



Accident Report  
*Purbeck & Beverley S*  
Close Quarters Situation at the  
East Entrance to Tory Channel  
on 9 July 2004



REPORT NO.: 04 3509

VESSEL NAME: *PURBECK & BEVERLEY S*

Casualty Details:

<b>Date of Casualty:</b>	9 July 2004
<b>Time of Casualty:</b>	1025 hours New Zealand Standard Time (NZST)
<b>Casualty Type:</b>	Close Quarters
<b>Casualty Location:</b>	East Entrance to Tory Channel
<b>Weather Forecast Area:</b>	Cook
<b>Investigator:</b>	Ian Webb



REPORT NO.: 04 3509

VESSEL NAME: *PURBECK & BEVERLEY S*

Vessel Details:

Vessel Name:	<i>Purbeck</i>	<i>Beverley S</i>
Vessel Category:	Passenger Ferry	Workboat
Registered Length (m):	117.32	15.95
Tonnage:	6 507	N/A
Port of Registry:	Wellington	Picton
Flag:	New Zealand	New Zealand
Owner's Name:	Purbeck Limited U.K	Apex Marine Farms Limited



## SUMMARY

On 9 July 2004, at 1014 hours, *Purbeck* gave a ten minute warning, on VHF channels 16 and 19, of entering the Tory Channel Entrance Controlled Navigation Zone, with a time for passing East Head at 1026 hours. At 1024 hours, *Purbeck* first observed the outbound *Beverley S* with a barge in tow, in the vicinity of Taranaki Rock. No ten minute warning had been heard from *Beverley S*. The Master of *Purbeck* considered he was past the point of no return and was committed to making the entrance. Five short and rapid blasts were sounded by *Purbeck*. Her speed was reduced and course altered to take the vessel slightly to the north of the leads. Meanwhile, *Beverley S*, which was battling a strong flood tide, crossed over the leading light line, ahead of *Purbeck*, as she altered course to the south. The two vessels subsequently passed each other port to port, at a passing distance of about 50 metres.



# SUMMARY OF EVIDENCE

## 1.1 Evidence of *Purbeck*

- 1.1.1 The Interisland Line Limited freight ferry *Purbeck* departed Wellington at 0808 hours NZST (New Zealand Standard Time), Friday 9<sup>th</sup> July 2004, on a scheduled sailing to Picton.
- 1.1.2 At approximately 0955 hours, when the vessel was about 7 miles to seaward of the entrance to Tory Channel, the Chief Officer of *Purbeck* spoke to Picton Harbour Radio on VHF channel 19, and received information concerning the weather at Picton and expected traffic movements. No mention was made of a vessel towing a barge, outbound via Tory Channel.
- 1.1.3 At 1014 hours, the Chief Officer gave a ten minute warning, on VHF channels 16 and 19, of the vessel entering the Tory Channel Entrance Controlled Navigation Zone, with a time for passing East Head, inward bound, of 1026 hours.
- 1.1.4 At 1014 hours, the Strait Shipping Company ferry *Kent* was also inward bound and some 1.75 miles ahead of *Purbeck*. The Chief Officer of *Purbeck* had heard *Kent* give her ten minute call some seven minutes earlier, at approximately 1007 hours. There was no direct contact between *Kent* and *Purbeck*.
- 1.1.5 At about 1015 hours, the Master of *Purbeck* went to the bridge, but did not take control of the vessel from the Chief Officer. *Purbeck* was slightly south of the leading line of 312°(T) and was steering 310°(T), making allowance for the flood tide at Tory Channel, which the Master estimated was running at about 3.5 knots.
- 1.1.6 The weather conditions at the time were a northeasterly wind of 5 knots, a slight sea, low to moderate south-southeasterly swell and very good visibility.
- 1.1.7 The engine telegraphs were on stand by; both steering motors were on and the vessel was being hand steered by a helmsman. The bow thruster was not activated as the vessel's speed was too high for it to be effective. If required, the bow thruster could be turned on in about one minute.
- 1.1.8 The Chief Officer reported to the Master that the outward-bound dolphin/whale watch catamaran, *Delphinus*, had given ten minutes notice, at about the same time as *Kent*. The Chief Officer had overheard a conversation between *Kent* and *Delphinus* on VHF channel 19, and the latter had waited in Tory Channel for *Kent* to come through the entrance. The Chief Officer recognized the North American accent of the Skipper on board *Delphinus* from a previous occasion.
- 1.1.9 At about 1022 hours, *Delphinus* cleared the entrance, outward-bound, well ahead of *Purbeck*, and headed off to the southeast.
- 1.1.10 At approximately 1024 hours, when *Purbeck* was about 5 cables to seaward of East Head, and on the leads, an outward-bound work boat (*Beverley S*) towing a barge came into view, clear of Taranaki Rock. The Master took over the con of *Purbeck* from the Chief Officer at this time, and asked the Chief Officer to identify and call the vessel on VHF. With the flood tide increasing his speed over the ground, the Master considered he was past the point of no return, and was committed to making the entrance. The Master estimated the tidal stream in the entrance to be about 3.5 knots. The Master ordered the Chief Officer to sound five short and rapid blasts on the whistle. Just prior to entering Tory Channel, *Purbeck's* speed over the ground was approximately 15 knots.
- 1.1.11 Once the Chief Officer managed to identify the workboat as *Beverley S*, he called her on VHF. There was no response to the calls he made on channel 19.



- 1.1.12 **Beverley S** was making a slow passage against the flood tide. She crossed to the northern side of the leads, briefly steadied up, then altered course slowly to starboard, south of the leads. It appeared that **Beverley S** was attempting to keep the barge out of the strongest part of the tidal stream, which was on the southern side of the entrance. However, the barge was on a relatively short towline and it appeared unnecessary to the Master of **Purbeck** for **Beverley S** to occupy the centre of the channel, especially after sighting the inbound **Purbeck**.
- 1.1.13 The Master reduced speed on the combinator to approximately half ahead and altered course to starboard, taking the vessel slightly north of the leads, subsequently estimated to be approximately 50 metres north of the line of the leads.
- 1.1.14 **Purbeck** passed **Beverley S** and the towed barge, on her port side, at approximately 1027 hours. The Master, standing in the wheelhouse by the combinators, to starboard of the centre line, could see neither the vessel nor the barge when passing. The Chief Officer was standing on the port bridge wing and he reported the clearance between the vessels to be approximately 50 metres. He also reported that **Beverley S** was being steered from a position on the deck, at the after end of the wheelhouse. He did not sight any other crewmember.
- 1.1.15 On clearing the barge, the Master brought **Purbeck** round to port. He increased to full speed and rejoined the vessel's normal track.
- 1.1.16 The vessel berthed at Picton at 1147 hours without further incident.

### Details of Master

- 1.1.17 The Master of **Purbeck** holds a British Foreign Going Master's Certificate of Competency, obtained in 1974. He completed a Bridge Resource Management Course in February 2004.
- 1.1.18 He has been at sea for 29 years, and engaged within the profession for almost 40 years. He has commanded high speed ferries overseas for approximately 2½ years.
- 1.1.19 He has spent 16 years on various vessels in the Cook Strait ferry service; this includes 3 years command experience. He has been Master of **Purbeck** since the vessel entered the Wellington/Picton service in May 2003.



### Particulars of **Purbeck**

- 1.1.20 The **Purbeck** is a freight ferry owned by Purbeck Limited, U.K. and operated by The Interisland Line Limited. She has the following main particulars:

- Length overall                    125.5 metres
- Breadth over belting            18.12 metres
- Maximum draft                    4.266 metres
- Gross tonnage                    6 507
- Year of Build                      1977
- Port of Registry                  Wellington
- Service speed                    15 knots
- Engines                            2 x 2208 kw
- Propellers                        2 x controllable pitch
- Rudders                            Twin semi balanced.
- Navigation Aids                  Gyro  
     2 x Radars  
     GPS  
     Electronic chart display with feed from GPS and radar  
     Automatic Identification System (AIS)

## 1.2 Evidence of the *Beverley S*

- 1.2.1 *Beverley S* left Picton at 0800 hours, Friday 9<sup>th</sup> July 2004 and proceeded to a marine farm in Ngaruru Bay, which is in Tory Channel, on Arapawa Island. On board were the Skipper and the manager of the company that owned the vessel, Apex Marine Farm Limited. The Skipper was newly employed by the Owner. The Skipper had sailed on *Beverly S* before, including transiting Tory Channel Entrance, but this was his first trip in command of the vessel.
- 1.2.2 They picked up a mussel harvesting barge from the farm and set up for a sea tow, using a 60 metre tow line, in Kawhia Bay. Once ready, *Beverley S* with the barge in tow, proceeded towards Tory Channel entrance, bound for Port Underwood, at a speed over the ground of about seven knots. *Beverley S* did not inform Picton Harbour radio of her movements.
- 1.2.3 Approximately 15 minutes before arriving at Tory Channel entrance, the Skipper discussed with the Owner the wording to be used for the ten minute call. The Skipper was aware of his responsibility to give the call but wanted to check the precise wording the Owner wished him to use. The Owner advised him to use the same format that the ferries used for their ten minute calls. The Skipper and Owner were familiar with the requirement to give a ten minute call on VHF channel 16, as indicated on the chart, but not with the Bylaw requirement to give the call on VHF channel 19.
- 1.2.4 At approximately 1006 hours, the Skipper of *Beverley S* gave the ten minute call on VHF channel 16, advising all ships that he had a barge in tow and would be passing East Head in ten minutes time. Shortly after giving this call the Skipper heard the ten minute call from the inward-bound *Kent*.
- 1.2.5 Some minutes later, both the Skipper and Owner heard a garbled call on VHF channel 16. The Skipper recognised the words “ten minutes” and “listening on channel 16” but could make no other sense from the call. They did not query the source of the call, assuming that it had come from *Delphinus*, which they could see in the channel ahead of them.
- 1.2.6 *Beverley S* was well to the starboard side of the channel and the Owner estimated that they passed *Kent* to port, about 1 000 – 1 500 metres inside the entrance, with about 750 metres clearance. The Skipper kept well clear of Taranaki Rock and altered course to port, towards the centre of the channel, to avoid two crayfish pot buoys that were moored well out from the rock. The GPS receiver indicated a ground speed of between 6.3 and 6.5 knots at this time.
- 1.2.7 They could see *Purbeck* about one mile away, on an approximate bearing of 125°(T). Neither the Skipper nor the Owner was concerned, as the weather was excellent, and they considered there was plenty of room.
- 1.2.8 The weather was light winds, calm sea, a long 1 metre southeasterly swell and clear visibility.
- 1.2.9 When swinging to starboard, parallel with the leads, the Skipper thought the barge passed very close to the crayfish pots, and may even have touched them.
- 1.2.10 They passed *Purbeck* at the entrance with about 100 metres clearance. Both the Skipper and Owner considered the situation unremarkable. At the time, the Owner was standing on the afterdeck and the Skipper was steering the vessel in the wheelhouse.
- 1.2.11 Neither the Skipper nor the Owner heard any VHF calls or whistle signals from *Purbeck*. Although the engines of *Beverley S* were not on full power, there was still a reasonably high level of background noise.
- 1.2.12 At the time *Beverley S* passed *Purbeck*, she had commenced a wide turn, to the south, towards Port Underwood.



## Details of Skipper and Owner

- 1.2.13 The Skipper holds an Inshore Launch Master Certificate of Competency, obtained in March 2002. He has about 5 years experience in marine farming, which includes some barge towing in the Marlborough Sounds. Before this incident, he had transited Tory Channel on at least three occasions with a barge in tow.
- 1.2.14 The Owner has 30 years experience in marine farming in the Marlborough Sounds and his application for a Local Launch Master Certificate of Service is currently being processed.

## Particulars of *Beverley S*

- 1.2.15 *Beverley S* is an aluminium twin-screw workboat used for servicing marine farms. She has a length overall of 15.92 metres and is owned and operated by Apex Marine Farms Limited.
- 1.2.16 The barge is used for harvesting mussel farms and, at the time of this incident, was unladen. Her principle dimensions are: length 19 metres, breadth 6.3 metres, draft 1 metre.
- 1.2.17 With a 60 metres tow line, the overall length of the workboat and tow was approximately 95 metres.

## 1.3 Evidence of the *Kent*

- 1.3.1 The Strait Shipping Company ferry *Kent*, on a scheduled sailing from Wellington to Picton, gave their ten minute call for passing East Head, inward bound, at approximately 1007 hours, on VHF channels 16 and 19. Shortly afterwards *Delphinus* gave a ten minute call outbound.
- 1.3.2 *Kent* spoke to *Delphinus* on Channel 19 to advise they were inbound. *Delphinus* said they would slow down and wait for *Kent* to transit the entrance first.
- 1.3.3 At the time, *Kent* understood that this call came from *Beverley S*, which they saw ahead of them when they rounded West Head and turned into the channel.
- 1.3.4 *Kent* and *Beverley S* passed port to port without incident, about half way between Taranaki Rock and Scraggy Point, with about 100 metres clearance.
- 1.3.5 The Master of *Kent* thought there might be a problem with *Beverley S* and *Purbeck* passing in the entrance, as he was aware *Purbeck* was following, about one mile astern. He remembers *Purbeck* giving a ten minute call while *Kent* was still to seaward of the entrance.
- 1.3.6 After passing *Beverley S*, he did not advise either vessel of the presence of the other as by the time he made the call, both vessels would have been in sight of one another.

## 1.4 Evidence of *Delphinus*

- 1.4.1 *Delphinus*, outward bound from Picton, gave a ten minute call for Tory Channel entrance on VHF channel 19. *Kent* replied to state that she was inward bound. *Delphinus* agreed to wait inside Tory Channel for *Kent* to transit the entrance first.
- 1.4.2 *Delphinus* saw *Beverley S* towing a barge, but did not hear any call from her on VHF channel 19.



## FINDINGS

- 2.1 Neither of the two vessels involved was aware of the presence of the other until they came into sight of each other. At that time a close quarters situation was almost inevitable.
- 2.2 **Beverley S** gave a ten minute call for passing East Head on VHF channel 16, as indicated by the advisory note on the chart, but not ten minutes notice for entering the Tory Channel Entrance Controlled Navigation Zone on VHF channel 19, as required by the local Bylaws. Both **Kent** and **Purbeck** were listening on channel 16 and 19 but did not hear this call. Neither did **Delphinus** which was only listening on channel 19.
- 2.3 The Skipper and Owner of **Beverley S** were not familiar with the Marlborough District Council Bylaws, particularly with the requirement to give the ten minute call on VHF channel 19. The Marlborough Harbourmaster reports that past experience has shown that VHF channel 16 broadcasts made by ships in Tory Channel were often not received by vessels in Cook Strait, and vice versa. VHF channel 19 gives optimum reception throughout Queen Charlotte Sound, the Tory Channel area and approaches to the Channel.
- 2.4 **Beverley S** gave her ten minute call at approximately 1006 hours but did not pass East Head until approximately 1028 hours. She was approximately 12 minutes late in her ETA, partly due to being slowed down by the adverse tidal stream and partly due to a poor initial estimate.
- 2.5 **Kent** mistook the ten minute call from **Delphinus** as coming from **Beverley S**. In turn, **Beverley S** mistook the ten minute call from **Purbeck** as coming from **Delphinus**.
- 2.6 The local Bylaws did not require **Beverley S** to advise Picton Harbour Radio of her intended movements prior to departure and that because of the tow, she might be restricted in her ability to manoeuvre when transiting Tory Channel.
- 2.7 This is but one of several close quarters situations causing concern, that has been reported in Tory Channel in recent years. It is reasonable to assume there are many others that go unreported.
- 2.8 It is the view of the Accident Investigator that there are opportunities for improving the management and control of shipping in Tory Channel. Any improvements should be developed on the basis of a risk assessment with consideration of the use modern technology, as set out in section 3 below.



# OPINONS & RECOMMENDATIONS

- 3.1** Tory Channel is a busy, strategically important, shipping lane. It is narrow and winding. The eastern entrance to the Channel features strong tidal flows, is exposed to southerly weather and has a blind, almost 90°, turn from the entrance into the Channel.
- 3.2** The Channel is used by the ships of two ferry companies, some coastal ships, some overseas ships under pilotage, local fishing vessels, local tourist industry vessels, marine farm work boats, local tug and barge operators and recreational vessels. Marlborough District Council Bylaw **3.3(i)(a)** states that ships of 500 gross tonnes or more may only use Tory Channel with the prior permission of the Harbourmaster. The only exceptions to this Bylaw, as a matter of course, are the 'regular users' of the route, namely inter-island commercial shipping.
- 3.3** This incident highlights the importance of good communication. Picton Harbour Radio should be advised by all vessels, both recreational and commercial, of their movements in Tory Channel. In turn, Picton Harbour Radio should pass on that information to all vessels that are navigating in the area. This is particularly important for any vessel that may be restricted in its ability to manoeuvre. Every vessel, when communicating with another, should make quite certain they know the identity, position and intentions of the other vessel.
- 3.4** It seems to be the mix of vessel types that are causing most of the problems in the Channel. Some small vessel owners are not as familiar with the traffic management system in the Channel and the requirements of the Bylaws as they should be. They may also have unrealistic expectations of the manoeuvrability of larger vessels, particularly of their ability to reduce speed quickly and of their rate of turn.
- 3.5** A situation and a passing distance, which may cause no concern to a Skipper of a small vessel, may cause considerable concern to the master of a large vessel. It is also easy for a Skipper of a small vessel to misjudge the distance off and rate of approach of a large vessel.
- 3.6** The traffic management system in Tory Channel has developed significantly in recent decades. However, the series of incidents reported in recent years and the proliferation of new technology, particularly Automatic Identification Systems (AIS) and Electronic Chart Display Information System (ECDIS) indicates that a review of traffic management in Tory Channel is timely.
- 3.7** In accordance with the Code of Practice for Port and Harbour Safety developed by the Maritime Safety Authority, Marlborough District Council will be undertaking a risk assessment of traffic management in all of their pilotage waters, commencing in September 2004.
- 3.8** As part of that risk assessment it is recommended that Marlborough District Council consider the following as possible risk mitigation solutions:
- 3.8.1** The fitting of a shore based AIS station, primarily to cover Tory Channel.
- 3.8.2** The fitting of AIS transponders to the eastern entrance front and rear leading beacons in Whakenui Bay.
- 3.8.3** The installation of radar surveillance of Tory Channel Entrance, the radar display to be capable of integration with the AIS display, in conjunction with an ECDIS.
- 3.8.4** The introduction of 24 hour radar monitoring of shipping in Tory Channel with the primary purpose of preventing accidents and incidents. Recognising the limited resources available the Marlborough District Council should consider the possibility that this monitoring could be carried out by the permanently manned Wellington Regional Council signal station.
- 3.8.5** Recording all telephone and VHF traffic through Picton Harbour Radio.



- 3.8.6** The possible future requirement that Class B AIS transponders be fitted to all non-SOLAS commercial vessels wishing to transit Tory Channel. This recommendation should be read in conjunction with recommendation **3.11**.
- 3.8.7** The Marlborough Harbourmaster should control, by direction, all cray fishing in the Tory Channel Entrance Controlled Navigation Zone, and take reasonable steps to ensure that the current protocol with CRAYMAC 5 is adhered to.
- 3.8.8** Resolve the ambiguity between the Bylaw requirement to give the ten minute warning of entering Tory Channel Entrance Controlled Navigation Zone on VHF channel 19 and the notes on charts NZ615, NZ463, NZ6153 and NZ6154, indicating the warning should be given ten minutes before passing East Head on VHF channel 16.
- 3.8.9** Require all low powered or slow vessels to transit Tory Channel Entrance with the tidal stream or at slack water.
- 3.8.10** Publish the navigational requirements contained in the Bylaws in a pamphlet in an easy to read and understand format, and distribute widely to all Sounds users and potential users.
- 3.8.11** Arrange with LINZ to have the following drawn on charts NZ6153 and NZ 6154:
- The Tory Channel and Queen Charlotte Sound shipping navigation area as described in Bylaw **3.4**.
  - The Tory Channel limits as described in Bylaw **1.4**, Definition of Terms.
  - The limits of the Tory Channel Entrance Controlled Navigation Zone as defined in Bylaw **3.3(iii)(a), (b)**.
- 3.9** It is further recommended that the Marlborough District Council consider changing the Bylaws as follows:
- 3.9.1** The proposed amendment to reporting procedures in Bylaw **3.2** be extended to include the overall length of a tow.
- 3.9.2** The requirements of **3.3(iii)(c)** should be extended so that if any vessel finds that her broadcast ETA at East Head changes more than two minutes then she shall broadcast an amended ETA.
- 3.9.3** The cautionary note in italics following **3.3(xii)** should also be in bold type of a larger font size.
- 3.9.4** The requirements of **3.5(viii)** be extended to provide that all such vessels, wishing to navigate in Tory Channel shall also be equipped with a VHF radio and shall maintain a constant listening watch on VHF channel 19.
- 3.10** It is recommended that the MSA monitor the outcome of the risk assessment to be undertaken by the Marlborough District Council.
- 3.11** It is further recommended that the MSA monitor the development and use of AIS internationally, with a view to the possible implementation of domestic requirements for class B AIS transponders to be fitted to non-SOLAS vessels, dependent on a positive cost benefit study.
- 3.12** As an addendum to this report, following advice received on 13<sup>th</sup> September 2004 of another close quarters situation in Tory Channel Entrance, it is further recommended that the Marlborough District Council consider the introduction of a requirement for all vessels wishing to enter the Tory Channel Entrance Controlled Navigation Zone from seaward should advise Picton Harbour Radio of their intention 30 minutes before entering the zone. Picton Harbour Radio should then advise any vessel that is navigating Tory Channel, of the expected movement.

