SMITH BAY WHARF

DRAFT ENVIRONMENTAL IMPACT STATEMENT

APPENDIX Q

PREPARED FOR KANGAROO ISLAND PLANTATION TIMBERS BY ENVIRONMENTAL PROJECTS

JANUARY 2019

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APPENDIX Q – SOCIAL ENVIRONMENT

Appendix Q1 – Social Environment Assessment

1. INTRODUCTION

This report presents the identification, analysis and assessment of social impacts from the proposed Kangaroo Island Plantation Timbers (KIPT) deep-water port facility (referred to as the KI Seaport), at Smith Bay Kangaroo Island. The report assesses direct and indirect impacts that affect people and their communities.

The South Australian government considers that the proposal would generate extra employment and therefore a potential increase in Island population both during construction and operation. They also acknowledge that increased population would likely have positive impacts for regional community groups and sporting clubs, however there would be impacts on the demand for housing and service provision. The social impact assessment provides further information on housing and services requirements for the State Government's consideration in future planning.

The report also aims to identify other key matters, in addition to those mentioned above, which could be used to measure or monitor change as a result of the proposed development for:

- workforce management
- local business and industry procurement
- health and community wellbeing.

1.1 Objectives

Objectives of the social impact assessment were to:

- describe the existing social conditions and trends
- outline the demographic profile, community characteristics, land use and key industries, education, health, emergency services, housing and accommodation, workforce, and other resource and infrastructure projects planned or operating, relevant to the proposed development, in the context of the local and wider region of Kangaroo Island
- identify potential impacts, both positive and negative, that may result from the proposed development
- provide an overview of possible mitigation measures that can assist in minimising impacts and maximise benefits
- ultimately provide preliminary information for further consideration by government agencies who need to plan and support people and their communities.

1.2 Background

In October 2016, KIPT applied to the South Australian Government to develop a deep-water port at Smith Bay to transport harvested timber from Kangaroo Island to markets overseas.

In February 2017 the proposal was awarded major development status under section 46 of the *Development Act 1993* (SA). As a result, KIPT is required to provide detailed information in compliance with South Australian Development Assessment Commission's (DAC's) Guidelines for an Environmental Impact Statement (EIS). KIPT must answer questions raised, assess aspects defined and develop plans specified in the guidelines and submit its responses as part of an EIS.

Environmental Projects was commissioned by KIPT to prepare the EIS.

2. REGIONAL SETTING

The study area and proposed development site is approximately 20 km west from Kingscote, Kangaroo Island's largest township. The closest populated area is approximately 10 km to the west at Emu Bay.

Commercial aquaculture, farming and sparsely populated rural living exists in surrounding land to the study area. One tourism business, offering bed and breakfast accommodation, is located approximately 2 km to the south-east of the neighbouring land-based Yumbah Aquaculture farm (Yumbah).

There are no Aboriginal heritage sites listed under the *Aboriginal Heritage Act 1988* within the study area, although their absence does not eliminate the possibility that such sites do exist. There are currently no active native title claims or Indigenous Land Use Agreements (ILUAs) held over Kangaroo Island.

The first known Europeans to visit Smith Bay were a party of sealers from Sydney in 1824. Agricultural settlement probably began near Smith Bay in the 1850s. There are no listed heritage places within the study area. Four shipwrecks (Chum, Vectis, Ruby and Cookaburra) are recorded in the vicinity of Smith Bay, though exact locations of the shipwrecks (or where they were) are unknown.

Social impact assessments are generally of a regional scale, which is appropriate here given that the KIPT project affects the wider Kangaroo Island community. However, specific attention is paid to potential impacts on neighbours (who live in a rural setting),farmers who use adjacent land for grazing and cropping and Yumbah, which uses marine waters for its land-based operation adjacent to the proposed site.

3. ASSESSMENT METHODS

3.1 Social and Community Profile

The baseline profile of the existing social environment was prepared using:

- an analysis of quantitative data from the ABS, government departments and other sources
- a review of available community reports, agency plans, and planning documents relating to the socio-cultural and economic environment of the study area
- a review of the social services and facilities available in local townships that may be affected by the proposal, based on publicly available information and discussions with local service providers
- review of other technical reports prepared for the EIS, that are considered relevant to the social aspects of the proposed development, including:

    an assessment of the risks to the social environment associated with the proposed development

    an economic assessment of the proposed development on Kangaroo Island communities

    a visual amenity assessment of the proposed development

    a cultural heritage assessment including an underwater cultural heritage assessment

    objective data from authoritative public sources such as the ABS.

3.2 Community and Stakeholder Engagement

Community and stakeholder engagement was undertaken by both KIPT and Environmental Projects with relevant outcomes considered in assessing the social impacts of the proposal.

Kangaroo Island Plantation Timbers

In May 2017, KIPT appointed a Kangaroo Island resident as Director of Community Engagement, with responsibility for:

- seeking and understanding community concerns
- providing project information to the community
- ensuring KIPT can provide feedback
- promoting effective collaboration and cooperation.

A comprehensive stakeholder consultation and engagement strategy was developed, incorporating but not limited to:

- investor relations
- sponsorships, such as contributing to community funds, environmental programs and community events
- community engagement such as participation at community events, presentation to business and industry groups and the distributing of news letters
- establishing an office at Kingscote, which is open to the public
- engaging with all levels of government
- providing public access to KIPT's forestry plantations

  engaging with other forestry plantation owners on Kangaroo Island.

Environmental Projects

Environmental Projects adopted an 'inform and consult' approach to stakeholder consultation and engagement:

- **Inform:** providing balanced and objective information to help stakeholders understand the proposed development, the EIS work, the approvals process and the opportunities for stakeholders to provide feedback.
- **Consult:** obtaining feedback about the proposal which can be considered as part of the EIS, and identifying stakeholders who should be approached to provide formal written submissions during the public consultation process.

Separately and independently of KIPT, Environmental Projects undertook its own stakeholder and community engagement activities, which included:

- developing, maintaining and monitoring an EIS website <www.smithbayeis.com>
- providing and updating website fact sheets and notices regarding the processes and scope of the EIS, and findings of studies and surveys undertaken as part of the EIS
- convening a Stakeholder Reference Group (SRG) – a workshop to obtain invited group members' views,
- continuing to engage with participants

- working with neighbours of the development site to provide site access for various studies/surveys, and responding to requests for information and recording concerns and feedback
- identifying whether Traditional Owners exist and consulting with Indigenous stakeholders and other Aboriginal organisations or groups
- distributing postcards that welcome feedback, while publicising the EIS website
- replying to questions emailed via the website or otherwise raised (and referred on) as a result of KIPT's own engagement efforts
- engaging with government officers at the assessment level of various government agencies and departments as part of preparing the EIS
- working with KIPT to understand concerns raised during the company's engagement and consultation with the community, industry, business and government.

The purpose of the EIS team's engagement process was to:

- properly interpret the DAC Guidelines for preparation of the EIS
- ensure impact assessment studies and data collection did not impact neighbours of the Smith Bay site
- explain the EIS process, the details of the proposed development and how the community can comment
- obtain early feedback on the proposed development which can be considered in preparation of the EIS
- identify which key stakeholders should be invited to comment on the proposal.

3.3 Impact Assessment

Social impacts are the issues that affect people and the communities in which they live as a result of the development. The process of identifying these impacts and determining their significance follows the methodology for social impact assessment designed by Esteves et al. (2017).

The social impact assessment for the proposed development assesses social elements that are supported by government frameworks such as health, wellbeing, education and training, safety, security and housing. Given the regional setting, outlined earlier in Section 2, the impact assessment focused on the regional scale and undertaken to identify whether:

- the ways in which people live, work, play, or relate to one another on a day-to-day basis on the Island would be altered
- culture, history or ability to access cultural resources would be impacted
- impacts to physical safety or exposure to hazards or risks would occur
- access to resources normally available would be impacted
- the quality of life including liveability and aesthetics would be impacted
- accessibility to infrastructure, services and facilities would impacted
- physical and mental health and wellbeing, as well as social, cultural and economic wellbeing, would impacted
- changes to livelihoods through changes to employment, property or business would occur.

Relevant social indicators were identified based on the baseline social profile (refer Section 3.1) and aspects relevant to the development. Potential impacts on social indicators were assessed including potential changes in the natural, built and economic environment.

3.4 Mitigation Strategies

A number of potential social impacts that were identified are not within the direct control of KIPT, in particular new or additional services that may be required to support community health and wellbeing, and supply of education and training, and housing.

Aspects which are considered within the control of KIPT (e.g. liaison and information sharing with government agencies, standard management measures, best practice guidelines, and relevant laws and policies) inform mitigation strategies.

4. EXISTING SOCIAL AND COMMUNITY ENVIRONMENT

4.1 Kangaroo Island's Communities

Present-day community

Kangaroo Island's main population centres are Kingscote, Penneshaw, Parndana and American River.

Kingscote is South Australia's first site of European settlement and was founded in 1836. It is the principal commercial and administrative hub of the Island and has a population of around 1600.

The passenger and freight ferry terminal are located at Penneshaw and a ferry transport route links Kangaroo Island with Cape Jervis on South Australia's mainland. Penneshaw is a tourist hub and goods transfer point for the Island.

Parndana is a service centre and has retail, community, sport and recreation facilities, and is primarily a local residential community. Parndana is the closest population centre to Smith Bay and has approximately 150 residents.

American River is a location with a range of conservation areas including Pelican Lagoon Conservation Park and American River Aquatic Reserve. It has areas of drooping sheoak and is an important habitat for the endangered glossy black-cockatoo. American River is also an important recreational area for tourists and locals and provides access for boaters and recreational fishers as well as the commercial aquaculture (oyster) farmgate, The Oyster Farm Shop.

Other settlements include Emu Bay (the closest settlement (approximately 10 km west) to Smith Bay) and Vivonne Bay. Both provide a range of tourist accommodation including guesthouses, holiday homes, cabins and camping grounds.

Aboriginal cultural heritage

There is substantial archaeological evidence of occupation on Kangaroo Island dating back approximately 16,000 years (EBS Heritage 2017). Lampert (1980) records that the distribution of Aboriginal sites on Kangaroo Island shows no special association with the Island's present shoreline; rather, the sites were some distance inland.

Kangaroo Island is culturally significant to a number of Aboriginal groups, including the Kaurna (Adelaide Plains), Ramindjeri (Encounter Bay) and Ngarrindjeri (Lower Murray and Coorong) (EBS Heritage 2017). There is

significant archaeological evidence of Aboriginal occupation, although there were no people living on the Island when Europeans arrived (Lampert 2002). Kangaroo Island was known as 'Karta' to the mainland Aboriginal groups, which broadly translates to 'Island of the dead' and relates to the dreaming story of Ngurunderi, who travelled to the Milky Way after crossing to the Island. The spirits of the dead were believed to follow his track to the afterlife in the sky (Tindale 1974 in EBS Heritage 2017).

Local Indigenous groups left Kangaroo Island about 2500 years ago, and although the Island has been uninhabited by Aboriginal people for a long time, there remain camp sites, middens and stone tools.

In the 1800s, Aboriginal people from Tasmania and South Australia were brought to the Island by sealer (Clarke 1996), some of their descendants are living on Kangaroo Island today (Flood 2004).

Engagement with the Aboriginal groups, mentioned previously, who consider Kangaroo Island of cultural significance was undertaken and discussions were held regarding:

- heritage assessment and the Aboriginal history of Smith Bay
- communication with Aboriginal Affairs and Reconciliation Division of Department of Premier and Cabinet
- general discussion on the proposal with Tribal Owners (Ramindjeri).

Non-Indigenous cultural heritage

British explorer Matthew Flinders was the first non-Indigenous person to land on Kangaroo Island; his arrival in 1802 was closely followed by that of French explorer Nicolas Baudin.

From around 1803 to 1830, groups of sealers and whalers occupied Kangaroo Island on a seasonal basis, working from shore-based camps to collect oil, meat and kangaroo skins for the international market (EBS Heritage 2017). Some of these men settled on the Island permanently from the mid-1820s onwards (Taylor 2002).

Agricultural settlement probably began near Smith Bay in the 1850s. The Turner family, consisting of brothers John, George and Alfred, began taking up land there in 1882, and eventually held 5000 ha (Section 124, Hundred of Menzies). They cleared the land and began producing high-yielding barley crops and a diversity of other farm produce, including honey from Ligurian bees (Bell & Austral Archaeology 2018). The partnership broke up in 1887 and the brothers managed their own farms as separate concerns. John Turner took out Perpetual Lease 5180 on Section 338, Hundred of Menzies, which includes the study area (Bell & Austral Archaeology 2017).

The pace of settlement increased substantially at the end of World War II with land grants to soldier settlers who were able to rapidly clear the mallee woodland for farming using powerful machinery.

As pastoral and agricultural industries grew, Island communities became increasingly dependent on sea transport. Ketches would call at local bays to load produce such as wool, grain, fruit, vegetables, timber, livestock, wallaby skins and eucalyptus oil (Parsons 1986). Fishing vessels also frequented the Island's coastal waters following European settlement (Maritime Heritage Surveys 2017).

Numerous ships have been wrecked along the Island's northern coastline due to occasionally rough conditions and unpredictable weather. Between 1849 and 1982, 26 vessels were wrecked in the waters of Investigator Strait, although many of these wrecks remain undiscovered (DENR 1996).

Four shipwrecks (Chum, Vectis, Ruby and Cookaburra) are recorded in the vicinity of Smith Bay, though exact locations of the shipwrecks is unknown.

There are no listed heritage places within the study area.

4.2 Socio-economic Characteristics

A recent study of Kangaroo Island by the Regional Australia Institute (RAI 2015) described socio-economic characteristics that distinguish Kangaroo Island from other regions in Australia including:

- the 'water gap': (i.e. the consequences of relying on the SeaLink ferry service as the principal means of connecting to the mainland), which results in higher freight costs, delays in receiving parts and components, disruptions caused by bad weather, and higher costs to access health, education and other services on the mainland
- a small regional centre: Kingscote, the largest population centre, is very small and, combined with the generally low population densities across the Island, limits the ability to provide services efficiently
- high peak population: the total population of the Island during peak holiday periods is significantly larger than the estimated resident population (approximately double), which creates difficulties for all service providers
- having fewer young people: there are fewer people aged 10–15-years-old on Kangaroo Island than other similar regions. The age profile of Kangaroo Island actually shows that the largest demographic grouping comprises of the 55–64-year age group.

4.3 Demographics

The following sections draw information from a range of demographic data sources, including but not limited to the 2017 ABS data.

Population size and predicted growth

In 2016 the estimated total population of Kangaroo Island was 4702 people (2016 ABS Census), of these 51.1 per cent were female and 48.9 per cent male, with a population density of one person per square kilometre (ABS 2017b).

Projections for the period 2011 to 2031 (based on information published by the DPTI) show that the population on the Island is expected to increase at a slower rate than the total South Australian population. The annual population growth is projected to be 0.8 per cent per annum, with the total population expected to reach 5252 people by 2031. This growth is smaller to other regions of South Australia such as Yorke Peninsula, which is projected to contract by 5.1 per cent by 2031 (Government of South Australia 2017a).

There is a transient tourism population on the Island resulting in a high annual ratio of overnight visitors to the Island's own population (which was a ratio of 26:1 in 2014-15 year (O'Neill 2017)).

Population age

The age profile of Kangaroo Island indicates that the largest demographic group currently living on the Island is in the 55 to 64-year age group. The median age of a Kangaroo Islander is 49-years-old, compared to the national average of 38 (ABS 2017a).

In-migration

During the 2016 Census, the majority of current Kangaroo Island residents (79 per cent) were living on the Island. Of those who moved to Kangaroo Island (820) during the Census year, around 44 per cent came from metropolitan Adelaide, 30 per cent from other areas in South Australia, 13 per cent from interstate, and 13 per cent from overseas.

Out-migration

Of those Kangaroo Island residents who moved off the Island (781), 47 per cent moved to metropolitan Adelaide, 33 per cent moved elsewhere in South Australia and 19 per cent moved interstate.

Cultural ancestries, language and diversity

The most common cultural ancestry in Kangaroo Island listed in the 2016 Census was English (31.4 per cent), Australian (31.3 per cent), Scottish (7.7 per cent), Irish (6.4 per cent) and German (6.4 per cent), with the majority of people born in Australia (76.5 per cent) and speaking English (87.5 per cent) as the only language spoken at home. Aboriginal and/or Torres Strait Islanders make up less than 2 per cent of the overall population on Kangaroo Island.

Family composition

The 2016 Census indicates that 25 per cent of the population lived within a family unit. The majority of families in Kangaroo Island were couple families with no children (more than 50 per cent), followed by coupled families with children (35 per cent) and single parent families (11 per cent).

4.4 Employment and Training

Employment and the movement of people on and off the Island affects employment and is an important indicator of social change.

Unemployment rate

The unemployment rates for the March quarter of 2007 to the March quarter of 2017 on Kangaroo Island fluctuated but increased overall. In March 2017 the unemployment rate for Kangaroo Island was estimated at 3.8 per cent, on average, lower than the 6.7 per cent rate for the South Australia (ABS 2017a).

Labour force participation

Overall, 63 per cent of the Kangaroo Island population are involved in work (ABS 2017b). This is relatively consistent with the national average of 65 per cent (ABS 2017a). In the 15-19-year-old demographic, 82 per cent are either engaged in work or study. Between July 2004 and June 2015, the labour force participation rates on Kangaroo Island show an upward trend that was consistently higher than the state average (ABS 2017b).

Responses from those above the age of 15 during the ABS 2016 Census indicated that that the most common occupations on Kangaroo Island included managers, labourers, technician and trades workers, professionals and community and personal service workers. Kangaroo Island also has an equal mix of full-time (46 per cent) and part-time (41 per cent) workers.

Within Kangaroo Island families with children, 16 per cent had both partners working full time, 12 per cent had both partners working part time, 23 per cent had one partner employed full time and the other part time and 22 per cent had none of the partners working.

4.5 Local Business and Industry

Industries

Kangaroo Island primary industries encompass cropping, grazing, horticulture, forestry, fishing, aquaculture, tourism and value-added products such as wine, cheese, marron, olive oil, free-range chickens (for free-range egg production) and Ligurian honey (Department of Planning 2016).

Kangaroo Island brands itself as a 'clean and green' destination. Tourism focuses on nature-based opportunities and the Island has a growing reputation for unique produce. National and conservation parks account for nearly 30 per cent of Kangaroo Island and areas include beaches, native flora and fauna, rare and endangered species and unique landscapes. Some of Kangaroo Island's primary industries also form a part of the tourism industry.

The contribution to the Kangaroo Island economy (i.e. the gross regional product or GRP) from primary industry in 2015-16 was estimated to be $257 million (Econsearch 2017). The top six contributors were:

- agriculture, forestry and fishing (30 per cent)
- transport, postal and warehousing (14 per cent)
- ownership of dwellings (6 per cent)
- health care and social assistance (5 per cent)
- retail trade (5 per cent)
- accommodation and food services (5 per cent).

Agriculture, forestry and fishing accounted for almost 15 per cent of the total value of goods and services imported into the region in 2015-16.

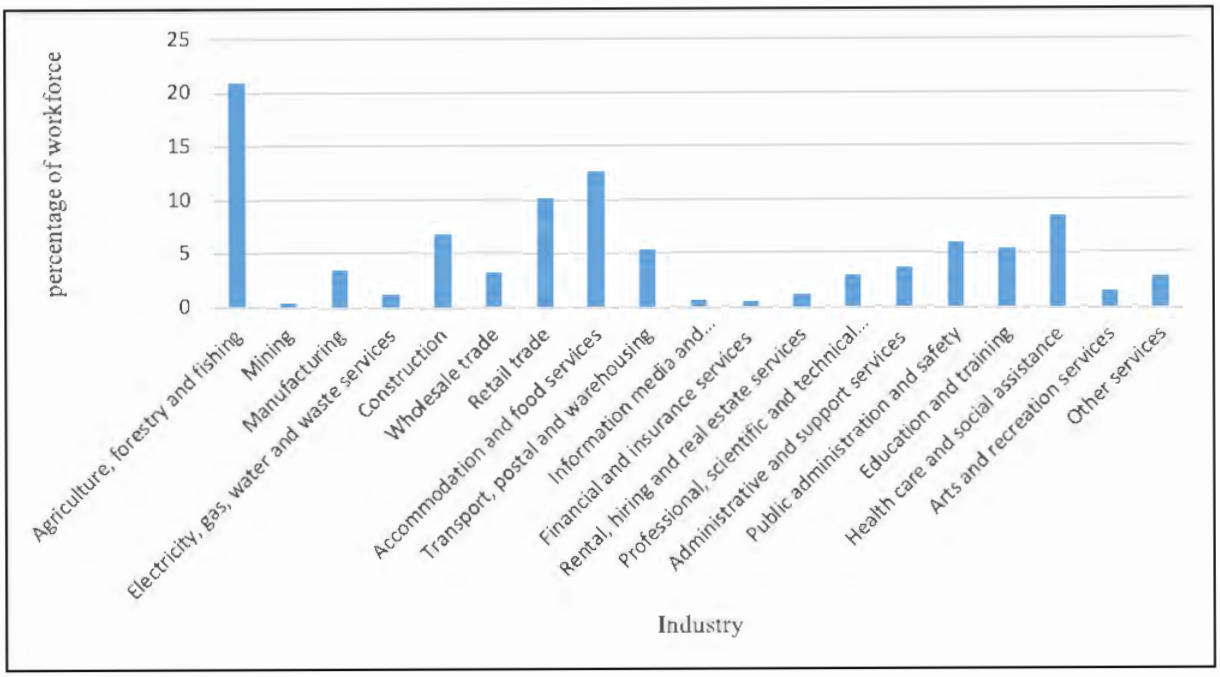
In 2015-16 South Australia's gross state product was $100.3 billion and Kangaroo Island accounted for approximately 0.3 per cent.

The distribution of Kangaroo Island's workforce as a percentage, across industries is shown in Figure 1.

Most people on Kangaroo Island are employed in small scale businesses.

Agriculture accounts for over 50 per cent of Kangaroo Island's GRP each year. Agriculture also represents the largest land use, see Table 1, with over 178,000 ha of land used with a gross value of $72.5 million, creating employment. In addition to agricultural activities, Kangaroo Island also supports a range of commercial fisheries, aquaculture and marine recreational activities, which represent a small proportion of those employed in Kangaroo Island (RDA 2014).

Figure 1 Kangaroo Island workforce distribution by industry (2011 Census)



Source: Australian Bureau of Statistics 2017b

Tourism and recreation

Tourism focuses on nature-based opportunities and the Island has a growing reputation for unique produce. Tourism on the Island has grown over the last decade and is anticipated to increase. Visitor expenditure on Kangaroo Island is $119 million and is projected to increase to $168 million by 2020. Approximately 500 people are directly employed in the tourism sector (South Australian Tourism Commission 2017).

4.6 HOUSING AND ACCOMMODATION

Dwelling statistics

According to ABS 2016 Census data:

- 3150 private dwellings (excludes visitor only and other non-classified households) exist, with 62 per cent of them occupied and the remaining unoccupied
- 41 per cent were owned outright, 31 per cent were owned with mortgage and 25 per cent were rented
- 65 per cent of private dwellings were family households, 33 per cent single households and 3 per cent were group households
- median rental was $170 per week, compared to $260 per week for South Australia
- median mortgage repayments were $1083 per month, compared with $1491 per month for South Australia.

Kangaroo Island also has a large proportion of dwellings that were unoccupied at the time of the census in 2016. Absentee owners or visitors to the Island occupy many of these unoccupied dwellings during holiday periods, which may be evidentiary of the transient population that Kangaroo Island experiences.

*House pricing and availability**

Occupied housing stock on Kangaroo Island consists of:

- separate house (93.7 per cent)
- semi-detached row or terrace house/town house (1.3 per cent)
- flat, unit or apartment (4.05 per cent)
- other dwelling (1.1 per cent).

* Source: ABS 2011 Census of Population and Housing in Government of South Australia 2017b

In May 2017, a survey of Realestate.com.au was undertaken, showing 156 properties available for sale in the towns of Kingscote, Penneshaw, Parndarna and American River. Purchase prices ranged from $130,000 (Parndarna) to $795,000 (American River). Thirteen rentals, predominantly in Kingscote, Penneshaw and American River were identified as being available for a long-term rental with prices ranging from $150 to $280 a week (Government of South Australia 2017b).

4.7 Community Health and Wellbeing

Education

Analysis of ABS data for Kangaroo Island shows total enrolments for government and non-government primary schools decreased by 34 per cent between 1996 and 2016 (Econsearch 2017). This is in contrast to a 5 per cent decline across South Australia over the same period. The total number of students enrolled in secondary school on Kangaroo Island decreased by 2 per cent between 1996 and 2016.

Enrolments in non-government schools accounted for 3 per cent of total school enrolments on Kangaroo Island in 2016 (Econsearch 2017). At the state level the comparable figure was 38 per cent. However, between 1996 and 2016 the total number of Kangaroo Island residents enrolled in higher education rose by more than 180 per cent. This is a significantly greater increase than for South Australia, where the number of residents undertaking higher education increased by 50 per cent (Econsearch 2017).

Schools on Kangaroo Island include Kangaroo Island Community Education (KICE) with campuses at Kingscote (largest campus with 434 students for Reception to Year 12 levels), Penneshaw (around 60 students for Reception to Year 9 levels) and Parndana (159 students for Reception to Year 12 levels).

No tertiary education facilities exist on Kangaroo Island, with the exception of on-line courses. TAFE training on Kangaroo Island is delivered into community, industry and agricultural sites and supported with online training materials. TAFE SA deliver training from a number of community facilities on Kangaroo Island for short courses only.

Childcare services

There are three childcare facilities on Kangaroo Island. Facilities in Kingscote and Penneshaw provide a combination of long day care and preschool services, along with limited after school care and vacation care, while at the KICE Parndana campus there is a preschool.

Community support services

The Kangaroo Island Community Services Centre at Kingscote is a collaborative hub bringing together community and government agencies to develop and deliver support and intervention services on Kangaroo Island.

The Kangaroo Island Health Service at Kingscote provides acute services ranging from in-hospital care for adults and children by local general practitioners to specialist surgical, obstetrics and outpatients. The Kangaroo Island Community Health Centre at Kingscote provides services such as allied health (e.g. physiotherapy, dieticians), aged care, parenting and family support, disability and mental health. Outreach services are also provided at American River, Penneshaw and Parndana.

Communications infrastructure and services

Internet access figures provide further indication of regional economic capital as well as regional adaptive capacity. Between 2006 and 2016 the total number of Kangaroo Island dwellings with internet access (broadband, dial-up or other) increased from 5 per cent to 72 per cent. For South Australia, the total number of dwellings with access to some form of internet increased from 54 per cent to 77 per cent over the same period. This increase in internet connection on Kangaroo Island highlights an improvement in connectivity and communication, suggesting increased commercial opportunities than before.

Transport infrastructure and services

Kangaroo Island's road network is mostly managed by Kangaroo Island Council, with the continuation of the Playford Highway from the mainland managed by the state government.

KIPT's preferred strategy to transport its timber products from the plantations to the KI Seaport is:

- to establish a defined transport route that minimises the potential impacts associated with traffic movements (e.g. transit times, noise, dust, greenhouse gas emissions, ecological sensitivities and crashes)
- to upgrade the proposed defined transport route as required to permit the use of high productivity vehicles (B-doubles and/or A-doubles)
- in consultation with the logistics provider, implement training and safety initiatives that reduce the potential for timber haulage vehicle crashes and incidents

In South Australia, DPTI manages around 25 per cent of the road network, which consists of 13,000 km of sealed roads and 10,000 km of unsealed roads. The remaining 75 per cent of roads (totalling 75,000 km) are managed by local government.

On Kangaroo Island, DPTI is responsible for the following roads:

- Kingscote-Penneshaw Road–Hog Bay Road (state road)
- American River Road
- Playford Highway (state road east of Parndana) .

South Coast Road, West End Highway, North Coast Road and all other roads are managed by the Kangaroo Island Council in accordance with its Transport Infrastructure and Asset Management Plan (KIC 2015).

5. SOCIAL IMPACT ASSESSMENT AND MANAGEMENT

This section describes the potential social impacts that may arise from the construction and operation of the proposed KI Seaport.

The overview of the social and community profile in Section 4 is for Kangaroo Island as a whole. The area surrounding the KI Seaport development has the following characteristics:

- Yumbah Aquaculture's land-based abalone farm located to the east of the KI Seaport site
- a bed and breakfast operation (Molly's Run) located to the east on North Coast Road, directly south of Yumbah Aquaculture's operation
- the use of Smith Bay waters by at least two known commercial fishers
- cropping, sheep grazing, and rural living in the general area surrounding the KI Seaport site.

Management measures are identified throughout the development of the EIS and these measures are put forward to address concerns identified in studies supporting the EIS and throughout community consultation.

5.1 Socio-economic Effects

Economic benefits

The development of the KI Seaport and a sustainable forestry industry on Kangaroo Island, is expected to have a significant positive economic impact on the Kangaroo Island economy, with GRP to be boosted by an estimated 16 per cent (Econsearch 2017).

Increased total employment opportunities would increase population as there are currently not enough people on the Island to fill the positions that will be created (Econsearch 2017).

Increased employment and a subsequent increase in the population would increase the demand for housing and associated services.

Refer to Chapter 20 – Economic Environment of the EIS.

New housing demand

An expected increase in population due the proposed development would boost the demand for housing, which is estimated to be an extra 100 homes in the short-term this could place pressure on rental property availability (Econsearch 2017).

A Management Plan for Housing on Kangaroo Island (Office of the Commissioner for Kangaroo Island, 2016) has been developed to respond to a predicted population increase over the next 20 years. The plan indicates that housing strategies should consider, among other things, refurbishing or rebuilding properties and housing infrastructure and redeveloping existing properties and land that could be used for housing infrastructure.

KIPT owns at least 30 potential residential allotments where a change to planning rules would allow these existing forestry estates to be subdivided. Every property has, at the very least, a suitable site to build a house with a dam and access to electricity, and most have a phone line. Some have habitable dwellings and others have dilapidated structures that could made suitable for accommodation.

Impact on existing industries

The potential economic impacts on existing industries and businesses on Kangaroo Island would depend on whether new opportunities become available to them through improved access to and from the Island for bulk freight cargos, potentially reducing transport costs, increased household expenditure facilitating increased growth in the retail and hospitality sectors and growth in housing demand, improving the construction industry.

There may be a minor loss in gross income for two commercial fishers who use Smith Bay, however these could be offset by moving to other areas of Smith Bay to fish.

The KI Seaport would not likely inhibit existing nearby primary production or grazing activities.

Both Yumbah Aquaculture and Molly's Run have expressed concern about potential impacts of the development on aspects of the environment including water quality, dust, noise and light, and how these may affect their businesses. These potential impacts and their management are addressed in the EIS.

There may be a change to the clientele who stay at Molly's Run, and potentially increased occupancy rates during construction and operation, with the potential for people who are visiting or working at the KI Seaport to replace or add to the current customer base.

5.2 Effects on the Wider Community

Social and community services

The projected population increase has the potential to create an increased demand for social services, including childcare, schooling, higher education and trades training. The population increase predicted as a result of the development could provide:

- a stimulus for increased social and cultural networks, through increases in sporting teams and other networks, such as community interest groups
- increased demand for education, training and schooling for children and families, which may result in the re-opening of recently closed class-rooms (due to falling population) and re-establishment of senior schools on Kangaroo Island, in addition to establishment of new infrastructure and services
- increased need for skills training for the projected workforce.

Thus, the wellbeing and social benefits that may accrue from the development would be a positive impact.

Visual amenity

The proposed KI Seaport would extend the existing relatively disturbed, industrial-like character of that portion of Smith Bay in which it is located. The reduction in landscape quality for the study area and Smith Bay is not considered significant and any impact to existing landscape quality is judged acceptable (Lothian 2016).

However, it is understood that changes to visual amenity would be noticeable for the local neighbours and residents at a distance who are on elevated land with uninterrupted views to Smith Bay.

Mitigation measures which target design features and finishes and vegetation plantings to integrate the facility as much as possible and practicable into the existing environment would assist in softening and minimising visual impacts. Refer to Chapter 23 – Visual Amenity of the EIS.

Recreational activities

Smith Bay is not used regularly for recreational activities. While the unofficial 'boat ramp' at Smith Bay would be removed under the proposal, access to other local areas (e.g. the Island's more northern beaches, Stokes Bay and Emu Bay) where facilities such as boat ramps and a jetty are being upgraded offer recreational access.

Potential health, noise and dust issues

During site construction and operation phases the traffic traversing the site, the operation of machinery and equipment, and the transfer of timber product and shipping would bring about a localised increase in noise, dust and light emissions. Mitigation measures would be implemented to reduce these impacts.

The ancillary activity of hauling timber products to the KI Seaport would increase truck movements on Kangaroo Island. KIPT are working with Kangaroo Island Council and DPTI to determine a strategy to adopt for timber haulage which would minimise hazards and risks to the community.

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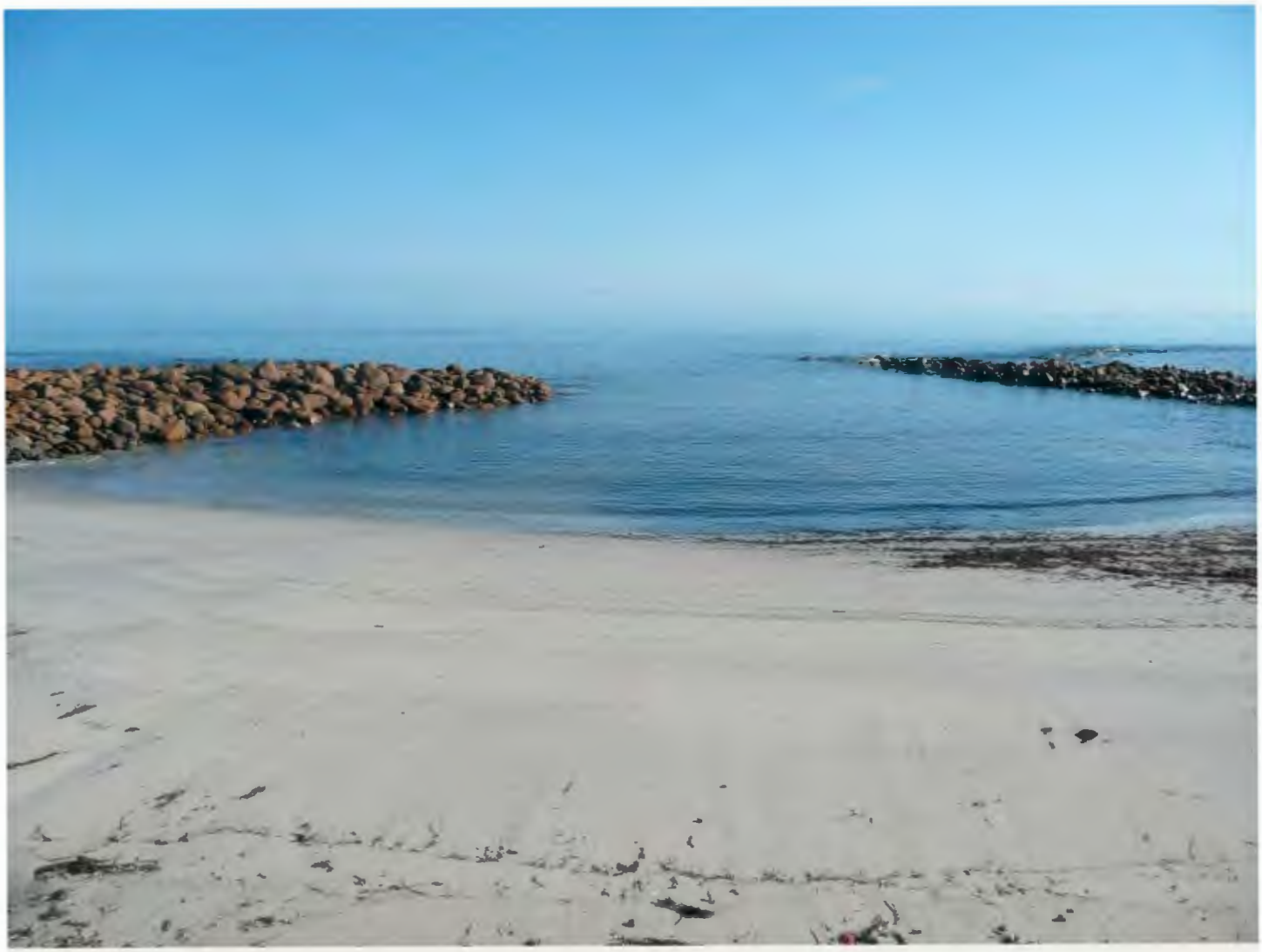
Appendix Q2 – Desktop Social Impact Study – The University of Adelaide

THE UNIVERSITY of ADELAIDE



The proposed multi-user deep-water wharf facility at Smith Bay

A Desk Top Social Impact Study

September 2017

adelaide.edu.au

seek LIGHT

This report was prepared by Dr Melissa Nursey-Bray, and Robert Palmer, from the Adaptation Community Environment (ACE) Research Group, Faculty of Arts, University of Adelaide

Cover image: Chris Harrison

Disclaimer:

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Executive Summary

This report presents the results of a desk top social impact study of the proposed construction of a multi-user deep-water wharf facility at Smith Bay, South Australia. Social impacts were studied at local (project site), regional (KI) and state scale. Impacts were also considered at the establishment as well as operations phases of the project. A stakeholder summary is provided and a description of their potential and perceived understanding of what social impacts might be. Where available, mitigation strategies are described.

Sources used included the review of the technical reports undertaken for the project to date, public documents about the proposal, Australian Bureau of Statistics (ABS) and other data about Kangaroo Island from local government, Econsearch, Goyder Institute, academic literature, case studies, other EIS or PER reports from similar wharf/dredging proposals, Hansard reports and media, including social media.

To provide advice on mitigation strategies, extensive use and reference is made via case studies, to mitigation tools/techniques implemented by other port authorities in similar situations and also to the current best practice guidelines, laws and policies where appropriate.

A number of social dimensions are additionally mentioned in this report but detail for each can be found in the other specifically commissioned reports as part of the EIS.

This study does not make any summative recommendations in relation to the level or grade of social impacts identified.

Information in this report provides a baseline for assessment and inclusion in the social impact chapter which will be part of the final EIS.

Introduction

This report presents the results of *a desktop study* of potential social impacts in relation to the proposal by Kangaroo Island Plantation and Timbers (KIPT) to construct a multi-user deep water wharf facility at Smith Bay, Kangaroo Island (KI), South Australia.

The study is based on best practice guidelines established by the United Nations and International Association of Social Impact Assessment (UNEP 2002, IAIA 2003). Best practice SIA recognises the inter-connectedness between social, economic and biophysical impacts and attempts to analyse how all these impacts affect each other at scale and over time (UNEP 2002, IAI 2012). Undertaking a SIA also helps to:

- Enhance decision making about how a development should proceed;
- Identifying mitigation measures that can help minimise the harm and maximise the benefits from a planned development (UNEP 2002).

The Project: Smith Bay Wharf Project

KIPT propose to construct a deep-water wharf facility to export harvested timber directly to markets overseas. Smith Bay is identified as a site on which to construct the wharf facility. The project's key components are described in Box 1.

Box 1: Description of proposed Smith Bay Wharf Facility

The project will consist of:

- wharf structures, including a causeway, link span bridge, tug mooring facilities, berthing pocket, retaining structures and mooring dolphins
- stockpile and storage facilities
- ship loading systems
- laydown area
- road transport access, including a two lane road from the laydown area to the ship loading area
- ancillary facilities, including administrative buildings and infrastructure
- A public boat ramp was initially included in the proposal but was removed due to discussions during stakeholder engagement and the identified safety risks associated with a public boat ramp at Smith Bay. KIPT's intent is that the wharf will not be exclusively used for timber export and that the rates charged to any other users who wish to use the wharf is not commercially unviable. Other users will need to obtain their own approvals and construct any additional infrastructure that they require. (KIPT 2016a, 2016b, 2017b, 2017c, 2017d, Aztec 2017, 2016i, 2016j, DAC 2017).

The development will be built in accordance with a number of standards including British Standards, Australian Standards, Australian Maritime Safety Authority (AMSA), International Labour Organisation (ILO), Work Safe SA, and Permanent International Association of Navigation Congresses (PIIANC) guidelines. The proposed facility would be used for 50-70 days a year for timber export activities, and it will also function as a multi-user, multi-cargo facility subject to future approvals.

Terms of Reference

Environmental Projects contracted the University of Adelaide to develop a desk top social impact assessment. The study was conducted by staff from the Adaptation, Community, Environment Research Group (ACE) at the University of Adelaide, who have experience in assessing social impact, cultural heritage work and community engagement in Queensland, Tasmania and South Australia. This study has the following scope:

(i) To identify social impacts at local (the site and its immediate surrounds), regional (KI) and state (South Australia) levels.

(ii) To provide advice on social monitoring techniques

(iii) To inform and where appropriate suggest mitigation strategies

(iv) Use information and provide reference to all the other commissioned reports relevant to the social dimensions investigated in this report.

(v) To provide a baseline and information for the impact assessments to be presented in the EIS for the proposed project in response to Guideline 8 (DAC 2017) Community issues and impacts, which have been identified by the Development Assessment Commission as medium risk for the preparation of the social impact chapter.

It is not within the scope of this report to provide recommendations as to assessment of the scale of any impact. This report is also separate from the community consultation and economic assessment (which are closely interrelated), and is stand alone. From time to time reference is made to other reports, (such as those for visual amenity, economic, environmental and community engagement aspects), to describe social aspects of the proposed project.

Method

The United Nations defines a social impact as follows:

> Social impact means the consequences to human populations of any public or private actions-that alter the ways in which people live, work, play, relate to one another, organize to meet their needs and generally cope as members of society. The term also includes cultural impacts involving changes to the norms, values, and beliefs that guide and rationalize their cognition of themselves and their society. (UNEP 2003)

We take this definition as our starting point, and provide further description of how this is understood in Box 2. While acknowledging that not all of the domains may be relevant to this study, we use them as a guide to focus our analysis and assessment.

Box 2: Definition of impact domains

- **people's way of life** – that is, how they live, work, play and interact with one another on a day-to-day basis;
- **their culture** – that is, their shared beliefs, customs, values and language or dialect; their community – its cohesion, stability, character, services and facilities;
- **their political systems** – the extent to which people are able to participate in decisions that affect their lives, the level of democratisation that is taking place, and the resources provided for this purpose;
- **their environment** – the quality of the air and water people use; the availability and quality of the food they eat; the level of hazard or risk, dust and noise they are exposed to; the adequacy of sanitation, their physical safety, and their access to and control over resources;
- **their health and wellbeing** – health is a state of complete physical, mental, social and spiritual wellbeing and not merely the absence of disease or infirmity;
- **their personal and property rights** – particularly whether people are economically affected, or experience personal disadvantage which may include a violation of their civil liberties;
- **their fears and aspirations** – their perceptions about their safety, their fears about the future of their community, and their aspirations for their future and the future of their children.

To analyse the information gathered, we used a series of key steps (see Box 3) as used by the International Association for Environmental Impact Assessment and the United Nations *Comprehensive Guide to Social Impact Assessment* (UNEP 2003, Vanclay 2003, IAIA 2014). We structure the study results by reporting on these steps.

Box 3: Steps to conduct a desk top SIA

1. Identification of potential social impacts.
2. Identification of potential response to potential social impacts (via stakeholder analysis).
3. Identification of alternatives and mitigation.

Sources

Sources of information used for this report include published scientific literature, and secondary data and primary data about the affected area. Published scientific literature included journal articles, books, and reports available from similar projects and case studies. Secondary data sources included data from the Australian Bureau of Statistics (ABS), geographical data, relevant agency publications, and data from state and Commonwealth departments. We also extracted information from media reports.

Alternatives and Gaps

There are a number of alternative sites that have been suggested including Cape Dutton, Ballast Head, near American River and Vivonne Bay. At this point, due to time constraints and the fact this has been a desk top SIA, it has not been possible to assess the social impacts of these alternatives against the Smith Bay site. To undertake more certain assessments of stakeholder views on the alternatives would require face-to-face consultation: this is a gap in information that has not been filled in this report.

Further, in light of the fact that this is a desk top study, the report also lacks detailed corroboration relating to how stakeholders would actually perceive the proposal. This is a gap that can be filled in a face-to-face community consultation and through information collected over the phone of via email (via the website portal) as part of the EIS process

Community Profile

This section provides a community profile, and draws from data produced by the ABS, the Government of South Australia's Department of Planning, Transport and Infrastructure (DPIT), Econsearch (who is undertaking the economic assessment for this project), the Kangaroo Island Development Plan and the Goyder Institute.

Overview

Although it appears the local Indigenous groups of KI left about 2500 years ago, and that the island has been uninhabited for a long time, there remain a number of camp sites, middens

and stone tools which Tindale used in the 1930s to argue that Indigenous settlement in Australia went as far back as the Pleistocene. The island was also known as *Kartan*, by the Ramindjeri tribe, meaning "*Island of the Dead*" and it forms part of the religious beliefs of the Ngarrindjeri people. In the 1800s, the advent of sealing resulted in a number of (often forced) relationships being formed with Aboriginal women from Tasmania, and the Kaurna and Ngarrindjeri groups. Some of the descendants from these relationships are living in KI today (Flood 2004).

The island's main urban centres are Kingscote, Penneshaw, Parndana and American River.

Kingscote was South Australia's first site of European Settlement and founded in 1836. It is the principal commercial and administrative hub of the island.

Penneshaw is the location of the current ferry terminal and where the ferry comes in from the mainland and is a tourist hub.

American River is a smaller town which has a range of conservation areas, including Pelican Lagoon Conservation Park, American River Aquatic Reserve, areas of Drooping Sheoak and it is an important habitat for the endangered Glossy Black Cockatoo. American River is also an important recreational area for tourists and locals providing access for boaters and recreational fishers as well as for commercial aquaculture (oysters).

Parndana is a service centre and has retail, community, sport and recreation facilities, and is primarily a local residential community.

Other settlements include Emu Bay and Vivonne Bay, all of which provide a range of tourist accommodation including guesthouses, holiday homes, cabins and formal camping.

Socio-economic Data

The following profile is based on an analysis of the 2017 ABS data and highlights the following three social dimensions of KI: (i) population profile, (ii) employment profile and (iii) other household characteristics. This data builds on the socio-economic assessment for this project undertaken by Econsearch. Please refer to that report for socio-economic details as this section provides information relevant to the community profile only.

Population profile

The estimated total population for KI is 4611 people, with a population density of 1 person per square kilometre (Australian Bureau of Statistics 2017b). The annual population growth is projected to be 0.8% per annum, with the population expected to reach 5252 people in 2031 (Government of South Australia 2017). This growth is favourable compared to other regions of South Australia such as Eyre Peninsula that is projected to grow by 1.2% and Yorke Peninsula which is expected to contract by -5.1% and by 2031.

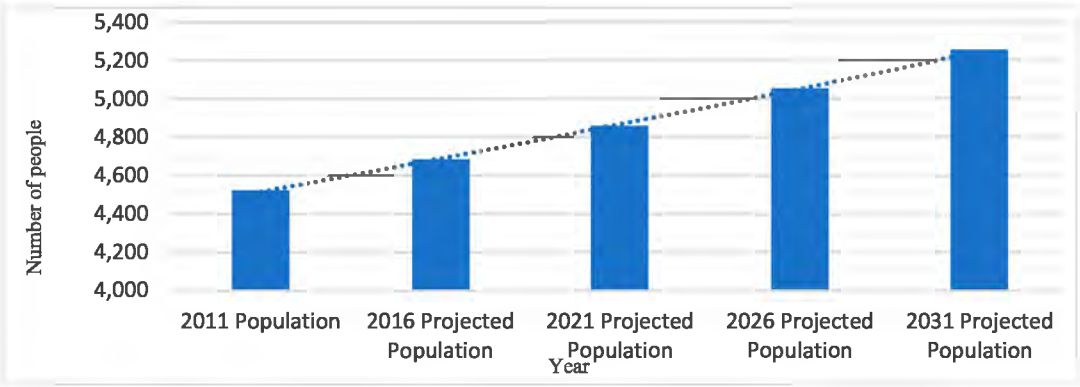

Figure 1: Projected population change on KI between 2011-2031 (Government of South Australia 2017)

The age profile of KI indicates that the largest demographic grouping is in the 55-64 age group.

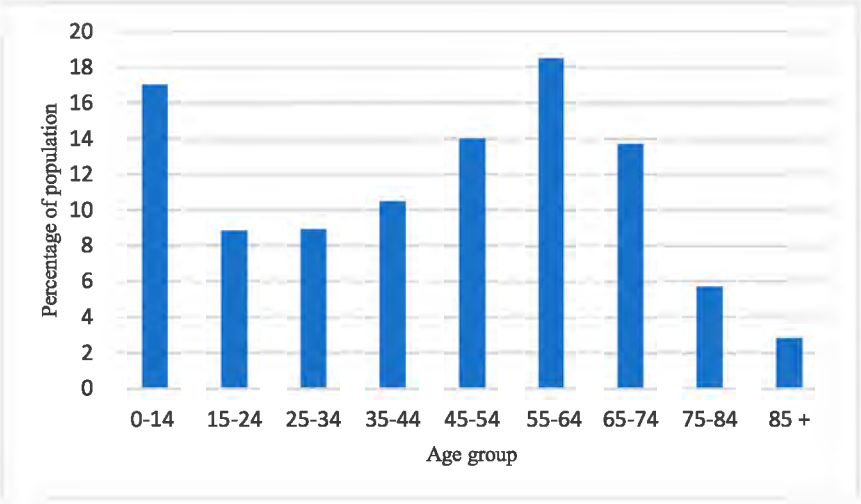

Figure 2: KI population age profile (Australian Bureau of Statistics 2017b)

Data indicates the population of KI is ageing. The median age of a Kangaroo Islander is 47 years old, which is ten years older than the national average of 37 (Australian Bureau of Statistics 2013). Between 2011 and 2015, the number of people aged between 65-74 rose from 9.9% to 13.7%. People aged between 75-84 rose from 4.3% to 5.7%. At the same time, the number of people of a working age has declined, except in the older 55-64 group where it has risen from 17.8% to 18.5% and a slight rise in the 15-24 group from 8% to 8.8%.

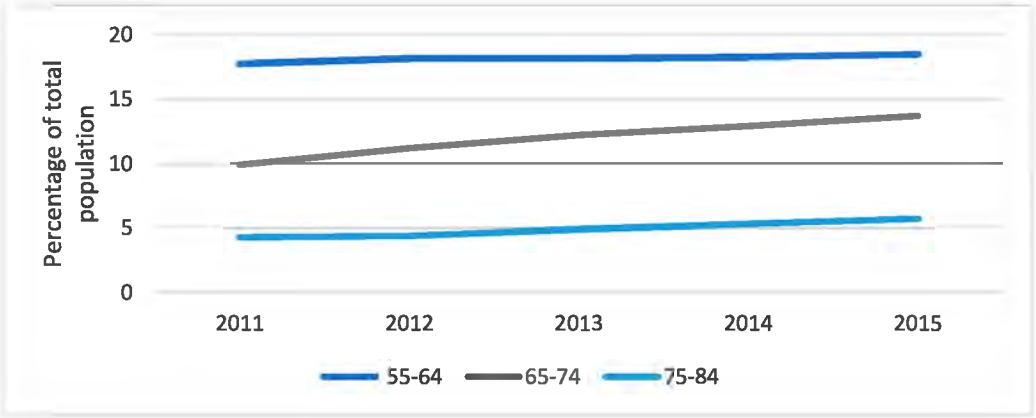

Figure 3: KI older age group as share of total workforce

Industry and employment profile

Overall, labour force participation rate on KI is 2297 people which represents 63.3% of the workforce (Australian Bureau of Statistics 2017b). This is relatively consistent with the national average of 64.7% (Australian Bureau of Statistics 2017a). In the 15-19 year old demographic, 81.6% are either engaged in work or study (Australian Bureau of Statistics 2017b).

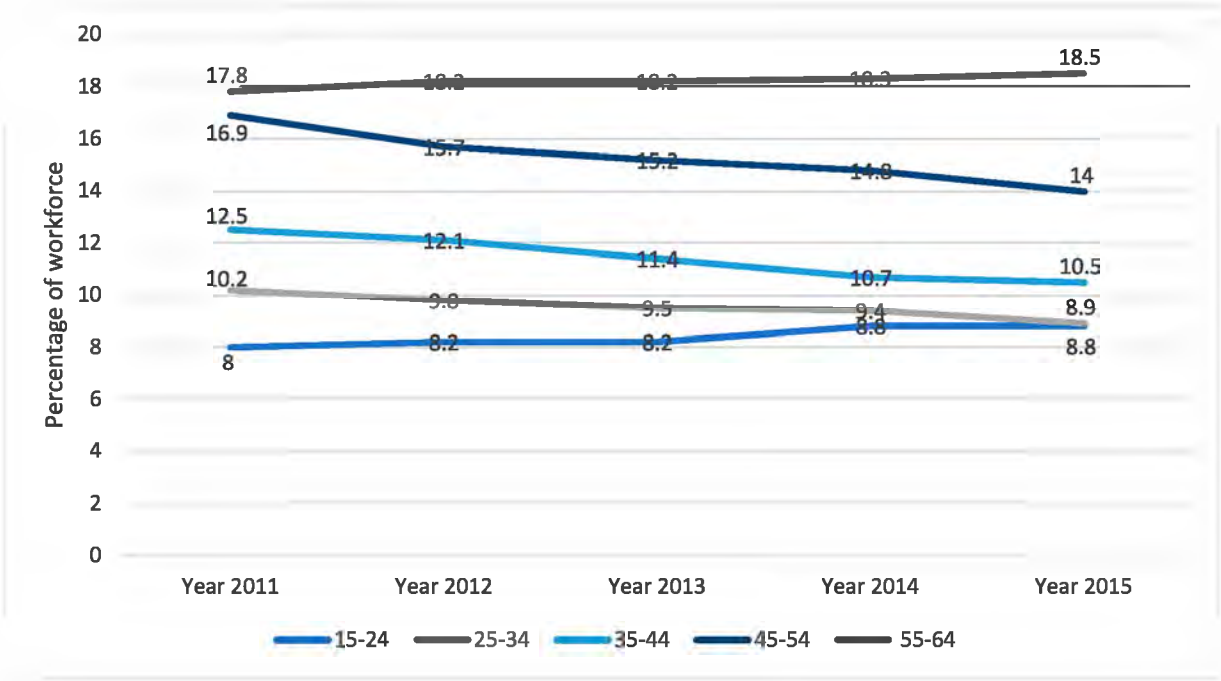

Figure 4: KI workforce age statistics (Australian Bureau of Statistics 2017b)

KI has a diverse industry profile, encompassing cropping, grazing, horticulture, forestry, fishing, aquaculture, tourism and value-added products such as wine, cheese, marron, olive oil, free-range chickens and Ligurian honey (Government of South Australia 2016a, b). This is consistent with the aims of the KI Development Plan because:

> The social wellbeing of the community is dependent on… strengthening and improving the economy, the provision and maintenance of services and infrastructure, and the creation of training and employment opportunities in particular to retain a balanced age profile on the Island (KI Council 2015, p.11).

The largest employment sector on the island are businesses in the agricultural, fisheries and forestry industries. These industries, combined with those who service the tourism and retail sectors, provide the largest number of jobs on KI.

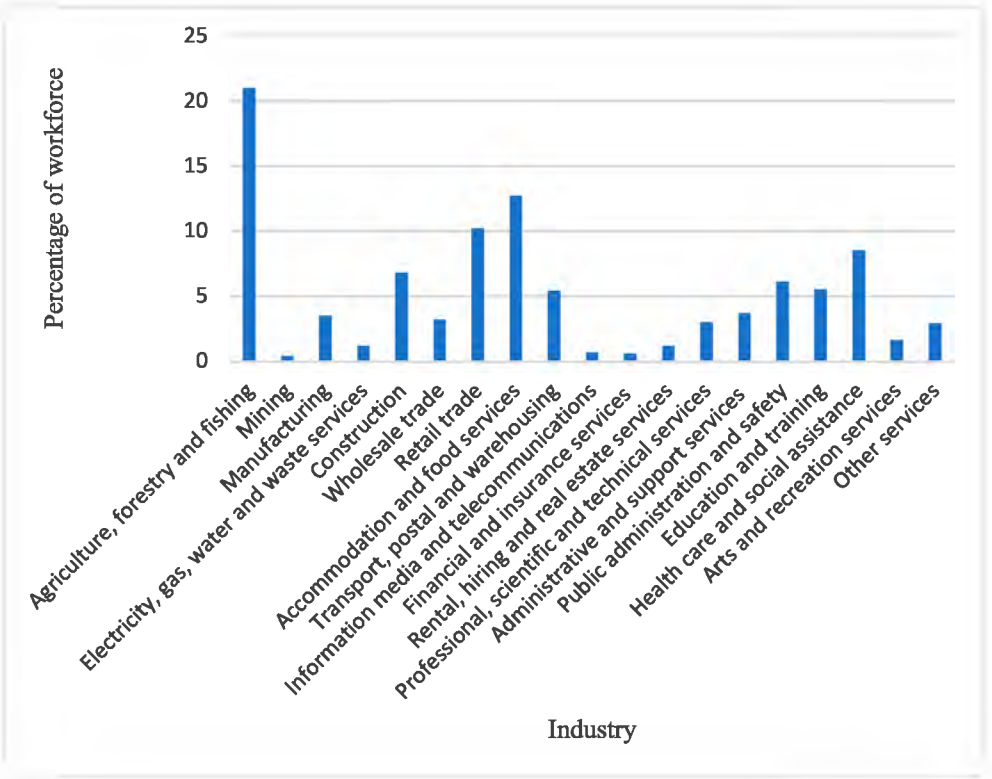

Figure 5: Employment by industry on KI (Australian Bureau of Statistics 2017b)

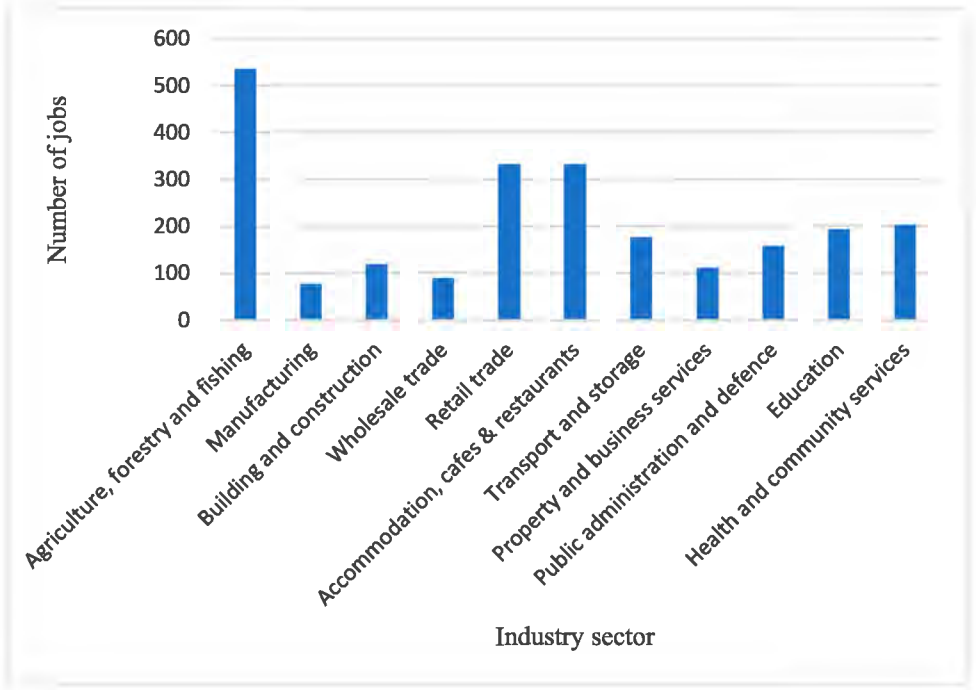

Figure 6: Number of jobs per industry sector on KI (Econsearch 2012)

Most people on KI are employed in small scale businesses.

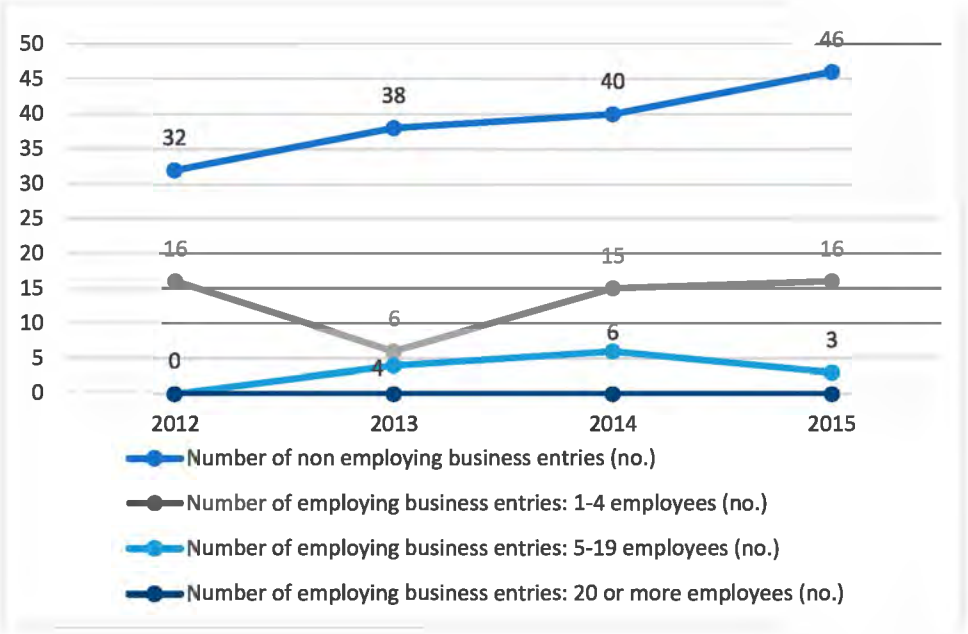

Figure 7: Number of employees in KI businesses (Australian Bureau of Statistics 2017b)

Farming is the largest land user in KI, holding over 178,000ha of land and has a gross value of $72.5 million.

Description	2011
Agricultural Commodities - Area of holding - Total area (ha)	178854
Broadacre crops - Cereal crops for grain or seed - Total area (ha)	8697
Vegetables for human consumption - Total area (ha)	3
Fruit and nuts - Orchard fruit and nut trees - Total area (ha)	16
Fruit and nuts - Other fruit - Total area of all fruit (excluding grapes) (ha)	16
Broadacre crops – Non-cereal (excluding nurseries) (ha)	7572

Table 1: Farming land use and stocking rates (Australian Bureau of Statistics 2017b)

As Box 4 shows, agriculture is an important business in KI, particularly sheep farming, with a combined herd of over 500,000 sheep (Australian Bureau of Statistics 2017b), used for both wool and meat production. Agriculture accounts for over 50% of the $130 million gross regional product of the island each year. A report by Regional Australia into the meat and livestock industry in the Adelaide Hills (AH), Fleurieu (F) and KI (RDA 2014) highlights that a higher proportion of the AH, F & KI population, 2.3% and 0.11% were employed in

livestock farming, and that 2.2% were employed in bee keeping compared to the State average of 0.9% (RDA 2014).

Box 4: Importance of agriculture to KI

"Kangaroo Island is currently farmed by approximately 260 farmers, with 628 hectares being the average farm size. Major agricultural industries include wool, prime lamb, beef, mutton, broad acre cropping (canola, wheat, beans, barley, oats), commercial fishing, honey, wine making, cheese, free-range chickens and eggs, horticulture, farm forestry and oil plantations, including eucalyptus, lavender and olives. Two-thirds of all farming properties are involved in wool production and 60% produce prime lambs, 46% of the properties are involved in some form of cropping, and 37% of the properties run beef cattle. Kangaroo Island woolgrowers produce about 8% of South Australia's total wool production and 1% of Australia's total wool production" (KI Wool Shareholder Fact Sheet nd).

There are three large free-range eggs producers. The cattle industry has a herd profile of 20,626 animals, whilst other livestock production is smaller in scale (e.g. a total of only 143 pigs are produced on commercial farms) (Australian Bureau of Statistics 2017b). There is also an emerging and diverse wine industry and some horticulture. Value adding and diversification has been ongoing and includes experimenting with crops such as seed potatoes, lavender, olives and figs (KI Online n.d). KI also has a unique Ligurian honey industry. Ligurian bees were brought to the island in the early 1880s. KI was declared a bee sanctuary in 1885, and now houses the only remaining pure strain of Ligurian Bees in the world (KI Online n.d.).

In addition to these activities, KI also supports a range of commercial fisheries, aquaculture and marine recreational activities. While they represent a small proportion of those employed in KI, existing fisheries include oysters, abalone, rock lobster, marine scale fishing (Kosturjak et al. 2015). However, as Figure 8 shows (drawn from an Econsearch report about the impacts of proposed marine zones across the South Australia, Kosturjak et al. 2015), individuals in KI, also participate in recreational (marine) activities in relatively high numbers.

	State (n=909)	Adelaide (n=301)	Ceduna (n=101	Port Wakefield (n=101)	Kangaroo Island (n=100)	Port Lincoln (n=101)
Fishing						
At least monthly	27.0	13.3	49.5	16.9	45.0	37.7
Less often	27.8	24.2	28.7	37.6	20.0	37.5
Never	45.3	62.5	21.8	45.5	35.0	24.8
Snorkelling/diving						
At least monthly	4.1	2.3	7.0	1.0	7.0	4.0
Less often	13.6	10.3	12.9	13.9	25.0	19.8
Never	82.4	87.4	80.2	85.1	68.0	76.2
Boating						
At least monthly	23.1	8.6	47.4	10.9	37.0	31.7
Less often	24.8	21.6	26.8	28.7	26.0	36.6
Never	52.1	69.8	25.7	60.4	37.0	31.7
General recreation						
At least monthly	54.0	45.9	64.4	26.7	66.0	62.5
Less often	26.9	30.0	18.9	45.5	19.0	22.8
Never	19.3	24.3	16.8	27.7	15.0	14.9

Figure 8: Summary of Participation in Recreational Activities, Proportion of Respondents by Region

Tourism has grown over the last decade and is anticipated to increase. Visitor expenditure on KI is $119m and is projected to increase to $168m by 2020 (South Australian Tourism Commission 2017). There are now 500 people directly employed in the tourism sector, which makes it close in size to the agricultural, fisheries and forestry sectors (South Australian Tourism Commission 2017). This growth is attributed in part to the promotion of KI as a 'clean and green' destination, with a reputation for fine food and dining and focus on nature based tourism by local and State based tourism and other stakeholders (South Australian Tourism Commission 2015). For example, national and conservation parks account for nearly 30 % of KI and include beaches, native (and some rare and endangered species) flora and fauna and a rare seal colony.

However, KI has a low average income rate of $33,592 and has slightly lower income growth potential of 4.2%, below the national average of 4.9% (Australian Bureau of Statistics 2013). This might reflect the older population characteristics of KI. It also highlights there is greater competition for less employment opportunities as well as a lack of diversity in employment opportunities available.

Other household characteristics

Overall, the ABS indicate that KI has relatively elevated levels of disadvantage. A Socio-Economic Index for Areas (SEIFA) decile ranking of 1 indicates relatively elevated levels of

disadvantage, whereas a score of 10 indicates relatively high levels of socio-economic advantage. Table 2 provides socio-economic rankings of advantage to disadvantage on KI.

Description	Ranking
SEIFA Decile Ranking - Advantage and disadvantage	4
SEIFA Decile Ranking – Disadvantage	4
SEIFA Decile Ranking - Economic Resources	4
SEIFA Decile Ranking - Education & Occupation	5

Table 2: ABS socio-economic rankings of advantage to disadvantage on KI (Australian Bureau of Statistics 2017b)

The rankings need to be considered as an indication only, and do not necessarily mean that KI is more disadvantaged to a comparable region of Australia. However, when these indicators are considered in conjunction with the previous data sets, then it would imply that people living on KI are more likely to be exposed to socio-economic disadvantage than other areas of South Australia[1].

Educational standards of KI are reflective of these elevated levels of socio-economic disadvantage. For example, on KI, just 9.7% of people had attained a Bachelor Degree, compared to the Australian total of 44%.

[1] The link to the technical guidelines (92 pages) is: http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/22CEDA8038AF7A0DCA257B3B00116E34/$File/2033.0.55.001%20seifa%202011%20technical%20paper.pdf The link to the data we analysed: http://www.abs.gov.au/ausstats/abs@.nsf/DetailsPage/2033.0.55.0012011?OpenDocument

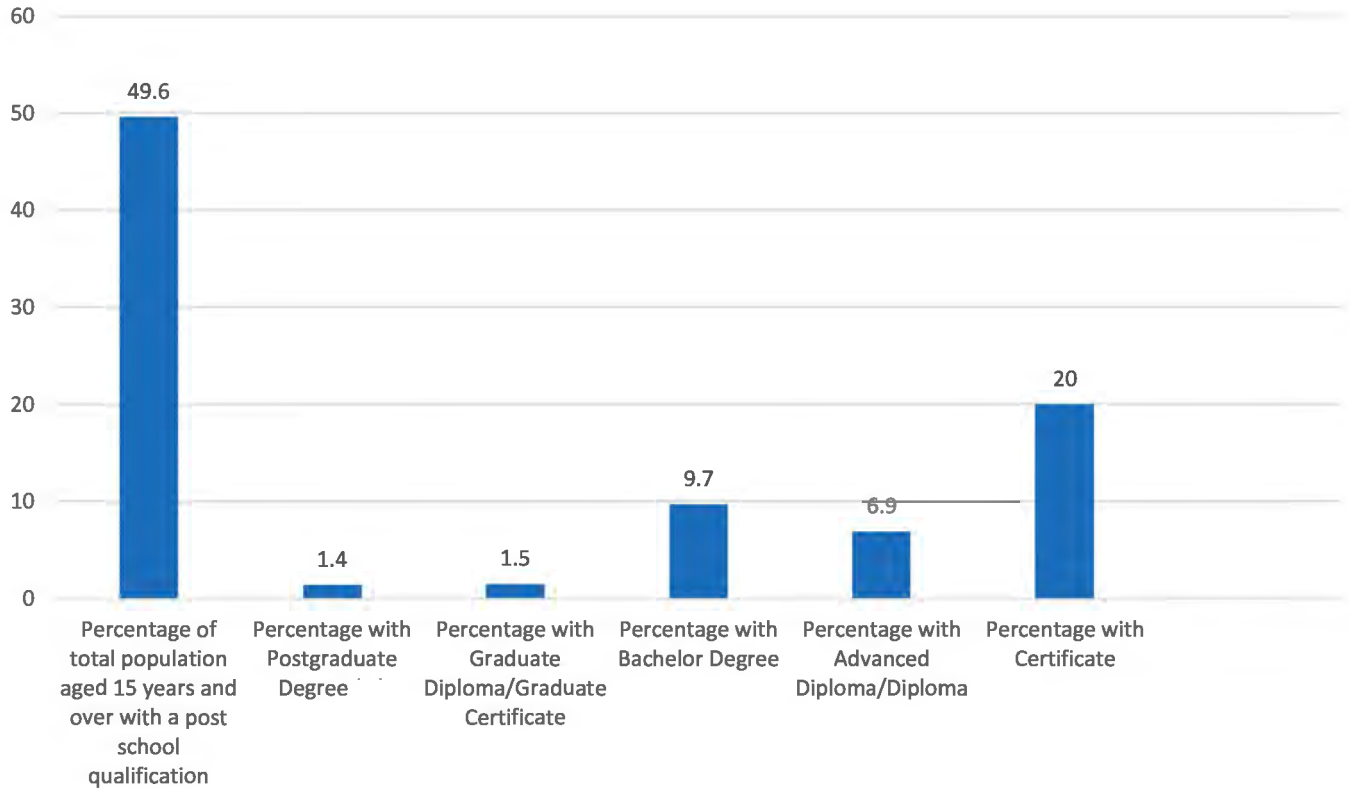

Figure 9: Percentage of KI population over the age of 15 with a post-school qualification in 2011 (Australian Bureau of Statistics 2011)

Step 1: Identification of potential social impacts

The section below presents a summary of potential social impacts at the three scales (local, regional, state) that may arise as a result of the proposal going ahead. This section is based on analysis of: (i) previous but similar case studies; (ii) other technical and social reports; (iii) media; and (iv) social media. All sources (i – iv) provide some documentation and indication of likely perceived or actual social impacts. Where appropriate, we use direct quotes from stakeholders. Social impacts are considered in the context of project development and operation, whether they are actual or perceived, direct, indirect or cumulative, and what impact they are likely to have at various scales. We present the analysis of potential impacts according to the impact domains described in Box 2.

Local Scale – Site level

At the local level there are a number of potential social impacts. As the impact domains highlight, fears around wellbeing and aspirations contribute to perception of potential social impacts.

This is the case with Yumbah aquaculture which is an abalone business located adjacent to the Smith Bay site. Yumbah perceives that the proposed wharf facility presents an unacceptable risk to the viable operation of their abalone farm. Yumbah is concerned that dredging will increase the concentration of suspended solids in nearshore waters which is a water source for their land-based operation. Their concern is that increased sediments in their intake waters will affect and possibly kill the abalone which are highly susceptible to increased sediment loads. Yumbah staff cite a mass mortality event associated with high sediment loads caused by a large storm in 2015 as an example of what could occur in event the Smith Bay wharf facility contributes to increased sediment loads. Yumbah argues that socio-economic impacts of the proposed wharf at Smith Bay will include loss of employment, and a wider impact across South Australia, Victoria and Tasmania as it is part of wider aquaculture networks (NRM Committee 2017).

Yumbah is also concerned that reduced water velocities in access channels will accumulate fine sediments (silt clay) and in turn that they will affect the economic viability and hence lifestyles of its employees and business. The following quote from Mr Connell, from

Yumbah, as cited in Hansard is illustrative of the general issues surrounding their perception of projected impacts:

> "Here we have an illustration of the dilemma we see. It is not 10 metres deep at the end of the causeway, there is all this very, very hard limestone that I understand needs to be excavated. The problem for us is that that goes, and inevitably creates silt, sediment, in the water column, and this affects not just the diatoms, etc., but also if we get that into our intake it is going to suffocate our abalone.. If we go for prolonged days of these abs not being able to feed, the loss of production will be enormous and the stress will be enormous and the stress will generate mortality" (NRM Committee 2017).

This quote highlights that there is a fear about personal stress affecting wellbeing that constitutes a potential social impact arising from the perceived economic impact potentially caused by the proposal.

However, the data reviewed for this study shows that there could be positive social impacts to Yumbah from the proposed wharf facility from an upgraded electrical power supply and from improvements in the availability, price and quality of concrete, factors which currently potentially limit the scale and profitability of the Yumbah abalone farm. Further, the wharf facility presents a good opportunity to have enhanced and faster access to wider aquaculture markets. Partnerships between KIPT and Yumbah may also be achieved in other operational activities such as joint investment in water quality monitoring and technologies and improvements in optimising operational efficiency and sustainability.

There are many mitigation strategies available to address Yumbah's concerns (see Step 3, this report).

Potential health, noise and dust issues

At the local scale, there is some limited potential for health related social impact on workers during construction if (not managed appropriately) as a result of potential past site contamination from previous onshore abalone farming facilities, food production and processing, such as heavy metals and petroleum hydrocarbons in the vicinity of the former tank base areas. However site reports and risk assessment undertaken by a Certified Site

Assessment Practitioner concluded that overall risks and likelihood of any impacts to occur are considered low (LBW EP 2016).

During site construction, and during operation (traffic traversing the site, operation of machinery and equipment, timber product transfer and shipping) there will be some increased noise and dust. For example there will be increased traffic to and from the site for local residents on North Coast road. There will also be nuisance issues associated with noise, dust, light and vibration from increased traffic and on site construction and operation activity. This may affect Yumbah, recreational users/visitors to the area and nearby residents. Further detail relating to noise, air quality (including dust) vibration and light are outlined by the respective assessments undertaken as part of the EIS. There are generally well established mitigation measures for these potential impacts.

Recreation

As the proposed wharf facility will only be used for timber exports for a limited number of days per year, recreational opportunities in the area may not be compromised depending on community engagement and consultation outcomes. Discussions as part of the EIS process with recreational fishers have indicated that Smith Bay is not generally a preferred area for recreational fishing. Further details are provided in the EIS. They may in fact, due to easier access via road construction be enhanced.

Regional Impacts (KI)

Visual Amenity

Drawing from a visual sensitivity index used by Ports North (Ports North 2015) (see illustration 2), it is highly unlikely that there will be any negative visual impact resulting from the proposed development at Smith Bay. Additional advantages may result and include providing visitors and residents the opportunity to view visually interesting port related activities, and the movement of very large ships. There will also be enhanced opportunities to visit key visual tourism attractions in KI such the Remarkable Rocks and the seal colonies.

Visual Sensitivity	Description
National	Heavily experienced view to a national icon, e.g. view to Parliament House Canberra along Anzac Parade.
State	Heavily experienced view to a feature or landscape that is iconic to the State, e.g. view towards Cape Tribulation or the Kuranda tropical rainforest.
Regional	Heavily experienced view to a feature or landscape that is iconic to a major portion of a city or a non-metropolitan region, or an important view from an area of regional open space. E.g. views to the mountainous backdrop of Cairns or views of coastal islands, e.g. Green Island, Fitzroy Island.
Local	High quality view experienced by concentrations of residents and/or local recreational users, and/or large numbers of road or rail users, e.g. views across to Trinity Inlet from Cairns or from the Cairns Esplanade.
Neighbourhood	Views where visual amenity is not particularly important, such as lesser quality views briefly glimpsed from roads.

Illustration 1: Ports North visual sensitivity index

The Scenic Solutions Report also rates visual amenity for Smith Bay and concludes that there will be a small reduction in visual amenity but that this is judged acceptable and in many cases to be neutral (Lothian 2017).

Cruise ship tourism and other vessel access improvements

The potential exists for cruise ships and other tourism operator vessels to use Smith Bay in the future if the facility meets their requirements and they have gained appropriate approvals to do so. There is also the potential for other cargo vess4els and ships to use Smith Bay, pending facility needs and approvals.

Cruise ship tourism is an important part of the local tourism industry in KI. During the 2015-2016 cruise ship season, visitors to the island contributed $2m to the local economy (The Islander 2017b). However, presently, cruise ship tourists are tendered from their vessel to shore which can only take place in favourable weather conditions. If the weather is not favourable, tourists cannot leave their ship to visit the island. The proposed wharf could potentially eliminate the need for a tendering service by providing the facilities needed for a cruise ship to berth onshore, thus providing an opportunity for the Island's tourism operators to encourage more of the cruise ships that visit South Australia to call into KI. The wharf facility provides a potential opportunity to rectify this limitation and increase the number of cruise ship tourists visiting KI. For example, the proposed berthing pocket is deep enough for

a ship the size of the Queen Mary II to dock. Although the Queen Mary II did visit KI in February 2017, passengers had to transfer by tender to Penneshaw.

Phil Hoffman, a major South Australian tourism industry leader was quoted in the media saying the Smith Bay wharf "would boost cruise ship numbers visiting KI and provide a significant boost to the state economy... Cruise ship captains don't like transferring passengers to the island by tender and would much prefer being able to dock at a wharf" (Crouch, B 2017).

Other users may benefit from the deep-water wharf; its design will allow other uses without much upgrade depending on the scale and specific requirements. KIPT will not limit the use of the facility, particularly at times outside of their requirement to load timber products onto their customer's ships at allocated times throughout the year. As a bulk timber product export facility, Smith Bay could be accessed without modification by many other stakeholders/businesses including for agricultural exports (especially containerised grains).

Employment

The report by Econsearch (Econsearch 2017) provides the detail of the projected employment that will derive from the project. Employment gains will be during the construction as well as ongoing operational phases of the proposed development:

- Construction
- Operations
- Planting
- Growth and harvesting operations
- Forestry science and technology
- Sustainable technologies
- Training and education
- Hauling
- Vehicle, equipment and machinery supply
- Maintenance and repair
- Marketing, sales and administration.

For full details of the likely employment statistics, please refer to the Econsearch report. However, a few additional factors that relate to the social impacts are worth noting. For example, 50% of staff are expected to be sourced from the island, and indirect employment opportunities will also be provided via the use of materials and equipment from KI and South

Australian businesses. Further, although it is likely that the floating wharf will be a barge sourced from Asia, it is likely it will need regular dry-docking, engineering inspections, maintenance, sandblasting, repainting and corrosion protection in Port Adelaide (KIPT 2017). Thus, there will also be ongoing positive social impacts over time, not just to KI, but the wider South Australian economy, potentially enhancing social wellbeing.

Access

The potential advantage of access to the wharf facility will enable the KI communities/businesses increased access to wider economic markets as it is anticipated that the facility would be available for other vessels, and other uses, for at least 250 days per year. In this case, KIPT suggests that long-term take or pay contractual arrangements will be entered into between its wharf owning subsidiary and its timber exporter subsidiary.

Third party users will be charged the direct running costs associated with their own use (i.e. the avoidable costs incurred on their behalf) plus a margin for the real rate of return (say 10%). If the wharf requires modification to suit the needs of other users, they will be charged a fee which ensures the capital cost incurred to affect those modifications is recovered over the life of those modifications, and delivers (say) a 10% real rate of return on the funds outlaid (KIPT 2017b).

The advantage of access to a new wharf facility is expressed as follows by this quote from Mr. Cooper, a seed potato farmer in KI who says shipping costs often constrain further development, hence access to the facility may have benefit to small niche businesses such as his:

> Due to the Island's geographic isolation and strict quarantine measures, we don't seem to get the diseases and viruses that producers on the mainland contend with, as it restricts the potential flights of aphids… However, we do face the challenge of higher freight costs, due to the shipping involved. (Stock Journal 2016)

The wharf could also be used to import bulk materials to the Island, including fertilizer, building and construction materials, and fuel, thereby reducing farm input costs in particular.

These economic advantages will have social ramifications: it is likely that there will also be increased access to retail and other services throughout the island, as well as between its settlements, as a result of the increased roads and demand for transport services on KI that the

project might generate. There may also be increased freighting opportunities for local businesses. This in the long-term might result in a decrease in freight costs for local business.

Wellbeing impacts

The projected population increase that may arise if the development goes ahead (see Econsearch 2017), will also have the potential to create an enhanced need for social services, including childcare, schooling, higher education and trades training. The population increase predicted by the project could also enhance social and cultural networks, through increases in sporting teams and other networks, such as community interest groups. In a place with a small population like KI, isolation can sometimes be an issue affecting positive social and mental wellbeing. Thus, the wellbeing and social benefits that may accrue from the proposal could be a potential positive impact.

Housing demand and property values

Net migration to KI would generate further demand for housing, including higher demand (and pressure) on rents and which may cause some holiday accommodation to be brought into the rental market. The predicted increase in demand is for an additional 175 dwellings to be built. An additional 175 dwellings would mark a significant increase in the number of housing starts on KI, which averaged 40 between 2013-2014 (Australian Bureau of Statistics 2017b). It might also help reverse the decline in existing property values, where the median price of a property on KI have declined from $250,000 in 2013 (Australian Bureau of Statistics 2017b) to $225,000 in 2017 (Real Estate Investor 2017).

Currently, KI land prices are significantly lower than on the mainland, limiting the ability of Island farm enterprises to raise capital to invest and increase productivity. Thus, to the extent that a new wharf could potentially improve returns from agriculture (i.e. through cheaper imported inputs, a greater volume or higher value exports, or lower cost to export) a consequence may be increased land prices on KI. These impacts if materialised would have a positive social outcome for KI residents.

Impact on other existing industries

While Yumbah would consider that there are impacts deriving from the proposal to the aquaculture industry (via perceived impact of the 'clean and green' image of KI), no adverse impacts are anticipated on other industries given the employment situation on KI (and in the wider SA economy).

The existing SeaLink operation would not be negatively affected, as it caters to a different market and different KI needs. Indeed, SeaLink, as an SA-based company with significant logistical expertise and knowledge of KI, is a potential sub-contracted wharf operator.

Indigenous Impacts

While we acknowledge there are traditional owners for KI, it was specifically not within the terms of reference for this report to undertake any assessment of the potential social impacts of the project on Indigenous peoples. This subject is discussed in the EBS Aboriginal heritage Report and is further considered during stakeholder engagement undertaken and discussed in the EIS. Please refer to those documents for further details (EBS Heritage Report 2017).

Heritage Impacts

There are a number of shipwrecks which collectively constitute an important part of the cultural heritage of KI. However, in relation to the specific site of the proposal, there do not appear to be any potential impacts in relation to shipwrecks. For further detail please refer to the Maritime Heritage Report (Maritime Heritage Surveys 2017). The EBS Heritage Report also states any impacts relating to heritage and a chapter on heritage will be included in the EIS.

Recreation at regional scale

Recreational dive tourism in KI, especially shipwreck diving, could receive a boost from increased tourist visitation via a potential increase in the number of cruise ships visiting the island. Increased tourism is likely to also increase visitation to national parks and conservation areas, and create opportunities for gourmet food and wine industries by increased demand. This may create increased pressure on accommodation services.

Tourism Impacts

The tourism industry in KI relies on it promotion of the island as a 'clean and green' destination. As a result, there is a perception that the construction of the wharf facility may negatively affect this image. On the other hand, there is the perception and some economic modelling (see Econsearch report) that shows that the tourism industry will benefit from increased visitation resulting from the project.

This will also mean that there is an increased likelihood that there will be both increased pressure on existing services and infrastructure (eg accommodation, food, fuel services, hire cars etc) as well as added economic opportunities to increase services and infrastructure to meet enhanced demand.

Education, Training and Business

A social impact of increased people coming to see or be employed on KI will be an increased need to provide education and training services, both for new children and families who arrive on the island, but also for the additional skills and development needed for the project workforce. This will also build business opportunities and create further social and economic networks between existing industries, while providing opportunities for new ones to become established.

State based impacts

Government revenues

State government revenues would likely increase due to the use of the wharf facility by other industries, including wine, food and aquaculture, which would be able to capitalise on wider state based to international markets (RDA 2014).

There would also potentially be an increase in payroll tax received on wages and salaries from the growth in new jobs, as well as stamp duties raised associated with conveyancing and other transactions (KIPT 2017b). Further, as KIPT has committed to source materials and goods, wherever possible from South Australia, it is potentially likely that a project at this scale could generate in-direct employment and subsequently multiple social advantages

across the South Australia. Further, it is anticipated that the capital value of the plantation forest estates will increase as a result of forestry activities. This would potentially contribute/enhance the rate base of KI. Details of likely costs and projections can be located in the Econsearch report.

Summary of impacts at scale

Scale	Potential social impact
Local	Fear of impact as expressed by Yumbah aquaculture Potential risks to construction workers during development Increased nuisance issues from increased traffic to and from site, operation of machinery and equipment on site and with handling and transfer of timber products to ships
Regional	Increased access for residents and tourists Enhanced tourism opportunities Enhanced economic opportunities for agriculture Skills development Employment Visual or social amenity Ripple effect on other businesses who may benefit from access to wharf facility Increased population Increase in property and land values Enhanced social capital and well being
State Impacts	Enhanced tourism Ripple effect on state employment opportunities

Step 2: Identification of potential response to potential social impacts (via stakeholder analysis).

This section provides an overview of the stakeholders that may or may not be affected by the proposed development. In line with step 2, this section presents: (i) a table of key stakeholders by sectors; and (ii) a suggestion of which issues/potential impacts may be of concern. This is based on an analysis of the social impact domains (see Box 2) that may be of concern to the stakeholders group. As this is a desk top study, we do not provide an assessment of potential community reactions to that impact as: (i) this is hard to ascertain at desk top level; and (ii) the assessment will be made within the EIS using information gained by community and stakeholder engagement exercises. Please refer to that document for further detail.

Details of stakeholders were gathered from the KI Council web site and community documents, internet search via key stakeholder terms/groups, information from Econsearch, SARDI, PIRSA, peak group web sites, various government departments and community newsletters. It is not an exhaustive list, but provides an example of the diversity of stakeholders who may potentially be positively or negatively affected by the proposal. All of the stakeholders are considered relevant. For example the real estate companies will be impacted by a change in land prices or increase in real estate value caused by the proposal. Stakeholders within the food and wine industry may benefit from increased tourism and/or the potential to use the wharf facility for enhanced export purposes.

Table 3: Stakeholder Analysis

Stakeholder Group/Domain	Some examples of identified Group	Relevant social impact domains/characteristics (amenity, health, wellbeing, heritage, recreation, economic, access)
Indigenous traditional and historical owners	Kaurna Ngarrindjeri Ramindjeri	Cultural maintenance Clean and green image Access Social and visual amenity Employment
Local Government	Kangaroo Island Council	Access Sustainable development Social mobility Employment Increased visitation Clean and green image Resident well being Social and visual amenity Safety
Education services	Kangaroo Island Children's Services Kangaroo Island Community Education (combined schools) Department of Education (SA) TAFE	Access to services Benefits to curricula Social and Visual amenity Safety
Health Services	Kangaroo Island Health Service Country Health SA The Hills Southern Fleurieu Kangaroo Island Community Health Service	Safety Health Social and Visual Amenity Access Employment
Food and Wine	Kangaroo Island Food and Wine Association	Access Increased visitation Social and visual amenity
	Kangaroo Island Source and includes: Emu Bay Lavendar, Island Pure Sheep Dairy, Salt Rock Lamb, Kangaroo Island Freshwater Crayfish and Kangaroo Island Potatoes, Kangaroo Island Olive Oil, Ferguson Australia, Kangaroo Island Spirits (amongst others)	Clean, green image of KI
	Kangaroo Island Wine Company Includes: Andermel Marron Two Wheeler Wines, Bay of Shoals, Cape d'Easting, Dudley Wines, False Cape Wines, Kangaroo Island Estate, Kangaroo Island	Access Building business

	Springs Road Vineyard, Kangaroo Island Wines, Lashmar, Rookery Wines, The Islander Estate Vineyard, Woolybud	
	Kangaroo Island FEASTival	Clean green image Increased attendance and visitation
	Kangaroo Island Produce	Increased attendance and visitation Social amenity
Real Estate	Kangaroo Island Real Estate	Increased property values Social mobility Catering for ageing population
Recreational	Kangaroo Island Sailing	Access Social and visual amenity
	Kangaroo Island Pony Club	Access Social and visual amenity Safety (eg. trucks)
Hospitality	Southern Ocean Lodge	Employment Access Increased profits Increased visitation
	Kangaroo Island Wilderness Resort	Employment Access Increased profits Increased visitation Social and visual amenity
	Kangaroo Island Seafront Hotel	Employment Access Increased profits Increased visitation
	Mollys Run Tuscan Villa Style Accommodation	Employment Access Increased profits Increased visitation
	Fillmore's Lombardy Hotel	Employment Access Increased profits Increased visitation
	Kangaroo Island Holiday Village	Employment Access Increased profits Increased visitation
	Kangaroo Island Seaside Inn	Employment Access Increased profits Increased visitation
	Kangaroo Island Coastal Villas	Employment Access Increased profits Increased visitation Visual amenity Noise
Tourism	Kangaroo Island Gateway Visitor Information Centre	Clean and green image Visual and social amenity Increased visitation
	Island Pure Kangaroo Island	Clean and Green image

	Kangaroo Island Hire A Guide and Nocturnal Tours	Access Employment Increased profits Increased visitation
	Kangaroo Island Trails	Access Employment Increased profits Increased visitation
	Kangaroo Island Penguin Centre	Increased visitation Impacts on penguins
	Kangaroos Island Marine Adventures	Access Employment Increased profits Increased visitation
	Kangaroo Island Outdoor Action	Access Employment Increased profits Increased visitation
	Kangaroo Island Ocean Safari	Access Employment Increased profits Increased visitation
	Kangaroo Island Adventures	Access Employment Increased profits Increased visitation
Fisheries	Andermel Marron	Access Sustainability of business Employment Profits Increased visitation
	Yumbah Aquaculture	Access Sustainability of business Loss of Employment Loss of Profit Pollution Noise and dust issues
	Kangaroo Island Shellfish	Access Sustainability of business Employment Profit Pollution Clean and green image
Agriculture	Island Bee Hive	Access Employment Increased profits Increased visitation
	Kangaroo Island Living Honey	Access Employment Increased profits Increased visitation
	Hog Bay Apiary	Access Employment Increased profits Increased visitation
	Kangaroo Island Natural Products	Access Employment Increased profits Increased visitation Clean and green image

		Visual and social amenity
	Clifford's Honey Farm	Access Employment Increased profits Increased visitation
	Fryar's Kangaroo Island Free Range Eggs	Access Employment Increased profits Increased visitation
	Kangaroo Island Wool	Access Employment Profits Infrastructure benefits Property values
	Woodlana Station	Remote location Clean and Green image
	Agriculture Kangaroo Island	Access Employment Profits Infrastructure benefits Property values Building Agricultural Businesses
Transport	Sea Link	Visitation Profits Employment
	Business Kangaroo Island	Access Employment Profits Infrastructure benefits Building Agricultural Businesses Property values
	Parnlee (potatos and lamb)	Access Employment Profits Infrastructure benefits Building Agricultural Businesses Property values
Conservation	Kangaroo Island Eco action	Health Visual and social amenity Clean and green image Wellbeing impacts
	Smith Bay Action Group – Facebook site	Health Environment Visual and social amenity Clean and green image
	Kangaroo Island Flora and Fauna Club	Health Environment Visual and social amenity Clean and green image Impact on species Wellbeing impacts
	Kangaroo Island Ecological Enterprises	Clean and green image Impact on species Wellbeing impacts

Step 3: Identification of alternatives and mitigation

Alternatives

As noted in the introduction, there are a number of alternatives suggested as sites to the current Smith Bay site including Cape Dutton, Ballast Head, near American River and Vivonne Bay. However, they were not within the terms of reference for this study to assess the social impacts of these alternatives against the Smith Bay site, and have therefore not been analysed.

Mitigation

Local Mitigation Strategies

There are discrete potential negative social impacts that may occur should the proposal go ahead. However, for each of these, there are mitigation strategies available which would address these impacts. These are discussed below.

Mitigation of aspects that may affect Yumbah's operation

There are mitigation strategies that could be employed to address Yumbah's concerns about the social and economic impact of the proposed development. Of particular interest is a case study of another proposed wharf facility to be constructed by Tassal and Spring Bay Seafoods (oysters) in Tasmania. These aquaculture companies are proposing to build a 200 metre jetty, including construction of a deep-water facility for vessels to berth alongside it. It is a similar site to the one proposed at Smith Bay, and the water intake pipe for Spring Bay Seafoods is located within the proposed dredging site (Marine Solutions 2017).

The dredging management report by Marine Solutions (2017) highlights that the risks to Tassal and Spring Bay Foods resulting from jetty and wharf construction are very similar to that faced by Yumbah, yet, they have identified mitigation/management strategies, and many companies offer a range of technologies in this regard. Some of the potential strategies to draw from for the Smith Bay proposal are presented in Box 5.

Box 5: A summary of potential mitigation strategies for addressing social/economic impacts of wharf/jetty development on Tassal/Spring Bay Seafood aquaculture ventures (Marine Solutions 2017)

Commitment #1. Notify the EPA one week before the commencement of first dredging and provide EPA with an outline of the proposed dredging program.
Commitment #2. Dredge spoil is to be deposited and dewatered in a depression (pond) onsite. Spoil will be transported by truck to the disposal/dewatering site.
Commitment #3. Dredge operators will comply with the directions of Spring Bay Seafood and Tassal personnel regarding deposition of dredge spoil.
Commitment #4. Water sampling will be undertaken at four locations during dredging practices.
Commitment #5. If at the time of excavation material becomes odorous it will be capped with non-odorous material as soon as practicable within a maximum of 12 hours from the odorous material becoming exposed.
Commitment #6. Waste management and spill response capability to be on site.
Commitment #7. Dredging is only to occur during daylight hours so as not to cause noise disturbance to local residents.
Commitment #8. Sediment transport is to be minimised, via physical barriers/filters (e.g. bunding, baffles, geotextile cloth), and controlling the rate of dredge material being deposited ashore.
Commitment #9. Abort dredge if any plume is observed from the dewatering drain.
Commitment #10. Periodic visual and pH monitoring to ensure ASS is not posing environmental threat, or cap spoil with clean fill at the completion of dredging.
Commitment #11. Dredging operations are to occur during winter months, no later than the 21st August, to reduce the likelihood of causing a toxic algal bloom.
Water intake pipe re location: An additional suggestion is that Tassal/Spring Bay Foods change the location of their water intake pipe, if they remained concerned.

Social impacts can also be managed via the application of national and international standards and guidelines (Prout et al. 2009). This includes Australian and New Zealand Environmental Conservation Council (ANZECC) Guidelines for Fresh and Marine Water Quality for creating a dredge, and land reclamation management plans that ensure all vessels have spill prevention/clean up procedures in place and committing to staged and ongoing water quality monitoring processes (Prout et al. 2009). The PER of the Albany Port Expansion Proposal uses these standards to ameliorate its social impacts. In Port Hedland (GHD 2015), preventative management measures to mitigate issues relating to the introduction of disease or ballast water management were applied and include compliance with the following regulations, standards and guidelines:

- Environment Protection (Sea Dumping) Act 1981 (the Sea Dumping Act)
- Undertaking a waste prevention audit and development of waste prevention strategies

- Australian Ballast Water Requirements (AQIS, 2008)
- National Biofouling Management Guidance for Commercial Vessels (Commonwealth of Australia, 2009b)
- National Biofouling Management Guidance for Non-Commercial Vessels (Commonwealth of Australia,2009c)
  Code of Practice for Antifouling and In-Water Hull Cleaning and Maintenance (ANZECC, 1997)
- 'Draft' Antifouling and In-Water Cleaning Guidelines (Commonwealth of Australia, 2011)
- PPA Marine Pest Procedures (GHD 2015)

Mitigation of Health, noise and air issues

Any social impact issues associated with health, noise or air quality can be managed via appropriate mitigation strategies under WorkSafe SA policies and by appropriate management plans. Nuisance issues associated with noise, dust, light and vibration from increased traffic to and from site on North Coast Road affecting residents to the east on North Coast Road, and from on-site construction and operation activity, would be mitigated. Mitigation measures exist for ensuring traffic is from the west as the main route to enter the site from North Coast Road, and the transport , construction activities and operational times consider the community, as much as practicable, with ongoing consultation with the local community.

Mitigation can also be achieved via:

- Establishment of a noise and vibration management plan (such as in the Port Botany project by Sydney Ports Corporation, (Sydney Ports 2009) or the Port Hedland Air Quality and Noise Management Plan (DSD 2010) or a dust management plan (such as Fortescues Port Facility Dust Management Plan, 2011).
- Ensuring construction hours occur at times where noise and dust issues will be minimised.
- Adherence to all relevant laws and policies

Mitigation – Recreational activities

Any short term impact upon recreational use at a local level can be managed by ensuring that the development aligns with the National Health and Medical Research Council (NHMRC) (2008) Guidelines for Managing Risks in Recreational Water. Other case studies show such mitigation can be facilitated relatively easily (DSD 2010, BHP 2001, Sydney Ports 2009). KIPT will also provide community funding to recreational activities, and will consider how ot best manage exclusive zones and whether they are exclusion areas at all times of specific times. In this way, concerns about water quality and the safety of the public will be addressed.

Mitigation – Visual amenity impacts

A number of measures are also suggested by Sydney Ports (Port Botany Expansion) (Sydney Ports 2003) and Rio Tinto/Alcan (South of Embley project) (RTA Weipa 2011) to mitigate potential visual impacts and amenity. These include: planting native vegetation screening, partial screening of operations by noise walls, landscaping buffer strips, lighting control measures, use of low profile quay cranes, and careful selection of materials and colours to minimise the contrast and reflectivity of buildings and equipment at the new terminal (RTA Weipa 2011). Please refer to the Scenic Solutions Report (Lothian 2017) for further details.

In sum, all social impacts that may potentially emerge or become a concern can be effectively mitigated.

Step 4 – Identification of potential social monitoring strategy

In order to build on the study of social impacts, it is suggested that during, and then after the proposed development has been constructed (should the development be approved and progressed), that there is ongoing monitoring of social impacts. Based on existing practice for other wharf facilities (GHD 2006), two interrelated monitoring programs are suggested:

(a) A social indicator analysis; and

(b) A community monitoring program.

An outline of possible interrelated monitoring programs and their techniques are summarised in Table 4.

Monitoring Programs for the Proposed Project			
Monitoring	**Program Techniques**	**Timing**	**Responsibility**
Social Indicator Analysis	Review of relevant demographic statistics	At the release of census data (every 5 years)	The developer/ owner/contractor3 in consultation with community organisations, KI Council and relevant government departments.
Community Monitoring Program	As determined by the community organisations, KI Council and relevant government departments with support of KIPT	As determined by the community organisations, KI Council and relevant government departments with support of KIPT	As determined by the community organisations, KI Council and relevant government departments with support of KIPT

Table 4: Possible interrelated monitoring programs for the project

Summary

This report presents the results of a desk top social impact study of KIPTs proposal to construct a multi-user deep-water wharf facility at Smith Bay, KI. It does so by using social impact domains to assess the potential social impact of the proposal at local, regional and State wide scales. Impacts were also considered at the establishment as well as operations phase of the project.

Sources used included the technical reports undertaken for the project to date, public documents about the proposal, Australian Bureau of Statistics (ABS) and other data about KI, local government and Econsearch and Goyder Institute data, academic literature about best practice SIA, case studies, other EIS or PER reports from similar proposals, Hansard reports and media, including social media. A stakeholder analysis highlights the diversity of stakeholders and their potential concerns mapped against the social impact domains.

Possible mitigation strategies are provided and they include mitigation tools/techniques implemented by other authorities in similar situations and guidelines, laws and policies where appropriate.

Given this is a desk top analysis, the limitations thereon of this report need to be acknowledged, however, a follow-up community engagement process and public consultation process will corroborate identified impacts and draw out new perspectives. There is also a lack of documented information about the potential social impacts of the project in relation to the various suggested alternative locations.

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This is a list of sources consulted during the study which formed the basis of the analysis. Not all documents are cited in text.

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