



# King Island Livestock Supply Chain Management



## Department of Infrastructure Energy and Resources

14 December 2012

Final Report

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# **GHD was engaged by the Department of Infrastructure Energy and Resources to undertake a detailed review of the King Island Livestock Supply Chain to assist with workable decision making by stakeholders**

The Department of Infrastructure, Energy and Resources engaged GHD to undertake a study that builds on preliminary actions identified as part of the King Island Livestock Industry Forum by providing further understanding and clarification for the transport supply chain.

The study was informed by stakeholder consultation and desktop research to identify constraints and inefficiencies that do, or could, exist within the King Island livestock supply chain. The outcome of this study is to inform interested supply chain parties, and assist them in making sustainable decisions about the future of their supply chain.

The study was set within the context of:

- The closure of the King Island meat processing facility was announced by JBS Australia in September 2012
- Prior to closure, the King Island facility had the capacity to process 180 head of cattle per day
- The closure resulted in the need for livestock to be transported to processing facilities located on the Tasmanian main land – with an expected volume of about 35,000 head per annum
- A King Island Livestock Industry Workshop was held on 21 September to discuss concerns raised regarding the significant increase in livestock movements off the island by ship

This report firstly discusses the approach taken for the study, followed by the definition of the supply chain, its transport flows, commercial arrangements, and the different transport processes for different product groups. The report then discusses the key risks identified in the supply chain, possible causes and mitigation activities to manage the key risks. The report concludes with a number of recommended actions for consideration and potential implementation by the supply chain parties to reduce the likelihood and impact of risks now and into the future.



# The approach to the study included three phases: information gathering; defining supply chain risks and mitigations; and the development of actions to manage supply chain risk for the transport of King Island livestock

The approach to the study involved three phases, each requiring a number of tasks as shown in Figure 1.

## Phase 1 – Information gathering

- A review of work done to date (notes and actions from the initial King Island Livestock Industry Workshop held on 21 September 2012) and appropriate regulations and guidelines
- Consultation through face-to-face interviews, or telephone meetings with a range of stakeholders in the King Island Livestock Supply Chain. This included a number of producer representatives, stock agents, road transport operators, vessel operators, the port operator, local King Island members of TFGA, local government representatives, and representatives of appropriate State Government departments

## Phase 2 – Defining supply chain risks and mitigations

- Based on the information gathered, the supply chain was defined. This included the various port and transport options available for the movement of livestock between King Island, mainland Tasmania, and Victoria.
- From the information gathered during consultation, desktop research and supply chain experience, a range of risks were identified that have the potential to impact on supply chain performance
- The identified risks were then mapped to the supply chain, including the development of potential mitigation activities to eliminate or manage the chance and impact of each risk

## Phase 3 – Development of actions

- The defined supply chain, identified risks, and potential mitigation activities were presented at a second King Island Livestock Industry Workshop on 5 November 2012, to confirm the identified risks, raise any additional risks, allocate an urgency/impact of the risks, and confirm the relevance and/or effectiveness of the initial mitigation activities
- Based on feedback received, and industry review of the work undertaken in Phase 2, the risks and mitigations were adjusted to align with the needs and concerns of the industry
- A series of actions were then developed that directly addressed the major risks to the supply chain

Figure 1 Study approach





# The King Island Livestock Supply Chain is a non-integrated system that comprises a large number of commercial interests, each providing specific services or infrastructure

The King Island Livestock Supply Chain provides the movement of goods from farm (as livestock) to market (as meat product). Not all animals are marketed as meat product as some leave the island for the feedlot and other backgrounds.

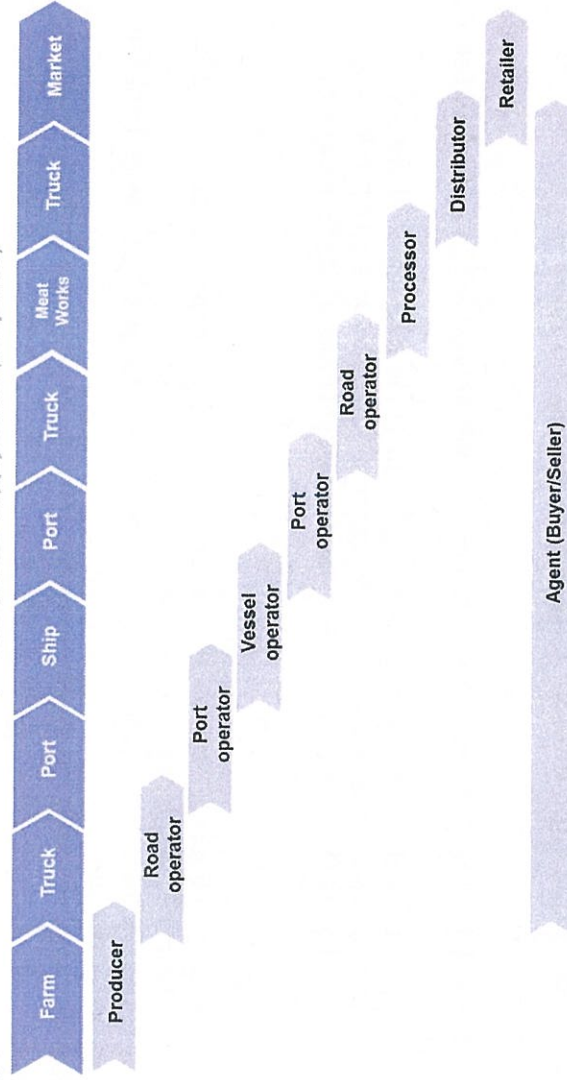
The supply chain includes a number of nodes (locations) and links (transport) to achieve the movement of goods from origin to destination. A simplified representation of the King Island Livestock Meat Supply Chain, the parties involved, and the length of their commercial interest in the supply chain is presented in Figure 2.

As shown in Figure 2, there are a number of infrastructure and service providers that perform specific activities (functions) in the delivery of the supply chain. The specific functions provided by each of the service providers results in a large number of parties, typically with commercial interests that end with the transfer of cargo to the next party in the supply chain. As a result, the King Island Supply Chain is a non-integrated system that will be influenced by the commercial needs of each party directly involved.

The Agent\*, as the ultimate owner of the livestock from farm to market, has the longest commercial interest in the supply chain, but has no direct role in the delivery of the supply chain. Actual ownership of the animals is transferred at slaughter, as payment is based on carcase characteristics



Figure 2 Commercial Interests in the Livestock Meat Supply Chain (simplified)



Source: GHD

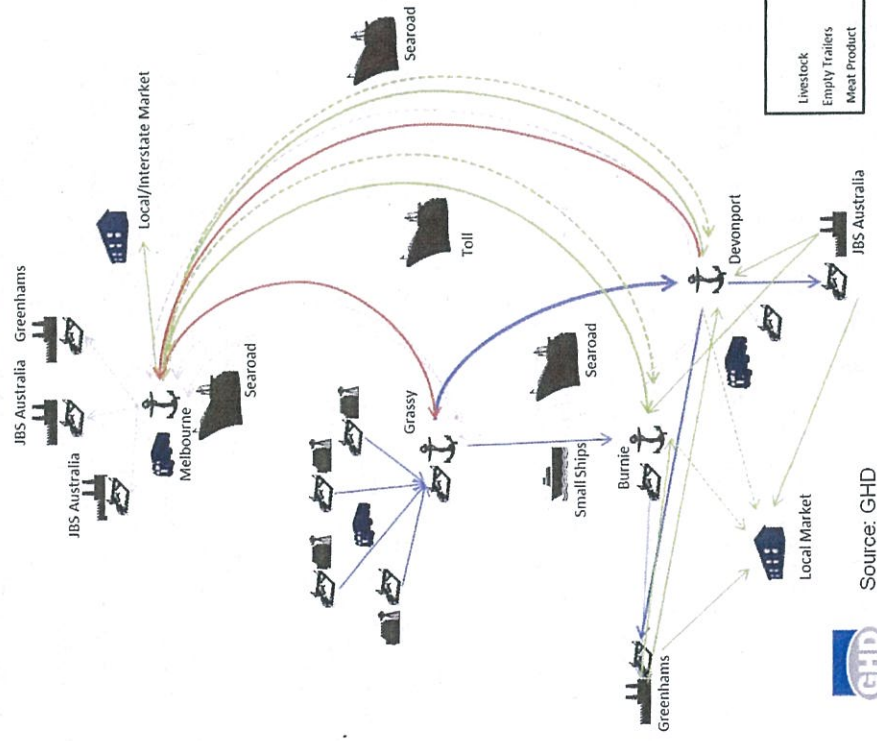
\* Note: Agents are presented as both the stock agent on King Island, and the organisation (Greenhams or JBS Australia) which they represent. Agents are not necessarily employees of either Greenhams or JBS Australia. The pastoral houses also have agents that act to sell stock on behalf of farmers.



# Transport flow for the King Island Livestock Supply Chain is complex due to the large number of parties involved and destination options available

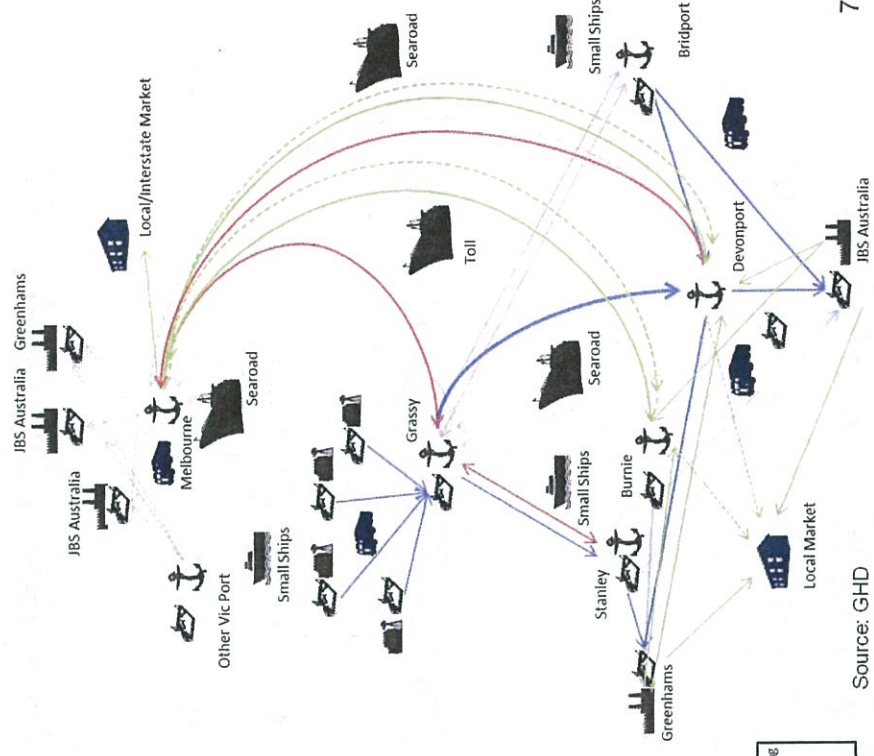
As shown in Figure 3, transport flow for the King Island Livestock Supply Chain is complex when the combination of multiple ports, three vessel operators, the repositioning of empty livestock trailers, and multiple processing facilities are considered. With the introduction of additional transport options resulting from a potential fourth vessel operator (which may include access to Bridport Port), and availability of Stanley Port, the transport flows are significantly more complex, as shown in Figure 4.

Figure 3 Farm to Market – Current Supply Chain (Major Transport Flows)



Source: GHD

Figure 4 Farm to Market – Potential Supply Chain (Major Transport Flows)



Source: GHD

\* Note: The potential for Bridport port will be dependent on which small vessel operators are engaged, the commercial agreements reached, and optimisation of the sailing schedule for servicing the Furneaux Group of Islands



## There is a difference in the supply chain commercial arrangements as a result of who is the 'freight forwarder', and the type of freight service that is offered

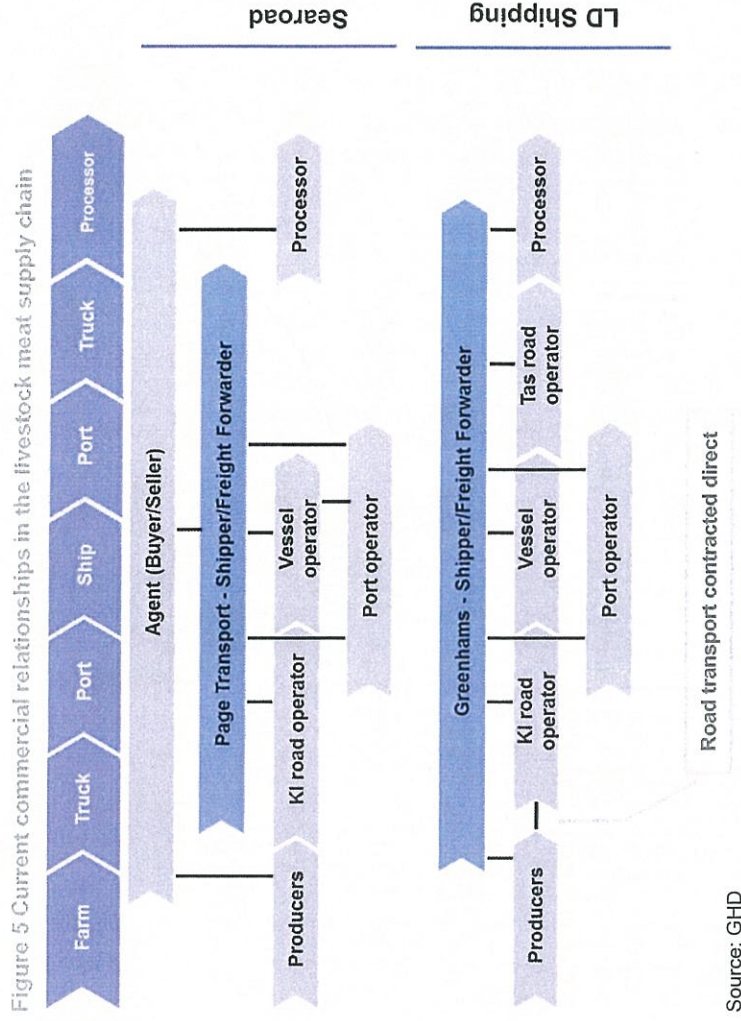
Commercial arrangements between parties are required for the supply chain to function. The arrangements determine accountabilities and set expectations within the supply chain, and influence the communication chain.

Within the supply chain commercial arrangements must exist between all parties. The arrangements can be implemented in a variety of ways (Figure 5).

As shown in Figure 5, different commercial arrangements exist between parties, driven largely by the organisation that takes the role of the "shipper", and the commercial arrangements they have with the different vessel operators.

As shown in Figure 5, the ultimate cargo owner (Agent) engages a Freight Forwarder (Page Transport), to provide a 'door-to-door' service for the transport of cattle from the farms to the processing facilities using SeaRoad. Under this arrangement, the freight forwarder contracts (and pays for) all services between the transport origin and destination\*. As a result, the freight forwarder provides coordination of transport services in the supply chain.

Commercial arrangements between parties with the introduction of the LD Shipping service are different. With this service, Greenhams, in their arrangements with the vessel operator, act as the freight forwarder (and coordinator). Road transport arrangements include Greenhams engaging Page Transport for the Tasmanian mainland, and Producers directly engaging road operators on King Island.



\* Port charges are paid by both Pages Transport as the shipper (cargo charges), and SeaRoad (vessel charges)

Note: Agents are presented as both the stock agent on King Island, and the organisation (Greenhams or JBS Australia) which they represent.



## The transport process for different product categories, and the types of vessels engaged, result in both general and specific risks

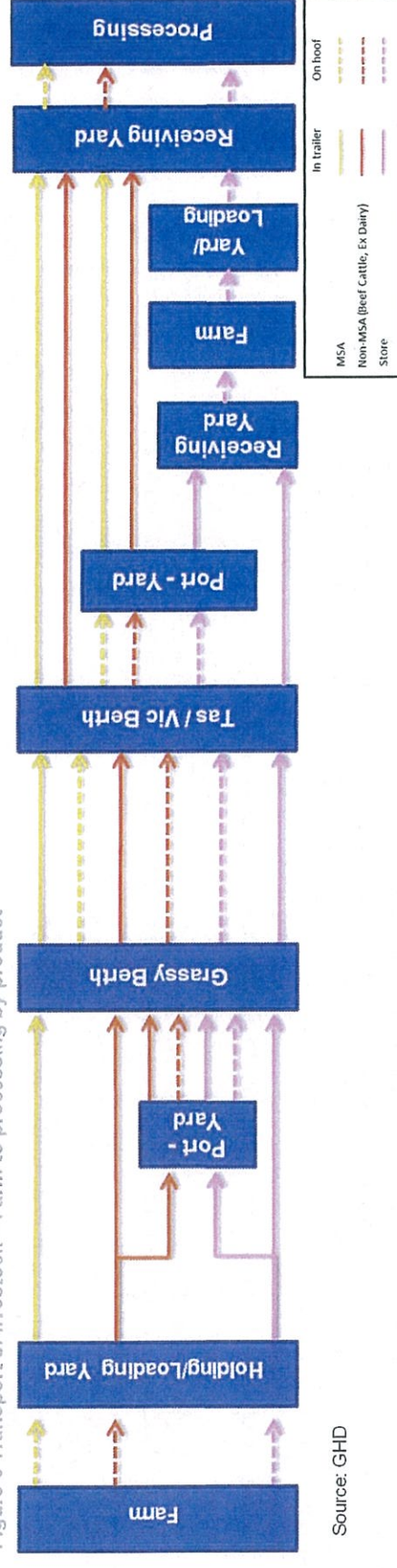
Within the King Island Livestock supply chain there are three generalised product categories:

- Cattle that are seeking to meet MSA carcass grade specifications (premium product)
- Cattle that are not seeking MSA classification, such as ex dairy cattle
- Store cattle that are sent from the island to be finished on farms off King Island (Tasmanian mainland and Victoria), or relocated to King Island\*.

In general the transport process is similar across product categories (Figure 6); however, there are a number of constraints on the handling and transport of cattle seeking MSA carcass grade. These include:

- Cattle must be killed by the end of the day after farm departure (depart farm plus 1 day)
- Cattle that have not been run as a mob for at least a month prior to transport cannot be mixed for transport

Figure 6 Transport of livestock – Farm to processing by product



Due to the different transport processes for each product category, and the requirements to qualify for MSA carcass grading, a range of general risks (cattle transport) and specific risks (MSA requirements, nature of dairy cattle) exist throughout the supply chain.

\* The relocation of animals from mainland Tasmania and Victoria to King Island has not been included in Figure 6. While not immediately destined for meat processing facilities, the supply chain (and transport infrastructure) for store cattle is common between the farms on King Island and the port facilities in mainland Tasmania and Victoria.. Due to the use of common transport infrastructure, store cattle both influence, and are exposed to, the same risks as animals being transported for meat processing



# Within the operating constraints of the supply chain, operational and commercial risks have the ability to impact the goal of achieving highest price for the lowest cost

The supply chain operates within a set of constraints that act as ‘rules’ for service providers. A breach in any of these has the potential to lead to an injury to people or animals, and/or a financial penalty. As a result, service providers have a range of standard operating procedures, codes of practice, or company policies that reflect applicable laws and legislation and protect their commercial interest.

For the King Island Livestock Supply Chain these include, but are not limited to:

- Animal Welfare Regulations 2008
- Australian Animal Welfare Standards and Guidelines – Land Transport of Livestock
- Marine Orders Part 43 pursuant to the (Commonwealth) Navigation Act
- Animal Welfare Guidelines- Trade and Transport of Calves, Including Bobby Calves
- Navigation Act 1912
- Animal Welfare Act 1993
- Animal Welfare Guidelines – Transport of Livestock Across Bass Strait
- Vehicle and Traffic (Vehicle Operations) Regulations 2001
- Vehicle and Traffic (Vehicle Standards) Regulations 2001
- Workplace Health and Safety Act 1995
- Pollution of Waters by Oil and Noxious Substances Act 1987
- Occupational Health and Safety (Maritime Industry) Act 1993

Within the operating constraints, the livestock supply chain goal is to **achieve the highest price for the lowest cost**.

The price that is paid for an animal is critical for the profitability of the producer. While the price paid is influenced by market conditions, there are a range of factors that influence the achievable price of cattle – in particular the meat quality.

The price paid for transport services is also critical, as this can have an impact on the profitability of the farmer and the processor. However, this price may also impact on the profitability of the transport providers, as they need to recover the costs of providing infrastructure (fixed and mobile) capacity to move the livestock.

Risks in the supply chain have the potential to decrease the achievable market price for cattle by increasing stress or injury and bruising. These risks may also result in increased transport costs to the operator (which will either be internalised or passed on) through poor supply chain performance, and the need to oversupply capacity, as animals requiring welfare attention increase the time associated with managing them.

Risks exist at all points in the supply chain, particularly where there is a transfer between parties, as a result of both operational activities and difference in commercial focus. Significant issues arise in the supply chain where the problems in the supply chain are transferred from one party to another party, which may ultimately impact price (animal stress and injury) and costs (excess capacity).



# Risks within the supply chain are typically the result of deficiencies in understanding and management of the whole supply chain

Risks in supply chains are typically a result of deficiencies in the following:

- **Capacity/Capability** – transport and farm infrastructure is either unsuitable (capability) or insufficient (capacity)
- **Operations** – the ‘rules’ in the supply chain do not allow for the safe or efficient use of infrastructure
- **Communication** - the right information is not provided to the appropriate parties so that they can appropriately plan or respond to change
- **Coordination** – plans and schedules for the supply chain do not provide the best outcome for all parties

Addressing the supply chain deficiencies will result in a reduction in both the delivery and commercial risks.

Based on a detailed review of specific risks in the supply chain (Appendix A), consultation with supply chain stakeholders, the desktop review, and experience across a range of product supply chains within Australia and Internationally, the following key risks for the King Island Livestock Supply Chain are:

- **The inability for the supply chain to readily respond to changes in demand**
- **Insufficient capacity to meet a surge in weekly or short term demand for the processors, road transport, or vessel operators**
- **Increased transport costs**
- **Lower meat grading results**
- **Loss of revenue**

While the above risks have been identified, this does not necessarily mean that they currently exist, or have a significant impact on the supply chain (through lower achievable meat prices, inability to reach market, or higher transport costs). However, these risks have the potential to significantly impact the supply chain if not managed appropriately.

## Key risks may arise due to a wide range of potential causes within the supply chain

Key risks in the King Island Livestock Supply Chain can arise due to a range of causes. Based on the detailed review of specific risks in the supply chain (Appendix A), possible causes for each key risk are presented in Table 1.

Table 1: Potential causes for key supply chain risks

Key risk	Potential Cause
The inability for the supply chain to respond to changes in demand	<ul style="list-style-type: none"> <li>• Lack of accurate forecasts (longer period)</li> <li>• Lack of appropriate communication between parties</li> <li>• Late notification of changes in schedules and plans</li> </ul>
Insufficient capacity to meet a surge in weekly or short term demand for the processors, road transport, or vessel operators	<ul style="list-style-type: none"> <li>• Late arrival of animals at processing impacting on throughput at the plant</li> <li>• Allocation of processing capacity does not meet King Island supply</li> <li>• Insufficient empty trailers on King Island, or repositioned to meet each shipment or demand</li> <li>• Insufficient road transport 'buffer capacity' to accommodate operational losses (breakdowns, slow loading, downer animals)</li> <li>• Insufficient trailer/cattle space allocation on vessels to meet demand</li> <li>• Vessel operational losses due to breakdowns, weather and public holidays</li> </ul>
Increased transport costs	<ul style="list-style-type: none"> <li>• Oversupply of road transport capacity (empty trailers and prime movers) in order to meet both weekly demand and to cover for events such as breakdowns and downer animals</li> <li>• Poor utilisation of road transport capacity (animals per pen)</li> <li>• Oversupply of vessel capacity due to misalignment or last minute changes in weekly or short term demand</li> <li>• Poor utilisation of vessel capacity due to presentation of animals that are unfit for travel, and slow loading/unloading performance requiring delayed sailings or forgoing cargo</li> </ul>
Lower meat grading results	<ul style="list-style-type: none"> <li>• Breaches in compliance requirements for MSA grading of cattle</li> <li>• The handling and transport of cattle leads to increased stress, bruising and injury of animals</li> </ul>
Loss of revenue	<ul style="list-style-type: none"> <li>• Inappropriate preparation of animals resulting in them being declared unfit for travel</li> <li>• The handling and transport of cattle leads to animals being declared unfit for travel</li> </ul>



## A broad range of mitigation activities are required to manage the risks across the whole supply chain

There are a range of ways that supply chain risks can be mitigated. A range of specific mitigation activities has been identified to eliminate or reduce the chance and impact of the key risks (Table 2), identified during this study.

Table 2: Mitigation activities for key supply chain risks

Key risks	Mitigation activities
The inability for the supply chain to respond to changes in demand	<ul style="list-style-type: none"> <li>Preparation and update of season forecasts</li> <li>Define communication protocols for all parties in the supply chain, including timing expectations</li> </ul>
Insufficient capacity to meet a surge in weekly or short term demand for the processors, road transport, or vessel operators	<ul style="list-style-type: none"> <li>Alignment of vessel unloading time with processing time (unloading vessels earlier or opening processing facilities later)</li> <li>Balance forward processing demand between facilities using forecasts</li> <li>Adjust King Island road fleet (trailers and prime movers) to meet next week's demand</li> <li>Unload inbound empty trailers as early as possible</li> <li>Provide sufficient 'buffer capacity' in the road fleet to accommodate operational losses</li> <li>All transport equipment is reliable and 'fit for purpose'</li> <li>Provide sufficient vessel capacity to manage peaks and surges, and clear backlogs in demand (through arrangements with other vessel operators and reverse sailings for Monday Public Holidays)</li> <li>Program the transport of non-MSA cattle to Grassy Port yards on a Saturday for high demand SeaRoad sailings</li> </ul>
Increased transport costs	<ul style="list-style-type: none"> <li>Develop guidelines for minimum loading and unloading performance standards</li> <li>Cattle loading and unloading facilities must meet minimum performance standards</li> <li>Align trailers and pen sizes with farm demand to make optimal use of equipment and minimise animal damage</li> <li>Commercial arrangements with additional vessel operators must be flexible through the ability to increase or decrease the number of sailings and allow the vessel operator to seek other cargo (revenue)</li> </ul>
Lower meat grading results	<ul style="list-style-type: none"> <li>Early identification of animals that are unfit for travel prior to penning animals at the farm, and adherence to feed and water curfews to minimise effluent</li> </ul>
Loss of revenue	<ul style="list-style-type: none"> <li>Compliance with requirements for MSA grading – MSA cattle only</li> <li>Alignment of trailer pen size with farm lot size (or co-mingle animals)</li> <li>Guidelines for the preparation of cattle for travel, including the drying and conditioning of ex-dairy cattle for transport*</li> <li>Introduction of soft surfaces (pens and trailers), where feasible, to minimise lameness during transport</li> </ul>



\* Lactating or third trimester pregnant cows cannot be transported.



## Based on the assessment of the key risks, potential causes, and mitigation activities, a number of priority actions have been recommended for the King Island Livestock Supply Chain

In order to implement identified mitigation activities to manage risks within the King Island Livestock Supply Chain, a number of priority actions have been identified. The developed actions are presented in Table 3.

Table 3: Recommended priority actions for the King Island Livestock Supply Chain

Action	Priority	To be actioned by
• Producers and transport operators to review success of feed and water curfew procedures	High	Producers/Vessel Operators
• Agents to distribute sales volume, load location, and intended shipping date reports each week to road transport and vessel operators for short term planning.	High	Agents
• Freight Forwarders (Shippers) as the central coordinators, to define communication responsibilities and timing expectations through developing communication protocols - similar to that presented in Appendix B	High	All parties (Shippers lead)
• Road transport operators to develop and distribute schedules that optimise trailer pen configurations with farm lot size and include sufficient spare capacity (in their schedule) to adjust schedule as a result of unplanned events such as breakdowns and downer animals	High	Road operators
• Vessel operators to provide optimised load plans to road transport operators for efficient scheduling of the road fleet, and enable unloading of cattle trailers as early as possible	High	Vessel operators
• Transport operators to implement an asset compliance register (based on certification requirements) to ensure all vehicles, trailers and vessels are well maintained and 'fit for purpose' to minimise delays, rejection and OHS risks	High	Road/Vessel Operators
• Processors, freight forwarders, vessel operators and any other relevant stakeholders to develop an agreement on departure time and opening hours to minimise lost processing capacity at abattoirs	High	Processors/Vessel Operators
• Producers and Freight Forwarders (Shippers) to develop operating procedures for the transport of non-MSA cattle to the Grassy pens on the day before shipping during periods of high demand	High	Producers/Shippers
• Port owner to develop fit for purpose livestock facilities at Grassy Port.	High	Tasports
• Freight forwarders and Tasmanian Government to develop an agreement on quarantine procedures' on Tasmanian mainland that impose minimum disruption to movement of livestock".	High	Freight Forwarders/Tas Government





## Based on the assessment of the key risks, potential causes, and mitigation activities, a number of other actions have been recommended for the King Island Livestock Supply Chain

In order to implement identified mitigation activities to manage risks within the King Island Livestock Supply Chain, a number of key actions have been identified. The developed actions are presented in Table 4

Table 4: Recommended actions for the King Island Livestock Supply Chain

Action	Priority	To be actioned by
• Vessel operators to provide a written policy to customers on reverse sailing (for Monday long weekends) and the provision of extra capacity to clear backlogs in demand (from delayed demand and weather cancellations)	Medium	Vessel Operators
• Agents in coordination with road transport operators to develop guidelines for transport priorities (MSA Cattle) in order to clear backlogs	Medium	Agents/Road Operators
• Agents, in co-operation with producers, prepare and distribute (to all parties) seasonal forecasts	Medium	Agents/Producers
• Producers to develop guidelines for the preparation of cattle for Bass Strait travel. This should include drying and conditioning of ex-dairy cattle (including the use of other farms), pre-loading, lot identification, quarantine documentation and transport requirements for MSA cattle as a minimum	Medium	Producers
• Agents, in co-operation with producers to periodically review forecasts and distribute updates	Medium	Agents/Producers
• Processors to develop a demand balancing agreement for processing facilities in Tasmania to maximise processing capacity within the state.	Medium	Processors
• Processors to collaborate during peak periods which may require discussions with ACCC – Refer Appendix C	Medium	Processors
• Freight Forwarders (Shippers) to develop guidelines for the coordination of road fleet and vessel requirements with transport operators	Medium	Shippers/Road/Vessel Operators
• Producers and road transport operators to develop guidelines (and implement) for minimum performance requirements for farm based infrastructure. At a minimum, the guidelines should include requirements for maintenance, upgrading and installation of suitable loading facilities for the level of demand generated by a farm	Medium	Producers/Road Operators
• Road transport operators in conjunction with Tasports and vessel operators to develop guidelines (and implement) for minimum condition and performance requirements of land based infrastructure (pens, loading facilities and vessel securing winches).	Medium	Road/Vessel Operators/Tasports
• Processors (or Shippers) to enter into flexible arrangements with additional vessel operators to secure ad-hoc capacity for periods of peak demand, a surge in demand, or to clear backlogs	Low	Processors and/or Shippers
• Transport operators and Tasports to introduce soft surfaces (pens and trailers), where feasible, to minimise lameness during transport	Low	Road/Vessel Operators/Tasports

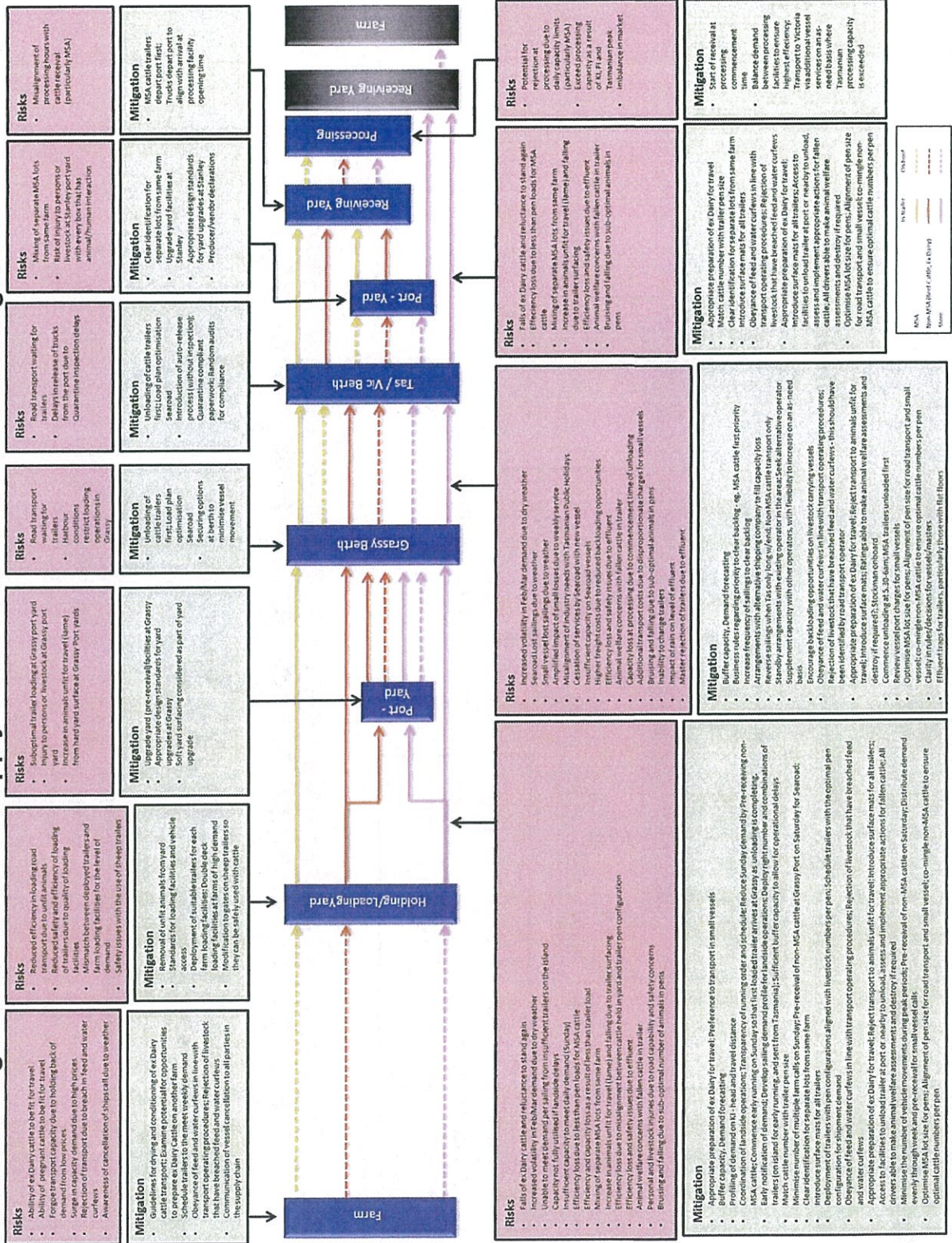
# Appendices





# Appendix A

## Identified King Island Livestock Supply Chain Risks and Potential Mitigation

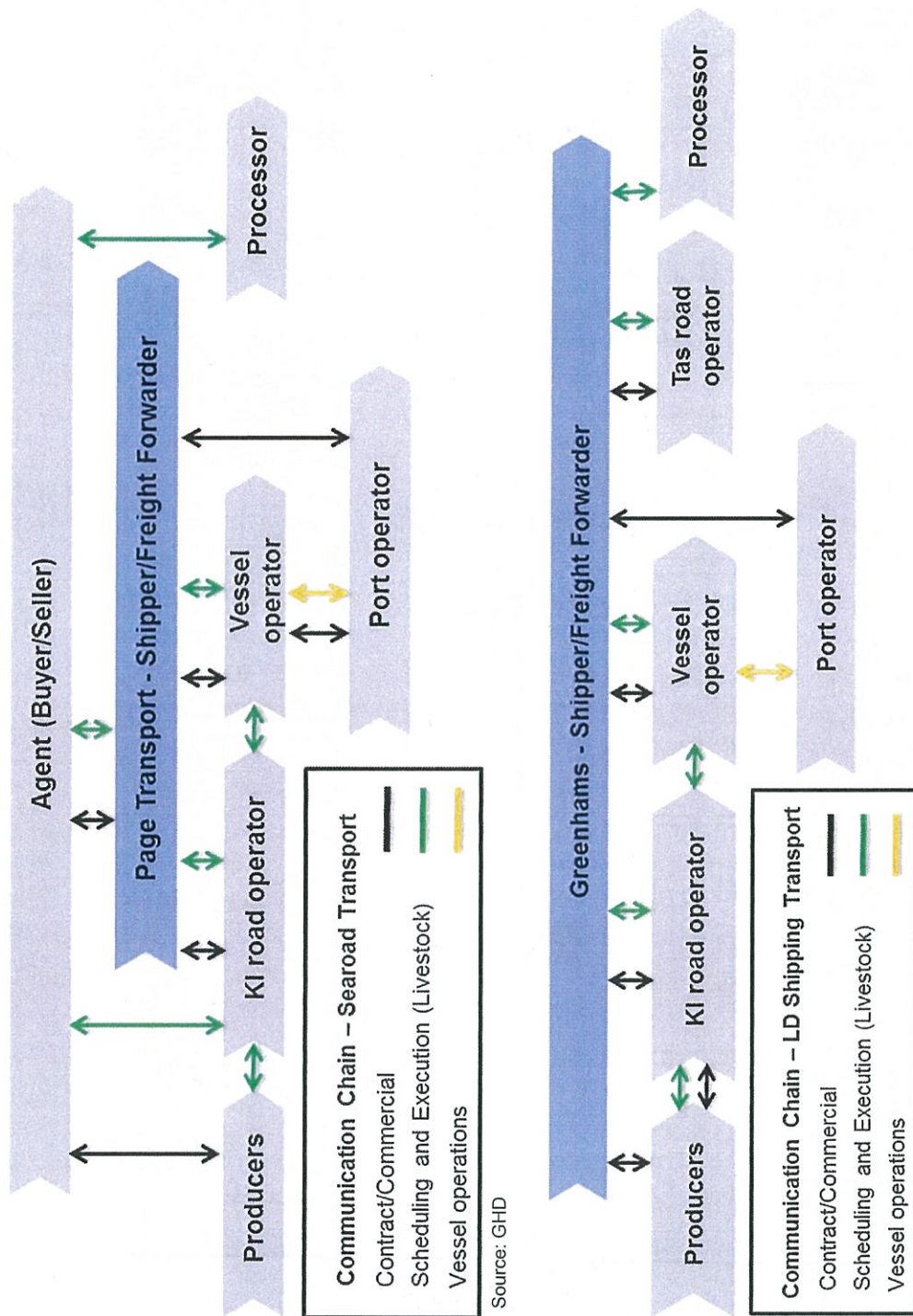


Source: GHD



## Appendix B

### Recommended communication chains – livestock meat supply chain

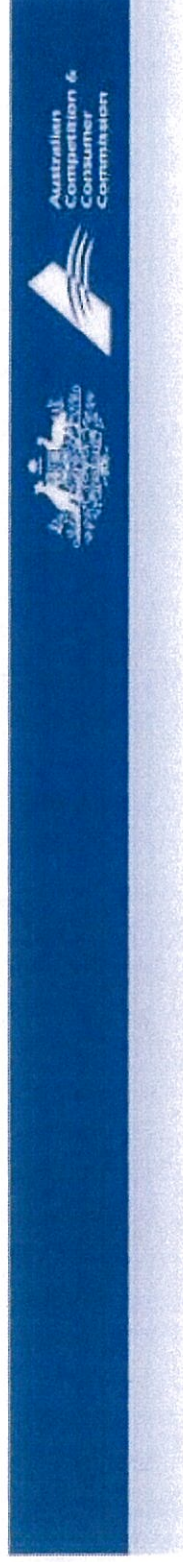


\* Note: Agents are presented as both the stock agent on King Island, and the organisation (Greenhams or JBS Australia) which they represent



## Appendix C

### ACCC Position on Co-operation



#### The CCA & co-operation

- Need to co-operate is an issue often raised with the ACCC
- Parties can collaborate to address issues to promote efficiency without raising competition concerns
- However, where industry arrangements do raise competition concerns but promote efficiency resulting in a public benefit, ACCC authorisation may be available
- Authorisation provides protection from legal action for breaching competition provisions of the CCA (except misuse of market power) where public benefits outweigh the public detriments

Source: Dimasi, J. 2012, Ports – What Measure of Regulation, Presentation at the 43<sup>rd</sup> Ports Australia Biennial Conference, Adelaide, 25 October 2012



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Document Status

Rev No.	Author	Reviewer		Approved for Issue		Date
		Name	Signature	Name	Signature	
Final Draft	G. Denholm	D. Rolland	*D. Rolland	D Rolland	*D. Rolland	14/12/12







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Service Project  
Final Report

# King Island Shipping



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## **Quality Assurance/Limitations**

This report has been prepared by GHD for the Tasmanian Government Department of Infrastructure, Energy and Resources (DIER) and the King Island Council and may only be used and relied on by DIER/King Island Council for the purpose agreed between GHD and DIER/King Island Council as set out in this report.

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DIER consultant project reference number: 1280-2-77

Consultant Document Reference: GHD Job number 21/22431



## Acknowledgments

We wish to acknowledge and thank all those parties which provided information during consultations and the analysis stages of the project. Some of the information provided is commercially sensitive and remains 'in-confidence'.



# **Executive summary**

## **Background**

In response to the recent closure of the JB Swift abattoir on King Island, the Tasmanian Government and the King Island Council have entered into a Partnership Agreement, which, amongst other matters, has identified a project to analyse the options for a long-term, sustainable King Island shipping service. The community and economy of King Island is highly dependent on reliable shipping services at fair prices.

The current weekly general freight King Island shipping service is operated by SeaRoad as part of their regular Bass Strait service between Melbourne and Devonport. Future plans by SeaRoad to replace its existing fleet of vessels reaching the operational end phase of their lives will involve larger vessels for the Bass Strait trade. Larger vessels would be unable to call at Grassy given constraints related to the port infrastructure. SeaRoad has indicated that they are potentially interested in keeping the one Grassy-calling vessel to serve King Island.

Given this uncertain background, an analysis has been completed to identify and assess options for appropriate shipping solutions for King Island – the subject of this report.

The approach used in the analysis has included a mixture of consultations with stakeholders involved in the King Island trade, desk-top research, and shipping service cost modelling.

It is noted that a comprehensive review of Tasmania's freight system is currently being undertaken by the Freight Logistics Coordination Team (FLCT). This is a jointly sponsored Federal and State Government exercise where the team comprises industry and peak group representatives. The work of the FLCT includes issues that are relevant to this review of King Island Shipping. This work was considered in completing this report.

## **Current and future King Island shipping freight demand**

Current and future shipping freight demand on King Island is directly linked to the island's socio-economic situation and developments.

The population on King Island is around 1,600 persons (0.3% of the total Tasmanian population) and has been slightly declining over the last ten years.

The farming (cattle) and dairy-processing sectors are of key importance to the King Island economy. The island contains several mineral and primary industry resources ranging from scheelite (containing tungsten oxide) to mineral sands and kelp. Both mineral sands and kelp are currently exported to overseas markets. Visitors to the island (all by air) also contribute to the local economy.

The negative impact of the recent closing of the island's abattoir can be viewed against a number of potential new developments – two golf course complexes, Hydro Tasmania's TasWind wind farm project, a possible re-opening of the scheelite mine, the potential expansion of current mineral sands production, and the possibility of a new abattoir.

In the period 01/07/2012-31/03/2013, which is post the closure of the abattoir on King Island, the community and economy currently generated a shipping freight demand (including live cattle and empty containers) of around 600 tonnes per week (or around 70 TEU equivalent per week) inbound to the island, and an average of around 1,000 tonnes per week (or around 70 TEU equivalent per week) outbound<sup>1</sup>. Freight is shipped both to/from Victoria (including connections to overseas exports from King Island) and to/from mainland Tasmania. The volume of freight shipped between Victoria and King Island is currently 3 times greater than between mainland Tasmania and King Island. The averages in freight volumes mask incidences of seasonal peaks which require extra shipping capacity to meet demand (on occasion peaks of 50% more than weekly averages).

The King Island unitised trade currently represents 2.5% of the total Bass Strait unitised trade in terms of annual TEU volumes (including empty containers). Furthermore, the majority of the King Island 'non-cattle' trade is destined for or originating from Victoria (through the Port of Melbourne), which has implications for the routing of shipping services.

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<sup>1</sup> These volumes of freight include cattle-on-the-hoof, other animals and cars. The TEU equivalents include the conversion of cattle-on-the-hoof, other animals and cars (these combined representing around 10 TEU inbound and 30 TEU outbound per week).



In terms of the next 20 years, King Island freight demand could follow one of several possible paths. A 'low' path would reflect a relatively pessimistic King Island economy, while a 'high' path would reflect a combination of growth in existing freight flows plus new freight from future projects going ahead. Future King Island freight demand could range from around 80 TEU to 145 TEU per week in each direction reflecting different economic conditions and partial mineral sands production, or a maximum of 300 TEU per week in each direction with containers used in the situation of fully licenced mineral sands production<sup>2</sup>.

### **Benchmarking of comparative shipping services**

Benchmarking of shipping services for other similar island and/or remote communities may provide some insights into possible vessel options, service-levels, operational performance, and costs. In general, comparisons are difficult to obtain and rely upon particularly regarding freight rates and shipping costs due differences in services, operators and cargo-owners. Hence, conclusions should be treated with caution.

The comparative analysis covered shipping services both in Australia and overseas, namely Flinders Island, Norfolk Island, Bass Strait (Victoria/mainland Tasmania), Lord Howe Island, Christmas Island, coastal New Zealand (North/South Island connections), and the Shetland Isles (Scotland, UK).

Review of the selected examples of shipping services shows variations in the types of vessels used (Roll-on/Ro-off, Lift-on/Lift-off, containership, general cargo and multi-purpose), levels of service provided, different ownership and support models, and different levels of freight rates for general cargo and livestock where shipped.

The comparative domestic and overseas analysis indicates that, on a cost per tonne basis, the King and Flinders Island shipping services are more costly than Bass Strait (Victoria/mainland Tasmania) services, but less costly than other Australian island services.

As common to other shipping services globally, King Island freight owners also pay different levels of freight rates according to freight volumes and regularity. The main

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<sup>2</sup> There are operational shipping issues with mineral sands as they are heavy and require twice as much ship tonnes capacity as other King Island freight.

reasons for this are that Bass Strait services involve large volumes of freight with less empty container costs giving lower freight rates, while the other Australian island services reviewed involve longer shipping routes and less freight volumes which together increases shipping costs.

The closest non-Tasmanian comparison to the King Island shipping service, and its trade, is the Ro/Ro shipping service operated for the UK Shetland Islands. The Shetland Islands service has significantly lower freight rates than those for King Island and Flinders Island, but it should be noted that the Shetland Islands services receive a government subsidy (around 40% of revenue in 2005), as do some King Island and Flinders Island cargo-owners<sup>3</sup>. There is a far higher level of freight transported (almost ten times the King Island freight demand) which provides economies of scale and hence lower shipping costs.

### **Identification and analysis of shipping service options for King Island**

The nature of the freight demand and route geography of King Island means that a number of potential shipping options could be modelled for cost, capacity and a required minimum weekly service frequency. This shipping service frequency and the need for a high-level of reliability are important considerations for businesses on King Island in order to minimise inventory costs.

The crewing of vessels on a Bass Strait King Island shipping service is required to be on a national wage basis according to national coastal regulations. The calling of a shipping service at Grassy on a Sunday is likely to have little additional wharf-to-wharf cost with a possible small impact on on-island transportation costs due to Sunday wage rates.

It needs to be recognised that costing an optimal shipping service is a difficult and approximate exercise. The modelled cost results need to be treated with caution. The most critical factor is the availability of a suitable vessel. There is divided opinion amongst stakeholders on whether the optimal vessel can be found. It is also very difficult to quantify associated business costs as they will depend on the nature of the business that runs the shipping service.

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<sup>3</sup> It should be noted that not all freight is eligible for Tasmanian Freight Equalisation Scheme (TFES) support (see Appendix A – Glossary, TFES) and hence some freight bears the full cost of the shipping service as charged by the shipping line to the freight owner.



Given these caveats and the assumption-based approach used for the calculations, analysis of Bass Strait triangulated (with King Island call) shipping services versus King Island hub (dedicated) shipping services indicates that a triangulated shipping service with a single operator is the more cost effective solution due to the sharing of ship costs with non- King Island freight. Using a medium size landing craft (113 TEU, 2700 tonnes deadweight, 87 m length and 9 knots), and based on the study assumptions, total weekly shipping costs (vessel operating, fuel and port-related) for a triangulated service could be around \$350,000 or \$18 million per year. This optimal vessel is smaller than the currently calling m/v Searoad Mersey and is within the general 90m vessel length limit for Grassy.

In terms of differences in directions served and single versus double-calling, if the abattoirs remain on mainland Tasmania, then a Southbound Grassy call is the optimal direction for a Bass Strait triangulated service. If a 'hub' type service is operated, then it is more cost effective to have both a Northbound and Southbound call than just one call. If a single call had to occur for a 'hub' service then the Northbound (Victoria) direction is more cost effective due to the higher freight volume to/from Victoria (i.e. there is currently 3 times more freight than to/from mainland Tasmania).

In terms of differences in ship types and sizes, the analysis indicated that a medium size landing craft (113 TEU, 9-10 knots) provided the lowest cost shipping option followed by an older (10-15 year old) larger Ro-Ro type vessel (208 TEU). The exact ship sizes are limited by the port access at Grassy. These ship sizes, some with multiple sailings per week, can handle the weekly freight demand out to year 20 of the various future economic scenarios, but extra dedicated weekly sailings with mineral sands in containers will be required if mineral sands production reaches full licensed production.

Analysis of the costs of operating two separate shipping services (one for general freight, the other for cattle only) versus a single, combined shipping service indicates that the single operator, combined shipping service is significantly more cost effective for the overall freight task. This result emphasises the importance of not fragmenting the shipping of freight to/from King Island, including shipping some freight in bulk, otherwise increased shipping costs are likely to occur for the overall freight task. It is the case that levels of cost may vary for individual freight owners due to their specific supply chains and commercial arrangements.

The two port rotations of Melbourne-Grassy-Devonport and Geelong-Grassy-Burnie have a similar total shipping cost (i.e. vessel, fuel and port-related costs). This result does assume a common-level of stevedoring costs for all of the ports analysed. In practice, each port may have a different stevedoring cost. Operationally Burnie currently lacks Ro-Ro berth access (ramps) for a new shipping service – this will require relatively expensive capital investments by the port compared with the small size of the King Island trade. On mainland Tasmania, current availability of berth ramps may limit future port call choice to only Devonport and Bell Bay. Geelong has an ageing (unused) Ro-Ro stern-ramp, but it is likely to require upgrading.

There is potential to reduce shipping costs by further improving the re-use of empty containers given the current level of empties moving to/from King Island. For instance, freight costs for some King Island cargo-owners could be reduced by at least \$500 per container if empty container pre-/re-positioning can be avoided. The various options available to further improve empty container efficiency are worth exploring. These options range from a better matching of inbound and outbound freight to using shipper-leased containers.

### **Vessel operating management considerations**

Reviewing the various ship management operation options and the situation on King Island, it is reasonable to assume that a full community-backed service is an overly risky option. It is also unlikely that government support beyond the current federal TFES and limited state support for temporary market failures would be available.

Consequently, a commercial shipowner managing an operation with a King Island cargo-owner group buying vessel space (with some level of commitment to pay) could be a suitable approach to managing a future King Island shipping service in the event of the current service no-longer operating.

There will be a need to balance shipping service flexibility with reliability as some King Island cargo segments require high levels of vessel reliability. As service reliability increases, then it is likely that vessel capital and operating costs to provide the same freight capacity will also increase, i.e. there is a cost premium involved.



### **Availability of suitable vessels and operators**

An important consideration in implementing any changes in the future will be the availability of suitable vessels and operators for a King Island service. The longer the lead-time for a new service, the more opportunity there is to construct, modify or source a suitable vessel.

Given the ability of King Island freight to pay the required price to provide a ship-operator with an adequate commercial return in providing a regular fixed-day weekly service and assuming freight levels remain constant and increase in the long-term, it is likely that there will be one or more operators interested in operating a new service. The tendering of a shipping contract or 'pooled freight' for King Island is likely to be more successful if the ending of the current main service is certain, and freight/charter guarantees are also offered to the market. The securing of a new operator may be a lengthy process.

### **Suggested next steps**

There are a number of suggested next steps:

1. Development of a King Island Shipping Contingency Strategy
2. Plan for a possible freight buying group / co-operative
3. Explore the potential to further reduce empty container costs
4. Finalisation of the Draft King Island Shipping Policy
5. Exploratory discussions with SeaRoad on a future dedicated King Island shipping service with m/v Searoad Mersey.

# 1. Introduction

## 1.1. Background

In response to the recent closure of the JB Swift abattoir on King Island, the Tasmanian Government and the King Island Council have entered into a new Partnership Agreement. The Partnership Agreement has identified a number of high-priority activities aimed at addressing the closure of the meat processing facility and promoting sustainable economic activity on King Island.

Under the King Island Partnership Agreement, two projects addressing “freight and transport” have been identified. The first project, a review of the King Island Livestock Supply Chain, was completed in December 2012 by GHD. The second project, an analysis of a long-term, sustainable King Island shipping service, is addressed in this report.

The community of King Island is highly dependent on reliable shipping services at fair prices. For producers and businesses on the Island to remain competitive and sustainable, reliable and cost-effective transport connections with both domestic and overseas markets is absolutely critical.

The current weekly King Island shipping service operated by SeaRoad, connecting the island with Victoria and mainland Tasmania, operates with one vessel, m/v Searoad Mersey, which is reaching the end of its operational life. Searoad is understood to be considering replacing this vessel with a larger one sized to serve the Bass Strait trade, which could result in the cessation of the current weekly King Island shipping service operated by SeaRoad due to the inability of a larger vessel to access Grassy Port. SeaRoad has indicated that they are potentially interested in keeping m/v Searoad Mersey to serve King Island.

The weekly servicing of the island by SeaRoad is also complemented by an ‘as needs’ shipping service by LD Shipping. This service uses a small, landing-craft type vessel to predominantly carry cattle ‘on-the-hoof’ to mainland Tasmania.

Given the possibility of a future change in the SeaRoad vessel, there is an important need to identify and assess options for appropriate longer term shipping solutions for King Island.



The analysis of a long-term, sustainable King Island shipping service (this study) comprised of four main work tasks, namely:

- A freight demand analysis (current, and future with 5 and 20 year time horizons)
- Stakeholder consultations (provision of inputs into the analysis work)
- The benchmarking of comparative shipping services, and
- The identification and analysis of shipping service options.

It is noted that a comprehensive review of Tasmanian's freight system is currently being undertaken by the Freight Logistics Coordination Team (FLCT). This is a jointly sponsored Federal and State Government exercise where the team comprises industry and peak group representatives. The work of the FLCT includes issues that are relevant to this review of King Island Shipping. The FLCT's work to date was considered in completing this report.

## **1.2. Purpose of this report**

This report covers the full set of work tasks.

## **1.3. Approach used**

The overall approach comprised a mixture of desk-top research, analysis of historical shipments data provided for the project by Tasports (in confidence), consultations with stakeholders involved in the King Island trade, and vessel and shipping service cost modelling. Results and conclusions from historical trends, market demand forecasts, and feedback from consultations were used as inputs for shipping service cost modelling to provide insights into the profile of a sustainable and efficient shipping service for King Island.

## **1.4. Structure of this report**

The structure of this report comprises the following:

- *Freight demand analysis* – presents and analyses King Island freight demand developments over a ten-year period and for the future (next 5 and 20 years) using a number of scenarios incorporating feedback from consultations
- *Benchmarking of comparative shipping services* – presents a comparison of other relevant island and coastal shipping services in Australia and overseas using benchmarks of the size of the freight task, vessel and route characteristics, and freight rates (where known)

- *Identification and analysis of shipping service options* – presents the service and vessel options and analyses the various shipping service options for King Island using cost modelling and various freight volume scenarios.

A Glossary is available as an Appendix at the end of the report.



## 2. Freight demand analysis

### 2.1. King Island socio-economic trends

The population on King Island, as recorded in the 2011 census, was 1,566 persons. This population number has been declining since the 2001 census, albeit slightly (at 1% per year). The King Island population represents 0.3% of the total Tasmanian population. There are a total of 878 dwellings on King Island.

The agricultural and farming sector is of key importance to the King Island economy with 66% of the island's land area farmed. The size of the cattle herd on the island is around 104,000 of which the vast majority (95%) is for meat. The dairy processing industry, in particular cheese production, is also of key importance to the economy.

The island contains several mineral and primary industry resources ranging from scheelite (containing tungsten oxide) to mineral sands and kelp. Visitors to the island, some 8,500 per year (of which 40% are on holiday), also contribute to the local economy.

The King Island Power Station at Currie is also a freight user with diesel imported in tank containers to supply diesel generators.

The negative impact of the recent closing of the island's abattoir can be viewed against a number of potential new developments – two golf course complexes each potentially attracting a minimum of 20,000 visitors per year, Hydro Tasmania's TasWind wind farm project, a possible re-opening of the scheelite mine, the potential expansion of current mineral sands production, and the possibility of a new abattoir.

### 2.2. King Island current seaborne trades and historic developments

King Island seaborne commodities are currently routed in a number of directions, namely:

- Inbound route from Victoria (Melbourne) to King Island (Grassy)
- Inbound route from mainland Tasmania (Devonport) to King Island (Grassy)
- Outbound route from King Island (Grassy) to mainland Tasmania (Devonport and Burnie)
- Outbound route from King Island (Grassy) to Victoria (Melbourne).

The outbound route to Melbourne also includes the connection to international container shipping services for King Island exports (i.e. kelp to Europe and mineral sands to Asia).

Currently (after the closure of the abattoir on the island), the King Island seaborne trades comprise seven commodity groups, namely:

- Agricultural supplies (fertiliser and grain/stockfeed)
- Beef (meat)
- Dairy (cheese)
- Fuel
- General cargo (including international exports of kelp and mineral sands<sup>4</sup> via Melbourne)
- Live animals (mainly cattle in trailers and 'on-the-hoof'), and
- Vehicles.

With the exception of live animals shipped 'on-the-hoof', horse floats, wheeled equipment and vehicles, the various commodities are shipped as unitised freight (i.e. either in domestic or international containers or in domestic trailers).

Within each commodity group, there are a number of individual commodities with their own supply chains. In addition, there are also empty containers (including livestock trailers) which are an additional cargo that needs to be shipped to either support the loading of outbound commodities on the island or resulting from the unloading of inbound commodities on the island.

Total inbound freight (including empty containers), originating from Victoria and mainland Tasmania, has varied between 32,000 to 42,000 tonnes per year or 3,300 to 4,200 TEU equivalents per year over the last ten years (see Figure 1). In FY2012/13 (to 31/3/2013), average weekly total inbound freight (including empty containers) was around 700 tonnes or around 70 TEU equivalent<sup>5</sup>.

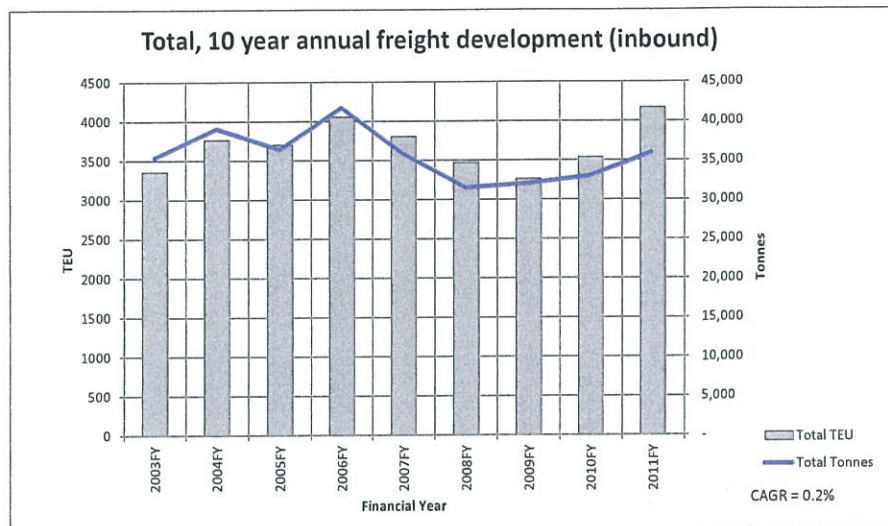
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<sup>4</sup> Mineral sands are a dense, heavy commodity taking up around twice the tonnes capacity of a ship compared with other general cargo. This weight impact needs to be taken into account when calculating the required shipping capacity for King Island's total freight task.

<sup>5</sup> These volumes of freight include other animals and cars. The TEU equivalents include the conversion of other animals and cars (these combined representing around 10 TEU inbound per week).



**Figure 1 King Island inbound freight trends, FY2003-2012**

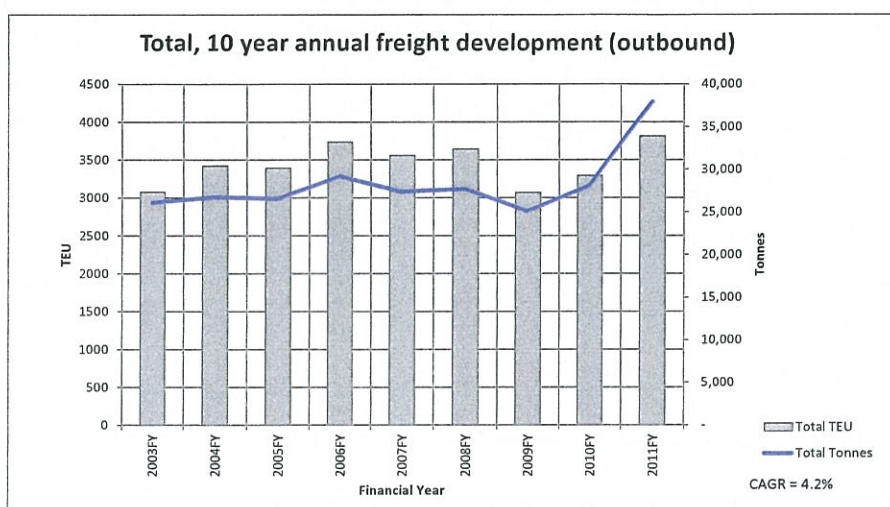


Source: GHD analysis / Tasports data (in confidence). Note: CAGR means Compound Annual Growth Rate.

Total outbound freight (including empty containers), destined for Victoria and mainland Tasmania, has varied between 25,000 to 38,000 tonnes per year or 3,100 to 3,800 TEU equivalents per year over the last ten years (see Figure 2). Average weekly total outbound freight (including empty containers) for FYs 2003-2011 ranges from around 480 to 730 tonnes or 60 to 70 TEU equivalent. However, in FY2012 (to 31/3/2013), average weekly total volumes have reached almost 1,000 tonnes (or around 70 TEU equivalent<sup>6</sup>) from a base of 480 tonnes in FY2009/10 caused by shipments of mineral sands.

<sup>6</sup> These volumes of freight include cattle-on-the-hoof, other animals and cars. The TEU equivalents include the conversion of cattle-on-the-hoof, other animals and cars (these combined representing around 30 TEU outbound per week).

**Figure 2 King Island outbound freight trends, FY2003-2012**



Source: GHD analysis / Tasports data (in confidence).

King Island overall trade amounted to around 63,000 tonnes (or around 5,000 TEU) of loaded freight in FY2011/12 and 52,000 tonnes (or around 4,000 TEU) for FY2012/13 (Q1-Q3). When empty containers (including empty livestock trailers) are included then these overall freight totals increase to around 74,000 tonnes (or around 8,000 TEU) for FY2011/12 and around 61,000 tonnes (or around 6,000 TEU) for FY2012/13 (Q1-Q3).

The King Island unitised trade currently represents only 2.5% of the total Bass Strait unitised trade in terms of annual TEU volumes (including empty containers). This relatively low share implies that a shipping service dedicated solely to King Island freight could not economically operate with the size of vessel currently calling weekly. Furthermore, the majority of the King Island 'non-cattle' trade is destined for or originates from Melbourne, which has implications for the routing of shipping services.

### 2.3. King Island potential future trade volumes

It is difficult to forecast with any accuracy total future trade beyond several years. The best approach to obtain an understanding of the long-term future situation is to test the effects of a number of possible future scenarios which may eventuate.

For the market demand part of the study, three possible future economy scenarios were assumed and modelled:

- Low - pessimistic economy
- Medium - business-as-usual economy, and
- High - optimistic economy.



The Low Economy Scenario indicates the King Island trade declining from around 70,000 tonnes of loaded freight for the base calendar 2013 (projected) levels to around 52,000 tonnes of loaded freight for subsequent years. This includes an assumption of mineral sands production ceasing.

The Medium Economy Scenario indicates the King Island trade increasing from around 70,000 tonnes of loaded freight for the base calendar 2013 (projected) levels to around 73,000 tonnes of loaded freight by Year 5 (2018), and 84,000 tonnes of loaded freight by Year 20 (2033). This includes an assumption of current mineral sands shipments growing at 1% per year resulting in a 4% increase by Year 5 and a 21% increase by Year 20.

The High Economy Scenario indicates the King Island trade increasing from around 70,000 tonnes of loaded freight for the base calendar 2013 (projected) levels to around 87,000 tonnes of loaded freight by Year 5 (2018), and 107,000 tonnes of loaded freight by Year 20 (2033). This includes an assumption of current mineral sands shipments growing at 2% per year resulting in a 8% increase by Year 5 and a 46% increase by Year 20.

There is significant upside potential to these trade volumes if the regular weekly shipping service is expected to cater for the full licensed production of mineral sands (i.e. up to 200,000 tonnes per year), but this situation presents weight issues for ship capacity compared with other freight – for instance the current main shipping service would be unable to accommodate this extra freight.

Based on the three scenarios, by Year 5 (2018), total weekly volumes (including empty containers) range from around 80 to 120 TEU in each direction (see Table 1). The inclusion of the full licensed production of mineral sands as containerised freight in the high economy scenario would add 174 TEU<sup>7</sup> per week extra in each direction (i.e. empty containers in and loaded containers out).

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<sup>7</sup> Assuming 20 tonnes per 20ft container and around 180,000 tonnes per year of extra mineral sands. In practice, a container loading of 30 tonnes per container may be achieved resulting in less extra containers, i.e. around 115 TEU per week.

**Table 1 Future weekly freight volumes for each economy scenario by Year 5 (2018)**

<b>Freight Demand Scenario:</b>	<b>Low</b>	<b>Medium</b>	<b>High</b>
<b>Year 5 (2018), Weekly volumes</b>			
<b><i>Inbound (to King Island)</i></b>			
<i>Loaded freight, Tonnes</i>	512	533	794
Loaded freight, TEU	43	45	64
Empty containers, TEU	38	57	54
<b>Total TEU (incl. empties)</b>	<b>81</b>	<b>102</b>	<b>117</b>
<b><i>Outbound (from King Island)</i></b>			
<i>Loaded freight, Tonnes</i>	488	867	884
Loaded freight, TEU	48	67	64
Empty containers, TEU	33	35	53
<b>Total TEU (incl. empties)</b>	<b>81</b>	<b>102</b>	<b>117</b>
Head-haul Trade Direction (TEU)	Outbound	Outbound	None
Allow Extra for Seasonal peaks (%)	30%	30%	30%
Total TEU each-way with peaks	105	132	152
Max. Extra TEU - mineral sands	-	-	174

Note: TEU equivalents includes trailers (empty and with cattle). Head-haul trade direction refers to the greater of either the inbound or outbound loaded freight in TEU (if 'None' then inbound and outbound loaded freight is in balance).

Source: GHD analysis.

By Year 20 (2033), these total weekly volumes (including empty containers) increase from around 80-145 TEU in each direction assuming partial mineral sands production (see Table 2). The inclusion of the full licensed production of mineral sands as containerised freight in the high economy scenario would add 167 TEU<sup>8</sup> per week extra in each direction (i.e. empty containers in and loaded containers out).

At full licensed production of mineral sands, the volume of additional 'heavy' freight would create the need for either extra dedicated weekly vessel voyages, or a larger tonne capacity vessel, or separate bulk shipping.

<sup>8</sup> Assuming 20 tonnes per 20ft container and around 180,000 tonnes per year of extra mineral sands. In practice, a container loading of 30 tonnes per container may be achieved resulting in less extra containers, i.e. around 115 TEU per week.



**Table 2 Future weekly freight volumes for each economy scenario by Year 20 (2033)**

Freight Demand Scenario:	Low	Medium	High
<b>Year 20 (2033), Weekly volumes</b>			
<b><i>Inbound (to King Island)</i></b>			
<i>Loaded freight, Tonnes</i>	512	616	955
Loaded freight, TEU	43	50	76
Empty containers, TEU	38	66	67
<b>Total TEU (incl. empties)</b>	<b>81</b>	<b>117</b>	<b>144</b>
<b><i>Outbound (from King Island)</i></b>			
<i>Loaded freight, Tonnes</i>	488	697	1,099
Loaded freight, TEU	48	77	80
Empty containers, TEU	33	40	64
<b>Total TEU (incl. empties)</b>	<b>81</b>	<b>117</b>	<b>144</b>
Head-haul Trade Direction	Outbound	Outbound	Outbound
Allow Extra for Seasonal peaks (%)	30%	30%	30%
Total TEU each-way with peaks	105	152	187
Max. Extra TEU - mineral sands	-	-	167

Note: TEU equivalents includes trailers (empty and with cattle). Head-haul trade direction refers to the greater of either the inbound or outbound loaded freight in TEU.

Source: GHD analysis.

For the planning of future shipping solutions, account also needs to be taken of an additional buffer for seasonal peaks which historically have the potential to add 50% to some weekly shipments. Allowing for improved efficiencies in empty containers (better matching and less shipment) and the need to avoid paying for unused ship space, a desirable goal for a maximum buffer for seasonal peaks would be around 30% (as shown in Tables 1 and 2). In the case of a dedicated King Island shipping service, there is more flexibility to provide extra sailings in week to cover seasonal peaks beyond the 30% buffer in ship size.

Examination of the forecast weekly inbound and outbound freight flows suggest that there is the possibility to obtain some shipping efficiencies. In theory, this provides for the potential to reduce the number of inbound and outbound empty containers particularly when the same type of container equipment, owned by the same shipping line is used for both the inbound and outbound load, i.e. domestic general cargo containers.

### 3. Benchmarking of comparative shipping services

#### 3.1. Background

The approach used for the benchmarking analysis is to compare the main shipping service for King Island with other relevant island or remote communities shipping services in both Australia and overseas, namely Norfolk Island, Lord Howe Island, Christmas Island, coastal New Zealand (North/South Island connections), the Chatham Islands (NZ), and the Shetland Isles (Scotland, UK).

There are other Australian island shipping services, such as to/from Kangaroo Island in South Australia, but these were not analysed as they are primarily passenger/car ferry services on short routes with limited freight capacity and not comparable to King Island's freight-only service.

In general, it is difficult to obtain direct comparisons, particularly with regard to freight rates and shipping costs, as routes, operations and commodity mixes/volumes vary considerably. This difficulty needs to be considered when interpreting the benchmarking of the King Island shipping service with other island shipping services.

The benchmarking considers a number of important aspects relating to service for shippers of freight:

- The scale and mix of cargoes catered for by the ships deployed on the route
- The cost of the shipping service (freight rates)
- The frequency of the shipping service
- The port-to-port transit times and speed of the ships
- The reliability of the shipping service in terms of on-time arrivals (schedule integrity)
- The flexibility of shipping capacity to cater for seasonal variations in freight volumes (namely 'peak' seasons)
- The requirements of the route in terms of ship solutions which are able to operate both safely and reliably given sea conditions and available port infrastructure.

Information for the benchmarking analysis was obtained from public domain sources as well as from discussions with King Island stakeholders.



Review of the selected examples of shipping services shows variations in the types of vessels used (Roll-on/Ro-off, Lift-on/Lift-off, containership, general cargo and multi-purpose), levels of service provided, different ownership and support models, and different levels of freight rates for general cargo and livestock where shipped.

The majority of the vessels deployed on the selected examples of shipping services are currently able to be accommodated in terms of length at the Port of Grassy on King Island. Vessels relying on shore-cranes would be unable to call at Grassy due to a lack of shore-cranes at the port.

### **3.2. Comparison with other relevant shipping services**

The King Island shipping service has been benchmarked against the selected other island shipping services where freight rate data has been identified (see Table 3). The comparison (cost indexing) is based on comparing the freight cost per tonne for general cargo. The cost numbers should be treated with caution given the lack of visibility and differences between services and cargo-owners. The other key elements of service are also shown – government support, distance, sailing frequency, transit time, vessel type/size, capacity and trade volumes.

**Table 3 Comparative analysis of island shipping services**

Shipping Service Route	Supported by government	Distance (nm)	Annual trade volume (T)	Vessel types/size	Annual ship capacity (T)	Frequency (days)	Transit days	Freight cost* /T (A\$)	Freight cost* /T Index
King Island	Yes (TFES)*	135	74,000	1x Ro/Ro (190 TEU, Length 119 m)	50,000	Weekly	0.6-2	\$190	100
Flinders Island	Yes (TFES)*	70	27,000	1 x Ro/Ro (375 dwt, Length 45 m) & 1 x Ro/Ro (Length 35 m)	37,000	Weekly	1	\$190	100
Bass Strait (VIC / mainland Tasmania)	Yes (TFES)*	220	3,000,000	4x Ro/Ro (4,824-11,000 dwt, Length 119-184 m)	10,902,000	2 x Daily (12/week)	0.5	\$120	63
Norfolk Island	No	760	13,500	1 x General cargo (2,433 dwt, Length 76 m)	55,000	Monthly	9	\$395	208
Lord Howe Island	No	320	-	1 x General cargo (2,350 dwt, Length 80 m)	116,000	Fortnightly	5	\$321	169
Christmas / Cocos Islands	No	1,400	7,208	1 x Multi-purpose (361 TEU, Length 100 m)	126,000	Monthly	9	\$456	240
NZ Coastal	No	680	-	2 x Containership (660/698 TEU, Length 130/133 m)	1,974,000	Weekly	3	\$76	4
NZ Chatham Islands	No	400	-	2 x General cargo (1,210 dwt, Length 42/67 m)	87,000	10-12 days	2	\$271	142
UK Shetland Islands	Yes	190	700,000	2 x Ro/Ro (266 TEU, Length 122 m)	2,716,000	Daily	0.6	\$43	23

(\*) Freight cost for King Island and Flinders Island comprises indicative freight rate and applicable wharfage for the sum of a loaded (assuming 15 tonnes of cargo<sup>9</sup>) and empty 20ft container. Flinders Island indicative freight cost is for the Bridport/Lady Barron shipping route.

Sources: King Island indicative freight rates were sourced from consultations; other islands (including Flinders Island) were based on published indicative rates. Bass Strait freight rates were based on analysis of Centrelink TFES information, published fuel surcharges and an assumption on empty imbalance cost. Wharfage charges were sourced from publications by ports and ship operators. King Island, Flinders Island and Bass Strait (Victoria/mainland Tasmania) freight costs shown in the table are gross (i.e. any eligible TFES rebates for cargo-owners have not been deducted). The Shetland Islands freight costs are net of support received by the ship operator from the government.

Note: Container rates converted assuming 15T/container; exchange rates assumed as 1NZ\$ = A\$0.84 and 1UKP=A\$1.67 (per 25/06/2013). Distances are approximates. Capacity is only for the Searoad Mersey calling weekly and includes space for other Bass Strait freight. King Island transit time is a range due to different northbound sailings possibilities versus one southbound per week.

Note: King Island, Flinders Island and Bass Strait freight costs include stevedoring due to Ro/Ro nature of operations. To make comparable with other routes, an assumed stevedoring cost (total \$12 per T) has been added for non-Tasmanian routes.

<sup>9</sup> 15 tonnes per container (TEU) is a typical industry assumption for comparison purposes (the average of lightweight and heavy freight). As the individual container weight is not known for each service, it is appropriate to use a common standard weight for benchmarking purposes.



The comparative domestic and overseas analysis indicates that, on a cost per tonne basis (indexed with King Island at 100), the King and Flinders Island shipping services are more costly than Bass Strait (Victoria/mainland Tasmania) services, but less costly than other Australian island services (this is without any deductions for TFES rebates<sup>10</sup>). The main reasons for this are that the Bass Strait services involve much larger volumes with a better balance of trade (less empty container costs), while the other Australian island services reviewed involve longer shipping routes and less freight volumes which together increases shipping costs.

As common to other shipping services globally, King Island freight owners also pay different levels of freight rates according to freight volumes and regularity. A low-volume, infrequent shipper will pay a higher freight rate than a high-volume, regular shipper, or alternatively the high-volume, regular shipper receives a discount on standard rates.

It should be noted that the Christmas/Cocos Island and Norfolk Island services can operate with cheaper foreign crewed (flagged) vessels, while King and Flinders Islands (Bass Strait) are constrained to Australian crewed/flagged.

Differences in costs are also due to varying route lengths with a longer route likely to have a higher freight rate.

The NZ coastal container service has the advantage of large non-Ro/Ro vessels transporting large volumes compared with King Island and offering better economies of scale. The NZ coastal vessels (130/133 m length) are currently too large to enter the port of Grassy without an upgrade of the port infrastructure and would be unable to handle wheeled freight and livestock.

It is worth noting that the Chatham Islands (NZ) shipping service is a community service with the local 'Enterprise Trust' owning one vessel and a controlling 51% interest in the shipping company.

The closest comparison to the King Island shipping service, and its trade, is the freight Ro/Ro shipping service operated for the UK Shetland Islands. The Shetland Islands

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<sup>10</sup> It should be noted that not all freight is eligible for TFES support (see Appendix A – Glossary, TFES) and hence some freight bears the full cost of the shipping service as charged by the shipping line to the freight owner.

freight service, which also includes separate passenger ferry vessels operated by the same company, has significantly lower freight rates, but it should be noted that the service is supported by subsidies from the Scottish Government<sup>11</sup> (representing around 40% of revenue in 2005) and there is a far higher level of freight transported which provides economies of scale.

The available comparisons for livestock freight cost<sup>12</sup> indicates that the assumed King Island cost per head of cattle of around \$110 is more costly than for Flinders Island at around \$80 per head. However, this is not a true comparison as the Flinders Island cattle freight cost is for 'on-the-hoof' shipment, while the King Island cattle freight cost is for cattle in trailers and includes the cost of shipping empty livestock trailers to King Island. To compare 'like-with-like', the cost of shipping empty livestock trailers to Flinders Island would also need to be added to the cost of \$80 per head bringing the total cost closer to the King Island cost level. King Island cattle producers do have the alternative of shipping cattle 'on-the-hoof' (currently using LD Shipping) which avoids the cost of shipping empty livestock trailers.

The King Island cost of shipping cattle excludes a recently announced support arrangement by the State Government amounting to \$30 per head for eligible cattle over a twelve-month period to help offset the impacts of the loss of the local abattoir for King Island cattle producers.

In addition to freight rates (including any wharfage charges), cargo-owners also have to pay for stevedoring charges at the load and discharge ports, as well as inland transport costs to/from the port. These costs can vary from port to port and inland transport costs will depend on distances to/from the port.

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<sup>11</sup> According to the Auditor General for Scotland's report "Scottish Executive: the NorthLink ferry services contract (Dec. 2005)", the joint passenger and dedicated freight service was tendered by the Government as a 5 year contract with a basic subsidy paid to the service operator of A\$77 million over 5 years which had risen to cumulative total A\$105 million after 3 years (caused by inflation and special circumstances). The Government recognised that the service is a community 'lifeline' and is financially problematic to sustain by the market-place. However, the subsidy was structured to ensure that if excess profit occurred then a share returns to the Government and if service performance (reliability/punctuality) falls below threshold levels then the subsidy amount would be reduced. This form of operational subsidy is problematic for the Scottish Government due to European Community guidelines on state aid for maritime transport which seek to minimise state support except in special circumstances. The level of the subsidy for the Shetlands shipping service represented in 2005 around 40% of the combined passenger and freight revenue.

<sup>12</sup> The livestock shipping costs are gross freight rates before any eligible TFES rebates received by cargo-owners.



## 4. Identification and analysis of shipping service options

### 4.1. Background

The identification and analysis of shipping service options involved modelling possible shipping service options relating to different shipping volume scenarios, ship types, routings, port calls and service frequencies with comparisons on the basis of shipping costs per full TEU equivalent (indexed) and average vessel space utilisations.

### 4.2. Shipping volume scenarios

The shipping volume scenarios forming the shipping service demand comprise five – three of which relate to different economic environments, and two to the minimum and maximum volumes of freight which have been identified in the work. In all scenarios, it has been assumed that freight relating to the construction of the TasWind project requires a separate, specialised shipping service considered outside the scope of this study.

**Table 4 Future freight demand scenarios used in shipping service modelling**

Future Scenario definitions	
•	<b>Future Scenario 1 – ‘Low Economic Environment’.</b> This scenario assumes that planned new development projects on the Island do not materialise (i.e. no new abattoir, wind farms, golf courses, or scheelite mining), the mining of mineral sands ceases due to poor commercial returns, and the population of the Island stabilises at current (2012 census) levels. The underlying growth of each remaining commodity is assumed to be flat over the 5 and 20 year forecasting period.
•	<b>Future Scenario 2 – ‘Medium Economic Environment’.</b> This scenario assumes a mirroring of the current (2012/13) freight demand situation on the Island with the population of the Island stabilising at current (2012 census) levels. The underlying growth of each existing commodity is assumed to be marginal at 1% per year over the 20 year forecasting period.
•	<b>Future Scenario 3 – ‘High Economic Environment’.</b> This scenario assumes that all planned new developments on the Island do occur (i.e. an abattoir operating at previous production levels with some outbound cattle shipments arrangements remaining, wind farms developed, two golf courses developed with associated tourism, and scheelite mining re-activated), existing production on the Island meets desired/full capacity levels, and the population of the Island grows in line with the planned new developments. In addition to the step changes in freight caused by the timing of new developments, the underlying growth of each existing commodity is assumed to be higher at 2% per year over the 20 year forecasting period.
•	<b>Future Scenario 4 – ‘Maximum Demand’.</b> This scenario assumes the maximum TEU equivalent volumes from scenarios 1-3 for each of the freight commodities. As a result, the maximum freight volume to/from King Island is able to be assessed over the 20 year forecasting period.
•	<b>Future Scenario 5 – ‘Minimum Demand’.</b> This scenario assumes the minimum TEU equivalent volumes from scenarios 1-3 for each of the freight commodities. As a result, the minimum freight volume to/from the island is able to be assessed over the 20 year forecasting period.



#### 4.3. Vessel type options

In order to analyse all potential King Island shipping service options, a number of vessel types and sizes were identified for analysis based on stakeholder consultation and the Benchmarking of Comparative Shipping Services report.

The vessels analysed ranged in size from approximately 40+ TEU to 200+ TEU equivalent, and included Landing Craft, Roll On/Roll Off (Ro-Ro), Lift On/Lift Off (Lo-Lo) and combined Ro-Ro/Lo-Lo ship types. Within the context of this study, the Landing Craft vessels were assessed for both a cattle-only type service, and mixed-cargo (cattle and general freight) operations.

#### 4.4. Shipping service routings and frequencies

There are a number of options for the routings of services and ports called at, which have been analysed:

- Bass Strait triangulated (Victoria/mainland Tasmania with King Island call) service – the King Island call can be southbound, northbound or in both directions. Assuming no issues with access to a berth, the port calls can be Burnie, Devonport, or Bell Bay on mainland Tasmania and in Victoria Melbourne or Geelong (Hastings was excluded due to distance from current Melbourne markets/connections, and lack of current infrastructure . However, it is recognised that alternative cattle sale yards and abattoirs do exist in close proximity to Hastings at Pakenham as well as the possibility to store King Island export products at Hastings for onward distribution and international shipment)
- King Island hub (dedicated) service with the non-Grassy call either at a Tasmanian port (Burnie, Devonport, or Bell Bay) or a Victorian port (Melbourne or Geelong). The region not called at (either Victoria or mainland Tasmania) with King Island inbound or outbound freight is assumed to be served by transshipment and relay by another Bass Strait shipping service. When weekly King Island freight demand is met then the vessel is idle until the following week.

A minimum of a weekly service is considered required. This level of minimum frequency (with an associated high level of service reliability) is important for King Island businesses' as less frequent and less reliable shipping services result in the need to



increase stocks of supplies and produced goods. Increased stock levels leads to increased working capital requirements and an infrequent service may mean that some King Island products lose market share. As a result two types of service frequency have been analysed – fixed weekly (once per week, or twice per week to provide no risk of space issues during demand peaks), and variable/multiple sailings per week matched to freight demand.

#### **4.5. Shipping service operating costs**

Although this study focuses on ‘high-level’ shipping options (i.e. detailed operational planning and assessment is out-of-scope), there are two aspects of operating costs which require some discussion – ‘cabotage’ and crew costs, and the impact of Sunday-calling at the port of Grassy.

##### *4.5.1. Cabotage and crew costs*

Regular, dedicated domestic shipping services, which include the Bass Strait, are required by national regulations to have an Australian national crew. In the case of licenced foreign-flag vessels providing a domestic service, the crews are required to be paid Australian national wages (or for that portion of an overall voyage which transports domestic freight).

In addition, those international foreign-crewed vessels which call to Australia and carry some domestic freight under permits would be too large to call at King Island and the volume of cargo too small to regularly induce a voyage deviation if port access was not a constraint at Grassy.

Consequently, the crew cost component of the various Bass Strait shipping service options analysed in the study has been based on Australian national crewing and wage arrangements.

##### *4.5.2. Sunday-calling at the port of Grassy*

The current King Island main shipping service involves the m/v Searoad Mersey calling at the port of Grassy on Sundays in a southbound direction (i.e. from Melbourne en-route to Burnie). Given that Sunday is not a normal working day, the working of the vessel and freight transport operations performed on the day are exposed to overtime working arrangements, i.e. higher wage rates resulting in increased cost levels compared with weekday day-time operations.

The impact of a Sunday call, versus a weekday call, on vessel operating costs is small given the relative share of the overtime crew wage cost component within total vessel operating costs (including fuel). In addition, this additional cost is shared across both the non- King Island and King Island freight carried by the vessel.

According to TasPorts' schedule of charges, vessel port calling costs and cargo wharfage at Grassy are generally the same for all days of the week. It is likely that the current main shipping service receives some form of discount as a regular caller at the port of Grassy which would lower the cost base for the shipping service and ultimately the cost for freight owners.

Stevedoring, as performed by Tasports at Grassy, is a commercial arrangement and cost-levels are not public domain, so it is unclear as to any difference in stevedoring costs between Sunday and normal weekday working. Typically in other container ports in Australia, stevedoring is costed and charged as a 24/7 operation, i.e. same charge irrespective of the day of the week.

The largest impact to King Island freight owners of Sunday working is likely to be due to the employment of drivers on a Sunday for truck transportation to/from the port of Grassy. However, relative to total door-to-door transport costs per container or tonne of freight, this additional cost of Sunday versus normal weekday trucking is likely to be small.

It is also worth noting that a triangulated Bass Strait shipping service has less flexibility to avoid a Sunday call at any of the ports on the route, while a dedicated (hub) King Island shipping service has more flexibility to avoid a Sunday call.

#### **4.6. Transport operating costs on King Island**

Freight (including cattle) needs to be transported by truck between various locations on King Island and the port at Grassy. The cost of operating the truck fleet is fully carried by King Island freight owners / residents. An issue concerns the fixed costs of operating the trucks and the low use of the trucks during the week (i.e. currently limited to typically one day in the week being a Sunday to transport freight to/from the Sunday-calling SeaRoad shipping service).



The port calling frequency of the various shipping service options have an impact on the efficiency of the truck fleet and resulting transport costs on King Island. Multiple port calls per week at Grassy require a smaller truck fleet employed more often in the week than a single port call for the same total weekly freight volumes.

Hence, there is an economic trade-off between the savings of using a larger ship calling once per week and the savings of a reduced truck fleet on the island with multiple port calls per week by a smaller ship.

#### **4.7. Analysis results using route and cost modelling**

The analysis (modelling) of shipping cost covers the transportation of freight from quayside to quayside, i.e. it includes vessel costs at sea, the costs of a vessel calling at a port, the cost of a vessel in port, and port-related cargo costs (i.e. wharfage and stevedoring). Given that each shipper of freight has its own set of inland origins and destinations, the costs of inland transport to/from the origin and destination ports have not been included in the analysis as this would require extensive research of all supply-chains and the effect of alternative routings on total (door-to-door) supply-chain costs.

The detailed results of the shipping service cost modelling are shown in Appendix B which contains a series of 'scatter-plot' graphs showing various vessel and service options in terms of cost and vessel utilisations.

##### *4.7.1. Triangulated versus hub shipping services*

Analysis of Bass Strait triangulated (with King Island call) shipping services versus King Island hub (dedicated) shipping services indicates that a single operator triangulated shipping service is more than half the cost of a single operator hub (dedicated) King Island shipping service.

The main reason for the large cost advantage of the triangulated shipping service is that the vessel cost is shared between King Island and non- King Island freight, which also means that relatively larger vessels can be used with resulting economies of scale. The level of Bass Strait (non-King Island freight) assumed on the triangulated shipping services was set at 300 TEU per week, which is equivalent to around 5% of the total Bass Strait container trade (a relatively small and hence likely sustainable share).

With only one non- King Island port-call, the hub services are even more costly. This is due to relay<sup>13</sup> costs for full and empty containers having to be incurred where a Victorian or mainland Tasmania port is not called at, i.e. it is assumed that the freight still requires to be shipped to/from King Island.

This result also supports why the current shipping service to/from King Island is a Bass Strait triangulation service.

#### *4.7.2. Differences in directions served and single versus double-calling*

The Bass Strait triangulated services are able to serve King Island freight travelling northbound and southbound with just one call at Grassy – this is the most cost effective port rotation, but some freight needs to travel longer on the vessel by remaining on-board at the next port call after Grassy. This is likely to be an issue for some cattle from King Island requiring the quickest transit to abattoir to obtain premium prices. If the abattoir remains on mainland Tasmania, then a Southbound Grassy call is the optimal direction for a Bass Strait triangulated service.

In the case of hub (dedicated) King Island services, the cost modelling and analysis of freight flows shows that:

- Northbound and Southbound calling services (a type of “Butterfly” service<sup>14</sup> centred on Grassy with a Victorian and mainland Tasmanian port call) are the most cost effective as they avoid the need to relay freight on another Bass Strait service which is likely to be more expensive
- Given that the Victorian freight flows to/from King Island are greater than the mainland Tasmanian freight flows (currently around 3x more Victorian freight than mainland Tasmanian freight), an optimised “Butterfly” service would have more sailings Northbound in a week than Southbound
- In the case of a King Island service that only calls either Victoria or mainland Tasmania, the Victoria only calling service is more cost effective than the mainland Tasmania only calling service. This is caused

<sup>13</sup> Relay is where freight is carried between ports by another vessel due to the main vessel not calling at the final port.

<sup>14</sup> “Butterfly” service refers to a ship’s route and port rotation where two voyage loops, each in a different direction, overlap at a particular port which is consequently called at twice per vessel roundtrip.



by currently 3 times more freight shipped between Victoria and King Island than between King Island and mainland Tasmania (including when all cattle are shipped in trailers). With no Victorian port call more freight needs to be relayed (transhipped) at mainland Tasmania giving a greater cost than in the reverse direction (see Appendix B for relay distribution cost assumptions and more details).

#### *4.7.3. Differences in ship types and sizes*

The analysis indicated that a medium size landing craft (113 TEU), operating at 9-10 knots, provided the lowest cost shipping option followed by older (10 and 15 year old) larger Ro-Ro type vessel (208 TEU).

A small landing craft type vessel (20 TEU) was found to be unable to provide a Bass Strait service due to insufficient volume capacity and, compounded by the higher probability of lost sailing days due to weather.

#### *4.7.4. Separate general freight and cattle services versus combined*

Analysis of the costs of operating two separate shipping services (one for general freight, the other for cattle only) versus a single, combined shipping service indicates that the single operator, combined shipping service is significantly more cost effective based on the model assumptions.

The modelling compared a Searoad Mersey type operation (the current situation) transporting cattle in trailers to mainland Tasmania along with other freight compared with a small landing craft type vessel operation (equivalent to LD shipping type) to both mainland Tasmania (Burnie / Stanley) and northbound to Geelong (assuming no navigational issues with the passage).

The cost level of a combined triangulated Ro-Ro service was modelled and then designated a cost index of 100 per full TEU. From this the equivalent cost index for a cattle only service was calculated with an index of 190-240 per full TEU equivalent. The cattle only service required 3 sailings per week to meet the weekly cattle demand to mainland Tasmania (assuming no return freight), while only one sailing per week was required for the combined service.

This result emphasises the importance of not fragmenting the shipping of freight to/from King Island. If this happens, then total shipping costs for King Island freight will ultimately be higher than if fragmentation did not occur.

If in the future, freight such as fertiliser, mineral sands and fuel are each shipped separately in bulk, then this would also have the effect of fragmenting the freight task with resulting cost increases for the remaining containerised general freight (including cattle in trailers).

In the current market-place, the difference between the costs of the two service options (i.e. combined versus fragmented) may be less due to a likely lower cost base for the landing craft operator.

The analysis also indicated that the use of a Lift-On/Lift-Off vessel (containership) for general freight with cattle on a separate service is also not cost effective when compared with a combined service carrying both general cargo and cattle. A further issue with a Lift-on/Lift-Off shipping operation concerns the carriage of cars and other wheeled livestock (such as horse-floats). These wheeled commodities require a Roll-On/Roll-Off (or landing-craft with ramp) solution and would need to share a separate cattle shipping service. Consequently, the Lift-On/Lift-Off vessel type was not pursued further in the analysis.

#### *4.7.5. Port call alternatives*

The analysis indicates that the two port rotations of Melbourne-Grassy-Devonport and Geelong-Grassy-Burnie have a similar total shipping cost (i.e. vessel, fuel and port-related costs). This result does assume a common-level of stevedoring costs for all of the ports analysed. In practice, each port may have a different stevedoring cost, particularly if the stevedoring company is different and the size of the operation varies. This would then influence the overall quayside-to-quayside cost and potential choice of port-calls based solely on cost.

The cost modelling of port-to-port alternatives assumes that all ports analysed are able to accommodate a new King Island shipping service. However, in reality, there are likely



to be some limitations to access to berths in a port for vessels with ramps (i.e. Roll-on/Roll-off ships and landing-craft).

A preliminary operational review of the Victorian and mainland Tasmanian ports analysed in the cost model for accommodating the main shipping service suggest that:

- Melbourne should be able to offer berth access (it is likely that all cattle will need to be in trailers, i.e. not on-the-hoof)
- Geelong currently has an unused (aging) Roll-On/Roll-Off berth with stern ramp-access at Corio Quay South, but would likely need to upgrade the facility given adequate commercial arrangements
- Burnie is currently not able to provide berth access as the ramp-access berth is in exclusive use (there is a possibility for a small landing craft to berth side-on and have access over the side, e.g. as evidenced by the recent offloading of King Island cattle on-the-hoof)
- Devonport and Bell Bay should be able to offer berth access for a vessel with a ramp (some upgrading may be required of existing facilities).

For Burnie to provide Ro/Ro vessel access in addition to the current Toll/ANL operation, TasPorts would need to construct a Ro/Ro ramp for vessel bow/stern access and this would require capital expenditure. Similarly, Geelong would likely need to upgrade the existing Ro/Ro ramp and this would require capital expenditure. Such berth upgrades at Burnie and Geelong are expensive and are unlikely to be able to be commercially supported solely by King Island freight volumes.

Berth access will require further investigation, and possibly involve commercial negotiations relating to necessary modifications and stevedoring provision, as part of the planning and development of any new King Island shipping service.

#### *4.7.6. Impact of different shipping volume scenarios*

Analysis of the Low, Medium and High 20 year future economic scenarios for King Island indicates that the medium size landing craft (113 TEU), Searoad Mersey type and large Ro-Ro type vessels on both triangulated and hub services are able to accommodate the weekly shipping volumes with multiple sailings per week required in some cases for the medium size landing craft.

However, if mineral sands were to reach full licenced production with shipment in containers then two extra dedicated sailings per week for the medium sized landing craft (based on tonnes carrying capacity) would be required given the size constraints on larger vessels calling at Grassy.

#### *4.7.7. Modelling shipping cost levels versus market rates*

Caution needs to be applied when comparing modelled cost levels with market shipping rates as the latter are subject to supply/demand, cost allocation approaches (fulls and empties, other freight), profit margins and cost bases of vessel operators. For the purposes of the analysis, the modelling assumed that all full containers are linked to an empty container movement. In practice, some re-use of empty domestic containers is occurring on King Island.

#### *4.7.8. Empty container costs and potential for future cost reductions*

There is potential to reduce shipping costs by further improving the use of empty containers given the current level of empties moving to/from King Island, namely:

- Using empty international shipping containers moving from Melbourne to King Island for the carriage of domestic freight from Victoria to King Island (this typically has to be negotiated with the international shipping lines)
- Improved matching of inbound and outbound domestic containers of the same type (this requires a King Island freight group to plan container matching and negotiate with the ship operator who also supplies the containers)
- Improved use of empty non-working refrigerated domestic containers from Victoria and Tasmania for the carriage of domestic 'ambient-temperature' freight inbound to King Island (this requires negotiation with the ship operator who also supplies the containers), and
- Operating a pool of domestic containers leased or owned by a King Island freight group with container monitoring and matching (this is a costly option exposed to variations in freight levels and likely to be limited to a small share of the containers used on King Island).

Freight costs for some King Island cargo-owners could be reduced by at least \$500 per container if empty container pre-/re-positioning can be avoided. Achieving further



efficiencies and cost savings is a difficult and complex task given the dynamics of the various supply chains and the requirements for different container types.

It is recommended that the potential to further reduce empty container costs for King Island freight are explored in more detail at a later stage.

#### **4.8. Implications for a future shipping service**

##### *4.8.1. Possible operational issues with some ship types*

As mentioned previously, the cheaper landing craft type vessels are in practice likely to have a higher probability of operational impacts when deployed on the Bass Strait during all seasons, particularly if they are sourced as river (sheltered water) type craft of 5-9 knots. Landing craft with a fully-laden speed of 9-10 knots should be the minimum to operate on the Bass Strait.

In terms of the minimum size of vessel that can reliably cross the Bass Strait in all seasons, it should be noted that LD Shipping's landing-craft m/v Statesman currently operates on occasion across the Bass Strait and the Ro/Ro vessels of former Southern Shipping operated between Port Welshpool and Flinders Island. All these vessels are smaller than the ones proposed in this study.

The need for twin-screw vessels with a bow-thruster calling at Grassy, as required by TasPorts, will limit the availability of vessels for future charter or purchase. However, this is not an issue if a future vessel is a new-build.

An equivalent more operationally robust vessel type could be a high-powered offshore supply vessel design modified to provide on-deck protection of cargo. The cost of such a vessel is likely to be somewhere in between the cost of an equivalent capacity landing craft and a Ro-Ro vessel. The alternative, which is similar in design to the modified supply vessel, is a new-build small Ro-Ro vessel with a stern-ramp.

The largest size of vessel which can call and lay-over at the harbour in the port of Grassy is the m/v Searoad Mersey which has a length of 118 metres, beam of 19 metres, fully-laden draught of 5.3 metres, and a deadweight of 4,824 tonnes. Any vessel new to Grassy longer than 90 metres would need to obtain special permission from TasPorts to enter the harbour at Grassy.

##### *4.8.2. Lowest cost economics dependent on sharing of shipping capacity*

The modelling showed that the Bass Strait triangulated service options provide the least shipping cost or better economics. However, this is dependent on the sharing of

shipping capacity, i.e. the space on the vessel not used by King Island freight earns revenue from other freight.

Additionally, it is critical that King Island freight demand on this service is guaranteed, and that Bass Strait freight is considered secondary or opportunistic based on surplus capacity. On the other hand, there is a risk that the King Island freight could become more costly to ship if other (non-King Island) freight volumes decline or smaller vessels are introduced (reduced ability to generate economies of scale).

There will be a point at which a lower utilisation of the triangulated vessel provides a similar or higher cost level to operating a hub (dedicated) King Island service.

#### *4.8.3. Optimal shipping service configuration and indicative cost*

It needs to be recognised that costing an optimal shipping service is a difficult and approximate exercise. The modelled cost results need to be treated with caution. The most critical factor is the availability of a suitable vessel. There is divided opinion amongst stakeholders on whether the optimal vessel can be found. It is also very difficult to quantify associated business costs as they will depend on the nature of the business that runs the shipping service.

Given these caveats and based on the operational, cost and forecast demand assumptions used in the model, the analysis indicates that the optimal port-to-port shipping service for King Island (excluding any inland transport cost considerations for freight) has the following profile for the stated demand (equivalent to Year 5 of the future Medium economic scenario):

- Single operator with a medium-sized landing craft vessel (113 TEU, 2700 tonnes deadweight, 87 m length, and 9-10 knots)
- Triangulated port rotation of either Melbourne-Grassy-Devonport or Geelong-Grassy-Burnie
- 2 sailings per week to accommodate 115 TEU of King Island freight and 300 TEU of non- King Island Bass Strait freight to achieve cost sharing and higher vessel capacity utilisation



- Total calculated shipping cost (vessel operating, fuel and port-related) of around \$350,000 per week or around \$18 million per year which equates to around \$830 per loaded TEU.

This optimal vessel is smaller than the currently calling m/v Searoad Mersey and is within the general 90m vessel length limit for Grassy.

If the optimum King Island shipping service only carried King Island freight (i.e. no freight between mainland Tasmania and Victoria), then the impact would be a service of one sailing per week costing around \$205,000 per week (or around \$11 million per year) which equates to almost \$1,800 per loaded TEU.

For a Burnie port call to eventuate, there would need to be investment made by TasPorts in a Ro/Ro ramp to allow vessel access. However, if an investment was not made by TasPorts and Toll/ANL continue to exclusively use the existing Ro/Ro berth then the Tasmanian port call would have to be either Devonport or Bell Bay.

## 5. Vessel operating management considerations

### 5.1. Options for operating a shipping service

There are a number of options for the provision of a shipping service as viewed from the perspective of cargo-owners and government, namely:

- Commercial, experienced shipowners operating in a competitive market-place providing a common-user service using either own or chartered-in vessels
- Commercial, experienced shipowners competing for exclusive government tendered cargo access with or without some form of government guarantees, compensations in the event of market failures, vessel purchase or operational cost subsidies
- Community funded and managed operation with or without government support using either purchased or chartered-in vessels, and
- Shipowner managed operations with cargo-owners contracting as a group with the ship operator offering fixed freight rates (vessel slot costs plus a margin) and the cargo-owners pooling the use of containers to minimise empty container costs.

### 5.2. Benefits and risks of vessel operating management options

Vessel ownership and management is historically a commercially risky business with market volatility, high capital and cash-flow requirements. Bass Strait shipping has seen ship operators come and go. With the development of open-access to global markets, governments are generally less inclined to support the direct subsidisation of business operations including the provision of transport services. There is however a recognised role for government support, or intervention, when temporary or continued market failure occurs.

Community ownership and/or operation of shipping services is generally a high risk venture as all the costs, operational risks, trade fluctuations, and possible long-term charter commitments are borne by the community which may be small and have insufficient financial resources to cover all risk eventualities. However, the benefit of a community operation is that it can be operated at cost recovery lowering shipping costs



provided the operation has access to efficient procurement and experienced staff/vessel manning.

The 'middle-road' of a commercial shipowner managing an operation with a cargo-owner group buying vessel space has a reasonable balance between 'fair' shipping costs and community risk provided that space commitments can be adjusted at reasonable intervals depending on freight demand.

### **5.3. Suitability to the King Island situation**

Reviewing the various ship management operation options and the situation on King Island, it is reasonable to assume that a full community-backed service is an overly risky option. It is also unlikely that government support beyond the current federal TFES<sup>15</sup> and limited state support for temporary market failures would be available.

A commercial shipowner managing an operation with a King Island cargo-owner group buying vessel space could be a suitable approach to managing a future King Island shipping service in the event of the current service no-longer operating. This would be different to the current King Island situation as presently each freight-owner contracts with SeaRoad for shipping on an "as required" basis.

Based on examples overseas, one way to 'pool freight' is to form an incorporated non-profit-making freight buying association with importers and exporters as its members. The association then tenders and contracts with a shipping line to provide the shipping service based on a common set of freight rates and commercial terms for all the members of the association. In order to obtain best freight rates, there is often a requirement to provide minimum space-use guarantees to the shipping line over a defined period with agreed financial penalties for unused space.

There will be a need to balance shipping service flexibility with reliability as some King Island cargo segments require high levels of vessel reliability. As service reliability increases, then it is likely that vessel capital and operating costs to provide the same freight capacity will also increase, i.e. there is a cost premium involved.

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<sup>15</sup> It should be noted that not all freight is eligible for TFES support (see Appendix A – Glossary, TFES) and hence some freight bears the full cost of the shipping service as charged by the shipping line to the freight owner.

## 6. Availability of vessels and operators for King Island

An important consideration in implementing any changes in the future will be the availability of suitable vessels and operators for a King Island service. Availability will also be a function of timing as shipping markets and the supply of vessels are both dynamic and global – a favourable global market for one type of operator may make inactive vessels scarce or expensive to purchase/charter for deployment in other markets. A good current example is offshore supply vessels, which are in demand and relatively expensive to purchase before any required modifications are made for a King Island type shipping service.

Another aspect of availability concerns the lead-time to establish a new shipping service. If the lead-time is, for example, a minimum of twelve months and the preferred vessel type is relatively small and simple in design (i.e. a medium-sized landing-craft) then a new vessel could be constructed in time for commencement of the new shipping service.

If the lead-time is short, for example weeks or months, then a new shipping service would need to be established using either a chartered or purchased suitable vessel (if available) or an existing nearby shipping service would need to be temporarily extended to cover the route (e.g. the Flinders Island shipping service).

In terms of vessels, availability is also limited by size, type and navigational constraints for King Island. Suitable vessels, new to Grassy, need to be:

- not more than 90 to 100 metres in length
- either landing-craft, Roll-on/Roll-off, or an equivalent vessel which can be modified (e.g. an offshore supply vessel with ramp and some deck modifications), and



- adequately powered to allow for Bass Strait crossings particularly in winter months, and sufficiently manoeuvrable to visit the port of Grassy (e.g. twin-screwed and fitted with a bow-thruster).

Currently in Australia and outside of Tasmania, there are few suitable vessels which are available as most are deployed on services. Landing-craft are generally used in Northern Australia to serve remote communities, and Roll-on/Roll-off vessels tend to be combined with passenger transportation for ferry services (e.g. Kangaroo Island, cross Port Phillip Bay, and WA and Queensland routes to nearby islands). A greater supply of suitable vessels is likely to be found in Asian shipping markets, but their condition and need for upgrading to Australian coastal operations would need to be closely considered.

The availability of operators is very much dependent on the financial viability of a shipping service and whether freight volumes remain constant or increase in the long-term. If King Island freight is able to pay the required shipping rates to make the service financially sustainable, and freight volumes are certain, then existing operators in Australia with significant experience could possibly be interested to operate a new King Island shipping service, particularly when combined with Bass Strait shipping operations. There are also possibly some Australian logistics companies who may consider extending their current land-based service offering to include coastal/Tasmanian shipping.

The tendering of a shipping contract or 'pooled freight' for King Island is likely to be more successful if the ending of the current main service is certain, and freight/charter guarantees are also offered to the market. The securing of a new operator may be a lengthy process.

If SeaRoad decided to keep m/v Searoad Mersey operational, which SeaRoad have expressed potential interest in doing, then a dedicated, existing vessel would be available to the King Island trade.

## 7. Suggested next steps

There are a number of suggested next steps:

1. Development of a King Island Shipping Contingency Strategy to guide a response in the unlikely event of the cessation of the main King Island shipping service
2. Development of a plan to guide the establishment of a possible freight buying group / co-operative
3. Explore the potential to further reduce empty container costs for King Island freight
4. Finalisation of the Draft King Island Shipping Policy (King Island Council)
5. Explore with SeaRoad the possibility of a future dedicated King Island shipping service with m/v Searoad Mersey.



## APPENDIX A. Glossary

The following is a list of terms and abbreviations used in the report.

Bass Strait	Shipping and trade route connecting mainland Australia (Victoria) with mainland Tasmania.
Butterfly	Butterfly service refers to a ship's route and port rotation where two voyage loops, each in a different direction, overlap at a particular port which is consequently called at twice per vessel roundtrip.
CAGR	Compound Annual Growth Rate expressed as a percentage for a specified time period.
Cu.m	Cubic metre (volumetric measure).
DIER	Tasmanian government Department of Infrastructure, Energy and Resources.
DWT	Deadweight tonnes of a ship (cargo, bunkers and stores weight capacity measure).
GT	Gross tonnage of a ship (enclosed volumetric measure).
Head-haul	Head-haul trade direction refers to the greater of either the inbound or outbound loaded freight in TEU (if no head-haul then inbound and outbound loaded freight is in balance).
Km	Kilometre.
Lo/Lo	Lift-on / Lift-off design of ship allowing craned handling of cargo.
M	Metre.
Nm	Nautical mile.
Relay	Relay, and the costs associated with it, refers to the situation when freight is carried between ports by another vessel due to the main vessel not calling at the final port.
Ro/Ro	Roll-on / Roll-off design of ship allowing wheeled handling of cargo.
T	Tonnes (metric).
TEU	Twenty-foot Equivalent Unit as a measure of a shipping container.
TFES	Tasmanian Freight Equalisation Scheme. Factors taken into consideration when determining whether a particular claimant is eligible for assistance include:

- the type of goods, including whether the goods are 'high density', refrigerated, or transported in a packaged or loose form;
- the origin and end use of the goods, with particular rules for the mining, agriculture, forestry and fishing industries; and
- the destination of the goods, including whether goods will be transported to other Australian states, exported overseas or returned to Tasmania.

In general, TFES ineligible goods are those that are overseas imported and exported, materials and equipment for constructing buildings, and fuel and lubricants.

TFLCT

Tasmanian Freight Logistics Coordination Team



## APPENDIX B. Shipping Option Scatter Plots

### Model result scatter plot for triangulation shipping service options

#### Assumptions:

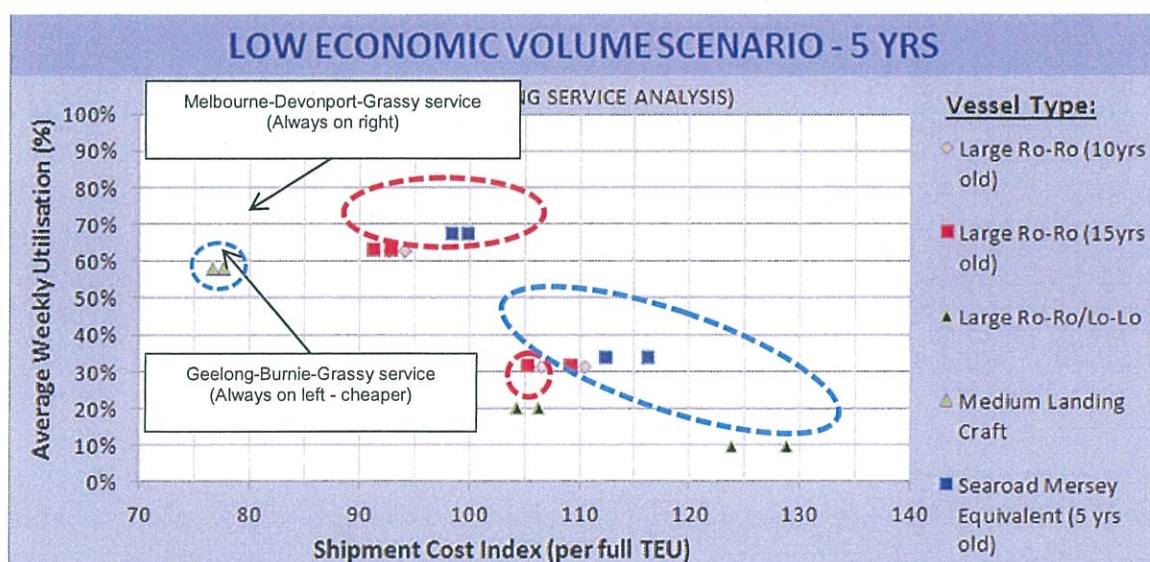
The triangulated shipping service option assessment assumes that each of the vessels picks up a Bass Strait trade of 300 TEU per week (which is approximately 5 percent of current Bass Strait trade volume), and that the shipping costs are shared between the King Island and Bass Strait freight. This was done in order to analyse the potential advantages presented by a triangulated service as opposed to a dedicated service only servicing King Island trade.

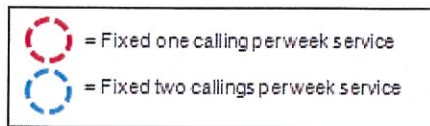
#### Common trends:

The plots produced by the analysis looked at a range of future volume scenarios and out of this emerged a number of common trends.

The medium landing craft with a TEU capacity of 113, operating at 9-10 knots, was found to be capable of servicing the entire freight volume (inclusive of Bass Strait volume) only when it completed two runs per week; however, this option also proved to be the cheapest. In general, a fixed twice weekly service was found to halve the utilisation of a fixed single weekly service, but cost slightly more due to increased fuel consumption and berthage costs. The 10 year old Large Ro-Ro vessel was found to be more expensive than the 15 year old Large Ro-Ro, due to the increased financing costs associated with a higher purchasing price; and a King Island - Geelong - Burnie service was found to be slightly cheaper

### EXAMPLE VOLUME SCENARIO SHOWING KEY TRENDS







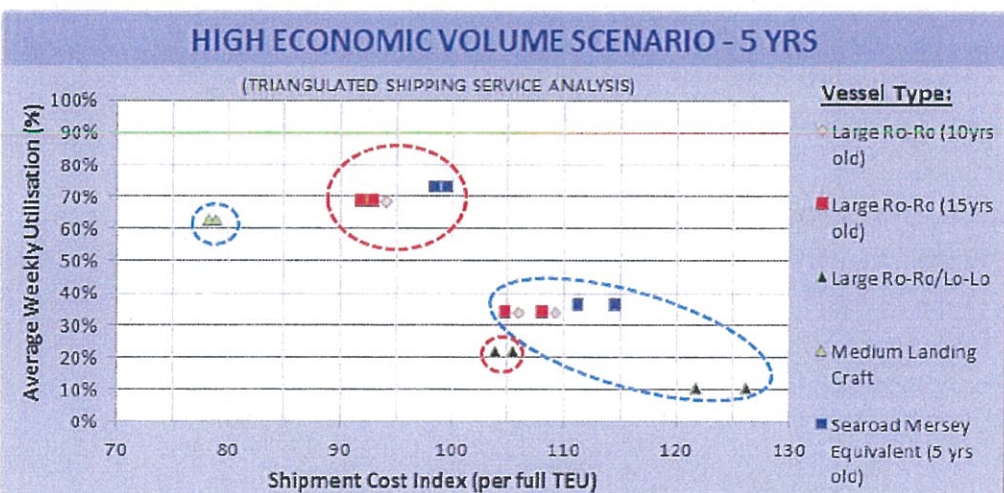
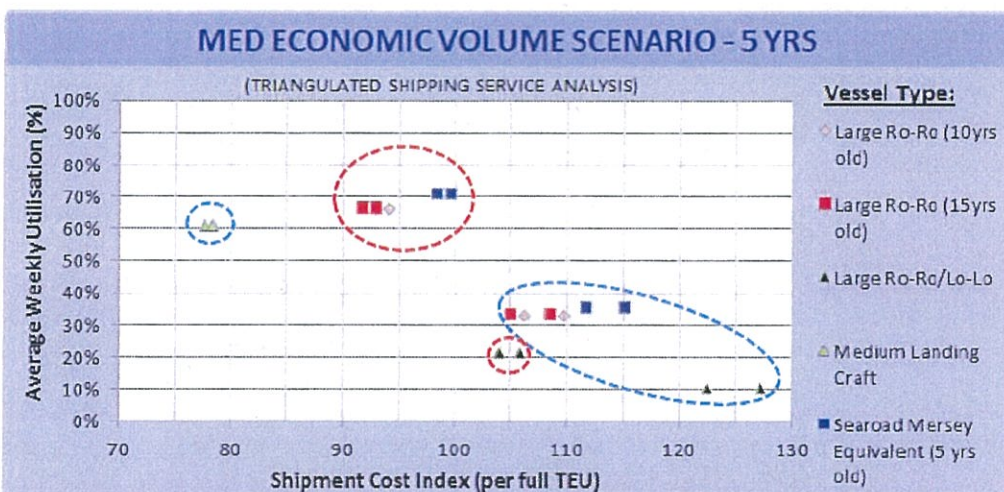
### LOW ECONOMIC VOLUME SCENARIO - 5 YRS


(TRIANGULATED SHIPPING SERVICE ANALYSIS)


**Vessel Type:**

- Large Ro-Ro (10yrs old)
- Large Ro-Ro (15yrs old)
- Large Ro-Ro/Lo-Lo
- Medium Landing Craft
- Seacraft Mersey Equivalent (5yrs old)

Vessel Type	Shipment Cost Index (per full TEU)	Average Weekly Utilisation (%)
Large Ro-Ro (10yrs old)	94	63
Large Ro-Ro (10yrs old)	98	68
Large Ro-Ro (10yrs old)	100	68
Large Ro-Ro (10yrs old)	105	32
Large Ro-Ro (10yrs old)	115	35
Large Ro-Ro (15yrs old)	92	63
Large Ro-Ro (15yrs old)	94	63
Large Ro-Ro (15yrs old)	105	32
Large Ro-Ro (15yrs old)	110	32
Large Ro-Ro/Lo-Lo	78	58
Large Ro-Ro/Lo-Lo	105	20
Large Ro-Ro/Lo-Lo	106	20
Large Ro-Ro/Lo-Lo	107	20
Large Ro-Ro/Lo-Lo	124	10
Large Ro-Ro/Lo-Lo	129	10
Medium Landing Craft	78	58
Seacraft Mersey Equivalent (5yrs old)	98	68
Seacraft Mersey Equivalent (5yrs old)	100	68
Seacraft Mersey Equivalent (5yrs old)	115	35



 = Fixed one calling per week service

 = Fixed two callings per week service



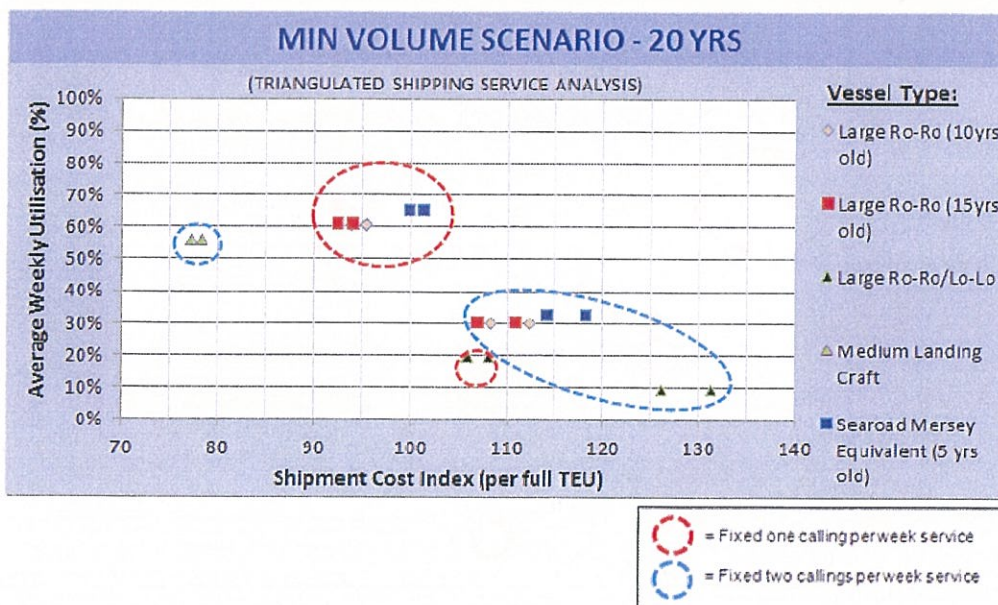
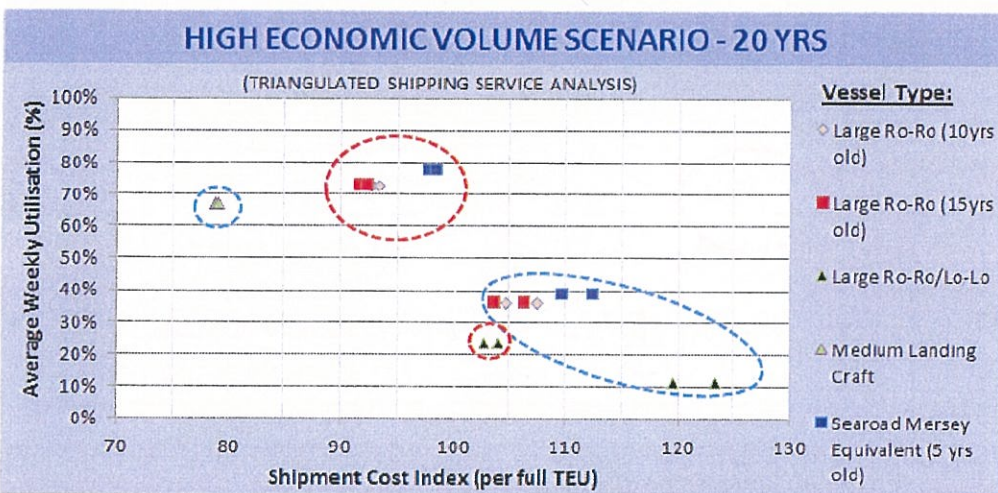
### MED ECONOMIC VOLUME SCENARIO - 20 YRS

(TRIANGULATED SHIPPING SERVICE ANALYSIS)

**Vessel Type:**

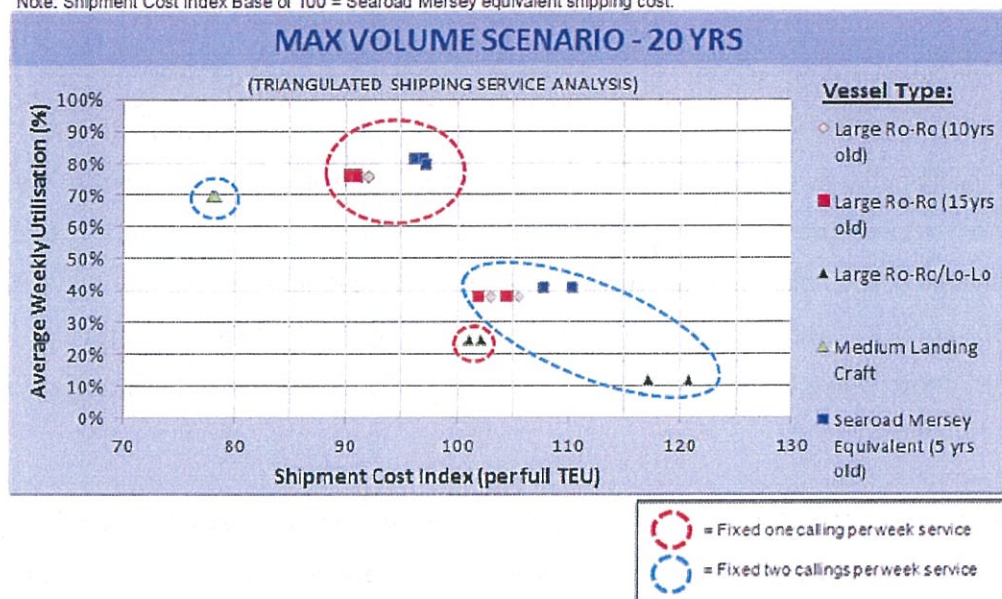
- Large Ro-Ro (10yrs old)
- Large Ro-Ro (15yrs old)
- Large Ro-Ro/Lo-Lo
- Medium Landing Craft
- Searoad Mersey Equivalent (5 yrs old)

Vessel Type	Shipment Cost Index (per full TEU)	Average Weekly Utilisation (%)
Large Ro-Ro (10yrs old)	~80	~65
Large Ro-Ro (15yrs old)	~92	~70
Large Ro-Ro/Lo-Lo	~95	~68
Large Ro-Ro/Lo-Lo	~105	~22
Large Ro-Ro/Lo-Lo	~108	~22
Large Ro-Ro (15yrs old)	~105	~35
Large Ro-Ro (10yrs old)	~108	~35
Medium Landing Craft	~80	~65
Medium Landing Craft	~100	~75
Medium Landing Craft	~105	~75
Medium Landing Craft	~110	~38
Medium Landing Craft	~115	~38
Medium Landing Craft	~122	~10
Medium Landing Craft	~128	~10





Note: Shipment Cost Index Base of 100 = Searoad Mersey equivalent shipping cost.



## Model result scatter plot for hubbing shipping service options

### Assumptions:

The hubbing shipping service option assessment undertaken assumes a dedicated King Island service and incorporates no additional volume on top of forecast King Island export and import trade. A number of port combinations were explored and for each of these combinations both a fixed service operating once a week and a demand driven service were analysed. In the cases where the service only travelled northbound or southbound to Victoria (Geelong) or Tasmania (Burnie or Devonport), a relay charge of \$1500 per full TEU and \$500 per empty TEU (both including double-handling charges and estimated shipping cost) was charged to a percentage of the cargo requiring to be transported across Bass Strait.

The percentage of cargo assumed to be relayed across Bass Strait was calculated based upon trade ratios experienced in the 2011-12 financial year on King Island and these are shown in the table below. The table defines how much King Island freight and empty containers would be required to be relayed if the service did not call at either mainland Tasmania or Victoria.

#### RELAY DISTRIBUTION

Percentage of full TEU volume exported to and imported from VIC/TAS in 2011FY

Vic =	71%
Tas =	29%

Percentage of empty TEU volume exported to and imported from VIC/TAS in 2011FY

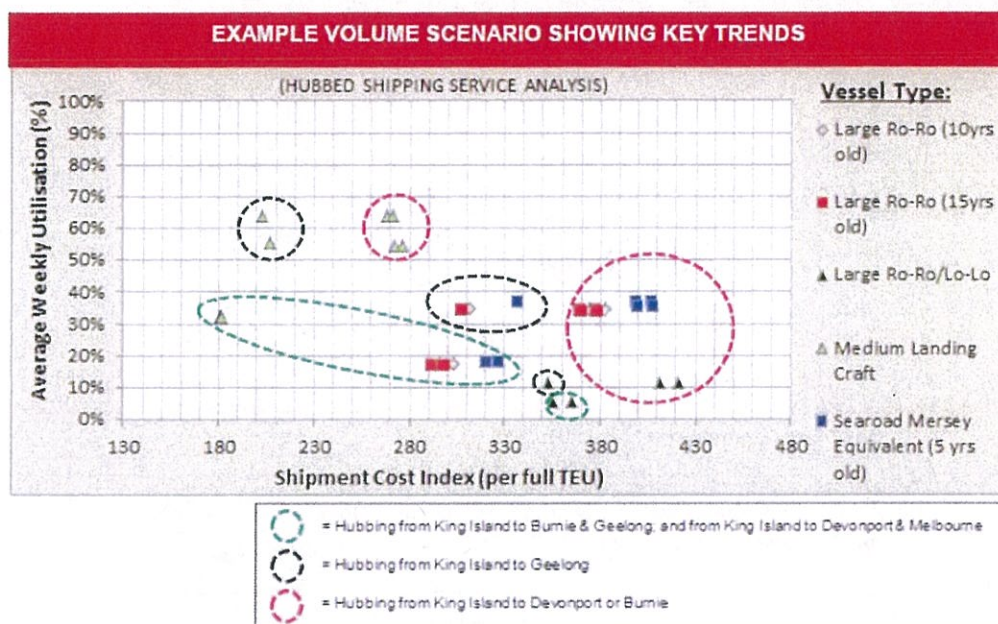
Vic =	85%
Tas =	15%

### Common trends observed:

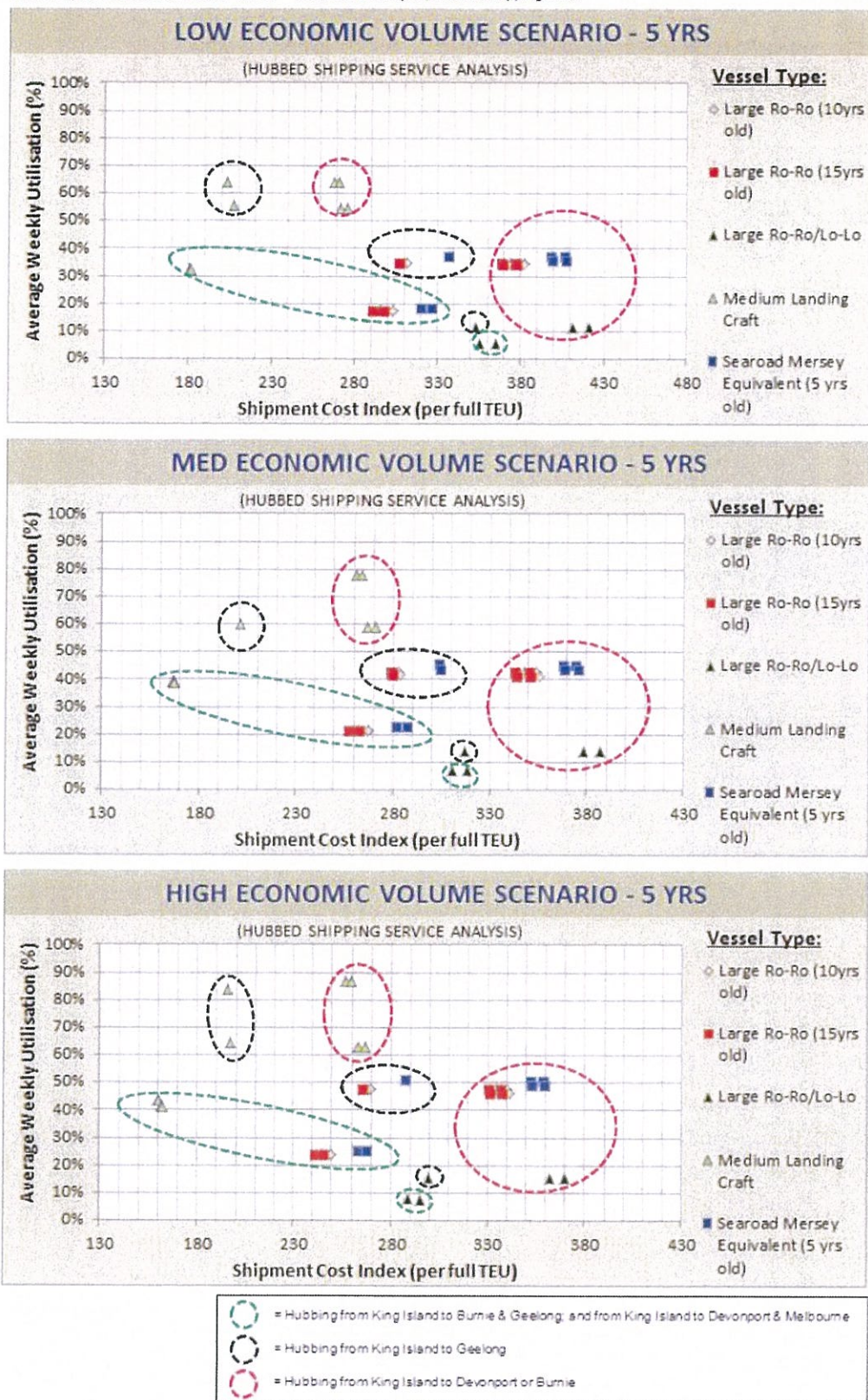
The plots produced by the shipping service analysis looked at a range of future volume scenarios and out of this emerged some common trends. The most notable trend observed was relative to the trade ports selected, where it was found that Hubbing from King Island to Burnie and Geelong or Devonport and Melbourne was the cheapest hobbing option due to reduced relaying costs. Hubbing to Geelong on its own was the next cheapest option due to the higher proportion of trade being exported to and from Victoria, resulting in lower relay charges. Hubbing from King Island to either Devonport or Burnie on the other hand was found to be the most expensive option, due to excessive relay costs. In terms of vessel costs the medium landing craft was again found to be the cheapest option. Finally, the average utilisation for a fixed one calling per week service was found to be either the same or higher than a



demand driven service, as it rolled volume over in peak demand as opposed to being served in that week by an additional voyage.

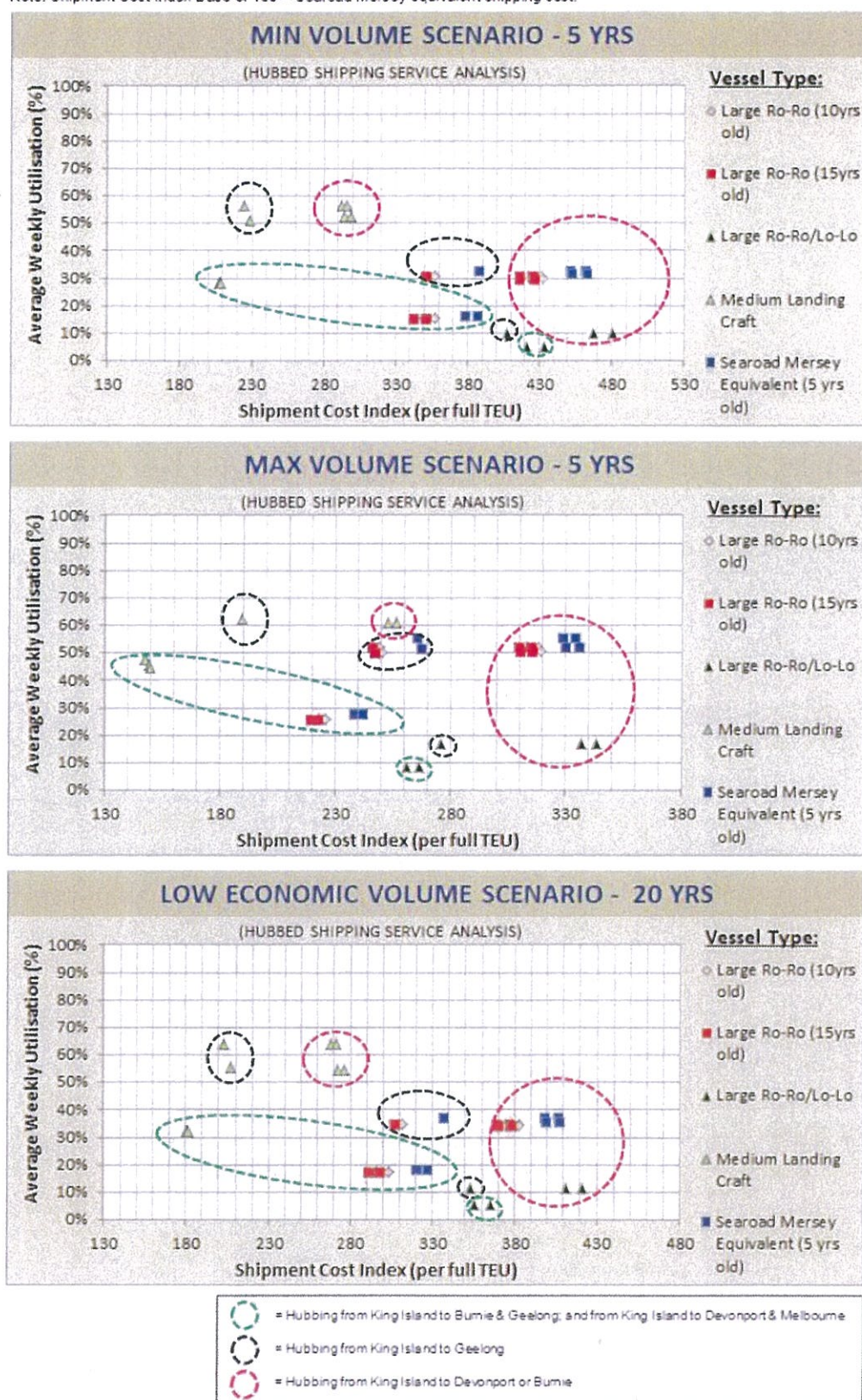


Note: Shipment Cost Index Base of 100 = Searoad Mersey equivalent shipping cost



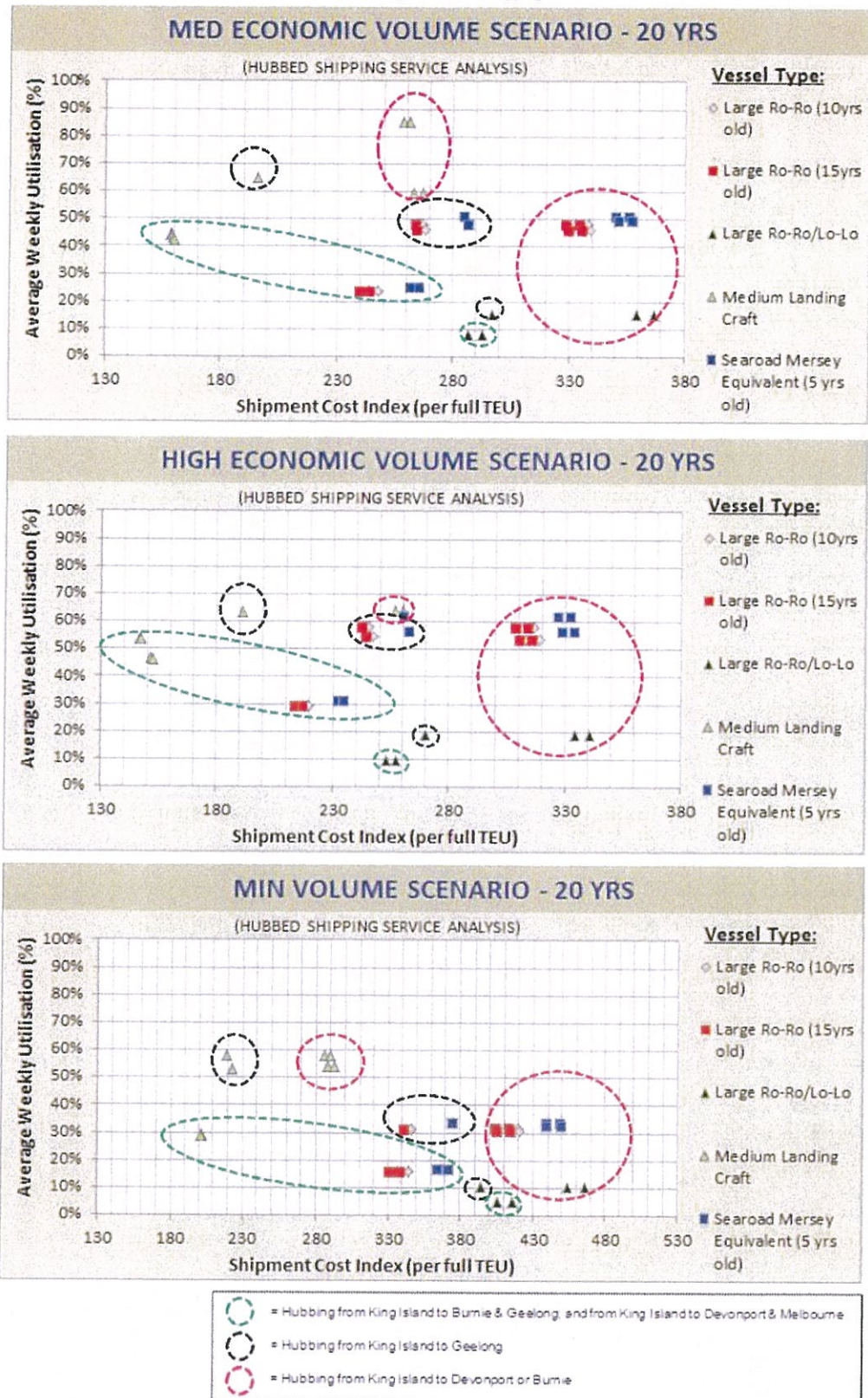


Note: Shipment Cost Index Base of 100 = Searoad Mersey equivalent shipping cost.



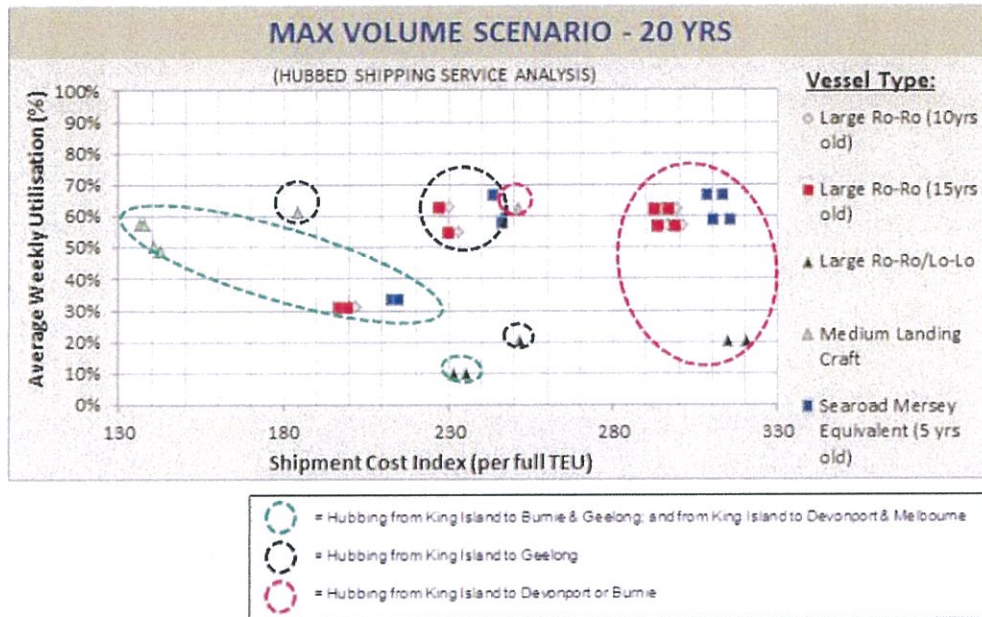


Note: Shipment Cost Index Base of 100 = Searoad Mersey equivalent shipping cost





Note: Shipment Cost Index Base of 100 = Searoad Mersey equivalent shipping cost.



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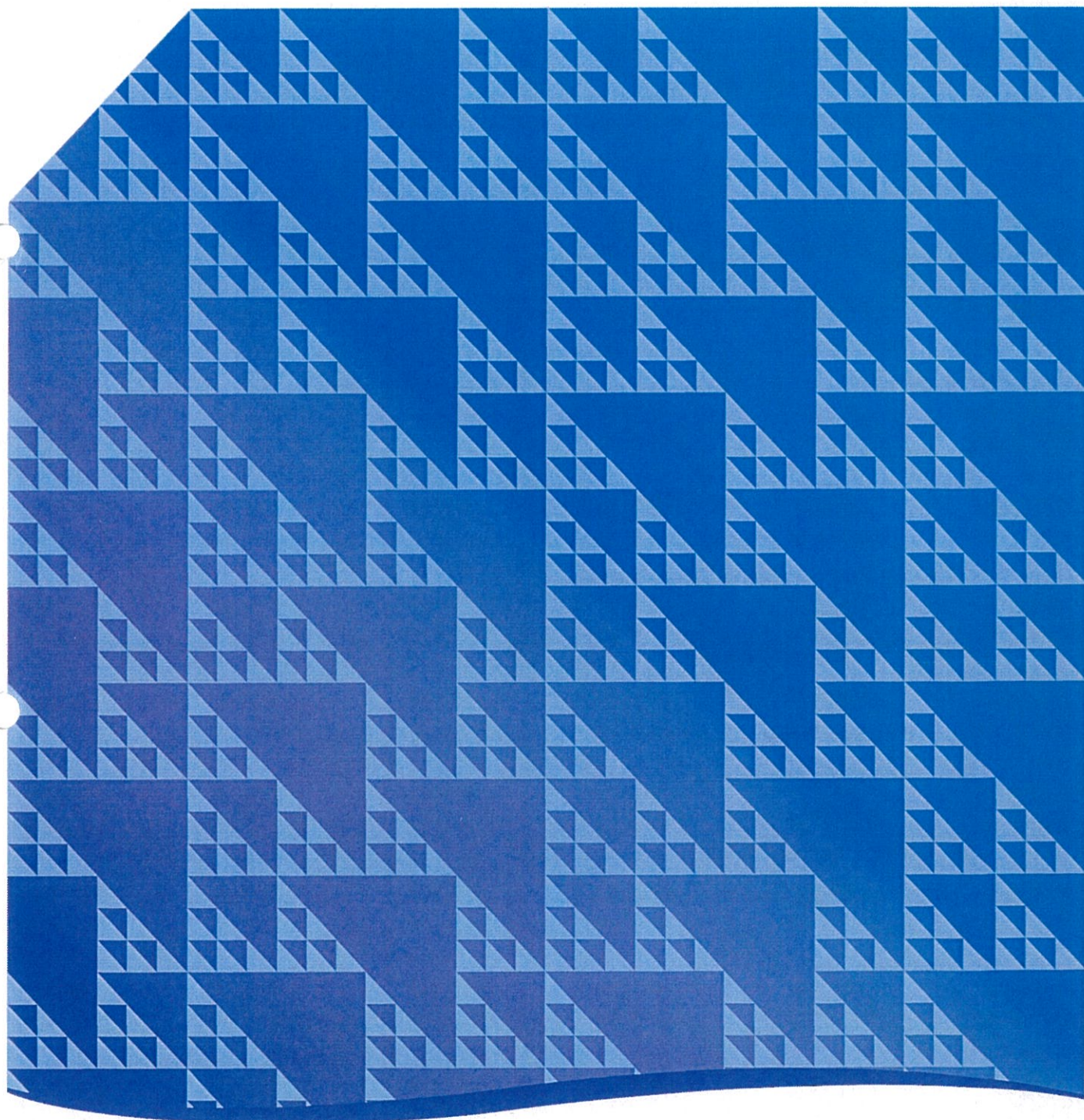
**Tasmanian  
Government**





Request for Proposals  
King Island Shipping Service

# King Island Shipping



# Request for Proposals

## King Island Shipping Service

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## 1. Introduction

King Island is highly dependent on reliable shipping services at commercial and competitive prices. Reliable and cost effective transport connections with both domestic and overseas markets are crucial if primary producers and other businesses on the Island are to remain competitive.

Currently, SeaRoad operates a weekly general freight shipping service to King Island on a commercial basis with its vessel the SeaRoad Mersey, as part of its regular Bass Strait service between Melbourne and Devonport. This service carries general cargo and livestock. Additional services, mainly for livestock, are provided as required by LD Shipping from Stanley.

SeaRoad has indicated that it plans to replace the SeaRoad Mersey with a new, much larger vessel to be delivered in late 2016. The port at King Island cannot accommodate a vessel of this size.

The Tasmanian Government is working with the King Island Council and community and other stakeholders to ensure the continuation of essential shipping services to the Island following the anticipated withdrawal of the current weekly SeaRoad Mersey service to the Port of Grassy in late 2016.

## 2. Role of Government

The King Island community should have access to reliable sea transport services at commercial and competitive prices. As a remote island community, the Government has some level of responsibility to ensure essential shipping services are provided to King Island. However, an essential shipping service will have limitations and may not service all of the needs of the King Island community. A commercially provided shipping service is therefore preferred. The Government strongly believes that it should only intervene if there is a clear demonstration of market failure, and only to the extent that market failure exists.

**The Government's clear preference is for:**

- **an open, unregulated market;**
- **a commercially sustainable, long-term service; and**
- **a reliable, cost-effective service that supports growth of the King Island economy.**

If a suitable proposal is received, the Government will select the respondent as the preferred proponent to negotiate with for the establishment and operation of a long-term commercially sustainable King Island Shipping Service. The Government may select a proponent to work with directly for the establishment of a sustainable King Island shipping service, which may entail some form of Government assistance through initial start-up or transitional facilitation or support. However, the Government does not envisage providing an ongoing operating subsidy.

The RFP process is intended to provide flexibility, subject to legislative and probity requirements, for the Tasmanian Government to negotiate with a view to achieving a suitable outcome. This could include requesting respondents to collaborate, or identify opportunities for respondents to work together where mutually compatible services are proposed.

### 3. What the Government is seeking

The Government has issued a **Request for Proposals (RFP)** from suitably qualified and experienced shipping operators or consortia to establish and operate a long-term commercially sustainable King Island shipping service.

The Government's desired outcome is the delivery of a shipping service that meets the needs of the King Island community, providing reliability and continuity of service and allowing for the Island's businesses to grow. Companies and consortia are invited to submit proposals to meet this outcome.

This is a non-binding and non-exclusive process. That is, this process will not bind the Government to supporting any of the proposals received or restrict it from using an alternate process to facilitate a shipping solution. However, participation in this process does provide the possibility of being selected as the Government's preferred proponent which will provide access to Government facilitation and support to establish and transition into a new shipping service.

Similarly, if at any stage a fully developed and viable market-based solution presents itself, the Government will have the option of pausing or terminating the process.

This RFP process will be managed by the Department of State Growth (the Department).

**Proposals will be assessed against pre-established evaluation criteria (see section 6) with a view to identifying one or more respondents for more detailed evaluation and discussions in order to select a preferred proponent.**

### 4. Proposals (Responses)

**Proposals should be provided in writing by electronic mail and must include sufficient detail to be assessed against the evaluation criteria.**

As an indication, Proposals should include the following information to enable assessment against the evaluation criteria detailed in section 6:

- A description of the service offering including the proposed vessel(s), links to other logistics chains and markets, cargo types and capacity, flexibility to carry different combinations of cargo, proposed schedule, customer interface and pricing.
- A statement in relation to the ability to meet animal welfare and MSA requirements and details of how these will be met.
- An indication of the level of market / customer support.
- A transition strategy for market entry relative to the current service provider(s).
- Specifically in relation to pricing:
  - Innovative pricing structures are encouraged.
  - **Attachment A should be completed and included with all Proposals.**
  - For comparative purposes, respondents should also include predicted start-up and long-term average pricing in a format that matches the structure of existing competitive tariffs.



- Downside risks should also be identified for both start-up and long-term pricing and, where possible, quantified.
- Any additional land-side charges that are intended to be charged should also be included.
- Details of the experience of the shipping operators, management structure, staffing levels and technical expertise in operating similar shipping services.
- Financial details to enable assessment of the ability to establish the service, ability to raise capital if needed, sustainability and stability of services, including a business case for the proposed service.
- Any identified limitations to establishing a commercially sustainable service and, if required, include a proposed pathway to transition the service to commercial sustainability over the short term. This may include identification of areas where Government, including state owned corporations, could support establishment or transition.

Given the similar nature and lack of a safety net shipping service for other Bass Strait Islands, the potential for future expansion into the Furneaux Islands shipping market, should this be required, would be an advantage.

## 5. Timing

**Proposals are to be received by the Department of State Growth (email to [Deborah.Davis@stategrowth.tas.gov.au](mailto:Deborah.Davis@stategrowth.tas.gov.au)) by 5pm Friday 29 January 2016.**

Each Proposal submitted will be regarded as full and complete. If respondents need to modify any part of a group of documents that constitute a Request for Proposal response, then the whole proposal must be re-submitted before the closing date.

Late Proposals will be returned to the respondent by electronic mail noting that lodgement occurred after the closing time and the Proposal is therefore not accepted.

Evaluation will occur during February and March. The outcomes will be considered by Government with advice of any outcome to participants expected in April 2016.

## 6. Evaluation

All Proposals will be assessed by an evaluation panel, comprising representatives from the Department of State Growth and the King Island Council, against a standard set of criteria. The evaluation panel will meet as required. If deemed necessary, respondents may also be invited to provide a presentation and/or be interviewed with regard to their Proposal. Respondents may also be requested to provide further information or clarification to support their Proposal.

The criteria are based on three broad categories – Quality, Price and Reliability. Only those proposals that receive sufficiently high scores for quality, price and reliability will be further considered. **An overriding adjustment will be made based on any level of Government support required.** The criteria are listed below. Respondents are encouraged to use supporting documentation to validate their responses to these criteria.

## 6.1. Quality

- a. Appropriate Vessel (for Ports and for Bass Strait)
  - Size, type, speed, age, classification society, consistency with AMSA requirements
  - Capacity, flexibility to meet seasonal peaks and troughs in the trade and to carry a changing cargo mix
  - Previous deployment
- b. Market / Consumer Acceptance
  - Level of support from potential customers
- c. Meets Freight Needs
  - Animal welfare and MSA
  - Cargo capacity (including cargo mix) and ability to cater for oversize cargo such as building materials
  - Level of protection available for cargo (eg availability of undercover cargo space)
  - Availability of connections for reefers
  - Service routing, frequency and regularity
  - Nature and quality of links to other markets/logistics chains, particularly to mainland Australia if not provided in-house
- d. Supports Island Business Growth (see section 7.2.6)
  - Flexibility for changing cargo mix
  - Ability to support reasonable import and export growth (especially relevant for the future of the sheelite mine and for building activities on the Island)
- e. Transition Strategy
  - Structured transition strategy
  - Negotiated with current provider

## 6.2. Price

- f. Price to Users
  - Proposed tariffs for standard cargo items as per Attachment A
  - Comparison of the proposed tariff for general cargo and livestock with current competitive tariffs
  - Differential prices if necessary, ie transition pricing, fully commercial pricing
  - Identification of major downside risks and attempt to quantify (eg % impact)

## 6.3. Reliability

- g. Technical Expertise
  - Experience, Management structure, Staff qualifications
  - Customer service, complaints and dispute resolution processes, 'front office' structure and experience



#### h. Financial Stability

- Long term financial stability (eg. profitability, cash flow, asset/liability ratio, Return on Capital Employed) and ability to raise capital if required
- Ability to withstand highs and lows of the market
- Ability to leverage opportunities that may arise within the Bass Strait trade to diversify and enhance scale efficiencies

### 6.4. Adjustment Factor

Those proposals which have been assessed as sufficiently meeting the quality, price and reliability criteria will be subject to further evaluation.

It is recognised that some proposals may seek some form of Government facilitation, support or funding to establish and/or operate. As outlined in section 4, any barriers to establishing a commercially sustainable service and transition assistance sought must be included in the RFP response.

While the Government is seeking a commercially sustainable market based solution, this must also be balanced with the quality of service and the price to customers.

Therefore, following evaluation against the above criteria, **remaining proposals will be assessed and score adjusted for any level of Government support required, transitional or start-up.**

## 7. Background

### 7.1. Current Service

Since 2001, the King Island shipping service has been operated as a commercially sustainable service without Government subsidisation.

- SeaRoad operates a once-weekly Sunday call to the Port of Grassy as part of its Melbourne to Devonport service using the SeaRoad Mersey.
- LD Shipping provides shipping services, mainly livestock transport, to/from the Port of Stanley and on occasion to Victoria.

### 7.2. Freight Data

Data on freight movements is provided at an aggregated level.

#### 7.2.1. Total Freight Trends – Port of Grassy

According to TasPorts' data, total general and unitised cargo shipped to/from the Port of Grassy in 2014-15 totalled 75,766 tonnes or the equivalent of 8,255 TEUs. Outbound cargo was 54% of this total. The majority of cargo is shipped as unitised freight, with the exception of cattle shipped 'on the hoof', wheeled equipment and horse floats. Empty containers form a significant part of both imports and exports (see section 7.2.2).

Overall King Island cargo, including livestock, accounts for around 2.5% of Bass Strait cargo.

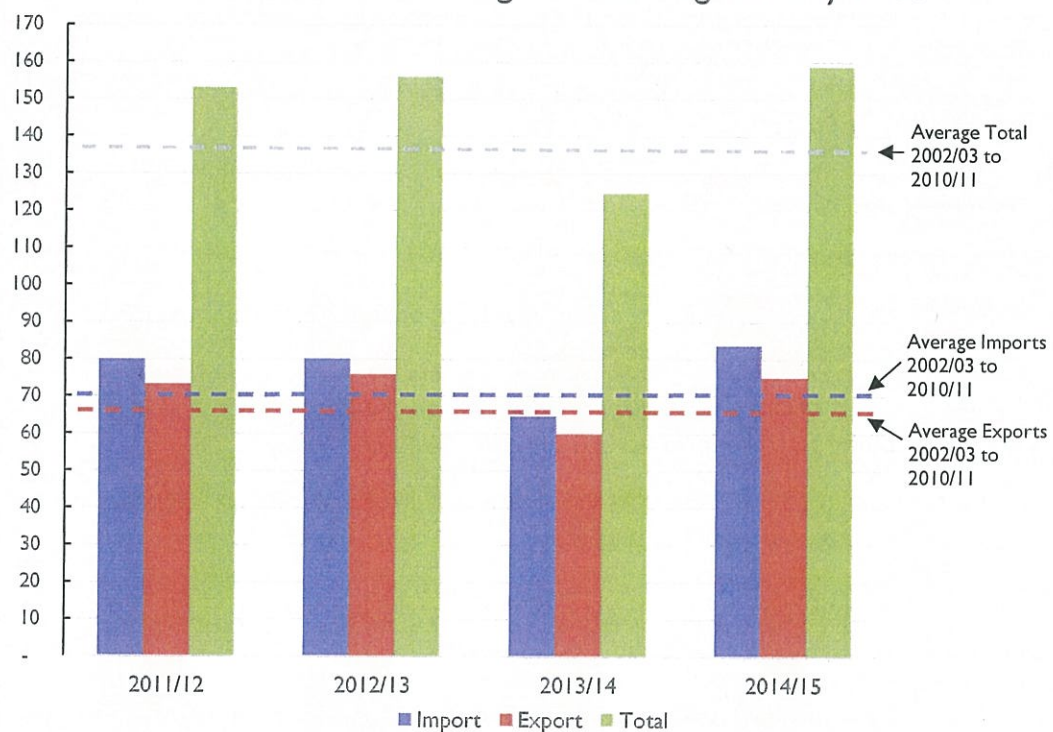
Table I. King Island Freight Statistics (source: TasPorts annual report 2014-15)

Year	Import (tonnes)	Export (tonnes)	Total (tonnes)	Import (TEUs)	Export (TEUs)	Total (TEUs)	No. Ships	Avg Cargo per Ship
2011/12*	34,525	37,108	71,633	4,152	3,809	7,961	46	1,557
2012/13	30,845	48,425	79,090	4,161	3,949	8,110	92	860
2013/14	29,432	35,283	64,715	3,364	3,116	6,480	118	548
2014/15	35,093	40,673	75,766	4,352	3,903	8,255	146	519

\* The business conducted by King Island Ports Corporation Pty Ltd was transferred to Tasmanian Ports Corporation Pty Ltd 1/7/2011.

Data for freight movements prior to this are available (see Report on King Island Shipping [http://stategrowth.tas.gov.au/infrastructure/freight/king\\_island](http://stategrowth.tas.gov.au/infrastructure/freight/king_island)), however a significant change occurred in September 2012 with the closure of the King Island abattoir, meaning that livestock must now be shipped from the Island for processing.

Chart I. King Island Average Weekly TEUs



### 7.2.2. Commodity Type

The majority of freight is imported and exported by private companies and individuals. The main exception to this is the import of fuel to the Island which is shipped by TasPorts, a State Owned Company.

The commodities transported to and from King Island by volume are shown in Table 2.



Table 2: King Island Import and Exports share by type

	Imports (% of tonnage)		Exports (% of tonnage)	
	2013-14	2014-15	2013-14	2014-15
Livestock/Cattle	3.3	2.1	57.7	63.3
Fertiliser	34.1	33.5	-	-
Empty Containers	21.2	21.5	19.1	13.9
Mineral Sands	-	-	11.5	12.6
Fuel	16.1	15.8	-	-
General Cargo	11.6	12.7	0.7	0.6
Dairy (cheese)	0.3	0.1	4.9	4.5
Kelp	-	-	3.8	3.2
Hazardous	6.8	6.8	0.3	0.1
Stockfeed	5.4	6.0	-	-
Vehicles	1.2	1.4	1.1	1.1
Sheep	-	0.1	0.7	0.6
Beef	-	-	0.1	-

Chart 2. King Island Import shares (% of tonnage)

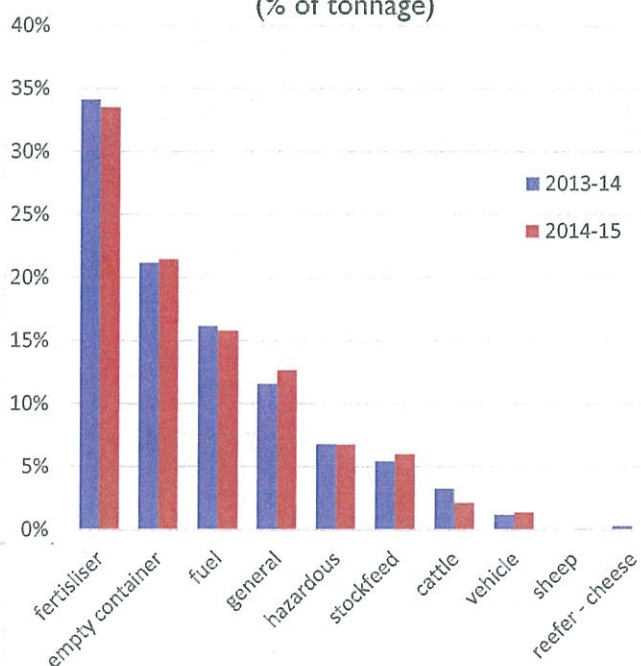
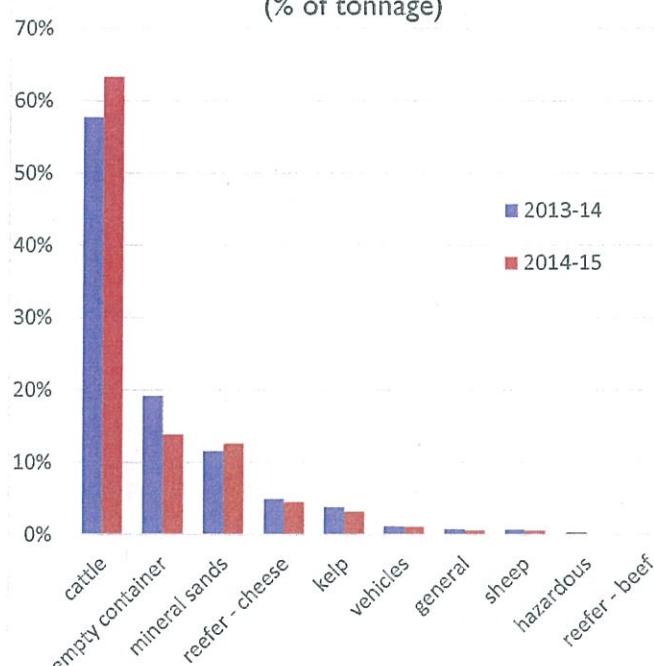


Chart 3. King Island Export shares (% of tonnage)



### 7.2.3. Port of Origin and Destination

Almost half of outbound tonnage is destined for Port of Melbourne, with the balance to Tasmania, primarily Devonport (around 1/3 of tonnage) and Stanley, with cattle the main commodity destined for both Tasmanian ports.

Inbound cargo is largely from Melbourne (around 80%), with the remainder from Devonport. However, this also reflects the current shipping arrangement with King Island serviced on the Melbourne – Devonport leg of SeaRoad's Bass Strait service.

#### 7.2.4. Seasonality

The greatest total freight demand is usually experienced between February and June, peaking around March. A similar peak is experienced for livestock exports, peaking in March 2014 and in May 2015.

In its 2013 report on King Island Shipping Services, GHD noted that historically during peak periods, freight volumes are up to 50 per cent higher than weekly averages.

Chart 4. All King Island Freight Movements by Month (tonnes)



#### 7.2.5. Livestock Shipment

Following the closure of the abattoir on King Island in September 2012, shipping of cattle to mainland Tasmania, and on occasion to Victoria, for processing has become a major King Island freight task.

Livestock is currently transported from the Island by both SeaRoad and LD Shipping. Generally, livestock transported by SeaRoad links to the Longford abattoir for processing via Devonport, while LD Shipping links to the abattoir in Smithton via Stanley. A small proportion of cattle is transported from King Island to Victoria, however this is not a consistent trade.

Under the current services, cattle from King Island is transported to Longford on trailers via Devonport, while cattle transported to Smithton for processing is transported 'on the hoof' via Stanley.

The transport of live cattle brings its own challenges and requirements. These are discussed further in section 7.4 Animal Welfare.



#### 7.2.6. Future Growth

It is difficult to assess future growth, however in an earlier analysis of the King Island shipping market completed in late 2013, consultants GHD provided medium (2018) and long term (2033) forecasts of the islands inbound and outbound cargo under low, medium and high scenarios. A key driver behind these scenarios was the level of mineral sands exports.

- Low economy scenario - indicated the King Island trade declining from around 70,000 tonnes of loaded freight (predicted 2013) to around 52,000 tonnes for subsequent years. This assumed cessation of mineral sands production.
- Medium economy scenario - indicated the King Island trade increasing from around 70,000 tonnes of loaded freight (predicted 2013) to around 73,000 tonnes (2018) and 84,000 tonnes (2033). This assumes mineral sands shipments growing at 1% pa (a 4% increase by 2018 and 21% by 2033).
- High economy scenario - indicated the King Island trade increasing from around 70,000 tonnes of loaded freight (predicted 2013) to around 87,000 tonnes (2018) and 107,000 tonnes (2033). This assumes mineral sands shipments growing at 2% pa (an 8% increase by 2018 and 46% by 2033).

The full report, which includes freight demand analysis from 2003 to 2013 can be found at: [http://stategrowth.tas.gov.au/infrastructure/freight/king\\_island](http://stategrowth.tas.gov.au/infrastructure/freight/king_island)

#### 7.3. King Island Freight Customers

There is a diverse mix of cargo travelling to and from King Island, with differing needs. This creates challenges in defining the Island's needs and in developing a service that can meet all customer needs. It is likely that the needs of some cargo types can be more easily met than others and there will be a need to balance service flexibility with reliability and price.

The clearest differentiation is between regular freight and livestock. More specific discussion relating to livestock transport is in the following section, 7.4 Animal Welfare.

While all freight customers would support more regular and flexible services, they would also support reduced prices, which may be conflicting aims. There appears to be agreement on a desire to move away from a Sunday port call and also for a greater than once weekly service.

In relation to the specific needs of King Island customers, the King Island Council established a King Island Shipping Group which includes all major stakeholders from the major freight types. For further information on the Shipping Group, the King Island Council can be contacted on 03 6462 9000.

#### 7.4. Animal Welfare

When transporting livestock, it is essential that they are managed in a way that reduces stress and minimises any risks to animal welfare. The Bass Strait crossing comprises one leg of what is regarded as a long road journey from property of origin to final destination.

Cattle from King Island is processed and sold under two premium brands – King Island Beef and Cape Grim Beef. To ensure a premium product, animal welfare is key to achieving the highest Meat Standards Australia (MSA) grading and in the paddock to plate ethical treatment of animals

approach utilised by these companies to brand and therefore support premium pricing of their products. Shipping of cattle to and from King Island is an important factor in achieving this premium branding.

There are also animal welfare standards, guidelines and regulations which relate to the transport of livestock and must be complied with.

Important components of livestock transport include:

- Length of time from paddock to abattoir
- Avoiding extremes of weather and exposure to sea spray
- Ventilation and exposure
- Density of livestock
- Separation of livestock by size, age and species
- Suitability of loading ramps, loading facilities and yards
- Livestock transport, loading and unloading techniques

The Department of Primary Industries, Water and Environment has prepared *Animal Welfare Guidelines - Transport of Livestock Across Bass Strait* that apply to King and the Furneaux Islands. These include the duty of care and responsibilities of the shipping company and Master. They can be found at: <http://dpiwve.tas.gov.au/biosecurity/animal-biosecurity/animal-welfare/legislation-standards-guidelines/animal-welfare-standards-guidelines/animal-welfare-guidelines/transport-of-livestock-across-bass-strait>

## 7.5. Port of Grassy Limitations

The Port of Grassy has limitations in terms of size, exposure to weather, and freight handling facilities. TasPorts has issued Harbourmaster's Directions which limit port access:

### Marine Access

Maximum Vessel LOA	90m
Maximum Vessel Draft	5m
Maximum Wind Speed if vessel >35m LOA	25 kts
Port Access if Vessel >35m LOA	Daylight only
Required Spec if Vessel > 35m LOA	Twin Screw
Required Spec if Vessel >60m LOA	Bow Thruster

### Wharf and Terminal Specifications

RoRo Wharf Length LOA	80m (84m to stern fendering)
Draft alongside	5.6m
Ramp width and strength	14.5m; <100t
Cargo Storage Area	<3,200m <sup>2</sup>

The SeaRoad Mersey which has a length of 119m, beam of 19 metres, fully laden draft of 5.3 metres and a deadweight of 4,824 tonnes operates under special permission from TasPorts and any new vessel exceeding the above limits would also require special permission with associated conditions as determined by TasPorts upon assessment of any application.



## 7.6. Port of Grassy Charges

TasPorts published tariffs as at 1 July 2015 for the Port of Grassy are reproduced in Table 3.

**Table 3. King Island Wharfage Charges** (source: TasPorts Schedule of Port Charges 2015)

### Wharfage - King Island

Wharfage charges are payable as specified or by tonne, cubic metre, or kilolitre of cargo, whichever is the greater.

		\$ Import / Export
<b>Containerised Cargo</b>		
Full Containers	per TEU*	165.00
Empty Containers	per TEU*	35.00
Empty Other	per linear metre	5.50
<b>Trailers Under Load</b>		
20 foot (6.1 metres)	each	165.00
40 foot (12.2 metres)	each	330.00
Non Standard e.g. LPG	per linear metre	35.00
<b>Vehicles</b>		
Motor Vehicles up to 5 tonne	each	38.00
Motor Vehicles over 5 tonne up to 5.9m in length	each	52.00
Motor Bikes (incl. Bikes and ATV's)	each	12.00
Caravans, Buses, Boats & Trailers (and all vehicles over 5 tonne and 5.9m in length)	per linear metre	10.30
Horse Float - Empty or Full	each	40.00
<b>Livestock In Trailer Units</b>		
20 foot (6.1 metres)	single & multi deck, per unit	82.00
40 foot (12.2 metres)	trailer, per unit	164.00
<b>Empty Trailer Return</b>	per linear metre	5.50
<b>Livestock</b>		
Small animals (up to 300kg)	per head	2.00
Large animals	per head	4.00
*All cattle will be charged at large animals rate		
<b>Stock Facility Levy</b>		
Small Animals (up to 300kg)	per head	0.50
Large animals	per head	1.00
<b>General Cargo (non-containerised)</b>		
Other not listed elsewhere	per tonne, linear metre, unit or each whichever is the greater (minimum charge 1 tonne or 1 cubic metre applies)	10.00
Casual Storage (area hire)	per day	240.00

Other fees and charges, including for the Port of Devonport, can be found at:  
[http://www.tasports.com.au/pdf/Tasports\\_ScheduleOfPortCharges\\_20-091015.pdf](http://www.tasports.com.au/pdf/Tasports_ScheduleOfPortCharges_20-091015.pdf)

## 8. Tasmanian Freight Equalisation Scheme

The Tasmanian Freight Equalisation Scheme (TFES) is paid on a wide range of eligible non-bulk goods, shipped both to and from Tasmania, funded and administered by the Australian Government with no involvement from the Tasmanian Government. King Island shipping services for eligible goods and destinations qualify for the TFES payments, with some additional loading available to King Island recipients in nominated situations.

Payments are made to those who incur the costs of shipping eligible goods, through the Australian Department of Human Services. Details are available at:

<http://www.humanservices.gov.au/business/services/centrelink/tasmanian-freight-equalisation-scheme/>

TFES is administered according to Ministerial Directions (MDs), issued by the Federal Minister for Infrastructure and Regional Development. The MDs set out eligible goods, how assistance is calculated, claims processes and other associated administrative matters. Details are available at: <https://infrastructure.gov.au/transport/programs/maritime/tasmanian/scheme.aspx>

The Australian Government will commence TFES payments for goods going to markets not currently covered by the Scheme and that are transhipped through a mainland port from 1 January 2016. New Ministerial Directions to implement this initiative were recently released. They can be found at: <https://infrastructure.gov.au/transport/programs/maritime/index.aspx>

## 9. Contact

All queries related to the RFP should be directed to Deborah Davis, Department of State Growth on +61 3 6166 3460 or via email to [Deborah.Davis@stategrowth.tas.gov.au](mailto:Deborah.Davis@stategrowth.tas.gov.au).

**Proposals should be submitted via email to [Deborah.Davis@stategrowth.tas.gov.au](mailto:Deborah.Davis@stategrowth.tas.gov.au) by 5pm Friday 29 January 2016.**

## 10. Terms and Conditions

- This invitation for Request for Proposal (RFP) is not a request for tender. It does not constitute an offer intended to be accepted by the Government.
- Upon submission, all Proposals will become the property of the Crown in the Right of Tasmania and will not be returned to the respondents.
- Any intellectual property rights that may exist in a Proposal will remain the property of the respondent but a response may be copied by the Crown for the purposes of evaluation or for purposes related to the administration of government.
- The Crown will hold all proposals in confidence so far as the law permits or except to the extent disclosure is appropriate as part of the administration of government.
- The Crown reserves the right to publish the names of respondents.
- Late Proposals will be returned to the respondent by electronic mail noting that lodgement occurred after the closing time and the Proposal is therefore not accepted.
- Any costs incurred in preparing and submitting a response to this Request for Proposals are the liability of the interested party and will not be met by the Crown.



- The Government reserves the option to accept part, or the whole, of a Proposal from the same or from different respondents in order to best meet the RFP requirements and specifications.
- The respondent must ensure that all commercial in confidence, confidentiality and privacy issues and responsibilities are properly addressed in the Proposal, and that no conflict of interest arises in relation to the Proposal or any matter relating to the Proposal.
- The Government and the evaluation panel are not responsible for, nor will pay for, any cost or expense or loss incurred by any respondent including but not limited to:
  - preparing and lodging a Proposal;
  - carrying out any investigation in relation to the proposal set out in a Proposal; or
  - any resources used by the respondent in the preparation of its Proposal.
- The evaluation panel is not bound to or required to endorse any Proposal.
- The Government may vary the RFP at any time by:
  - informing all respondents; and
  - notifying all persons to whom the Department has issued the RFP; or
  - advertising the variation in the newspapers in which the original RFP was advertised.
- The Government may discontinue or suspend the RFP process.
- The RFP is not to be construed as making any express or implied representation, undertaking or commitment by the Government that it will enter into a binding contract with any respondent to undertake the Government's requirements.

## 11. Disclaimer

This RFP has been prepared to assist interested parties and does not purport to contain all the information that an interested party may require to prepare a response to this RFP.

An interested party should conduct its own independent review, investigation and analysis of matters relevant to the establishment and operation of a King Island shipping service.

An interested party must rely entirely on its own reviews, investigations and analysis, and not on this RFP, in relation to matters relevant to the establishment and operation of a King Island shipping service and/or any decision to submit, or not to submit, a proposal in response to this RFP.

The information contained in this RFP must not be used for any purpose other than in connection with this RFP and the submission of a response.

No representation or warranty (either express or implied) is given by or on behalf of the Crown in Right of Tasmania, or any of its servants and agents, as to the quality, accuracy, reliability or completeness of information contained in this RFP or that reasonable care has been taken in compiling or preparing this RFP.

Any liability of the Crown, its servants and agents, to any person (including an interested party) in relation to this RFP or the information contained in this RFP is, to the maximum extent permitted by law, expressly disclaimed and excluded.

In this disclaimer, a reference to an interested party includes a person who submits a proposal in response to this RFP.



## Attachment A – Indicative Pricing Schedule

While innovative pricing approaches are encouraged, to enable comparison between existing competitive prices and between proposals, a standard set of indicative freight costs are required.

All Proposals must include information on indicative pricing in the immediate and long-term. They should also discuss the major downside risks and attempt to quantify these, for example in percentage terms. Any additional land-side charges should also be included.

### Export Price: King Island – Mainland Tasmania

Cargo item	Cost basis	Commencement/Transition		Longer-term (3 years+)	
		Indicative middle-market price	Landside charges	Indicative middle-market price	Landside charges
20 foot trailer	Per trailer				
40 foot trailer	Per trailer				
Full Container	Per TEU				
Empty Container	Per TEU				
Reefer	Per TEU				
Hazardous Goods	Additional charge				
Fuel (tanktainer)	Per container				
Livestock (on the hoof)	Head of cattle				
Vehicles (≤ 5.9m length, ≤ 5 tonne)	Per vehicle				
Horse Floats (full)	Per float				
Machinery / Plant	Per item				
Oversize items: • 2.41m - 5.90m length • >5.90 m length	Additional charge				

### Export Price: King Island – Victoria

Cargo item	Cost basis	Commencement/Transition		Longer-term (3 years+)	
		Indicative middle-market price	Landside charges	Indicative middle-market price	Landside charges
20 foot trailer	Per trailer				
40 foot trailer	Per trailer				
Full Container	Per TEU				
Empty Container	Per TEU				
Reefer	Per TEU				
Hazardous Goods	Additional charge				
Fuel (tanktainer)	Per container				
Livestock (on the hoof)	Head of cattle				
Vehicles (≤ 5.9m length, ≤ 5 tonne)	Per vehicle				
Horse Floats (full)	Per float				
Machinery / Plant	Per item				
Oversize items: • 2.41m - 5.90m length • >5.90 m length	Additional charge				

### Import Price: Mainland Tasmania - King Island

Cargo item	Cost basis	Commencement/Transition		Longer-term (3 years+)	
		Indicative middle-market price	Landside charges	Indicative middle-market price	Landside charges
20 foot trailer	Per trailer				
40 foot trailer	Per trailer				
Full Container	Per TEU				
Empty Container	Per TEU				
Reefer	Per TEU				
Hazardous Goods	Additional charge				
Fuel (tanktainer)	Per container				
Livestock (on the hoof)	Head of cattle				
Vehicles ( $\leq 5.9$ m length, $\leq 5$ tonne)	Per vehicle				
Horse Floats (full)	Per float				
Machinery / Plant	Per item				
Oversize items: •2.41m - 5.90m length •>5.90 m length	Additional charge				

### Import Price: Victoria - King Island

Cargo item	Cost basis	Commencement/Transition		Longer-term (3 years+)	
		Indicative middle-market price	Landside charges	Indicative middle-market price	Landside charges
20 foot trailer	Per trailer				
40 foot trailer	Per trailer				
Full Container	Per TEU				
Empty Container	Per TEU				
Reefer	Per TEU				
Hazardous Goods	Additional charge				
Fuel (tanktainer)	Per container				
Livestock (on the hoof)	Head of cattle				
Vehicles ( $\leq 5.9$ m length, $\leq 5$ tonne)	Per vehicle				
Horse Floats (full)	Per float				
Machinery / Plant	Per item				
Oversize items: •2.41m - 5.90m length •>5.90 m length	Additional charge				





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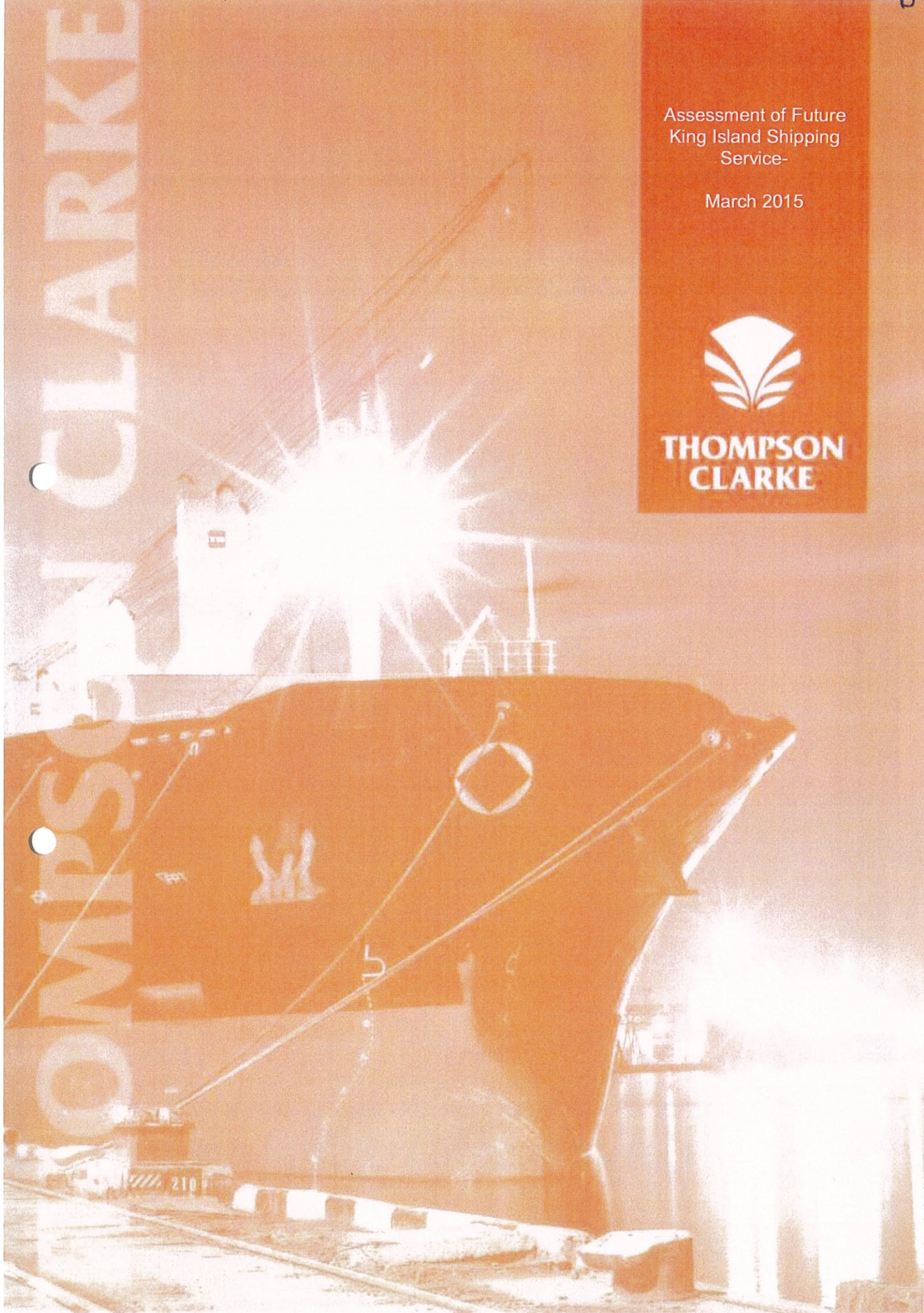


Assessment of Future  
King Island Shipping  
Service-

March 2015



**THOMPSON  
CLARKE**





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# 1 Executive Summary

**The Project Brief** for this assessment of future King Island Shipping Services was defined by the Tasmanian Department of State Growth and requires Thompson Clarke Shipping, as the appointed consultant, to concentrate on two key objectives:

- a) To advise on the strategic, operational and commercial implications (including any risks) of the King Island Shipping Group's Preferred Option 5, including the ownership aspects of this option (as defined in its Powerpoint Presentation of these Options of October 2014);
- b) To identify, at a high level, any potential cost effective alternative service models that the Government may wish to consider, including a strategic rationale.

The full scope of work is set out in Annex 1 to this report and acknowledges that this is a limited desktop study, with neither the timelines nor financial budget of a full feasibility study.

**The current King Island cargo market** is inevitably the critical starting point for this assessment. In 2013/14, according to Tasports' data, total general and unitised cargo shipped to/from the port of Grassy totalled 64,500 tonnes or the equivalent of 6,500 TEUs. In tonnage terms, outbound movements accounted for 54% of the cargo flow. The container and tonnage data includes empty (MT) containers required to maintain such flows reasonably in balance (no containers originate on the island). Both these tonnage and container equivalent volumes are reasonably in line with the long term 10 year averages for the period from 2003 to 2012 and identified by GHD in its report on King Island Shipping submitted to DIER in November 2013. Last year, nearly three quarters of outbound tonnage was accounted for by cattle (54% of the total tonnage & mostly bound for Tasmania) and mineral sands (19%), while half of inbound tonnage was generated by two commodities - fertiliser (34%) and fuel (16%). Melbourne handled 46% of the island's outbound cargo and 80% of the inbound.

**Future growth** is difficult to assess. While export tonnage last year was some 10% above previous 10 year averages, and freight data in the first half of 2014/15 has suggested that further growth can be expected in the current year, this growth has occurred primarily in cattle movements since the closure of the abattoir on the island. Given the finite capacity of the 2 destination abattoirs on the Tasmanian mainland, future outbound growth was previously forecast to be generated by mineral sands rather than cattle, but after a surge in 2012/13 these mineral sands volumes have subsided. This may be offset if the existing scheelite workings return to production. Until the current year, inbound cargo has been in decline over the last 3 years and thanks to the dominant role of fertiliser is highly seasonal, concentrating in the autumn. The abandonment of the Island windfarm project has not helped the prospects for the Island's inbound sector.

**The King Island Shipping Group preferred option** is considered to be unacceptably high risk for a number of reasons:

- Prime among such risks is the fact that construction or ownership of a vessel capable of carrying general cargo, hazardous bulk liquids, cattle, and refrigerated cargo with ramp access and deck strengths adequate for heavy minerals and fertiliser containers is a very expensive option (bow thruster and twin propulsion systems required to enter Grassy).
- This is aggravated by the fact that it would be to service a market whose commodity mix (as opposed to overall tonnage) has in the past been volatile, and this volatility has few signs of changing over the minimum future economic operating life of such a vessel (15 years). In recent times the only major commodity with consistent but highly seasonal tonnage flows has been fertiliser.
- The lead time for delivery of such a newly built vessel from Asia is likely to be at least 18 months, with a capital cost of not less than US\$10m (design, construction, supervision and delivery) or close to A\$13m at current exchange rates.
- To this must be added the inescapable risk and operating cost of the proposed single vessel operation, particular if ownership is to lie with a group or consortium without marine operating management experience.

That said, three of the seven alternative options put forward by the King Island Shipping Group are more practical, and in some cases lower risk and cost, and so are considered subsequently in this report.





**Three basic route or service options** were examined in the course of this study.

- The first was a replication of the triangular service offered by mv SeaRoad Mersey between Melbourne - King Island – Devonport and Melbourne to be offered twice weekly. Such a service would only be sustainable if provided by one of the three current Bass Strait operators, who would be extremely hostile to a new operator for King Island attempting to carry other cargo between Tasmania and the mainland.
- The second option was a dedicated “butterfly” service linking King Island first with Melbourne and secondly with Tasmania; an advantage of such a service would be the need for a significantly smaller and cheaper vessel to operate the service compared with the first option, plus its ability to increase selectively the number of calls in Melbourne to meet the inbound seasonal cargo peak each autumn.
- The third option consisted of a shuttle service between Devonport and Grassy to be provided by an operator of a Landing Craft Type vessel (LCT), which is consequently smaller, slower and cheaper than the vessel required for the second option. This would most likely be linked to the main SeaRoad daily Bass Strait service, with transshipment in Devonport, and the potential ability to delay uplift across Bass Strait for a maximum of 48 hours in Devonport northbound and Melbourne southbound. Any such subload cargo in all probability would be carried on compensating discounted freight rates. TT Line could be an alternative, but would be less flexible given its cargo is wheeled, ie carried in trucks or trailers. King Island call frequency would be a minimum of twice weekly with a potential of three times.

All three service options assume the continuation of the LD Shipping service for Greenham cattle on the hoof from Grassy to Stanley with an approximate frequency of 3 services every 10 days, while the JB Swift cattle for Longford would be moved in trailers on the Grassy - Devonport leg of the service.

**Four vessel options** were considered in the course of this study:

- The first was the current vessel calling at Grassy, m.v. SeaRoad Mersey. She has two principal drawbacks – her age since she is 25 years old next year (and so may be uneconomic to operate under Australian flag thereafter) and her size, which is significantly too large for a dedicated King Island trade. Consideration of this vessel can only be on the basis of its current owner having trade for her additional to King Island that justifies her increasing operating costs.
- The second vessel was a small LOLO (Lift On Lift Off) vessel of the type operated elsewhere on the Australian coast in Queensland – this option was discarded since such vessels have no ability to carry wheeled traffic.
- The third option was a small ROLO (Roll On or Off/Lift On or Off) vessel similar to m.v. Dutch Runner with on board cranes for containers, a stern ramp, cargo capacity some 30% less than the SeaRoad Mersey and overall specifications compatible with the current restrictions at Grassy.
- The final option was a landing craft some 50% larger than the m.v. Statesman, similar to one deployed in the trade to remote communities in Far North Queensland. Such a vessel could handle both containers and wheeled traffic, and while unlikely to be suitable for operations across Bass Strait ought to be able to cope with weather and sea conditions between Devonport and Grassy

**The following recommendations** are made by Thompson Clarke as an outcome of this desktop assessment:

1. Further research via a feasibility study should be urgently undertaken to establish the relative attractiveness of a 3<sup>rd</sup> party professional shipping group operating one the following two service options. These two options combine the optimal route and vessel options, as outlined above.

A minimum frequency of twice weekly service through EITHER:

- a) a ROLO vessel at least 30% smaller than m.v. SeaRoad Mersey in a dedicated King Island Bass Strait service to both the mainland and Tasmania; OR
- b) the operation of a 50m LCT in comparatively sheltered waters to provide a shuttle service between Devonport and Grassy.



2. This feasibility study should only be undertaken after establishing:
  - a) SeaRoad's future intentions for its current vessel calling at King Island; and
  - b) SeaRoad's willingness to replace it with a more suitable service and vessel.

Should SeaRoad cease serving King Island with its current vessel or a replacement vessel, the next focus should be on the viability of allowing a 3rd party dedicated shuttle to feed mainland freight through the SeaRoad network between Devonport and Melbourne and use SeaRoad's Devonport terminal for Tasmanian main island freight, including JB Swift cattle in trailers as at present.

3. Any future service option should be conditional on LD Shipping and Greenham being willing to continue for the foreseeable future their movement of cattle on the hoof between the Island and the Smithton abattoir via Grassy and Stanley. (It is noted that, should the LCT shuttle emerge as the preferred King Island service, this would have the added advantage of providing the potential for limited mutual vessel back up between the new operator and LD Shipping to respond temporarily to a vessel breakdown in either service.)
4. The King Island Shipping Group's Option 5 of a dedicated newly built or customised conversion of a vessel to operate on Bass Strait on a standalone basis should not be pursued for reasons of both high cost and risk. Neither should there be any further consideration of a dedicated LOLO vessel primarily due to the volumes of outbound King Island live cattle traffic requiring a vessel with a ramp.

It should be noted that these recommendations are made in the context of the Tasmanian Government's draft Shipping Policy Statement on King Island of 2010 and the Partnership Agreement signed between the State Government and King Island Council in October 2012. This has been with a view to both minimising cost and risk via the use, wherever possible, of existing assets and facilities and maximising the service benefit of the likely outcome to as many parties as possible. This benefit has been delivered via market forces since 2001, other than in respect of the application of the Tasmanian Freight Equalisation Scheme (TFES) to cargo costs and the establishment of limited emergency support arrangements by Government to cover unforeseen service breakdowns.





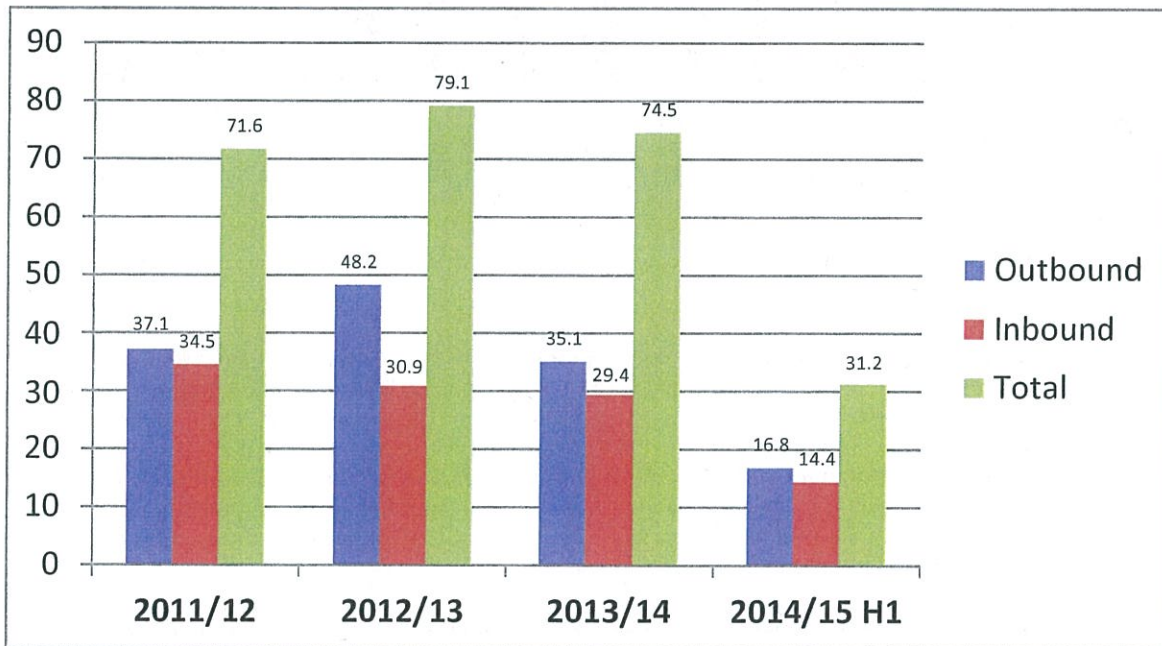
## 2 King Island Market Trends

### 2.1 Historic Trends since 2003

The GHD report on King Island Shipping submitted to the Tasmanian Department of Infrastructure, Energy and Resources in November 2013 indicated that freight volumes to and from King Island in the decade between 2003 and 2012 had remained reasonably consistent. Outbound cargo averaged 600 tonnes weekly (31,200 tonnes p.a.) or 60 TEU equivalent weekly and inbound slightly more at 700 tonnes weekly (36,400 tonnes p.a.) or 70 TEU equivalent weekly. Total trade typically was around 68,000 tonnes p.a. There was little compound growth in this time (0.4% outbound, other than in 2011/12 when it was somewhat stronger, and 0.2% inbound).

Latest data for the last 3 completed years and the first half of 2014/15 supplied by Tasports is set out in Figure 2-1 below.

**Figure 2-1 – King Island Cargo Flows 2011/12 to 2014/15 '000s Tonnes**



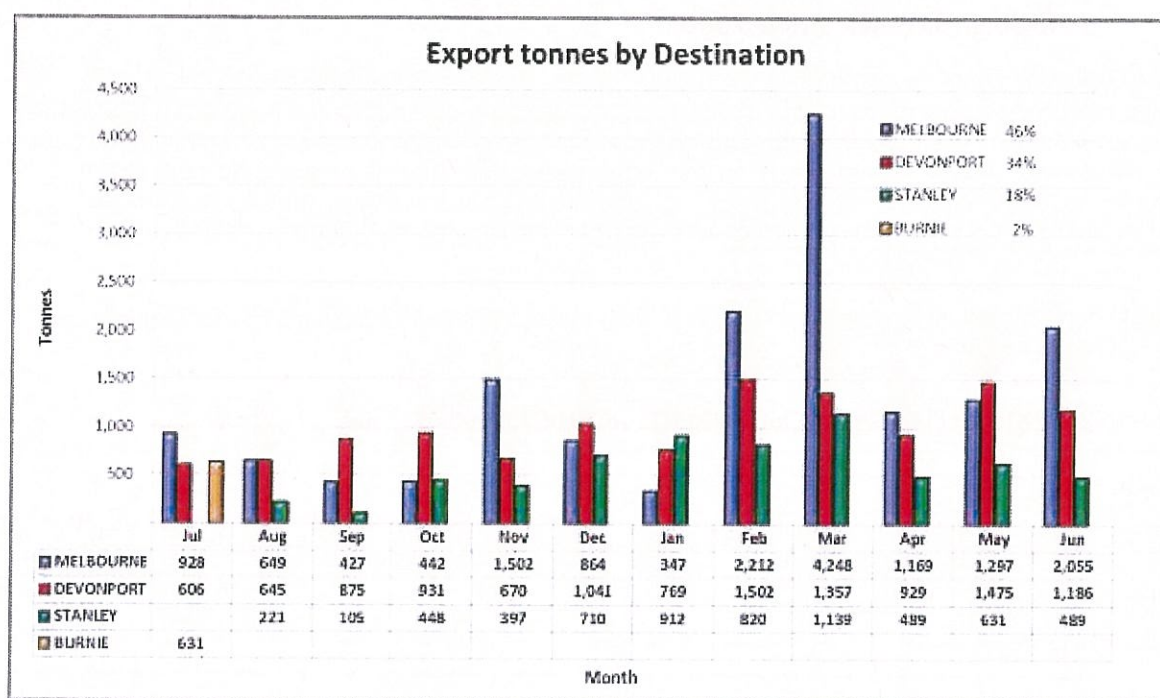
Source: Tasports

This figure indicates that in the last 3 years from an outbound cargo level of 714 tonnes weekly in 2011/12 King Island outbound cargo increased initially to 928 tonnes or 76 TEU equivalent weekly by 2012/13 but subsequently declined the following year to 675 tonnes or close to the long term average of 60 TEU equivalent weekly. Inbound cargo steadily declined in this same three year period to 565 tonnes or 65 TEU equivalent weekly and in contrast to the previous decade were consistently lower than outbound cargo (refer Annex 2 for details). Data for the first half of the current year (2014/15) suggest some recovery in overall tonnage for the full year to a level similar to 2011/12, as it should be remembered that cargo tonnages (particular inbound) are stronger in the second half of the year.

### 2.2 Current Situation

Based on detailed commodity and port data provided by Tasports, King Island 2013/14 outbound cargo amounted to 35,118 tonnes of which the two key commodities were cattle accounting for 54% and mineral sands for 19% of the total; inbound cargo in the same year amounted to 29,404 tonnes with the two leading commodities being fertiliser (34% share) and fuel (16% share). Empty containers accounted for a significant share of the tonnage uplifted in either direction, i.e. 15% of outbound cargo and 21% of inbound cargo. Overall King Island unitised and container cargo plus cattle typically account for about 2.5% of total Bass Strait equivalent cargo.

The figure below analyses King Island outbound tonnages by port of discharge on a monthly basis.

**Figure 2-2 – King Island Outbound cargo by Destination Port 2013/14**

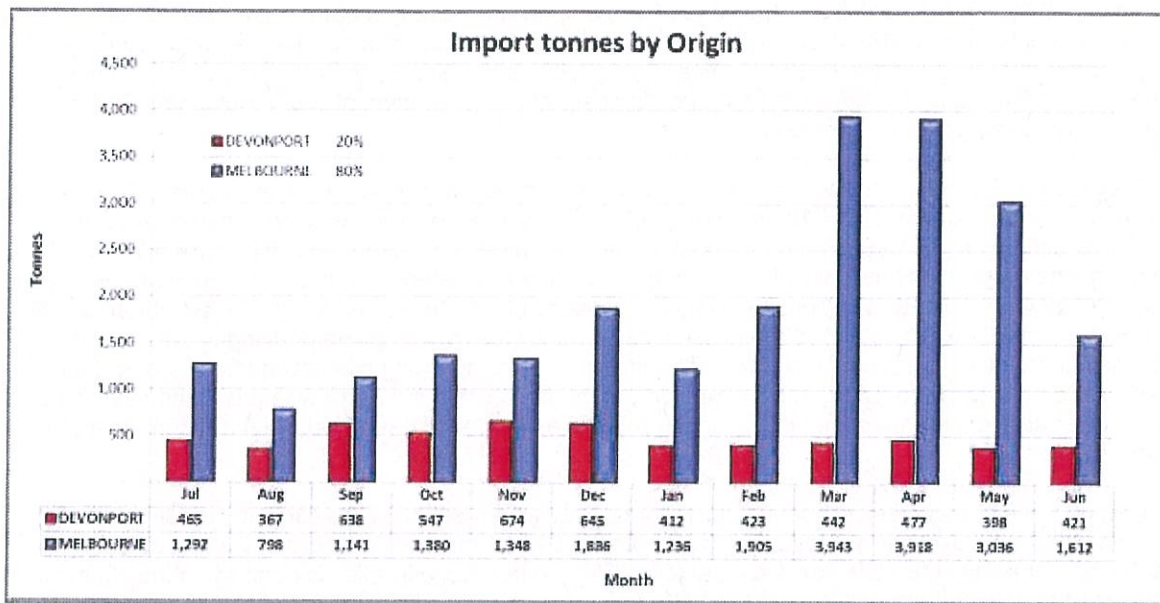
Source: Tasports

Melbourne handled almost half the island's outbound tonnages (46%), with the balance destined to Tasmania, primarily Devonport (34%) and Stanley (18%) where cattle were the dominant commodity in both these two ports. Mineral sands accounted for 19% of total cargo in tonnage terms and reefer cargo (processed beef and cheese) 5%. It is worth noting that the surge in cargo volumes in the second half of the year to Melbourne was driven by increased shipments of mineral sands, while those to Devonport and Stanley in the same period were due to a doubling of cattle movements in the second half of the year from the previous 6 months. Overall outbound tonnages in the second half of the year were almost double those in the first half.

Latest King Island outbound cargo data from Tasports for the first 6 months of 2014/15 indicates the outbound tonnage increased some 40% to 16,671 tonnes over the comparable 6 month period last year, but was some 28% less than the volume achieved in the second half of 2013/14 – this was largely due to the cattle and mineral sands cargo volumes continuing to move at the average monthly tonnage levels achieved for the whole of 2013/14 rather than at the higher levels achieved in the second half of that year.

A similar analysis of King Island Inbound cargo is provided in the figure below by load port on a monthly basis.



**Figure 2-3 - King Island Inbound cargo by Origin Port 2013/14**

Source: Tasports

Melbourne accounted for the bulk of the island's inbound cargo tonnages (80%) with the balance originating in Devonport. King Island inbound cargo is highly seasonal, with the period between February and June, and to a lesser extent December, accounting for the heaviest inbound tonnages. This is driven almost entirely by cargo originating from Melbourne, primarily fertiliser. Inbound cargo from Devonport is relatively consistent year round, typically approximately 500 tonnes monthly.

Latest King Island inbound cargo data from Tasports for the first 6 months of 2014/15 indicates inbound tonnage increased some 29% to 14,414 tonnes over the comparable 6 month period last year, but was some 21% less than the volume achieved in the second half of 2013/14 – this was largely due to the seasonality in the movement of fertiliser, whose tonnages in the first half of the current year were only about one third of those shipped in the whole of the previous year.

### 2.3 GHD 5 and 10 Year Forecasts

The GHD report on King Island Shipping completed in late 2013 provided medium (2018) and long term (2033) forecasts for the island's outbound cargo and inbound cargo under 3 scenarios – low, medium and high. These are summarised in Annex 2, which provides a breakdown between mineral sands, other cargo and adds an allowance for empty containers (MTs) for outbound cargo, and provides a total for inbound cargo plus a similar allowance for inbound MTs.

A key driver behind the export forecasts was mineral sands outbound cargo based on the following assumptions in the five year period to 2018:

- Low or pessimistic scenario – no mineral sands outbound cargo, and no growth overall
- Medium or normal business scenario – mineral sands outbound cargo growing at 1% p.a. from the record 2012/13 tonnages, and outbound cargo and inbound cargo overall at 3.1% cpga
- High or optimistic scenario – mineral sands outbound cargo growing at 2% p.a. from 2012/13 tonnages, outbound cargo overall at 3.4% and inbound cargo at 8.8% cpga.

Forecast growth rates for the 3 GHD forecast scenarios in the subsequent 15 years to 2033 were as follows:

- Low – zero.
- Medium - 0.8% p.a. for outbound cargo and 0.5% p.a. for inbound cargo
- High – 1.5% for outbound cargo and 2.3% for inbound cargo

Unfortunately, based on Tasports' data for 2013/14 analysed in the previous section, both King Island's export and inbound cargo tonnages declined in 2013/14 from the previous year, by 27% in the case of outbound cargo and 5% in the case of inbound cargo. Based on data for the first half of the current financial year, 2014/15, as explained in the previous section, this trend appears to have been reversed in the first six months with significant growth in cargo volumes to date versus the previous comparable 6 months. Tonnages in both directions are currently running at slightly lower levels than the monthly average for the whole of last year.

While cattle outbound cargo remain relatively stable and strong subsequent to the closure of the JB Swift abattoir on the island in 2012, mineral sands outbound cargo have declined substantially from the GHD estimated peak in 2012/13 to about 110 tonnes weekly. Consequently it is currently difficult to anticipate any significant further forward cargo growth for the island in outbound cargo (where cattle volumes are constrained at current levels by the capacity of the Greenham abattoir at Smithton and JB Swift at Longford - typically about 300 head of cattle each weekly with some peaking in the spring) unless mineral sands production revives. The previously planned King Island wind farm project has been put on ice and a decision on the reopening of the scheelite mine is still awaited – and even if the latter goes ahead the annual output of concentrates is estimated to be only about 4,300 tonnes or 80 tonnes a week.

Based on the fact that weekly inbound cargo tonnages in the first half of the current year are close to the weekly overall average achieved for the whole of 2013/14 medium level growth in inbound cargo of the type anticipated by GHD is foreseeable (c.3% p.a.) but this will critically depend on the seasonal volumes of fertiliser that peak in the second half of the year.

One final point to note is that GHD indicated that seasonality factors could increase freight volumes by up to 30% over annual averages – based on 2013/14 performance this could be an underestimate, given inbound cargo in May and June last year were some 75% above the annual average due the tonnage of fertiliser shipped in the three months from March to May.





### 3 King Island Shipping Group Recommendations

The withdrawal of the SeaRoad Mersey from the Bass Strait trade reportedly planned for 2016 obviously creates a serious potential problem for the King Island community.

In response, the King Island Shipping Group addressed the related issues and concerns with a view to developing a sustainable post-SeaRoad Mersey shipping service. In keeping with the Tasmanian Government's policy objectives, any proposed service would provide a market-based solution to the need to replace the existing services.

The detailed assessment of the various options and the rating of the options are set out in the "*King Island Shipping Group Preferred Option Discussion Document*".

#### 3.1 Preferred Option

The preferred option (Option 5 in the Discussion Document) is worded thus: "*A dedicated purpose-built vessel, with direct lanes between Tasmania and King Island, and Victoria and King Island.*"

Without complete commercial and operational information, it is not possible to assess fully the costs of establishing and maintaining the service proposed in the preferred option. However, the following observations do suggest that the preferred option could incur unacceptable risks and costs, and that other options should be considered further since it is unlikely that any party, whether public or private, will be prepared to invest in a purpose-built vessel for such a small trade whose composition has been significantly volatile.

1. The preferred option will require any interested investor(s) to outlay several million dollars, whether to build a new vessel or to acquire and modify an existing vessel. Industry experts have advised that building a new vessel suitable for Australian conditions and this market would likely cost \$US10M – US\$13M., which at the current exchange rate of US\$0.76 converts to A\$13M – A\$17m.
2. The preparation of preliminary General Arrangement (or summary vessel) plans, the development of full detailed design plans, the tender process and the building of the vessel would require at least 18 months from the decision to proceed.
3. This lead time is dependent upon the state of the building-yard's order book and the time required to obtain key components such as engines, cargo gear, and ramps.
4. A vessel dedicated solely to King Island cargo, whether owned or chartered, would require the vessel owner/operator, whoever they might be, to bear the full operational and commercial costs of establishing and maintaining the service. In the case of an owned vessel, this would also include the contracting of a ship-management company, including technical management, and the acquisition and management of maritime containers.
5. There is significant risk in basing the service on the operation of a single, owned vessel. If the vessel were to incur significant technical problems, the immediate interruption to the service could leave the community without ready alternatives. Although such a calamity could also befall a chartered vessel, the development of contingency plans is easier if the vessel-supply is managed by a charterer with the ability to provide alternative vessels or by an operator with more than a single vessel at its disposal.
6. The vessel design would be based on the current and forecasted needs of the King Island community, allowing some room for the growth of inbound cargo and outbound cargo. Catering for the different cargo needs could result in a design that imposes restrictions should those cargo demands change significantly. [The same could be said of a chartered vessel, but there is usually more flexibility in the charter market to allow cargo demands to be managed via changes of vessel].
7. The potential risks and difficulties faced in designing a purpose-built vessel are best illustrated by the following possibilities:
  - a) The King Island Scheelite Limited website states, under the name of Project Dolphin, that the company is assessing the viability of re-opening the scheelite mine. The claimed potential is 4,500 tonnes per annum and the latest update on the project





(26/2/15) indicates a decision on the project's viability will be made in Q2 2015. Should it be positive first production is likely in Q3 2016.

- b) Estimates of the quantity of mineral sands vary widely: from 20,000 tonnes (2013 estimate) to 200,000 tonnes (the licensed output).
8. Any significant growth in mineral sands or scheelite could result in the bulk cargo transferring to a dedicated, specialised bulk-service. In turn, this would have a major impact on the operation of the new King Island service. Such a replacement bulk service would depend on consistent cargo volumes, port infrastructure constraints both marine and shore side, such as adequate cargo storage and handling facilities at outbound and inbound ports, the distance between ports, and availability of other reasonably compatible cargo to underwrite vessel utilisation as well as the comparative economic parameters of such a service at the time.
9. The volatility of the markets creates the real risk of the built or modified vessel being unsuitable for the market long before the end of its useful economic life.
10. The GHD "King Island Shipping Service" Report of December 2013 estimated that the cost of operating a service dedicated solely to King Island cargo would imply equivalent freight rates of A\$1800 per TEU, which exceeds most dry container freight rates from SE Australia to South East and East Asia. The report also suggested that, to reduce the costs to the King Island community, the vessel could be considered for operation in the main Victoria – Tasmania legs of Bass Strait as part of a triangulated service. It was estimated that the vessel would lift only about 5% of the non-King Island cargo currently carried. Despite this small market share, it is reasonable to expect the incumbent carriers to act aggressively in the market place against any incursion into their market shares.

### 3.2 Alternative Options

The "King Island Shipping Group Preferred Option Discussion Document" assessed 7 other options and they are listed below, along with our brief comments.

#### ***Option 1. Do nothing***

Not sustainable given the SeaRoad Mersey is 25 years old in 2016 (refer Annex 3 for vessel details) and so no longer likely to be economic to operate in the context of SeaRoad's retonnaging plans and the Australian maritime sector.

#### ***Option 2. Current Service Operator retains vessel and provides feeder service to Mainland Tasmania for transhipping of freight onto new vessels.***

This would be an expensive use of a vessel significantly larger than required. Annex 2 provides estimated load factors for the vessel carrying only King Island cargo. Additionally the vessel's age (built 1991) would probably disqualify it from anything beyond a short-term deployment.

#### ***Option 3. A dedicated Triangulated service to Victorian Port, Tasmanian Port and the Port of Grassy, on existing vessel.***

This would be an expensive use of a vessel much larger than required. Additionally, the vessel's age (built 1991) would probably disqualify it from anything beyond a short-term deployment, but is considered further in the next 2 sections of this report

#### ***Option 4. A dedicated Triangulated service to Victorian Port, Tasmanian Port and the Port of Grassy, on an existing vessel in the marketplace.***

This option forms part of our assessment of alternatives to Option 5 in the following two sections of this report.

#### ***Option 6. A dedicated single run vessel between Victoria and King Island.***

This option would not meet the needs of the King Island community trading with Tasmania, particularly the cattle producers.





***Option 7. A dedicated “feeder” service of a small capacity vessel into a mainland Tasmanian port with subsequent transshipping on existing service providers.***

This option forms part of our assessment of alternatives to Option 5 in the following two sections of this report.

***Option 8. Extension of the Port of Grassy to alter the infrastructure limitations and allow for larger vessels to dock and therefore triangulate as per existing service route.***

The King Island trade on its own does not warrant a vessel as large as the SeaRoad Mersey, let alone one larger still. Consequently it is hard to see how significant additional port infrastructure investment on King Island could be economic, particularly in the wake of the earlier investment to permit the entry of the SeaRoad Mersey into Grassy from 2001.



## 4 King Island Shipping Route Options

### 4.1 Key Considerations

Evaluation of any King Island shipping route should consider key features of the service identified by the King Island community as being desirable (even though in some cases they may not be operationally feasible with either the current service or any future replacement). These have been captured in the *King Island Shipping Group Preferred Option Discussion Document*. In that document, the following items were used to assess the various options being considered:

1. Continued access to both Tasmania and Victoria
2. Continuity of supply through a dedicated service
3. The ability to move to a weekday call at Grassy
4. Vessel capacity to be suitable for containers and growth of the same
5. Ability to handle trailer movements
6. Cost effective empty container management
7. Consolidation of freight tasks
8. The easing of inbound weight and length restrictions
9. The promotion of growth via freight incentives

While many of the above elements relate directly to the choice of vessel, others will be affected by the service route adopted. To this end the King Island Shipping Group nominated as its preferred option a purpose-built vessel to provide direct service between Tasmania and King Island, and between Victoria and King Island.

### 4.2 Alternatives

#### 4.2.1 Triangular Bass Strait Service

This service would replicate the port rotation provided by the existing SeaRoad Mersey service: Grassy – Devonport – Melbourne – Grassy as set out in the table below.

**Table 4-1 - SeaRoad Mersey Rotation**

Rotation	Distance	Speed	Sea Time	Port Time*	Total Voyage**
G-D-M-G	506 nm	9 knots	2.34 days	1.5 days	3.84 days
		13 knots	1.62 days	1.5 days	3.12 days

\*The port time assumes 12 hours in each port.

\*\*The schedule has not been adjusted for optimal arrival and departure times such as arrival and departure during daylight in Grassy.

The rotation would maintain the direct access to Devonport of King Island outbound cargo including JB Swift cattle for the abattoir at Longford and the direct access of the dominant cargo flow from Melbourne to King Island. This service also avoids transshipment costs of full and empty containers. This rotation was identified in the GHD Report of 11/13 as providing the desired economies of scale, with income from non-King Island cargo contributing to the cost of operating the service. The report assumed two voyages per week with weekly liftings of 115 TEU of King Island cargo and 300 TEU of non-King Island cargo.

Although the 300 TEU of non-King Island cargo represent only 5% of the Bass Strait trade, it is almost certain that the three incumbent Bass Strait carriers will react aggressively to such a development to retain their market share unless they are the provider of this service. If the targeted Bass Strait cargo is not captured, the new service will find itself operating a vessel larger than needed in a network wider than is needed by King Island interests with associated dire financial consequences. This triangular service is only likely to be viable if it were to involve SeaRoad in a continuation of the current service pattern and would require a service speed of 13 knots to provide a twice weekly service. This compares with a published maximum speed of 15.5 knots for the Mersey and a likely but unpublished maximum speed for the Statesman of around 8 knots.





### 4.2.2 Bass Strait 'Butterfly' Service via King Island

This service would operate on the following port rotation as set out in the table below:  
Grassy-Devonport-Grassy-Melbourne-Grassy

**Table 4-2 - King Island Butterfly Service on Bass Strait**

Rotation	Distance	Speed	Sea Time	Port Time*	Voyage Time**
G-D-G-M-G	553 nm	9 knots	2.56 days	2.0 days	4.56 days
		13 knots	1.77 days	2.0 days	3.77 days

\*The port time assumes 12 hours in each port.

\*\*The schedule has not been adjusted for optimal arrival and departure times.

This service is totally dedicated to King Island cargo and is thus not required to link with other shipping services to maintain a reliable service. A 13 knot vessel would permit not less than 3 calls a week at Grassy with alternating calls in Tasmania and the mainland.

As can be seen in Section 2.2, the normal dominance of the cargo to and from Melbourne becomes exaggerated in the autumn. For this reason, the butterfly service could be adjusted to increase the frequency of calls to and from Melbourne at this time of year, with a corresponding reduction in the frequency to and from Tasmania to give an amended service rotation of Grassy-Melbourne-Grassy-Melbourne-Grassy-Devonport-Grassy

**Table 4-3 - Peak Season Butterfly Service on Bass Strait**

Rotation	Distance	Speed	Sea Time	Port Time*	Voyage Time**
G-M-G-M-G-D-G	851 nm	9 knots	3.94 days	3.0 days	6.94 days
		13 knots	2.73 days	3.0 days	5.73 days

\*The port time assumes 12 hours in each port.

\*\*The schedule has not been adjusted for optimal arrival and departure times.

The vessel required for this Butterfly service is likely to be up to 30% smaller than the SeaRoad Mersey as operated in the triangular service detailed in 4.2.1, given it will only participate in that part of the Bass Strait market that involves King Island.

### 4.2.3 Multipurpose Feeder Service King Island – Devonport

The shortest and most sheltered sea leg of the current King Island service on Bass Strait is that between Grassy and Devonport. A shuttle service between the two ports provides the opportunity to operate with a smaller, slower and less expensive vessel less exposed to Bass Strait adverse weather, particularly in winter, than is the case with the previous two service options.

**Table 4-4 - Shuttle Service between Devonport and Grassy**

Rotation	Distance	Speed	Sea Time	Port Time*	Voyage Time**
G – D – G	256 nm	9 knots	1.18 days	1 day	2.18 days

\*The port time assumes 12 hours in each port.

\*\*The schedule has not been adjusted for optimal arrival and departure times.

Such a service could offer up to 3 sailings per week, allowing flexibility for the various commodity groups. It would require the transshipment in Devonport of cargo [including empty containers] to and from Melbourne. Although the ship-system costs of the shuttle would be comparatively low, it will be necessary to ensure that the transshipment costs do not make the overall cost of the service too expensive for the King Island inbound and outbound cargoes. It is proposed to achieve this by seeking to integrate this shuttle service with the SeaRoad Bass Strait service on a subject to load basis on condition cargo uplift occurs on the main Bass Strait service within 48 hours of cargo receipt in Devonport northbound and Melbourne southbound. Such an arrangement would require uplift of the cargo by the Bass Strait carrier to be within 48 hours of receipt; this would assist in smoothing their cargo flows to match with capacity on offer and should entitle the shipper to a discounted freight rate. The relatively small volumes of cattle moved to/from the mainland (in 2013/14 18% of cattle movements in total and 10% of mainland cargo overall in tonnage terms) are likely to be an exception and will need to be handled on an immediate transshipment basis if the shipper is required to comply

with MSA standards. Should SeaRoad opt not to participate in such an arrangement, TT Line might be an alternative carrier for the Bass Strait crossing as long as all cargo moved in trailers.

In the event the vessel selected for this service is capable of operating across the Bass Strait, this shuttle could switch selectively to the Butterfly configuration described in 4.2.2 if the seasonal volumes to and from Melbourne make the Grassy – Devonport shuttle temporarily commercially unsustainable.

#### **4.2.4 Cattle Service Grassy – Stanley**

In each of the schedule options described above, we have assumed that the current Grassy – Stanley service operated by LD Shipping about three times every fortnight will continue. The development of a post-SeaRoad Mersey shipping service has raised the prospect of combining the cattle shipments of Greenhams and JB Swift from King Island to the Tasmanian mainland. However, the movement of the two such shipments weekly (each likely to be at least 300 head of cattle) on the same vessel is likely to create operational and supply-chain challenges.

Today, JB Swift are receiving their cattle in trailers shipped from Grassy on SeaRoad Mersey to Devonport, from where they are moved to Longford by road, a distance of 95 kilometres. On the other hand, Greenhams are moving cattle to Stanley on the LD Shipping vessel Statesman (refer Annex 4 for vessel details). The cattle are moved on the hoof to Stanley, where they are loaded to trucks for the 21 kilometre trip to Smithton. When the Grassy – Stanley service was reintroduced in 2013, Greenhams cited the shorter travelling time of cattle via the new service from pasture to abattoir as being critical in maintaining desired Australian and international standards for prime quality beef.

If the cattle were moved to Smithton via Devonport, they would have to be shipped on trailers to avoid fouling the vessel and then would need to travel 134 kilometres by road to Smithton. The total time and distance are greater than the time and distance to Smithton via Burnie, which was the routing replaced by the Grassy – Stanley service. In particular it is likely to be difficult to meet both the meat industry required 24 hour lead time limit from pasture to kill and the minimal handling requirements required for cattle in transit if all King Island outbound cattle movements are combined on a single service and vessel. Consequently this report advocates a continuation of the separate Grassy – Stanley cattle service, particularly since it means that King Island will not be dependent on a single vessel and shipping service to meet all its cargo needs.





## 5 King Island Shipping Vessel Options

A number of factors need to be taken into account when selecting a vessel for the new shipping service, particularly since the optimal vessel size and type will differ for each of the schedule options described in Section 4. The vessel for the triangulated route, with its need to lift non-King Island cargo, would need to be larger (about 33% in DWT terms) than a vessel deployed on the Butterfly rotation, which would be dedicated to lifting only King Island Cargo. Similarly, a vessel shuttling between Grassy and Devonport could be smaller (half the size) and slower (9 knots rather than 13) than that required for the Butterfly service.

Regardless of type, there are a range of factors that need to be considered for any vessel entering the King Island trade. These include:

- The ability to handle the different types of cargo offered for shipment; viz. maritime containers (some weighing up to 30 tonnes), wheeled traffic, fuel in tank containers and bulky general cargo.
- The capacity to meet the cargo demands at peak periods.
- The ability to provide sheltered stow for some non-containerised cargo.
- The capacity to carry IMDG and refrigerated containers.
- Compliance with AMSA, Port Authority and other Government regulations such as maximum LOA, draft, bow thrusters and propulsion as stipulated under the Harbourmaster's Directions (refer Annex 5)
- Ship specifications to meet the demands of the trade, such as manoeuvrability and speed and the infrastructure constraints of the relevant ports (refer Annexes 6 & 7 for Grassy & Stanley)

### 5.1 SeaRoad Mersey

This vessel (refer Annex 3 for specifications) has served the trade well, but next year it is 25 years old and may become uneconomic to operate under Australian flag, and if operated independently by King Island interests would not be suitable. Its size (4824 DWT) could only be justified if the vessel were to pick up non-King Island cargo. As previously mentioned, there is a sizeable commercial risk in any new operator competing directly with the incumbent Bass Strait carriers. The failure to attract sufficient Bass Strait cargo would make the running costs of the under-utilized vessel unsustainable.

### 5.2 Smaller LOLO Container Vessel

There are many small Lift-on Lift-off container trades engaged in short-sea coastal trades. We have included the specifications of the small LOLO vessel Newcastle Bay as an example. [Annex 9.1]. However, they are only capable of carrying containers and breakbulk cargo that can be lifted by cranes. They are not able to carry the significant wheeled traffic that is moving to and from King Island. Such small LOLO vessels are therefore not suitable for this trade and not considered further.

### 5.3 Smaller ROLO Vessel

Small ROLO vessels do have the capability of handling the different types of cargo moving to and from King Island. The vessel Dutch Runner [Annex 9.2] is a good example of a small ROLO vessel and has the following features:

- LOA 84m
- Draft 5.34m
- A single double skin hold, strengthened for heavy cargo
- A stern ramp
- 2 x 30 tonne cranes
- Capacity to carry 141 TEU at 14.0 tonnes [107 TEU at 22.0 tonnes]
- An operating speed of 13.5 knots.

Small ROLO vessels such as the Dutch Runner are not easy to locate, and currently are not known to be operating in Australia, so it would be necessary to use a shipbroker to track down suitable candidates and assess their availability and cost.



## 5.4 Landing Craft

Landing craft vessels are in regular use in Australia particularly in remote areas. The LD Shipping vessel Statesman operating between Grassy and Stanley is a landing craft. However, this vessel is too small to be considered for the wider King Island needs. There are larger landing craft operating in northern Australian waters and the specifications of one such craft, mv Malu Trader, are attached. [Annex 9.3]:

- LOA 50m
- Draft 2.8m
- DWT 1284
- Capacity to carry 64 TEU @18 tonnes
- An operating speed of 9 knots

Subject to being able to meet the requirements listed in the introduction to this section such a vessel could be suitable to operate a shuttle service between Grassy and Devonport. However, it is unlikely that it would be suitable for the more exposed stretch of water between King Island and Victoria.





## 6 Desk Top Recommendations

In considering our recommendations in respect of future King Island Shipping Services, TCS has focussed on only those that are reasonably consistent with both the draft, but unratified Tasmanian Government's King Island Shipping Policy of August 2010 and the Partnership Agreement signed between the Tasmanian Government and the King Island Council on October 26<sup>th</sup>, 2012. Particular attention has been paid to section 2.2 of the latter document dealing with Freight and Transport. TCS has attempted to pay most attention to, and place greatest value on, solutions consistent with:

- a) The established market needs of the King Island economy, and its inbound and outbound supply chains;
- b) The seasonality attached to selected key cargoes such as cattle and fertiliser;
- c) The need for some degree of redundancy in the vessels providing shipping services to King Island to avoid total dependence on a single vessel or organisation;
- d) The need to work within the current basic infrastructure of the port of Grassy in order to avoid heavy additional and unsustainable capital expenditure;
- e) The cost benefit to be derived from utilising wherever possible current services and equipment;
- f) Providing an improved service frequency at King Island, at least twice weekly and potentially three times.

Consequently we make the following recommendations:

1. The King Island Shipping Group's preferred Option 5 (new dedicated vessel to be deployed to the exclusive benefit of the Island's cargo) should not be pursued, since it is likely to be high risk, too capital intensive and unlikely to be in position to enter operation at a time compatible with what is currently known about the SeaRoad fleet upgrades.
2. M.v. SeaRoad Mersey should only be considered as a valuable but temporary service solution, unless SeaRoad have additional long term plans for this vessel compatible with the needs of King Island. This view is based on the vessel's age and the disparity between its capacity and the likely size of the King Island general and unitised cargo market.
3. While smaller more economic LOLO vessels are available on the regional and Asian charter markets, such vessels (e.g. m.v. Newcastle Bay) are not recommended for a King Island service given the need for the movement of significant volumes of wheeled traffic in this trade.
4. LD Shipping's current service provided to the suppliers of cattle on the hoof to the Greenham abattoir in Smithton via Grassy and Stanley on mv Statesman (built in 1999) should be encouraged to continue.
5. The provision of a King Island dedicated Bass Strait service with a frequency of not less than twice weekly for the remainder or non-Stanley share of the island market via a ROLO vessel compatible with the marine and terminal restrictions at Grassy (i.e. similar to m.v. Dutch Runner, <90m LOA, 5m draft, bow thruster and either twin or CP propellers) should be the subject of a detailed feasibility study. It should be noted the paucity of such vessels means they are not easily obtained on the charter market.
6. The alternative of a dedicated shuttle service between Devonport and Grassy provided by an LCT similar to m.v. Malu Trader should also be part of such a feasibility study with a view to providing a similar higher frequency service to the island capable of carrying cattle, other trailers and containers both to/from the Tasmanian mainland and to/from Victoria via transhipment to/from the SeaRoad daily service between Devonport and Melbourne.
7. Such research should be preceded by initial discussions with both SeaRoad and LD Shipping on their intentions for their Bass Strait operations and willingness to sustain or modify them to facilitate a solution for King Island via an additional vessel to be chartered from the market and operated by a professional shipping group against a contract(s) with key Island cargo parties.

It should be noted that at a minimum the feasibility study proposed should consider the following:

- Likely cargo volumes and growth opportunities;
- Service frequency (minimum twice weekly);
- Vessel size and operating cost together with required associated revenues;
- Potential for transhipment to/from the mainland via SeaRoad daily service – guaranteed uplift within 48 hours of cargo delivery at Devonport and Melbourne at discounted rates;
- Reciprocal vessel and service backup between the new operation and LD Shipping;
- Potential operators and outline contractual requirements.





## Annex 1 – Project Brief

### Introduction

The Tasmanian Government, through the Department of State Growth, works with King Island stakeholders to ensure the continuation of reliable shipping services to the island. While King Island is currently served by market providers, it is possible that the island may see some changes in shipping service arrangements in the coming months or years. The Department is seeking to procure expert advice to inform the Tasmanian Government's considerations in preparing for these changes, to ensure that cost effective, reliable, market-based shipping services are sustained in the long term.

This consultancy would form part of a broader process underway, to ensure the continuation of shipping services to King Island, in the context of the current provider (SeaRoad) planning to replace the existing service vessel. The King Island Shipping Group has developed a preferred service model, which it envisages will be used to engage with the shipping market.

### Background

The community and economy of King Island are highly dependent on reliable and cost effective shipping services.

King Island shipping services have been performed on a fully commercial basis since 2001. The weekly general freight and livestock shipping service is part of the Bass Strait service undertaken by the SeaRoad Mersey between Melbourne and Devonport. This is complemented by an 'as needs' shipping service by LD Shipping, which uses a smaller vessel to predominantly carry cattle to Stanley.

The closure of the JB Swift abattoir on the island in September 2012 led to a substantial increase in the number of live cattle moving from King Island. As part of its response to this closure, the Tasmanian Government in partnership with the King Island Council commissioned a consultancy project to analyse the options for a long-term, sustainable King Island shipping service, including an assessment of the King Island freight market. The publicly available report from this project, the *King Island Shipping Service Project – Final Report (November 2013)*, identified a Bass Strait triangulated shipping service to be the most cost effective solution, due to the sharing of ship costs with non-King Island freight, as currently occurs.

However, costs associated with the existing shipping service have been identified by King Island freight businesses as an impediment to business viability and growth on the island. The extent to which the shipping market could support an alternative service model and/or lower freight costs requires investigation.

### Current Situation

In May 2014, SeaRoad announced that it will replace the SeaRoad Mersey with a new, larger ship. The planned new vessel would be too large to dock at the King Island Port of Grassy; however, in announcing the new vessel, SeaRoad indicated that it is willing to explore possible options for continuing the service to King Island.

In this context, the King Island Shipping Group is investigating a range of potential future service options. As part of this process, the Group is planning to initiate a tender or expression of interest process, to test the shipping market's capacity to supply a service that meets the preferred requirements of island freight users.

To understand the extent to which the King Island Shipping Group's preferred service model is fit for purpose and commercially feasible, and to further inform the Tasmanian Government of any issues and considerations involved in a future service, the Department is seeking to ascertain the key risks and other considerations, including an indicative cost range where possible, associated with the Shipping Group's preferred shipping option.

### Project Objective

To provide specialist advice to the Department assessing the key risks and any other considerations of (i) the King Island Shipping Group's Preferred Option and (ii) other service options as agreed with





the Department.

## Scope of Work Required

The key focus areas are as follows:

1. **Advise on the strategic, operational and commercial implications (including any risks) of the King Island Shipping Group's Preferred Option, including the ownership aspects of this option;**
2. **Identify, at a high level, any potential cost effective alternative service models that the Government may wish to consider, including a strategic rationale.**

*In undertaking this desktop assessment, as far as is compatible with the project budget (see below) and with the time parameters (5 consultant days) set for this project, Thompson Clarke will take a high level account of the following items:*

- a) the broad sources of key costs for the Preferred Option (e.g. fuel, port charges, labour etc.), including an indicative cost range for the purchase or procurement of the preferred vessel type (where this is feasible);
- b) the likely uptake of any Preferred Option service, in terms of volumes of containers and other freight (briefly comment on the general nature of market demand);
- c) the key factors affecting viability from an operator's perspective (e.g. minimum volumes, market and operating costs, schedule, port location, regulatory environment etc.); and
- d) any relevant considerations with regards to the likely market supply of suitable vessels in 2015 and 2016.

As far as is possible within the agreed project cost and timelines, this analysis should consider the estimated service costs and requirements as summarised in the *King Island Shipping Group Preferred Option Discussion Document* (October 2014), including the "Preferred Option" identified in this document. In addition the Department will provide information regarding existing and forecast freight volumes and costs, freight user preferred requirements, and other relevant information compiled from previous analyses which will be critical data to underpin the potential King Island service options

As previously noted above this is a desktop-based exercise, based on the professional views and experience of the consultant. The primary purpose is to inform future Government policy considerations. Where essential in profiling the identified potential service options, subject to available time and budget, it may include relevant factors such as implementation timing, estimated freight rates, vessel refit, purchase or lease costs, vessel design requirements, sailing frequencies and routes, and predicted capacity needs. To this end the consultant may be required to engage with TasPorts, SeaRoad and other potential stakeholders where agreed with the Department, but otherwise will not discuss the project, its elements or outputs, with any third parties.

It is accepted that the kind of detail set out in items a) – d) above, to the extent that it cannot be addressed within the constraints of this project, may belong more appropriately to a separate and specific feasibility study.



## Annex 2 – King Island Weekly Cargo Trends 2003 – 2033

King Island Weekly Freight Flows (TEUs equivalent & Tonnes) and SeaRoad Mersey Utilisation													
Item	GHD 03 - 12 av.	Tasports				2018 GHD Forecast				2023 GHD Forecast			
		2011/12	2012/13	2013/14	2014/15^	Low	Medium	High	200kt MS	Low	Medium	High	200kt MS
EXPORTS													
MS Full Export TEU*	0					0	21	22	154	0	25	29	154
Other Full Exp TEU+A30	30					48	46	42	42	48	52	51	51
Cattle/Cars Exp TEU	30												
MT Export TEU						33	57	54	0	33	40	64	0
Total Export TEU	60	73	76	60	N/A	81	124	118	196	81	117	144	205
SeaRoad Mersey L/F	32%	39%	41%	32%	N/A	44%	67%	63%	105%	44%	63%	77%	110%
MS Export Tonnes	0			129	116	0	525	550	3846	0	625	725	3846
Other Exp Tonnes	300			78	73	488	447	444	444	488	520	519	519
Cattle/Cars Exp Tons	300			367~	379~								
MT Export Tonnes				101	77	66	114	108	0	66	80	128	0
Total Export Tonnes	600	714	928	675	645	554	1086	1102	4290	554	1225	1372	4365
SeaRoad Mersey L/F#	14%	16%	21%	13%	12%	13%	25%	25%	99%	13%	28%	32%	101%
IMPORTS													
Full Import TEU	60					43	45	64	64	43	50	76	76
Cattle/Cars Imp TEU	10												
MT import TEU						38	79	54	132	38	67	68	129
Total Import TEU	70	80	80	65	N/A	81	124	118	196	81	117	144	205
SeaRoad Mersey L/F	38%	43%	43%	35%	N/A	44%	67%	63%	105%	44%	63%	77%	110%
Fertiliser				193	126								
Fuel				91	108								
Other Import Tonnes	600			143	178	512	533	794	794	512	616	955	955
Cattle/Cars Imp Tons	100			18~	22~								
MT import Tonnes				120	118	76	158	108	264	76	134	136	258
Total Import Tonnes	700	664	593	565	554	588	691	902	1058	588	750	1091	1213
SeaRoad Mersey L/F	16%	15%	14%	13%	13%	14%	16%	21%	24%	14%	17%	25%	28%
SeaRoad Mersey KI calls	?	46 est	46 est	47	24								
Stateman KI calls	?	nil	46 est	71	37								
Total Grassy Ship Calls	?	46	92	118	62								
NOTES													
SRM TEU capacity	186	186	186	186	186	186	186	186	186	186	186	186	186
SRM TEU 14t capacity	310												
SRM Dwt	4824	4824	4824	4824	4824	4824	4824	4824	4824	4824	4824	4824	4824
* Mineral Sands (MS) based on 25t/TEU; all others 10t/TEU except MTs @ 2t each; ^ Jul - Dec only ~ cattle only # less 1/3 cattle on LD Shipping 2013 - 15													

\* Mineral Sands (MS) based on 25t/TEU; all others 10t/TEU except MTs @ 2t each; <sup>^</sup> Jul - Dec only ~ cattle only # less 1/3 cattle on LD Shipping 2013 - 15



## Annex 3 – Specifications of m.v. SeaRoad Mersey



### Ship Details

Last Ex-name SEAROAD MERSEY  
Ship Type RO-RO SHIPS  
Ship Subtype Ro-Ro  
Flag Australia  
IMO No. 8914831  
Call Sign VJBA  
MMSI 503000035  
Ship Status In Service  
Speed 15.5  
Class Det Norske Veritas  
Built (YYYY) 1991  
Port Of Registry Devonport, Tas  
Ship Owner [Australia Commonwealth Bank](#) (Australia)  
Ship Manager [SeaRoad Shipping Pty Ltd](#) (Australia)  
Ship Builder [Singmarine Dockyard & Eng](#) (Singapore)  
Shipyard Singapore

### Tonnage

Deadweight (DWT) 4824  
Gross Tonnage, mt 7928  
Net Tonnage 2378  
TPC 19.2  
Length (OA) 119.39  
Length (BP) 109.35  
Beam 18.52  
Draft 5.51  
Depth 13.6  
Height 31

## Dry Cargo

TEU186  
Number Of Ramps2

## Engine

Engine BuilderWartsila  
Model8R32E  
Number2  
RPM750  
Stroke Type4  
Cylinder Stroke350  
Cylinder Bore320  
Total Power KW5576  
Total Power HP7582 ThrusterB-1-  
300  
Speed15.5

## Hull/Construction

Hull MaterialSteel  
Hull Number178  
Decks2

## Communication

Inmarsat Telex450300044  
MMSI503000035  
Call SignVJBA

## ISM

Smc Issued Date20.1.2012 0:00:00





## Annex 4 – Specifications of m.v. Statesman



### Ship Details

Ship Name Statesman  
Last Ex-name STATESMAN  
Ship Type RO-RO SHIPS  
Ship Subtype Ro-Ro  
Flag Australia  
IMO No. 8975536  
Call Sign VNTK  
MMSI 503344000  
Ship Status In Service  
Built (YYYY) 1999  
Port Of Registry Launceston, Tas  
Ship Owner [LD Marine & Ship Repairs Pty \(Australia\)](#)  
Ship Manager [LD Shipping Pty Ltd \(Australia\)](#)  
Ship Builder [LD Marine & Ship Repairs \(Australia\)](#)  
Shipyard Launceston, Tas

### Tonnage

Deadweight (DWT) 870  
Gross Tonnage, mt 876  
Beam 10.2  
Depth 3.6

### Dry Cargo

Bale capacity 860  
Grain capacity 918  
Number Of Ramps 1

### Engine

Engine Builder MTU  
Model 12V2000M  
Number 2  
RPM 1800  
Stroke Type 4  
Cylinder Stroke 150

Cylinder Bore130  
Total Power KW1250  
Total Power HP1700

## Hull/Construction

Hull MaterialSteel  
Decks1

## Communication

MMSI503344000  
Call SignVNTK

## ISM

Smc Issued Date1.1.1999 0:00:00

## History

Ex-namesSTATESMAN, STATESMAN, STATESMAN  
Ship NameSTATESMAN  
FlagAustralia  
Owner countryAustralia  
ManagerLd Shipping Pty Ltd  
Manager countryAustralia





## Annex 5 – Summary Specifications of Ports of Grassy & Stanley

### Grassy

Marine Access	
Maximum Vessel LOA	90m
Maximum Vessel Draft	5m
Maximum Wind Speed if Vessel >35m LOA	25 kts
Port Access if Vessel >35m LOA	Daylight only
Required Spec if Vessel >35m LOA	Twin Screw
Required Spec if Vessel >60m LOA	Bow Thruster
Wharf & Terminal Specifications	
RoRo Wharf Length	80m (84m to stern fendering)
Draft alongside	5.6m
Ramp width & strength	14.5m; <100t
Cargo Storage Area	<3,200m <sup>2</sup>

### Stanley

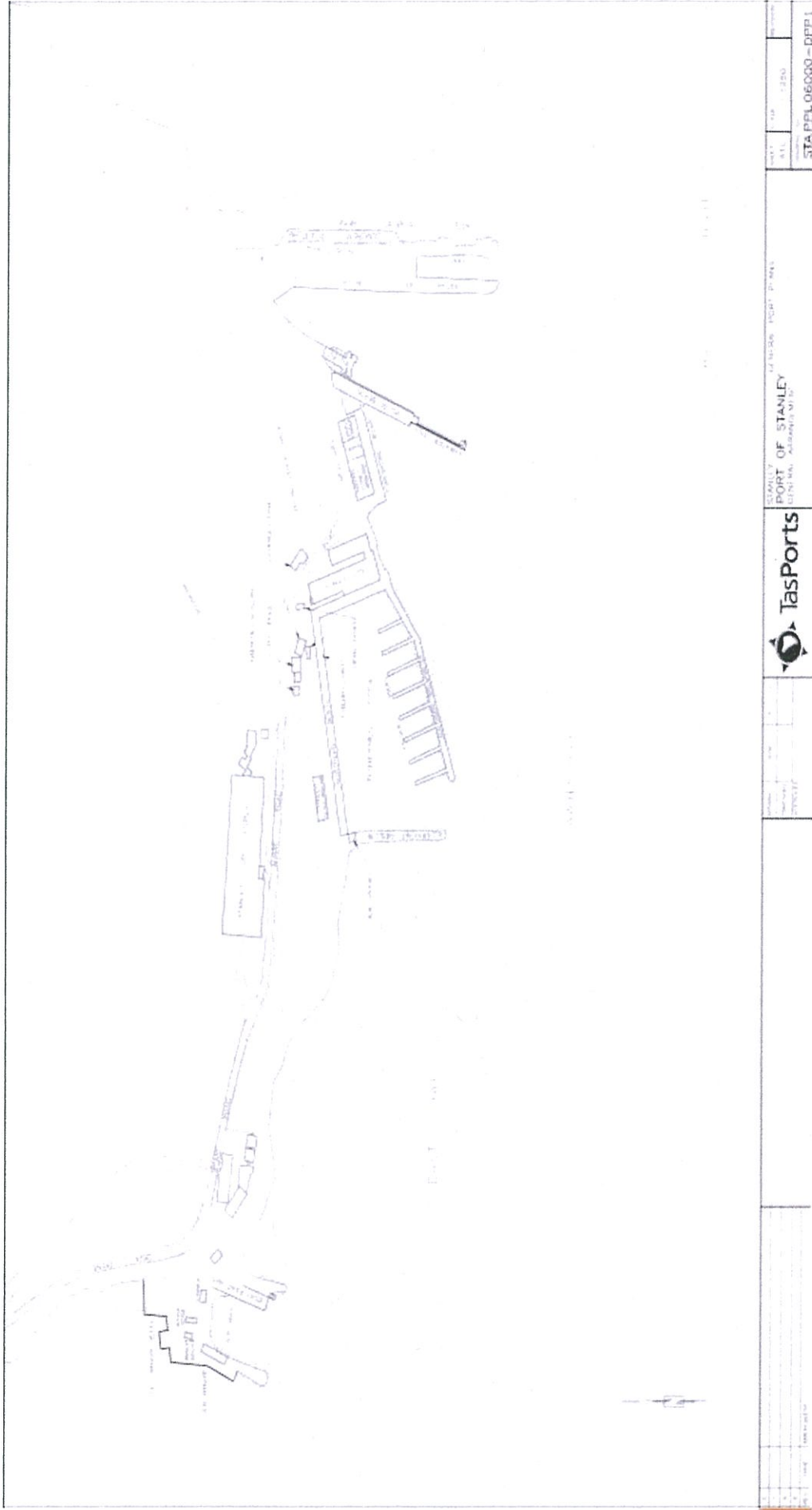
Marine Access	
Maximum Vessel LOA	70m
Maximum Vessel Draft	5.5m
Port Access if Vessel >35m LOA	Daylight only
Wharf & Terminal Specifications	
RoRo Wharf Length	55.6m (71.6m to stern fendering)
Draft Alongside	4m inner, 7m outer end of wharf
Ramp	Not operable
Cargo Storage Area	<4000m <sup>2</sup>





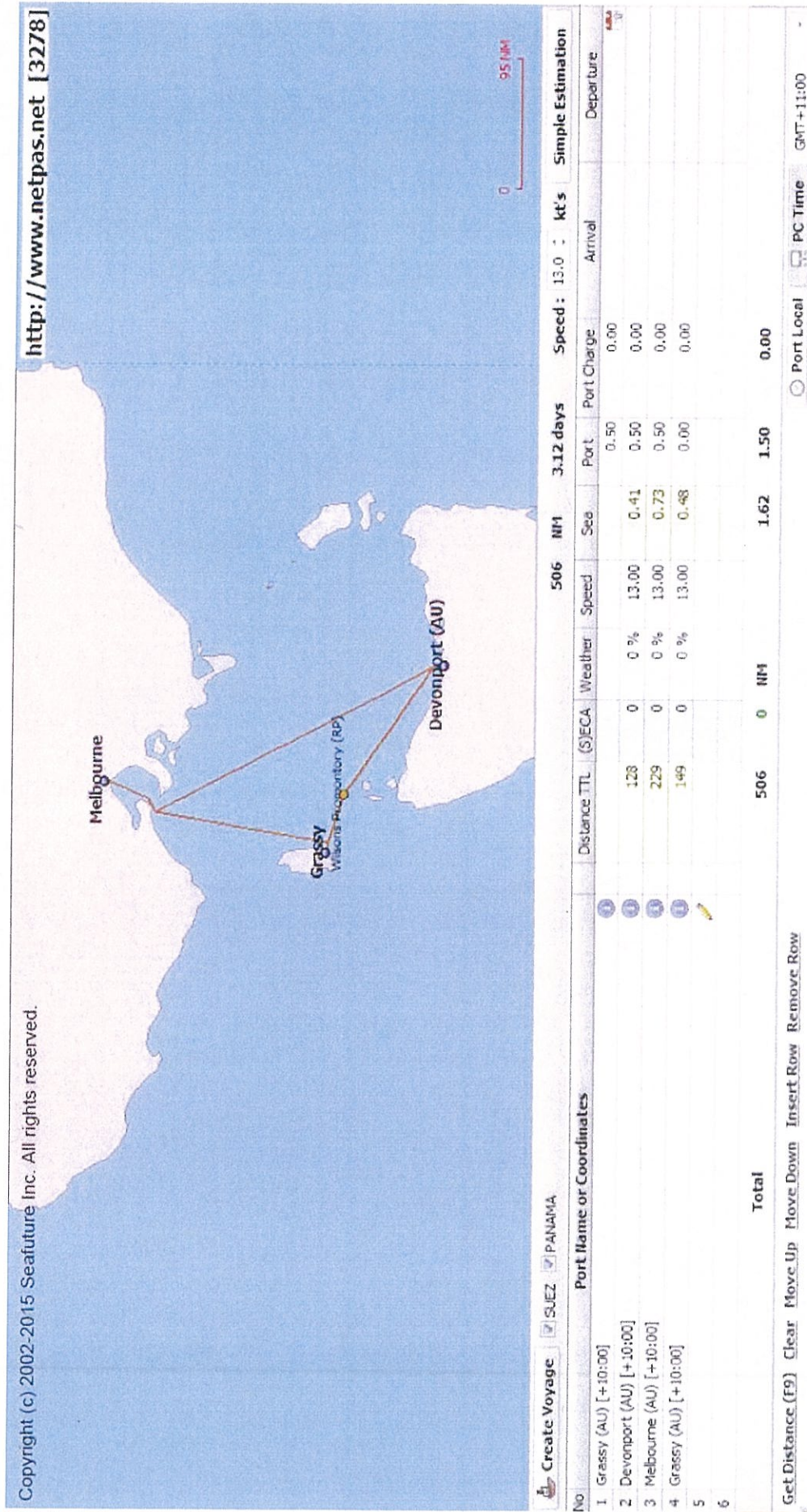


## Annex 7 – Stanley Port Plan



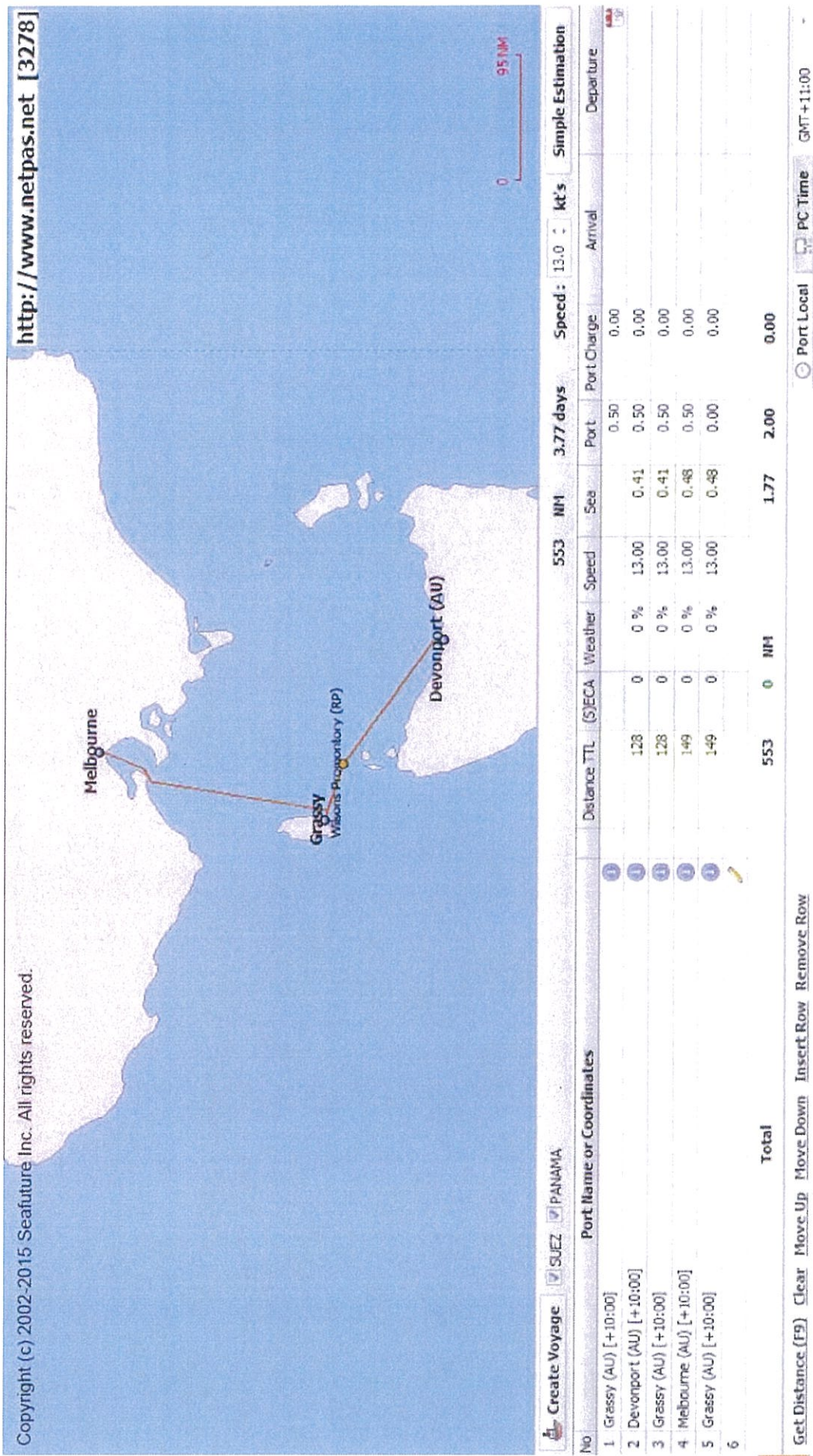
## Annex 8 – King Island Service Options

### Annex 8.1 Current Triangular Route (Victoria, King Island, Tasmania, Victoria)



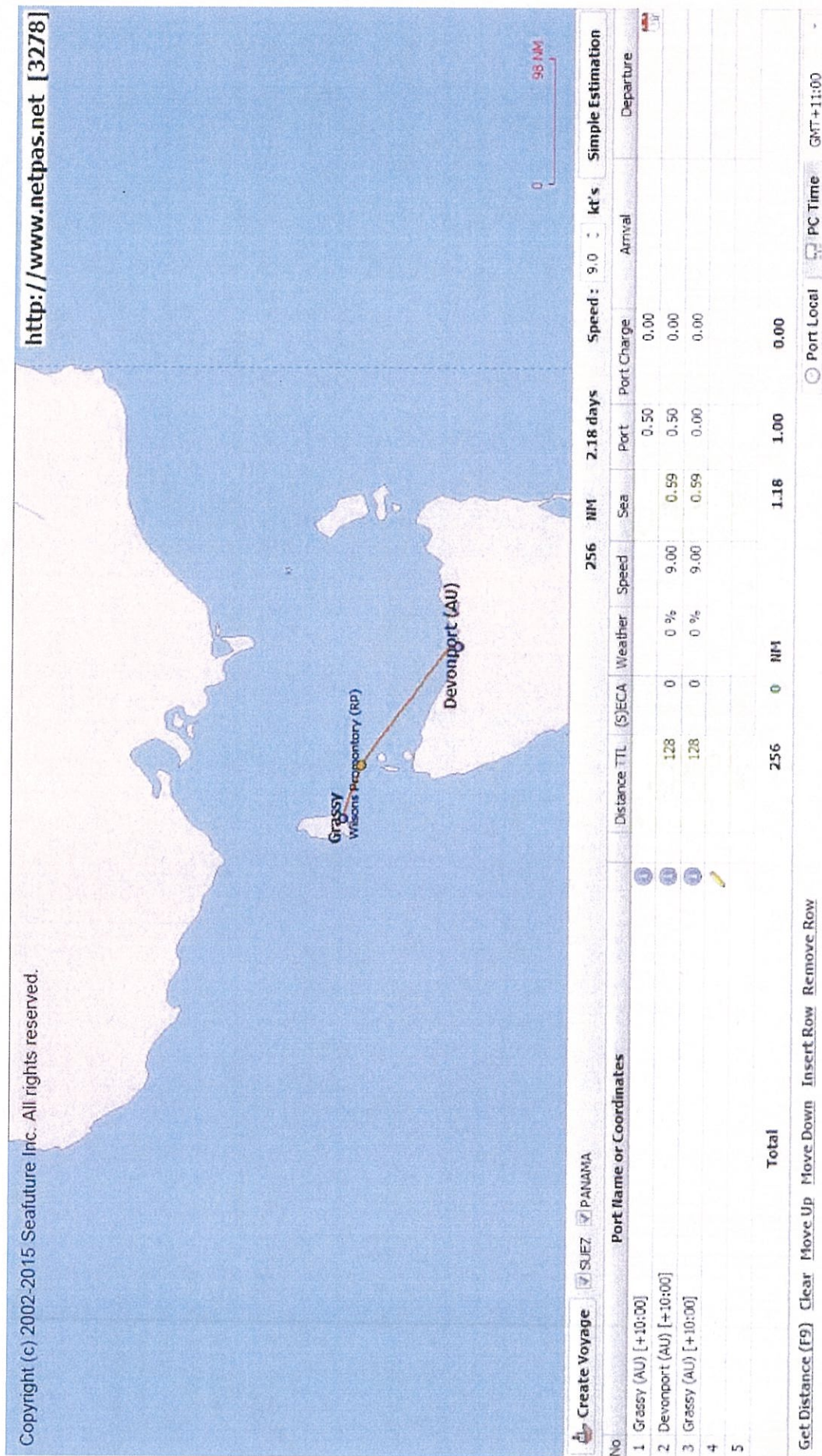


## Annex 8.2 Dedicated Bass Strait Service via King Island





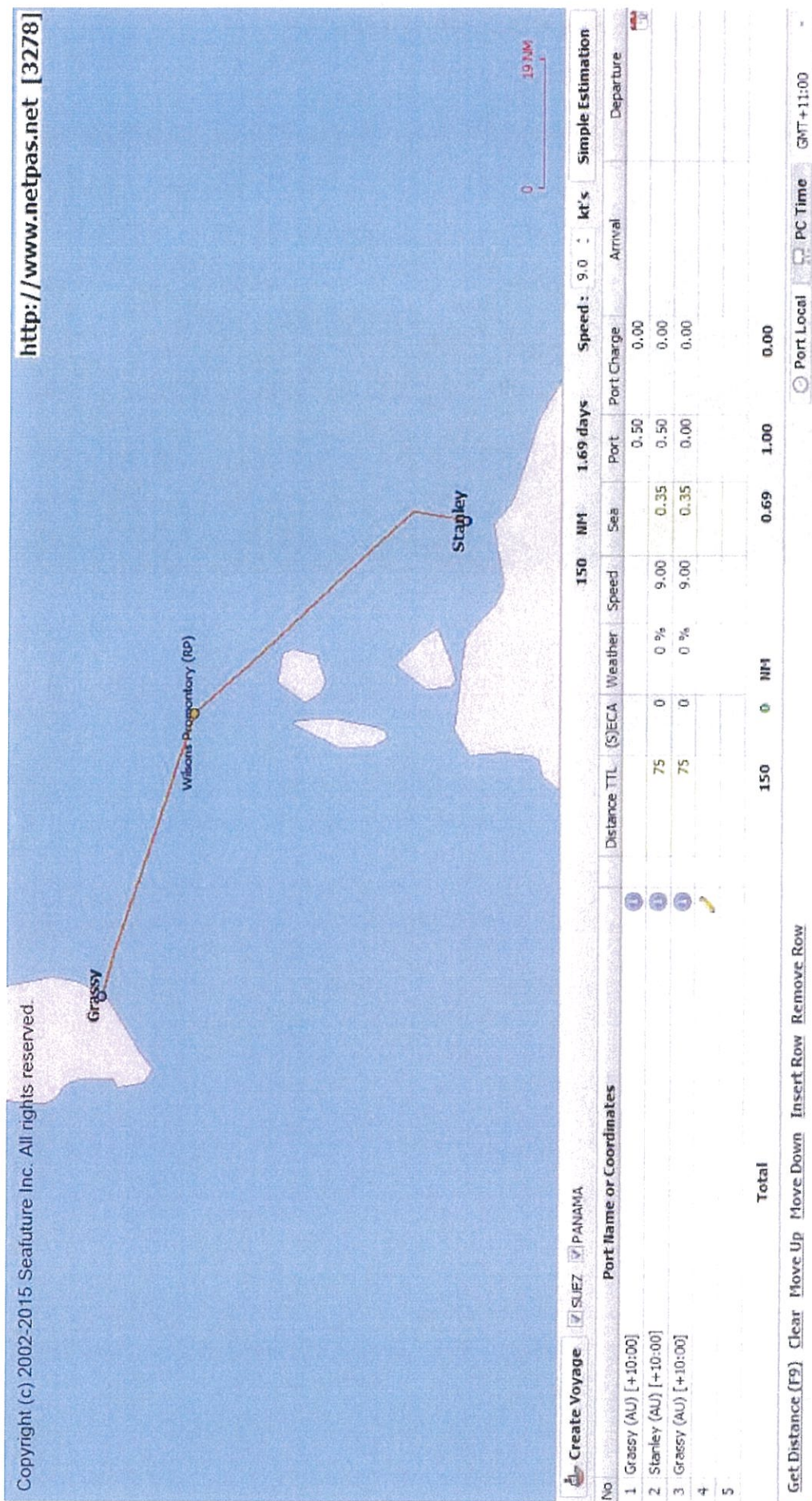
### Annex 8.3 Multi Purpose Feeder Service King Island – Devonport





## Annex 8.4 Cattle Service Grassy – Stanley

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<http://www.netpas.net> [3278]

## Annex 9 – Potential Vessel Specifications

### Annex 9.1 - m.v. Newcastle Bay



Length (m)	83.2
Breadth (m)	13
Draft (m)	5.39
Dead Weight (tonnes)	2768
Capacity (TEUS)	125
Service Speed (knots)	13.5
Class	DNV Area A1 A2 A3
Call Sign	VMQ8331
Fuel Cap (ltrs)	273000
POT Water (ltrs)	21000
Year Built	1991
Where Built	Denmark
Rego No	24676QC
Cabins	8
Berths	12





## Annex 9.2 – m.v. Dutch Runner



### Ship Details

Ship NameDutch Runner  
Last Ex-nameDUTCH RUNNER  
Ship TypeRO-RO SHIPS  
Ship SubtypeRo-Lo  
FlagCanada  
IMO No.8712075  
Call SignVABZ  
MMSI316011803  
Ship StatusIn Service  
Speed13.5  
Built (YYYY)1988  
Port Of RegistryQuebec, QC  
Ship Owner[Great Lakes Feeder Lines ULC](#) (Canada)  
Ship Manager[Great Lakes Feeder Lines ULC](#) (Canada)  
Ship Builder[Sietas \(Schiffswerft\) KG, J J](#) (Germany (West))  
ShipyardHamburg

### Tonnage

Deadweight (DWT)3056  
Gross Tonnage, mt2279  
Net Tonnage1002  
TPC10.6  
Length (OA)84  
Length (BP)76.82  
Beam16.01  
Draft5.34  
Depth6.38  
Height28.9

### Dry Cargo

Bale capacity3491  
Grain capacity3602

Reefer TEU30  
TEU219  
Gear SWL35  
Gear DetailsC-2-35  
Gear TypeCranes  
Holds1  
Hatches1  
Hatch Size max43.80x12.80  
Number Of Ramps1

## Engine

Engine BuilderWartsila  
Model6R32D  
Number1  
RPM750  
Stroke Type4  
Cylinder Stroke350  
Cylinder Bore320  
Total Power KW2249  
Total Power HP3058  
ThrusterB-1  
Propulsion typeCP Propeller  
Propulsion number1  
Speed13.5

## Hull/Construction

Hull MaterialSteel  
Hull Number892  
Decks1  
Heavy Cargo StrengthenedYes

## Communication

Inmarsat Telex431933511  
Inmarsat Fax1756241  
MMSI316011803  
Call SignVABZ

## ISM

Smc Issued Date9.6.2009 0:00:00

## History

Ex-namesDUTCH RUNNER, DUTCH RUNNER, DUTCH RUNNER, P&O Nedlloyd Douala, Dutch Runner, North King  
Ship NameNORTH KING  
FlagCayman Islands  
Owner countryUnited Kingdom  
Manager countryCayman Islands





**Annex 9.3 – m.v. Malu Trader**

Length (m)	49.98
Breadth (m)	16.16
Draft (m)	2.8
Dead Weight (tonnes)	1284
Capacity (TEUS)	64
Service Speed (knots)	9
Class	DNV
Call Sign	VHIH
Fuel Cap (ltrs)	69000
POT Water (ltrs)	50000
Year Built	1997
Where Built	Sibu / Sarawak / Malaysia
Rego No	859867
Cabins	7
Berths	12



