessary in order to gain experience.
- If for some reason someone is on a steep learning curve with regards to adventure paddling, when they are doing adventure trips near the upper end of their comfort level, they are well advised to paddle with someone who has a lot more experience than them; a lot of leadership experience; and who knows them very well.
- All trips should be well planned, taking into; account vehicle travel time; the need for rest on long walk-ins; hours of daylight available; and building in slack for possible un-planned events.
- It is usually safer to undertake an adventure paddling trip earlier in the day – rather than later. Other things can usually wait. If you have a serious incident on the river, you will be grateful for every hour of daylight that you have in reserve. A serious incident can happen on any river trip.
- Avoid under-taking an adventure paddling trip at the upper end of your comfort level when you know before you put on the water you are going to have to rush it.
- It is absolutely vital to get your feet up when swimming in a fast-moving river.
- If you arrive at a put in late in the day, the river will still be there tomorrow. In the bigger picture, there is no need to put on the river for a time-pressured trip – especially if you do not know the river very well.
- Always carry spare warm clothes and a torch on an adventure paddling trip.

- An arduous three hour walk in with a heavy kayak can have negative impacts on a person's blood-sugar and hydration levels, not to mention energy and stamina levels. This will have an impact on both what they are physically capable of and their judgement skills.
- Drive and determination are two personal attributes which are usually integral to high performance. There are many recorded adventures which would not have been completed safely without large amounts of both. There are also times though when drive and determination will lead a person into unjustifiable danger.

In commenting on the draft report Kayaker 1 made the following observations:

- *“I believe that a whitewater specialist on emergency call could have improved the co-ordination of the immediate response.*
- *West Coast rivers are particularly prone to siphons which are less common elsewhere. I think this is a particularly relevant issue for consideration.*
- *Point 2.21 mentions the omission of a second first aid kit. I cannot recall whether I was carrying a first aid kit or not.*
- *Point 3.4 considers the relevance of throwbag protection on the rapid. I am convinced that under most circumstances the whole group would have negotiated the rapid easily.*
- *I agree that time constraints and physical tiredness were significant contributing factors, that affected us all individually and as a group.*

*I was very impressed by, and am very grateful, for the efforts of the voluntary rescue services and Police.”*

# GLOSSARY

<b>Adventure Paddling</b>	A river trip that will include elements of challenge and wilderness. Not all of the adventure is necessarily on the water. The final outcome of the trip is not completely known before starting out.
<b>Bank Scouting</b>	When a paddler gets out of his/her kayak and onto a rock or the side of the river in order to view the next section of river. This is often necessary on Class IV and above rivers.
<b>Boat Scouting</b>	When a paddler is able to stay in his/her kayak and view the next section of river. This is often done from an eddy.
<b>Bomb-proof</b>	Something is bomb-proof when it will withstand an immense amount of stress.
<b>Boof</b>	Method of landing a kayak flat after clearing a nasty drop. Boof is onomatopoeic for the sweet noise the boat makes when landing (Charles 2002, p296)
<b>Brace</b>	A combination of a particular paddle stroke and body action designed to right a kayak that is neither upright nor capsized.
<b>Carabiner</b>	Coupling link with safety closure, used by mountaineers. Vital piece of river rescue equipment – used for attaching rope to various items.
<b>International Scale of River Difficulty</b>	A scale from 1 to 6 (including “+” and “-“) that gives a rough guide as to the difficulty of the river trip.
<b>Class 1 – Easy</b>	Peacefully flowing flat water, meandering down
<b>Class II – Moderate</b>	The river flow is quicker with disturbances from small waves, rapids, eddies and whirlpools. The main channel is always clear and obvious.
<b>Class III – Fairly Difficult</b>	River is now more complicated. The current is swift, the river may narrow with big waves, small drops and stoppers. The paddler may have to manoeuvre between rocks, stop in eddies and cross fast currents. The best channel is still easily recognised and remembered.

<b>Class IV – Difficult</b>	This is challenging water. Rapids may be continuous or follow in quick succession. They can be difficult to read, inspection from the bank may be necessary to remember the route. Boulders obstruct the water flow causing pressure waves, pour overs and boat stopping stopper waves. The ability and experience of the paddler is paramount.
<b>Class V – Very Difficult</b>	Even after inspection from the bank, it is often difficult to recognise a route through Class V water. The gradient is greater, with tight bends and large boulders hide the river from the paddler. The water is very fast, with volume and huge force. Large pressure waves, whirlpools, siphons and big drops. Stoppers will hold a boat and/or swimmer.
<b>Creek Boating (or Creeking)</b>	Is to paddle a steep, low volume river (or creek)
<b>Cumecs</b>	Cubic metres per second. This is the measure of the flow of a river. 30 cumecs means that 30 cubic metres (or 30 000 litres) of water is passing a point on the bank every second.
<b>Drop</b>	Paddler-talk for a rapid or the section of a rapid where the riverbed loses altitude. This may be 30cm or in excess of 10m.
<b>Eddy Hop</b>	When a paddler is eddy hopping they are making their way down the river, moving from eddy to eddy, however not leaving one eddy until a suitable line is seen for making it to the next eddy.
<b>Ferry Glide</b>	A ferry glide is a manoeuvre that combines paddling and holding the boat on a set angle in order to move the boat across the river.
<b>Freestyle Kayaking</b>	Is a dynamic sport which involves doing a variety of tricks (or stunts) on the river's features such as waves, recirculating hydraulics and eddy lines.
<b>Line</b>	Has two meanings in paddler-talk: <ol style="list-style-type: none"> <li>1) a length of rope, and</li> <li>2) the route that is taken (or planned on being taken) in a rapid.</li> </ol>
<b>Portage</b>	To carry one's boat around a rapid or part of a rapid.
<b>Prussic</b>	A loop of narrow diameter rope that can be used on rescue situations. By wrapping a prussic around a rope or larger diameter it can be used for holding or exerting greater force on the larger rope.

<b>Raft Up</b>	To raft up is to join, usually by hand, at least two kayaks together side by side. This leads to more stability for the kayaks.
<b>Recirculating Hydraulic</b>	A reversal of current formed by water flowing over a submerged rock. In some cases they can trap a kayak or swimmer.
<b>River Right</b>	The right hand side of the river – from the perspective of looking down river.
<b>River Left</b>	The left hand side of the river – from the perspective of looking down river.
<b>Roll (or Eskimo Roll)</b>	A combination of paddle stroke and body movement used by a kayaker in order to right his/her kayak – without wet-exiting.
<b>Sieve</b>	An obstructed passage way that water can pass through, but a person or kayak cannot.
<b>Seal Launch</b>	Method of getting to the water from on the rocks, banks, cliffs etc. Climb into the kayak and slide into the water.
<b>Sling</b>	A loop of tubular tape (webbing) that is often used in rescue situations. The ends of the tape are either tied or sewn together in order to make the loop. Most often associated with mountaineering.
<b>Solo-paddling</b>	To paddle without the company of others. Usually publicly frowned upon by whitewater safety advocates.
<b>Spraydeck</b>	A neoprene cockpit cover that is worn by the paddler and secured around the rim of the cockpit to keep the water out of the kayak.
<b>Throwbag</b>	A nylon or canvas bag filled with foam and climbing grade rope that is thrown to rescue paddlers swimming in whitewater.
<b>Towline</b>	A length of cord or tape that is attached to a kayaker's personal floatation device (PFD) and is used to tow items such as kayaks, paddles, swimmers. It can also be used to tether a swimmer in a rescue situation.
<b>Vertically Pinned</b>	Vertical pins occur when the bow or stern of a kayak lodges against an obstruction at the bottom of a steep drop. The other end of the hull catches on the bottom or side of the drop and the boat is held fast.
<b>Wet Exit</b>	The act of getting out of an upside-down kayak (in the water).

<b>Whitewater Swimming Position</b>	When a person floats on their back, with their feet pointing downstream – at surface level. Designed to stop swimmers from being trapped by the current on any submerged objects.
<b>Women’s K1 Section</b>	A freestyle kayaking event which is the premier event for woman paddlers. “K1” refers to single seated kayaks.
<b>Women’s Squirt Section</b>	A freestyle kayaking event in which women compete in squirt boats. Squirt boats are kayaks which are designed to be able to interact with currents beneath the surface and at times completely submerge the upright kayaker.