



Accident Report

# Bronny G

## Grounding

Near Steep Head, Banks Peninsula on  
26 March 2004

KEEPING YOUR SEA SAFE FOR LIFE



**Maritime Safety**

MARITIME SAFETY AUTHORITY OF NEW ZEALAND  
*Kia Maanu Kia Ora*



**REPORT NO: 04 3435**

**VESSEL NAME: BRONNY G**

**CASUALTY DETAILS:**

**Date of Casualty:** 26 March 2004

**Time of Casualty:** 0400 hours New Zealand Standard Time (NZST)

**Casualty Type:** Grounding

**Casualty Location:** Near Steep Head, Banks Peninsula

**Weather Forecast Area:** Conway

**Date MSA Notified:** 26 March 2004

**Date Investigation Started:** 26 March 2004

**Date Investigation Completed:** 15 September 2004

**Investigator:** Domonic Venz



**REPORT NO: 04 3435**

**VESSEL NAME: BRONNY G**

**VESSEL DETAILS:**

<b>Ship Name:</b>	<i>Bronny G</i>
<b>Date of Build:</b>	1973
<b>Ship Category:</b>	Fishing Vessel
<b>Certified Operating Limit:</b>	Offshore within 100 miles of New Zealand Coast
<b>Overall Length (m):</b>	19.91
<b>Gross Tonnage:</b>	81
<b>Flag:</b>	New Zealand
<b>Ship Operator:</b>	Pegasus Fishing
<b>Classification Society:</b>	SGS-M&I



# SUMMARY

On 25 March 2004, the fishing vessel *Bronny G* departed Lyttelton harbour for a 24 hour period of fishing around the Banks Peninsula area. The vessel continued to fish during the day and up to about 2200 hours the same night. The Skipper then started to steam back to port and handed over the watch firstly to the Mate who then handed over to a crewman. The crewman subsequently fell asleep. The vessel, which grounded in the vicinity of Steep Head, has been declared a constructive total loss.

## **1. KEY EVENTS**

- 1.1** On Wednesday 24 March 2004, the Skipper of the fishing vessel *Bronny G* watched the weather on the television. He then telephoned the other members of the crew and informed them that the vessel would be sailing at 0200 hours, New Zealand Standard Time (NZST) the next morning. The Skipper retired to bed at about 2200 hours that night.
- 1.2** On Thursday 25 March, the Skipper woke at approximately 0115 hours. On his way to the vessel he called at a local supermarket to pick up some stores for the forthcoming voyage.
- 1.3** At approximately 0200 hours, the Skipper and the Mate were on the vessel at its berth in Lyttelton; the crewman was already on board and asleep in his bunk. Following the completion of his pre-sailing checks, the Skipper started the auxiliary and the main engine and proceeded to the ice tower to take on ice.
- 1.4** The crewman was woken to help take on the ice into the hold.
- 1.5** At about 0330 hours, the vessel departed the wharf with the Skipper at the helm. Both the Mate and crew went into the hold to manually bail out some water due to an electric bilge pump failure.
- 1.6** At about 0615 hours, when the vessel was in the vicinity of Long Lookout Point, Banks Peninsula, the Skipper handed the watch over to the Mate. Both the Skipper and crewman went to bed, leaving the Mate on watch.
- 1.7** At approximately 0745 hours, the Mate woke the Skipper as the vessel neared the position where the Skipper wanted to shoot the trawl net.
- 1.8** They did not wake the crewman and shot the net in a position about ½ nautical mile (nm) east of Goughs Bay on the eastern end of Banks Peninsula, in about 55 metres of water.
- 1.9** After the trawl net was in the water the Skipper went back to bed, leaving the Mate on watch while towing.
- 1.10** At 1015 hours, the Mate woke the Skipper and crewman for hauling the trawl net. By 1030 hours, the net was on board and the Skipper decided to steam east to a different position.
- 1.11** After sorting and stowing the catch of fish, the Mate went to bed and the crewman tidied up the deck, while the Skipper was on watch.

- 1.12 The Skipper steamed the vessel for approximately 16 nm and in the early afternoon, they shot the net and towed for about 4 hours. They then hauled and towed for a further 3 to 4 hours. During each trawl, the two crew were in bed.
- 1.13 At approximately 2130 hours, the net was hauled again and the Skipper set a course for Banks Peninsula. He told the Mate to wake him up when they got to a position, about 2 nm off Godley Head. He then retired to his bunk.
- 1.14 The Mate was on watch steering the vessel manually, while the crewman sorted the catch into bins to be gutted by the Mate.
- 1.15 After approximately 1½ to 2 hours of fish sorting, the crewman went into the wheelhouse to relieve the Mate on watch. At this time, the vessel was in the vicinity of Le Bons Bay.
- 1.16 At about 0015 hours, on 26<sup>th</sup> March 2004, the Mate went to bed saying he would gut the fish later.
- 1.17 Sometime after this the, crewman went below to get a hot drink, leaving the helm unattended. While there, the vessel altered course through an arc of about 180°. On his return to the wheelhouse, the crewman brought the vessel back on course that was broadly northwest. The vessel was about 2nm off Long Lookout Point when this occurred.
- 1.18 The crewman then fell asleep. The next thing he recalled was when he was woken by the impact of the vessel grounding near Steep Head at about 0215 hours.
- 1.19 The Skipper came up into the wheelhouse and put the main engine astern but was unsuccessful in his attempts to free the vessel. *Bronny G* was being buffeted by the swell and the motion of the vessel was violent. The Mate and crewman checked the vessel for damage and found that they were hard aground.
- 1.20 The Skipper dialled 111 on his cell phone but did not have a signal; he then dialled another fishing vessel and the owners manager but got no answer. He finally called his wife and got the answer machine and left a message advising her of his predicament. She phoned back and then notified the owners and the authorities. Subsequently, the local Police launched a search and rescue operation, including a helicopter.
- 1.21 Shortly after this the Skipper gave the order to abandon ship into the life raft and head to shore. They made it to within 10 metres of the rocks when they were capsized by heavy seas and had to swim to shore.

- 1.22** They all walked around the shore and could see the lights of Le Bons Bay, but were unable to get there due to the tide and high cliffs in the area. The Skipper, did not have a watch but estimated, by working back from the time they were picked up, that it would have been about 0330 hours.
- 1.23** At 0430 hours, they saw green flares being discharged from a searching helicopter. They signalled to the helicopter and were picked up at first light and taken to hospital for a check up, but all were discharged soon after.
- 1.24** The vessel was declared a constructive total loss.

## 2. KEY CONDITIONS

### 2.1 Vessel, Owner and Management/Operator Details

- 2.1.1 *Bronny G* was an offshore fishing vessel of steel construction, built in 1972. She had an overall length of 19 metres a breadth of 5.95 metres and a gross tonnage of 81.20. A single 171 kW 8L3B Gardner main engine powered the vessel through a 1.4 metre controllable pitch propeller.
- 2.1.2 M.T. Trawlers Limited owned *Bronny G*. The vessel was managed and operated by Pegasus Fishing Limited, Christchurch. Pegasus Fishing Limited manages four fishing vessels that operate out of Lyttelton. These are *Claymore*, *Conopus*, *Aotea* and *Bronny G*. Pegasus Fishing Limited acts as a management company only and provides management, crewing and administrative support for the above vessels. *Claymore*, *Conopus*, and *Aotea* are owned by Windward Fishing Company Limited. The company is owned solely by one shareholder who also has 50% share in M.T. Trawlers Limited. He is also the designated person ashore (DPA) for all four vessels.
- 2.1.3 The vessel had a valid Safe Ship Management (SSM) Certificate with SGS M&I. The vessel was fit to ply offshore limits.

### 2.2 Previous Groundings

- 2.2.1 *Bronny G* represents the fourth grounding of a vessel that has been managed and operated by companies of which the DPA mentioned above, was a shareholder and owner. The previous three were *Lady K* in 1991, *Sea Ranger* in August 1997 and *Hans* in August 2001. In respect of *Sea Ranger*, which grounded in Tory Channel after the Skipper fell asleep, it was recommended that the Skipper get more sleep and plan his voyages; that the vessel has another Skipper and the watches shared, finally that the watchkeeping alarm be repaired. Following the grounding of *Hans* where the Skipper also fell asleep and the vessel sank at the eastern entrance to Tory Channel, the Skipper was prosecuted, convicted and fined a total of \$2,000 and sentenced to four months periodic detention. In the MSA report, it was the opinion of the Investigator that the owner must accept some responsibility for the accident and it was recommended that he be censured. The owner indicated in his interview that he did not make himself aware of the hours being worked by the crew on *Hans*, such behaviour indicating that he was at least as much to blame as the Skipper for the consequences of fatigue, because he had not exercised prudent control over the operation of the vessel. The Investigator found that the owner had failed to initiate procedures for proper watchkeeping duties and had failed to monitor the effects of fatigue amongst the crew as required by the Maritime Rules.

## 2.3 Skipper Details

2.3.1 The Skipper holds a New Zealand Coastal Masters Certificate (NZCM) obtained in 1991. He also holds a 2<sup>nd</sup> Class Diesel Trawlers Engineers Certificate (2DTE) obtained in 1991.

2.3.2 He has been at sea in various capacities most of his working life and has been a skipper on various fishing vessels since gaining his NZCM.

## 2.4 Crew Details

2.4.1 The Mate held no maritime qualifications. He has been in the fishing industry since leaving school on various types of vessels.

2.4.2 The crewman held no maritime qualifications. He started fishing in August 2003 and the *Bronny G* was only his second vessel to work on in that time.

## 2.5 Manning Details

2.5.1 In 2.1.3 above it is stated that the vessel was fit to ply as a fishing vessel in Offshore limits. The vessel, with a crew of three, including a suitably qualified Skipper, was manned in accordance with the requirements of **Maritime Rule Part 31C.10 - Offshore Area**.

Vessel Length	Minimum Required Qualifications	Minimum Crew
Less than 20m and within 100nm of coast	Master-NZOM MEC 6 may be Master	2

- **NZOM** New Zealand Offshore Master or NZCM as an equivalent.
- **MEC 6** Marine Engineer Class 6 or 2DTE as an equivalent.

## 2.6 Navigation Equipment

2.6.1 The vessel was equipped with the following navigation equipment: -

- Lille and Gilley standard magnetic compass
- Codan 6801S Mk 2B single side band (SSB) radio transceiver
- Furuno FM 2510 VHF radio
- Furuno FR711 radar
- Furuno colour FCV 201 echo sounder
- Wood Freeman 500 A autopilot
- Furuno GP 500 Mk 2 GPS (Global Positioning System)

**2.6.2** All of the above electronic equipment was operating satisfactorily at the time with the exception of the autopilot. This had failed during the steam out of Lyttelton harbour and was switched off. For this reason, it was necessary for the Skipper and crew to steer the vessel manually. The vessel was fitted with a watchkeeping alarm but this was on the same electrical circuit as the autopilot and accordingly was not functioning at the time of the accident.

## **2.7 Weather Details**

**2.7.1** The weather conditions throughout the voyage were northeast winds of 10 to 15 knots and a 2 to 3 metre southerly swell. Visibility was good during the return voyage.

## **2.8 Human Factors**

**2.8.1** The vessel had not been to sea for the previous five days due to maintenance being carried out.

**2.8.2** The entire voyage was to take only approximately 24 hours due to the Skipper wanting to go away on holiday for the weekend.

**2.8.3** The awake/rest patterns of the crewman who fell asleep for in the four day period leading up to the accident, were as follows: -

<b>DAY</b>	<b>AWAKE</b>	<b>REST</b>
<b>April</b>		
Thursday 22 March	16 hours	8 hours (unbroken)
Friday 23 March	14 hours	10 hours (unbroken)
Saturday 24 March	14 hours	10 hours (broken)
Sunday 25 March	14 hours	10 hours (broken sleep)
Monday 26 March	About 1 – 1 ½ hours	

**2.8.4** The crewman had good unbroken sleep while ashore. He woke at 2200 hours on Saturday 24<sup>th</sup>. He went straight to the vessel and went to bed until about 0130 hours, on Sunday 25<sup>th</sup>. He then was woken to help with the ice at 0200 hours, and went back to sleep at about 0400 hours. He was again woken to work on deck at 1000 hours. According to the Skipper, the crewman had two further rests in the afternoon and evening, whilst he took the watch between 1330 hours and 1615 hours and between 1830 hours and 2130 hours. The crewman woke at 2130 hours and did not sleep again until he fell asleep on watch during the early hours of Monday 26<sup>th</sup> April. The vessel grounded at about 0215 hours.

**2.8.5** A report issued by the Maritime Safety Committee of the International Maritime Organisation (IMO) on the “Role of the Human Element in Maritime Casualties” states that whilst the majority of people need between 7 ½ hours and 8 ½ hours sleep per day, it is less well known that if they obtain less than their requirement, they develop a ‘sleep debt’, which is cumulative. For example, a person who misses an hour of sleep per day for four days results in the same degree of impairment as missing four hours of sleep in one night. In this case, the watchkeeper who fell asleep, had rested before coming on watch for the return passage to Lyttelton. This, however, had occurred at broken intervals. It should be noted that rest without sleep or interrupted or poor quality sleep does not restore alertness. An added factor in this case, was the disruption in the circadian rhythm of the watchkeeper’s sleep cycle caused by a combination of irregular work schedules and the inability to get adequate sleep during the night. The combined effects of sleep debt and circadian rhythm can lead to chronic fatigue, as unfortunately occurred here, resulting in the watchkeeper falling asleep and the vessel subsequently grounding.

**2.8.6 Maritime Rule Part 31C.14 – Fitness for Duty** – which came into force on 1 February 2001, requires the owner and Master of a fishing vessel to establish and implement procedures in respect of the vessel’s crew, taking into account the requirement in **31C.15(1)**, to ensure that all crew are fit for duty when keeping a watch. Moreover, the crew of a fishing vessel must themselves ensure, taking into account the requirement in rule **31C.15(2)**, that they are fit for duty at all times when keeping a watch. **Maritime Rule 31C. 15(1) – Fatigue** - states that when the owner and master of a fishing vessel establish and implement procedures for ensuring a seafarer’s fitness for duty, they must take into account that a) the level of alertness of a person keeping a navigational or engine-room watch may be affected by fatigue and b) whenever alertness is effected by fatigue, performance can be impaired. **Part 31C.15(2)** states that a seafarer on a fishing vessel, when considering his or her fitness for duty, must take into account, a) the signs, symptoms and effects of fatigue (guidance on this is supplied in the Advisory Circular to **Part 31C**), and b) that fatigue will effect his or her level of alertness; and c) that the performance of any person whose alertness is effected by fatigue can be impaired. Notwithstanding the above; the fact that three of the

shareholder's vessels had grounded after the watchkeeper had fallen asleep and the comments of the MSA Investigator following the loss of *Hans*, no information whatsoever was either contained in the Safe Ship Management manual for *Bronny G* or verbally discussed by the owner.

**2.8.7** FishSAFE, a group consisting of representatives from the MSA, Seafood Industry Training Organisation, Accident Compensation Corporation and the fishing industry has been tasked with the aim of bringing into effect, the recommendations of the Fishing Industry Safety and Health Advisory Group, FISHgroup into the safety performance of the New Zealand commercial fishing industry. This includes the development of a Safe Code of Working Practice for Commercial Fishers and the development and dissemination of practical fatigue management guidelines as an important first step in managing fatigue issues within the fishing industry. The objectives are to raise awareness of the importance of fatigue management amongst workers in the maritime industry; to develop practical methods of managing fatigue and to provide training in fatigue management techniques to both employers and employees within the maritime industry. Work currently underway by the MSA includes the development of draft requirements for the fitting of watchkeeping alarms on small fishing boats; the development of guidance material for the industry as an aid in developing appropriate fatigue management arrangements; and the revision of maritime qualifications syllabuses to cover the human factor.

**2.8.8 Maritime Rule Part 31C.16 – Watchkeeping Standards** – requires that the owner and master of a fishing vessel must establish and implement watchkeeping procedures for the safe operation of the vessel, addressing for navigational watchkeeping, such matters as the composition of the watch and the fitness for duty of the watchkeepers. Neither the owners of *Bronny G* nor the Skipper deemed it necessary to ensure that structured, formalised routines/procedures were in place, as regards which members of the crew should conduct a navigational watch; how such watches should be shared between them and when, so that measures could be incorporated to maximise rest periods before each watchkeeper came on duty. The system of watchkeeping employed by the owners/Skipper of *Bronny G* was ad hoc, in that there was no pre-voyage planning to determine which of the crew should take a watch and when, having regard to their previous watch patterns so that they could be properly rested before coming on duty.

**2.8.9** The human resources practices employed by the owners of *Bronny G* were inadequate. Whilst appropriate care and attention was given to the employment of a reputable Skipper, the selection and training of other crew members was left in the Skipper's hands. There was no company approved process for the training of inexperienced deckhands, who did not have the requisite watchkeeping knowledge and experience. Both the **New Zealand Safe Ship Management Code** and the **Health and Safety in Employment Act 1992**, requires that specific training needs be identified and implemented for Health and Safety in Employment and vessel operation as appropriate.

### **3. CONTRIBUTING FACTORS**

*N.B. These are not listed in order of importance.*

- 3.1** The lack of crew training and structured watchkeeping procedures on board to ensure the safe operation of the vessel.
- 3.2** An inexperienced and unsupervised watchkeeper being left in sole charge of the navigation of the vessel.
- 3.3** The lack of written procedures to ensure that crew were fit for duty at all times when keeping a watch.
- 3.4** The lack of an operational watchkeeping alarm system.

## 4. CAUSE

### **Human Factor**

- |  |   |  |
|--|---|--|
| <input checked="" type="checkbox"/> Failure to comply with regulations | <input type="checkbox"/> Drugs & Alcohol              | <input type="checkbox"/> Overloading   |
| <input type="checkbox"/> Failure to obtain ships position or course    | <input checked="" type="checkbox"/> Fatigue           | <input type="checkbox"/> Physiological |
| <input checked="" type="checkbox"/> Improper watchkeeping or lookout   | <input checked="" type="checkbox"/> Lack of knowledge | <input type="checkbox"/> Ship Handling |
| <input type="checkbox"/> Misconduct/Negligence                         | <input type="checkbox"/> Error of judgement           | <input type="checkbox"/> Other . . .   |

### **Environmental Factor**

- |  |   |                                    |  |
|--|---|------------------------------------|--|
| <input type="checkbox"/> Adverse weather | <input type="checkbox"/> Debris           | <input type="checkbox"/> Ice       | <input type="checkbox"/> Navigation hazard |
| <input type="checkbox"/> Adverse current | <input type="checkbox"/> Submerged object | <input type="checkbox"/> Lightning | <input type="checkbox"/> Other . . .       |

### **Technical Factor**

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> Structural failure | <input type="checkbox"/> Wear & tear            | <input type="checkbox"/> Steering failure                   |
| <input type="checkbox"/> Mechanical failure | <input type="checkbox"/> Improper welding       | <input type="checkbox"/> Inadequate firefighting/lifesaving |
| <input type="checkbox"/> Electrical failure | <input type="checkbox"/> Inadequate maintenance | <input type="checkbox"/> Insufficient fuel                  |
| <input type="checkbox"/> Corrosion          | <input type="checkbox"/> Inadequate stability   | <input type="checkbox"/> Other . . .                        |

**4.1** The vessel grounded due to the crewman falling asleep while on watch.

## 5. OPINIONS & RECOMMENDATIONS

**5.1.1** The Skipper and owner be censured for their failure to ensure that procedures were in place to ensure the crew were fit for duty at all times when keeping a watch; the lack of training of the crew and structured watch keeping procedures for the safe operation of the vessel, in breach of the requirements set out under **Maritime Rule Part 31C 14, 15, and 16**.

**5.1.2** That a **Section 54 Audit under the Maritime Transport Act 1994**, be carried out into the operator of the vessel, Pegasus Fishing Limited. *This audit was conducted on 29 and 30 April 2004. The recommendations arising from that audit are set out in Appendix 2 – Recommendations arising from the audit of the Safety Management System of Pegasus Fishing Limited. The current status of those recommendations is as follows: -*

- Recommendation 4 – Completed – details to be forwarded to MSA.
- Recommendation 5 – Completed – details to be forwarded to MSA.
- Recommendation 6 – In progress – implementation is creating difficulties – expect completion 30 August '04.
- Recommendation 8 – We are still investigating options – request extension to 30 August to confirm.
- Recommendation 9 – In process – subject to outcome of recommendation 8 – expect to confirm by 30 August '04.
- Recommendation 10 – This is creating some difficulties logistically with internal changes – expect close out by 15 September '04.

*In commenting on the draft report, the Skipper stated that the trip was a short 24 hours turnaround (after 5 days leave) in which they caught a minimal amount of fish, requiring only a limited amount of physical work. He considered the two crew members had had enough rest to be able to carry out their duties. He understood the Mate had told the crewman to take the watch for 1 hour and that he (the Mate) would then take over as the amount of traffic would increase as they approached the land. He considered the two crew members to be competent and had always told them that if there was a problem to ask or wake him.*

The Recommendations made in the Audit Report were discussed with the owner. Several issues were raised with regard to Recommendations 6, 8, 9 and 10 of the Audit report. These issues were discussed with the Maritime Operations Division of the Maritime Safety Authority and in order to rectify the issues raised, a Maritime Safety Authority representative will travel to the company in February 2005 and provide the necessary coaching required to fulfil these Recommendations.