



**Flinders Island Shipping Needs Study
Flinders Council**

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1. Introduction

1.1 Study Need

The provision of a safe, reliable, regular, economically viable and efficient shipping service to an island community is an essential requirement for their long term prosperity and operational security. Whilst a range of products can be produced on the island, and people can be transported by plane, the vast majority of the island's import and export transport needs must be addressed by shipping. This is the case for Flinders Island which is located within Bass Strait between Tasmania and Victoria and is the largest of the Furneaux Group of islands.

As a result Aurecon was engaged by Flinders Council to undertake an assessment of the shipping service needs of Flinders Island (refer brief **Appendix A**). This study has been compiled in association with the development of the Flinders Island Ports Vision which provides recommendations relating to the development of port and associated infrastructure to service Flinders Island.

This report identifies the current and future shipping needs for Flinders Island and provides statistical analysis of the demographic and economic circumstances that support the recommended outcomes for the Island. It should be noted that the study relies heavily on ABS data and data provided by TasPorts, who own and manage the Flinders Island port facilities, and that only limited information was available on cargo and stock movements and no information was available on passenger movements.

The Shipping Needs Study and the Flinders Island Ports Vision have been prepared at the same time. As a result there is a high level of correlation between the two reports and it is recommended that the reports be considered jointly to ensure that the required cross referencing is possible.

1.2 Study Objectives

To address the above needs the following study objectives have been identified and agreed:

- Assessment of the historical cargo, passenger and shipping data (quantitative)
- Identification and assessment of the key shipping service parameters such as cargo, port facilities, land and waterside access, vessels and the like (qualitative)
- Review of the tourism / passenger shipping service potential (qualitative)
- Review and recommendation of shipping service operational / ownership models (qualitative)
- Identification of shipping service related socio-economic impacts (qualitative)

1.3 Document Structure

To achieve the above study objectives this report has been structured as follows:

- Section 2 provides an overview of the socio-economic context
- Section 3 puts forward the current island shipping service context
- Section 4 outlines the existing cargo throughputs and vessel visits
- Section 5 develops cargo, vessel and berth forecasts
- Section 6 identifies the maritime transport requirements
- Section 7 presents a range of shipping service model alternatives and modifications
- Section 8 considers the potential socio-economic impacts
- Section 9 provides the concluding remarks

1.4 Study Limitations

It should be noted that this study has been undertaken on the basis of information that has predominately been provided by Flinders Council and TasPorts. Additional consultations were also undertaken with a select number of key island stakeholders in order gain an understanding of the key issues affecting the island ports and shipping services. The assumption is that all relevant information has been provided by the individuals and organisations consulted. It should also be noted that information obtained from third parties has not been independently verified.

In particular it should be noted that no information pertaining to the existing Flinders Island Shipping Service contract between the Tasmanian Government and Southern Shipping was provided during the study. Hence this report, and its findings, only touches upon the existing shipping service contractual issues where they have already been identified within publicly available information and during consultations.

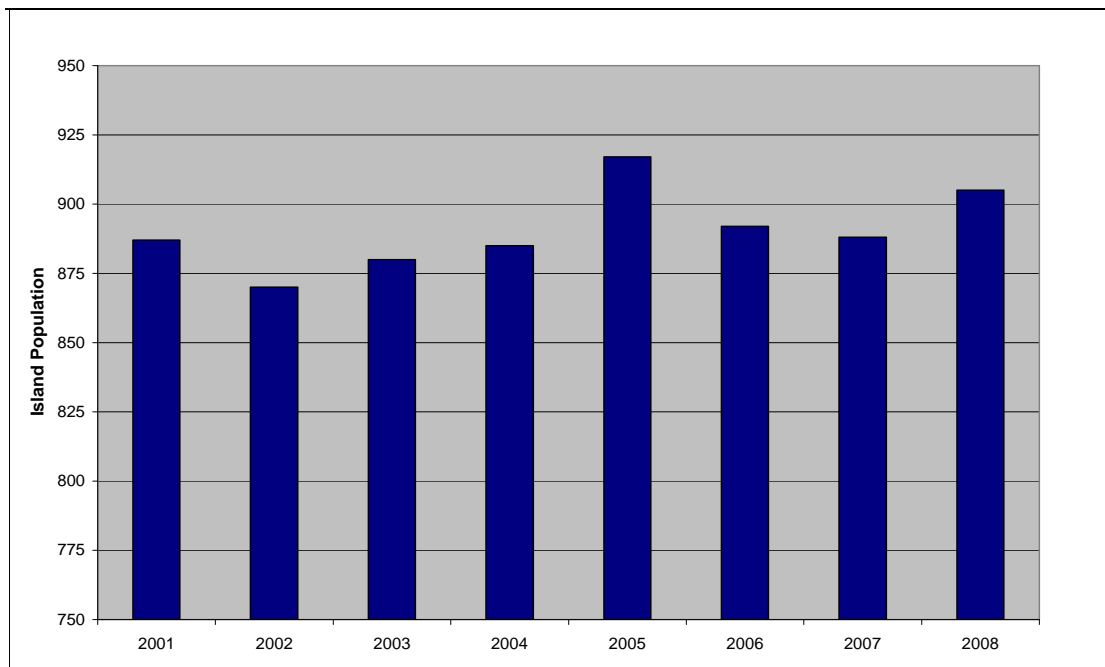
2. Socio-Economic Context

A review of the socio-economic characteristics of Flinders Island has been undertaken to provide a foundation for the port and shipping market analysis. The socio-economic review also draws heavily on publicly available ABS census data and the economic sector discussion from *Invest in Flinders Island* because of the limited availability of local economic development information.¹

2.1 Population

2.1.1 Demographic Profile

The Flinders Island population has been reasonably stable during much of the last decade as shown by **Figure 2.1** below. The Island's population varied from a low point in 2002 of 870 people through to a high point of 917 people (in 2005). During this eight year period the average residential population on the Island was 891 people, with a variation of only around 3% (which is low for an island of this size).



Source: 3218.0 Population Estimates by Local Government Area, 2001 to 2008 (ABS, 2009)

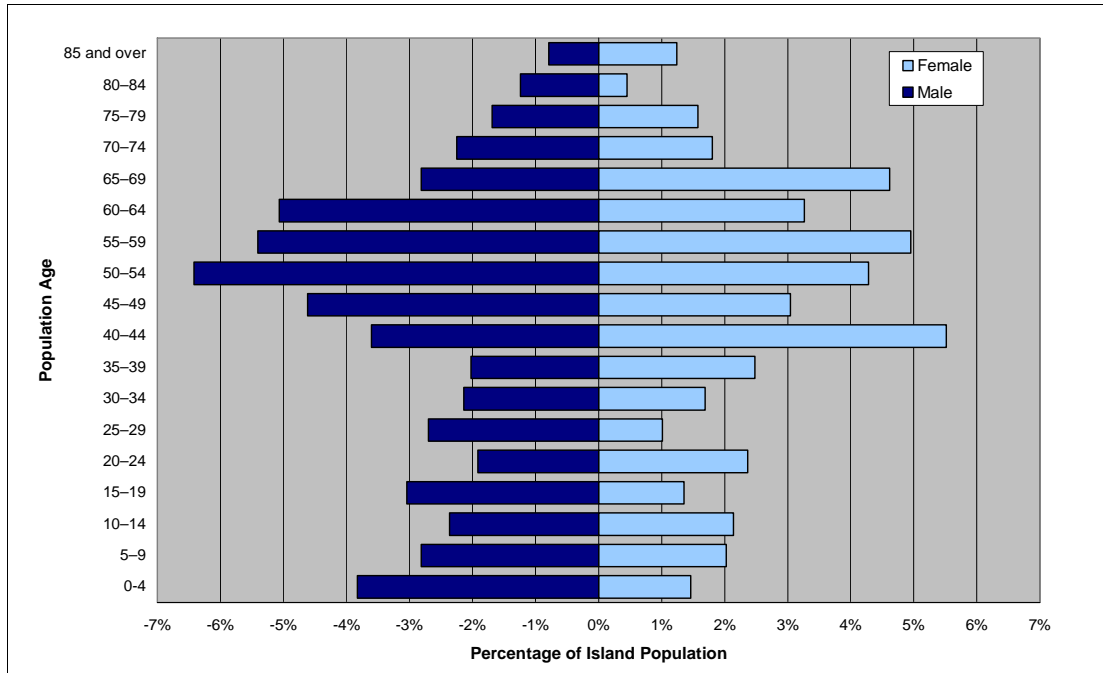
Figure 2.1 Flinders Island Estimated Residential Population, 2001 to 2008

Whilst the above data shows a generally stable population for Flinders Island, this may not reflect trends over a longer period (say 20 to 50 years) and also may not be the case in the future as the population responds to localised socio-economic issues and personal and family decisions. An example of this is the trend towards farm consolidation, which has the effect of reducing the rural population of the Island and causing families to shift to Tasmania and the mainland for employment.

The age distribution of the Island's population (presented in **Figure 2.2**) at 30 June 2007 is a typical of the wider Tasmanian community (presented in **Figure 2.3**). These figures show that the Island's population can be divided into three core groups. The 0 through to 39 year age group (which is significantly under represented), the 40 through to 69 year age group (which is substantially over

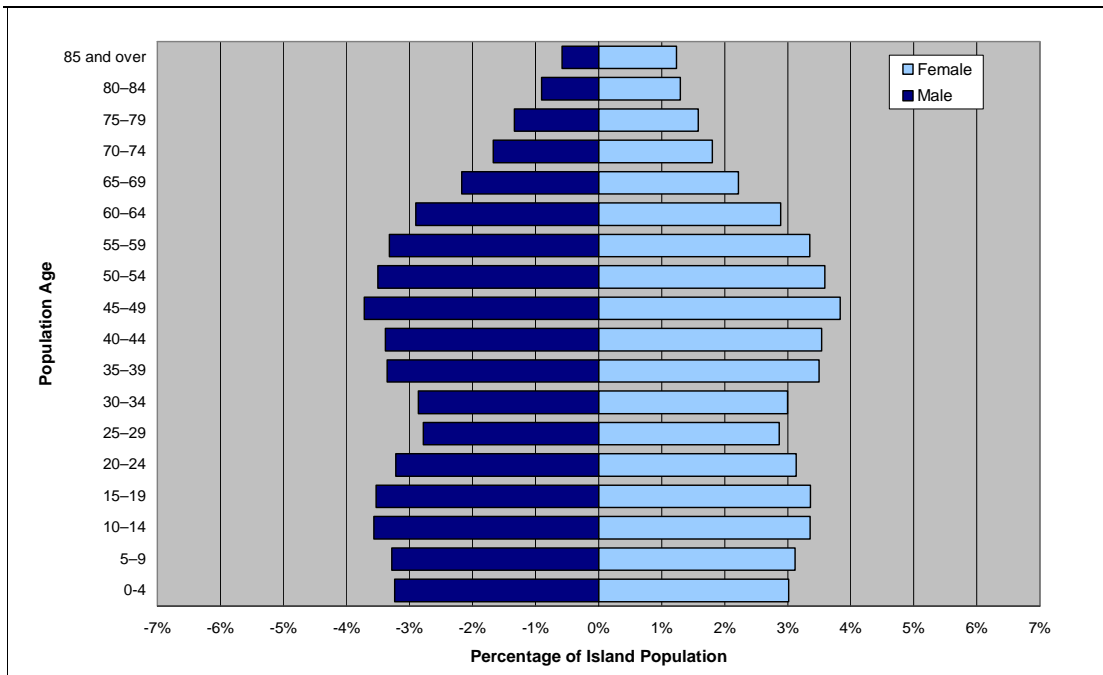
¹ *Invest in Flinders Island* is a Flinders Island investment brochure produced by a group of parties interested in the economic development of Flinders Island including the Flinders Island Council, Northern Tasmania Development, Tasmania Department of Economic Development, and Australian Government. The document is available online from invest.northerntasmania.com.au.

represented), and the 70 years onwards age group (where the Flinders Island population is significantly closer to the state average).



Source: 3235.0 Population by Age and Sex, Regions of Australia (ABS, 2008)

Figure 2.2 Flinders Island Population Distribution, 30 June 2007



Source: 3235.0 Population by Age and Sex, Regions of Australia (ABS, 2008)

Figure 2.3 Tasmanian Population Distribution, 30 June 2007

It is not clear from this information what is driving the difference in age profiles of the Island community. However, anecdotal information suggests it may be a combination of the following factors:

- A preference for living on the Island by young family groups (with primary school aged children);
- The lack of secondary education opportunities on the Island;
- A strong emigration trend to mainland Tasmania or Victoria by the young population during high school or immediately after the completion of schooling, with or without their parents (which is commonly seen in isolated and island communities);
- Lack of professional and skilled employment opportunities for younger people on the Island;
- The lack of sufficient immigrants within the younger age groups (due to the attraction of urban areas and their resultant facilities and opportunities); and
- The active immigration to Flinders Island by older age and lifestyle groups including retirees and “sea-changers.”

The proportion of males to females within the Flinders Island population is also an interesting variance to the Tasmanian demographic. The ABS data demonstrates that 54.7% of the Island population was male at the 30 June 2007 and 45.3% was female, which is a significant variation from the expected demographic norm where females outnumber males. A fact confirmed by the overall Tasmanian population where 49.3% are male and 50.7% female.

During the 2006 Census, country of birth data was collected for Australian residents and this information for Flinders Island is presented in **Table 2.1** below. As is expected for a small and relatively remote island, the vast majority of residents were born in Australia (86.9%). However, it is interesting to note that the next largest group of Island residents originate from the United Kingdom (3.6%) followed by New Zealand (1.0%). The remaining residents (8.4%) come from a broad spectrum of countries, but with very low numbers from other Pacific or Asian countries.

Table 2.1 Flinders Island Residents by Country of Birth, 2006

County of Birth	Flinders Island Residents	
	People	Percentage
Australia	752	86.9%
United Kingdom	31	3.6%
New Zealand	9	1.0%
Other	73	8.4%
Total	865	100.0%

Source: Australian Bureau of Statistics, Census 2006

Note: The figures within this table are based on base census data supplied by the ABS. As a result there are some variations between these figures and the population estimates produced by ABS and reported earlier.

2.1.2 Education and Skills

The education and skill levels of Flinders Island residents is important as it has the potential to influence the type of businesses that are attracted to the island and hence the local employment opportunities. Local levels of skill and education attainment are also considered significant as there is a strong correlation between skill levels, income obtained and likelihood of employment. Thus the local workforce skill level is important to the wider socio-economic character of the island.

From the 2006 Census data (shown by **Table 2.2**) it can be seen that the existing Flinders Island population has a below average level of education attainment when compared to the wide Australian population, and thus also skills. This is illustrated by the Island’s population attainment at the High School (64.0% for Year 10 and 26.9% for Year 12) which is significantly lower than the national averages of 75.1% and 42.2% respectively. The low level of attainment is even more pronounced for residents with Bachelor Degrees and above, which is 9.9% compared to the national average of

15.6%. It is possible that education attainment and skill levels are potential barriers to the Island's economic growth.

Table 2.2 Level of Education Attainment of Flinders Island Residents, 2006

Level of Education Attainment	Flinders Island Education Attainment	
	Number Obtained Education Level or Higher	Percentage of Island Population
High School – Year 10	526	64.0%
High School – Year 12	221	26.9%
Diploma and Advanced Diploma	131	15.9%
Bachelor Degree or higher	108	9.9%

Source: Australian Bureau of Statistics Census Data 2006

2.1.3 Employment

When the 2006 Census data is analysed by employment status (as provided in Table 2.3 below) it can be seen that just under half the Island's population (443 people or 49.7%) are in employment. Interestingly just under two fifths of the employed residents (16.1%) are involved in part time work, with the vast majority (29.5%) in full time employment. A significant proportion of the Island's population is not in the labour force (22.5%) and it is anticipated that a large proportion of this is made up of retirees. The unemployment rate is very low (1.3%) and it should also be noted that 16.7% of Island Residents did not respond to this question in the Census.

Table 2.3 Employment Status of Flinders Island Residents, 2006

Employment Status	Resident Employment Status	
	Total	Percentage of Total Island Population
Employed		
Full time	263	29.5%
Part time	144	16.1%
Away from work	27	3.0%
Hours not stated	9	1.0%
Total Employed	443	49.7%
Unemployed	12	1.3%
Not in labour force	210	23.5%
Other	33	3.7%
Total Employment Status Respondents	698	78.3%
Other Island Residents That Did Not Respond	194	16.7%
Total Island Population	892	100.0%

Source: Australian Bureau of Statistics Census Data 2006, Aurecon (2009)

The trend in unemployment on Flinders Island is provided in Table 2.4 which demonstrates that the rate has been decreasing during the last 10 years, with a significant increase in the reduction from 2001 onwards (which coincides with strong national employment growth and staffing / skill shortages).

Table 2.4 Flinders Island Unemployment Rate, 1996 through to 2006

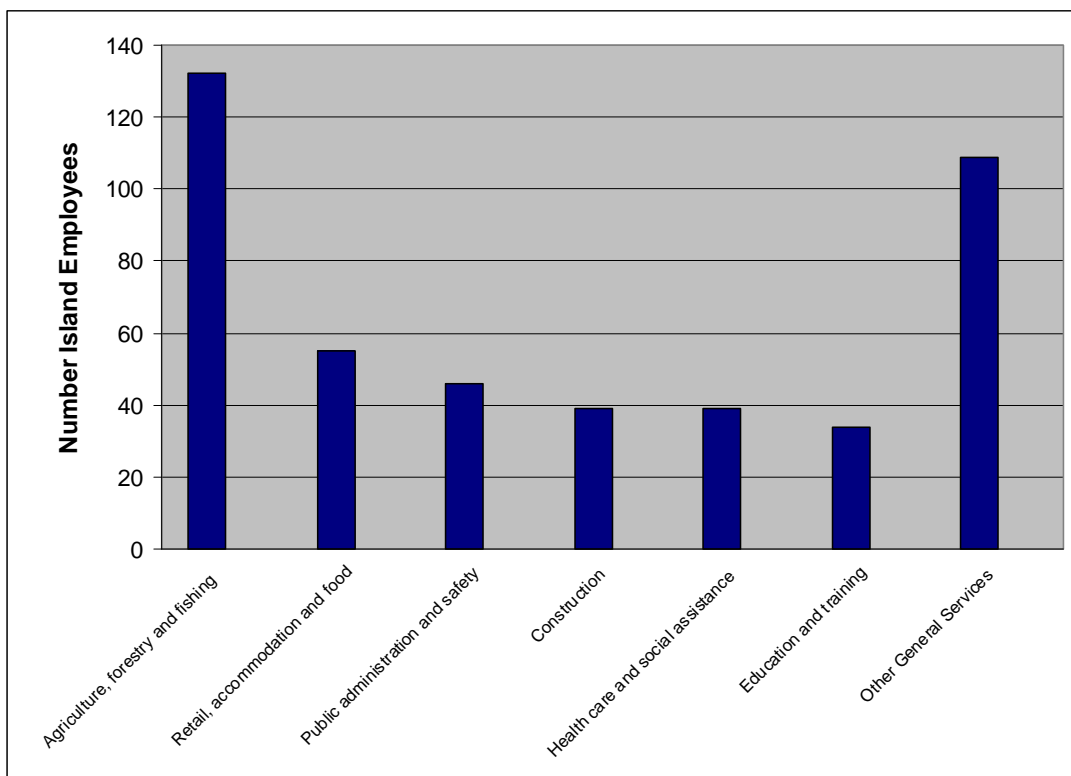
Year	Percentage Unemployed
1996	5.0%
2001	4.0%
2006	1.7%

Source: Australian Bureau of Statistics Census Data 2006

2.1.4 Economy

A brief review of the existing Flinders Island key areas of economic activity and development has been undertaken using the combination of the available 2006 Census data to look at the current economic sectors and the *Invest in Flinders Island* document to identify the key sectors with potential for future economic development.

On the basis of the 2006 Census data (as illustrated by the resident employment by sector information provided in **Figure 2.4**) the Flinders Island economy is predominately driven by the Agriculture, Forestry and Fishing sector (with 132 island residents being employed within this sector), followed by Retail, Accommodation and Food (with 55 island employees) and Public Administration and Safety (46 island employees). In combination these three sectors account for 67.5% of the Island’s residents that are currently in employment, with the remaining residents employed across the broad spectrum of other sectors.



Source: Australian Bureau of Statistics Census Data 2006

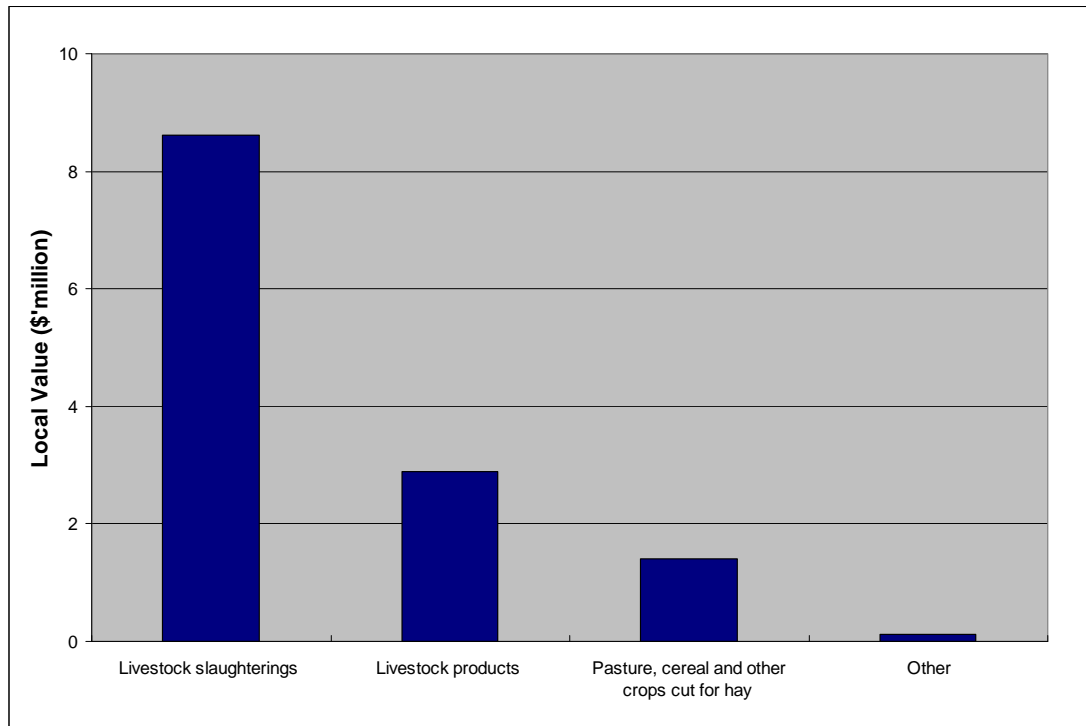
Figure 2.4 Employment Numbers by Industry, 2006

Due to the ongoing socio-economic issues with respect to population, employment and economic development, the Tasmanian Government, Flinders Council and other interested stakeholders are actively promoting the Island’s economic development using the *Invest in Flinders Island* document. The document provides an overview of existing commercial sectors and also sectors that have

significant potential for further development. An overview of this information, combined with relevant additional information from key stakeholders, is presented below:

- **Agriculture**

- Agricultural output for the Furneaux Group of Islands (of which Flinders Island is the main island) was \$13.0 million (local value) in 2006 (as per **Figure 2.5**) with the main farming related activities being predominately livestock (including slaughtering) with a limited amount of dry land cropping.



Source: Australian Bureau of Statistics Census Data 2006

Figure 2.5 Agriculture Local Value, 2006

- The Island's key livestock products include wool, lamb / mutton, and beef, with the abattoir predominately processing lamb / mutton and beef. The vast majority of the abattoir product is exported to Australian mainland markets.
 - Discussions with Flinders Council have indicated that the island is a significant Tasmanian lamb / mutton and beef meat livestock producer (providing approximately a fifth of the total) and as a result the island currently has stocking levels of around 20,000 and 70,000 head of cattle and sheep respectively for breeding and production purposes
 - It should be noted that most of the livestock meat processing is undertaken offshore (either in Tasmania or mainland Australia) and as a result approximately 19,000 head of cattle and 50,000 head of sheep are typically exported every year
- **Fisheries and aquaculture**
 - Some wild fishery and fish processing is undertaken on Flinders Island, however, this sector has declined significantly during recent decades in line with the wider reduction in fish harvesting of most species within Tasmanian waters. The current wild fisheries activities, including processing are generally focused on Australian domestic consumption.
 - There is an existing abalone aquaculture business and associated facilities on the Island, however, it is understood that this facility is currently not in operation. The Government and local stakeholders also consider that there is considerable scope for further development of aquaculture opportunities around the Island.

- **Forestry**
 - There is a small amount of forestry activity on Flinders Island as shown by the timber logs that are currently being exported out of Lady Barron. Discussion with key stakeholders, however, confirmed that this sector is not considered to be a long term option on the Island as it is associated with the removal of existing plantations that are not being replaced.
 - Discussions with Forest Enterprises Australia (FEA) has indicated that between 40,000 and 50,000 tonnes of timber is currently being logged and exported from Flinders Island. These activities commenced during the 2008/09 financial year and FEA expect them to be fully complete by the end of the 2011/12 financial year.

- **Tourism**
 - There is currently a very small tourism industry on the island that is based on the Island's isolation and physical and natural beauty, however further development of this sector is required to achieve its full potential.

- **Energy**
 - A number of the Furneaux Group of Islands are well located and have appropriate geography for the development of wind farms for electricity production. However, the isolation of the islands and the lack of a connection to the national power grid, make development of this sector unlikely.

3. Current Island Shipping Service Context

3.1 Contracted Shipping Services

Southern Shipping² is currently contracted by the Tasmanian Government to provide regular shipping services to Flinders Island. This contract requires Southern Shipping to deliver at least one scheduled weekly service for general cargo and passenger operations and on demand services for livestock and break bulk activities (such as timber exports). These services have been contracted to Southern Shipping from Bridport, with the current contract due to expire on 30 June 2011.

Under this contract Southern Shipping currently provide the following services (this information is also presented in Figure 3.1)

- **General Cargo / Passenger**
 - ***Bridport and Lady Barron***
 - Weekly services arriving on Tuesday (or Wednesday if Monday is a Public Holiday in Tasmania)
 - Sailing time is approximately 8.5 hours
 - Has the potential to be delayed due to tidal conditions at Bridport and inclement weather
 - ***Port Welshpool and Lady Barron***
 - On demand only services are provided
 - Sailing time is approximately 20 hours
 - Has the potential to be delayed due to inclement weather and Bass Strait water conditions
- **Livestock**
 - ***Bridport, Port Welshpool, Lady Barron, Whitemark, and Others***
 - Provided using the scheduled weekly Bridgeport / Lady Barron service (outlined above) or through additional on demand services provided between Lady Barron or Whitemark and Bridport, Port Welshpool or any other appropriate Tasmanian or Victorian port
 - During consultations it was stated that passengers are not carried on livestock movements due to the fact that passengers need to board and disembark the vessel via the main deck (which is problematic when livestock are located on the deck). *Subsequent discussions with Flinders Council indicated that this was not necessarily the case, however confirmation of the exact position was not possible.*

3.2 Other Flinders Island Shipping Services

LD Shipping also operates on demand shipping services between Flinders Island, Tasmania and Victoria. LD Shipping is based at Bell Bay in Launceston and has been servicing the Island for several years. Key aspects of their Flinders Island service include provision of on demand stock movement to the Tasmanian mainland and Port Welshpool as well as other discretionary commercial transfers for business. It should be noted that LD Shipping does not carry passengers on their vessels.

3.3 Available Government Shipping Subsidies

In addition to the Tasmanian Government's financial support for the contracted shipping service (identified above) a range of other Federal Government subsidies are available for goods and passage across Bass Strait. A brief summary of these available subsidies is provided below:

² For further information on Southern Shipping www.southernshipping.com.au should be consulted.



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Flinders Island Shipping Needs Study

- ★ Primary Flinders Island Shipping Service Ports
- ★ Secondary Flinders Island Shipping Service Ports

Flinders Island Shipping Routes and Services

Figure 3.1

- **Tasmanian Freight Equalisation Scheme (TFES)**
 - The TFES was introduced in 1976 and provides a subsidy to partially cover the additional costs for a range of goods being shipped across Bass Strait
 - The scheme has three components; north bound goods (from Tasmania, including King and Flinders Islands, to mainland Australia), south bound goods (the reverse) and intrastate goods (between mainland Tasmania, King Island and Flinders Island)
 - It should be noted that a slightly different range of goods are eligible for a freight subsidy under each of the three components and that the intrastate component of the scheme was only introduced in July 2008
 - The focus of the subsidy is generally for produced or manufactured goods or non-consumer raw materials, machinery and equipment used in the manufacturing, mining, agriculture, forestry or fishing industries
 - The maximum assistance payable under this scheme is currently \$855 per Twenty foot Equivalent Unit (TEU) container³ and is based on the payment of 100% of the first \$335.50 of the shippers cost disadvantage plus 75% of the second \$335.50 and 50% of the third \$335.50. The maximum amount also includes an additional inter-modal fixed cost allowance of \$100 per TEU
 - Funding for the TFES is demand driven and hence is uncapped

- **Tasmanian Wheat Freight Subsidy Scheme (TWFS)**
 - This wheat freight subsidy was introduced in 1989 to replace a previous subsidy that had been in place since 1959
 - The subsidy is currently available to Tasmania-based wheat users in order to cover (up to a set amount) the additional transportation and handling costs that are associated with the shipment of bulk wheat by sea from mainland Australia
 - It should be noted that containerised wheat shipments are not subsidised under this scheme, but are considered for subsidy under the TFES
 - The current maximum subsidy rate is \$20.65 per tonne of bulk wheat shipping on a rebate basis for the sea freight cost component only and is capped at \$1.05 million per annum
 - This scheme is not applicable to Flinders Island as it would require large areas of the island to be allocated to broad acre cropping (for export purposes). This is currently not the case, nor is considered to be likely on the island in the future.

- **Bass Strait Passenger Vehicle Equalisation Scheme (BSPVES)**
 - The BSPVES was introduced in 1996 with the aim of reducing the cost of seagoing travel between mainland Australia and Tasmania to increase travel demand and ultimately improve the tourism and growth potential of Tasmania
 - The subsidy is provided for accompanied vehicles (cars, motor homes, cars plus caravans, motorcycles and bicycles) that are transported by sea between Tasmania (including Flinders and King Islands) and mainland Australia
 - It should be noted that BSPVES does not apply to passenger / vehicle movements between Tasmania and Flinders or King Islands and that a combined BSPVES passenger flight / vehicle shipping arrangement works on the King Island service as there are no passenger facilities on the vessel servicing the route
 - Again the scheme is structured through a rebate payment for the applicable vehicles and the current rates (1 July 2009 onwards) are between \$25 each way for bicycles and \$366 each way for motor homes and a car plus caravan
 - Funding for the BSPVES is demand driven and hence is uncapped. The Government is currently expecting the scheme to cost around \$35 million in the 2009/10 financial year.
 - From the information provided in **Table 3.1** below it can be seen that the vast majority of the BSPVES payments have been for the regular and frequent Devonport to Melbourne service offer by TT Line, followed by the King Island service (initially Patrick Shipping and now Searoad Shipping) with the Flinders Island service (Southern Shipping) a very distant third

³ A TEU is a standard 20 foot container that is used by the maritime transport industry.

Table 3.1 Number of BSPVES Eligible Vehicles by Service, 2001-02 to 2006-07

Financial Year	Number of Eligible Vehicles Carried by Service			
	Mainland Tasmania (TT Line)	King Island (Patrick / Searoad Shipping)	Flinders Island (Southern Shipping)	Total
2001-02	134,800	149	31	134,980
2002-03	218,677	200	29	218,906
2003-04	228,268	198	28	228,494
2004-05	216,733	205	23	216,961
2005-06	210,903	205	-	211,108
2006-07	188,481	201	11	188,693

Source: Bureau of Infrastructure, Transport and Regional Economics (BITRE), 2009

3.4 Current Maritime Transport Organisations, Roles and Responsibilities

A number of different organisations are currently involved in the delivery of maritime transport services to Flinders Island. These organisations include TasPorts, Finders Council, Southern Shipping and LD Shipping and combined are responsible for the operation of these shipping services. The maritime transport roles and activities and core responsibilities (in regards to both infrastructure provision and maintenance, and freight and passenger transport operations) for each of these organisations are presented in Table 3.2 below.

Table 3.2 Current Marine Transport Organisations, Roles and Responsibilities

Organisations	Roles	Core Responsibilities
TasPorts	Port Authority	<ul style="list-style-type: none"> • Infrastructure provision and maintenance <ul style="list-style-type: none"> • Port land ownership • Construction and maintenance of berth, quay, jetty and other marine structures • Capital and maintenance dredging and hydrographic surveys (if required) • Construction and maintenance of pavements, port buildings (administration, warehouses, sheds, etc) and other facilities • Construction and maintenance of livestock yards and ramps • Provision of other services (fire fighting, water, electricity, port safety, pollution control, etc) • Freight and passenger transport operations <ul style="list-style-type: none"> • Port administration and management • Installation and maintenance of lights, buoys and other navigational aids
Tasmanian Government	State Government / Road Authority	<ul style="list-style-type: none"> • Infrastructure provision and maintenance <ul style="list-style-type: none"> • Construction, maintenance and funding of port access road and island primary transport corridors • Maintenance activities associated with the road corridors is currently undertaken by Flinders Council, using funding provided by the Tasmanian Government
Southern Shipping	Contracted Shipping and Stevedoring Services	<ul style="list-style-type: none"> • Freight and passenger transport operations <ul style="list-style-type: none"> • Provision of contracted shipping services, including the provision of the cargo handling equipment and services required on Flinders Island for the operation of these contracted shipping services

Organisations	Roles	Core Responsibilities
LD Shipping	Non-Contracted Shipping and Stevedoring Services	<ul style="list-style-type: none"> • Freight transport operations <ul style="list-style-type: none"> • Provision of additional non-contracted shipping services, including the provision of the cargo handling equipment and services required on Flinders Island for the operation of these additional non-contracted shipping services
King Island Ports	Lessee and operator of the fuel storage facility.	<ul style="list-style-type: none"> • Fuel Depot maintenance and service <ul style="list-style-type: none"> • Provision and maintenance of fuel depot.

Source: Aurecon, 2009

3.5 Existing Maritime Transport Issues

Discussions with key stakeholders, along with the Island's community, has identified a number of existing and well identified issues with respect to the efficiency and effective delivery of the Flinders Island maritime transport activities. These issues include:

- **Infrastructure provision and maintenance**
 - **Access to covered cargo storage and handling facilities (including cold storage)**
 - A number of existing cargo and processing sheds are located at Lady Barron, however, it is understood that due to contractual issues that none of these are available for import / export cargo storage and handling (including container packing and unpacking)
 - As a result all cargo storage and handling is undertaken outdoors and is exposed to the prevailing weather and environmental conditions
 - In addition a number of stakeholders identified the lack / limited provision of cold storage facilities on the island as an important operational issue
 - This is far from ideal and hence improved cargo storage and handling facilities at Lady Barron are required
 - **Stock handling facilities**
 - Stock handling facilities exist at both Whitemark and Lady Barron, although Whitemark is tide-dependant and access is via the main street of town
 - Improved segregation of stock and general cargo facilities at Lady Barron would be desirable and would improve efficiency at that port.
 - Improved and expanded stock handling facilities are required to cater for current and future cattle and sheep livestock import / export operations
 - **Berth, jetty and cargo / stock handling area lighting**
 - Lighting needs to be provided to the berth, jetty and cargo / stock handling areas at Lady Barron to allow the facilities to safely and efficiently operate outside of daylight hours
 - **Current RoRo berth arrangements**
 - The RoRo berth at Whitemark is subject to tide and highly exposed to prevailing weather conditions.
 - Existing port infrastructure at Whitemark is in disrepair and would require total replacement for long term operations
 - The current RoRo berth arrangement at Lady Barron has a number of issues that limit its operational window and restrict the size of coastal / island freight vessels that are able to use it:
 - The main issue is that under the current arrangement the angle between the ships stern / bow ramp and deck at high tide is too extreme for the operation

- of the Forklift Trucks (FLT)s, a key element of stevedoring equipment, currently operating at Lady Barron. As a result cargo cannot be loaded / unloaded during part of the tidal window.
- A secondary issue is that the main jetty running along side the RoRo berth is only just long enough for the vessels that are currently visiting and if larger vessels were to be used in the future mooring issues are likely
 - A potential solution to the first issue would be installation of an intermediate pontoon between the vessel and fixed stern / bow ramp infrastructure, however this would result in a mooring issue for the current vessels
- ***RoRo berth availability and capacity***
 - As both the vast majority of general cargo / passenger and livestock vessels only berth at the single Lady Barron RoRo berth for loading and unloading activities there are periods for which significant berth congestion occurs
 - Analysis of the current Flinders Island cargo throughput data, however, shows that the existing Lady Barron berth should be able to accommodate the current number of vessel visits and forecast increases during the next ten years
 - If peak capacity is still considered an issue during this period a range of physical improvements can be made to the existing berth (such as installation of lighting and the like) along with management improvements (such as berth scheduling). Both of these would significantly improve berth capacity.
 - Development of a second RoRo berth at Lady Barron should be retained as a longer term option, particularly if congestion during peak months continues, as it would also allow for the separation of livestock and general cargo / passenger activities
 - Depending on the proposed location and arrangement of this second berth it could also be designed to handle larger RoRo vessels in order to future proof, to some degree, the Flinders Island shipping service
 - This berth could also be designed to allow for the double stacking of containers on the shipping services (if appropriate).
 - **Freight and passenger transport operations**
 - ***Competitive and cost effective provision of shipping services***
 - There is a need to ensure that market driven shipping services are provided to Flinders Island in order that the most competitive and cost effective services is accessible to all Flinders Island residents and businesses
 - The current shipping service contractual and subsidy arrangement does not necessarily achieve this aim as the incumbent operator potentially has significant operational and financial advantage, and could have the ability to structure their operations and cost structures to reduce competition
 - A cargo, rather than operator, focused subsidy arrangement for the delivery of shipping services has the potential of being more transparent and market driven, however would need to be carefully structured to ensure that service reliability, consistency and other key needs are also achieved
 - ***Provision of service response and backup***
 - During the last decade there have been a number of times when the provision of contracted shipping services (both weekly and on demand) have been limited due to one or more of the contracted vessels being out of service
 - During these periods other vessels have been used to provide shipping services to Flinders Island, including vessels owned and operated by TasPorts, however as a result significant additional costs and operational issues have been incurred by key Flinders Island stakeholders
 - Due to the essential nature of the contracted shipping services, consideration needs to be given to how continuity of service is maintained in future and ideally include the provision for replacement services and arrangements

- ***Efficient use of island based stevedoring equipment***
 - Stevedoring equipment located at the port and on the vessels is owned and operated by the individual shipping companies and is not available for use by competitors
 - This arrangement creates unnecessary cargo unloading and loading delays and ultimately results in increased shipping costs to Flinders Island residents
 - An appropriate framework needs to be developed to enable the most efficient usage of the available stevedoring equipment, while also providing an appropriate level of equipment contingency (due to the essential nature of the cargo import / export activities)

- ***Refrigerated container (Reefer) service quality***
 - There seems to be a number of issues with the use of refrigerated containers (reefers) on the Flinders Island shipping service
 - Key issues seem to be with the freezing of some foodstuffs (that were only meant to be chilled), and the thawing out or thawing out and refreezing of foodstuffs (that were meant to stay frozen) thus creating public health and foodstuff quality issues for the Island population
 - These issues should all be able to be appropriately addressed through the provision of a number of coordinated shipping service, port infrastructure and container improvements, including the:
 - Provision of a number of reefer power points at all shipping service ports (Bridport, Lady Barron and Port Welshpool) to ensure that reefers are always fully operational while waiting to be loaded
 - Provision of sufficient reefer power points on the service vessels to ensure that this operation continues throughout the voyage
 - Upgrading of reefers in use to include temperature data loggers in order that any unwanted temperature changes can be identified and the foodstuffs treated accordingly
 - Inclusion of reefer temperature requirements within the contracted shipping service contractual arrangements to ensure that reefers are handled correctly
 - Creation of standard reefer temperature clauses for use in service contracts with non-contracted shipping services

- ***Low usage of existing passenger services***
 - Only very limited numbers of passengers currently use the existing contracted shipping services to and from Flinders Island
 - This is most likely due to a number of interrelated issues which potentially could include:
 - The lack of a regular vessel sailing schedule throughout the week (highly likely as passengers are typically looking for regular scheduled services to plan their holidays and trips around)
 - The fact that sailings are currently mostly scheduled from Tasmania rather than Victoria (where there is likely to be significantly higher demand than from Tasmania)
 - The existing vessels are understood to provide only limited and poorly arranged passenger facilities (such as access from the cargo deck only) as they were developed predominately with freight movements in mind
 - The general lack of passenger handling and waiting facilities at either of the Flinders Island ports

- **Tourism, charter and fishing operations**
 - ***Low level passenger access decks / floating platforms***
 - There currently is a lack of low / tide regulated access decks / platforms for passengers to use to board and disembark tourism, charter and fishing vessels.

- This could be improved through the provision of either one or more low level landings or floating platforms / landings or the development of protected marina berths as proposed in the Ports Vision Master Plan for Lady Barron.
- *Passenger handling and waiting facilities*
 - There is a general lack of passenger handling and waiting facilities at either of the Flinders Island ports (as outlined above) which also limits the quality of the tourism and charter activities undertaken.
- *Passenger car parking areas*
 - There is currently a lack of properly identified and available public / passenger car parking areas at the Flinders Island ports.
 - This has the potential to create significant operational issues for the ports and hence appropriately located, sized and controlled parking facilities need to be provided.

4. Existing Cargo and Vessels

TasPorts supplied 2008/09 statistics for Flinders Island and this data has been analysed to identify the key Flinders Island port and shipping market operational parameters, and thus inform the Flinders Island Ports Vision. The results of the analysis are presented below, grouped according to import and export activities and shipping traffic and vessels.

It should be noted that port data for 2008/09 has been provided as the data prior to that was not separated out for Flinders Island. As a result there is a limit to how much analysis can be undertaken with the available data.

4.1 Import and Export Activities

The key imported and exported products, goods and materials that were handled by the Flinders Island ports during 2006 fall into the following groups:

- **Exports**
 - Livestock (cattle and sheep)
 - General cargo (including timber logs)
 - Wool
- **Imports**
 - General cargo
 - Fertiliser
 - Hay
 - Livestock (cattle and sheep)

A breakdown of the 2008/09 Flinders Island cargo by exports, imports and combined is provided in **Table 4.1** below. This table shows that during 2008/09 Flinders Island ports handled:

- Just over 41,500 head of sheep
- Just under 14,500 head of cattle
- Approximately 8,000 cubic metres of general cargo
- Just over 4,000 tonnes of timber logs
- Around 3,000 tonnes of fertiliser
- Approximately 2,600 kilolitres of fuel
- Just over 2,500 bales of hay
- Just over 2,000 bales of wool
- Just under 800 kilolitres of water

The vast majority of this cargo was handled through Lady Barron Port, with only a limited proportion of the livestock export and import activities being undertaken at Whitemark Port.

Table 4.1 Flinders Island Imports and Exports by Facility, 2008/09

Activity and Products	Units	Flinders Island Total	Lady Barron Port		Whitemark Port	
			Amount	Percentage	Amount	Percentage
Exports						
Cattle	Head	13,902	11,916	85.7%	1,986	14.3%
Sheep	Head	40,848	38,035	93.1%	2,813	6.9%
Wool	Bales	2,043	2,043	100.0%	-	-
Hay	Bales	-	-	-	-	-
Fertiliser	Tonnes	-	-	-	-	-

Activity and Products	Units	Flinders Island Total	Lady Barron Port		Whitemark Port	
			Amount	Percentage	Amount	Percentage
Timber Logs	Tonnes	4,020	4,020	100.0%	-	-
General Cargo	Cubic Metres	1,179	1,179	100.0%	-	-
Imports						
Cattle	Head	501	495	98.8%	6	1.2%
Sheep	Head	665	665	100.0%	-	-
Wool	Bales	-	-	-	-	-
Hay	Bales	2,535	2,535	100.0%	-	-
Fertiliser	Tonnes	2,713.0	2,713.0	100.0%	-	-
Fuel	Kilolitres	2,614	2,614	100.0%	-	-
Water	Kilolitres	773	773	100.0%	-	-
General Cargo	Cubic Metres	7,142	7,119	99.7%	23.0	0.3%
Imports and Exports Combined						
Cattle	Head	14,403	12,411	86.2%	1,992	13.8%
Sheep	Head	41,513	38,700	93.2%	2,813	6.8%
Wool	Bales	2,043	2,043	100.0%	-	-
Hay	Bales	2,535	2,535	100.0%	-	-
Fertiliser	Tonnes	2,713.0	2,713.0	100.0%	-	-
Timber Logs	Tonnes	4,020	4,020	100.0%	-	-
Fuel	Kilolitres	2,614	2,614	100.0%	-	-
Water	Kilolitres	773	773	100.0%	-	-
General Cargo	Cubic Metres	8,321	8,298	99.7%	23.0	0.3%

Source: TasPorts Flinders Island Port Data 2009

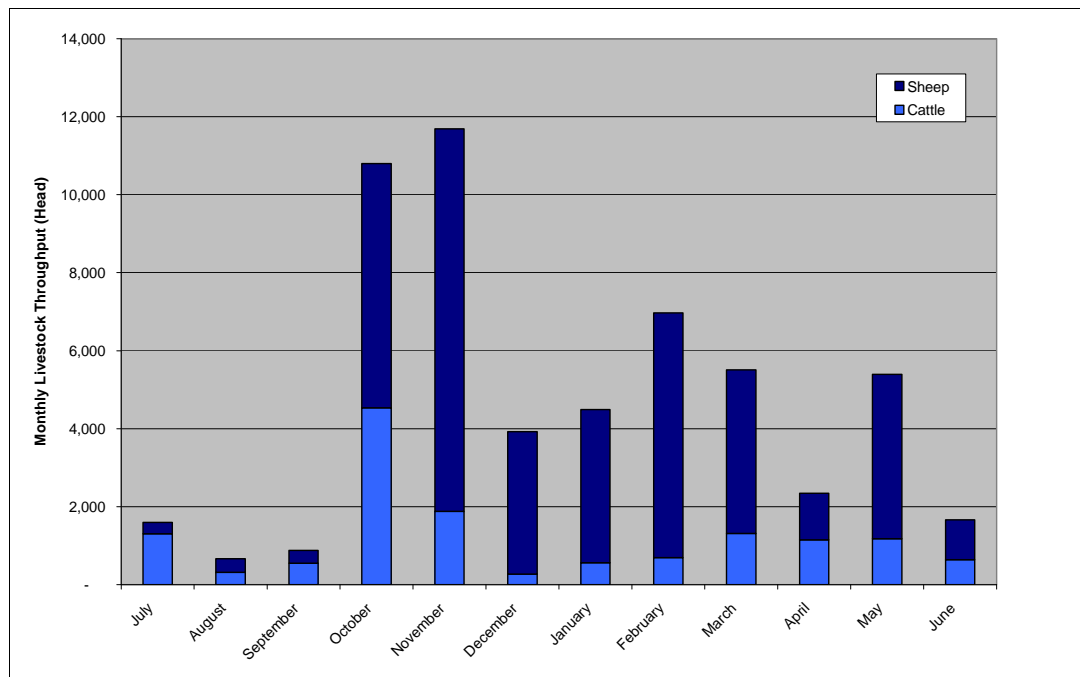
As Flinders Island cargo data is only available for 2008/09 it is impossible to look at emerging cargo trends over time and also identify if any of the above cargo volumes are due to atypical conditions or activities on the island. As a result, for this study, it has been assumed that the above cargo volumes (with the below exceptions) are typical for Flinders Island and hence will be used as the basis for the cargo and vessel forecasting activities later in this Section.

- **Livestock (cattle and sheep)**
 - From discussions with Flinders Council it was understood that 2008/09 was a draught year on the island and hence the overall number of livestock on the island during the year and volume exported was significantly down on a typical year.
 - The Council also advised that around 19,000 head of cattle and 50,000 head of sheep have been typically exported from the island in recent years and as a result these numbers have been used for the development of cargo forecasts, along with vessel and berth requirements.
- **Baled products (hay)**
 - Flinders Council have indicated that the importation of hay is a very rare occurrence on the island and has been seen only twice during the last 35 years.
 - The significant volumes that were seen in 2008/09 were hence due to the combination of a very severe drought on the island and the provision of a temporary Tasmanian Government road freight subsidy of \$50/bale.

- As a result the hay volumes has been stripped out of the data used for the cargo, vessel and berth forecast development.
- **Timber logs**
 - A limited area of commercial forests have been established on Flinders Island during the twentieth century with the export of timber logs commencing during 2008/09.
 - Discussion with TasPorts and FEA identified that that around 4,000 tonnes of timber logs was exported from Lady Barron during the year and that 12,000 to 15,000 tonnes of timber logs are expected to be exported each year through to the end of the 2011/12 financial year. At which point all the remaining forests will have been logged and timber exports will cease.
 - Due to the very short term and limited nature of these timber log exports they have been excluded from the cargo, vessel and berth forecasting undertaken.
- **Liquid products (water)**
 - Water imports to the island were included within the port data as is understandable give the draught conditions on the island during the 2008/09 financial year
 - These water imports are however not expected to be typical and hence they have also been removed from the data used for the cargo, vessel and berth forecast development

When the individual Flinders Island cargo import and export information (this has only been undertaken for those cargo types that are considered typical for Flinders Island) is plotted on a monthly basis, as shown in **Figures 4.1 to 4.5**, it can be seen that there are some significant variations in the spread of cargo movements throughout the year. The key information identified from these figures includes:

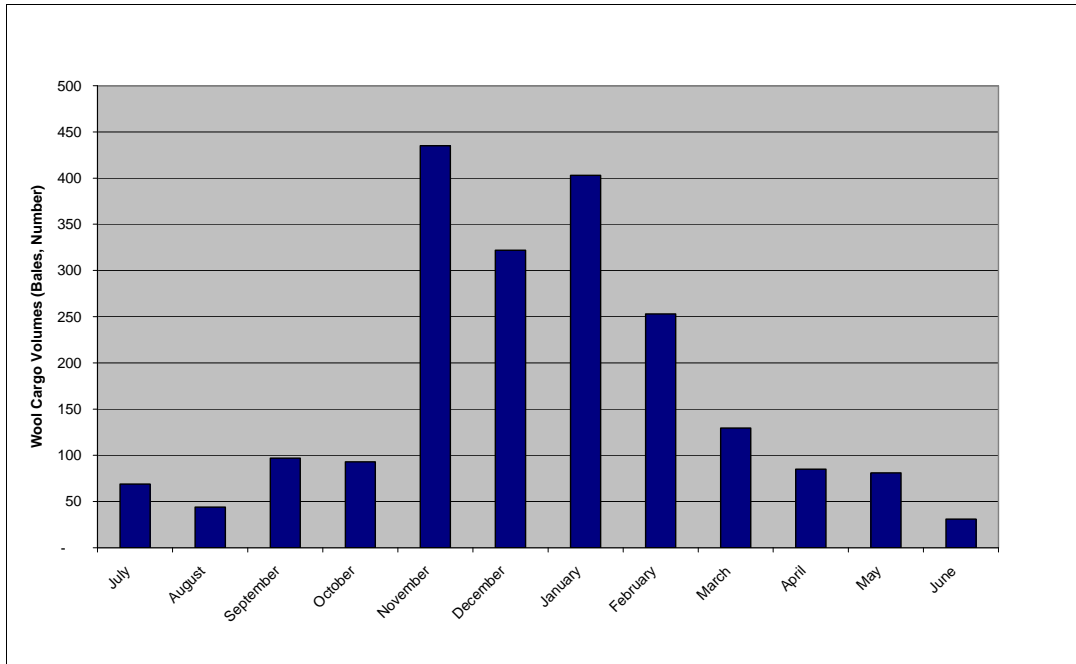
- **Livestock (cattle and sheep)** – The export of cattle and sheep from, and to a lesser extent import to, Flinders Island shows significant variation throughout the year (**Figure 4.1**). In two months (October and November) upwards of 10,000 head of livestock were shipped to and from the Island, whilst in two months (August and September) less than a 1,000 were moved. These significant variations in the stock movements were due to Southern Shipping’s vessel, the Matthew Flinders, being out of service for repairs for approximately two months. As a result the period from December onwards provides a more normal spread of livestock throughputs.



Source: TasPorts Flinders Island Port Data 2009

Figure 4.1 Flinders Island Monthly Livestock Throughput by Type, 2008/09

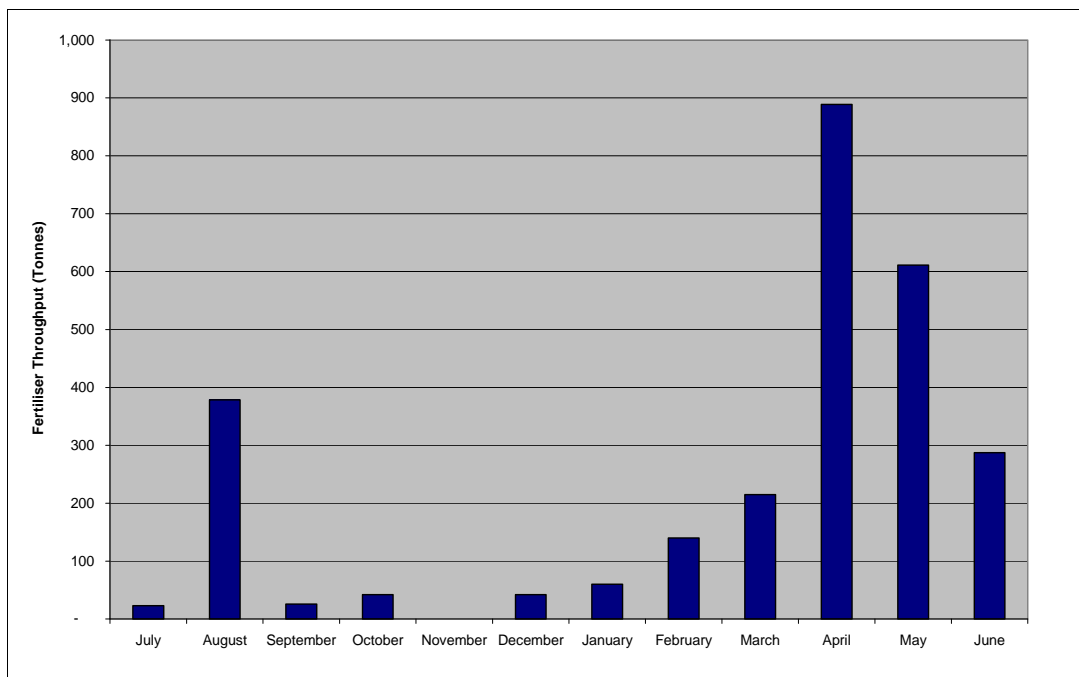
- Wool** – There is a significant seasonal element to the export of wool from Flinders Island (as illustrated by **Figure 4.2**), with substantially increased cargo demand during the six months of the year from November through to March.



Source: TasPorts Flinders Island Port Data 2009

Figure 4.2 Flinders Island Monthly Wool Product Throughput, 2008/09

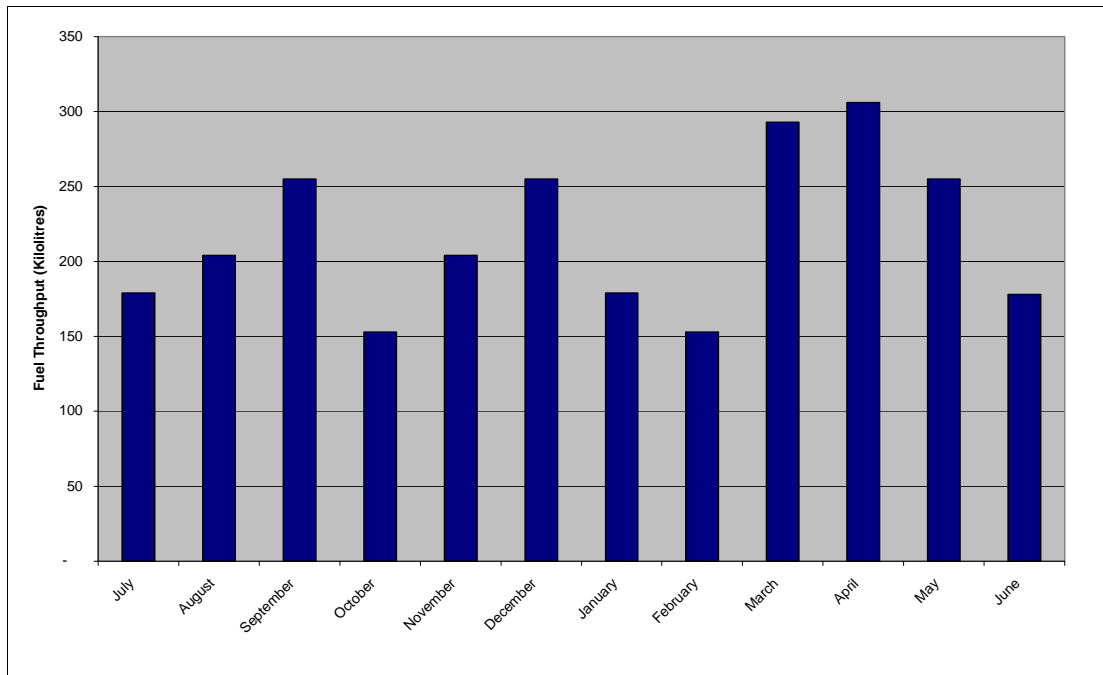
- Fertiliser** – The import of fertiliser onto Flinders Island (**Figure 4.3**) is obviously driven by cropping and pasture needs with relatively low importation levels in most months. Import spikes are however seen during late summer and autumn (when crops are typically being prepared) and also in August.



Source: TasPorts Flinders Island Port Data 2009

Figure 4.3 Flinders Island Monthly Fertiliser Product Throughput, 2008/09

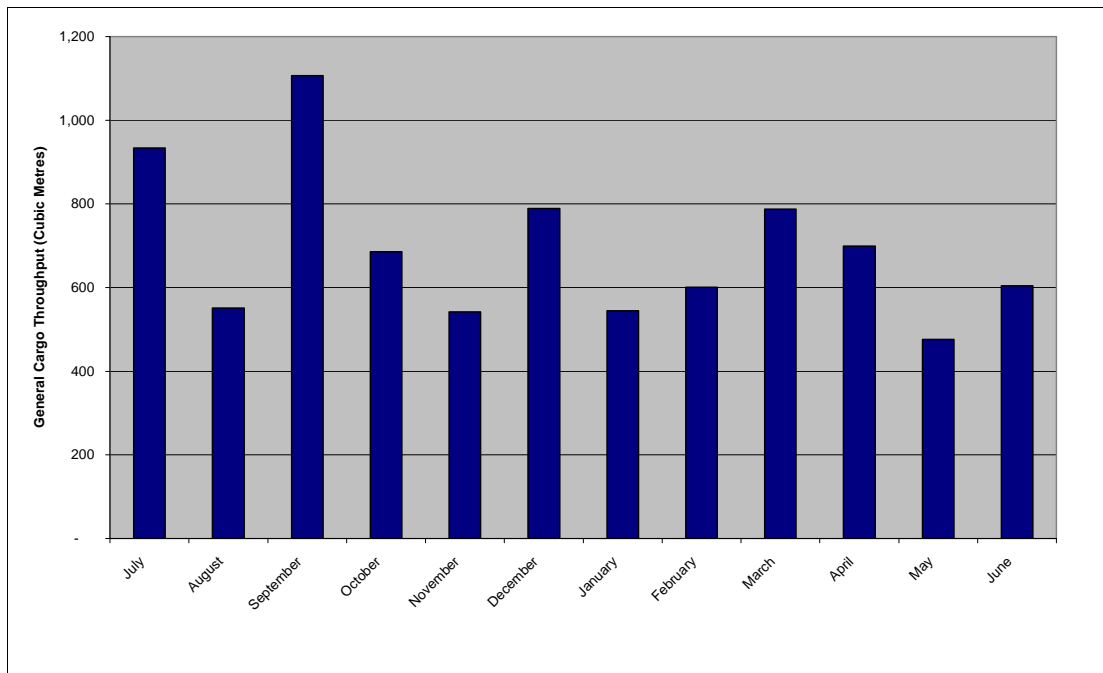
- **Fuel** – From Figure 4.4 it can be seen that fuel imports are relatively evenly distributed throughout the year. Peak imports of around 300 kilolitres were achieved in a number of months (Mach / April) with a general base load of around 150 kilolitres per month across the year.



Source: TasPorts Flinders Island Port Data 2009

Figure 4.4 Flinders Island Monthly Fuel Throughput, 2008/09

- **General cargo** – General cargo movements are also relatively evenly distributed throughout the year (as shown in Figure 4.5), with a base load of around 600 cubic metres per month and most months achieving throughputs of between 500 and 1,100 cubic metres.



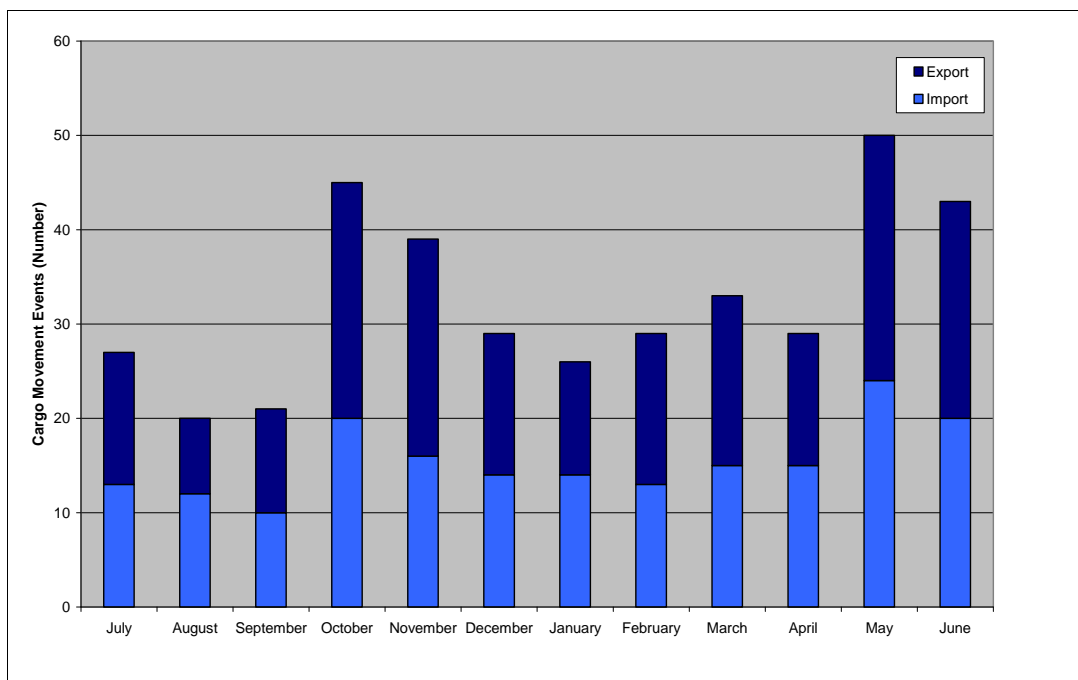
Source: TasPorts Flinders Island Port Data 2009

Figure 4.5 Flinders Island Monthly General Cargo Throughput, 2008/09

4.2 Shipping Traffic and Vessels

Some preliminary vessel visit data has been extracted from the Flinders Island port statistics and provides an indication of the shipping traffic to the existing ports. This information needs to be treated carefully as it does not match cargo imports and exports to both particular vessels and cargo loading days. Hence there is the potential for the actual number of vessel visits to be slightly different from that discussed below.

The number of export and import activities per month has been identified from the port statistics data provided, and is presented in **Figure 4.6** below. This information shows how many loading and unloading activities have been undertaken on a monthly basis and if divided by two, broadly indicates the level of shipping activities at the Flinders Island ports. This shows that during quieter months there are around ten (10) ship visits, whilst busier months are likely to have 15 to 20 ship visits and the busiest months up to 25 ship visits.



Source: TasPorts Flinders Island Port Data 2009

Figure 4.6 Flinders Island Import and Export Activities per Month, 2008/09

From the port data it is also possible to identify that not all visiting vessels carry the complete range of cargo. In particular livestock (cattle and sheep), wool, fertiliser and fuel are relatively commonly carried, whilst general cargo is handled on the majority of ships visiting Flinders Island (as per **Table 4.2** below). This table also shows that approximately 20 more export movements were undertaken from Flinders Island during 2008/09 compared to import movements and that there were approximately 205 vessel visits to the island during that year.

Table 4.2 Flinders Island Import / Export Movements by Cargo Type, 2008/09

Cargo Activities	Vessel Movements by Cargo Type									Total
	Cattle	Sheep	Wool	Hay	Fertiliser	Timber Logs	Fuel	Water	General Cargo	
Import	25	11	-	16	54	-	53	20	180	186
Export	91	61	43	-	-	32	-	-	102	205
Total	116	72	43	16	54	32	53	20	282	391
<i>Percentage of Total</i>	29.7%	18.4%	11.0%	4.1%	13.8%	8.2%	13.6%	5.1%	72.1%	100.0%

Source: TasPorts Flinders Island Port Data 2009

A number of vessels currently provide shipping services to Flinders Island. The key vessels and their data (covering ownership, capacity and dimensions) are provided in Table 4.3 below. For further information on the Island's shipping services and operators Section 3 should be consulted.

Table 4.3 Current Visiting Coastal Vessels

Southern Shipping Company		
Names	Southern Condor II	Matthew Flinders III
Length Overall (LOA)	34.95m	43.00m
Beam	10.8m	10.8m
Draft	1.2 to 2.0m [TBC]	2.1m
Deadweight Tonnage	270t	300t
GRT	247t	247t
Passenger Accommodation	12 passengers (day accommodation only)	
LD Shipping		
Name	Statesman	
Length Overall (LOA)	52.8	
Beam	10.22m	
Draft	3.69m	
GRT	550t	
Passenger Accommodation	No passenger accommodation provided	

Sources: Southern Shipping Co and L.D Shipping, 2009, MAST.

From the TasPorts Flinders Island port statistics an assessment of the cargo consignment sizes for both import and export activities for each of the major cargo types has been undertaken. This assessment has looked at the average, 95th percentile and maximum consignment sizes with the results presented in Table 4.4 below.

Table 4.4 Flinders Island Import and Export Consignment Sizes, 2008/09

Cargo Activities	Cargo Consignment Sizes								
	Cattle (Head)	Sheep (Head)	Wool (Bales)	Hay (Bales)	Fertiliser (Tonnes)	Timber logs (Tonnes)	Fuel (Kilolitres)	Water (Kilolitres)	General Cargo (Cubic Metres)
Import									
Average	20	60	-	158	50	-	49	39	40
95th Percentile	83	295	-	357	162	-	77	115	81
Maximum	191	550	-	368	281	-	102	139	120
Export									
Average	149	670	48	-	-	13	-	-	12
95th Percentile	342	1,290	141	-	-	172	-	-	29
Maximum	463	1,412	261	-	-	244	-	-	193

Source: TasPorts Flinders Island Port Data 2009

From this analysis it can be seen that the key drivers for vessels that are servicing Flinders Island are the livestock (cattle and sheep) movements with a general requirement of vessels that are capable of handling consignment sizes of around 350 head of cattle or 1,300 head of sheep (based on the 95th percentile level). The consignment sizes for wool, hay, fertilizer, timber, fuel, water and general cargo all appear to be less extreme, though this not conclusive due to the different units for each cargo type making it very hard to directly compare them.

5. Cargo, Vessel and Berth Forecasts

5.1 Cargo and Vessel Forecasts

Building upon the above socio-economic, trade and vessel information a cargo import / export forecast model for Flinders Island has been developed. This is a quantitative model that has been developed from an assessment of the underlying 2008/09 historical volumes for each type of cargo (it should be noted that in this case due to the limited amount of historical data the 2008/09 volumes have been assumed to be the underlying volumes).

An assessment is then undertaken of the historical growth data along with the future island prospects in order that a range of forecast annual compound growth rates (covering the broad spectrum of optimistic, most likely and pessimistic outcomes) can be developed. These underlying historical volumes and forecast compound growth rates are then combined to provide the volume forecasts for the 10 year study period⁴.

As the forecast outcomes are very reliant on the rates of compound growth (and this reliance increases the longer the forecast period) it is important that a number of rates are considered. As a result most economic forecasts include upper, middle and lower estimates. For Flinders Island the inputs for these estimates have been based on the following:

- **Optimistic Case** – The growth rates provided for this case are those that are considered to be the highest, but still realistically achievable, rate of growth that could be possible for the individual types of cargo during the forecast period. This is based on a slight increase in the Island's population and income levels, continued significant growth in the livestock (cattle and sheep) business, and growth and consolidation of the fledgling tourism industry. It should be noted that improving the islands tourism offer and also the frequency, reliability and cost of transport linkages to mainland Victoria will be key to achieving this level of tourism growth.
- **Most Likely Case** – Predicts an increase in the livestock business, but not to the degree currently being forecast by some stakeholders. This case allows for reasonable growth of a range of livestock related and other agribusiness activities. In addition this option assumes robust, but not excessively strong, growth for the Island's population, personal incomes and tourism market.
- **Pessimistic Case** – This is the growth rate that would occur if the anticipated strong growth in livestock (cattle and sheep) was not achieved and this situation was combined with a sustained period of very low growth within the Island's population and personal incomes. In addition, this case also assumes that the existing tourism offer stays at the current, small scale and very niche market level.

The underlying 2008/09 historical volumes for Flinders Island (derived from **Table 4.1**) and forecast annual compound growth rates are presented in **Table 5.1** below. This shows that for the 'Optimistic Case' there is substantial growth in livestock (cattle and sheep), fertiliser, fuel and general cargo as the Flinders Island economy performs relatively strongly and mainland markets for livestock products grow. In the 'Most Likely Case' the livestock (cattle and sheep) throughputs grow, but at around half their optimistic levels, whilst the wool, fertiliser, fuel and general cargo rates of increase are also down somewhere between a third and a half. For the 'Pessimistic Case' there is only limited growth for livestock (cattle and sheep), wool, fertiliser, fuel and general cargos.

⁴ It should be noted that due to inherent limitations of the historical data and the fact that while future trends can be assessed the future cannot be fully predicted the output of forecast models become less reliable the further into the future they project. Hence they should be used to inform decision along with a range of other relevant qualitative and quantitative information.

Table 5.1 Flinders Island Cargo Volume Model Input Parameters

Type of Import / Export	Units	Underlying Historical Throughput	Forecast Model Compound Growth Rates (%)		
			Pessimistic Case	Most Likely Case	Optimistic Case
Cattle	Head	19,000	0.5	3.5	7.0
Sheep	Head	50,000	0.5	3.5	7.0
Wool	Bales	2,500	0.5	1.0	1.5
Fertiliser	Tonnes	2,700	0.5	2.5	3.5
Fuel	Kilolitres	2,600	0.5	1.5	3.5
General Cargo	Cubic Metres	8,300	0.5	1.5	3.5

Sources: Aurecon, 2009

5.1.1 Cargo Throughput Forecasts

The forecast import volume model results for the period from 2008/09 to 2018/19 are provided for key years in Table 5.2. This shows that for the Optimistic Case the throughput of material being handled by Flinders Island could increase by around 85% by 2018/19. At the other end of the spectrum the forecasts for the Pessimistic Case sees the cargo throughputs hardly changing by 2018/19 (which is expected given the very low compound growth rates provided in the model). For the Most Likely Case the forecast model results show overall cargo volumes increasing by almost 35% over the 10 year forecast period.

Table 5.2 Flinders Island Cargo Throughput Forecasts, Select Years

Type of Import / Export	Units	Forecast Port Throughput			
		2009/10	2012/14	2016/17	2019/20
Optimistic Case					
Cattle	Head	20,330	24,905	30,510	37,376
Sheep	Head	53,500	65,540	80,289	98,358
Wool	Bales	2,538	2,653	2,775	2,901
Fertiliser	Tonnes	2,795	3,098	3,435	3,809
Fuel	Kilolitres	2,691	2,984	3,308	3,668
General Cargo	Cubic Metres	8,591	9,524	10,560	11,708
Most Likely Case					
Cattle	Head	19,665	21,803	24,173	26,801
Sheep	Head	51,750	57,376	63,614	70,530
Wool	Bales	2,525	2,602	2,680	2,762
Fertiliser	Tonnes	2,768	2,980	3,209	3,456
Fuel	Kilolitres	2,665	2,870	3,091	3,328
General Cargo	Cubic Metres	8,425	8,809	9,212	9,632
Pessimistic Case					
Cattle	Head	19,095	19,383	19,675	19,972
Sheep	Head	50,250	51,008	51,776	52,557
Wool	Bales	2,513	2,550	2,589	2,628
Fertiliser	Tonnes	2,714	2,754	2,796	2,838
Fuel	Kilolitres	2,613	2,652	2,692	2,733
General Cargo	Cubic Metres	8,342	8,467	8,595	8,724

Source: Aurecon, 2009

5.1.2 Shipping Forecasts

Building upon the above, market review forecasts have also been prepared for vessel movements at Flinders Island. It should be noted that these forecasts are based on the assumption that the existing shipping fleets will continue to provide shipping services throughout the forecast period. If there were to be significant changes to this fleet then these forecasts would need to be reviewed and revised.

Using the existing shipping fleet characteristics (outlined in Table 4.3) and the cargo throughput forecasts (presented in Table 5.3) Flinders Island cargo movement forecasts by cargo type have been prepared for the Optimistic, Most likely and Pessimistic Cases and are presented in Table 5.3 below. These forecasts show that, assuming the average cargo consignment size is consistent across the forecast period, that there is the potential for significant increases in cargo movement events, particularly for livestock (cattle and sheep) cargos where, under the Optimistic Case, cargo movement events more than double by 2019/20.

Table 5.3 Flinders Island Cargo Movement Event Forecasts by Cargo Type, Select Years

Type of Import / Export	Import / Export Events by Cargo Type Per Annum				
	Historical	Forecast			
	2008/09	2009/10	2012/14	2016/17	2019/20
Optimistic Case					
Cattle	116	164	201	246	301
Sheep	72	93	114	139	171
Wool	43	55	57	60	62
Fertiliser	54	56	62	69	76
Fuel	53	55	61	67	75
General Cargo	20	292	324	359	398
Most Likely Case					
Cattle	116	158	176	195	216
Sheep	72	90	100	110	122
Wool	43	54	56	58	59
Fertiliser	54	55	60	64	69
Fuel	53	54	59	63	68
General Cargo	20	286	299	313	327
Pessimistic Case					
Cattle	116	154	156	158	161
Sheep	72	87	88	90	91
Wool	43	54	55	56	56
Fertiliser	54	54	55	56	57
Fuel	53	53	54	55	56
General Cargo	20	283	288	292	296

Source: Aurecon, 2009

It should, however, be noted that due to the substantial intermixing of cargos on the Flinders Island shipping services and the significant cargo handling differences between cargo types, the above table only provides an indication of the expected increase of cargo movement events. Therefore, Table 5.4 has been developed and provides forecasts for the overall cargo movement events, using the 2008/09 cargo movement events factored by the forecast movement event percentage growth combined for all cargo types. This shows that by 2019/20 the number of cargo movement events at Flinders Island is projected to increase by around 60% under the Optimistic Case, approximately 25% for the Most Likely Case, and about 5% for the Pessimistic Case.

Table 5.4 Flinders Island Overall Cargo Movement Event Forecasts, Select Years

	Overall Import / Export Events Per Annum				
	Historical	Forecast			
	2008/09	2009/10	2012/14	2016/17	2019/20
Optimistic Case	391	406	465	534	615
Most Likely Case	391	397	425	456	490
Pessimistic Case	391	391	396	402	408

Source: Aurecon, 2009

Using the percentage growth rates from the above cargo movement event forecasts and the approximately 205 vessel visits that Flinders Island had in 2008/09 it is then possible to prepare forecasts for vessel visits in 2019/20. These forecasts are provided in Table 5.5 and show that under the Optimistic Case vessel visits are predicted to increase to around 323 per annum, whilst a rate of 257 vessel visits are expected under the Most Likely Case. The Pessimistic Case has only a slight increase in vessel visits to 214 per annum.

Table 5.5 Flinders Island Vessel Visit Forecasts, 2019/20

	Overall Vessel Visits			
	Historical 2008/09	Forecast 2019/20		
	Annual	Annual	Monthly Average	Monthly Maximum
Optimistic Case	205	323	27	40
Most Likely Case	205	257	22	32
Pessimistic Case	205	214	18	26

Source: Aurecon, 2009

5.2 Berth Requirements and Capacity

A relatively simple analysis of the Flinders Island berth requirements has been undertaken using the information that has been collected and generated during this port and shipping market review. This analysis is based on the number of days within the year that the berths are available (which is considered to be 90% of the year or 328 due to the combination of potentially extreme Bass Strait conditions combined with the sheltered nature of the Lady Barron Port⁵) against the number of vessel visits that are anticipated within the year (and assuming that each vessel uses the berth for that day).

Table 5.5 shows that the forecast number of vessel visits never exceeds 328 during a year and hence the provision of a single berth on the island for livestock (cattle and sheep), baled products (wool), fertiliser and general cargo operations should be sufficient with appropriate scheduling and cargo handling efficiencies.

It should be noted that only under the Optimistic Case the maximum monthly visit numbers significantly exceed 30 days, however, these higher rates of cargo throughput are only required for a couple of months a year. As a result, if this Optimistic Case were to eventuate it is recommended that vessel visit scheduling or other throughput management arrangements are put in place to ensure maximum cargo throughputs on the existing port infrastructure. Land-side cargo handling and storage facilities and improved traffic circulation at Lady Barron as recommended in the Ports Vision will also assist with efficiency improvements.

⁵ Discussions with Flinders Council has indicated that the Island shipping services are only able to run around 90% of the time due to extreme weather conditions in Bass Strait. This limits the service operation, even though the Lady Barron facilities are quite sheltered.

6. Maritime Transport Requirements Identification

6.1 Review of Similar Australian and International Services

To inform this shipping service review a high level study of a limited number of other potentially similar Australian and international island shipping services has been undertaken. This study is based on internal and publicly available information and covers the following island shipping services:

- King Island (Bass Strait, Tasmania)
- Lord Howe Island (Tasman Sea, New South Wales)
- Norfolk Island (Tasman Sea, New South Wales)
- Thursday Island (Torres Strait, Queensland)
- Alderney Island (English Channel, UK)

The information that has been collated for each of these island shipping services is presented within **Appendix B** and broadly covers the island's geographical location / details, key economic sectors, transportation facilities (both air and maritime), port, shipping and stevedoring ownership / management, cargo volumes / passenger numbers, cargo handling equipment, and typical vessel details. *It should be noted that as this information has been largely obtained from publicly available sources there are a number of information gaps and omissions. Nevertheless, it still provides some useful data that can be used to inform proposals to improve on the existing Flinders Island shipping services.*

In summary the following key information can be taken from the other island shipping services that were reviewed:

- **Cargo volumes and service frequency**
 - The annual volume of general cargo, container, livestock, dry bulk, and bulk liquid that is handled by each of these small island ports ranges from approximately 13,500 tonnes for the smaller islands (such as Norfolk Island) through to 78,000 tonnes per annum for the larger islands and communities (such as Thursday / Horn Islands).
 - The average annual shipping service frequency for each of these islands also varies from once every three weeks for some of the smaller islands (again for Norfolk Island) through to weekly for those with the larger throughputs (for King and Thursday / Horn Islands).
 - Alderney Island, in the English Channel, is noted as having significantly higher numbers of shipping services (approximately two every week), however this is not matched by any of the comparable Australian island shipping services.
 - *Based on this information the current Flinders Island service frequency of weekly appears to be comparable, though the provision of additional services during peak periods may be appropriate.*
- **Vessel size, type and cargo handling arrangements**
 - The vessel size and cargo handling arrangements are heavily influenced by the vessels available on the market at the time of service development or upgrading, the existing port constraints, facilities and arrangements and overall cargo throughputs.
 - A range of vessel sizes and cargo handling arrangements are used by the reviewed small island ports. These predominately include the use of small or medium RoRo (either with stern or bow ramps) and LoLo (either with or without ship based cranes) vessels.
 - The larger vessels (LOA of 74m and above) were in use on the King Island, Lord Howe Island and Thursday / Horn Islands routes and depending on the tide conditions and port arrangements are not able to berth under all conditions.
 - The other islands all tended to use smaller vessels with a LOA in the range of 40 to 60m and a draft of 3.5m or less.
 - *On the basis of this comparable port information and the current Flinders Island cargo volumes the existing size and type of vessels that are being used on the Flinders Island*

shipping service appear to be appropriate, though there is likely to be the potential to increase the vessel size over time (if the larger vessels are supported by the port infrastructure).

- **Shipping and stevedoring service operation and ownership**
 - The vast majority of the island shipping services were delivered by private shipping operators, however one island (Lord Howe Island) had their shipping services provided by a private company that was majority owned by island residents
 - It was however not obvious that this resulted in a benefit as the vessel visiting Lord Howe island was the smallest of all vessel identified during the review (though it should also be noted that the island also had the lowest population) and had in addition the lowest service delivery frequency
 - The delivery of stevedoring services across most of the islands reviewed were generally undertaken by the same company that provided the commercial shipping services
 - The exception to this however was Norfolk Island where the stevedoring services were delivered by a Government owned organisation, rather than the commercial shipping operator
 - *On the basis of this information the existing provision of shipping services using a commercial shipping operator is reasonable, and if the island's residents wanted to own or part own the operator then this have been used elsewhere and could be considered*
 - *It should however be noted island resident ownership will require appropriate capital and ongoing investment from the island community to ensure that both an efficient and cost effective island shipping service is provided to all island residents (not just those that have a direct ownership stake in the commercial shipping operator)*
 - *It is also recommended that the commercial shipping operator continue to provide island stevedoring services*
 - *Consideration however should be given that any stevedoring services contract going forward includes requirements that competitive and timely stevedoring services are provided to any other shipping operator that may decide to visit or service the island in the future, not just the commercial shipping operators vessels / services*

- **Port facilities and arrangements**
 - All of the islands reviewed predominately used a single multi-user / product RoRo or LoLo berth for their cargo import and export activities. However, it is noted that the cargo handling standard, structural conditions and arrangements (including water draft availability) of these berths varied significantly from island to island.
 - A number of islands also had a second multi-user berth, however, in the majority of cases this second berth was predominately used for ferry / passenger focused activities rather than cargo activities.
 - This arrangement did not vary significantly whether the port had small or large annual cargo throughputs.
 - *Based on this information it is considered that an additional berth would only need to be constructed at Flinders Island, to service peak demand or improve operational arrangements.*

- **Passenger activities**
 - Significant passenger activities were only identified on the Thursday / Horn Island service and were provided on a reasonably large vessel that had been specifically designed to provide passenger services.
 - Key elements of the passenger service offer was a regular weekly sailing schedule, with reasonably consistent departure / arrival times and the provision of high quality passenger accommodation that is well separated from the vessels cargo operation / activity areas.
 - *On the basis of this information it is considered likely that the passenger component of the Flinders Island shipping service can be improved, however this will most likely require the*

modification of the existing vessels or commissioning of new vessels that have appropriate passenger facilities.

- *This may also require the provision of more services between Flinders Island and Victoria, where there is a higher potential for the generation of passenger demand.*
- **Bulk liquid activities**
 - Bulk liquid discharge activities were identified only on Norfolk and Alderney Islands with slightly different off loading arrangements for each island.
 - On Norfolk Island the bulk liquid vessels are moored offshore and the bulk liquid and gas is pumped through floating pipelines to on-shore bulk storage tanks.
 - For Alderney Island the bulk liquid vessel berth is located at the multi-user berth (which has a manifold built into the deck) and the product is pumped through a flexible hose between the vessel, manifold and on shore bulk storage tanks.
 - *Either of these two arrangements could be used at Flinders Island for the unloading of bulk liquid products, however would require the installation of appropriate supporting infrastructure (either at the existing Lady Barron Port or elsewhere). Whitemark would be unsuitable for this activity given the higher risk associated with the tidal nature of the berth and exposure to rough weather conditions.*

6.2 Flinders Island Maritime Transport Requirements

Building upon the shipping service context and information for Flinders Island and other similar islands that are outlined within the above sections we have identified a range of general and specific maritime transport requirements that needs to be addressed at Flinders Island to ensure the long term sustainability of their shipping services.

These general and specific requirements are presented in Table 6.1 below and broadly divided into:

- Infrastructure provision and maintenance (waterside, landside and access)
- Service capacity, frequency, reliability, flexibility and cost

Table 6.1 Key Flinders Island Maritime Transport Requirements

Key Maritime Transport Areas	General and Specific Requirements
Infrastructure provision and maintenance (waterside, landside and access)	
Facility Ownership and Management	<p>General Requirements</p> <ul style="list-style-type: none"> • The Flinders Island ports, and associated maritime transport assets and facilities, need to be appropriately planned, delivered, managed and maintained over the long term in order to provide ongoing support to the island’s economy and life. Key island economic products are imported through these facilities and as a result the provision of efficient and reliable port facilities and operations is considered essential for day to day island activities. • The current ownership and management structure (where by the Flinders Island ports are owned and operated by TasPorts, the Tasmanian Government owned Port Authority) is a reasonably common structure, both within the Australian and international ports sectors. This structure ensures that any required investment in port infrastructure and facilities is able to be undertaken in accordance with Government policy requirements and supported by secure financing. • Where the above structure has some issues is in regards to small scale island ports (such as those at Flinders Island) where the local community is much more aware of and interested in the ports, due to their central island life and economy role. As a result island communities often want to have significantly more say about the operation and development of their ports, that mainland communities. • A potential solution to this is to have the ports owned and managed by the Island Government, however this invariably results in the significant financial costs of port infrastructure upgrades (which are required from time to time) being predominately picked up by the island residents.

Key Maritime Transport Areas	General and Specific Requirements
	<ul style="list-style-type: none"> Hence the overall the current ownership and management structure is considered appropriate for the Flinders Island ports, however it may be appropriate for further engagement and consultation to be undertaken with Flinders Council and island residents as to the ongoing management and development of the ports.
Vessel Berths	<p>General Requirements</p> <ul style="list-style-type: none"> There is a potential requirement for upgrading the existing and/or the provision of additional commercial berths on Flinders Island. This will however depend on a mixture of issues including the port / berth cargo / passenger throughputs / numbers, vessel dwell times (at the berths), overall berth congestion and current and future visiting vessel sizes and types. Further assessment and analysis of this requirement will be required before the provision of more berths can be taken forward with more certainty. <p>Specific Requirements</p> <ul style="list-style-type: none"> General cargo / passenger / livestock– There is the potential to upgrade the existing and / or develop a new RoRo berth at Lady Barron. It should be noted that an additional berth is not required for cargo throughput but has the potential to improve the overall service reliability and efficiency, address peak demand issues (if relevant) and provide capacity for anticipated future use of larger vessels on the shipping service. Tourism / charter / fishing – The provision of low level embarking / disembarking decks and/or floating platforms at Lady Barron are required to improve the service offered to the marine tourism, charter and fishing operations on the island.
Cargo Handling and External Storage Areas	<p>General Requirements</p> <ul style="list-style-type: none"> Improved cargo handling and external storage areas are required at Flinders Island. <p>Specific Requirements</p> <ul style="list-style-type: none"> General cargo – A range of general and container cargo handling and external storage areas are required for the existing Flinders Island general cargo operations. This includes provision of container stacking ground slots (for both full and empty containers) along with the provision of general cargo and break bulk storage areas and temporary storage areas for vehicles that are being imported / exported from the island Livestock – Improved and expanded stock handling facilities are required at the Flinders Island port that is selected for upgrading. This should include increasing the stock holding capacity by at least 50% (from the currently available capacity). In addition, if Lady Barron is selected as the port to be upgraded, then the existing stock handling facilities at Lady Barron will need to be significantly rebuilt as well as expanded.
Vehicle Circulation and Operation Areas	<p>General Requirements</p> <ul style="list-style-type: none"> An appropriate area needs to provide for the operation and circulation of vehicles (cars, trucks, and cargo handling equipment) within the port operational area. This area needs to allow for a number of different activities to be undertaken at the same time and in a safe operating environment. It is also highly recommended that a high quality and level surface is provided for this area due to the cargo handling activities (including the use of forklift trucks, and the like, that are undertaken here. <p>Specific Requirements</p> <ul style="list-style-type: none"> General cargo / livestock – The vehicle circulation and operation area needs to provide an arrangement and sufficient area for the typical island trucks to turn around safely and for cargo and livestock handling activities to be undertaken. Tourism / charter / fishing – Sufficient area and arrangement needs to be provided for vehicle circulation and operations such as at all current and known future island trailer based boats can be safely and efficiently manoeuvred.
Vehicle Waiting and Parking Areas	<p>General Requirements</p> <ul style="list-style-type: none"> Truck waiting and car and car plus trailer (and possible taxi) parking areas are required at the Flinders Island ports to enable them to operate as efficiently as is reasonably possible. This should include the provision of both areas inside and outside the port operational area so that the parked and waiting vehicles do not interfere with the ongoing port operations and activities. This will also effectively separate commercial and recreational precincts.

Key Maritime Transport Areas	General and Specific Requirements
	<p>Specific Requirements</p> <ul style="list-style-type: none"> • General cargo / passenger – A truck parking and waiting area needs to be provided for trucks waiting to pick up or drop off containers being imported / exported through the port. In addition car (and possibly taxi) parking needs to be provided for people waiting for / dropping off passengers that are travelling on the general cargo vessel. • Livestock – A truck parking and waiting area also needs to be provided for trucks that are waiting to pick up or drop off livestock that is being imported / exported. • Tourism / charter / fishing – A car, car plus trailer and potentially taxi parking area is also required for passengers that are using the services of the local tourism, charter and fishing operators that use the Flinders Island ports. These parking areas would also be useable by locals using the boat ramp to launch fishing and other recreational vessels. Again the location of this area outside the commercial port area is to ensure that the parked vehicles do not interfere with the ongoing operations of the port.
<p>Offices, Facilities and Buildings</p>	<p>General Requirements</p> <ul style="list-style-type: none"> • A range of offices, facilities and buildings need to be provided at the selected Flinders Island port to ensure that the port is able to operate efficiently and under all weather conditions. • For a typical small scale port required for Flinders Island this will usually include, but not be limited to, a port management office, stevedore / shipping company office, passenger waiting room and toilet facilities, cargo storage and handling sheds, cold storage facilities / sheds, and port equipment maintenance and repair facilities (possibly within or adjacent to one of the other facilities). <p>Specific Requirements</p> <ul style="list-style-type: none"> • General cargo – An increased amount of undercover general cargo storage and handling area needs to be provided along with the provision of additional cold storage facilities (to improve the refrigerated freight operations). This could possibly be achieved through resolving contractual issues with the existing cargo storage buildings, however, additional buildings may need to be developed. • Passenger / tourism / charter / fishing – An appropriate level of passenger waiting facilities need to be provided at the selected Flinders Island port. These facilities need to be able to be used by a range of passenger and tourism based organisations and include as a minimum a waiting room and associated toilet facilities.
<p>Cargo Handling Equipment</p>	<p>General Requirements</p> <ul style="list-style-type: none"> • Small ports, like those located on Flinders Island, typically require a mixture of versatile and specific cargo handling equipment to enable the full spectrum of cargos to be quickly and safely handled. • This equipment can often include quay and mobile (tracked and wheeled) cranes, fork lift trucks, RoRo tractors and trailers, reach stackers and the like depending on the cargo types, volumes being handled and general port and berth arrangements. <p>Specific Requirements</p> <ul style="list-style-type: none"> • General cargo – Better provision of general cargo handling equipment is required at Lady Barron to ensure that berth vessels are unloaded and loaded as efficiently as possible. Currently, the cargo handling equipment is owned and operated by the individual shipping companies and they are reluctant to pool this equipment with other operators (even if the unloading / loading of their own vessels is delayed).
<p>Security and Fencing</p>	<p>General Requirements</p> <ul style="list-style-type: none"> • It is recommended that due to the potentially hazardous nature of working ports and the potential for international security requirements, that some physical security installations, including fencing, needs to be provided. • The provision of fencing and other security installations are particularly important in order to maintain separation of passengers from cargo movement areas and activities. However, it is noted that this separation needs to take into account that Islanders are currently used to ready port accessing. As a result time based rather than permanent access restrictions are recommended with the level of restriction dependant on the specific port activities ongoing a the time.

Key Maritime Transport Areas	General and Specific Requirements
<p>Utilities and Services</p>	<p>General Requirements</p> <ul style="list-style-type: none"> A range of utilities and services need to be provided at the selected Flinders Island port. These utilities and services are likely to include potable water, fire fighting equipment and water storage, single and three phase power, external area and berth lighting, sewerage (if required), and the like. Further assessment is required to identify the exact mixture of utilities and services to be provided. <p>Specific Requirements</p> <ul style="list-style-type: none"> Port lighting – The installation of lighting on the berths, jetties, and cargo / livestock handling areas of the selected Flinders Island port is required to enable port activities to be undertaken outside of daylight hours. The installation of an appropriate lighting system is expected to enable the capacity and operational efficiency of individual berths and the port as a whole to be increased prior to the development of additional / upgraded berths.
<p>Shipping and stevedoring service capacity, frequency, reliability, flexibility and cost</p>	
<p>Shipping and Stevedoring Services Ownership and Management</p>	<p>General Requirements</p> <ul style="list-style-type: none"> Both shipping and stevedoring services need to be provided in an efficient, reliable, cost effective and viable manner to ensure that the lowest service cost is passed on to island residents and businesses These shipping and stevedoring services can be delivered either separately or integrated depending on the level of cargo throughput, service delivery efficiency, mix of cargo being handled, and need to maximise competition outcomes For Flinders Island the delivery structure for these services will also need to be substantially informed by the subsidy modelling being used by the Tasmanian and Federal Governments For example a different shipping and stevedoring structure would likely to be appropriate if all the subsidies become solely cargo movement subsidies (and the same subsidy applied no matter which shipping operator carried the cargo) rather than the mix of cargo and operator subsidies currently applied <p>Specific Requirements</p> <ul style="list-style-type: none"> Shipping Service – A commercially competitive shipping service needs to be provided that is efficient, reliable, cost effective and viable. The operator that delivers this island shipping service should be privately owned and may include partial or full ownership by island residents. The services however need to be delivered along commercial principles, including the efficient and cost effective delivery of services to any island residents that are not owners. Stevedoring Service – It is recommended that the commercial shipping company should provide the island stevedoring services, however that specific third party service delivery requirements be introduced to ensure that cost effective and efficient stevedoring services are provided to other shipping operators, should they visit the island. This should remove the existing arrangement of having multiple sets of cargo handling equipment on the island and ultimately reduce the service delivery cost to island residents.
<p>Vessel capacity and arrangements</p>	<p>General Requirements</p> <ul style="list-style-type: none"> The ideal size and capacity of vessels that provide essential shipping services to islands, like Flinders Island, are typically heavily interlinked with the required shipping service frequency, cargo / passenger demand and service cost and reliability. In addition as general cargo, passenger and livestock vessels are not off the shelf products, but are constructed and delivered to order, to a large degree the existing and future vessel size operating on a small island shipping service is determined by the physical and operational limits of the berths, harbours and access routes. <p>Specific Requirements</p> <ul style="list-style-type: none"> General cargo – Needs to be a RoRo vessel that has similar dimension to those currently operating into Flinders Island. Based on the existing cargo consignment analysis these vessels also need to have handling capacities that are at least as good as those currently seen on the shipping service. This means a requirement to be able to at least handle approximately 360 bales of hay, around 175 tonnes of fertiliser, in the order of 150 bales of wool or approximately 100 cubic metres of general cargo on an individual service basis. Passenger – Where passengers are going to be transported by general cargo vessels, separate and appropriate passenger facilities are required and these need to be accessible from the berth without entering the cargo storage and handling area

Key Maritime Transport Areas	General and Specific Requirements
	<ul style="list-style-type: none"> • Livestock – Needs to be a RoRo vessel that also has similar dimensions to those currently servicing Flinders Island. Again, based on the existing cargo consignment analysis these vessels also need to have handling capacities that are at least as good as those currently seen on the shipping service. This means a requirement to be able to at least handle around 350 head of cattle or 1,300 head of sheep on an individual service basis.
<p>Service frequency, destinations and flexibility</p>	<p>General Requirements</p> <ul style="list-style-type: none"> • There are significant differences in the shipping service frequency, destination and flexibility requirements for each of the marine transport activities undertaken around Flinders Island. <p>Specific Requirements</p> <ul style="list-style-type: none"> • General cargo – For general cargo services to meet customer requirements there is a need for regular scheduled weekly, or twice weekly (if there is sufficient cargo demand) services to the mainland (either Tasmania or Victoria). There are also likely to be cost savings achieved through the sourcing of general cargo products from Victoria, however this is likely to be at least partly offset by the longer travel times and hence higher transport costs. • Passenger – For passenger services to be sustainable, regular scheduled services will be required. These services need to operate on a time clock basis (ie, leave within a relatively small window of their scheduled departure time). They will also ideally be significantly more than weekly or fortnightly, as is the current arrangement. It is also considered possible that a service to Victoria could be more popular (due to access to a higher population catchment), however this may be offset by the additional transport duration and costs. Further evaluation (which is outside the scope of this study) will be required to fully assess the viability and seasonality of these options. • Livestock – Livestock services need to operate as an on demand service, as is currently the case.
<p>Service cost and reliability</p>	<p>General Requirements</p> <ul style="list-style-type: none"> • There is a general requirement for all the Flinders Island shipping services to meet certain levels of affordability (ie, cost minimisation) and reliability. • The shipping service cost requirement is currently being achieved through the application of a range of Federal and State Government transportation subsidies. It has however been identified, by a number of stakeholders, that there are a number of inconsistencies / issues with how these are applied. As a result significant costs are incurred by island businesses and consumers, over and above those on the mainland. • Currently the shipping service reliability requirement is being achieved through the appointment of a shipping service provider that has two vessels that are able to service Flinders Island. Whilst for the vast majority of the time during the last decade or so this has achieved the required service reliability it has failed on at least two occasions. The first was when one of the vessels ran aground on approach to Lady Barron and the second was when one of the vessels was out of service for a total period of around six weeks. • As a result further analysis and evaluation needs to be undertaken to ensure that going forward the Flinders Island shipping service meets cost and reliability levels.

Source: Aurecon, 2009

7. Possible Shipping Service Model Alternatives and Modifications

On the basis of the information discussed above an alternative Flinders Island shipping service model, along with some potential modifications of the existing model have been identified and are presented below.

7.1 Suggested Shipping Service Model, Vessels and Fleet

Consideration has been given to what other shipping service delivery model could be potentially viable at Flinders Island and also what are the vessel and fleet requirements.

7.1.1 Alternative Shipping Service Model

Existing Shipping Service Model

From the publicly available information on the Flinders Island shipping service contract Southern Shipping has a fixed term contract with the Tasmanian Government for the provision of island shipping services. This contract requires, in return for an ongoing partial operational subsidy, that the business delivers a range of shipping services to the island at agreed rates. Southern Shipping is able to provide additional services to the island, however these are outside the contractual arrangement and are at market rates.

Other commercial shipping operators, such as LD Shipping, are able to provide market rate services to the island, however they need to use their own stevedoring equipment (where required) for the provision of these services).

In addition a range of Federal Government financial subsidies are available to support the movement of goods and passengers between Flinders Island, Tasmania and mainland Australia. These are partial subsidies and are applied directly to the goods and passengers being moved, rather than the shipping service undertaking the movement.

Alternative Shipping Service Model

Rather than the Tasmanian Government applying a partial operational subsidy to a commercial shipping operator for the provision of Flinders Island shipping services it is suggested that moving to a completely goods and passenger movement subsidy arrangement could be considered as an alternative. Some of the potential benefits that could be derived from moving to this type of shipping service subsidy model may include:

- Enabling market forces (within reason) to be the key driver the delivery and usage of the Flinders Island shipping service. If the model was properly developed and implemented a balanced and competitive market for Flinders Island shipping services could be provided (within the bounds possible).
- Removes the requirement for the Tasmanian Government to 'pick the winner' in regards to the provision of Flinders Island Shipping Services. The organisation that is best placed to deliver reliable, efficient and cost effective services would (if properly implemented) benefit most from the subsidy.
- Provides an opportunity to rebalance the subsidy towards cargoes that are considered most critical by the Island community (such as fuel) from cargoes that are considered secondary. In this way the subsidy could also address some of the gaps, as considered by Flinders Island business and population, in the Federal Government cargo movement subsidies.

The development of this alternative shipping service subsidy arrangement however would need to be carefully thought out to ensure that it fully meets both the Flinders Island community and Tasmanian Government needs, and also does not have any unintended consequences. In particular though would need to be given to the delivery of stevedoring services under this model and how this model ensures shipping service reliability and continuity.

7.1.2 Shipping Service Vessels and Fleet

From the cargo type, annual cargo throughput and regularity and reliability of service perspectives the current type (single hull RoRo) and size of vessels (ranging between 35 to 55m in length) that are servicing Flinders Island appear to be generally reasonable. These vessels are commonly used for the delivery of shipping services to islands similar to Flinders Island and are generally well known and regarded within the maritime transport industry.

There may be opportunities to operate alternative vessels on the service, such as twin hull and/or Load on – Load off (LoLo) vessels, however careful consideration would need to be given to the port facility alterations and additional equipment that may be required to support the successful operation of these vessels. This could include the need to make modifications to the existing jetty and stern ramp platform, a requirement for a new jetty / RoRo berth, and/or the purchase mobile cranes and other new cargo handling equipment. This would particularly be the case if a mixture of significantly different types of vessel were to regularly operate services to the island.

Likely to be of more importance is the underlying need that a number of vessels are available to provide shipping services to Flinders Island at any point in time in order to provide service delivery robustness and meet peak transport demand. From recent island experience it appears that there needs to be at least two (2) vessels available to provide the island shipping services throughout the year with a third vessel being required during the peak livestock movement periods.

Recently these vessel numbers have been achieved by the combination of Southern Shipping and LD Shipping, however serious transport delays were caused when one of the Southern Shipping vessels was unavailable for a significant period during the peak livestock movement period. As a result the reliability and continuous availability of vessels for the provision of shipping services is also paramount.

7.2 Existing Model Potential Modifications

If the existing Flinders Island shipping service model was to be retained there are a range of major and minor model modifications that could be considered. It should be noted that these modifications are all focused around tweaking the existing model to improve the service delivery reliability, efficiency and cost effectiveness, rather than changing the overall model arrangement.

7.2.1 Potential Major Modifications

- **Option 1 Separate the contractual provision of general cargo / passenger and livestock shipping operations**
 - There is a lot more consistency of service required for the provision of the general cargo / passenger services (which are regular weekly services) to Flinders Island than the agricultural based cargo movement activities (which are based on cargo demand and vary significantly from month to month and season to season).
 - As a result the separation of the contracted services into a core / routine general cargo / passenger service has the potential to provide the opportunity for more competition on the agricultural focused cargo services.
 - The potential down side for this option is that there could be reduced opportunity for the shipping operators to backload with general cargo on the second leg of the journey. There is not however currently enough data to be able to assess if this would significantly effect service delivery costs.

- **Option 2 Inclusion of additional livestock services within the contracted services**
 - It is understand that majority of the contracted services are focused on the general cargo / passenger, rather than the livestock, services as these are provided to a regular service schedule.
 - If this is the case then there is the potential to include more livestock services within the contracted services, particularly given the high importance of livestock exports for the Flinders Island economy.
 - For this to change to be incorporated more livestock shipping data would need to be collected in order to identify the reasonable minimum annual shipping level (to include within the contract) and the contract would then need to be revised to included this, along with appropriately management arrangements.
- **Option 3 Consider other Tasmanian and Victorian ports for the contracted general cargo / passenger shipping services**
 - Some of the issues with the existing Flinders Island shipping services are associated with the Tasmanian port of origin / destination (Bridport) and the fact that services to mainland Victoria are very irregular.
 - These issues could be addressed through the consideration of other Tasmanian and Victorian ports as the base for the contracted general cargo / passenger shipping services.
 - This would however need to be considered further in more detail as other factors are likely to also be important and given that the subsidy is provided by the Tasmanian Government there is also the significant potential that they may not be keen to provide it to services between Flinders Island and Victoria.
- **Option 4 Consider / trial a high season passenger / vehicle shipping service**
 - A trial of the provision of additional high season passenger / vehicle shipping services to Flinders Island could be considered. The most appropriate window for these services may be between October and March, and could potentially be delivered using general cargo vessels and align with the increased baled product cargo throughput identified during these months.
 - In order to maximise the tourism potential of these services they ideally need to include Victorian origin / destinations and be at least weekly, if not more often. This would need to be developed in consultation with the Flinders Island Tourism Association (FITA).

7.2.2 Potential Minor Modifications

- **Option 5 Inclusions of minimum vessel / fleet availability within the contracted services**
 - Based on the limited contract information available to date there does not appear to be minimum vessel / fleet availability requirements within the existing contract.
 - To address this issue additional requirements could be introduced into the contract to ensure that a minimum level of vessel / fleet availability is provided throughout the contract period.
 - It should be noted that this availability could vary across the year with a higher vessel / fleet availability being required during the peak livestock movement period and the rest of the year.
 - Under this arrangement you may find that the operator contracts in another operator or vessel to support their peak period operations.
 - The availability clauses within the contract could also include minimum vessel down time and repair requirements, with financial and/or contract renewal penalties if not achieved.
- **Option 6 Include standard rates for the supply of contracted general cargo handling equipment and stevedoring services to other shipping operators**
 - Currently there are cargo handling inefficiencies that are occurring on the shipping services to Flinders Island because the two companies operating services use different equipment that has different handling capacities and they are not willing to share (with an appropriate cost recovery model) this equipment with each other.

- Hence, there is the potential to include standardised cargo handling equipment rates and arrangements within the service supply contract that would make cargo handling arrangements more transparent and, if structured appropriately, result in increased efficiencies with these activities and potentially lower costs to users of the ports services.
- **Option 7 Require vessel passenger facilities upgrades and access modifications as part of contractual provision**
 - The current passenger facilities provided on the Southern Shipping general cargo vessels visiting Flinders Island are not considered to be of an appropriate standard, particularly with respect to separation of passenger access and cargo handling activities.
 - New requirements should be introduced, to ensure higher quality passenger facilities and access that is separated from the cargo handling areas is introduced when the contract comes up for renewal.

7.3 Conclusions

All of the above alternatives, information and modifications have the potential to improve the shipping service that are provided to Flinders Island, however, the value for money, reliability and efficiency of each modification is likely to vary depending upon the model development and implementation. In addition, care needs to be taken that unexpected consequences do not result, such as impacts on other Flinders Island transport services. As a result, significant further assessment and consideration of all alternatives, information and modifications are likely to be required if they are ultimately identified as being of interest to Flinders Council.

8. Potential Socio-Economic Impacts

The delivery of improved shipping services to Flinders Island is likely to result in a range of socio-economic impacts. Whilst the largest impacts will be felt by the Flinders Island community and businesses, it is also likely that a number of impacts, both positive and negative will impact on external parties. A preliminary qualitative assessment of the potential impacts to the Flinders Island community and business has been undertaken for this commission.

This assessment identified the following as key potential socio-economic impacts that are likely to result from the provision of improved shipping services (and associated port development improvements / operational changes):

- **Social**
 - ***Increased service reliability and frequency***
 - An increase in the Flinders Island shipping service reliability and frequency is likely to result in an increased feeling of connection and support for the Island's community, which would be enhanced if these connections are provided to both Tasmanian and Victoria. Shipping service frequency and certainty is particularly important for island communities due to potential of the geography to increase the sense of isolation.
 - ***Broader passenger transportation options***
 - The introduction of a broader range of passenger transport options to the island, even if only during the summer season, will also have positive flow on social impacts. This will provide Island residents, and also visitors, with a wider range of mode, origin / destination, time, duration and capacity options when they consider their transport requirements.
 - ***Improved community access and ownership***
 - Depending on the options chosen for the improvement of the shipping service model there is also the potential for more direct community ownership and involvement in elements of the service delivery, though this still needs to be on a commercial basis.
 - It was noted the shipping services provided to at least one of the comparative islands was by an island owned business. This however was not the predominate model identified, with the majority using externally based commercial shipping companies.
- **Economic**
 - ***Increased transportation efficiencies and reduced costs***
 - The provision of an improved and more cost effective shipping service to Flinders Island will have a significant direct economic impact on the local community and businesses, particularly agriculture.
 - Shipping services are the lifeblood of island economies and communities and hence any improvements in efficiencies and the resultant cost reductions that are passed on, will have positive economic impacts.
 - ***Reduced damaged goods costs***
 - The provision of improved cargo discharge and loading equipment and arrangements, along with associated storage facilities, should minimise the volume of goods that are lost during transportation due to damage.
 - It should be noted that for some cargo types even small losses, on a volume basis, can result in significant costs being incurred. Hence, the reduction of these losses will result in positive economic outcomes which can provide overall benefit to the Flinders Island economy.

- ***Indirect and induced economic activity and employment***
 - Improved transportation services will also result in a range of indirect and induced economic activity on Flinders Island due to increased business viability and the growth of key and emerging sectors of the Island's economy.
 - This is also likely to result in increased employment opportunities on the Island and the associated improvements to local incomes and expenditure.
 - The key Island economic sectors that are most likely to see indirect and induced benefits include agriculture, tourism, fisheries and forestry, particularly the significant livestock (cattle and sheep) operations and associated supporting businesses located, and retail, accommodation and food (in response to an improved tourism offer).

9. Concluding Remarks

This study has undertaken a broad and high level assessment of the shipping needs of Flinders Island, that has been informed by qualitative reviews of the current island economic drivers, the existing shipping services being provided, and the available port infrastructure. This assessment has included the identification of the key island maritime transport issues and requirements, analysis of the existing and available cargo and vessel data, the development of 10 year cargo, vessel and berth forecasts, and consideration of possible shipping service model alternatives and modifications.

Based on all of these assessments the following concluding remarks and recommendations are provided:

- **Existing Lady Barron Port facilities**
 - The existing port facilities that are provided at Lady Barron are considered broadly appropriate for the current Flinders Island cargo handling needs. However, a number of improvements are required to achieve the most efficient port operations.
 - Key requirements include the provision of significantly improved landside operational areas and where possible the segregation of incompatible cargo types (such as livestock, general cargo and passengers).
 - A range of waterside improvements are also recommended to increase the capacity of the existing facilities, such as the installation of port lighting to enable loading and unloading activities to be undertaken at night.
- **Additional Lady Barron berths**
 - On the basis of the current cargo throughputs and vessel visits it is considered unlikely that a second berth is currently required within the next ten (10) years from a capacity perspective. However if developed it would help to achieve the segregation of the incompatible cargo types identified above.
 - Therefore, allowance should be made for a second berth within any masterplan that is developed for the Lady Barron port as this will provide maximum flexibility for future port operations and infrastructure provision.
- **Possible alternative shipping service model**
 - Rather than the Tasmanian Government applying a partial operational subsidy to a commercial shipping operator for the provision of Flinders Island shipping services it is suggested that moving to a completely goods and passenger movement subsidy arrangement could be considered as an alternative.
 - Some of the potential benefits that could be derived from moving to this type of shipping service subsidy model may include:
 - Enabling market forces (within reason) to be the key driver the delivery and usage of the Flinders Island shipping service.
 - Removes the requirement for the Tasmanian Government to 'pick the winner' in regards to the provision of Flinders Island Shipping Services.
 - Provides an opportunity to rebalance the subsidy towards cargoes that are considered most critical by the Island community (such as fuel) from cargoes that are considered secondary.
 - The development of this alternative shipping service subsidy arrangement however would need to be carefully thought out to ensure that it fully meets both the Flinders Island community and Tasmanian Government needs, and also does not have any unintended consequences.

- **Existing shipping service model improvements**
 - If the existing Flinders Island shipping service model was to be retained there are also a range of major and minor model modifications (focused on improved service delivery reliability, efficiency and cost effectiveness) that could be considered.
 - A wide range of improvements could be considered, however the key improvements are likely to include the separation of the contractual provision of general cargo / passenger and livestock operations, inclusion of additional livestock services within the contract, inclusion of minimum vessel / fleet availability within the contract, and the inclusion of standard stevedoring rates within the contract.
 - It should be noted that some of these potential improvements are mutually exclusive (such as those related to livestock services), whilst others could be delivered as an integrated package.
 - All of these have the potential to improve the level of service provided to Flinders Island, however again they will also all need further assessment to ensure that any unexpected consequences do not result.

- **Shipping service vessels and fleet**
 - From the cargo type, annual cargo throughput and regularity and reliability of service perspectives the current type (single hull RoRo) and size of vessels (ranging between 35 to 55m in length) that are servicing Flinders Island appear to be generally reasonable.
 - There may be opportunities to operate alternative vessels on the service, such as twin hull and/or Load on – Load off (LoLo) vessels, however careful consideration would need to be given to the port facility alterations and additional equipment that may be required to support the successful operation of these vessels.
 - Likely to be of more importance is the underlying need that a number of vessels are available to provide shipping services to Flinders Island at any point in time in order to provide service delivery robustness and meet peak transport demand.
 - From recent island experience it appears that there needs to be at least two (2) vessels available to provide the island shipping services throughout the year with a third vessel being required during the peak livestock movement periods.

Appendix A

Project Brief

OPTIMAL SHIPPING SERVICE ANALYSIS

Introduction

Shipping services to Flinders has major impacts on the economy, livability and social well being of the municipality. Council considers the provision and maintenance of a reliable, affordable and consistent shipping service paramount to the social and economic future of the region.

Given recent representations from the Council to the Minister of Infrastructure and Secretary of DIER and the current state of shipping services to the region, the time is right to gather independent knowledge on the shipping requirements of the region to influence decision making and demonstrate a complete understanding of current and future shipping needs of the region.

SCOPE OF SERVICE

The Aim

The aim of the analysis will be to assess the optimal shipping needs of the municipality, now and in the future and provide a clear, succinct report identifying the optimal shipping service for the region.

The Analysis

The analysis will be undertaken in conjunction with the Ports vision study, as it is envisaged that there will be significant cross over in information gathered whilst the vision study is conducted.

Tasks

The consultant will analyse the shipping requirements of the following areas in consideration of an optimal shipping service for the region. However, the consultant should not be limited to these areas.

- Primary production ie agriculture;
- Retail;
- Manufacturing ie abattoir
- Construction;
- Energy ie fuel imports;
- Wharfage capacity (optimum);
- Tourism, potential passenger service;
- Ship sizes and configurations;
- Best practice operating models that best suit ie consideration of Flinders based ships;
- Best practice ownership models that best suit;
- The economic development impacts, that is the potential for job and investment creation from an optimal shipping service; and
- The social impacts of an optimal shipping service.

Outputs

It is expected that the consultant will provide a stand alone report on the optimal shipping service with recommendations backed with results from the analysis.

Outcomes

This analysis will have several strategic benefits.

1. In conjunction with the current port study, it will provide the “shipping services” analysis that will bring together the optimal shipping service with the optimal port configurations;
2. Provide the Council with independent knowledge to enable it to provide the State Government with definitive information on the quality, frequency and capacity of the required optimal shipping service;
3. Assist in long term planning for the future requirements of the region; and
4. Provide input to the development of a strong economic development and attraction strategy (to be developed separately).

Appendix B

Island Shipping Services Information

Background Data on Similar Island Shipping Services

Island Name and Country or State	Distance from Mainland (km)	Land Area (km ²)	Island Population Size	Key Economic Sectors	Airport on Island	Port and Port Authority	Shipping Operator / Stevedore(s)	Typical Vessel Visits (Per Annum)	Typical Cargo / Passenger Throughput (Per Annum)	Berth Details	Cargo Handling Details	Typical Vessel Details
Alderney Island (UK)	England – 97km Guernsey – 32km France – 16km	8km ²	2,400	Finance, Construction, Government, and Tourism	Yes	Port – Commercial Quay Port Authority – States of Alderney (Island Government)	<ul style="list-style-type: none"> General and Dry Bulk Cargo – Alderney Shipping Group (Private) Bulk Liquid – Alderney Electricity Limited / James Fisher Everard (Private) Passenger Ferries – Manche-Iles Express (Private, Partial French Government Financial Support) 	<ul style="list-style-type: none"> General Cargo – 105 (approximately 2 a week) Dry Bulk – 10 (only during summer months) Bulk Liquid – 9 (spread out throughout the year) Passenger Ferries – 62 (only during summer months) 	<ul style="list-style-type: none"> General Cargo – 11,000t Dry Bulk – 6,600t Bulk Liquid – 4,600t Passengers – 5,700 people 	Commercial Quay <ul style="list-style-type: none"> Two adjacent multi-user / product berths (70m + 45m berth lengths) No Ro-Ro ramp (all cargo handled with mobile or ships gear) Manifold for bulk liquid (power station fuel oil) discharge Two low level access platforms for passenger usage (6.9m tidal range) Minimum water depth of 3.5m 	General Cargo / Dry Bulk <ul style="list-style-type: none"> 20t wharf cargo crane (on tracks) 12t fork lift truck 2.5t fork lift truck 1.5t fork lift truck Bulk liquid <ul style="list-style-type: none"> Manifold and pumping system to power station 	<ul style="list-style-type: none"> General Cargo / Dry Bulk – LoLo Coaster (24 TEU), 953 DWT, 57.5m LOA, 3.4m Draft, 10.0m Beam, Limited Passengers Bulk Liquid – Tanker, 3,027 DWT, 80.0m LOA, 5.6m Draft, 14.6m Beam Passenger – Ferry, 608 GRT, 40.0m LOA, 1.7m Draft, 10.1m Beam, 356 Passengers
Flinders Island (Tasmania)	Tasmania (Bridport) – 115km Victoria (Port Welshpool) – 210km	1,300km ²	900	Agriculture, Forestry and Fishing	Yes	Ports – Lady Barron and Whitemark Port Authority – TasPorts (Tasmanian Government)	<ul style="list-style-type: none"> General Cargo, Passenger and Livestock (Contracted) – Southern Shipping (Private, Partial Tasmanian Government Financial Support) General Cargo (Non Contracted) – LD Shipping 	<ul style="list-style-type: none"> General Cargo / Passenger (Contracted) – 52 (once weekly) General Cargo (Non Contracted) – on demand Livestock – varies throughout year (approx 94) 	<ul style="list-style-type: none"> General Cargo – 171 import, 91 export Livestock – 36 import, 152 export 	Lady Barron <ul style="list-style-type: none"> One multi-user / product berth (currently accommodates vessels up to 52m long) 5-6m wide RoRo ramp at end of berth No bulk liquid discharge or passenger loading / unloading facilities Minimum water depth of 6.1m Whitemark <ul style="list-style-type: none"> One multi-user / product berth (45m long) 4m wide RoRo ramp at end of berth No bulk liquid discharge or passenger loading / unloading facilities Port is dry for 50% of the tide 	General Cargo (Contracted) <ul style="list-style-type: none"> Fork lift truck Passengers <ul style="list-style-type: none"> Via RoRo General Cargo (Non Contracted) <ul style="list-style-type: none"> Fork lift truck Livestock <ul style="list-style-type: none"> Cattle race and yards General Comment <ul style="list-style-type: none"> Cargo Handling equipment owned and operated by individual operators and they are reluctant to pool this equipment 	<ul style="list-style-type: none"> General Cargo / Passenger / Livestock (Contracted) – Small Rear Loading RoRo, 300 DWT, 43.0 LOA, 2.1m Draft, 10.8m Beam, 8 Passengers General Cargo (Non Contracted) – Small Front Loading RoRo, DWT, 52.8m LOA, 3.5m Draft
King Island (Tasmania)	Tasmania (Devonport) – 250km Victoria (Melbourne) – 250km	1,100km ²	1,700	Agriculture, Fishing, and Tourism	Yes	Port – Grassy Port Port Authority – King Island Ports Corporation, a TasPorts subsidiary (Tasmanian Government)	<ul style="list-style-type: none"> General Cargo / Containers – Searoad Shipping (Private) 	<ul style="list-style-type: none"> General Cargo / Containers – 52 (once weekly) 	<ul style="list-style-type: none"> General Cargo – 34,000t Containers – 7,500 TEU (included in general cargo weight) 	Grassy Port <ul style="list-style-type: none"> One multi-user / product berth (83m long + berthing dolphin 20m further along berth line) 20m wide RoRo ramp at end of berth No bulk liquid or passenger facilities Minimum water depth of 6.1m 	General Cargo <ul style="list-style-type: none"> Unknown 	<ul style="list-style-type: none"> Current General Cargo – Large Rear Loading RoRo (Unknown, 7,930 GWT, 120m LOA, 5.5m Draft, 18.5m Beam, No Passengers) Proposed Future General Cargo – Large Rear Loading RoRo (Unknown), 30,000 GWT, 190m LOA, 8.8m Draft, 28m Beam, No Passengers

Island Name and Country or State	Distance from Mainland (km)	Land Area (km ²)	Island Population Size	Key Economic Sectors	Airport on Island	Port and Port Authority	Shipping Operator / Stevedore(s)	Typical Vessel Visits (Per Annum)	Typical Cargo / Passenger Throughput (Per Annum)	Berth Details	Cargo Handling Details	Typical Vessel Details
Lord Howe Island (NSW)	New South Wales (Yamba) – 600km	56km ²	350	Tourism	Yes	Port – Lord Howe Island Jetty Port Authority – Lord Howe Island Board (Island Government)	<ul style="list-style-type: none"> General Cargo – Lord Howe Island Sea Freight (Private – Majority ownership by island residents) 	<ul style="list-style-type: none"> General Cargo – 24 to 26 (around once fortnightly) 	<ul style="list-style-type: none"> General Cargo - Unknown 	Lord Howe Island Jetty <ul style="list-style-type: none"> One multi-user / product berth for use by LoLo vessels with their own gear 	General Cargo <ul style="list-style-type: none"> 8t capacity ships crane Unknown fork lift truck 	<ul style="list-style-type: none"> General Cargo – Small LoLo Coaster (Unknown, Ships Gear), Unknown DWT, Unknown LOA, Unknown Draft, Unknown Beam, Unknown Passengers
Norfolk Island (NSW / NZ)	New South Wales (Yamba) – 1,400km New Zealand (Auckland) – 1,100km	35km ²	2,100	Tourism	Yes	Ports – Kingston and Cascade Jetties Port Authority – Administration of Norfolk Island (Island Government)	<ul style="list-style-type: none"> Stevedoring – Norfolk Island Lighterage Service (Government) General Cargo – Norfolk Island Shipping (from Australia) and Pacific Direct Line (from NZ) Bulk Liquid and Gas – Unknown 	<ul style="list-style-type: none"> General Cargo – 19 (once every three weeks) Bulk Liquid and Gas – Unknown 	<ul style="list-style-type: none"> General Cargo – 13,500 tonnes (no containers) Bulk Liquid and Gas – Unknown 	Cascade Jetty <ul style="list-style-type: none"> One multi-user / product berth (25m length) for use by small lighters / launches Usable only under certain weather and water conditions Minimum water depth of 1.0m Kingston jetty <ul style="list-style-type: none"> One multi-user / product berth (150m length) for use by small lighters / launches Usable only under certain weather and water conditions Minimum water depth of 0.65m 	General Cargo <ul style="list-style-type: none"> Vessels moor around 1km offshore Cargo is unloaded by ship based equipment into 8m long lighters for transport to the jetty 16 tonne mobile crane used on jetty to handle cargo Bulk Liquid and Gas <ul style="list-style-type: none"> Vessels moor offshore in Ball Bay Bulk liquid and gas is pumped through floating pipelines Bulk storage tanks provided on island 	<ul style="list-style-type: none"> General Cargo – Medium LoLo Coaster (96 TEU, Ships Gear), 2,430 DWT, 76.3m LOA, Unknown Draft, 11.6m Beam, Unknown Passengers Bulk Liquid and Gas – Unknown
Thursday / Horn Islands (QLD)	Queensland (Cairns) – 800km	3.5km ²	2,700	Fishing and Tourism	Yes	Ports –Port of Thursday Island (Port Kennedy) Port Authority – Far North Queensland Ports Corporation (Government)	<ul style="list-style-type: none"> Passenger and general cargo – Sea Swift (Private) 	<ul style="list-style-type: none"> General Cargo / Passengers – 52 (once weekly) 	<ul style="list-style-type: none"> General Cargo – 78,000 tonnes 	Port of Thursday Island <ul style="list-style-type: none"> Port consists of three multi-user jetties / berths <ul style="list-style-type: none"> Main Wharf – General cargo activities Engineers Wharf – Ferry passengers Caltex Wharf – vessel bunkering and refuelling Minimum water depth of 3.0m 	General Cargo <ul style="list-style-type: none"> Cargo is unloaded by a mixture of ships based and mobile equipment Medium LoLo Coaster has 30t ship based crane Passengers <ul style="list-style-type: none"> Separate passenger access to vessel 16 cabins / 48 berths (some with ensuite facilities) Dinning / recreation room / outside deck / restaurant / bar 	<ul style="list-style-type: none"> General Cargo / Passengers – Medium LoLo Coaster (125 TEU, Ships Gear), 3,200 DWT, 81.0m LOA, 5.7m Draft, 15m Beam, 38 Passengers General Cargo – Small Front Loading RoRo (26.5m x 12.6m deck and 5.7m x 6.6m ramp, Ships Gear), 608 DWT, 45.1m LOA, 3.0m Draft, 13.2m Beam

Please note: 1. All of the above information should be considered as indicative only as it has been obtained from publicly accessible information sources (via the internet). No attempt has been made to verify the accuracy or otherwise of this information and it hence should be treated with appropriate caution.
2. Where information was not readily available it has been identified with 'Unknown'. At this stage this information is will not be chased up further.