

The principal purpose of the Transport Accident Investigation 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.



## KOTUKU TRAGEDY HIGHLIGHTS DECAYING FLEET

The fishing vessel *Kotuku* was subject to safety inspections for all but the first three years of her 43-year life, but problems were not picked up, the Transport Accident Investigation Commission said in its report following her total loss on May 13, 2006.

"None of the statutory surveys or inspections had

- identified the deterioration of the hull fastenings
- identified or noted the saturation of the hull
- identified that the freeing ports and bulwarks did not comply with the maritime rules
- required that the stability test be completed
- noted that a freeboard (minimum height of the deck above sea) had not been assigned, or
- identified the improper installation of the liferaft," the report said.

It noted that these problems "increased the risk of the *Kotuku* operating near or over her margin of safety".

The most likely cause of the loss of the *Kotuku* off Stewart Island was having entrapped water on deck at the same time as she was rolled by an unexpectedly steep and high wave, the Commission said.

Six of the nine people on board perished after she capsized and sank while travelling from Kaihuka Island in the Breaksea Island Group to Bluff. The vessel was recovered so that TAIC and Maritime New Zealand investigators could fully investigate the tragedy, but she was a total constructive loss.

Factors that could have contributed to the destabilisation included heel due to helm, water in the hull and shifting cargo during the unexpected roll. The freeboard at the transom was estimated to be less than 500mm, and consequently the heel necessary for the deck edge near the stern to become immersed was small.

"Once the deck edge had become submerged, the residual stability of the vessel would have continued to diminish and the chance of (recovery) would have been small."

The TAIC identified four safety issues in its report on the capsizing:

- the effectiveness of the safe ship management system to maintain vessel compliance
- the operation of a commercial fishing vessel to transport passengers
- the *Kotuku's* general condition and fitness for purpose, and
- the risk to maritime operations posed by performance-improving substances such as alcohol and drugs.

At about noon on May 12 the 14.2m *Kotuku* departed Bluff for Half Moon Bay on Stewart Island.

On board were the owner, a friend of the owner and a deckhand. The trip was uneventful except that the throttle control lever had to be wedged for it to remain in the required position. Once at Half Moon Bay the owner said he repaired and adjusted the throttle.

The following morning the *Kotuku* departed for Kaihuka Island in the Breaksea Group, where the owner was picking up the boat's previous skipper, his extended family who had been harvesting muttonbirds, and their cargo.



The salvaged *Kotuku*

It was reported that the only lifesaving capability on board were five lifejackets, two lifebuoys and a small, four-man liferaft.

The *Kotuku* arrived at the island at around 1000 and about 30 minutes later a helicopter arrived to transfer four fadges (canvas sacks similar to the one tonne bulk mussel harvest bags a bit over a cubic metre in size with four handles) and a large gas bottle, in three lifts. The total weight of cargo was later estimated to be about one tonne, of which the two fadges containing plastic drums of muttonbirds were estimated to be 737kg.

Once the *Kotuku* was loaded, the helicopter flew the six family members, comprising the previous skipper, his father, his sister, her two sons aged nine and 16, and his own son, aged nine, to Tia Island, where it would be easier for them to board the *Kotuku*. She arrived at the island at about 1115 and the family members embarked. There were now nine people on board. The father, who was an experienced retired seafarer, then took the helm and steered the vessel towards Bluff. The three younger people rested or slept in the fore'ard cabin.

With the wind from the nor'west at between 15 and 20 knots and a slight to moderate sea, the family decided that conditions were satisfactory for them all to travel to Bluff.

The father, who was very familiar with the Stewart Island coast, steered up the eastern side of the island. The owner said he noticed from the GPS that they were making about six knots. A crewmember said later that the throttle lever would not remain at the set ahead position, even when a knife was used to try and wedge it in place, and the lever was left in the half-ahead position.

Both the Bluff and Stewart Island Fisherman's Radio station operators were aware that the *Kotuku* was in the area, but a specific trip report had not been issued.

Between 1415 and 1430 when they were off the northwestern corner of North Island, two larger than average waves reportedly struck the *Kotuku's* port side. The first caused her to roll heavily to starboard with sufficient momentum to shift unsecured items in the cabin. She recovered, righted herself and rolled heavily to port.

The second wave rolled her again to starboard, but this time she rolled smoothly and continuously until she capsized, coming to rest fully inverted. During the last roll to starboard, the deckhand,



who was on deck, said that something was wrong and that fish cases were floating off the deck.

The father fell or was thrown from the helm across the wheelhouse. The others maintained their position until the capsizing, when water flooded the inverted wheelhouse. Five of the occupants escaped and reached the surface, but the father, the sister and the two younger boys remained trapped and perished in the upturned hull.

The owner and his friend used a floating fadge to support them. The other survivors climbed onto the upturned hull. The bulwarks and pond boards appeared to have prevented other buoyant debris from floating clear until she eventually sank.

The two men holding the fadge propelled themselves towards the shore, but the friend became exhausted and succumbed. The owner decided to leave the fadge and swam to the shore, landing on the western side of Womens Island.

Meanwhile, the upturned hull began to drift away from North Island, so the three survivors clinging to the hull decided to swim for the shore, and all eventually made it to Womens Island. The previous skipper and his nephew climbed a track and reached a muttonbird's hut, where they found dry clothing and supplies. They also found torches, which they later used to attract attention. The deckhand, who had become separated, was not able to reach shelter and his body was found, the following day, high on the foreshore.

At about 1730 a ferry travelling between Bluff and Stewart Island came across a trail of 10-litre plastic buckets about two miles nor'west of North Island; the master alerted Stewart Island radio. Soon after, lights were seen on Womens Island but the ferry was

unable to approach close enough to pick up the survivors or hear details of the accident. Another vessel, the *Wildfire*, was able to talk with the survivors and relayed information by radio and the local Police officer.

A large number of local vessels began a search and rescue operation, along with two helicopters and aircraft. Three survivors and a body were found that night. Five further bodies were recovered over the next two days, May 14 and 15, and the hull was also located. The wreck was recovered the following week and taken to Invercargill for inspection.

Post mortems of the deceased showed that the deckhand, who was aged 34, died of hypothermia. His blood alcohol level was 39 milligrams per 100 millilitres, and he had a THC level (the active ingredient of cannabis) of two micrograms per litre. The commission could not establish if the deckhand's ingestion of THC contributed to his death. "It is of concern that a crew member ingested a performance-improving substance while in the course of his duties, regardless of whether the *Kotuku* was operating as a commercial or pleasure vessel."

The sister, aged 41, died of drowning. She had a blood alcohol level of 125 milligrams per 100 millilitres. The 78-year-old father and the two nine-year-old boys all drowned. The father showed no evidence of drugs or alcohol. The bodies of the children were not tested.

The Commission also found that consumption of alcohol could have contributed to two of the six deaths through the accelerated onset of hypothermia, but the survivors could not be tested, so the level of risk could not be determined, due to the absence of legislation allowing post-accident and incident testing for performance-improving substances.

The failure of the liferaft to deploy was a ▶

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