



Accident Report

Fatality

Unnamed Kayak

11 October 2006

Class A



ACCIDENT SUMMARY

At about 0930 hours on 11 October 2006, two men launched their kayaks into the Waihou River near Tirau to journey several kilometres downstream. Skipper one was aged 68 and skipper two was 71. The river in the area meandered through pasture and bush at varying speeds up to about 5 km per hour.

A short distance into the trip, the river veered left and the flow rapidly increased, leading into severely turbulent rapids. Both men were swept into the rapids and skipper one was drowned. His companion managed to cling to a rock and eventually worked his way to safety.

A sign on the river bank, before the increased river flow began, warned of the danger ahead. It had fallen down and was not visible.

NARRATIVE

In the weeks before the accident, the two men involved made plans to kayak the Waihou River from State Highway 5 road bridge near Tirau to meet up with their transport at Hinuera Road bridge, several kilometres down-stream. They had made many similar trips in various parts of New Zealand and had previously kayaked the river from Hinuera towards the river mouth. The water depth varies from very shallow to about 2 metres. The Waihou is a minor river in this area at times narrowing to a few metres and rarely more than 6 metres wide. The trip was expected to take about 3 hours with the river flow the principal method of making progress.

Their planning for the trip included reference to road maps and a study of *Reeds New Zealand Atlas*. The atlas contains a good level of detail but does not show the rapids at Okoroire. They also looked on the internet but found no warnings or other advice pertaining to the trip. The men did not communicate with Environment Waikato (EW) or seek any other local knowledge. They were independent kayakers who did not belong to a club or associate with other kayakers.

At about 0930 hours the two men launched their kayaks at the road bridge and headed downstream. The trip was uneventful as the river carried them along at varying speeds up to 5 km/hr.

About 2 kilometres from where they launched, the river passed through a grassy area before it veered left. A sign, which warned of "extreme danger ahead", had fallen face down and was not visible from the water.

Dense bush prevented visibility round the left turn. Skipper one was slightly ahead and just after rounding the left turn, he grasped some grass on the river bank at his left and called to his companion that he "did not like the look of it". Skipper two was near the right bank but his view ahead was blocked by a low willow tree. He was conscious of not becoming entangled in the willow branches which could cause him to capsize. They both could hear the falling water and rapids ahead and noted the increased river flow.

The river flow accelerated them with skipper two ahead. There was no opportunity to hold onto the river bank or vegetation. Skipper two went into the first hole and surfaced still upright. He then was thrown clear of his kayak and was carried down the rapids hitting rocks frequently on the way. He had no visibility and was largely under the water. He stated he was losing consciousness when he was swept against a rock that he managed to grab on to and pull his head clear of the water.

About 15 seconds later skipper one was swept past close to skipper two who was pinned against the rock. He was floating on his back supported by his lifejacket and showed no sign of consciousness. His kayak followed a short time later and became wedged in a deep part of the rapids at the natural rock bridge over the river. Skipper one was not seen again.

Skipper two took several minutes to assess his situation from the rock in the middle of the river. He was becoming very cold but managed with great difficulty to work his way to safety on the rocky bank. He made a brief search for his friend before following a bush track that led to a nearby road where he received assistance from a motorist who took him to the Okoroire Hotel nearby.

The ensuing search recovered skipper one's lifejacket and several items of clothing. His body was recovered several days later from the pool that the rapids flow into.



1. Warning signs:
The red sign was face down at the time of the accident.
The white sign was installed after 11 October.
The left hand bend is shown.



2. Rapids seen from the bush track.



3. Rapids seen from the bush track.



4. The natural rock bridge.



5. Skipper one's kayak. (Deceased)



6. Skipper Two's kayak. (Survivor)

EVIDENCE & CONCLUSIONS

Evidence

The River

The Waihou River has its headwaters near Putaruru from where it meanders through the Waikato district before discharging across the Hauraki Plains into the Firth of Thames. It is navigable in its lower reaches. It is a minor river in the area where the men were kayaking, rarely exceeding 6 metres in width and often less than a metre deep. The flow is gentle with the rapids at Okoroire the only significant danger.

The rapids, which are known locally as the "Okoroire Falls", are not visible from the road or any other vantage point on public land aside from the lower part of the rapids, which are just visible from the road bridge on Okoroire Road. They can be sighted from bush tracks on land associated with the Okoroire Hotel and an area of hot springs. The upper portion of the rapids discharge into a large pool adjacent to the hot springs used by hotel guests. This pool, which is popular for bathing, is about 20 metres across and discharges into the lower rapids near the road bridge.

The difference in river height at the upper rapids is about ten metres. At this point the river becomes very narrow and the speed and turbulence are extreme. The rapids continue for about 70 metres between steep rocky sides with numerous rocks that are partly exposed. The width varies from 3 to 6 metres. The rapids then discharge into the pool after passing under a natural rock bridge that straddles the river at water level.

The last place where a kayaker could leave the river is a grassy bank just before the river veers left and narrows markedly with a significant increase in the flow rate. The banks at this point are covered in bush and willow trees and there is no apparent danger until after making the left turn. Within 10 metres of the turn the river drops about 2 metres into a turbulent hole. It then continues as 'white water' rapids with severe turbulence until it reaches the pool.

The kayaks

Both kayaks had been used frequently by the two men for similar trips in both the North and South Islands. Skipper one's kayak was a sit-on type and the survivor's a sit-in model. Both kayaks were in serviceable condition and appropriate for the intended calm water trip. Neither was suitable for use in turbulent water. Each kayak was equipped with a double paddle and a painter (rope). Polystyrene foam blocks provided some buoyancy in the sit-in kayak. No other equipment was carried.

The skippers

Both men had kayaked extensively on grade one rivers during the last 3 years. These trips included the Clutha River in Otago, the Waikato and the lower portions of the Waihou River. They were not experienced in fast flowing water and sought only to travel in calm conditions. Both men had extensive boating knowledge over many years and were fit and strong. They had also used the kayaks for sea kayaking in sheltered coastal waters. Both had built a number of small craft.

They were wearing lifejackets and appropriate warm clothing. Skipper one was wearing wetsuit booties while skipper two was barefoot. He attributed his survival in part to his ability to use his bare feet to gain a foothold on rock ledges when he was making his way to safety. Skipper two is a trained professional diver. The training assisted him as he was carried underwater through the rapids.

Both men had attended a Boatmaster course and skipper one had sailed a yacht from Canada to New Zealand many years ago. He had extensive kayaking experience in Canada before immigrating to New Zealand.

Maps and kayaking guides

The skippers used *Reeds New Zealand Atlas* as their prime reference when planning trips. The atlas referred to Okoroire as a place but does not mention the falls or rapids. Locally, the area is referred to as “Okoroire Falls” but the total fall in the river level is below the limit set by Land Information New Zealand to call it a waterfall on New Zealand maps. The rapids are not referred to in the central North Island guide book for kayakers or in any other known kayaking guides. However, it is well known to staff who work in navigation safety at Environment Waikato, to local kayakers and those who live in the area.

The men checked road maps and made a brief search on the internet. They found no reference to the falls or rapids.

Signage

The exact history of signs is vague with no known written records at EW.

Several years ago, an overhead sign was hung across the river adjacent to the grassy area close to the left hand bend where the rapids begin. This sign was supported by a tree that has since washed away.

In 2002, local kayakers expressed concern to EW about the danger the rapids presented. Large signs advising of the extreme danger ahead were installed on either river bank at the grassy area where kayakers could exit safely before the left hand bend.

The signs were painted on plywood and nailed centrally to a single post driven into the ground.

During a flood in about 2003, the sign on the left-hand bank was washed away. This sign was discovered downstream near the pool during the search for the deceased skipper. Vandalism was widely reported in the media as the cause of the missing sign because the river rarely floods and it appeared unlikely that the sign would have been carried that distance by the river flow. However, subsequent investigation showed that the chance of vandalism was negligible.

Warning signs are checked by EW staff annually and the sign on the right hand bank was in place when it was checked early in 2006. By 11 October it had fallen face down when it became detached from the post. The most likely explanation is cattle, which graze the area, rubbing against the sign. Following the accident on 11 October, a local kayaker informed EW that the fallen sign had been noted by kayakers in the previous weeks, but the information was not passed on.

CONCLUSIONS AND COMMENTS

1. The two skippers, their equipment and kayaks were capable of undertaking the proposed trip safely.
2. The lack of information on maps is surprising, given the awareness locally of “Okoroire Falls”. The information provided on official maps is in accord with standards set by the authority on geographic names and places. While the rapids do not meet the official criteria for a waterfall, and therefore are not shown on atlases and maps, kayaking guides are not bound by the same parameters.
3. The signs erected by EW in about 2002 were intended to prevent such an accident occurring. The information on the signs was clear and the erection of a large sign each side of the river indicated the importance of the issue. However, the construction of the signs was insufficiently robust to withstand either the river in flood or damage from cattle. When the first sign disappeared, no decision was made to replace it, nor was any attempt made to provide greater support for the sign on the right bank. Through this lack of action, an opportunity to prevent this accident was lost.
4. There are numerous similar places in waterways throughout New Zealand. Few have warning signs, and it is highly likely that many are not known to the authority (regional council, district council and Maritime NZ) responsible for navigation safety in the area. Where dangers are known, authorities have the ability through websites and in advisory brochures to warn of these dangers. They also have the ability to advise where local knowledge is lacking, thereby alerting prospective river users of the possibility of unknown dangers.
5. The number of kayaks in New Zealand is growing rapidly and many are readily portable. Rivers and waterways hitherto considered unfit for kayaking are now being used by kayakers, both experienced and novice. The safety of any person who uses any craft remains solely with that person, who is deemed to be the skipper. (Refer section 19 of the Maritime Transport Act.) It is not always possible to scout an area from the land. At the very least, kayakers planning a trip in unfamiliar areas have the ability to contact the local authority for advice on any danger areas, or be referred to local kayak organisations in the area.

RECOMMENDATIONS

It is recommended that:

1. Environment Waikato replace the signs on the left and right banks and ensure the signs are substantially mounted to withstand any foreseeable flooding or other damage.
2. Those authorities with responsibility for navigation safety (regional councils, district councils and Maritime NZ) establish a section on their websites that provides safety advice to small craft operators. Information about known uncharted or unmapped hazards should be easy to find.
3. Information on the Waihou River and the danger presented at the “Okoroire Falls” should be included in the *NZ Whitewater* guide (the most commonly used guide for kayaking) when it is next revised and reprinted.

ACTION TAKEN

1. Immediately following the accident, as a temporary measure, Environment Waikato replaced the fallen sign on the right bank. Since that time, robust signs on substantial mountings have been erected on either river bank as well as an overhead sign. These signs, along with all others that warn of a similar level of danger in the region, are inspected monthly and records kept. A database of all signs has been established.

VESSEL INFORMATION

Ship Type:	Kayak
Built:	Approx 1985
Construction Material:	Moulded polythene
Length Overall (m):	3.5 metres
Maximum Breadth:	0.9 metres
Accident Investigator:	Jim Lott