FERRY SAFETY INVESTIGATION REPORT

FANTASEA 8 SEASONS GROUNDING
BROKEN BAY, NSW

27 JULY 2017
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EXECUTIVE SUMMARY

At 0545 on 27 July 2017, the Fantasea Cruising vessel Fantasea 8 Seasons was travelling from Palm Beach to Ettalong to begin its first scheduled passenger ferry journey of the day. As the ferry neared the northern shore of Broken Bay in the predawn darkness, it grounded on a sand bar within the channel leading to Ettalong.

While the ferry was grounded, a number of waves washed over the stern onto the main deck. The ferry was re-floated shortly after and the scheduled service to Ettalong diverted to Patonga wharf.

Full details of the Findings and Recommendations of this ferry safety investigation are contained in Parts 3 and 4 respectively.
PART 1  FACTUAL INFORMATION

Introduction

1.1 The ferry "Fantasea 8 Seasons" grounded on a sand bar in the marked Ettalong Channel while commuting to Ettalong to begin its regular passenger service to Palm Beach.

Location

1.2 The incident occurred within the Ettalong Channel on the northern side of Broken Bay just north of Sydney.

1.3 Broken Bay is a large waterway that is exposed to ocean swells at its eastern boundary where it meets the Tasman Sea. To the west, the bay is fed by a number of sources, the largest of which is the Hawkesbury River. South of Broken Bay is Pittwater and to the north is Brisbane Water, which is accessed via Ettalong Channel (see Figure 1).

Figure 1: A map showing the incident location (Source: Google Maps).
Environmental information

1.4 Conditions at the time of the incident were:

Tide: Broken Bay, low tide of 0.29 metres (m) at 0517\(^1\). At the time of the incident it was a flood tide of approximately 0.31 m.

Swell: The significant wave height (off Sydney Heads) was recorded as 3.56 m from 170\(^\circ\) at 0500. At 0600 the records show that the swell had reduced slightly to 3.46 m from 168\(^\circ\).

Wind: At 0900 6 knots from the west-northwest, with the highest recorded gust from the southwest of 14 knots at 0607. This indicates an offshore light breeze veering\(^2\) southwest to northwest.

Light: Sunrise 0651\(^3\).

Visibility: Dark with minimal lighting of the eastern sky as the sun was still below the horizon (Morning astronomical twilight\(^4\)).

The incident

1.5 On Thursday 27 July 2017 the ferry Fantasea 8 Seasons was travelling from Palm Beach to Ettalong to begin its first scheduled passenger service of the day. The crew aboard the ferry comprised of the master and a general purpose hand (GPH). The ferry was not carrying passengers at the time of the incident.

1.6 The master described the morning as dark with little breeze and the journey across the heads as smooth with a gentle 2 m following swell. At approximately 0545 the ferry neared the entrance to Ettalong Channel, the master slowed the ferry to 8 knots and steered towards the east and the

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\(^1\) Times in this report are in 24 hour format Australian Eastern Standard Time.

\(^2\) Veering is when the wind direction moves in a clockwise direction.


\(^4\) The sun is between 12 - 18 degrees below the horizon.
deepest part of the narrow channel. Ettalong Channel is defined by a series of lateral port\(^5\) and starboard\(^6\) markers on either side of the waterway.

1.7 As *Fantasea 8 Seasons* passed the first lateral markers, a following wave pushed the ferry forward. The master slowed the vessel to idle (4 knots) which allowed the wave to sweep under the vessel. A following wave then picked up *Fantasea 8 Seasons* and carried it towards the port (west) side of the channel.

1.8 Due to the low light conditions, the master turned on the vessel's flood lights to visually check the surroundings. The lights revealed white water (breaking waves) in close proximity to the front of the vessel. The master placed the controls to astern (reverse) in an attempt to stop the vessel.

1.9 Before the vessel responded, another wave carried the ferry towards the second port marker where *Fantasea 8 Seasons* grounded. The vessel came to a stop approximately one boat length from the port marker and inside the designated channel. The master was able to reverse the *Fantasea 8 Seasons* off the sand bar by a combination of increasing the astern thrust and the vertical lift produced when a wave passed under the hull.

1.10 As the vessel reversed, water from the following waves washed over the rear deck and the lower main cabin areas. Once clear of the sand bar, the master navigated *Fantasea 8 Seasons* towards a deeper section of the channel.

1.11 When the vessel was in a safe location, the master contacted Fantasea Cruising management's Designated Person Ashore (DPA) and a decision was made to cancel services to Ettalong. The DPA and the master agreed to divert the service to Patonga Wharf until conditions improved (see *Figure 2*). The master and GPH confirmed the vessel was water tight and operating normally before then continuing to Patonga.

\(^5\) A lateral port marker designates the left-hand edge of a channel when navigating upstream on a waterway. Port markers are coloured red.

\(^6\) A lateral starboard marker designates the right-hand edge of a channel when navigating upstream on a waterway. Starboard markers are coloured green.
Vessel information

1.12 *Fantasea 8 Seasons* was registered at the time as an Australian domestic commercial vessel. It is a twin hull, catamaran design with a length of 23.98 m, beam of 7 m and a loaded draft of approximately 1.4 m. The ferry was powered by two 477 kW diesel propulsion engines and is capable of carrying 217 passengers (Class 1D). The vessel offers seating for passengers on two decks, the lower with a weather-tight cabin and the upper with partial weather protection from screens and roof (see Figure 3).
1.13 *Fantasea 8 Seasons* was purpose-designed and built to operate in a broad range of conditions. While physically larger than the vessels it replaced, the shallow draft (1.4 m) permits navigation in shallow estuarine waters. Additionally, it needs to be capable of safely navigating water exposed to ocean swells.

![Fantasea 8 Seasons](image)

*Figure 3: Fantasea 8 Seasons* (Source: OTSI)

**Fantasea Cruising**

1.14 Fantasea Cruising is a subsidiary of Riverside Marine, who operate a large fleet of ferries in both New South Wales and Queensland. In Broken Bay, the company operates regular ferry services between Ettalong and Palm Beach. The company also services the local communities of Pittwater with a ferry service from Palm Beach Wharf.

**The crew**

1.15 At the time of the incident, the vessel had a crew of two qualified persons as required by the regulations. The master held a Master less than (<) 24 metre certificate and a Marine Engine Driver Grade 3 certificate. The deckhand was qualified as a GPH.
1.16 The company had formally inducted the crew to operate Fantasea 8 Seasons.

**Ettalong Channel**

1.17 The entrance to Brisbane Water is through the Ettalong Channel, a narrow navigable channel close to the east shore of a wide, shallow waterway. Lateral navigation markers near Little Box Head defined the channel entrance. The winding channel is bordered by a rocky shoreline to the east and a shifting sand bar (flood-tide sand delta) to the west.

1.18 Lateral navigation markers were in place along both sides of the channel to aid vessel masters in safely navigating the shallow waters. The markers were lit to assist in navigation during hours of darkness or poor visibility. Roads and Maritime Services (RMS) were responsible for the maintenance and placement of the navigational markers.

1.19 Ettalong Channel was significantly dredged in January 2010 by a collaboration between the former Department of Industry - Lands & Forestry (now Crown Land) and Gosford City Council. Localised dredging in the vicinity of Lobster Beach (see Figure 2) was carried out in June- July 2017.

**The Department of Industry – Crown Land (DOI)**

1.20 DOI is a state government department responsible for the management of NSW’s Crown Land, roughly 42% of the state. This encompasses both dry land and the submerged land of the state’s waterways. This boundary extends 5.5 km out to sea and includes the ocean floor, coastal estuaries, numerous large riverbeds and coastal wetlands.

1.21 Management of submerged land is carried out through the NSW Government’s Coastal Dredging Strategy. This strategy provides a framework for prioritising dredging projects, key programmes and related actions up to 2026.

1.22 Under this strategy, a waterway area is considered either regional (DOI managed) or local (local government - council managed). A waterway is considered regional when the waterway provides access to state owned
maritime infrastructure and facilities. A waterway is considered local when it has no state owned maritime infrastructure.

1.23 Regional waterways are maintained by DOI. Local waterways are maintained through a partnership programme called *Rescuing Our Waterways*. The programme provides state government funding for works in local waterways. The funding is provided through an agreement between state government and local councils.

1.24 Ettalong Channel was considered a local waterway under the *Coastal Dredging Strategy*. Historically, ongoing maintenance and dredging had been conducted through a shared state / local funding programme.

**Roads and Maritime Services (RMS)**

1.25 RMS is a NSW government agency responsible for managing the operations and programmes of NSW roads and waterways.

1.26 Following an agreement between the Commonwealth and NSW governments, RMS became a delivery agent for the Australian Maritime Safety Authority (AMSA) in NSW under the national marine legislation. Under this agreement AMSA delegates certain legislative powers to state and territory marine safety agencies. RMS holds this delegation in NSW.

1.27 RMS was responsible for the placement and maintenance of navigational aids within Broken Bay and Brisbane Waters, which includes the lateral markers along Ettalong Channel.

1.28 RMS, in a joint initiative with DOI, conducted hydrographic surveys of the Ettalong Channel every six months. The local RMS Boating Services Officer (BSO) utilised data from the hydrographic surveys, reports from masters and visual inspections to determine if a lateral marker required repositioning. RMS engaged contractors to carry out the repositioning of markers.

1.29 Data from the surveys was not directly shared with local users of the channel.
Central Coast Council (CCC)

1.30 CCC was formed in May 2016, when the NSW Government merged the former Gosford City Council (GCC) and Wyong Councils. Historically GCC partnered with the Department of Industry – Lands & Forestry (now DOI) to maintain the Ettalong Channel which is located within the CCC local government area.
PART 2  ANALYSIS

Introduction

2.1 The investigation focussed on the factors that contributed to Fantasea 8 Season grounding in the entrance of the Ettalong channel.

Fantasea Cruising management of the shoaling channel

2.2 The company first identified grounding hazards in Ettalong Channel in 2014. At the time the company reported these hazards to authorities including; AMSA, RMS, TfNSW, DOI and the then GCC.

2.3 Following incidents reported by masters where vessels had touched the channel bed, the company facilitated a forum of stakeholders and channel inspection in March 2016 to assess the issue.

2.4 The stakeholders meeting on 8 March 2016 aboard the ferry Golden Spirit identified several issues including: the frequency of vessels touching bottom in the area; the impact on maintaining safe operations and the impacts on the company meeting contractual operational performance targets.

2.5 Topics discussed included:

- Silting of channel
- Speed of tidal flow as channel shallows
- Challenges in maintaining steerage when keeping to the RMS posted 4 knot speed limits due to tidal flow
- Overcrowding due to increased recreational vessel usage
- Consensus that navigation dredging is required
- That a collective government strategy is required.

2.6 Operationally, Fantasea Cruising reviewed and refined their procedure for entry into the Ettalong Channel with a following sea. The revised procedure
directed masters to approach the channel, stop and assess conditions and, if in doubt, liaise with the DPA”.

2.7 The DPA was a member of management and a senior master with an extensive local knowledge of the conditions at Ettalong Channel.

2.8 At the time of the grounding, individual masters and the DPA monitored weather forecasts when conditions were considered to be deteriorating. The monitoring of the weather information was an operational process not documented in the Fantasea Cruising Safety Management System (SMS).

2.9 This practice utilised the experience and knowledge of the master and the DPA in decision making. However, it is only the master on the vessel who can assess conditions first hand. Individual knowledge of local conditions and risk perceptions can vary.

2.10 The procedure for entering the channel did not define a safe operational minimum height of tide and relied on the daily assessment of conditions before navigating the channel.

Crew actions

2.11 The master said that as normal practice, an assessment of weather and sea state was made utilising online weather forecasting prior to crossing the heads. On the day of the incident, the master noted the tide was low and would warrant review when they arrived at the entrance to the channel. The master realised that the review would be challenging as it was dark at the time.

2.12 The trip across the heads was described by the crew as dark, smooth and uneventful. The master said that a gentle following sea became noticeable as they neared the northern shore of Broken Bay.

2.13 When Fantasea 8 Seasons neared the channel entrance, the master slowed the vessel to assess the conditions. The company SMS required a master to stop the vessel to assess conditions. OTSI validated the recorded ferry speed

7 For a detail explanation of procedure see appendix 1 at the end of this report.
of 3.2 knots\textsuperscript{8} (6 km/h) as it approached the channel. This would have been adequate to assess the conditions. Conducting the assessment on a halted vessel can be challenging when floating in a seaway.

2.14 The master’s assessment was influenced by confidence in his local knowledge, similar weather conditions to the previous day’s operations and the relative calm of the journey across the heads.

2.15 The effect of the swell (reported by the master as 2 m) altered the water depth in the marked channel through peaks and troughs. The actual depth of the channel was less than the 2.8 m chartered depth, as per the Australian Hydrographic Office (AHO) AUS216 (see Figure 4).

\textbf{Figure 4: AUS216 showing channel depth} (Source AHO)

\textsuperscript{8} A knot is a unit of speed equal to one nautical mile (1.852 km) per hour.
Determining a safe navigable channel

2.16 When determining the suitability of a navigable channel a master needs to consider a number of factors, these include:

- The draft of vessel in its current state of displacement
- The chartered depth or Lowest Astronomical Tide (LAT) of water in the channel
- The state of the tide at the time of proposed crossing
- Swell height and direction in the location
- Extreme high or low barometric air pressure.

2.17 Masters typically utilise the data in a simple formula to determine the depth under the vessel’s keel (distance between the vessel and the seabed) (see Figure 5).

![Diagram](image.png)

**Figure 5: Formula for determining depth of water under a vessel's keel**

2.18 Once a master knows the Under Keel Clearance (UKC) they can make a determination on whether a safe passage can be attempted, taking into account local environmental conditions at the time. A company can assist a

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9 LAT- the height of the water at the lowest possible theoretical tide.
master in this decision making process through robust risk assessment and implementation of a mitigating procedure. The procedure must advise of the minimum height of tide for safe operations.

2.19 In this case, Fantasea 8 Seasons was travelling without passengers and had a maximum draft near the stern of approximately 1.4m. Applying the above formula, the UKC would have been approximately 1.7 m (LAT + T) – D = UKC or (2.8m + 0.31m) – 1.4m = 1.71m (see Figure 5).

**Ettalong Channel dredging June 2017**

2.20 In June 2017, following a request by CCC for emergency dredging, DOI wrote to Fantasea Cruising, informing them that limited dredging would be carried out. DOI provided Fantasea Cruising with a map asking them to highlight areas of the channel requiring dredging in terms of priority (see Figure 6).
2.21 The company responded by marking the priority locations on a chart based on the highest risk from ocean swells. Fantasea Cruising stated “...The real danger here is that a vessel may ground with a following sea behind her...”

2.22 DOI advised OTSI that both Fantasea and RMS had identified the entrance as a navigation risk that required dredging. DOI informed Fantasea that dredging in the exposed waters near the channel entrance required calm conditions.

2.23 Weather conditions at the time of dredging in June-July 2017 did not allow work to be carried out in the area marked as the highest priority by Fantasea

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10 Area marked as 1 on map is company identified highest priority. Area marked as 2 is location dredged.
Cruising. The actual location dredged by the DOI was rated as second highest priority by Fantasea Cruising.

2.24 The dredging of the channel was a subject of ongoing discussion amongst stakeholders. Fantasea Cruising reported that a number of efforts to address the dredging issue had failed. Stakeholders from all agencies concur that dredging was required, but there was no agreement on funding.

2.25 Previously dredging was conducted through a partnership of state and local government funding. Following the amalgamation of Wyong and Gosford City councils no dredging has taken place. CCC held the view that the maintenance of the channel was the responsibility of DOI.

2.26 Without dredging, the sand bar adjacent to the Ettalong Channel would most likely continue to encroach into the channel and further reduce its depth and width.

Sand Bar influence upon Ettalong Channel

2.27 The sand bar to the west of the channel is constantly shifting by the movement of tidal water and wave action. During large ocean storms from the south east, changes to the bar can substantially alter the depth and course of the channel.

2.28 Ocean swell from the south east is the most likely to cause breaking waves at the bar. The July grounding of Fantasea 8 Seasons occurred after a recent period of large swells on the east coast.

2.29 An RMS boating map¹¹ (see Figure 7) indicated the depth of the channel to be between 2 and 5 m. Masters who navigated the channel suggested this depth was inaccurate and advised their vessels regularly contacted the channel bottom during operations at lower tides.

¹¹ This map is provided as a guide and marked not for navigation. The map has a number of warning labels concerning the shifting sand bar.
2.30 The Navionics© chart utilised at the time on the ferry, indicated a depth of over 4 m LAT at the entrance to the channel and shoaling down to approximately 2.8 m in the vicinity of the grounding (see Figure 8).
2.31 Normally, some areas of the sand bar will dry\textsuperscript{12} and waves may break on these locations. The incursion of the sand bar into the entrance to the channel has led to waves breaking on smaller swells.

**Related occurrences**

2.32 Interviews with company masters and management indicated that vessels touched the bottom within the navigable channel, particularly at low tides.

2.33 At the time of the incident, both masters and management agreed that contingencies were in place for the risk of grounding to be managed to ensure

\textsuperscript{12} To dry is when the sand becomes exposed by the retreating tide.
the safety of the travelling public. Their major concern was damage to their vessels.

2.34 The company submitted to OTSI examples from 13 April 2017 and 30 June 2017 of service cancellations and consideration of alternate destinations, as risk controls.

2.35 Prior to the incident, masters had expressed increasing concern that the sand bar was further encroaching into the navigable channel. Groundings had occurred inside the marked channel in March and April 2017. These were reported to RMS.
PART 3 FINDINGS

From the evidence gained, the following findings are made with respect to the grounding of the ferry *Fantasea 8 Seasons* in the Ettalong Channel on 27 July 2017.

3.1 The navigable Ettalong Channel around the sand bar at the entrance to Brisbane Water from Broken Bay is in a state of constant change. This change is accelerated following times of large water movements such as experienced during ocean storms from the south east.

3.2 Dredging of the channel was required to increase channel depth when natural sand deposits build up in the waterway.

3.3 The ongoing dredging of the Ettalong Channel required the coordination of DOI, RMS and CCC. Dredging was dependent on suitable weather conditions.

3.4 Marine charts provide information different to depths experienced by masters who navigate the channel.

3.5 Fantasea Cruising and it masters, were aware of the risks associated with navigating the channel in close proximity to the expanding sand bar.

3.6 Fantasea Cruising reported the reducing depth of the Ettalong Channel to the relevant authorities prior to the incident.

3.7 DOI planned dredging in July 2017 was limited due to weather conditions.

3.8 The grounding or touching the channel bed by vessels within the channel was a regular occurrence at lower tides. Based upon interviews, it was apparent that masters had accepted this as normalised in day-to-day operations.

3.9 Fantasea Cruising’s SMS lacked defined parameters to assist a master in determining safe passage through the Ettalong Channel.

3.10 Information from ongoing hydrographic surveys of the channel was not available to stakeholders.

3.11 The responsibility for the ongoing management of Ettalong Channel was a subject of conjecture between the public, operators, local and state government.
PART 4 RECOMMENDATIONS

Fantasea Cruising

4.1 Develop ongoing hazard identification and risk management for navigating the Ettalong Channel as part of their Safety Management System.

Department of Industry – Crown Land

4.2 Develop a comprehensive ongoing maintenance plan for the dredging of Ettalong Channel.

Transport for New South Wales (TfNSW)

4.3 Support the Department of Industry (Crown Land) to develop a continuous maintenance plan for the dredging of Ettalong Channel.

4.4 Facilitate continual communication between stakeholders and authorities to ensure the ongoing access and safe navigation for the Ettalong Channel.

Roads and Maritime Services

4.5 Share data from hydrographical surveys with providers of marine public transport.

4.6 Increase surveillance of the status of the channel depth to ensure the lateral markers are positioned to enhance safe navigation in Ettalong Channel.
PART 5  REMEDIAL ACTIONS POST INCIDENT

Fantasea Cruising

5.1 Since the grounding of 27 July 2017, Fantasea Cruising has reviewed, enhanced and documented a procedure of monitoring online weather forecasts. Additionally, the DPA and masters have developed parameters, such as the height of tide in relation to swell height and direction. Masters must assess this before deciding to navigate the Ettalong Channel (see Appendix 1 revised procedure).

5.2 The company circulated the procedure to masters for feedback. The revised procedure was then incorporated into the SMS.

5.3 Operations to Ettalong ceased in May 2018 and services diverted to Patonga as a risk control.

5.4 In September 2018, trials commenced to determine the effectiveness of dredging carried out by DOI in August 2018.

Department of Industry – Crown Land (DOI)

5.5 DOI carried out emergency dredging in close consultation with Fantasea Cruising. This was continuing as of September 2018.
PART 6  APPENDICES

Appendix 1: Extracts from Fantasea Safety Management System

Procedure at time of incident

7.1.1.1  Navigation within Broken Bay and Surrounding Estuaries

7.1.1.1  Box Head – Entering Brisbane Waters

“When there is a large SE swell running, the entrance to Brisbane Waters, adjacent to Box Head, can become very dangerous especially for inbound vessels where the sea is following the stern.

The Master is responsible for ensuring that it is safe to continue operating in such circumstances. Regular reports as to conditions must be communicated to the DPA and continuous weather and sea-state appraisal must be made. The Master or the DPA may decide to discontinue operations until the conditions have subsided.

On approach to Box Head, when there is even the slightest doubt as to the suitability of entering Brisbane Waters, the Master must:

- Stop the vessel at a safe distance away from the entrance and take account of the conditions (this may include counting the wave sets and identifying the largest average wave height).
- If passengers are onboard, make a PA announcement informing them of the reasons for stopping the vessel and reassuring them it is part of safe operational procedure.
- Contact the DPA and communicate his or her observations of the conditions
- If it is decided by the Master or the DPA that it is unsafe to enter, it may be decided that the vessel will dock at Patonga Wharf instead. Whatever the contingency plan may be, it must be communicated promptly to all passengers onboard.

7.3.2.8.2  Shifting Sand Banks in Brisbane Waters

The sand banks within Brisbane Waters, especially those between Box Head, Umina Beach and Ettalong wharf are subject to constant shifting due to the elements. Masters shall observe and take note of these changing conditions and avoid departing from marked channels.

New Masters must be made fully aware of where shallow water lies. Likewise, any Master returning from long periods of leave or absence from the area should be re-familiarised with the area by another Master who has operated on the waterway recently.”

Revised SMS procedure

7.3.2.2.1  Box Head – Entering Brisbane Waters

“When there is a large SE swell running, the entrance to Brisbane Waters, adjacent to Box Head, can become very dangerous especially for inbound vessels where the sea is following the stern. This area can be especially treacherous on low tides due to increased shoaling in the area over recent years.
The Master is responsible for ensuring that it is safe to continue operating in such circumstances. Regular reports as to conditions must be communicated to the DPA and continuous weather and sea-state appraisal must be made. The Master or the DPA may decide to discontinue operations until the conditions have subsided.

By 3pm each day, the Master rostered to work the following day and the DPA must be in contact to discuss the weather conditions for the next 24 hours and make a determination as to whether services will continue to Ettalong or, if conditions are adverse, be diverted to Patonga.

Factors that must be appraised include:

- The tidal predictions whereby very low tides below 0.03m may increase risk of grounding when swells increase
- The direction and height of predicted swell whereby south-easterly swells above 1.5m may increase risk of grounding on very low tides
- Predicted sea-state and wind strength whereby strong winds from the south to southeast and duration of conditions may increase wave heights at the entrance to Box Head

On approach to Box Head, when there is even the slightest doubt as to the suitability of entering Brisbane Waters, the Master must:

- Stop the vessel at a safe distance away from the entrance and take account of the conditions (this may include counting the wave sets and identifying the largest average wave height).
- If passengers are on board, make a PA announcement informing them of the reasons for stopping the vessel and reassuring them it is part of safe operational procedure.
- Contact the DPA and communicate his or her observations of the conditions
- If it is decided by the Master or the DPA that it is unsafe to enter, it may be decided that the vessel will dock at Patonga Wharf instead. Whatever the contingency plan may be, it must be communicated promptly to all passengers on board.
- The DPA will make arrangements for public notification to be erected at the appropriate wharves and, if necessary, Central Coast transport services may be contacted to provide passengers with bus or taxi transport from Patonga.

**7.3.2.2 Shifting Sand Banks in Brisbane Waters**

The sand banks within Brisbane Waters, especially those between Box Head, Umina Beach and Ettalong wharf are subject to constant shifting due to the elements. Masters shall observe and take note of these changing conditions and avoid departing from marked channels.

New Masters must be made fully aware of where shallow water lies. Likewise, any Master returning from long periods of leave or absence from the area should be re-familiarised with the area by another Master who has operated on the waterway recently.”
Appendix 2: Submissions

The Chief Investigator forwarded a copy of the Draft Report to the Directly Involved Parties (DIPs) to provide them with the opportunity to contribute to the compilation of the Final Report by verifying the factual information, scrutinising the analysis, findings and recommendations, and to submit recommendations for amendments to the Draft Report that they believed would enhance the accuracy, logic, integrity and resilience of the Investigation Report.

The following DIPs were invited to make submissions on the Draft Report:

- Transport for NSW
- Roads and Maritime Services
- Fantasea Cruising
- Department of Industry – Crown Lands
- Central Coast Council

A response was received from Fantasea Cruising.