



Accident Report
Wakanui
Head Injury - Buller River on
2 February 2005
Class B Non Serious Harm



REPORT NO.: 96 364
WAKANUI – HEAD INJURY

During a ‘Hamilton turn’ one of the passengers slid across the bench seating and hit his head on the handrail. He was given first aid and then taken to hospital where he received stitches for four cuts around his right eye. The spin was a routine event as part of the tour. There were no other injuries.



Wakanui



Name of Vessel:	<i>Wakanui</i>
Vessel Type:	Jet Boat
Construction:	Aluminium
Length Overall (m):	7
Capacity:	22 passengers
Engine:	Twin 383 Chevrolet CI
Jet Propulsion:	Twin Hamilton 212
Date of Injury:	2 February 2005
Time of Injury:	1930 hours New Zealand Daylight Time (NZDT)
Injured Person:	English tourist aged 32. He had never been jet boating before.
Driver:	He is also the owner of Buller Adventure Tours. He has been driving jet boats commercially for the last eight years. He held a valid first aid and medical certificate.
Company:	Buller Adventure Tours operate out of Westport. They have two jet boats and also run rafting, horse riding and 4 wheel driving operations. They had a valid Certificate of Compliance, issued on 10 July 2004.
Weather:	Fine day, sunny, calm and hot temperatures.
River:	The Buller River was at a height of 1.3m.
Accident Investigator:	Zoe Brangwin



NARRATIVE

On the morning of 2 February 2005, two English tourists were picked up from Westport and taken to the base of Buller Adventure Tours. They were booked to raft in the morning and then jet boat in the afternoon.

The rafting went well and finished at about 1500 hours. The couple then waited at the base for the jet boat trip.

At about 1730 hours, the 10 passengers were assembled to start the trip. It was a sunny fine day, with no wind. The passengers were given waterproof clothing, sunglasses and lifejackets to wear.

The passengers were seated in the jet boat and given a short brief on the trip down to the river, the vessel was towed by tractor to the river (which took about 15 minutes). When they reached the river the jet boat was launched off the trailer into the river. The Driver then gave a safety briefing. He stated that he gave an extra thorough safety briefing due to the broad range of passengers onboard ranging from 6 to 78 years. The following safety cards were attached to the inside of *Wakanui* and were visible by all passengers.



Safety Cards Displayed on the Inside of the Boat

As they started the trip, the driver explained that on the way up river they would be taking in the scenery, stopping occasionally to point out places of interest and there would be opportunities to take photographs. On the return journey they would pick up the pace and would be doing jet spins. The Driver demonstrated the hand signal for this and also explained that they would have to hold on for the jet spins and that he would cover the hand signals and hold ons in more depth before beginning the return journey.

On the way up river, near the turn around point, the number six-inlet rocker stud snapped and was repaired on site. It took about 20 minutes to repair. The driver stopped the boat and fixed the problem before continuing.

The driver then stopped for about one and a half minutes and gave a second safety briefing, describing jet spin hand signals including which way the vessel would spin and the recommended hold on practices. He told the passengers to hold on to the handrail and to fix their feet firmly on the deck of the vessel. This was disputed by the injured passenger who stated that they were not given an adequate safety briefing. The other passengers confirmed that the driver did indeed give a comprehensive safety briefing.

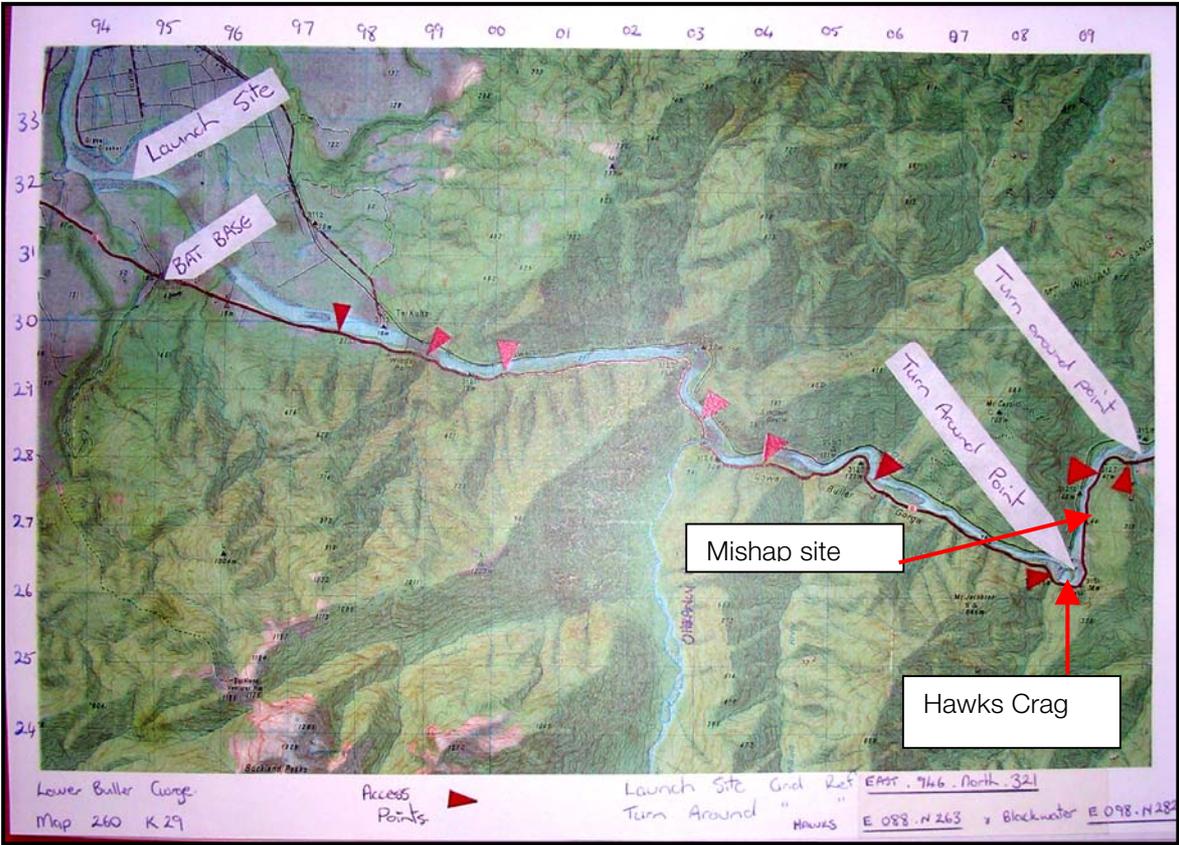
They then headed downstream. Shortly afterwards, the Driver made the hand signal to indicate they were about to do a spin (Hamilton turn). The two English passengers stated that they were holding on to the handrail. They also braced with their feet. The boat spun to the left and as it did so, the male English passenger slid down the bench seat to the right and hit his head on the hand rail. His sunglasses broke on impact and the sunglasses caused lacerations around his right eye.

The English passengers stated that at the time of the accident the driver immediately blamed the injured passenger for not holding on to the bars. However, he stated he had been holding on to the bar and was also bracing with his legs on the deck. He slid about ½ a metre (50 cm) before hitting his head.

In commenting on the draft report the Driver of *Wakanui* stated, “The jet boat Driver did not blame the passenger for his injury. The jet boat Driver was so surprised by the incident and how it could have happened (as it had never happened before) that he automatically asked if the passenger had been holding on.”

The injured passenger swore loudly and alerted the Driver to his injury. The Driver had already stopped the vessel after the first spin (which is normal practice for every jet spin). Both the Driver and the other passengers stated that there was very little blood coming from the cut above the injured passenger’s eye. Due to the customer’s abusiveness and the fact that he had just declared that he was a haemophiliac, the Driver called the base by radio and asked for a car to meet them at Hawks Crag and transport the injured passenger and his partner to Westport.

The injured passenger stated that he was bleeding profusely and was very concerned about his injury as he was a haemophiliac.



Buller River

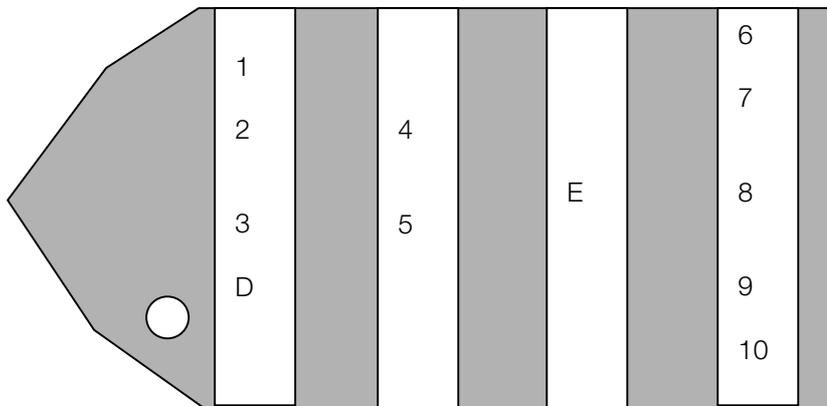
They continued down river to Hawks Crag where they stopped the boat and the Driver applied first aid by means of compression to the cut with a non-adherent pad. The Driver stated that during this time the injured passenger was aggressive and verbally abusive towards the Driver. The injured passenger stated that he was told to make his own way up the bank to meet the car. However, the Driver and other passengers confirmed that the Driver escorted him and his partner to the roadside and waited approximately eight minutes for the car to arrive. During this time the Driver was positioned so as to be able to see the jet boat and his passengers. He briefed the two occupants of the car on the passenger’s medical condition and asked them to take him to Westport Hospital. They were then taken to the Hospital where the injured passenger received stitches for four cuts around his right eye.

Later that evening he was taken to Christchurch hospital to see a Plastic surgeon. He was discharged at 0800 hours the following morning, 3 February 2005.



ANALYSIS

Seating Arrangement



D – Driver

E – Empty

4 – Injured passenger

5 – Partner

There were ten passengers in total.

- Three male passengers from a Kiwi Experience tour seating 1, 2 and 3. These passengers chose to sit at the front.
- The injured passenger and his partner were seated in 4 and 5. They also chose their seats.
- Seats 6-10. A family of five consisting of husband and wife with their two children and grandmother (age 78). The driver recommended they sit at the back, as it was the least turbulent part of the boat.



Injury

The injured passenger sustained four cuts around his right eye, one above the right eye, one in the corner and two to the right of the eye.

The lacerations appeared to be caused by contact with the broken sunglasses.

The injured passenger was a mild haemophiliac and therefore he bled more than an average person would have for the same injury.

He was taken to Westport hospital and treated. They stitched the lacerations. However they had concerns about the cut to the corner of the eye and so referred him to Christchurch Public Hospital. He was driven from Westport to Christchurch at about 2300 hours that evening. When he arrived at Christchurch Hospital he was seen by a plastic surgeon and sent for x-rays.

He was discharged at about 0800 hours, 3 February and given a follow up appointment for a week later.

The injured passenger spent the next five days recovering in Christchurch before feeling up to resuming his holiday.

The English tourists felt there was no follow up regarding their accident. They stated that the company did not call to see if the injured passenger was ok and they did not offer any assistance, save for dropping them at Westport hospital and offering to give them a refund.

In commenting on the draft report the Driver of *Wakanui* stated that the driver of the car dropped the Co-owner off at the BAT base and then drove the injured passenger and his partner to the hospital. The Co-Owner ensured that the reception/communication person was aware of what was happening and was able to cope with the customers arriving back from the trip. She then searched for the injured passengers bag so it could be taken into Westport for him. She then received a call from the Hospital asking for the bag as it held the medication for his condition.

The Driver stated, *"It should be noted that having such crucial medication locked in a car in Westport would not have been much help if the injured person had sustained a cut while rafting in the Upper Buller Gorge, one hour's drive away from Westport."*

The two staff members believe that they went out of their way to look after the injured passenger, who was both angry and rude to them.

In commenting on the draft report the Driver of *Wakanui* stated that the staff member who took them to the airport "offered a refund to the injured person, not as an apology but only as a refund for not completing the trip. This gesture upset the injured person more and he started shouting and swearing that this was not going to be enough to cover it. The staff member decided to leave the injured person with medical professionals as his presence seemed to be working him up even more and was disruptive to hospital staff trying to assess their patient."

The staff member drove the partner of the injured person over to her motel to retrieve medication from the locked car. He asked her to let the company know how her partner got on in hospital. The Driver/Owner was expecting to hear from them that night or a visit from them the next day but they never heard any more from either passenger. Due to the abusive nature of the passenger, BAT made no attempt to contact him that night.



Engine Problem

The number six-inlet rocker stud snapped and was repaired on site before the accident. It took about 20 minutes to repair.

Safety

- **Passenger information**

The passengers were required to fill out a forms at the beginning of the day for rafting and the jet boat trip.

The English passengers stated that they were not asked if they had any medical conditions, only if they were on any medication. They were not asked if there was anything that the driver needed to know about, i.e. pregnancy epilepsy etc. They were asked to fill out a trip form in which the injured passenger failed to disclose his medical condition (*See below for trip participation form*).

- **Brief**

The safety briefing was given in the boat on the river. They were briefed to:

- Keep seated
- Not stand up
- Keep their hands and arms inside the vessel
- Hold the handles during a 360 degree spin (Hamilton turn)
- No smoking

The English tourists stated that there was no formal safety briefing. The injured passenger described the safety briefing at the beginning of the trip as “jokey”, consisting of a few words the passengers to keep their elbows in the boat and not to stand up.

The Driver disputed this and stated that he carried out a proper safety briefing as detailed above. The Driver gave an extra thorough safety briefing due to the broad range of passengers onboard ranging from 6 to 78 years.

Another passenger onboard the vessel that day described the safety briefing as “very good”, she stated that it was delivered in a professional manner in a way that every one could understand.



Safety Cards Displayed on the Inside of the Boat

At the start of the day the injured passenger filled out a trip participation form, as shown below. He did not disclose his medical condition on this form. The Investigator was told that the form was filled out for rafting however this form states that they were carrying out both activities. He also told the Investigator that at no stage was he asked if he had a medical condition.



**WHITE WATER ACTION @
BULLER ADVENTURE TOURS
Trip Participation Form**

We ask for the following information for marketing purposes and in case of the unlikely event of an emergency.

Date 02.02.05 Name TIM TREVORROW
Age 32 Occupation IT DEVELOPER

Full Address 41 PIRRIE CLOSE, SHIRLET
SOUTHAMPTON, SO15 7GA

Emergency Contact Person GRENDA TREVORROW
Phone Number +44 2360 775724 Town/Country UK

If you have any medical conditions or previous/recent injuries our Guides should be aware of, please state here:

Please bring any required medication with you.

~~Every effort is made to ensure your trip is safe and enjoyable, however all adventure activities contain an element of risk and B.A.T. cannot be held responsible for any personal or property damage.~~

Signed _____ Date 02.02.05

Comments _____

Activity Chosen (please tick)

Horsetrekking Jetboating Rafting Argo

How did you find out about us?

Road Signs Brochure Internet
Info Centre AA Guide Great Time Guide
ITAG Guide Lonely Planet Rough Guide NZ



Trip Participation Form –

Filled out by the Injured Passenger at the Beginning of the Day

• **Equipment**

The jet boat contained all of the safety equipment required under **Maritime Rule Part 80**, namely:

- Spare paddles
- Spare rope
- 2 Fire extinguishers
- Type 408 Lifejackets
- Rafting throw bag
- Spare plug for any drain hole
- Order of St John First Aid Kit, in a waterproof container
- Tool kit
- Flare pack
- Waterproof torch
- UHF and Simplex Radio

The passengers were given the following to wear:

- Waterproof trousers
- Waterproof jacket
- Woolen hat
- Sunglasses
- Lifejackets Type 402 and 408 Hutchwilco jackets

The plastic sunglasses were UV rated. However, they were not safety glasses. The company has since purchased safety glasses for passengers on their jet boats.



Sunglasses

Hazard Identification

The *documented* hazard identification was poor and out of date. No systematic hazard identification had been carried out by the owning company since the purchase of the new jet boat *Wakanui* (in 2004) as required by section 7 of the Health & Safety in Employment Act 1992 (HSEA).

In commenting on the draft report the Driver of *Wakanui* stated, *"Hazard identification was checked daily on each trip as per the daily driver trip form."*

Injuries caused by banging a head on the seat/rail or person ahead had not been identified as a hazard and no account was taken on how injuries could be exacerbated by wearing non-safety sunglasses.

In commenting on the draft report the Driver of *Wakanui* stated, *"Injuries caused by banging a head on the side of the boat and how wearing sunglasses could exacerbate such an injury had not been identified as a hazard as this incident had not happened in our eight years at Buller Adventure Tours and we had never heard of it happening before commercially."*

Hazard identification had been carried out by the company but there were several items that had not been identified as hazards and have subsequently been rectified, namely:

- Accelerator cable protection
- Rear footrest cover/protection
- Protection for spare paddle holders

All three actions above are to ensure there is no risk of foot entrapment

Pursuant to section 15 of the HSEA every employer must take all practicable steps to ensure that no action or inaction of any employee while at work, harms any other person.

The company had not had any previous accidents.

At the time of the accident Maritime New Zealand had not had any reports of similar accidents involving handrails. Shortly after this however, a North Island company reported a similar accident in which a lady hit her head on the handrail whilst not being able to hold on properly whilst holding onto a small child.



Training

The Driver of the jet boat was qualified to operate as a driver in accordance with **Maritime Rule Part 80**, as follows:

7.2 Experience

“Any person driving a jet boat to which Section 1 of Part 80 applies must have not less than 50 hours experience as a jet boat driver, under the supervision of an experienced driver before driving solo with passengers. The 50 hours experience must include a period, acceptable to the authorised person, on the river on which that driver is to operate commercially.”

Currently a new **Rule Part 80A** is being processed after consultation with industry.

Under the new rule drivers will be required to be licensed and undergo theory and practical testing. The hours of required experience will also be increased.

Safe Operational Plan (SOP)

The SOP was up to date and company specific. The following deficiencies were noted:

- The Drivers had not signed the SOP.
- There was no review page and it was not being reviewed six monthly.
- Whilst the content of the document was excellent it showed little sign of being used as a working, living document.
- There was only one copy when the SOP stated there were two.

All Jet boat operators are required to have a Safe Operational Plan as required by **Maritime Rule Part 80**.



“8.4 Safe Operational Plan

(a) *The owner of any jet boat to which Section 1 of Part 80 applies is required to draw up a safe operational plan which is related to the specific operations of that owner's boat or boats.*

(b) *The safe operational plan must include at least the following -*

(i) a record of initial inspection of each boat and the report of the authorised person of initial inspection and any subsequent inspection; and

(ii) a planned maintenance schedule for each boat and motor with a record of the work undertaken; and

(iii) a record of the safety equipment required by Appendix 1 for each boat, its maintenance, testing and inspection; and

(iv) personal records of each driver employed, including a copy of their medical certificate and first aid certificate and their experience and employment record; and

(v) training procedures and training record for each driver employed; and

(vi) information on the area of operation and river conditions which limit operations; and

(vii) pre-operational and operational checks of the boat and its equipment; and

(viii) a requirement that if the grade of fuel is changed the engine(s) must be re-tuned and the performance of the boat checked under its normal operating conditions before passengers are carried; and

(ix) operational management procedures, including contact with shore and other boats and commercial operators on the river as necessary; and

(x) details of

(aa) accident recording and reporting procedures complying with sections 30 and 31 of the Maritime Transport Act 1994; and

(bb) accident investigation procedures; and

(xi) details of how the owner intends to inform and commit employees to meet their health and safety responsibilities under Part II of the Act and this Code; and
(xii) a requirement for the number of passengers carried on each trip to be recorded and be available at the base and on the boat.

- (c) *The safe operational plan must be reviewed by the owner on a regular basis and following any accident. A written record must be made of each such review, which must include a summary of any conclusions drawn, and any actions taken, as a result of the review.*

Maritime Rule Part 80/8.3 Passenger Safety

- (a) *Before departing on any ride the driver must brief passengers on the safety features of the boat and its equipment. Attention must be drawn to the fact that passengers are to remain seated and keep their arms inside the boat.*
- (b) *Where spins, Hamilton turns or other like maneuvers are to be undertaken during the ride—*
(i) passengers must be made aware of this before departure; and
(ii) adequate warning must be given to passengers before any such manoeuvre is made.
- (c) *A safety briefing card must be on the boat and readily available to any passenger who may have difficulty in understanding a verbal briefing.*
- (d) *The driver must not knowingly take any person on a jet boat ride who by reason of their state of intoxication or for any other reason will be put at risk, or represent a risk to other persons carried.*



This section of the rule was complied with by the operators of the jetboat.

Part 80 does not include hazard ID requirements as per HSEA and reference to section 15 of the HSEA as this came into force before the HSEA applied to maritime operations, in May 2003. It will however do so under **Rule Part 80A**, which is expected to come into force in late 2005.

Emergency Procedures

The company has emergency procedures in place to deal with a situation such as this. The procedures were reviewed and found to be adequate. However at the time of the accident there was doubt raised by the injured passenger as to how well this was carried out by the Driver/owner and his staff. On subsequent review it has been found that the emergency procedures were carried out correctly as per the Safe Operational Plan.

The Driver called base for assistance and pulled over to the beach to render first aid assistance as per the procedures. The injured passenger was attended to and his wound covered. He had stopped bleeding by this stage. He was then led up to the roadside to wait for a staff member to arrive with a vehicle. The injured passenger stated that he was not given appropriate first aid and that he was made to climb unassisted up the riverbank.

In commenting on the draft report the Driver of *Wakanui* stated, “*The injured passenger did not appear to require any physical assistance during this short walk and behaved in an aggressive, verbally abusive and unapproachable manner.*”

One of the passengers onboard stated that she thought the incident was handled well and that the Driver did all that he could to help the injured passenger.

ACTION TAKEN

After investigation and inspection the Maritime Safety Authority recommended that Buller Adventure Tours undertake the following:

- Update the hazard identification sheets to include the handrail as a potential hazard
- Review and update the Safe Operational Plan on a six monthly basis or as required in the event of change
- All drivers to sign the SOP
- Purchase new flares
- Replace glasses with safety glasses
- Update training records in accordance with the new training sheets in the SOP
- Hold a copy of all employees' first aid and medical certificates

These recommendations are to be carried out by the time of the next audit.

The Maritime Safety Authority Jet Boat Safety Auditor audited the company in May. The above actions had all been carried out. The company is also trialling a number of different padded protection options for the jet boat's handrails.



RECOMMENDATIONS

1. It is recommended that the owner/driver of *Wakanui* be censured for failing to ensure his Safe Operating Procedure was used as a working document and for failing to ensure it was kept updated and reviewed on a regular basis.

