No. 95-205

FV *Awanui* 6129

Westport

16 July 1995

Abstract

On Sunday, 16 July 1995 at about 2125 hours the fishing trawler *Awanui* capsized while its crew were attempting to manoeuvre it across the Westport Bar, inbound. The two crew members lost their lives and the boat was declared a total constructive loss. Safety issues identified included measures necessary to avoid succumbing to the dangers involved in crossing bar harbours in adverse conditions.

Transport Accident Investigation Commission

Marine Accident Report No. 95-205

Vessel Particulars:

Name:	*Awanui*
Registered:	Westport
Official number:	6129
Type:	Trawler
Construction:	Wooden hull, aluminium superstructure
Built:	1945
Main propulsion:	One 63 kW direct reversing Gardner 6LW diesel engine driving a single fixed pitch propeller
Service speed:	8.5 knots
Length over all:	11.28 m
Length registered:	9.8 m
Breadth:	3.0 m
Gross tonnage:	11.0 tonnes
Normal operating crew:	2
Location:	Westport
Date and time:	16 July 1995 at 2125 hours *
Persons on board:	Crew 2 Passengers nil Others nil
Injuries:	Crew 2 fatal
Nature of damage:	Total constructive loss
Information Sources:	Transport Accident Investigation Commission field investigation
Inspector in Charge:	T M Burfoot

* All times in NZST (UTC + 12 hours)

1. Factual Information

1.1 History of the voyage

1.1.1 The *Awanui* departed Westport at about 1200 hours on Saturday, 15 July 1995 bound for fishing grounds off Punakaiki. On board was the Master and one deck hand. Punakaiki is a settlement on the west coast of South Island approximately 30 nautical miles south of Westport where the Pororari River meets the sea.

1.1.2 The trip to the fishing grounds was expected to take about three and a half hours. Little is known about *Awanui*'s movements during the time she was engaged in fishing off Punakaiki. The *Awanui*'s owner, who was the Master's father, had been in contact with her Master by VHF during the morning of Sunday, 16 July at which time the Master indicated that the fishing was going well and they expected to return to Westport that night.

1.1.3 It is estimated that the *Awanui* left the fishing grounds off Punakaiki at about 1730 hours on 16 July. Conversation between the owner and the Master by VHF indicated that the *Awanui* was expected to arrive off the Westport Bar at approximately 2130 hours.

1.1.4 Low water for the Westport Bar was predicted for 1939 hours on 16 July. A local fisherman who had crossed the bar near the time of high tide that day (1330 hours) had noticed the swell was "standing up" on the bar. He became concerned when he heard that the *Awanui* was due off the bar at approximately 2130 hours as he knew the tide would be relatively low at that time. He drove out to the end of the eastern breakwater (Tip Head) to assess the conditions. Noticing that there were about four lines of swell breaking continuously (dumping) on the bar he went back and called the *Awanui* on VHF channel 62. This was at about 2015 hours.

1.1.5 The local fisherman told the Master of *Awanui* that the bar was breaking and suggested that he wait until high tide before attempting to cross the bar. At the time of the call the *Awanui* was in a position off Tauranga Bay where it was sheltered from the north-north-west swell and the Master indicated surprise that the swell was dumping on the bar. He acknowledged the warning and stated that he was not in any hurry to berth as the cargo of fish was not due to be unloaded until the following morning. He indicated that he would approach the bar to assess the situation but would probably stay out.

1.1.6 At 2115 hours the owner made contact with *Awanui* again and discussed the performance of the vessel during the voyage. The only problem that was noted was the alternator that charged the 24 V batteries was not charging very well. The Master told his father that he was going to "sneak" in and have a look at the bar. From this point on no further contact was made with the *Awanui*.

1.1.7 The *Awanui's* fish hold was full and she had ample fuel on board having been out fishing for only one and a half days.

1.1.8 At 2125 hours an eyewitness who was driving out to the Eastern Tip Head with the lights of his car on full beam noticed the three forward navigation lights of the *Awanui* as she crossed the bar. He stopped his car at the Tip Head and as he was getting out he estimated the *Awanui* was about five metres away from the rocks and heading into the mouth of the Buller River between the two Tip Heads.

1.1.9 According to the witness, the *Awanui* seemed to rise up and roll on its side in towards the rocks. Immediately afterwards he recalled seeing the upturned hull clearly. After some hesitation he drove into town and alerted a patrolling Police officer to what he had seen.

1.1.10 The Police officer raised the alarm and initiated a search and rescue operation. Using a spot light from the Eastern Tip Head the witness showed searchers where he saw the *Awanui* capsize. Using this information, and their local knowledge of current and tide on the bar, searchers were able to locate the *Awanui's* upturned hull at about 2215 hours. She was wallowing in the surf about 200 metres east of their position on the Tip Head.

1.1.11 Two Zodiacs, from the local surf rescue club, and a helicopter were used to search the sea area for survivors while a beach search was carried out by a group of local fishermen. At the time the *Awanui* was sitting on the sandy bottom and being carried closer inshore by the surf and the incoming tide. It was not practicable to board the *Awanui* safely at that time due to the heavy surf that was rolling over the hull. At about 0200 hours on Monday, 17 July crew from one of the Zodiacs managed to board *Awanui* and found the body of the Master inside the wheelhouse.

1.1.12 A rope attached from the *Awanui* to a heavy earth-mover held *Awanui* in place as the tide receded. The receding water allowed the rescuers to recover the body from the vessel.

1.1.13 An aeroplane joined the search for the deck hand at first light and the pilot spotted his body washed up on the shoreline near the mouth of the Orowaiti River, three nautical miles east of where the *Awanui* had capsized.

1.1.14 The liferaft, which had been activated, and other wreckage from *Awanui* were found further along the coast from where the deck hand was found. Neither the Master nor the deck hand was wearing a lifejacket.

1.1.15 Post mortem examinations confirmed drowning as the cause of death for each crew member. The Master's injuries were consistent with having been knocked unconscious first. Cordage from a locker inside the wheelhouse had become entangled around the Master's feet.

1.1.16 Weather conditions at the time of the accident were described by local fishermen as being "good" with variable 10 knot winds. The sky was clear and visibility "good". A small low pressure system passing over the Cook Strait region early on 16 July caused a north-north-west swell to build up on the Westport Bar. A slight freshet (increased river flow due to rain) was running in the river and a strong easterly set was running across the entrance to the river (estimated by search and rescue personnel to be four to five knots). The forecast was for 25 knot southerly winds and a one metre westerly swell.

1.2 Vessel and crew information

1.2.1 The *Awanui* was of wooden hull construction and had recently been fitted with a new aluminium superstructure. She was powered by a 63 kW diesel engine driving a single fixed pitch propelier giving her a normal service speed of 8.5 knots.

1.2.2 Aids to navigation fitted on board *Awanui* included, radar, echosounder, VHF radio and SSB/HF radio. A cell phone was also carried. Safety equipment included one emergency position indicating radio beacon (EPIRB), lifebuoys, lifejackets, flares and a four-man liferaft. In addition to the normal running and working lights was a spot light mounted high up on the gantry, angled down, to give the helmsman a view of the water ahead. Normally this was used when crossing the bar to scan the wave pattern ahead, and when transitting the river to detect debris in the water.

1.2.3 The liferaft was located on top of the wheelhouse tightly housed, flush in an aluminium box. It was not fitted with a hydrostatic release, but instead was secured with a web strap fitted with a diver's type cam buckle to guard against accidental release. A second web strap was fitted that led under the liferaft and was free at one end enabling the raft to be popped out of its housing when required (see figure 1). The liferaft release line was attached to the vessel.

Diagram showing the stowage arrangement of *Awanui*'s liferaft

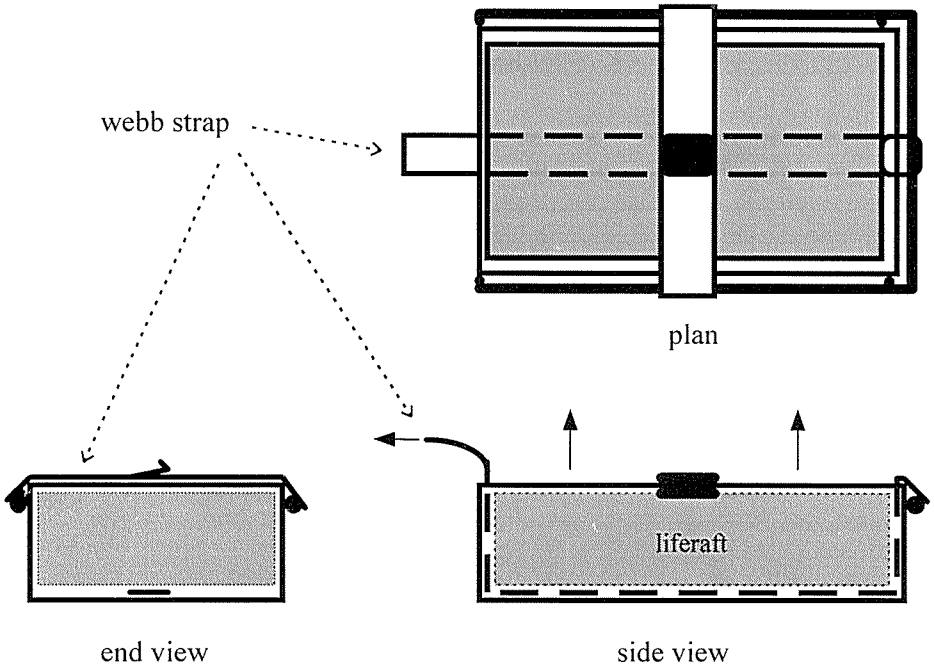


Figure 1

1.2.4 The wheel house and engine room were located amidships with the accommodation forward and the fish hold aft. Access to the fish hold was through a hatch on the aft working deck. Access to the wheelhouse and accommodation was through a door at the rear of the superstructure. A gantry, located over the accommodation and the aft working area, was used to handle the various types of fishing gear which could be used on the *Awanui*. These included, trawling, dredging, trolling, long-line and hand-line equipment.

1.2.5 The fuel tanks were located low down on either side of the fish hold. The main engine was a large, slow speed engine weighing approximately 1.5 tonnes. With the heavy engine, fish hold and fuel tanks located low in the vessel and the superstructure and deck equipment being constructed in light weight aluminium, *Awanui* was considered by her owner to be a well founded and stable vessel.

1.2.6 The working deck at the rear of the vessel had a low freeboard. The combination of a full fish hold and relatively full fuel tanks would have considerably reduced her freeboard aft thus reducing the amount of reserve buoyancy in the aft part of the vessel. *Awanui* had a raised foredeck which provided a high freeboard and ample reserve buoyancy forward. Open hand rails were fitted around the entire vessel which allowed any water taken on deck to escape easily, thus reducing any free surface effect.

1.2.7 The Master of *Awanui* held a Commercial Launch Master Certificate. He had approximately 20 years of fishing experience, the last five years of which had been operating the *Awanui* out of Westport. He was considered by the local Westport fishermen to be "very conservative" when it came to crossing the bar. He had been known to hold *Awanui* outside the bar and wait for conditions to improve, even when other boats were running the bar.

Figure 2
***Awanui* after capsize**

1.2.8 The deck hand did not have any formal fishing qualification but he had approximately 20 years boat handling experience most of which involved fishing. He had been working as deck hand on the *Awanui* for about 6 years prior to the accident.

1.3 Damage to the vessel

1.3.1 *Awanui* capsized at the entrance to the Buller River. She then spent approximately six hours semi-submerged in shallow water being pounded on to the sea bed by heavy surf.

1.3.2 The gantry and all hand rails were broken off at deck level. The top of the aluminium wheel house was set down by approximately six centimetres and scoured, with some deep scrape marks, consistent with having been inverted and pounded on to a sandy bottom pitted with occasional rocks. All of the wheelhouse windows were missing. (See figure 2)

1.3.3 Most of the hull planking had been disturbed or sprung and the hull showed evidence of extensive wracking. The deck planking on the aft working platform was disturbed indicating extensive breaking out of the deck beams beneath.

1.3.4 The fish hold hatch cover was missing and the fish hold, accommodation and wheel house were partially filled with sand.

1.3.5 There were deep gouge marks in the wooden planking along the port side of the hull consistent with the boat having been dragged over or past rocks. A three metre section of planking was missing from the hull on the starboard underside. There were two holes in the port side hull each approximately 300 mm square.

1.3.6 The wheelhouse was in disarray with some items of navigation equipment broken loose from their mountings. Several items of equipment and cordage had come back through the broken wheel house windows from a locker located on the foredeck. The Morse engine control lever was found in the full astern (reverse) position.

1.4 Port Information

1.4.1 Westport is a bar harbour situated about 1.5 nautical miles from the mouth of the Buller River. The river is entered from the north, between two man-made breakwaters, over a frequently changing bar near the mouth. (See figure 3)

1.4.2 The sand and shingle bar extends out to four cables from the river mouth and is constantly changing due to silt that is carried down by the Buller River, and strong westerly winds that push sand and silt across the entrance.

1.4.3 There is a constant outflow from the river of 0.5 to 1.0 knot. During freshets, which may occur at any time of the year, the river can reach rates of up to 10 knots.

1.4.4 Tidal streams outside the bar set west with a rising tide, and east with a falling tide. Flow over the bar depends on the wind. Strong west and south-west winds cause an easterly set across the entrance at rates of up to 6 knots. Strong east and north-east winds cause a westerly set at lesser rates. The prevailing winds for Westport are from the south-west.

1.4.5 In bad weather the sea breaks heavily over the outer part of the bar. If there is a large swell the bar becomes dangerous and during west and north-west gales the bar becomes unworkable. Minimum depth of water over the bar at low water ranges from 4 m, after heavy freshets, to 1.3 m during long spells of dry weather. The depth of water over the bar is further affected by the height of the tide which can range up to four metres between high and low water.

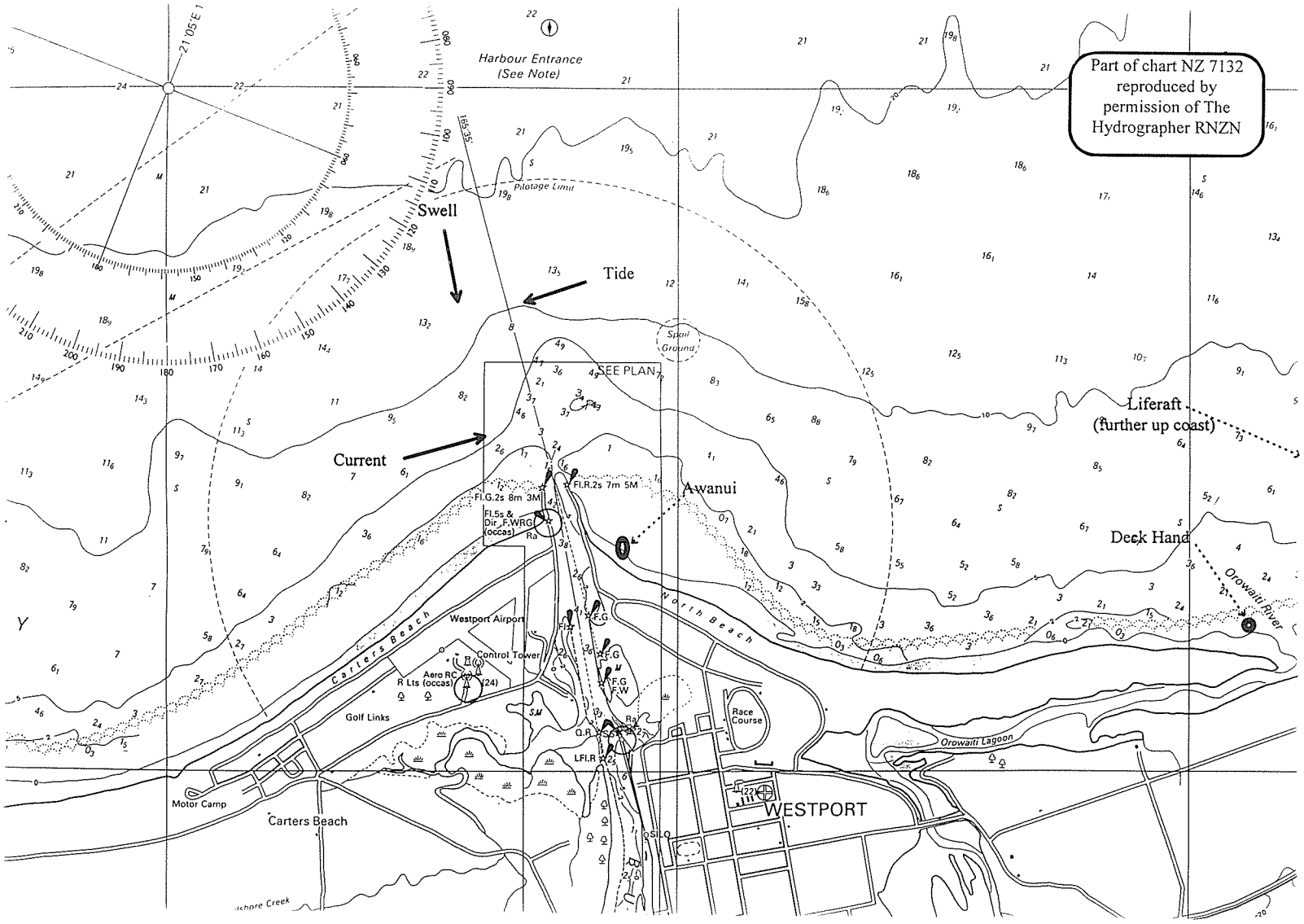

Part of chart NZ 7132 reproduced by permission of The Hydrographer RNZN
Harbour Entrance (See Note)
Pilotage Limit
Swell
Tide
Current
Spoil Ground
SEE PLAN
Liferaft (further up coast)
Deck Hand
Awanui
Fl.R.2s 7m 5M
Fl.G.2s 8m 3M
Fl.5s & Dir. F.WRG (occas)
Ra
F.G
F.G
F.G
F.W
Q.R
LFl.R
Westport Airport
Control Tower
Aero RC
R Lts (occas)
(24)
Golf Links
Carters Beach
North Beach
Race Course
Orowaiti Lagoon
Orowaiti River
Motor Camp
Carters Beach
WESTPORT
SILO

Figure 3

1.4.6 Heavy freshets can make the bar unworkable due to large volumes of fresh water flowing out of the river mouth meeting the incoming swell causing it to stand up and break. Even if a vessel successfully crossed the bar it would then have to stem a strong current (up to 10 knots) to reach the harbour. For many fishing vessels this would exceed their maximum speed and the vessel would be in danger of being caught in an area of turbulence at the river mouth.

1.4.7 Vessels entering the river use the two outer leading lights, keeping them in line to maintain the desired track across the bar. The leading lights are essential for keeping a vessel in the deepest water, which is the area of least turbulence, when crossing the bar. They also provide a means for detecting, almost immediately, any sideways drift the vessel may experience as it passes through several areas of opposing tidal and weather driven currents.

1.4.8 The Westport railway shunting yards are located in the upper reaches of the harbour bordering on to the wharves. Lighting towers provide illumination over the shunting yards during night operations. These lighting towers are located behind and almost in line with the harbour's outer leading lights and glare from the lights on these towers make it difficult for the Master of an approaching vessel to determine the aspect of the leading lights. The effect is worse in mist or rain due to the light refracting through the precipitation. Shunting operations were in progress and the lights were turned on at the time *Awanui* was attempting to cross the bar.

1.4.9 When a large commercial vessel is approaching the harbour, or on request from any other vessel, the Port Manager arranges for the lights to be turned off while the vessel makes its approach. A number of local fishermen say that most requests to have the lights turned off are not actioned in time to assist them so most do not bother.

1.4.10 Access to the Eastern Tip Head is by public road. Members of the public often drive out to the Tip Head at night to observe fishing vessels entering the harbour. When the car headlights are left on full beam they can cause the helmsman on an approaching vessel to lose his night vision. A sign had been placed on the road out to the Tip Head requesting drivers to dip their headlights before proceeding. The sign had been removed by vandals some months prior to the accident.

1.4.11 The Westport signal station is located near the end of Crane Wharf at the entrance to the fishing boat harbour. Up to approximately five years ago the station was manned 24 hours per day and provided, on request, information on the bar conditions and advice to vessels entering the harbour. In addition the local fishermen, in conjunction with the two main fishing companies in Westport, have their own communication network to provide each other with information on the bar conditions. This local service operates using a combination of VHF radio and cellphones.

1.4.12 Changes made under local government commission pursuant to the Harbours Act 1950 transferred the powers and responsibility for regulating and operating ports throughout New Zealand to the Regional Councils. The West Coast Regional Council delegated its powers under the Harbours Act 1950 to the Buller District Council, which in turn contracted the port operations out to Milburn New Zealand Ltd under the title Buller Port Services. Milburn New Zealand Ltd is the main user of the port.

1.4.13 In 1991 a Port Manager was appointed who, in addition to his managerial duties, assumed the traditional role of Harbourmaster. Due to staff restructuring at this time the port signal station was reduced to an eight hour day operation.

1.4.14 Vessels wishing to enter after normal working hours can call the Port Manager on an after hours' number or by VHF which is monitored for most of the after hours' period. If requested the Port Manager will go down to the Tip Head and assess the conditions and give advice on crossing the bar. This procedure is promulgated in the New Zealand Nautical Almanac.

1.4.15 The local fishermen continue to use their own communication network that operated prior to reduction in signal station hours.

1.5 Other information

1.5.1 Published in the New Zealand Marine Notices M.D. Notices Series B (B Notices revised in April 1991) is notice No. 191 which reads as follows:

> **Caution When Approaching Bar Harbours and River Entrances**
>
> Sea and swell conditions on bars can be deceptive and sand banks may shift or form very quickly in certain conditions. Great caution must therefore be exercised when approaching and crossing bars.
>
> The following precautions should be strictly observed;
>
> 1 Obtain a report on the bar conditions from the harbourmaster or other reliable person inside the harbour.
> 2 Approach at a moderate speed
> 3 Use the echosounder or other sounding device to detect newly formed or shifting sand banks
> 4 Ensure that all lifesaving equipment is in good order, that lifebuoys are free in their racks and that each person on board is wearing a lifejacket. Children must be fitted with a lifejacket of appropriate size.
> 5 All deck openings should be secured, hatches battened and vent pipes covered with canvas covers

The above notice is promulgated for owners and Masters of fishing boats and small craft.

1.5.2 The following notice was written by the current Port Manager, at the request of some local Westport fishermen and was published in the November 1994 edition of the "Seafood New Zealand" magazine . The notice was intended to give advice to Masters not familiar with the bar and to act as a reminder to those who were.

> **Crossing the Westport Bar**
>
> The most important guideline for crossing the bar and entering Westport is to obtain **Local Advice** first. Conditions can change by the hour. bar conditions are a function of;
>
> - The run in the river
> - The set (cross current) at the entrance
> - Swell size and direction
> - Available depth of water (determined by tidal height and position of sand banks)
> - Wind and sea conditions
>
> Any one, or a combination of the above, could make crossing the bar dangerous.
>
> The run in the river peaks 12-18 hours after heavy rain in the mountains and can reach 8 - 10 knots even though the river may not appear to be in flood. The danger is not being able to make headway against the run, especially at the entrance. Very steep and short (close together) breaking waves can develop as the run holds up the incoming swells.
>
> After heavy south-west swells or strong south-west to west winds the current (called set) across the bar entrance can reach five knots, with danger of being pushed into breaking shallows very quickly. Also, to counteract strong set may mean presenting your beam or quarter to the swell with subsequent danger of broaching.

> Generally we describe the set as easterly or westerly, slight, moderate, strong or very strong. If it's very strong (4-6 knots), crossing is ill advised. Sometimes you can have different sets, e.g. westerly set off 5 cables and then easterly set close in.
>
> As the entrance faces north, generally a northerly swell will affect the bar the most, though a heavy south-west swell is quite capable of refracting around Cape Foulwind and breaking on the bar. Swells of four metres are not uncommon. Sometimes a long, low swell, barely noticeable off the coast, can produce a nasty breaking wave at the entrance.
>
> The available depth of water is important with set and breaking swells considerably reduced at the top of the tide.
>
> The bar can extend up to five cables off the entrance, so mariners are advised to keep at least one mile off before making their approach to the bar.
>
> The bar is sounded at least weekly to cater for commercial shipping. Copies of the bar plans are available at the Harbour Office or on the noticeboard at the Westport Tavern. This plan shows the depths at Chart Datum, shoaling areas, the working depth of the bar and a recommended route for crossing the bar.

The notice goes on to describe the leading lines to follow a safe route and then continues;

> For advice on bar conditions, depth of water and a recommended route across the bar, contact Westport Harbour Office on VHF Ch. 16, MF on 2182 kHz or phone (telephone number) during the hours of 0900 - 1700. After hours, contact the Harbour Master on VHF Ch.16, phone (telephone number) or mobile (telephone number).
>
> Local fishermen can be contacted for similar advice on VHF Ch.62.
>
> Talleys or Westfleet can be contacted on VHF Ch.62 or MF on 4417 kHz by day and at 1930 hours at night as well.
>
> If your draft exceeds 3.0 metres, you are strongly advised not to cross the bar until you have communicated with the Harbour Master or a local fisherman.
>
> If in doubt, stay out. Lack of sleep, the extra diesel consumed or the desire to be alongside do not justify the risk. A poignant reminder of that risk exists at the end of the eastern Tip Head in the form of a plaque dedicated to two fishermen who lost their lives on the bar recently.

1.5.3 It is the opinion of some of the local Westport fishermen that it is more dangerous to cross the bar during the hours of darkness in small vessels as it is difficult to determine the size and direction from which the waves are approaching behind the vessel.

1.5.4 The reason for crossing the bar at a moderate or slow speed on a displacement (non-planing hull) vessel is to allow the waves to pass under the vessel as they approach from behind. If the speed of the vessel is too fast there is a danger of the vessel surfing down the face of the wave and broaching at the bottom. The engine control is constantly adjusted to allow for this and it may even be necessary to put the engine astern to slow the vessel's progress on a wave.

1.5.5 It was usual practice when *Awanui* was crossing the bar inbound for the deck hand to stand outside the wheelhouse looking aft to warn the Master, who was looking forward, of any large or breaking waves and their direction. This would enable the Master to take evasive action including presenting the vessel's stern to the overtaking sea.

2. Analysis

2.1 While it could not be established whether the Master made a deliberate attempt to cross the bar when he did, in view of his reputation for caution, this was unlikely.

2.2 The *Awanui* had been at sea for approximately 34 hours since leaving Westport. According to the owner it would have been unusual for the *Awanui* to be fishing at night unless there was a full moon. There was a three-quarter moon on the Saturday, 15 July which, combined with the favourable weather conditions and apparent good fishing, may have induced the Master to fish all night.

2.3 If this was the case fatigue and the desire for a good night's rest may have played a part although the Master had indicated during his conversation with the local fisherman that he was not going to unload the fish until the next morning and that he was in no particular hurry to enter the harbour.

2.4 The forecast for Monday, 17 July 1995 was for 25 knot southerly winds and a one metre westerly swell. These weather conditions would not have seriously affected conditions for crossing the bar.

2.5 The presence of the north-north-west swell, caused by the passage of a small depression to the north, was not apparent to the Master as he approached Westport from the south, behind Cape Foulwind. As the *Awanui* crossed Buller Bay towards the harbour entrance in deep water the swell would have had a long, low aspect, having originated from afar, and may have seemed insignificant to the Master.

2.6 In spite of being warned by the local fisherman that waves were dumping on the bar the Master indicated his intention to approach the bar and assess the conditions. The dark, the absence of any significant wind and the low aspect of the swell in deep water, may have lulled the Master into a false sense of security and encouraged him to proceed in further than he would normally to assess the bar conditions.

2.7 Although the wind and weather conditions were good, conditions for crossing the bar were not. The swell coming from the north is known to make bar conditions dangerous due to the waves standing up and dumping as they reach the shallow water. This would have been accentuated by the relatively low state of the tide (approximately two hours after low water) when *Awanui* began to enter harbour.

2.8 There would have been a westerly set outside the bar caused by the rising tide. As the *Awanui* progressed across the bar this would have changed to the strong easterly set, noted by search and rescue personnel, that was running across the entrance to the river.

2.9 The slight freshet that was running in the river was not considered to be strong enough to alter conditions at the entrance to the river dramatically; however a large wave standing up in the relatively shallow conditions on the bar at the time may have been held up sufficiently, by the out-flow, to cause the waves to dump near the entrance.

2.10 The railway shunting yard lights would have made it difficult for the Master to observe the aspect of the leading lights. This may have been accentuated by the headlights of the witness's car as he drove out to the Eastern Tip Head. The Master was not using the spot light mounted on the gantry to scan the water in front of the vessel. He may have been reluctant to do so as this would cause a further drain on the batteries which may have already lost the majority of their charge due to the faulty alternator.

2.11 If he made a deliberate decision to enter the harbour, the Master would have proceeded inwards adjusting his course to port to counter the west-flowing tide outside the bar and keep on the line of the outer leading lights.

2.12 As the *Awanui* entered the shallow water over the bar it is probable that the Master found conditions were not as good as he had anticipated, but by then he would have been committed to continue inwards. To attempt to turn the vessel at that time would have exposed the vessel's beam to the oncoming waves with the probability of being capsized.

2.13 As the *Awanui* progressed across the bar she would have passed from the west-going tidal flow into the strong east-going current that was flowing across the entrance to the river (see figure 4). Due to the calm weather conditions the Master was probably not expecting such a strong flow in that direction and, with his perception of the leading lights being interfered with by the bright lights from the shunting yards and (possibly) the car headlights, he may not have detected that the vessel was setting rapidly across to port of the leading line until it was too late to retrieve the situation.

2.14 If, as seems likely, the Master had not intended to cross the bar, but had inadvertently found himself in a position where he was committed to continue, then the absence of a planned route across the bar would have accentuated this problem.

2.15 Assuming a west going tide of one knot, an estimated east-going current of four knots and a vessel speed of five knots, the Master of *Awanui* would have had to adjust his course through fifty degrees over a short period of time to remain on the leading line throughout the entire approach. A course alteration of this magnitude would have presented *Awanui*'s quarter to any on-coming swell.

2.16 The eye witness stated that he thought the vessel was about five metres away from the rocks off the Eastern Tip Head when it capsized. Distance is difficult to estimate across water to an untrained eye, more so when it is dark. Later, when asked by searchers to point a searchlight at the position where he saw the *Awanui* capsize, the eye witness indicated a position approximately 40 m in from the Eastern Tip head and outside the entrance. This would have placed *Awanui* east of the leading line.

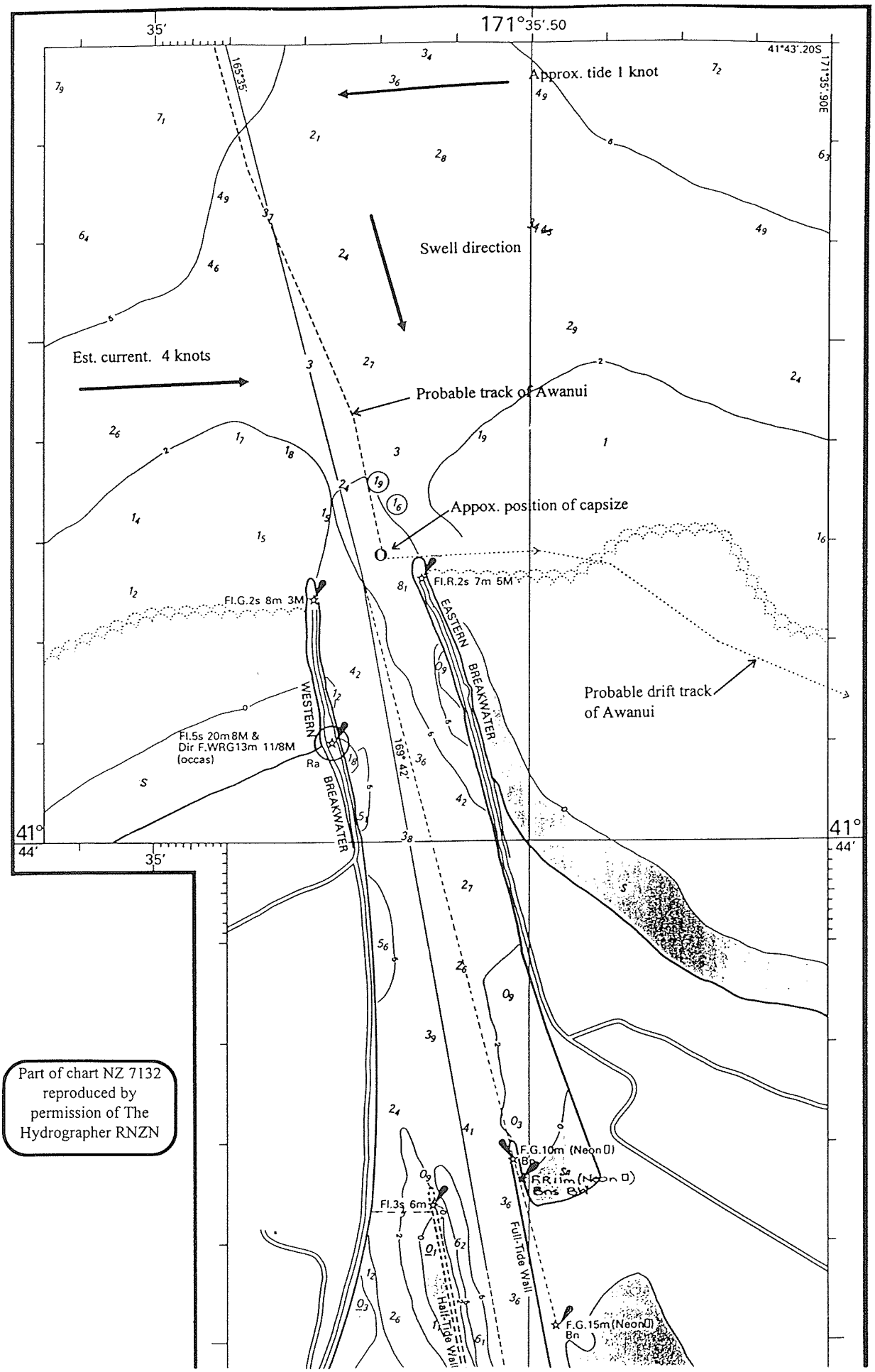
2.17 It is probable that the *Awanui* was trying to crab her way back against the current into the centre of the channel to avoid striking the Eastern Tip Head and in doing so presented her quarter to an on-coming breaking wave. Whatever the cause a wave rolled the *Awanui* just outside the entrance to the river and the current then dragged the upturned vessel across the rocks at the Eastern Tip Head and around into the surf line off North Beach.

2.18 The life raft was found in the inflated condition approximately 3.5 nautical miles along the coast from the harbour entrance. Normally it required releasing manually from its aluminium box on top of the wheelhouse as shown in figure 1. Although the box was relatively undamaged it is probable that the cam buckle was caught and released at some time when the vessel was inverted and pounding on the sea bed.

2.19 The raft, having been released from its stowed position, would have floated free and self-activated when it came to the end of the inflating cord that was attached to the vessel.

2.20 The Master may have put the engine astern as a last ditch effort to avoid capsize or he may have been holding on to the lever as the vessel capsized and inadvertently pulled it astern as he attempted to brace himself.

2.21 It is probable that the deck hand was thrown clear of the vessel and the Master was rendered unconscious in the wheel house during the initial capsize.



Part of chart NZ 7132 reproduced by permission of The Hydrographer RNZN

Figure 4

2.22 A life jacket, if worn, may have saved the life of the deck hand, but is unlikely to have saved the Master.

2.23 The Westport local communication network in place for providing advice on bar conditions, combined with the services available from the Harbour Master, is considered to be adequate if used and if the information provided is not ignored by a Master intending to take his boat across the bar.

3. Findings

3.1 Advice on bar conditions was available to the *Awanui*'s Master, on request.

3.2 The Master of *Awanui* did not react appropriately to the advice given to him 1.5 hours earlier not to approach the bar when he did.

3.3 Normally the Master of *Awanui* was conservative when assessing the bar conditions.

3.4 It would have been uncharacteristic for the Master of *Awanui* to make a decision to cross the bar in known adverse conditions.

3.5 By not seeking advice on bar conditions immediately before crossing the bar may have deprived him of the information necessary to convince the Master not to attempt to enter the harbour.

3.6 Had the Master sought advice immediately before crossing the bar it is probable that he would have been advised not to attempt a crossing at the time he did.

3.7 A combination of the lights from the railway shunting yards and the car headlights probably restricted the Master's view of the leading lights at the time *Awanui* was crossing the bar.

3.8 A strong easterly current that was flowing across the entrance to the river, coupled with a large swell and low water conditions over the bar created unsuitable sea conditions for crossing the bar when the *Awanui* attempted to enter the harbour.

3.9 The *Awanui* foundered as a result of capsizing when it was overwhelmed by seas on the bar while trying to regain the leading line of the channel.

3.10 Despite recommendations suggesting lifejackets be worn for bar crossings neither the Master nor deck hand was wearing a lifejacket.

3.11 The Master was probably rendered unconscious during the initial capsize and was entrapped within the wheelhouse.

3.12 It is unlikely that wearing a lifejacket would have saved the Master.

3.13 The deck hand was probably swept overboard during the initial capsize.

3.14 Wearing a lifejacket may have saved the deck hand's life.

4. Safety Recommendations

4.1 It was recommended to the Shipping Manager for Buller Port Services that:

4.1.1 Buller Port Services liaise with Tranz Rail to find a permanent solution to minimise the effect of the yard lights on vessels navigating in the port area without compromising the safety of personnel working in the rail operating yards. (098/95)

4.1.2 Buller Port Services replace the vandalised sign on the eastern breakwater instructing motorists to dip their headlights before driving further out on to the breakwater.

4.2 The Harbourmaster for Buller Port Services responded as follows:

4.2.1 Recommendation 098/95
As a result of our discussions, and visiting the area affected, Tranz Rail have indicated by letter to myself dated 13 February 1996 that the installation of replacement lighting in the Westport Shunting Yard will be completed 12 weeks from their approval of funding.

4.2.2 As an interim measure while Tranz Rail carry out this work, the floodlights on the tower in line with the leading lights are to be switched on only immediately before required. To provide direct communication between Tranz Rail staff and boats using the leads the shunting staff are to be issued with a cellphone, the number of which is to be promulgated to all fishing boats and fishing companies.

4.2.3 Buller Port Services Ltd have published a port information brochure with pictorial details of the leads. Included with the pamphlet is a description of the Westport Bar, the terms used when navigating it and the factors contributing to dangerous conditions. This pack which also includes a copy of Marine Notice #18/1995 is handed to each vessel using the port. The Harbour office 24 hour telephone number is advertised in the brochure.

4.2.4 Recommendation 099/95
A large and simple reflective sign has been strategically placed at the entrance to the Tiphead road instructing traffic to "Dip Your Lights".

4.3 It was recommended to the Managing Director of Tranz Rail that:

4.3.1 Tranz Rail Liaise with Buller Port Services to find a permanent solution to minimise the effect of the yard lights on vessels navigating in the port area without compromising the safety of personnel working in the rail operating yard. (097/95)

4.4 The Executive Manager Quality & Safety for Tranz Rail responded as follows:

"Tranz Rail Ltd has given due regard to your safety recommendation but considers the recommendation forwarded to you on the 15th December to be more appropriate".

4.5 The recommendation forwarded to the Commission on 15 December was as follows:

> *"Buller Port Services to liaise with Tranz Rail Ltd and find an acceptable solution to minimise the effect of the yard light on vessels navigating in the port area during the hours of darkness without compromising the safety of personnel working in the rail operating yard".*

21 February 1996

M F Dunphy
Chief Commissioner