Transport Accident Investigation Commission

Final report
Tuhinga whakamutunga

Maritime inquiry MO-2025-202
***Jet boat* Discovery 2**
Allision with canyon wall
Skippers Canyon, near Queenstown
25 February 2025

April 2026

The Transport Accident Investigation Commission
Te Kōmihana Tirotiro Aituā Waka

No repeat accidents – ever!

"The principal purpose of the Commission shall be to determine the circumstances and causes of accidents and incidents with a view to avoiding similar occurrences in the future, rather than to ascribe blame to any person."

Transport Accident Investigation Commission Act 1990, s4 Purpose

The Transport Accident Investigation Commission is an independent Crown entity and standing commission of inquiry. We investigate selected maritime, aviation and rail accidents and incidents that occur in New Zealand or involve New Zealand-registered aircraft or vessels.

Our investigations are for the purpose of avoiding similar accidents and incidents in the future. We determine and analyse contributing factors, explain circumstances and causes, identify safety issues, and make recommendations to improve safety. Our findings cannot be used to pursue criminal, civil, or regulatory action.

At the end of every inquiry, we share all relevant knowledge in a final report. We use our information and insight to influence others in the transport sector to improve safety, nationally and internationally.

Commissioners

Chief Commissioner	David Clarke
Deputy Chief Commissioner	Stephen Davies Howard
Commissioner	Paula Rose, QSO
Commissioner	Bernadette Roka Arapere (until 6 November 2025)

Key Commission personnel

Chief Executive	Martin Sawyers
Chief Investigator of Accidents	Louise Cook
Investigator-in-Charge for this inquiry	Jennifer Cuttriss
Commission General Counsel	Sid Wellik

Notes about Commission reports
Kōrero tāpiri ki ngā pūrongo o te Kōmihana

Citations and referencing

The citations section of this report lists public documents. Documents unavailable to the public (that is, not discoverable under the Official Information Act 1982) are referenced in footnotes. Information derived from interviews during the Commission's inquiry into the occurrence is used without attribution.

Photographs, diagrams, pictures

The Commission owns the photographs, diagrams and pictures in this report unless otherwise specified.

Verbal probability expressions

For clarity, the Commission uses standardised terminology where possible.

One example of this standardisation is the terminology used to describe the degree of probability (or likelihood) that an event happened, or a condition existed in support of a hypothesis. The Commission has adopted this terminology from the Intergovernmental Panel on Climate Change and Australian Transport Safety Bureau models. The Commission chose these models because of their simplicity, usability, and international use. The Commission considers these models reflect its functions. These functions include making findings and issuing recommendations based on a wide range of evidence, whether or not that evidence would be admissible in a court of law.

Terminology	Likelihood	Equivalent terms
Virtually certain	> 99% probability of occurrence	Almost certain
Very likely	> 90% probability	Highly likely, very probable
Likely	> 66% probability	Probable
About as likely as not	33% to 66% probability	More or less likely
Unlikely	< 33% probability	Improbable
Very unlikely	< 10% probability	Highly unlikely
Exceptionally unlikely	< 1% probability	

Figure 1: Jet boat *Discovery 2* (prior to fitting of roll bar)
(Credit: Skippers Canyon Jet Limited, anonymised by the Transport Accident Investigation Commission)

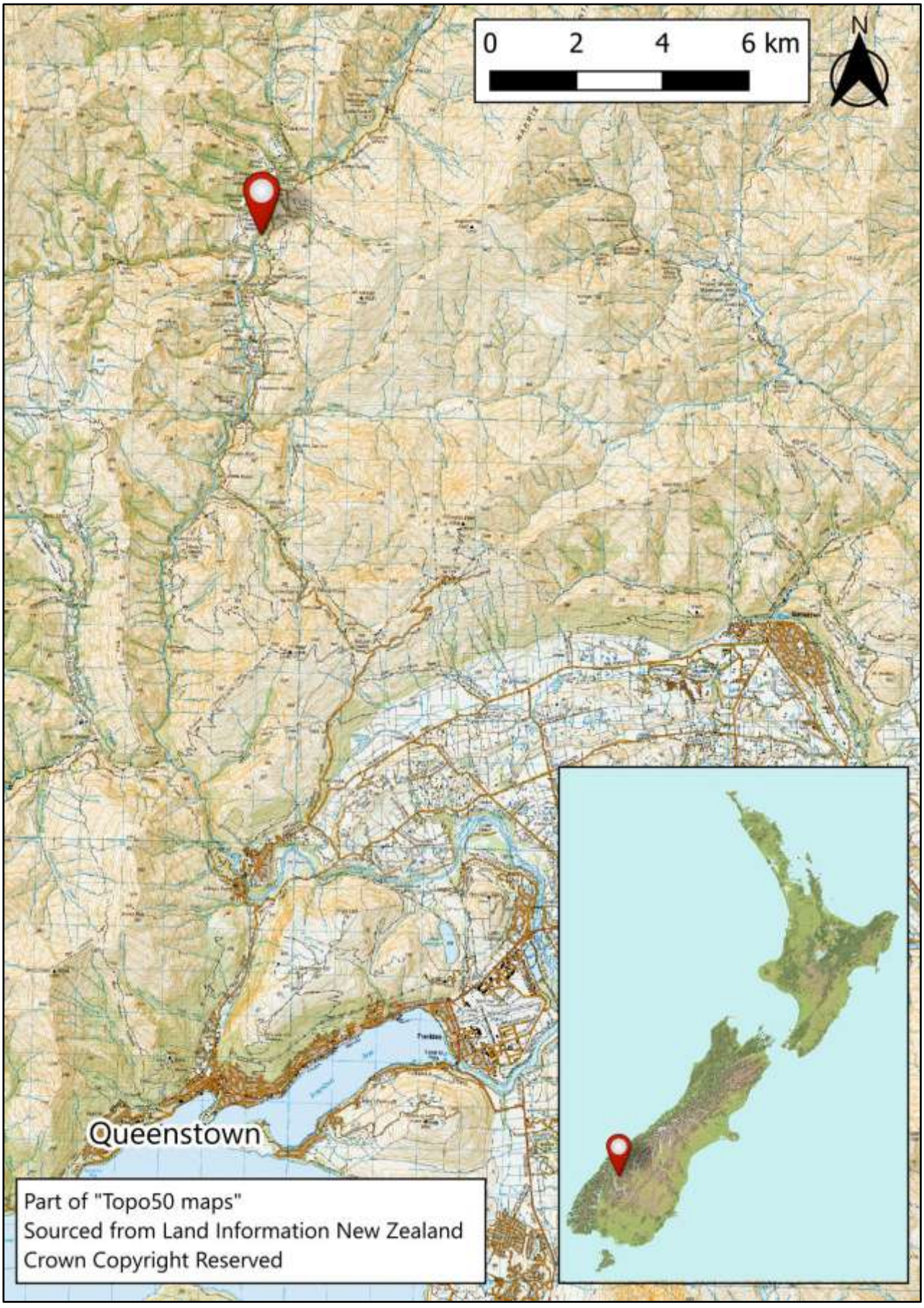

Figure 2: Location of accident

(Credit: Land Information New Zealand Toitū Te Whenua, labelled by the Transport Accident Investigation Commission)

Contents
Rārangi take

Figures

1 Executive summary
Tuhinga whakarāpopoto

What happened

1.1. On 25 February 2025, the commercial jet boat *Discovery 2* (the boat) was operating in Skippers Canyon, on the Shotover River, with 11 passengers on board.

1.2. Shortly after commencing the return leg of the journey, and as the boat completed a right-hand turn, its engine suddenly cut out. The driver immediately reset the ignition, but the engine would not start, so the boat had no propulsion and no thrust to provide steering control.

1.3. As a result, the boat continued across the river, where it made heavy contact with the canyon wall. The boat's speed upon impact was estimated to have been between 30 and 35 kilometres per hour.

1.4. The sudden stop caused the passengers to be thrown forward and resulted in one passenger fracturing their wrist and several passengers suffering deep cuts and bruising. Two adults and two children from the same family were evacuated by helicopter.

1.5. Some of the passengers reported significant psychological trauma following the accident.

Why it happened

1.6. The driver lost control because the engine suddenly shut down, leaving the boat with no thrust and therefore no steering capability.

1.7. Tests ruled out contamination of the fuel and the lubricating oil as contributing to the accident. Relevant properties were consistent with their grade specifications.[1]

1.8. It is **virtually certain** that the engine shut down because part of the engine's wiring harness[2] had chafed against a casting edge[3] of the engine. The chafing exposed a wire and eventually caused a short circuit[4] when it contacted part of the engine. This resulted in the loss of the 5-volt reference voltage[5] shared by the critical engine sensors, and the engine shut down.

1.9. The padding requirements, prescribed in the Maritime Rules for commercial jet boats, did not include enough detail to form a measurable standard for passenger protection. Padding of the seats and surrounds of *Discovery 2* did not adequately protect the passengers from injury during a sudden stop.

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[1] Requirements and limits that define the properties and quality of a product, ensuring it performs correctly and meets safety and environmental standards.

[2] An assembly of electrical cables or wires that transmit signals or electrical power throughout an auto-electrical installation.

[3] Finished edge or imperfection of a mould-cast product.

[4] When an unintended path with low resistance is created in an electrical circuit, allowing the current flow to bypass the load.

[5] A stable, low voltage supply from the engine control module that powers various sensors such as the throttle (pedal position sensor), camshaft and crankshaft sensors.

1.10. Passengers were not informed of, and therefore were uncertain about, what was an appropriate brace position for an emergency on board a jet boat. It is **likely** that some passengers suffered worse injuries due to this uncertainty.

What we can learn

1.11. Canyon jet boating is a high-risk activity that leaves little room for error when travelling at high speeds in narrow, rock-walled stretches of river.

1.12. Operators conducting thrill-type trips[6] should inform passengers of the risks involved so that the passengers know when things are going wrong, and how best to aid themselves.

1.13. Single-engine jet boats are vulnerable to loss of control, because once the engine fails, a jet boat has no steering.

1.14. Safety solutions are unique to each operator. Preventive maintenance and survivability measures are critical when redundancy is not a viable option.

Who may benefit

1.15. Commercial jet boat operators, private jet boat operators, adventure tourism operators, regulators, insurance underwriters and training facilities may all benefit from the findings and recommendations in this report.

[6] Commercial jet boat operations in which spins, extreme turns, and similar manoeuvres are undertaken, as described in Maritime Rules Part 82: Commercial Jet Boat Operations – River.

2 Factual information
Pārongo pono

Narrative

2.1. At 1530 on 25 February 2025, a bus operated by Skippers Canyon Jet Limited (SCJ) departed Queenstown for its final trip of the day. There were 20 passengers on board for the scenic bus and jet boat tour of Skippers Canyon.

2.2. The bus leg of the tour included commentary, provided by the bus driver, on the way out to Deep Creek. From Deep Creek, the passengers would travel by jet boat up to Skippers Bridge and back to Deep Creek (*see* Figure 3).

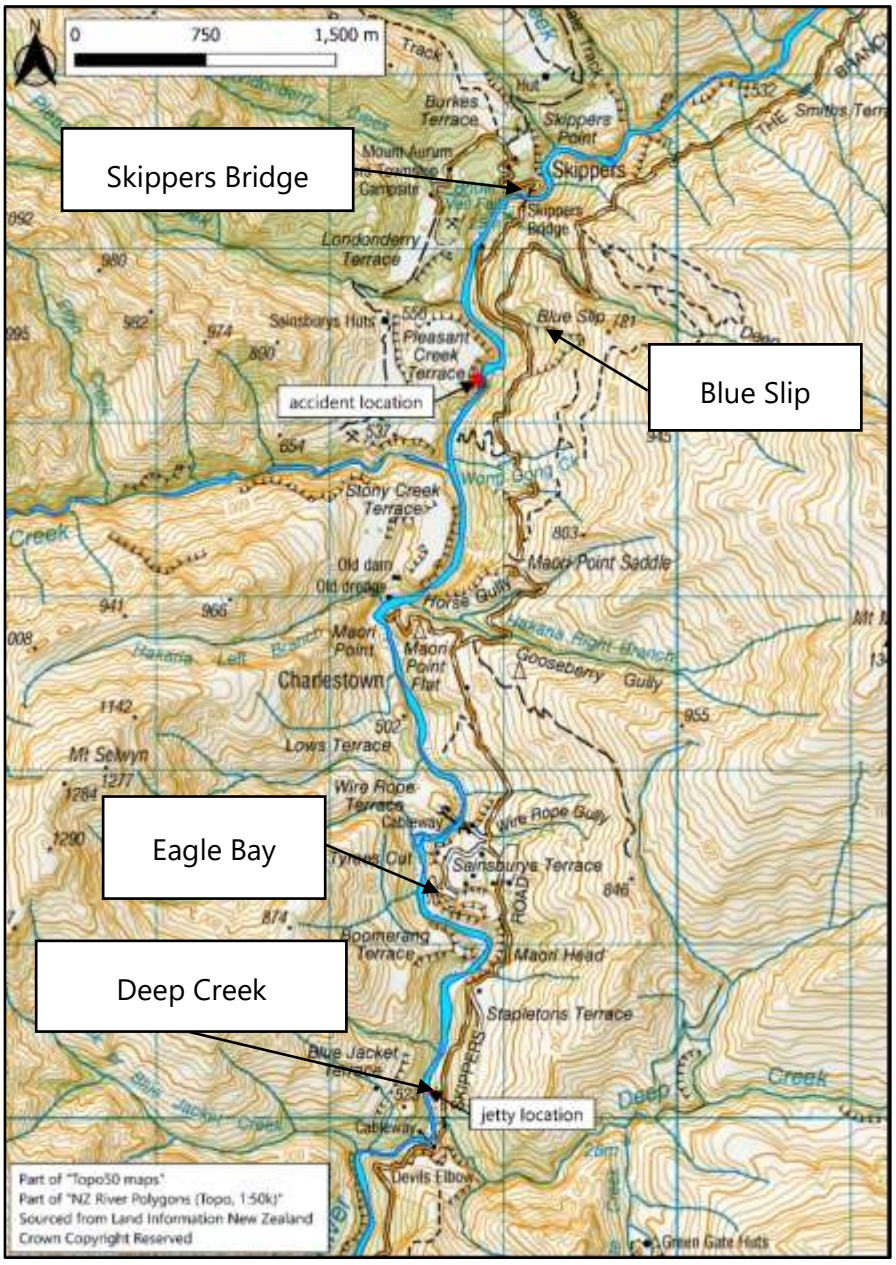

Figure 3: Shotover River – area of operation for Skippers Canyon Jet Limited
(Credit: Land Information New Zealand Toitū Te Whenua, labelled by the Transport Accident Investigation Commission)

2.3. SCJ had two jet boats operating that day: *Discovery 2* and *Armadillo*. Both boats had completed two trips earlier in the day.

2.4. The bus ride into Skippers Canyon normally takes less than an hour. The last jet boat trip was due to set off at about 1630. However, the driver of *Discovery 2* (the driver) was off-site and was delayed in returning to Deep Creek by a work-related phone call. To avoid making the passengers wait at the jetty, the driver called the bus driver and requested the passengers be taken to use the toilets and take photographs prior to the jet boat ride.

2.5. This stop was normally taken after the jet boat ride, but from time to time the tour schedule changed in this way. This variation to the usual schedule allowed the driver to return to Deep Creek and greet the passengers when the bus arrived. *Armadillo*'s driver had already gone down to the jetty but had heard on the radio that the bus had diverted to the toilet facilities.

2.6. After about 10 minutes at the toilet facilities, the bus driver took the passengers down to Deep Creek to commence the jet boating part of the tour. As the passengers disembarked from the bus, the jet boat drivers handed out lifejackets and divided the passengers into two groups. Nine passengers boarded *Armadillo* and 11 boarded *Discovery 2*.

2.7. On board *Discovery 2*, the driver carried out a pre-departure briefing. As well as referring to the Maritime New Zealand (Maritime NZ) pre-departure briefing card (*see* Figure 4, the driver told the passengers to stay seated, hold on to the handrails and keep their hands inside the boat. The driver also instructed the passengers to ensure they were holding on with both hands and bracing with their feet anytime the driver indicated their intention to carry out a spin.

Figure 4: Maritime NZ safety card from August 2012 Advisory Circular[7]

2.8. At about 1646, *Armadillo* departed and called to the SCJ base, by radiotelephone, that they were departing Deep Creek with nine passengers. *Discovery 2* left at 1647 and informed SCJ base that they were departing Deep Creek with 11 passengers, three of whom were children.

2.9. At 1659, *Armadillo* arrived at Skippers Bridge and began the return trip down the river. *Discovery 2* arrived at Skippers Bridge at 1700 and also commenced the return trip.

2.10. At 1701, just as *Discovery 2* passed Blue Slip (*see* Figure 5) at an estimated speed of 60–65 kilometres per hour, the engine cut out. The driver reset the ignition key to restart the engine, but the engine did not fire. The vessel had no power and no steering and continued across the river in a south-westerly direction (*see* Figure 6). The driver instructed the passengers to "brace".

[7]Advisory Circular Issue No. 1. Rule Part 82 – AC Version No.1, 2 August 2012.

Figure 5: Locations on the jet boat tour

2.11. At about 1702, *Discovery 2* collided with the canyon wall, into a rocky bluff, at an estimated speed of 30–35 kilometres per hour. The driver briefly assessed the extent of the injuries to passengers and damage to the boat. The driver decided that a medevac[8] would be required, so called "Mayday" on the radio and requested SCJ base to arrange a helicopter evacuation. *Armadillo*'s driver heard the radio calls and contacted *Discovery 2* to offer assistance. The *Discovery 2* driver instructed them to

[8] Medevac is the transportation of patients from the accident site to a medical facility.

drop off their passengers at Deep Creek and pick up the maintenance engineer before returning to the location of *Discovery 2*.

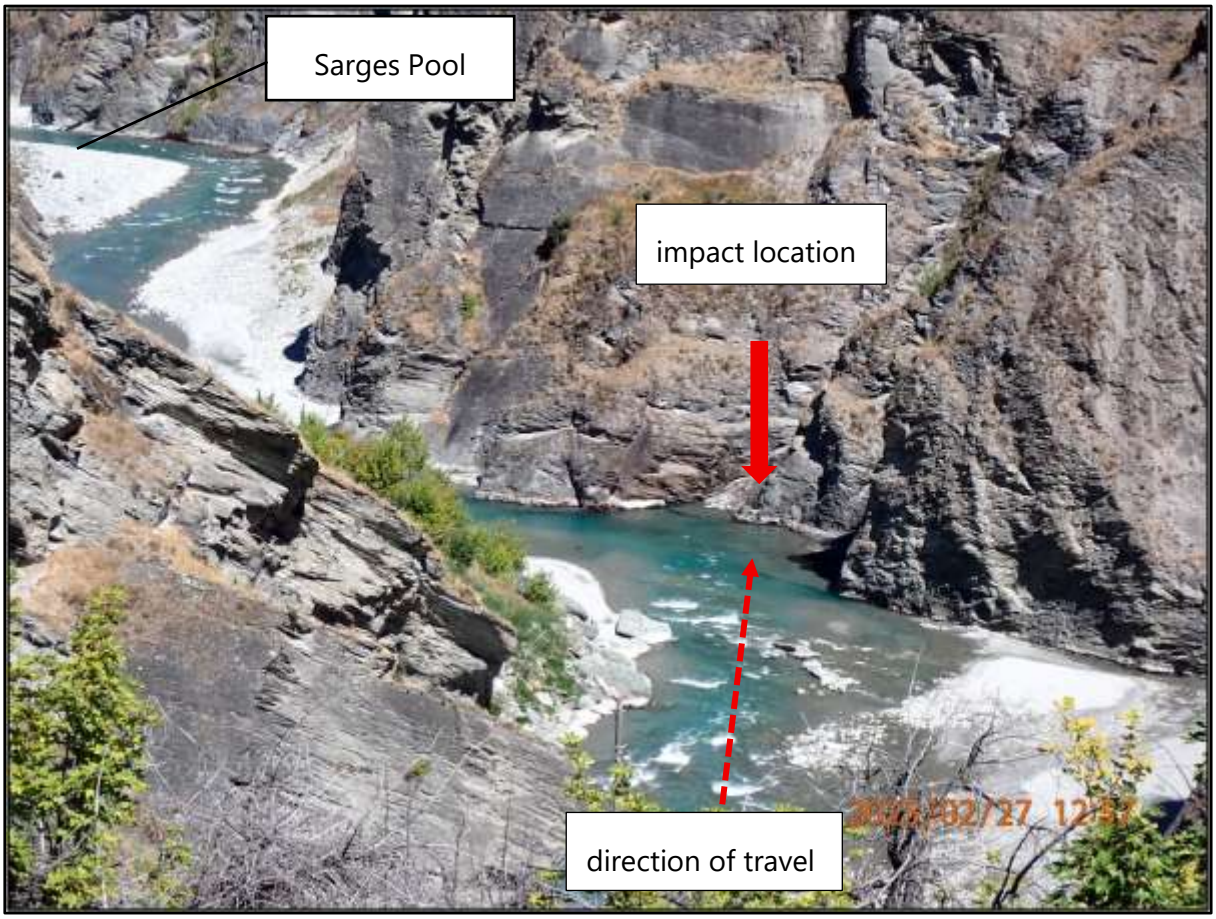

Figure 6: Accident location – looking downriver from near Blue Slip

2.12. On board *Discovery 2*, the driver tried to restart the engine again. This time they were successful. The driver assessed that there was a risk of a high-side[9] and this meant it was hazardous to remain in situ. The driver decided to move the boat to a safer location – Sarges Pool – which had a beach with space for helicopters to land.

2.13. At about 1705, the driver relocated *Discovery 2* to Sarges Pool, where the passengers were able to get out of the boat and onto the beach. Further assessment of their injuries was carried out by two fellow passengers: one a doctor and the other a paramedic.

2.14. At about 1714, *Armadillo* arrived back at Sarges Pool to assist and transport passengers to Deep Creek.

2.15. At about 1810, the first of two helicopters arrived at Sarges Pool.

2.16. At 1822, the first helicopter departed with two of the injured passengers.

2.17. *Armadillo* departed Sarges Pool with seven passengers from *Discovery 2,* transferred them to the jetty at Deep Creek, and then returned to Sarges Pool at 1913.

[9] Where a vessel is swept onto the upstream side of an obstruction in a river; the downstream side of the vessel lifts and causes the upstream side of the vessel to submerge and allow the ingress of water. This situation can result in a capsize or the vessel becoming stuck on the obstruction.

2.18. At 1918, the second helicopter departed Sarges Pool with two injured passengers on board. The four passengers that were evacuated by helicopter were taken to Dunedin hospital.

2.19. After the passengers had all been evacuated, the driver moved *Discovery 2* to a sheltered location, upriver from Sarges Pool, and secured it for the night. However, as rain was forecast for overnight, the driver obtained permission from Maritime NZ to move the boat away from the accident scene and off the river.

2.20. At 2010, *Discovery 2* and *Armadillo* returned to Eagle Bay and all SCJ boats were off the water by 2015.

Personnel information

2.21. The *Discovery 2* driver held a New Zealand Commercial Jet Boat Driver (River) Licence, issued by Maritime NZ and valid until 2033. This was the appropriate qualification that entitled them to drive a commercial jet boat in the context of SCJ's operations. They had more than 20 years' experience of driving jet boats on the Shotover River.

Vessel information

2.22. *Discovery 2* was 6 metres in length and propelled by a single 6.2-litre engine supplying power to a jet propulsion unit.

Meteorological and ephemeral information

2.23. There was rain forecast on the day of the accident, but it was not raining at the time of the accident. The river flow was estimated to have been about 25 cumecs.[10] The operator's safe operating parameters, as stated in their safe operational plan (SOP), were 5–60 cumecs.

Site and wreckage information

2.24. Damage to *Discovery 2* consisted of moderate buckling and cracking of the hull at the bow and windscreen, bent handrails and bent seating.

[10] Cubic metre per second as a measure of the rate at which water is flowing.

Figure 7: Damage to the bow of *Discovery 2*

Medical and pathological information

2.25. The following injuries were recorded.

- The passenger seated in the front seat, starboard side sustained a deep laceration to their left knee (required surgery), bruising to face, right knee, right arm and shoulder.
- The passenger seated in the front seat, centre received facial bruising, and cuts inside the mouth that required sutures.
- Other passengers suffered bruising to knees, cuts to legs, neck sprain, facial injuries, back pain and one fractured their wrist.
- Some passengers suffered psychological trauma.

Tests and research

2.26. The engine's diagnostic system did not register a specific fault code when the engine cut out. The operator's technicians, observed by the Commission's investigators, could not identify or replicate the fault during initial testing and tracing of the engine system.

2.27. Samples of the boat's fuel and lubricating (lube) oil were taken and sent for laboratory analysis.

2.28. The boat's wiring harness was removed and inspected by Commission investigators before it was sent for testing and detailed inspection under laboratory conditions with Commission investigators observing. Observations made during these laboratory inspections instigated further testing of the wiring harness in situ.

2.29. On 21 August 2025, the wiring harness was refitted to *Discovery 2* and tests were carried out, as recommended by the Commission's independent expert. The results of this testing are discussed in section 3.

Previous occurrences

2.30. On 23 February 2019, *Discovery 2*, operated by Skippers Canyon Jet Limited, was on its return leg from Skippers Bridge with nine passengers on board when it collided with the canyon wall. The driver had been negotiating a series of bends in the river when the steering became jammed. The vessel impacted the canyon wall at a speed of about 20–30 kilometres per hour. One passenger was thrown partially overboard and suffered a broken leg, while the remaining passengers suffered minor lacerations and bruising. The Commission found that the driver lost control of the vessel due to mechanical failure of the jet unit; three of the four stud-bolts securing the steering nozzle to the jet unit had cracked, leaving the steering and propulsion system ineffective (Transport Accident Investigation Commission, 2020).

2.31. On 21 March 2021, the commercial jet boat *KJet 8*, operated by KJet Limited, was travelling on the Shotover River, with a driver and 12 passengers on board, when the engine stopped and the driver could not control the vessel. The vessel continued under its own momentum and collided with a low overhanging branch of a tree on the bank of the river. The driver and one passenger received moderate head injuries when they were struck by a branch. They were airlifted to hospital and discharged the same day. The Commission found that a fuse within the engine control system failed, resulting in the engine stopping and, consequently, propulsion and steering were lost and the driver was unable to control the jet boat (Transport Accident Investigation Commission, 2022).

2.32. The cause of both accidents was a single point of failure in a critical jet boat control system,[11] which resulted in total loss of control of the jet boat.

Organisational information

2.33. At the time of the accident, SCJ was a family-owned and operated adventure company. Based in Skippers Canyon on the Shotover River, the following activities and experiences were available with SCJ:

- jet boat trips
- scenic four-wheel-drive trips
- gold panning and gold history
- helicopter flights
- clay pigeon shooting
- golf.

2.34. Jet boat trips were available all year round depending on the weather and conditions on the Shotover River. The main limiting factors were water flow, weather, visibility and actual or potential ice/debris in the river. During summer months, up to five trips

[11] System through which the jet boat is controlled, such as propulsion and steering.

per day were available, with the first bus departing Queenstown at 0800 and the last at 1530. The tour took two and a half to three hours and comprised a:

- guided tour into Skippers Canyon
- 25-minute jet boating experience in the upper Shotover River canyons
- return bus trip to central Queenstown.

2.35. The jet boat ride is marketed as an exciting and thrilling experience. The following description is from the SCJ website:

> Once on the boat you will feel your adrenalin surge as you power deeper into Skippers Canyon and up the Shotover River. Our highly skilled jet boat drivers manoeuvre the boat just inches from the sheer canyon walls and keep the excitement levels high with speeds in excess of 80kmh and a series of 360-degree spins. This is canyon jet boating at its best.

2.36. SCJ had an SOP as required by Maritime Rules Part 82: Commercial Jet Boat Operations – River (MR Part 82). All boat inspections and audits required under MR Part 82 had been carried out and copies of the audit reports from 2023 and 2024 were provided to and reviewed by the Commission.

2.37. The company had five jet boats, each fitted with a single Chevrolet L86 engine that powered a single Hamilton 212 jet unit. The engines were adapted for maritime use by KEM Equipment Incorporated. Each boat had its engine secured to the foot beds of the hull using 10-millimetre bolts that were welded for extra security. Additionally, collision chocks were fitted to prevent the engine moving forward in a sudden stop. The boats were kept at Eagle Bay (*see* Figure 5), a short way upriver from where SCJ had a jetty for embarking and disembarking passengers.

2.38. SCJ implemented a maintenance programme for their jet boats that consisted of 30-hour, 50-hour and 400-hour services in addition to monthly services. At the time of the accident, SCJ staff had carried out all required servicing on *Discovery 2*.

Other relevant information

2.39. MR Part 82 applies to operators and drivers of commercial jet boats that are less than 9 metres in length and operate on rivers, carry passengers and are designed to carry no more than 34 people. MR Part 82 sets safe design and construction standards for jet boats (*see* Appendix 1), sets standards for safety equipment, and establishes safe operating procedures that commercial jet boat operators and drivers must follow.

2.40. MR Part 82 requires drivers to hold a New Zealand Commercial Jet Boat Driver (River) Licence and to meet the competency requirements of the operation in which they drive. MR Part 82 is intended to limit the likelihood and consequences of serious harm to people on board commercial jet boats operating on rivers. Maritime NZ regularly inspects jet boats and safety equipment, and audits operations to ensure continued compliance with MR Part 82 requirements.[12]

[12] https://www.maritimenz.govt.nz/rules/all-rules/maritime-rules-part-82/

3 Analysis
Tātaritanga

Introduction

3.1. The jet boat *Discovery 2* was operating in Skippers Canyon, on the Shotover River, with 11 passengers on board, when it struck the canyon wall. The impact resulted in multiple passenger injuries, with four passengers requiring evacuation by helicopter. Some passengers reported that they suffered significant psychological distress following the accident. The boat sustained moderate damage to the bow area.

3.2. *Discovery 2* was travelling at high speed in the canyon when its engine shut down. Without engine power, the boat's jet unit could not provide thrust or steering and the driver had no way to control the boat. As a result, the driver was unable to negotiate the next bend in the river, and the bow made heavy contact with the rocky canyon wall. Despite their attempts to brace themselves, the passengers were thrown forward into the seatbacks or dashboard when the boat came to a sudden stop upon impact.

3.3. Jet boating is a high-risk activity that leaves very little margin for error when navigating at high speed in narrow channels and rivers. The consequences of an accident can be catastrophic and traumatic when passengers are on board. It is essential that safety systems are in place, clearly communicated and practised frequently to reduce the risk of an accident occurring or, should one occur, to help lessen the consequences.

3.4. Previously the Commission has investigated jet boating accidents that resulted from a single point of failure in a critical control system, causing total loss of control of the vessel. Such occurrences can result in the vessel coming to a sudden stop. Maritime Rules acknowledge this risk by requiring measures to protect passengers from harm in the event of a sudden stop.

3.5. The following section analyses the circumstances surrounding the event to identify factors that increased the likelihood of the event occurring or increased the severity of its outcome. It also examines any safety issues that could adversely affect future operations.

Why the engine shut down

3.6. Commission investigators considered potential causes of the engine shutdown could be traced to either the fuel system, the lubricating system, or the wiring system.

3.7. Contamination of the fuel and the lubricating oil was discounted as contributing to the accident because test results showed relevant properties were consistent with their grade specifications.[13]

3.8. The wiring harness was initially tested and inspected in situ by Commission investigators and the operator. Further in situ testing and inspection were undertaken in March 2025 by the Commission's investigators and independent expert along with SCJ's owner and mechanic. The wiring harness was removed from *Discovery 2* to allow

[13] Requirements and limits that define the properties and quality of a product, ensuring it performs correctly and meets safety and environmental standards.

closer inspection. These tests and visual inspections did not identify any damage or fault in the wiring harness.

3.9. Testing and inspection schedules for forensic examination of the wiring harness and leads were devised by the operator and the Commission's independent expert. The examination was carried out under laboratory conditions and observed by a Commission investigator. It identified chafing damage to the wire protection on the pedal position sensor (PPS)[14] lead (*see* Figure 8 to 10).

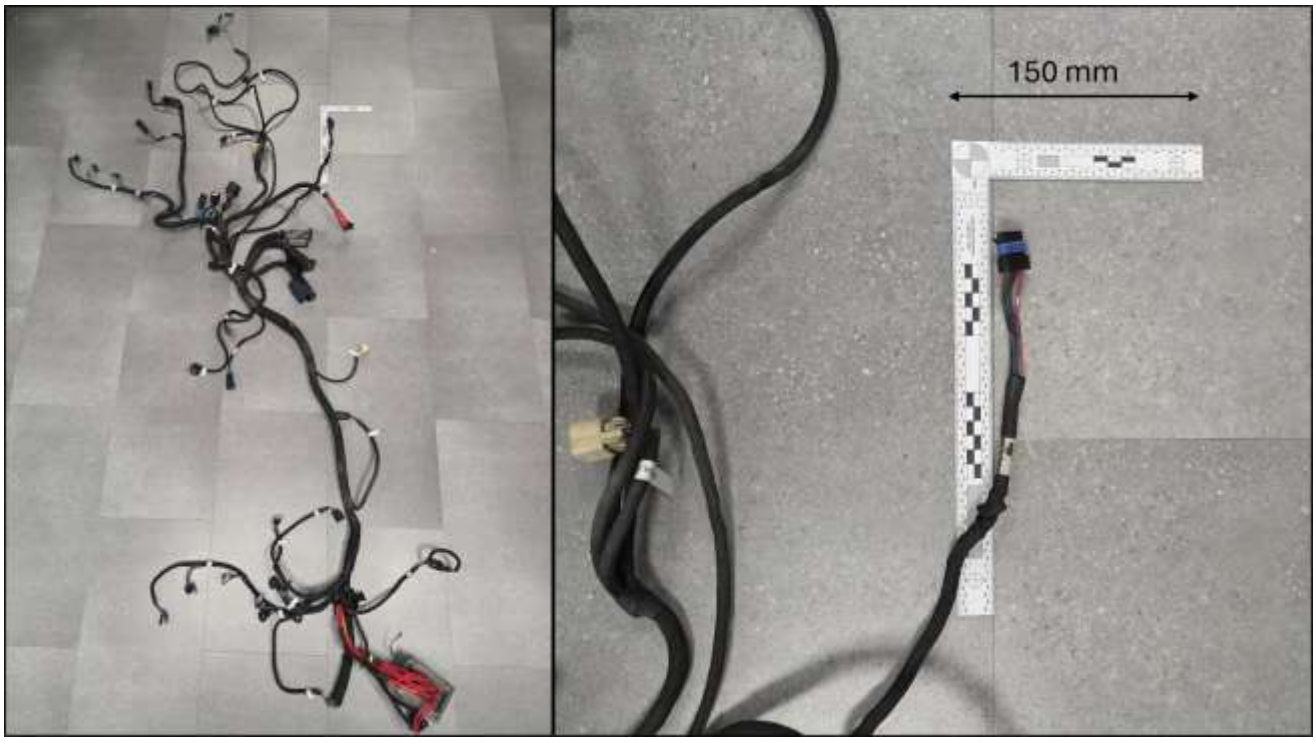

Figure 8: The entire wiring harness (left) and the pedal position sensor lead (right)

[14] Sensor that detects the position of the throttle pedal.

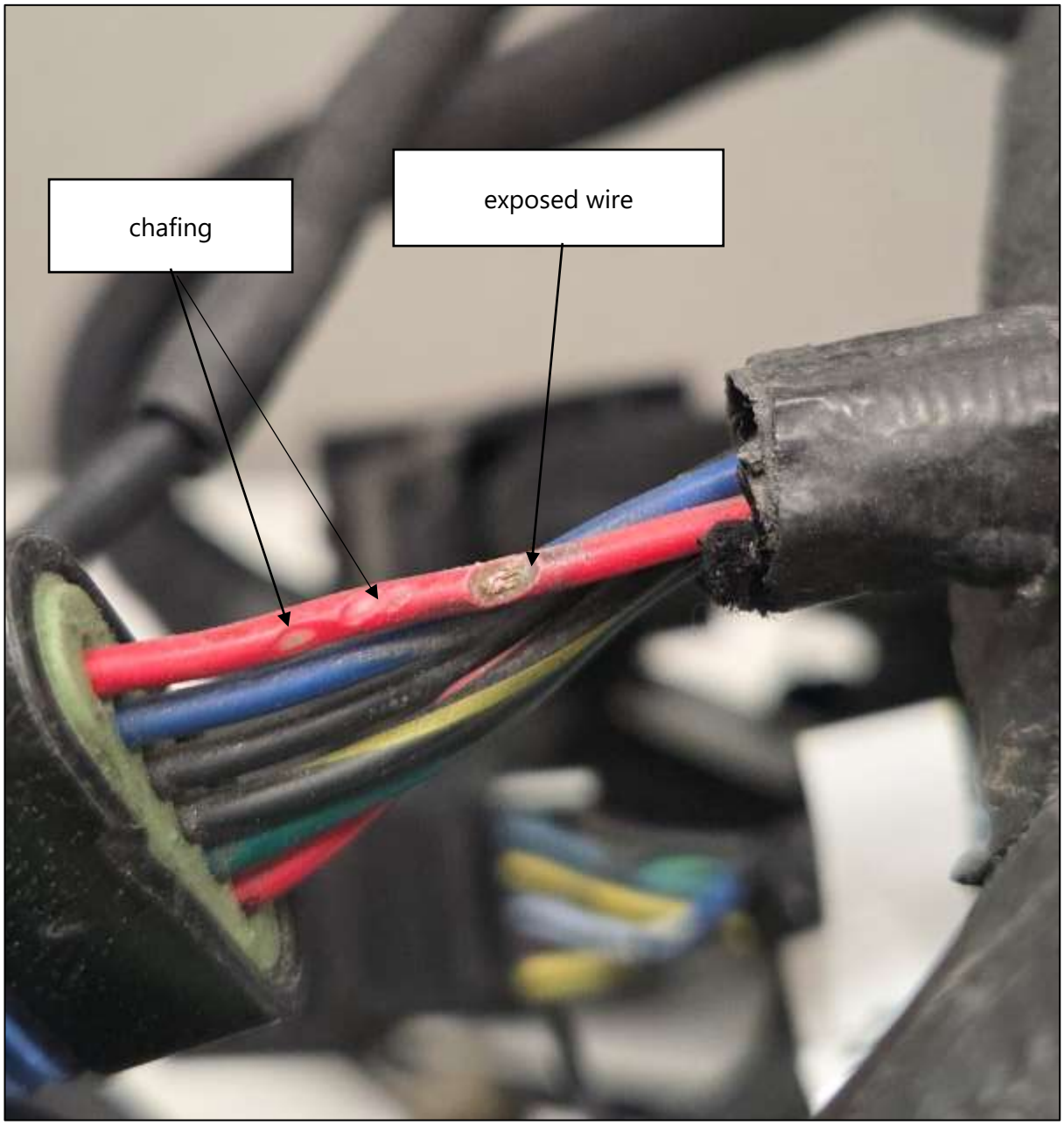

Figure 9: The pedal position sensor lead showing signs of chafing where the wire is exposed

3.10. KEM Equipment Incorporated confirmed that arcing on the PPS lead would probably cause the engine to cut out. The Commission's investigators travelled to Skippers Canyon to test this hypothesis with the Commission's independent expert and the operator. When the wiring harness was reinstalled, it naturally rested against the area of the suspected short circuit (*see* Figure 10). This point appeared to be a rough casting edge on the engine.

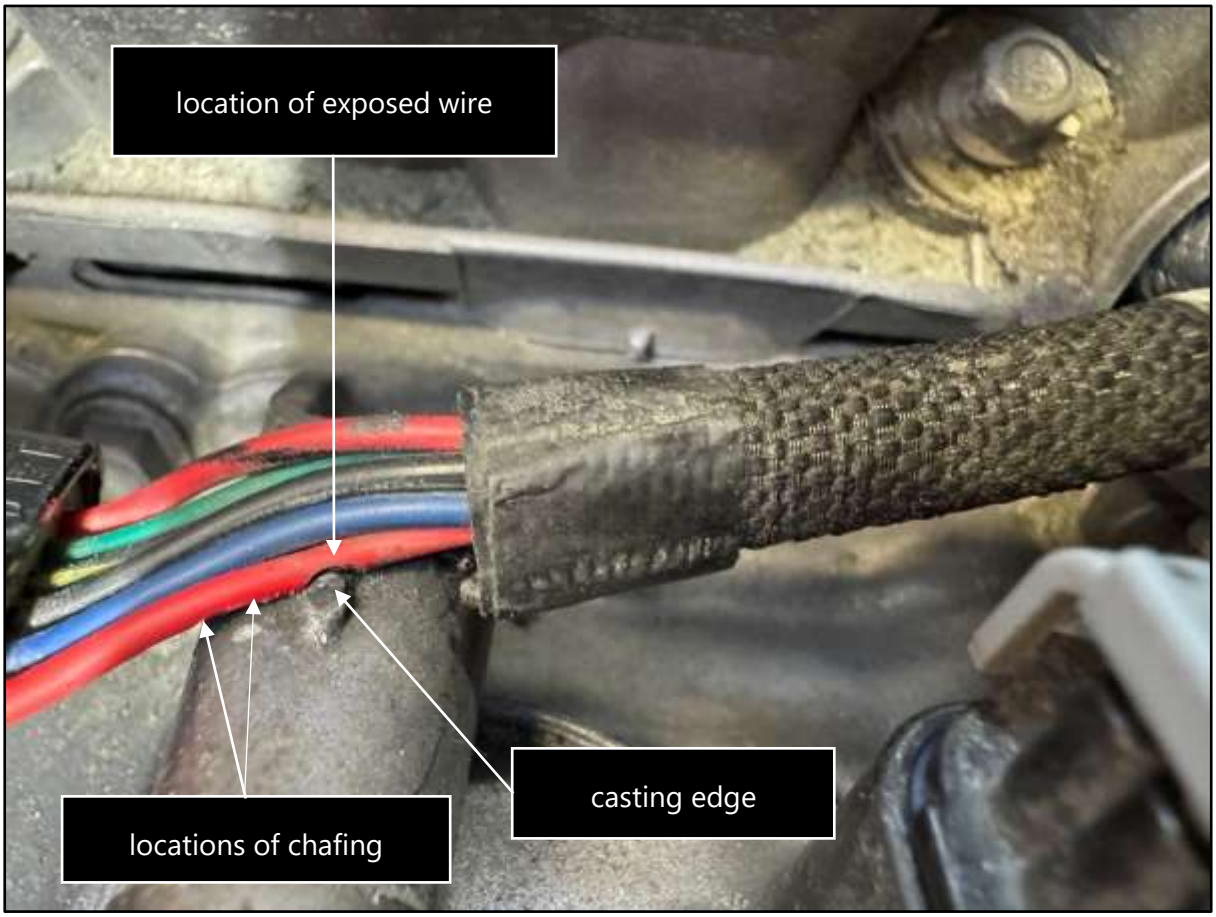

Figure 10: Damaged wire in situ with chafed area against casting edge

3.11. Testing was conducted at idle, and then at 4000 revolutions per minute to replicate the conditions of the original incident. In both conditions the engine stalled when the wire was earthed. Earthing removed the 5-volt reference voltage[15] shared by the critical engine sensors causing the engine to stall.

3.12. The Commission's independent expert concluded that the test showed the suspected short circuit could and did cause the engine shutdown.

3.13. Given the indications of chafing and short circuit on the identified wire of the PPS lead, it is **virtually certain** that the engine shut down because part of the engine's wiring harness had chafed against the casting edge, earthing the wire.

3.14. The short circuit of the PPS wire was a single point of failure that caused the engine to shut down. As a single-engine jet boat, *Discovery 2* had no back-up propulsion, and the driver had no means to steer the boat without power or thrust. Once control was lost, there was very little opportunity for recovery. Due to the high-risk nature of thrill-type jet boat trips, risk controls mainly focus on prevention because there is very little margin of error and very little opportunity for recovery once control is lost.

3.15. The engine installed in *Discovery 2* was manufactured prior to 2018. Later-model KEM-modified engines supplied after 2018 were installed differently due to a redesign of the engine. KEM informed the Commission that the wiring harness on post-2018 engines was routed differently because the new design included relocation

[15] A stable, low voltage supply from the engine control module that powers various sensors such as the throttle (pedal position sensor), camshaft and crankshaft sensors.

of the engine fuse/relay box. KEM also introduced additional sheathing of the wires to ensure adequate protection of the wiring harness.

Perception of risk

Safety issue 1: Pre-departure safety information did not accurately convey the level of risk involved with canyon jet boating, so the passengers had a false sense of safety. This affected their ability to recognise, and respond to, an emergency situation when the* Discovery 2 *lost propulsion and steering.

3.16. Maritime Rules Part 82 (MR Part 82) required operators to inform passengers of the risks involved with commercial jet boating before they board the jet boat. Operators conducting thrill-type trips[16] had to advise passengers, before a trip commences, that spins, extreme turns and other manoeuvres will be undertaken. A jet boat driver also had to give passengers adequate warning before any such manoeuvre.

3.17. Prior to commencing the accident trip, the driver briefed the passengers (*see* paragraph 2.7) using the safety information card produced by Maritime NZ. The main purpose of the safety card was to supplement an operator's safety briefing and help communicate important safety information to passengers who do not speak English. The driver told the Commission that their safety briefing involved holding up the Maritime NZ safety card and talking through each point as well as what to do during the trip, such as holding on to the handrails during spins. However, the driver did not give the passengers any instructions on what to do if an emergency occurred.

3.18. Some of the passengers were expecting a thrill-type trip whereas others initially expected a more sedate tour of Skippers Canyon. The pre-departure briefing and the first few minutes of the trip made it clear to all passengers that this was intended to be a thrill-type trip. When interviewed, passengers described the thrill components of the ride as the spins and the boat approaching bends and rocky outcrops at high speed then swerving away at the last minute, and this was consistent with how the experience is advertised on the operator's website.

3.19. The passengers were all visitors to New Zealand, but they all spoke English as their first language. Some passengers had participated in adventure tourism activities overseas and were familiar with the use of liability waivers. A liability waiver informs customers of the risks involved in the activity and helps to protect the operator from potential liability related to those risks. Many adventure tourism operators require customers to sign a liability waiver or agree to terms and conditions before participating in the activity. SCJ did not use liability waivers because they considered that they had a responsibility to look after customers affected by an accident while participating in SCJ activities. However, some passengers interpreted the absence of liability waivers as an indication of a lower-risk activity.

3.20. Because the passengers came to expect the high-speed, close-call manoeuvres, it suppressed some of the passengers' instinctive reactions to danger. Therefore, when the potentially dangerous situation arose, their ability to interpret and respond to the danger and take self-preserving safety action was reduced.

3.21. The passengers had not received instructions on what to do in an emergency situation. So, they had no foresight on what actions would be appropriate when the

[16] Commercial jet boat operations in which spins, extreme turns, and similar manoeuvres are undertaken, as defined in Maritime Rules Part 82.

driver lost control of the boat and they were in imminent danger. When the driver shouted for the passengers to "brace" before the boat hit the canyon wall, they did not know what the brace position was nor did the operator inform them at the pre-departure briefing of what "brace" constituted. Therefore, some passengers adopted a brace position similar to what they knew from aeroplane travel and as a result received facial injuries. One passenger noted that they heard the driver shout "brace" but still couldn't process that there really was an accident evolving and thought it was all part of the ride.

3.22. The operator's SOP did not include a process to inform passengers of the risks involved with commercial jet boating prior to boarding the boat and when receiving the pre-departure safety briefing. Coupled with SCJ's decision not to ask passengers to waive the operator's responsibility in the event of an accident, some passengers may not have had an accurate appreciation of the risks involved in participating in jet boating.

3.23. Where it is not reasonably practicable to apply design and construction principles to mitigate risk, it is vital to apply robust measures to increase survivability when deciding appropriate safety controls. As SCJ was operating single-engine jet boats, there was no redundancy to enable the driver to retain control of the boat in the event of an engine failure. This meant that it was especially important that the passengers were made aware of the level of risk and how they could best protect themselves in the event of an accident.

3.24. Since the accident, SCJ has taken safety action to ensure that passengers are informed of the risks and given appropriate instructions on emergency procedures before each jet boat trip (*see* section 5).

Adequacy of protective measures

Safety issue 2: Padding of seats and surrounds on board* Discovery 2 *was inadequate to protect the passengers from injury during a sudden stop. The padding requirements prescribed to commercial jet boat operators by Maritime Rules Part 82, to protect passengers from harm, did not include sufficient detail.

3.25. Physical injuries were sustained by the passengers when their forward momentum forced them into the structure or seating in front of them (*see* Figure 11) when the boat came to a sudden stop.

3.26. MR Part 82 Appendix 2 outlines the commercial jet boat standards (*see* Appendix 1). It requires operators to mitigate the risk of momentum-induced injuries, but the rule does not provide sufficient detail to guide operators in ensuring that padding of seats and surrounds is adequate to protect passengers from injury. A jet boat's construction (2.1.2) and its seating (2.4.2) are addressed separately in the appendix. It states:

> The inside of the passenger compartment must be free from projections and sharp edges with which a passenger's body may come into contact as a result of any motion or sudden stopping of the boat. Where practicable, hard surfaces that might come into body contact, must be padded. (2.1.2)
>
> Seating for commercial jet boats undertaking a thrill-type trip must also— (a) face forward; and (b) be adequately upholstered. (2.4.2)

Figure 11: Deformation of seating and handrail from passenger's impact

3.27. SCJ held a current Commercial Jet Boat Operator Certificate and operated under a Commercial Jet Boat SOP as required by MR Part 82. The operation was subject to annual compliance audits: a Maritime NZ maritime officer conducted each audit, which incorporated an annual boat inspection carried out by a delegated person (DP), authorised by Maritime NZ to carry out boat inspections under MR Part 82. SCJ had undergone its last audit and inspection in October 2024.

3.28. The DP carried out the annual inspection of *Discovery 2* on 14 October 2024. The inspection was aided by a Maritime NZ checklist MSF005,[17] which contained the following prompts about a jet boat's construction:

- Are the design, construction and material adequate for the intended jet operation (including during extreme manoeuvres)? (2.1.1)
- Is the passenger compartment free from projections and sharp edges? (2.1.2)
- Are hard surfaces padded where required? (2.1.2)

3.29. The DP indicated on the checklist that the design, construction and material were adequate for the intended operation. However, they noted a non-conformity for some cracks on the deck coaming[18] and an observation that thigh padding should be considered for passenger comfort.

3.30. The checklist contained the following prompts about a boat's seating:

- Is the seating securely fixed, fitted with back rests and constructed without sharp edges that may come into contact with a passenger when the boat is in motion or makes a sudden stop? (2.4.1)

[17] Commercial jet boat operation vessel inspection checklist for Maritime Rules Part 82 (MSF005).
[18] Vertical edging on a vessel, usually designed to prevent water from entering a hatch. For small craft it refers to vertical surfaces at deck level.

- Is the seating base low enough for the upper thighs of a seated person to sit below the side deck or coaming for an existing commercial jet boat? (2.4.1)
- Are the seats facing forward and adequately upholstered? Applies to jet boats that undertake thrill-type trips. (2.4.2)

3.31. The DP indicated on the checklist that *Discovery 2* met these requirements, and made no further observations about the seating. Comments and observations from the boat inspection checklists were also summarised on the MR Part 82 audit form completed by the maritime officer.

3.32. The Commission asked Maritime NZ what guidance and support they provided to DPs with respect to interpreting MR Part 82 and what the threshold was to determine if seating on a jet boat was adequate or sufficient. The response from Maritime NZ defined "adequate" as "sufficient for a specific need or requirement" and added that Maritime NZ had no specific guidance on the meaning of "adequate" with respect to jet boat seating upholstery. However, Maritime NZ informed the Commission that in relation to seating for commercial jet boating they expected DPs to consider:

- the ability to help absorb impact
- the comfort of passengers
- bolstering for added support without being constricting
- material of sufficient grade to resist water and UV damage
- the ability to resist moisture and mould
- ease of cleaning
- well secured
- the choice of material, including high-density foam and UV-resistant marine-grade vinyl
- the ability to maximise passenger capacity without sacrificing comfort or safety (from a commercial perspective).

3.33. Maritime NZ also referred to the New Zealand Commercial Jet Boating Association and their published guidance for maintenance and critical parts.[19] This guidance recommended that seating was "secure, safe and functional".

3.34. Redundancy of controls through duplication of propulsion and steering systems is not always reasonably practicable to mitigate the risk associated with single points of failure. Therefore, it is important to take effective measures to reduce the consequences of an accident. Commercial jet boat operations are performed in a wide range of vessels in varying environments and conditions, so safety solutions are often unique to each operator and standards cannot be overly prescriptive. The range and number of injuries sustained in this accident indicated the limited protection provided by the safety measures on board *Discovery 2*. Yet annual audits and inspections found that these measures were adequate to meet the requirements of MR Part 82, Appendix 2.

3.35. Internationally, it is difficult to find canyon jet boating experiences comparable with those on offer in New Zealand. In the United Kingdom there is a voluntary code of

[19] Commercial Jet Boat Maintenance Guideline, July 2022.

practice (Mara, 2019) that promotes common safe working practices for commercial high-speed craft and those offering experience rides. This code of practice addresses areas where the United Kingdom's current guidance and legislation do not fully capture the specific features of small passenger craft and high-speed operations. This code of practice states that vessels fitted with bench seats and no lateral support for passengers should be driven in such a manner to mitigate the risk of injury or ejection. Such driving would be characterised by lower speeds and wider, slower turns. However, thrill-type trips, such as New Zealand canyon jet boating experiences, include high speeds, spins and sharp turns as part of their everyday business. Furthermore, these trips are conducted on rivers, in some places narrow or shallow and bound by rocky canyon walls. Although this code of practice may not fully align with New Zealand canyon jet boating, it provides useful considerations such as:

> All seats should have handholds located in front of the passenger allowing them to hold on with both hands. These should be roughly chest height and shoulder width apart. Consideration should be given to the potential loss of firm hand grip during cold conditions. Consideration may need to be given to padding the rear facing back of a seat and associated handholds to avoid risk of facial injury to the passenger behind in the event of rapid deceleration. The boat design should minimise the amount of structure that a passenger could fall into or impact in the event of a slam incident, thus reducing the risk of injury. Consideration should be given to the height of gunwales in relation to the seating to minimise the risk of ejection.

3.36. In July 2025, Maritime NZ announced the introduction of a third-party oversight team (TPOT). The team was set up to ensure that people delivering regulatory functions on behalf of Maritime NZ had clear guidance and instructions to effectively carry out their job, as well as oversight to ensure the quality of their work. Maritime NZ informed the Commission that the commercial jet boat sector is included in the overarching work schedule planned to commence in 2026. Before starting this work, TPOT will conduct an in-depth assessment of the commercial jet boat sector, including how third-party assessors who ensure compliance with MR Part 82 apply the rules and guidance documents in doing so. Along with feedback from DPs and Maritime NZ staff involved in the commercial jet boat sector, the TPOT will identify issues and define areas that need improving. Maritime NZ informed the Commission that they envisage that this assessment will be followed by a process of planning, problem solving and consultation with industry stakeholders to identify what action can be taken to address the issues.

3.37. Maritime NZ is now represented at annual general meetings of the New Zealand Commercial Jet Boating Association. Along with the introduction of the TPOT, the Commission views this as an opportunity for Maritime NZ to collaborate with the commercial jet boating industry to research the risk and identify safety measures that will further protect passengers from the consequences of a high-speed commercial jet boat crash.

4 Findings
Ngā kitenga

4.1. It is **virtually certain** that the engine shut down because part of its wiring harness had chafed against a casting edge of the engine. The chafing exposed a wire and eventually caused a short circuit when it came into contact with part of the engine. This resulted in the loss of the 5-volt reference voltagesignal shared by the critical engine sensors and the engine shut down.

4.2. As Skippers Canyon Jet Limited was operating single-engine jet boats, there was no redundancy to enable the driver to retain control of the boat in the event of an engine failure.

4.3. Contamination of the fuel and lubricating oil was discounted as contributing to the accident because test results showed relevant properties were consistent with their grade specifications.

4.4. The operator's safety briefing did not fully convey the hazardous nature of canyon jet boating. Some passengers perceived that the risk was lower because they were not required to sign a waiver. As a thrill-type ride, the line between normal operation and an emergency was unclear to the passengers.

4.5. Physical injuries sustained by the passengers were consistent with their momentum forcing them into the structure or seating in front of them when the boat came to a sudden stop.

4.6. Padding of seats and surrounds was inadequate to protect the passengers from injury during a sudden stop.

4.7. Passengers were not informed of, and were therefore uncertain about, what was an appropriate brace position for an emergency on board a jet boat. It is **likely** that some passengers suffered worse injuries due to this uncertainty.

5 Safety issues and remedial action
Ngā take haumaru me ngā mahi whakatika

General

5.1. Safety issues are an output from the Commission's analysis. They may not always relate to factors directly contributing to the accident or incident. They typically describe a system problem that could adversely affect future transport safety.

5.2. Safety issues may be addressed by safety actions taken by a participant; otherwise the Commission may issue a recommendation to address the issue.

Perception of risk

Safety issue 1: Pre-departure information did not accurately convey the level of risk involved with canyon jet boating, so the passengers had a false sense of safety. This affected their ability to recognise, and respond to, an emergency situation when the* Discovery 2 *lost propulsion and steering.

5.3. Since the accident, SCJ has taken several safety actions to address this issue. It has:

- introduced a risk disclosure as part of the booking and ticketing process
- posted a risk disclosure sign at the jetty
- introduced new procedures in its SOP to brief passengers on safety equipment and emergency procedures. This includes actions to be taken for a loss of power/sudden impact scenario.

5.4. In the Commission's view, this safety action has addressed the safety issue. Therefore, the Commission has not made a recommendation.

Adequacy of protective measures

Safety issue 2: Padding of seats and surrounds on board* Discovery 2 *was inadequate to protect the passengers from injury during a sudden stop. The padding requirements prescribed to commercial jet boat operators by Maritime Rules Part 82, to protect passengers from harm, did not include sufficient detail.

5.5. Maritime NZ has made changes in the commercial jet boating sector since the introduction of MR Part 82. This has brought about improvements in the quality of jet boats and their operating systems.

5.6. The Commission welcomes the safety actions to date. However, it believes more action needs to be taken to ensure the safety of future operations. Therefore, the Commission has made a recommendation in section 6 to address this issue.

6 Recommendations
Ngā tūtohutanga

General

6.1. The Commission issues recommendations to address safety issues found in its investigations. Recommendations may be addressed to organisations or people, and can relate to safety issues found within an organisation or within the wider transport system that have the potential to contribute to future transport accidents and incidents.

6.2. In the interests of transport safety, it is important that recommendations are implemented without delay to help prevent similar accidents or incidents occurring in the future.

New recommendations

6.3. On 25 March 2026, the Commission recommended that the Director of Maritime New Zealand work with New Zealand commercial jet boating stakeholders to review and improve the requirements prescribed to commercial jet boat operators to ensure that safety measures on board are adequate to protect passengers from injury. **[015/26]**

6.4. On 14 April 2026, Maritime New Zealand replied:

> Maritime NZ will consider this recommendation
>
> Given the recommendation is broad and does not pre-judge what specific response is appropriate, as part of our consideration, Maritime NZ will engage with industry stakeholders through our harm prevention programme of work, to determine the scale and issue around safety measures on commercial jetboats. Based on this engagement, we will consider what type of response (rules changes, practice, guidance etc) would best fit the needs of the recommendation.

7 Other safety lessons
Ngā akoranga matua

7.1. Passengers should be made fully aware of the risks involved with thrill-type rides and be able to identify when things are going wrong and how best to help themselves.

7.2. Single-engine jet boats are vulnerable to loss of control, because once the engine fails, the boat has no steering.

7.3. Safety solutions are unique to each operator. Preventive maintenance and survivability measures are critical when redundancy is not a practicable option.

8 Data summary
Whakarāpopoto raraunga

Vehicle particulars

Name:	*Discovery 2*
Type:	commercial jet boat
Length:	6 metres
Breadth:	3 metres
Built:	circa 2000
Propulsion:	Hamilton HJ212 jet unit
Engine/power:	Kodiak (KEM) Chev L86/420 horsepower
Owner/operator:	Skippers Canyon Jet Limited
Minimum crew:	1 driver

Date and time	25 February 2025, 1700
Location	Skippers Canyon
Persons involved	driver, 11 passengers
Injuries	cuts, bruising, fracture
Damage	minor to moderate buckling and cracking of hull at the bow and windscreen, bent handrails and seating

9 Conduct of the inquiry
Te whakahaere i te pakirehua

9.1. On 26 February 2025, the Commission became aware of the incident via a news report. The Commission subsequently opened an inquiry under section 13(1) of the Transport Accident Investigation Commission Act 1990 and appointed an investigator in charge.

9.2. On 26 February 2025, the chief investigator of accidents issued a protection order to preserve the condition of the jet boat.

9.3. On 27 February 2025, three investigators travelled to Skippers Canyon to collect evidence, inspect the boat and conduct interviews.

9.4. On 6 March 2025, the Commission engaged an auto-electrician as a subject-matter expert.

9.5. On 19 November 2025, the Commission approved a draft report for circulation to four interested parties for their comment and one independent expert to ensure accuracy of the report.

9.6. Two interested parties provided submissions and three interested parties responded with no comment. Any changes as a result of the submissions have been included in the final report.

9.7. On 25 March 2026, the Commission approved the final report for publication.

Abbreviations
Whakapotonga

DP	delegated person
PPS	pedal position sensor
SCJ	Skippers Canyon Jet Limited
SOP	safe operational plan
TPOT	third-party oversight team (Maritime New Zealand)

Glossary
Kuputaka

allision	when a vessel violently strikes a fixed object
bow	the forward part of a vessel
casting edge	finished edge or imperfection of a mould-cast product
coaming	vertical edging on a vessel, usually designed to prevent water from entering a hatch; for small craft, it refers to vertical surfaces at deck level
cumec	cubic metre per second as a measure of the rate at which water is flowing
grade specification	requirements and limits that define the properties and quality of a product, ensuring it performs correctly and meets safety and environmental standards
high-side	where a vessel is swept onto the upstream side of an obstruction in a river. The downstream side of the vessel lifts and causes the upstream side of the vessel to submerge, allowing the ingress of water and potential for the vessel to capsize or become stuck on the obstruction
medevac	the transportation of patients from a site to a medical facility
short circuit	when an unintended path with low resistance is created in an electrical circuit
thrill-type trip	a commercial jet boat operation in which spins, extreme turns, and similar manoeuvres are undertaken
wiring harness	an assembly of electrical cables or wires that transmit signals or electrical power throughout an auto-electrical installation

Citations
Ngā tohutoru

Mara, P. (2019, April). *Passenger Safety On Small Commercial High Speed Craft & Experience Rides*. London: British Marine, Royal Yachting Association and Passenger Boat Association.

Transport Accident Investigation Commission. (2020). *MO-2019-201 Jet boat Discovery 2 contact with Skippers Canyon wall, 23 February 2019*. Wellington: Transport Accident Investigation Commission.

Transport Accident Investigation Commission. (2022). *MO-2021-201 Jet boat KJet 8, loss of control, Shotover River, 21 March 2021*. Wellington: Transport Accident Investigation Commission.

Appendix 1 Commercial Jet Boat Standards

Appendix 2 Commercial jet boat standards

2.1 Commercial jet boat design and construction

2.1.1 A commercial jet boat's design, construction, and materials of construction must be adequate for the nature of the intended commercial jet boat operation, including any extreme manoeuvres undertaken in that operation.

2.1.2 The inside of the passenger compartment must be free from projections and sharp edges with which a passenger's body may come into contact as a result of any motion or sudden stopping of the boat. Where practicable, hard surfaces that might come into body contact, must be padded.

2.2 Provision for emergency exit

2.2.1 A commercial jet boat operating on a braided section of a river must be fitted with an exit structure that—

(a) allows emergency exit for all persons when the boat is inverted on solid level ground; and

(b) is of sufficient strength to support the loads applied from a fully loaded commercial jet boat impacting on the embankment and rolling.

2.2.2 Commercial jet boats with enclosed canopies must be fitted with adequate means of emergency exits that are clearly marked.

2.3 Freeboard

2.3.1 The freeboard load line must be marked on the commercial jet boat transom.

2.3.2 An existing commercial jet boat's freeboard must not be less than 300 millimetres.

2.3.3 A new commercial jet boat's freeboard must not be less than 450 millimetres.

2.3.4 For the purpose of subclause 2.3.3, a full load includes—

(a) full fuel tanks; and

(b) the maximum number of occupants the boat is designed to carry allowing for 75 kilograms for each person; and

(c) all equipment required under this Part.

2.4 Seating

2.4.1 Seating for commercial jet boats must be—

(a) securely fixed; and

(b) fitted with back rests; and

(c) constructed without sharp edges with which a passenger could come into contact as the result of any motion or sudden stopping of the boat; and

(d) for existing commercial jet boats, placed so that the upper thighs of a seated person are below the level of the side deck or coaming of the commercial jet boat; and

(e) for new commercial jet boats, placed so that the base of the seat is 300 millimetres below the level of the side deck or coaming of the commercial jet boat.

2.4.2 Seating for commercial jet boats undertaking a thrill-type trip must also—

(a) face forward; and

(b) be adequately upholstered.

2.5 Handholds and footrests

2.5.1 Commercial jet boats must provide handholds for all passengers on board.

2.5.2 Handholds must be—

(a) adequately strong; and

(b) placed appropriately.

2.5.3 New commercial jet boats that undertake thrill-type trips must provide footrests for all persons on board except the driver.

2.5.4 Footrests must be—

(a) adequately strong; and

(b) placed appropriately; and

(c) fixed inclined.

2.6 Towing eye

2.6.1 A commercial jet boat must have a towing eye fixed.

2.6.2 Towing eyes must be—

(a) adequately strong; and

(b) fixed forward of the commercial jet boat; and

(c) placed so that the commercial jet boat can be towed up river in normal river operating conditions.

2.7 Windscreens

Windscreens, where fitted, must be securely fixed and be made of safety toughened glass, aluminium, or suitable plastic.

2.8 Propulsion unit

2.8.1 The jet unit and drive shaft must be compatible with the engine's torque and revolution limits.

2.8.2 Drive shaft couplings more than 250 millimetres long must be fitted with flail guards.

2.8.3 Flail guards must not prevent visual inspection and maintenance of the coupling.

2.8.4 Engines must—

(a) be adequately secured to the engine beds; and

(b) be provided with collision chocks or other means to prevent the engine moving forward in a sudden stop; and

(c) have adequate natural ventilation; and

(d) if resilient mounts are fitted, be connected to the jet unit through a flexible coupling; and

(e) be fitted with an engine cover that is—

(i) fire retardant; and

(ii) adequately secured.

2.8.5 Any insulation of the engine must be of fire retardant material.

2.8.6 All fuel, water, and exhaust hoses must be flexible.

2.8.7 Batteries must have the minimum capacity determined and recommended by the jet boat manufacturer or the engine manufacturer, and must be placed in a dry and well ventilated position as close to the starter motor as practicable.

2.9 Bilge pumps

2.9.1 A permanent bilge pump of at least 4100 litres capacity per hour must be fitted.

2.9.2 If submerged electric bilge pumps are used, at least two must be fitted.

2.9.3 Each electric bilge pump must—

(a) be independently wired and switched; and

(b) have at least 4100 litres capacity per hour.

2.9.4 Switches and activation lights for bilge pumps must be clearly identified.

2.10 Steering gear

2.10.1 Steering gear must be reliable, effective and robust.

2.10.2 Where the actuating mechanism is of a wire and pulley type—

(a) all wires, terminal connections, and adjustment devices must be of adequate strength and securely locked where appropriate; and

(b) threaded fittings in particular must have effective locking devices; and

(c) all pulleys must be of adequate diameter with ample depth of groove; and

(d) all pulley assemblies must be securely attached to the commercial jet boat.

2.10.3 Wood or non-reinforced plastic steering wheels must not be used.

2.10.4 Commercial jet boats fitted with Hamilton HJ212 water jets must have tiller stops fitted.

2.11 Petrol installation

2.11.1 Petrol tanks must—

(a) be vented overboard; and

(b) be adequately secured; and

(c) be constructed of mild steel, stainless steel, aluminium alloy, or other materials acceptable to the Director; and

(d) be tested to a pressure equivalent of at least 2.4 metre head of water and evidence of the test must be made available to the Director; and

(e) have a valve located in an accessible position that is capable of stopping the flow of fuel from the tank.

2.11.2 Petrol tanks and pipe connections must be drip proof and covered or otherwise protected where any fire hazard is likely to exist.

2.11.3 The engine induction must be fitted with an air filter or a flame arrester.

2.11.4 The petrol tank filling connection must be located so that when it is in use any spillage will not enter the boat.

2.11.5 Petrol lines must be—

(a) taken from the top of the petrol tank; and

(b) made of acceptable material; and

(c) resistant to petrol.

2.11.6 A petrol filter must be fitted.

2.11.7 Petrol lines and filters must not be fixed directly above exhaust systems.

2.12 Diesel installation

Diesel tanks must be—

(a) adequately secured; and

(b) constructed of mild steel, stainless steel, aluminium alloy, or fibre reinforced plastic; and

(c) tested to a pressure equivalent of at least 2.4 metre head of water and evidence of the test must be made available to the Director.

2.13 LPG installation

If LPG is used either wholly or in part as a fuel, the installation, operation, maintenance, and fuelling of LPG systems must be acceptable to the Director.

2.14 Fixed fire extinguishing systems

2.14.1 A commercial jet boat with petrol and LPG installations must be fitted with a fixed fire extinguishing system.

2.14.2 The fixed fire extinguishing system must be—

(a) capable of extinguishing fires in the engine space without moving the engine cover; and
(b) readily accessible to the driver.

2.14.3 CO_2 fire extinguishing systems must be—
(a) capable of discharging into the engine space 1 kilogram of CO_2 per 0.8 cubic metres of net engine space; and
(b) provided with a minimum of 2 kilograms of CO_2.

2.14.4 AFFF fire extinguishing systems must be—
(a) capable of discharging into the engine space 1.5 litres, per nozzle, per 1.5 cubic metres of net engine space; and
(b) provided with a minimum of 4 litres of AFFF and a minimum of 2 nozzles.

2.14.5 If an alternative type of fixed extinguishing system is used, the system must—
(a) not be halon based; and
(b) be acceptable to the Director.

2.15 Portable fire extinguishers

2.15.1 Commercial jet boats must carry at least 1 CO_2 fire extinguisher of 2 kilogram minimum capacity or at least 1 AFFF fire extinguisher of 2 litres minimum capacity.

2.15.2 All portable fire extinguishers must be—
(a) suitable for extinguishing oil fires; and
(b) safely stowed away from engine and fuel tanks; and
(c) readily available to the driver; and
(d) manufactured and maintained in accordance with maritime rule 42B.57.

2.16 Communications equipment

Each commercial jet boat must have a transceiver radio or other means of communication acceptable to the Director.

2.17 Personal flotation devices

2.17.1 Each person on board a commercial jet boat must be provided with a personal flotation device that complies with subclause 2.17.2 or 2.17.3.

2.17.2 Except as provided in subclause 2.17.3, the personal flotation device must be of a type 401, type 402, or type 406 specialist personal flotation device except that the device does not need to—
(a) be fitted with light retro-reflective tape; or
(b) meet the colour requirements of the New Zealand standard that would otherwise apply to the device.

2.17.3 The Director may, in any particular case, accept the use of another type of personal flotation device if satisfied that the device complies with a national standard certified by a recognised authority and substantially complies with type 401, type 402, or type 406.

2.18 Other equipment to be carried on commercial jet boats

2.18.1 The following equipment must be carried whenever a commercial jet boat is on the water:
(a) a rope, which can be used to pull and secure the boat safely to the embankment if its engine fails, that is:
(i) no less than 12 millimetres in diameter; and
(ii) no less than four metres in length; and
(iii) permanently attached to a bow eye; and
(iv) stowed so that it cannot enter the water and foul the jet unit; and
(b) a spare plug for any drain hole; and

(c) an order of St John first aid kit or a Red Cross first aid kit in a waterproof container, or an equivalent acceptable to the Director, in sufficient quantities for the number of passengers carried; and

(d) at least three hand-held flares complying with maritime rule 42A.23, or an alternative acceptable to the Director.

2.18.2 Commercial jet boats undertaking thrill-type trips must carry a throw bag with a minimum of 10 metres of buoyant line.

2.19 General equipment and clothing

All equipment and clothing used for the commercial jet boating operation must be—

(a) kept in good condition; and

(b) supplied in sufficient quantity; and

(c) available in an adequate range of sizes.

Kōwhaiwhai - Māori scroll designs

TAIC commissioned its four kōwhaiwhai, Māori scroll designs, from artist Sandy Rodgers (Ngāti Raukawa, Tūwharetoa, MacDougal). Sandy began from thinking of the Commission as a vehicle or vessel for seeking knowledge to understand transport accident tragedies and how to avoid them. A 'waka whai mārama' (i te ara haumaru) is 'a vessel/vehicle in pursuit of understanding'. Waka is a metaphor for the Commission. Mārama (from 'te ao mārama' – the world of light) is for the separation of Rangitāne (Sky Father) and Papatūānuku (Earth Mother) by their son Tāne Māhuta (god of man, forests and everything dwelling within), which brought light and thus awareness to the world. 'Te ara' is 'the path' and 'haumaru' is 'safe' or 'risk free'.

Corporate: Te Ara Haumaru - the safe and risk free path

The eye motif looks to the future, watching the path for obstructions. The encased double koru is the mother and child, symbolising protection, safety and guidance. The triple koru represents the three kete of knowledge that Tāne Māhuta collected from the highest of the heavens to pass their wisdom to humanity. The continual wave is the perpetual line of influence. The succession of humps represents the individual inquiries.

Sandy acknowledges Tāne Māhuta in the creation of this Kōwhaiwhai.

Aviation: Ngā hau e whā - the four winds

To Sandy, 'Ngā hau e whā' (the four winds), commonly used in Te Reo Māori to refer to people coming together from across Aotearoa, was also redolent of the aviation environment. The design represents the sky, cloud, and wind. There is a manu (bird) form representing the aircraft that move through Aotearoa's 'long white cloud'. The letter 'A' is present, standing for a 'Aviation'.

Sandy acknowledges Ranginui (Sky father) and Tāwhirimātea (God of wind) in the creation of this Kōwhaiwhai.

Maritime: Ara wai - waterways

The sections of waves flowing across the design represent the many different 'ara wai' (waterways) that ships sail across. The 'V' shape is a ship's prow and its wake. The letter 'M' is present, standing for 'Maritime.

Sandy acknowledges Tangaroa (God of the sea) in the creation of this Kōwhaiwhai.

Rail: rerewhenua - flowing across the land

The design represents the fluid movement of trains across Aotearoa. 'Rere' is to flow or fly. 'Whenua' is the land. The koru forms represent the earth, land and flora that trains pass over and through. The letter 'R' is present, standing for 'Rail'.

Sandy acknowledges Papatūānuku (Earth Mother) and Tāne Mahuta (God of man and forests and everything that dwells within) in the creation of this Kōwhaiwhai.

Transport Accident Investigation Commission

Recent Maritime Occurrence reports published by the Transport Accident Investigation Commission (most recent at top of list)

MO-2024-207	Pilot vessel, Takitimu II, grounding, Stirling Point, Bluff, New Zealand, 26 December 2024
MO-2023-205	Bulker carrier, Achilles Bulker, loss of rudder, off the Port of Tauranga, 24 July 2023
MO-2024-203	Fishing vessel, Chokyu Maru No.68, grounding, The Noises, Hauraki Gulf, 16 April 2024
MO-2023-203	Container vessel, Shiling, loss of control, Wellington harbour, 15 April 2023
MO-2024-201	Passenger vessel Fiordland Navigator, grounding, Doubtful Sound, 24 January 2024
MO-2022-206	Charter fishing vessel, i-Catcher, capsize, Goose Bay, New Zealand, 10 September 2022
MO-2023-206	Fishing vessel, Austro Carina, Stranding at Red Bay, Banks Peninsula, 24 September 2023
MO-2023-202	Collision between Passenger Ferry, Waitere and recreational vessel, Onepoto, Paihia, Bay of Islands, 13 April 2023
MO-2023-204	Bulk carrier, Poavosa brave, serious injury, off Tauranga, 23 June 2023
MO-2022-203	Container vessel, Capitaine Tasman, stevedore fatality during container loading operations, Port of Auckland, 19 April 2022
MO-2022-202	Bulk carrier, ETG Aquarius, stevedore fatality during coal loading operations, Lyttelton port, 25 April 2022
MO-2022-207	Fishing vessel Boy Roel, serious workplace injury, Off Tauranga, Bay of Plenty, New Zealand, 12 December 2022
MO-2022-206	Charter fishing vessel i-Catcher, Capsize, Goose Bay, Kaikōura, New Zealand, 10 September 2022

Price $17.00

ISSN 3021-4130 (Print)
ISSN 3021-4149 (Online)