



30 April 2009

SOCIO-ECONOMIC BASELINE STUDY

Sheep Hill Marine Port Facility Baseline Study

Submitted to:

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REPORT



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EXECUTIVE SUMMARY

Centrex Metals Limited (Centrex) is proposing a multiple user port development, at Sheep Hill, Eyre Peninsula. The proposal includes a new port facility and transport corridor to provide the mineral industry with effective access to international markets. The port may also serve as a multi use import-export gate for rural imports and exports including fertiliser and grains.

This report details the findings of the socio-economic baseline study and provides a social and economic profile of the regional, local and immediate study areas that could be affected by the proposed project. The study provides a basis for identification and assessment of the socioeconomic impacts arising from the project. Section 2.0 of the report identifies the study areas which include:

- Immediate Study Area (ISA) - All land within 5 km radius of the proposed 260-acre port facility.
- Tumby Bay Statistical Local Area (SLA)
- Eyre Statistical Division (SD) – Referred to as the Eyre region.

Methodology

The report has been prepared using an appropriate methodology that includes a review of project information and a field survey of persons living within the immediate study area during November 2008. This was substantiated with a desktop review of reliable secondary data and statistics including the Australian Bureau of Statistics (ABS) and the Australian Bureau of Resource Economists (ABARE). Current, best practice guidelines for social and economic impact assessment in Australia were used in developing social and economic baseline indicators. The methodology is described in Section 3.0.

Community Profile

Tumby Bay (SLA) is a rural area characterised by a low population density and growth rate. The population is comprised of a relatively higher proportion of people aged 45 years and older compared to the State as well as a higher proportion of males. The area has a large retirement population and a low proportion of indigenous people and people born overseas.

Tumby Bay SLA has generally lower levels of educational attainment compared to the Eyre region and South Australia, including lower proportions of people who completed Year 12 or equivalent and people with diplomas or degrees.

Economic Status

Regional Economy

Agriculture, fishing, aquaculture and tourism are the dominant industries for the Eyre region. Heavy dependence on agriculture makes the Eyre regional economy dependent on seasonal and environmental factors. For this reason, there is interest in developing tourism and mining as key growth industries for the region. Gypsum and salt are currently the largest commodities being mined in the region, however there is potential for future extraction of jade, granite and graphite. Exploration activities are at record levels, totalling \$72.3 million in 2005-06.



The main agricultural industries in the Eyre region include cereal crops and sheep. The region typically produces between 25-30% of the State's annual total value of cereal grain production. However in recent years, production in the region has been less than a third of its usual amount, placing Eyre's total contributions to State grain production well below long term averages. Since 2005, the Eyre region has experienced sharp declines in farming incomes and profits and increasing debt levels. This is mainly a result of:

- major drought in 2004
- low commodity prices in 2005
- drought in 2006, and
- steadily falling, historical grain prices received by broad acre farmers in Australia.

These factors have resulted in diminishing rates of return for farm businesses in the Eyre region.

Tumby Bay

Tumby Bay SLA is indicative of a remote, mainly agricultural based area within Australia. Sheep and grain production are the largest contributors to the local economy. In 2005-06, Tumby Bay contributed approximately 14% to regional agricultural value ranking third out of all SLAs within the Eyre region, however, this relatively high contribution did not translate into higher income levels.

In 2005-06, Tumby Bay had lower median individual and household income levels than all other SLAs within Eyre as well as median levels for South Australia and Australia. The area's median income levels are comparable with other Statistical Divisions in the State including Whyalla, Pirie, Yorke and Flinders Ranges. It can be inferred that median income levels for South Australia and the Eyre region are considerably higher due to the presence of large urban areas (Adelaide and Port Lincoln) within these regions. Tumby Bay has low unemployment, small proportions of wage and salary earners and lower costs of living compared to the Eyre region and the State as a whole. This further explains lower median income levels for the Tumby SLA.

Farming incomes have declined gradually in Tumby Bay SLA since 2001, and significantly since 2005. Heavy reliance on agriculture makes the local economy highly susceptible to market shocks and environmental conditions. Farmers cited the recent droughts and high costs of agricultural inputs as contributors to these financial losses. Interviewees reported an increase in the number of households seeking to leave the area. Furthermore, farmers remaining in the area expressed a desire to reduce crop production and increase sheep numbers as this is perceived to be a more profitable enterprise in the current climate.

Community Infrastructure

Tumby Bay SLA has a range of community infrastructures. Many public services and facilities in the area are threatened by a lack of demand and economic viability due to the relatively small population in the area and insufficient funds. Tumby Bay is serviced by a 35 bed hospital and 24 hour accident and emergency centre with short term intensive care services. There is a comprehensive community health service and larger hospital in Port Lincoln, 35 km south of Tumby Bay.



Projected Socio-Economic Characteristics

Section 5.0 provides a summary of social and economic characteristics that are likely to be susceptible to change as a result of the project. It is not the intention of this report to provide a socio-economic impact assessment, rather to identify where trajectories of change, either positive or negative, are anticipated to occur. This is an important initial stage for classification and assessment of project related socio-economic impacts in due course.

Demographic Characteristics

An influx of people employed as part of the project would result in a transient or permanent change in population size and structure of the local area. Employment opportunities with the port may reduce the outflow of young adults from the Tumby Bay SLA. Should a large proportion of the project workforce be house in Tumby Bay, this will increase the numbers of young adults and children in the area. This would change the population size, structure and age distribution for the area by increasing the proportions of young adults and children.

Vulnerable Groups

The Tumby Bay SLA comprises a low proportion of indigenous groups and non-Australian born population. The area has an aging population, due to the high number of retired people in Tumby Bay Town. Retirees themselves, who mostly reside within Tumby Bay town, are not considered a particularly vulnerable group. However, elderly people, with reduced mobility and less openness to change may be more vulnerable to effects from the project. The extent to which ethnic minority groups in the Tumby Bay SLA would be affected by the project is not known.

Community Lifestyles and Infrastructures

There are several characteristics and values considered important to the Tumby Bay community which could experience change as a result of the project. These include the small town lifestyle, familiarity with community members, quietness of the area, employment opportunities and the visual amenity of the area.

The project may cause a change in the range of and demand for public services and amenities in the Tumby Bay SLA. Local residents interviewed in the Tumby Bay SLA perceived that the project would stimulate demand that would sustain or improve the current level of services such as education, health and emergency services.

Land Ownership

One property would be directly affected by the project in terms of land loss. A further three properties are situated adjacent to the proposed transport corridor. Increased traffic, noise and changes to the visual amenity of the area may negatively affect house prices for some properties in the ISA.

Employment and Economic Activity

The project is expected to increase the absolute number and total income of wage and salary earners in the area. This is likely to bring benefits to an area which currently relies on a narrow, mainly agricultural, economic base with little employment diversity.

The project is also expected to generate jobs and business in a range of industries in the Eyre region. The potential to encourage private investment for mineral exploration would bring substantive economic benefits to the region in the form of new employment opportunities and economic diversity. The shipping of grain from the port could increase the ease and reduce costs of grain exportation for the Tumby Bay SLA.



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Royalties and taxes generated by the project would increase government revenues at Federal, State and Local Government levels generating potential regional benefits from investment in infrastructure, public services and community development initiatives. The project is likely to create development in regional rail infrastructure through a 27 km spur line from Ungarra to Sheep Hill.

Depending on where the project workforce is accommodated, the project is likely to induce a change in housing demand and supply as well as the capacity of current services and infrastructures. Changes in demand and supply pressures for housing and infrastructure would stimulate economic activity for the region but may also have longer term flow-on effects on price levels and inflation rates.



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Limitations (LEG04, RL1)



1.0 INTRODUCTION

Golder Associates Pty Ltd (Golder) was engaged by Centrex Metals Limited (Centrex) to undertake a baseline socio-economic assessment relating to the proposed development of a deep water marine port. The proposed port is located on the Eyre Peninsula at Sheep Hill, approximately 20 km northeast of Tumby Bay. The location of the site is shown in Figure 1,

This report presents socioeconomic baseline data collected as part of the baseline study for the Centrex Sheep Hill Project, referred to as the project. This socioeconomic information provides the basis for identifying, quantifying, comparing and estimating the effects arising from the socioeconomic impacts of the project. The baseline data presented in this report were derived from a combination of fieldwork and secondary data sources.

The report opens with a description of the defined study areas and methods used in the production and analysis of baseline data. Social and economic baseline data are used to form a comprehensive socio-economic profile for the local and regional study areas. This is presented in Section 4.0. A summary of social and economic characteristics projected to experience change from baseline conditions, as a result of the proposed project, is presented in Section 5.0. Section 6.0 outlines report conclusions and recommendations.

2.0 SOCIOECONOMIC STUDY AREA

The project is located in Statistical Local Area (SLA) of Tumby Bay approximately 21 km north east of the coastal town of Tumby Bay on the east coast of Eyre Peninsula, 600 km north west of Adelaide, South Australia. The site is located in an area of very low population density of 0.9 persons per square kilometre.

For the purposes of this socioeconomic assessment, the study areas under assessment comprise three distinct geographical areas: an Immediate Study Area (ISA) situated in the immediate vicinity of the Project, Tumby Bay Statistical Local Area (SLA) and the Eyre Statistical Division (SD) which is also referred to as the Eyre region. The study areas are presented in Figure 2 and Figure 3 and described as follows:

Immediate Study Area (ISA) – This comprises all land within a 5 km radius of the proposed 260-acre port facility area. There are approximately 5 households living within the immediate study area. There are also several other landowners with land in the ISA who live elsewhere outside the ISA.

Tumby Bay Statistical Local Area (SLA) - This includes the coastal towns of Tumby Bay and Port Neill, the inland communities of Lipson and Ungarra, and a rural area covering approximately 2770 square kilometres. The area has a population of 2,541 permanent residents and a population density of 1 person per square kilometre (ABS, 2007). Tumby Bay town is the largest significant urban centre in the SLA and provides the main hub for key services and amenities for the area. Tumby Bay (town) has a population of approximately 1200 and comprises a large retired population. Port Neill, to the north of the Project Area, is the second largest township in the SLA with population of approximately 400.

Eyre Statistical Division (SD) – Referred to as the Eyre region in general. This encompasses the Statistical Local Areas (SLAs) of Ceduna, Cleve, Elliston, Franklin Harbour, Kimba Le Hunte, Lower Eyre Peninsula, Port Lincoln, Streaky Bay and Tumby Bay. The Eyre region covers an area of approximately 55,000 km² and in 2006 had a population of 33,342. Port Lincoln is the largest urban area in the SD with a population of 13,600 in 2006 (ABS, 2006). It is situated 640 kilometres overland from Adelaide or 250 kilometres via the sea. The second largest SLA within the region is the Lower Eyre Peninsula, with a population of 4631 in 2006. The overall population density of the Eyre SD is lower than the Tumby Bay SLA (0.5 persons/km²) (ABS, 2007).



3.0 METHODOLOGY

This study was conducted through the collection, review and analysis of a range of secondary data including Australian Bureau of Statistics (ABS) census data and from the Australian Bureau of Agricultural and Resource Economists (ABARE). This is combined with information obtained from primary data collection and field interviews carried out between the 3 and 5 November 2008.

2006 Census data collected by the ABS was considered to be the most comprehensive, reliable and current statistical data on the regional and local areas affected by the project.

In order to collect primary data, a random sample of households in the immediate study area (ISA) was selected based on aerial images and local area maps detailing names and addresses of householders. Contact was made with these households prior to fieldwork and interviews were conducted during the field visit. In total, five households were interviewed representing approximately 50% of the total households in the ISA. Lists of questions asked to the interviewees during the fieldwork are included in Appendix B.

Primary data is a direct reproduction of the information presented to the researchers from the community. However, it was analysed and considered in light of inherent subjectivities with qualitative data and used throughout the report to corroborate secondary data findings. Secondary data has been analysed and tabulated to provide comparative information from which to draw conclusions about socio economic characteristics of the relevant study areas.

3.1 Secondary Data

The majority of secondary socioeconomic data were obtained from the Australia Bureau of Statistics (ABS) 2006 census. This data is very likely to be representative of the study area population given the comprehensive nature of the census. Where ABS data was considered insufficient, data and statistics were obtained from ABARE or other reliable sources. For the Tumby Bay SLA, Eyre Statistical Division (SD) and South Australia the following information was obtained:

- a) Demographic
 - Population
 - Household Size and Composition
 - Sex Distribution
 - Age Distribution
 - Education Levels
- b) Economic Indicators
 - Regional Economic Activity
 - Local Economic Activity
 - Employment
 - Income Levels
 - Income Distribution
 - Housing



c) Community Services and Infrastructure

- Schooling
- Health Facilities
- Service Facilities
- Recreation and Leisure
- Waste Management

This data provides a robust socioeconomic profile of the study area to enable a comprehensive assessment and identification of socioeconomic impacts. The data presented is in accordance with best practice guidelines for Social Impact Assessment in Australia and was chosen to highlight sensitive subpopulations that may be particularly vulnerable to project impacts, such as children, the elderly and ethnic minorities.

Disaggregated secondary data were not available from the 2006 census for the specific defined locality of the ISA.

3.2 Interviews

Interviews were conducted in the ISA and Tumby Bay SLA area over a two-day period from 3 November to 5 November 2008. Interviews were conducted with representatives from the Tumby Bay Council Planning Department, local farmers situated within the ISA and local service sector businesses.

The Council representatives were asked questions about:

- the Council's socio-economic development priorities
- objectives and plans for Tumby Bay SLA, including infrastructure development in the area, and
- present and planned economic initiatives.

Farmers were asked about:

- their livelihood structure
- changes in their livelihoods over time, and
- perceptions of the local community.

Local businesses owners in Tumby Bay town were asked:

- business trends in recent years.

A structure of key discussion points with local farmers is presented in Appendix B.



4.0 SOCIAL AND ECONOMIC PROFILE

4.1 Demographics

This section presents data derived from the ABS 2006 census. The following data provide a comprehensive demographic and education profile of the region. It compares and contrasts statistics for the Tumby Bay SLA, Eyre SD (referred to as the Eyre region in general) and South Australia as a whole. A recognition and understanding of the complexity and unique characteristics of the region is important for identifying projected or likely social impacts from the project.

Population

Table 1 presents data on the population size, density and growth rates of Tumby Bay SLA, Eyre SD and South Australia. In 2007, Tumby Bay SLA had a population of 2541 and a population density of 1 person per square kilometre. Between 2006 and 2007 the population of the SLA increased by 0.9%, which was similar, but lower, than the population growth rates of 1.2% for Eyre and 1.0% for South Australia over the same period.

Table 1: Population characteristics of Tumby Bay (SLA), Eyre and South Australia in 2006

Key Characteristics	Tumby Bay (SLA)	Eyre SD	South Australia
Total Population (2006)	2541	33,342	1514,337
Population Density 2007 (persons/km ²)	1	0.5	1.6
Population change 2006-2007 (%)	0.9	1.2	1

Source: (a) 2006 Census, Australia Bureau of Statistics
(b) ABS Regional Population Growth, Australia, 2006-2007

4.1.1 Household Size and Composition

Table 2 displays statistics on the composition of households in Tumby Bay SLA, Eyre SD and South Australia. In 2006, the average household size in the Tumby Bay SLA was 2.3 persons. One-parent families accounted for 6.4% of the Tumby Bay SLA population, which was much lower than the South Australia figure of 16.1%. Tumby Bay had more families with no children (57.3%) compared with Eyre (43.9%) and South Australia (40%).

Table 2: Composition of households in the Tumby Bay (SLA), Eyre and South Australia in 2006

Key Characteristics	Tumby Bay (SLA)	Eyre SD	South Australia
Couple family no children (%)	57.3	43.9	40
Couple family with children (%)	38.6	42.1	42.3
One parent families (%)	6.4	12.6	16.1
Lone Person Households (%)	27	24.6	27
Average household size (persons)	2.3	2.4	2.4

Source: 2006 Census, Australia Bureau of Statistics



4.1.2 Sex Distribution

Table 3 displays statistics on sex ratios for Tumby Bay SLA, Eyre SD and South Australia. The sex ratio in Tumby Bay and Eyre was 1.4 in 2006, comprising 51.1% males and 48.9% females. In contrast, the sex ratio for South Australia was 0.96, with 49.2% males and 50.8% females.

Table 3: Sex ratios for Tumby Bay (SLA), Eyre and South Australia in 2006.

Key Characteristics	Tumby Bay (SLA)	Eyre SD	South Australia
% Males	51.1	51.1	49.2
% Females	48.9	48.9	50.8
Male/Female Ratio (%)	1.04	1.04	0.96

Source: 2006 Census, Australia Bureau of Statistics

4.1.3 Age distribution

A population pyramid comparing the Tumby Bay SLA to South Australia as a whole is presented in Chart 1. Tumby Bay SLA has an older population profile, with more people aged between 45 and 79 years, and fewer young adults aged 20 to 39 and young children.



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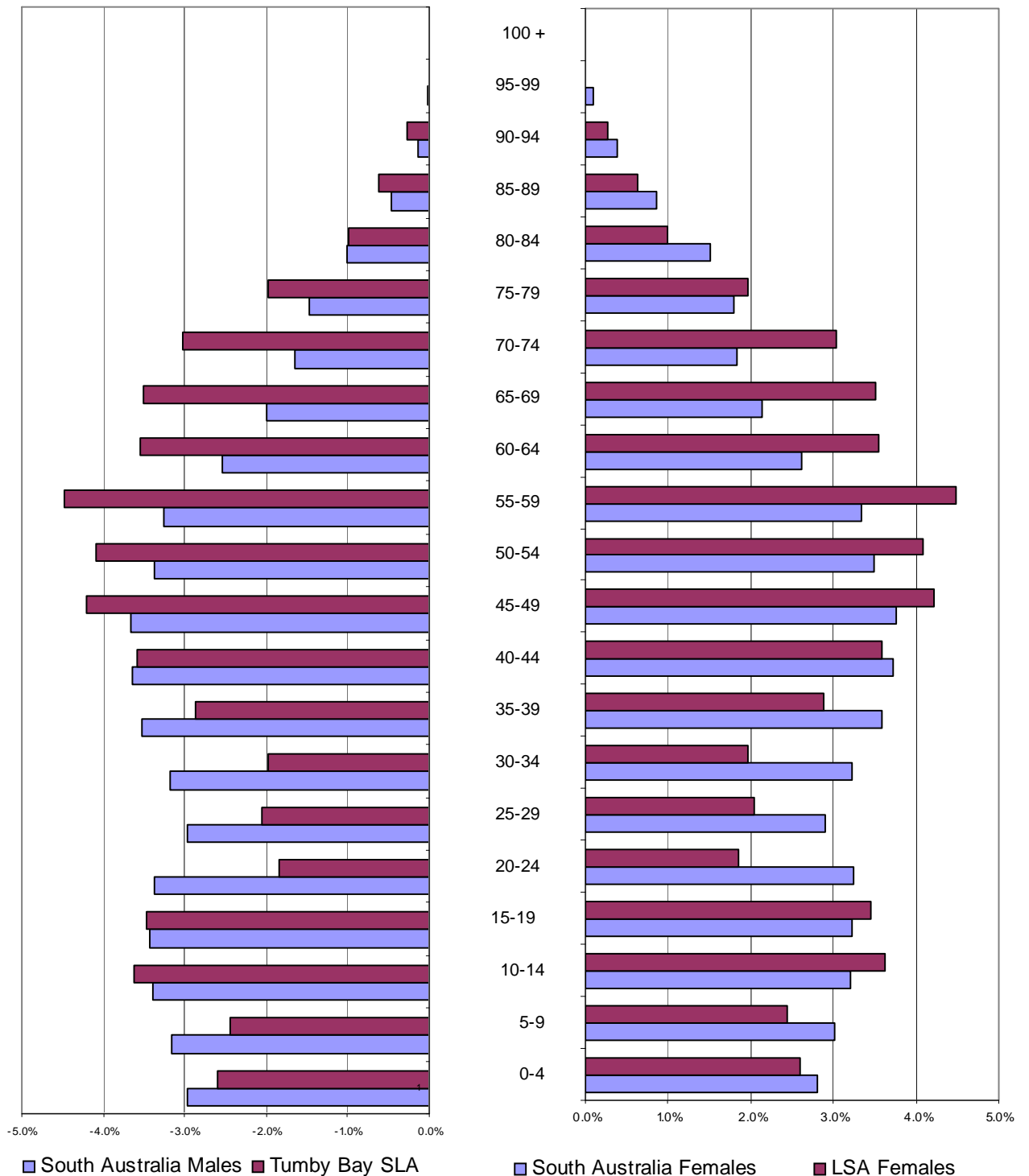


Chart 1: Population sex and age distribution for Tumby Bay SLA and South Australia, 2006

Source: 2006 Census, Australia Bureau of Statistics



Dependency ratios for Tumby Bay SLA, Eyre SD and South Australia are presented in Table 4. The dependency ratio is defined as the proportion of individuals under the age of 15 and over the age of 64. The child dependency ratio is defined as the proportion of individuals under the age of 15 relative to the working age population (aged 15-64). The elderly dependency ratio represents the proportion of individuals over the age of 64 in relation to the working age population.

The median age of persons in Tumby Bay SLA is 47 compared with 38 and 39 in the Eyre Region and South Australia respectively. This is explained by the large retired population living in Tumby Bay town.

In 2006, Tumby Bay SLA had a child dependency ratio of 27.5%, lower than both the Eyre region (33.8%) and South Australia (28.1%). Tumby Bay SLA had a higher elderly dependency ratio (35.1%) than both the Eyre region (22.7%) and South Australia (23.3%). These differences are explained by the older median age in the Tumby Bay area compared with the broader region.

Table 4: Child, elderly and overall dependency ratios for Tumby Bay (SLA), Eyre SD and South Australia in 2006

Key Characteristics	Tumby Bay (SLA)	Eyre SD	South Australia
Median age of persons	47	38	39
Dependency Ratio (%)	62.6	56.5	51.4
Child Dependency Ratio (%)	27.5	33.8	28.1
Elderly Dependency Ratio (%)	35.1	22.7	23.3

Source: 2006 Census, ABS

4.1.4 Ethnicity

Measures of ethnicity were obtained and are presented in Table 5. The proportion of indigenous people living in the Tumby Bay SLA in 2006 was 0.5%, compared with 6.1% for the Eyre region and 1.8% for the State as a whole. In addition, there were fewer proportions of people born overseas in both Tumby Bay (6.5%) and Eyre (6.8%) than in South Australia (21.5%).

The proportions of people speaking a language other than English at home were also fewer in the Tumby Bay (0.7%) and Eyre region (2.7%) compared to South Australia as a whole (12.7%). These figures indicate that relatively few ethnic minority groups are present in the Tumby Bay SLA and Eyre region.

Table 5: Ethnicity Indicators for Tumby Bay (SLA), Eyre and South Australia in 2006

	Tumby Bay (SLA)	Eyre SD	South Australia
% Indigenous people	0.5	6.1	1.8
% Persons born overseas	6.5	6.8	21.5

Source: ABS National Regional Profiles 2002-2006 Tumby Bay, Eyre Statistical Division and South Australia

4.2 Education

Data on educational attainment levels in the Tumby Bay SLA, Eyre SD and South Australia from the 2006 census are summarised in Chart 2. In 2006, 25.4% of the Tumby Bay population aged 15 years and older had completed Year 12 or equivalent compared with 27.5% for Eyre and 38.3% for the State as a whole.



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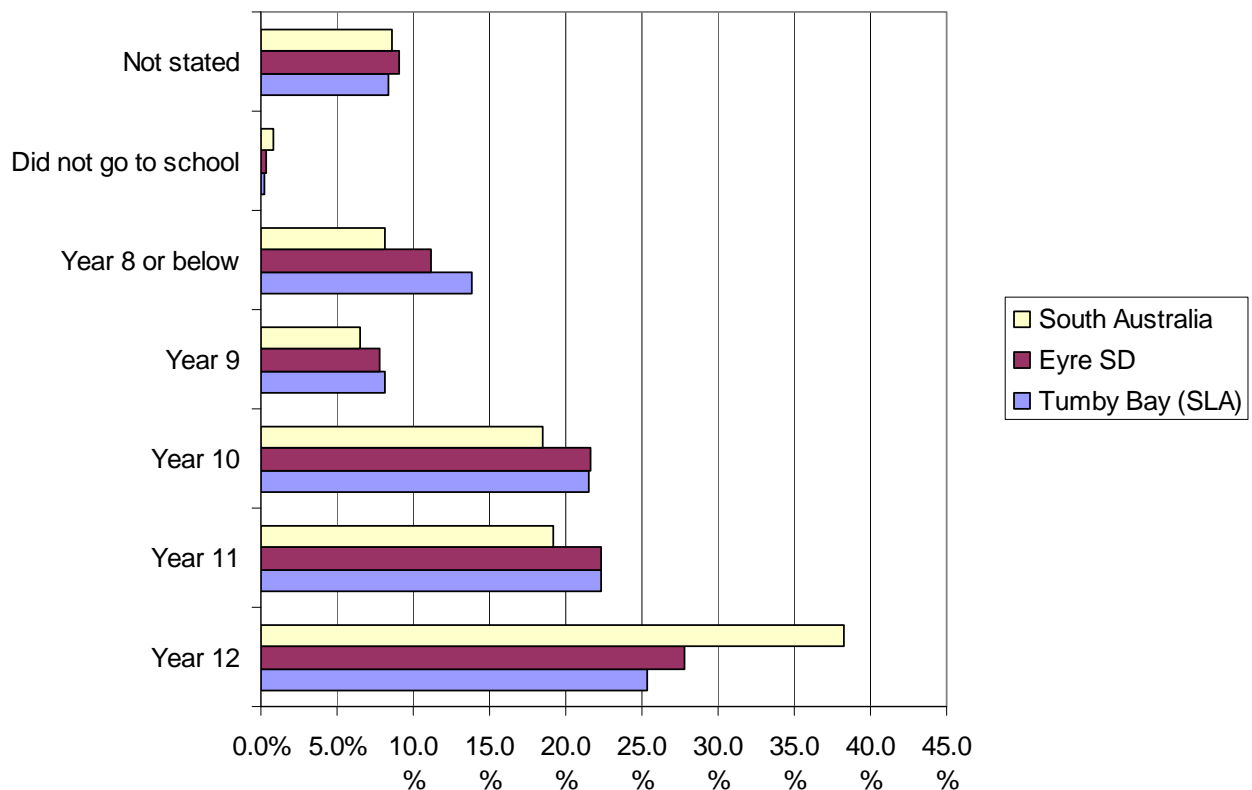


Chart 2: Level of school educational attainment aged 15 and above in Tumby Bay SLA, Eyre and South Australia 2006

Source: 2006 Census, Australia Bureau of Statistics

Chart 3 presents the proportion and range of post or non-school qualifications at the time of the 2006 census. The proportion of people aged 15 and above with a degree or higher in Tumby Bay SLA was 6.7%. This is slightly less than the Eyre region where 6.9% held a degree or higher and lower than the State figure of 13%. Tumby Bay and Eyre also had lower proportions of people with diplomas.

In contrast, proportions of people with Certificates in both the Eyre and the Tumby Bay region compare more favourably with South Australia as a whole. In 2006, the Eyre Region had a higher proportion of people with Certificates I, II, III and IV than the State and equal proportions of people holding Certificates not further defined (nfd). Tumby Bay had a slightly lower proportion of people with Certificates I, II, III and IV than the Eyre Region and South Australia and similar proportions of people with Certificates not further defined.

These statistics are consistent with the types of employment in the Eyre SD and Tumby Bay SLA. Agriculture, fishing and forestry are major employment industries with low proportions of people working in skilled, service sectors. The data may also be a reflection of the relatively low proportions of younger adults in the region as younger persons generally have higher qualification levels than older people. Furthermore, State percentages include statistics for the Adelaide region where there are higher proportions of people working in skilled, service sectors requiring post school qualifications.

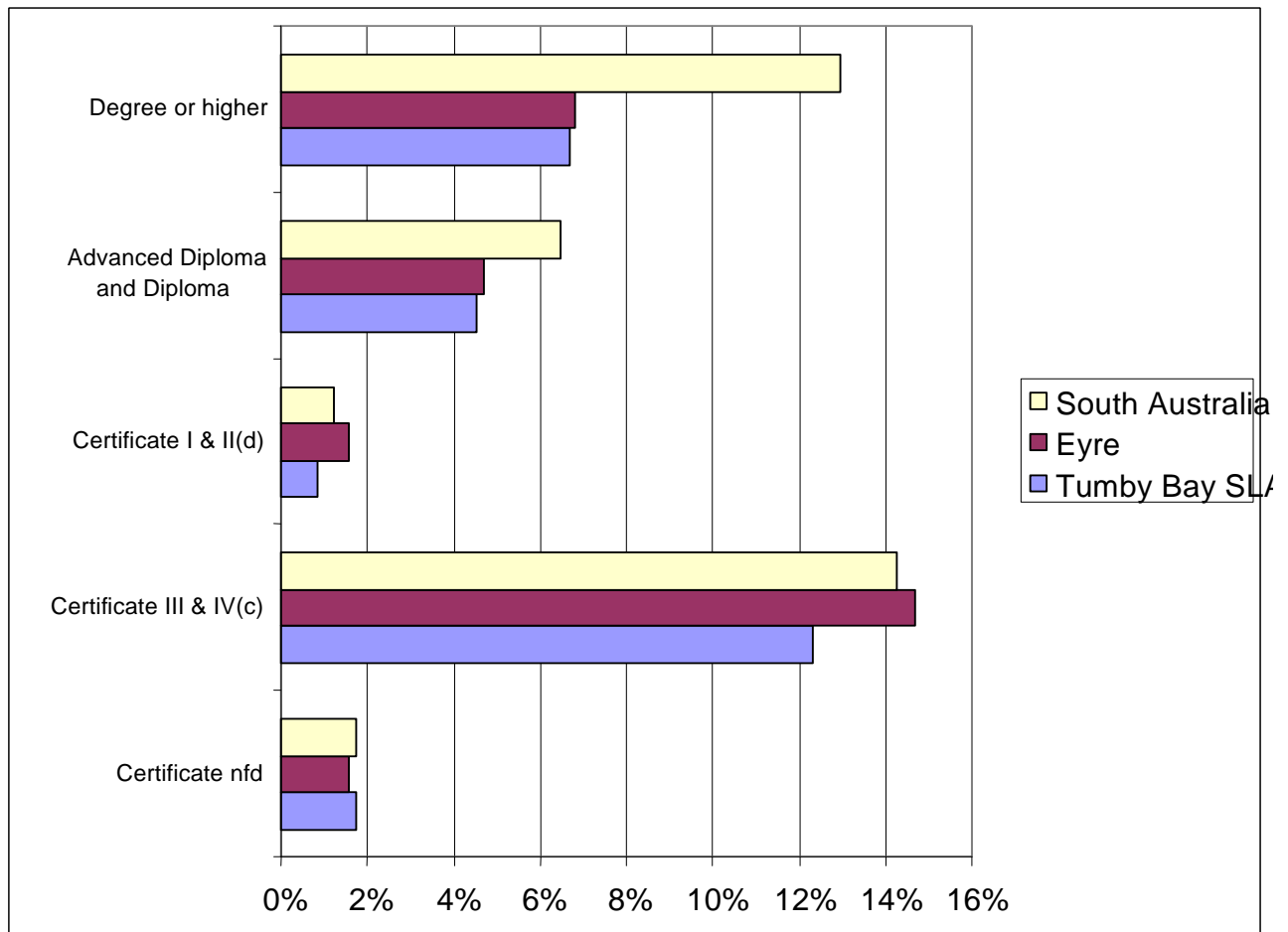


Chart 3: Highest non-school qualification of people aged 15 and above, 2006

4.3 Economic Profile

This section presents data derived from ABS and ABARE statistics and surveys. The following data is presented to provide a comprehensive economic profile of both the Eyre Statistical Division (Eyre region) and the Tumby Bay SLA. A recognition and understanding of the unique economic characteristics of the area, in terms of employment, industry, income and housing is necessary to provide a thorough understanding of present economic welfare activity in the region. This will provide a base from which to assess potential and likely economic impacts resulting from the project.

4.3.1 Regional Economic Activity

The major industries of the Eyre region are agriculture (in particular sheep and grains), fishing, aquaculture and tourism. Key projected growth industries include tourism and mining. Heavy, current dependence on agriculture makes the Eyre regional economy highly dependent on seasonal and environmental factors.

4.3.1.1 Agriculture

The main agricultural activities in the Eyre region include:

- Cereal crops
- Sheep
- Cattle (only in the drier north).



The region's water-intensive farming activities such as dairy farming are practiced in the Lower Eyre Peninsula. However, the Eyre region's overall contribution to the value of total milk products in South Australia is negligible (ABS, 2006).

In the Eyre region, almost half of all farms (48%) are small farms with an output of less than \$150,000 though the majority of the region's agricultural production occurs on medium and large sized farms exceeding \$300 000 per annum in production. Over 55% of the value of agricultural production is from farms with an output of more than \$600 000. Broad acre farms account for approximately 95% of farms. Of these, 85% produce grain crops, or combined grain with livestock production, usually sheep (ABARE, 2006). Agriculture on Eyre Peninsula is low input by world standards, with farming systems that are based on minimal tillage and trash (carbon) retention for sustainability (Eyre Peninsula Drought Task Force, 2008).

Agricultural Income Levels

Refer to Section 4.3.4.3 Farm Income Levels.

Contributions to State and National Agricultural Production

Cereal crops, particularly wheat and barley, dominate the Eyre region's agricultural activities producing around 25-30% of the State's annual total value of cereal grain production. The Eyre region typically produces around 45% of South Australia's wheat and about 20% of the barley with an average¹ gross value of agricultural production (GVP) of \$500 million (ABARE, 2006). However, during 2006, production in the region was less than a third of its normal amount, meaning total contributions to State grain production were well below usual levels (ABS, 2006).

Chart 4 displays the percentage contribution of each statistical division to total agricultural production within South Australia. In 2005-06, the Eyre SD contributed 12.65% to the total gross agricultural value for the state, third lowest after Northern South Australia and the Adelaide region. The Eyre region generated approximately 15.59% of the State's crop value in 2005-06 and 7.45% of the State's livestock products (ABS, 2006). These figures reflect the decline in agricultural output for the Eyre region in recent years.

¹ Unless otherwise described, the term average when referring to ABARE data or Econsearch data is calculated by summing the values of all observations in a set of data and then dividing by the number of observations in the set. Thus: average=sum of all the observed values divided by the number of observations. This can be inferred as a mean value.

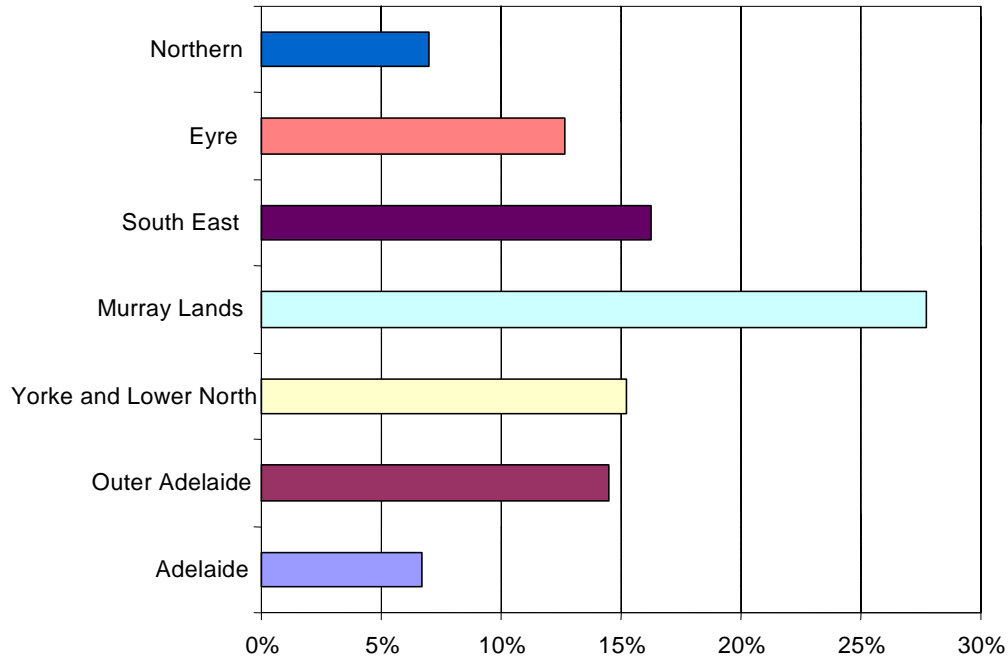


Chart 4: Contribution to total agricultural production value - South Australian Major Statistical Divisions

The total value of agriculture in South Australia in 2005-06 was \$4.4 billion. In 2007-8 it was \$5.2 billion, an increase of roughly 19% (ABS, 2008). The vast majority of agricultural commodities in South Australia are produced in regional economies with key contributors being the grains, aquaculture and mining sectors. In 2007-08, the total value of agricultural production for Australia as a whole was \$44.6 billion, thus the South Australian economy generated approximately 10% of the nation's total agricultural value for this period (ABS, 2008).

4.3.1.2 Fishing and Aquaculture

Eyre Region

Fishing and aquaculture form the regions second largest industry. The Eyre region accounts for 73% of the State's seafood production and 91% of South Australia's aquaculture production by output and 87% by employment (Econ Search, 2007). In 2005-06 the direct value of aquaculture industry output was approximately \$221 million with flow on output of \$131 million in other industries. The aquaculture industry employs 1800 people directly and 120 in downstream activities (Econ Search, 2007).

Tuna farming and oyster growing are the regions largest employers with growth predicted in marine finfish, mussels, abalone, oysters and tuna. Oyster and tuna farming contributed \$100 million to Gross Regional Product for the Eyre Region in 2005-06 (EconSearch, 2007). Many coastal towns have commercial fishing, in particular Port Lincoln, which had a large tuna-fishing fleet that is gradually being converted to fish farming in bays along the coast. In recent years seafood exports have been subject to increasing pressure from a combination of market price fluctuations, currency exchange rates and an increase in global competitiveness (Eyre Regional Development board, 2007).



South Australia

South Australia has a strong, viable commercial fishing industry. In 2005-06 the State's fishery production was valued at \$407 million and constituted approximately 24% of Australia's total production (ABS, 2008). The industry is an important source of employment for the State, both directly and indirectly, and as an earner of export dollars. The state earned 52% of its seafood income of \$319 million from fresh and frozen fish exports in 2005-06 (ABS, 2008). The State average gross income per boat ranged from approximately \$36,000 in the marine scale-fish fishery to \$750 000 in the abalone fishery in 1997/8. This increased to a range between \$95 000 in the marine scale-fish fishery to \$1.1 million in the sardine fishery in 2006/7 (EconSearch, 2008).

The average landed real price per kilogram across all South Australian fisheries (in 1990/91 dollars) decreased approximately 46% between 1990 and 2006/7. This was largely attributed to the increase in the contribution of sardine catch. Over the period 1990/91 to 2006/07 gross value of production (GVP) across all fisheries increased by 117 per cent in nominal terms or 44 per cent in real terms, due to a rise in total catch and despite a fall in the average landed price (Econsearch, 2008).

4.3.1.3 Tourism

Tourism is the Eyre region's third largest industry behind agriculture and fishing. It is one of the region's key growth areas. In June 2007 there were more than 1200 tourism related businesses in the Eyre region with 43% being non employing business and 51% being micro or small business enterprises.

In 2007, the Eyre region attracted 654 000 visitors of which 51% were domestic overnight visitors. In 2007, \$196 million was spent by visitors in the region with domestic overnight visitors accounting for 81% if the total expenditure (Tourism Research Australia, 2007). There were 16 000 international visitors to the Eyre region in 2007, staying an average of 11 nights and generating expenditure of \$489 000. This represents approximately 3% of the value of total international tourism expenditure in Australia (ABS, 2008).

4.3.1.4 Mining

Eyre Region

Mining is an important contributor to the Eyre regional economy. Gypsum and salt are the largest commodities currently being mined in the region, however there is also potential for the future extraction of other deposits including jade, granite and graphite (Eyre Regional Development Board, 2007).

The Kevin Mine on the far west coast of the Eyre Peninsula holds the largest deposit of gypsum in the Southern Hemisphere and represents a significant export commodity. Eyre Peninsula is also home to one of the largest known resources of crystalline flake graphite located at the Mikkira Graphite Province (Uley Mine) near Port Lincoln. Exploration activities in the Gawler Craton region are at record levels, totalling \$72.3 million in 2005-06 and there have been increased levels of exploration for other commodities including uranium, zinc, nickel, diamonds, petroleum and sand (Eyre Regional Development Board, 2007).

Exploration activities have identified the following opportunities for resource developments in the region;

- Iluka Resources heavy mineral sands deposits
- Centrex Metals, Wilgerup, Minbrie and Bungalow iron ore deposits
- Helix Resources and Minotaur Exploration's Tunkillia gold prospect at Lake Everard
- Iron Clad, Wilcherry Hill iron ore deposit.



South Australia

The South Australian mining industry contributed 3.9% to Gross State Product in 2006-07 down from 4.5% in 1994-5. Mining related commodities constituted 26% of the value of all exports from South Australia in 2006-07 and employed approximately 11,175 people. The value of mineral commodities produced in South Australia in 2005-06 was \$3 265 million (ABS, 2008).

The South Australian State Government aims to increase private investment in mining over the next decade. Key objectives of the South Strategic Development Plan (2007) are to:

- maintain exploration expenditure in excess of \$100 million per annum until 2010
- increase the value of minerals production to \$3 billion by 2014; and
- increase the value of minerals processing to \$1 billion by 2014.

4.3.2 Local Economic Activity

The following provides an economic profile for the Tumby Bay SLA. Agricultural activities dominate the economy of the Tumby Bay SLA. Tumby Bay Town is a service centre for the surrounding farmers and has become an increasingly popular destination for holidaymakers.

Agriculture

Sheep and grain production are the largest contributors to the Tumby Bay SLA and township economy. Wheat and barley are the chief grain crops grown in the area.

Chart 5 displays SLA agricultural contributions to the Eyre regional economy (comprising the Eyre SD). In 2005-06, Lower Eyre Peninsula was the richest SLA in terms of agricultural output, producing 17.72% of the Eyre region's total agricultural value. Tumby Bay SLA ranked third, contributing 13.86% to regional agricultural value (ABS, 2006).

During the period, Tumby Bay contributed 9.79% of the regions total value of sheep products and 10.72% of the total value of livestock products, ranking fifth in both aspects. The rising value of livestock in recent years has rejuvenated interest in the sheep industry in the local Tumby Bay area. There has been increased reinvestment into sheep and wool. Farms in the area combine growing grain crops with sheep production on mixed farms. Farmers are currently producing a combination of traditional merino lambs and cross breed lambs for the prime lamb market (Personal Communication).

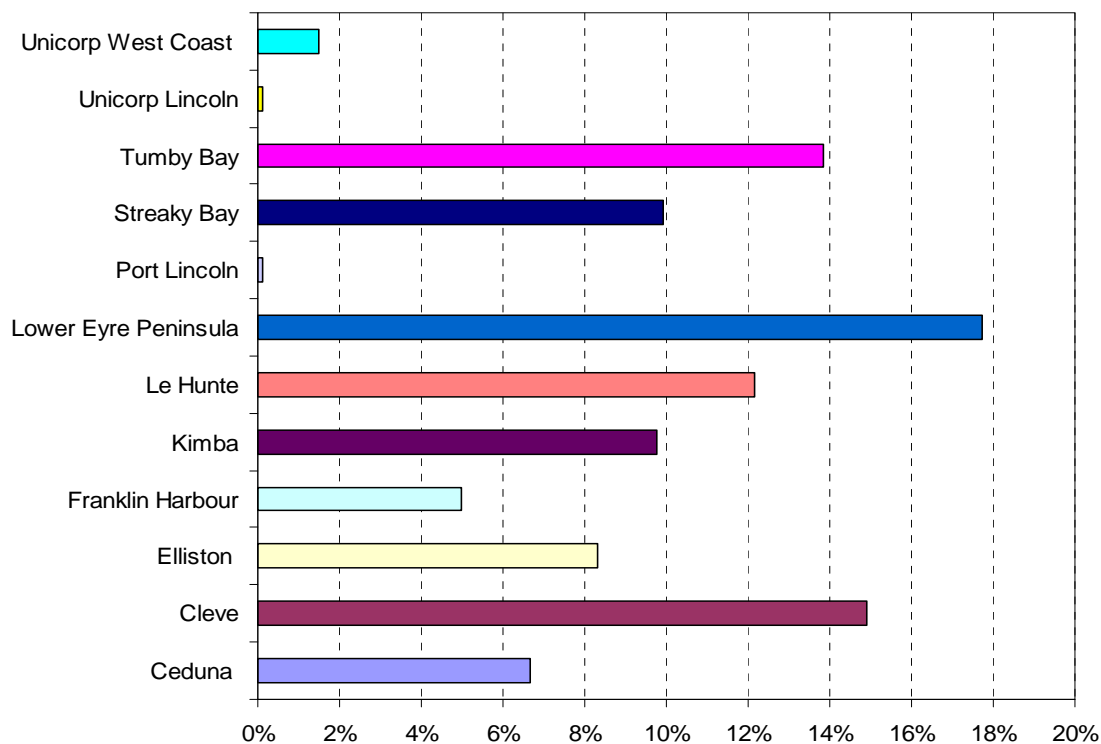


Chart 5: SLA Contributions to total agricultural values within the Eyre region (Eyre Statistical Division) 2005-06

Source: ABS 2006 Census

Tourism

Tumby Bay SLA has become an increasingly popular tourist destination, with fishing being a major attraction. A large marina was constructed in Tumby Bay in 2001, which has allowed for easier launching of boats, as well as development of nearby areas. Visitors are also attracted by the area's scenic stretches of coastline, quiet and safe swimming beaches and scenic coastal and inland tourist drives. Tumby Bay and Port Neil both have jetties for land based angler and the Sir Joseph Banks Group of Islands is a popular site for sightseeing, fishing and diving activities.

Tourism in the wider area is being enhanced by the construction of Port Lincoln Hotel and future upgrade of Port Lincoln Airport 30 km south of Tumby Bay town.

A public Lucky Bay to Wallaroo ferry service was opened in 2006. This has increased the accessibility of the Tumby Bay local area to visitors (Personal communication).

Commerce and Retail

Tumby Bay town provides a number of shopping and other commercial services to support the regional agricultural precinct and the town's retirement population. Commercial services include a small supermarket, a post office, two small hotels, a general grocery store and restaurants. There are no commercial services in Lipson and limited services in Port Neill including a licensed restaurant and a small number of shops (Tumby Bay District Council, 2009).



4.3.3 Employment by Industry

Chart 6 displays a break down of occupational types for the Tumby Bay (SLA), Eyre region (SD) and South Australia. This data has been derived from 2006 census data. This figure highlights the strong domination of agriculture, forestry and fishing as the major employing industry in Tumby Bay and the Eyre region. Because of this dominance, the proportions of employment in most other industries in these areas are significantly below the state average.

Sheep, beef, cattle and cereal grain production employs 35.0% of persons aged 15 and over in the Tumby Bay SLA. This is comparable with other rural areas in the Eyre region including Cleve (36.4%), Streaky Bay (27.8%) and Elliston (42%). The other major industries of employment for Tumby Bay include school education, accommodation, road freight transport and supermarket and grocery stores (ABS, 2006). Aquaculture is not a dominant industry of employment in the Tumby Bay SLA compared to other SLAs such as Port Lincoln, Lower Eyre Peninsula and Ceduna. In these regions, aquaculture constituted between 4-5% of employment respectively.

High dependency on agriculture means that Tumby Bay, like other rural and regional areas, is susceptible to shocks from market forces and environmental conditions that affect agricultural productivity and profitability. The South Australian Government and the Eyre Regional Development Board (ERDB) are encouraging diversification in the regional economy through support for:

- mining
- tourism industries
- infrastructure development.

Between 2001 and 2006, there was a major increase in employment in mining for the Eyre region. However, this growth was from a low level and the numbers of people affected were comparatively small. Over this same period there was also a strong increase in employment in health and community services and construction (SA Govt, DFEEST, 2008).

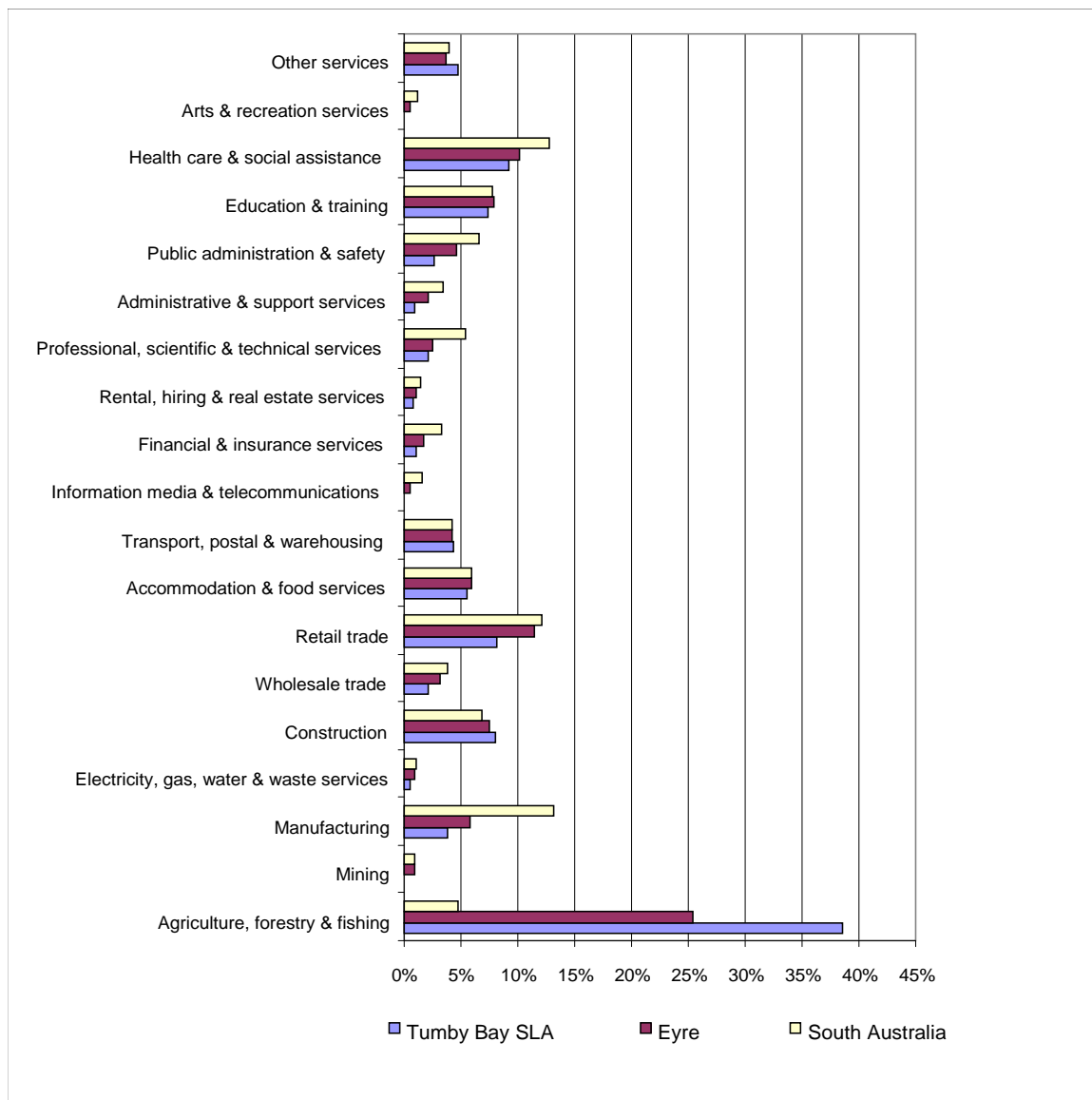


Chart 6: Industry of employment of adults aged 15 and above in Tumby Bay SLA, Eyre, and South Australia

Source: 2006 Census, Australia Bureau of Statistics

4.3.4 Income Levels

4.3.4.1 Household Income Levels

Table 6 displays median individual and household weekly incomes for all statistical local areas (SLAs) in the Eyre SD. It also displays median individual and household weekly incomes for nearby Statistical Divisions (SDs) and South Australia as a whole. Owing to a high reliance on agriculture, income levels in the Eyre SD tend to vary significantly from year to year compared to the national average (ABARE, 2006).

In 2006, income levels were low across the Eyre SD compared to State median incomes. Tumby Bay had the lowest household and individual median weekly income levels of any SLA in the Eyre SD. Median individual income levels in Tumby Bay were \$353 versus \$410 and \$433 in Eyre and South Australia respectively. However, a comparison of incomes with other nearby SDs, including Pirie, Yore and Flinders Ranges, shows that median individual incomes in these areas were similar to Tumby Bay. The presence of Port Lincoln, a populated urban area, within the Eyre SD increases the median individual and household



incomes for the Eyre region. This inflates the values of incomes in the Eyre SD and biases comparisons with other areas that do not include a large town, including Tumby Bay SLA.

Table 6: Median Individual and Household Weekly Income Levels 2005-06

	Median Individual Income	Median Household Income	Average Household Size
Ceduna	419	887	2.6
Cleve	398	780	2.4
Elliston	380	707	2.5
Franklin Harbour	371	735	2.4
Kimba	413	748	2.3
Le Hunte	390	739	2.4
Lower Eyre Peninsula	428	845	2.6
Port Lincoln	436	821	2.4
Streaky Bay	394	697	2.3
Tumby Bay	353	628	2.3
Eyre SD (Whyalla and Lincoln)	410	785	2.4
Whyalla SD	365	747	2.4
Lincoln SD	412	780	2.4
Flinders Ranges SD	357	655	2.4
Pirie SD	336	622	2.4
Yorke SD	352	636	2.3
South Australia	433	887	2.4

Source: 2006 Census Data QuickStats, Australia Bureau of Statistics

4.3.4.2 Wage and Salary Employment

Table 7 displays the number, total income and mean individual income of wage and salary earners in SLAs within the Eyre SD. Tumby Bay ranked fifth in terms of mean individual income. Approximately one quarter of the population of Tumby Bay SLA is a wage or salary earner.

Port Lincoln SLA is home to the major urban centre of Port Lincoln town. It has a considerably higher total income from wage and salary employment than other regional and remote areas.



Table 7: Wage and Salary Income Statistics – Statistical Local Areas within Eyre

SLA	W&S Earners (no)	Total Income (\$)	Mean Individual Income (\$)	Ranking
Port Lincoln	5227	190,623,883	36,469	1
Ceduna	1208	42,920,453	35,530	2
Franklin Harbour	368	12,928,346	35,131	3
Lower Eyre Peninsula	1380	46,106,969	34,111	4
Tumby Bay	683	22,431,231	32,842	5
Le Hunte	431	14,099,518	32,713	6
Cleve	588	18,764,838	31,913	7
Elliston	316	9,855,273	31,188	8
Streaky Bay	685	20,700,989	30,220	9
Unincorp Lincoln	13	390,979	30,075	10
Kimba	358	10,643,724	29,731	11

4.3.4.3 Farm Income Levels

Since 2005, the Eyre region (SD) has experienced sharp declines in farming incomes, profits and increasing debt levels. Lower income levels in rural areas of the Eyre region, including Tumby Bay, are primarily a result of the rural nature of employment and industry and poor farming conditions in recent years.

Chart 7 displays ABARE (2008) time series data on broad acre farm cash income levels since the 1990s for the Eyre region, South Australia and Australia as a whole. Eyre made considerable income gains between 2000 and 2005, significantly outperforming state and national per farm averages. This was largely due to high returns on wool and sheep sales and record winter crop production in 2000-01 and 2001-02 (ABARE, 2008). It also reflected the greater reliance of the Eyre region on cropping income in combination with the larger scale of operations of farms.

Chart 7 shows that income levels have decreased in all three regions in recent years. Cash income levels in the Eyre region have fallen particularly sharply and at a faster rate than South Australia and Australia. Income levels in the Eyre SD for broad acre farms declined from a peak of \$230,350 in 2005, to \$15,607 in 2007. In contrast, during this same period, annual broad acre cash farm incomes for South Australia fell by a lower amount from a peak of \$161,256 in 2002 to \$46,881 in 2007 (ABARE, 2008).



SHEEP HILL MARINE PORT FACILITY SOCIO-ECONOMIC BASELINE STUDY

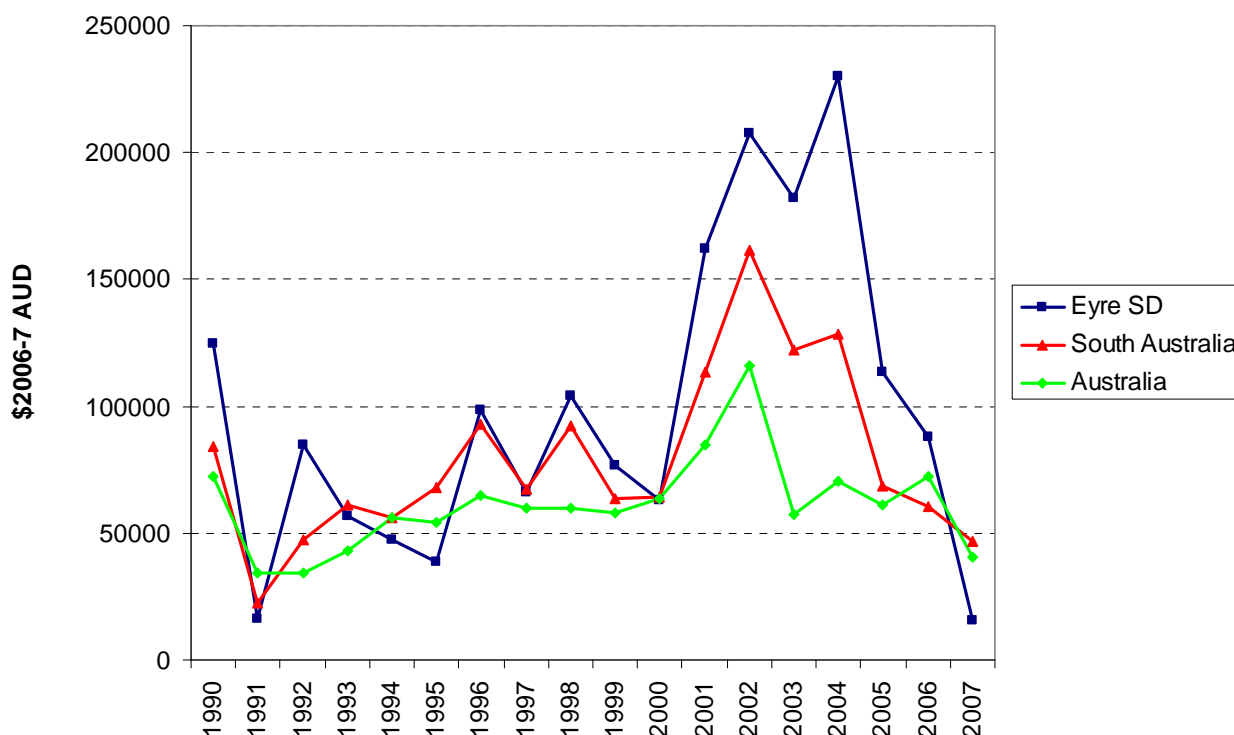


Chart 7: Average annual cash income of broadacre farms in Eyre, South Australia and Australia from 1990 to 2007

Source: ABARE, 2008

Chart 8, 9 and 10 display ABARE 1990 – 2007 time series data for the Eyre SD, South Australia and Australia. Data is presented on:

- broad acre farm business profits
- rates of return (including capital appreciation)
- increases or decreases in farm debt levels.

All three regions experienced large declines in farm business profits and rates of return since 2001 and especially since 2004. The Eyre region experienced greater and faster decreases in farm business profits and rates of return between 2004 and 2007 than did South Australia or Australia as a whole. Farm profits in Eyre decreased from a high of \$128 000 to losses of more than \$100 000 in 2007. As a result, rates of return on farm investments in the Eyre region were negative during this period.



SHEEP HILL MARINE PORT FACILITY SOCIO-ECONOMIC BASELINE STUDY

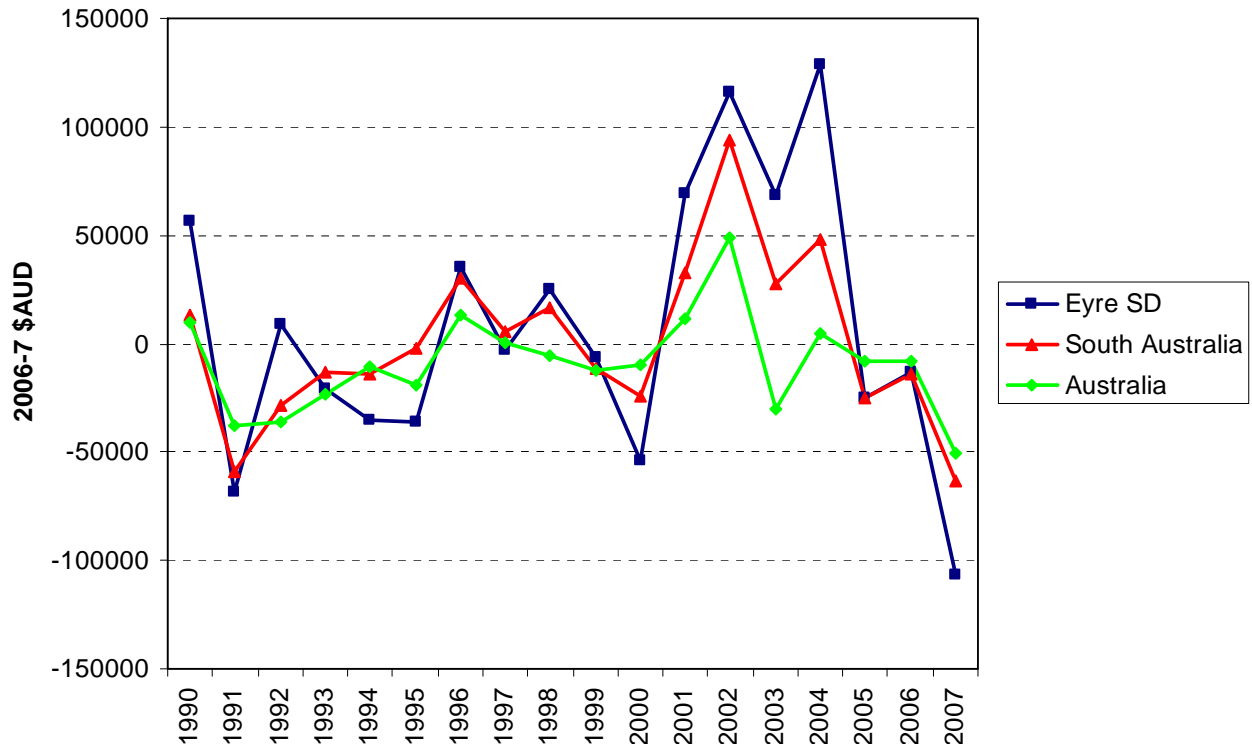


Chart 8: Broadacre farm business profits in Eyre, South Australia and Australia 1990-2007

Source: ABARE, 2008

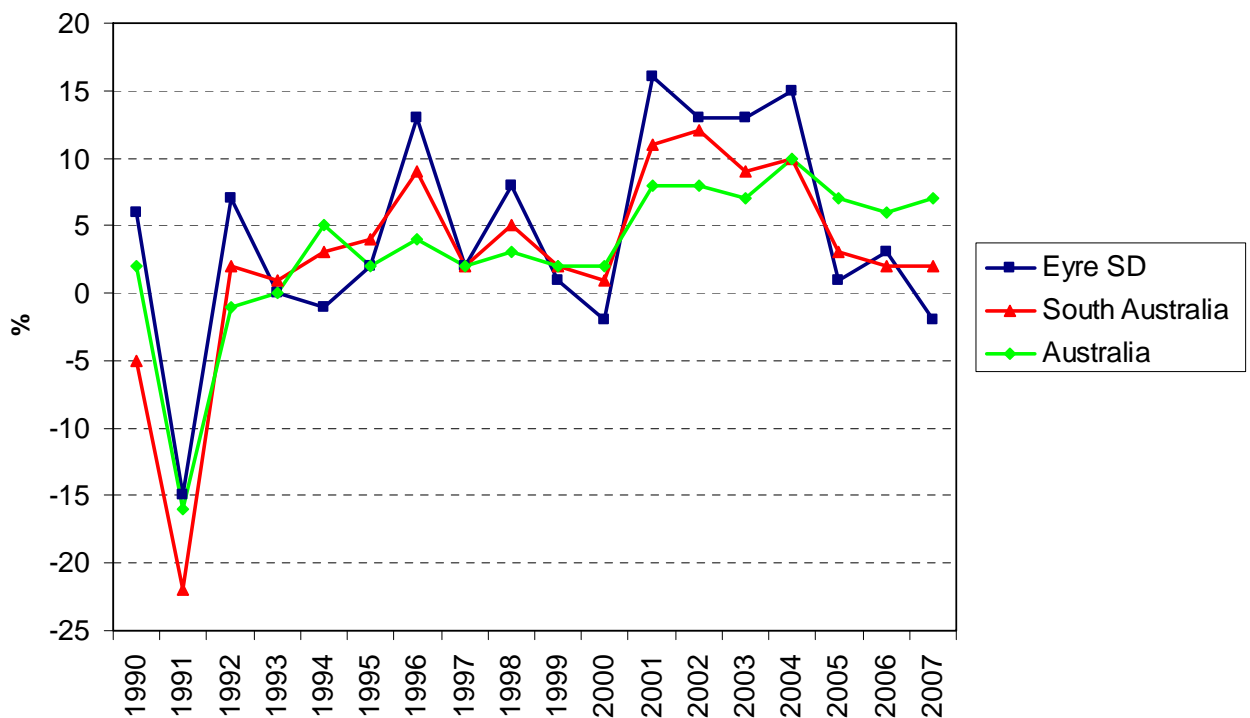


Chart 9: Rates of return on farm investments (including capital appreciation) in Eyre, South Australia and Australia 1990-2007

Source: ABARE, 2008



SHEEP HILL MARINE PORT FACILITY SOCIO-ECONOMIC BASELINE STUDY

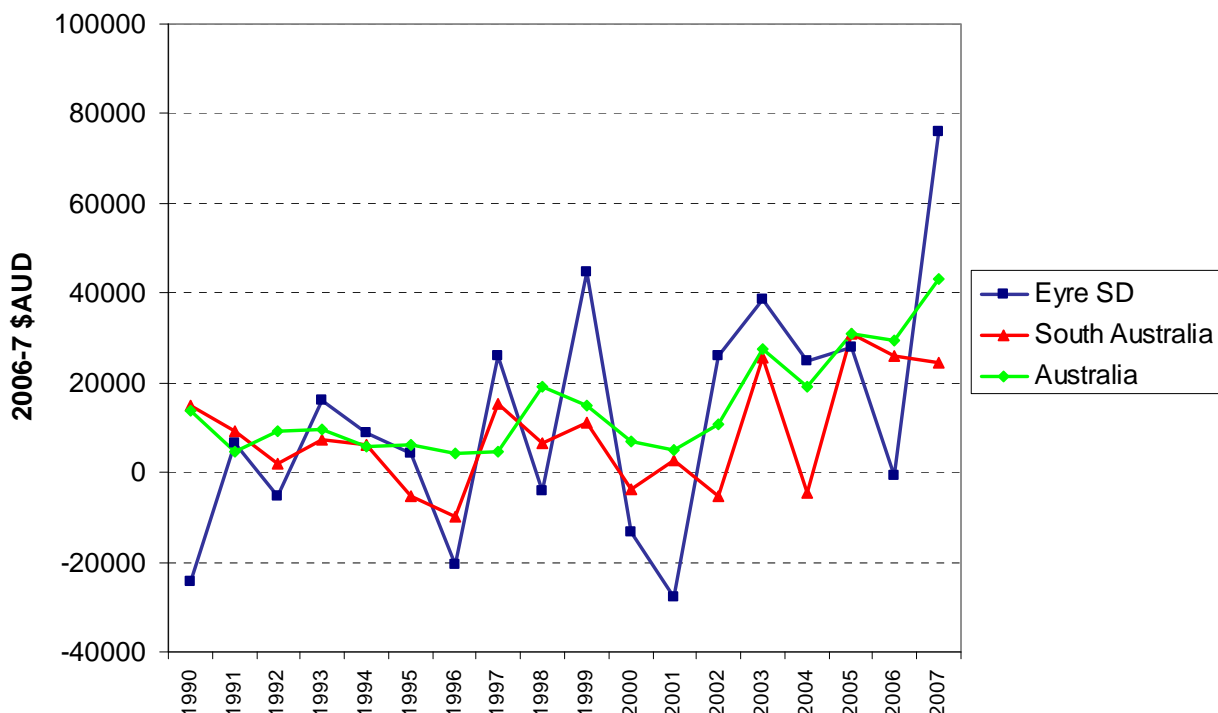


Chart 10: Increases or decreases in farm debt levels, Eyre SD, South Australia and Australia 2006-07

Source: ABARE, 2008

Chart 10 displays increases and decreases in farm debt levels for the Eyre SD, South Australia and Australia. Data indicates that changes have been particularly volatile for the Eyre region during the period. Since 2006, the Eyre region has experienced dramatic increases in farm debt levels far surpassing the state or national levels. This is likely a result of excessive borrowing during previous periods of difficult farming conditions to finance large falls in farm profits and income levels.

Depressed farming income and profit levels in the Eyre region are mainly a result of:

- major drought in 2004
- low commodity prices in 2005 whereby the region was not able to recover from the previous drought, and
- drought in 2006.

These factors have had a major impact on crop yields and pasture production (Eyre Regional Development Board, 2007).

Second, the region has also been negatively impacted by steadily falling, historical grain prices. Between 1978-79 and 2005-06, grain prices received by broad acre producers in Australia have fallen steadily in real terms, while at the same time, input costs have increased. Despite a record hike in 2002-3, the average wheat price received by broad acre producers has fallen by 2.2 per cent a year during this period (ABARE, 2006; Australian Grains).

Broadacre farm cash incomes for South Australia as a whole did recover slightly in 2007-8 as a result of the combined effects of higher commodity prices and increased production. However, prospects declined throughout the winter season of 2008 due to below average rainfalls and a fall in yield potentials. In 2007-08,



the rate of return on farm incomes (including capital appreciation) within the Eyre region hovered between 0 and -3% (Chart 9). This has been insufficient to build reserves or recover from previous losses, thus farms in this area have been largely unable to benefit from improved commodity prices or weather conditions (ABARE 2009).

Partly in response to drought conditions, some farmers in the area have made efficiency gains by increasing scale and investing in technology. A number of farms are now using minimal tillage methods to farm the land which is less water intensive and reduces the risk of short term soil erosion from wind and water. However, this method of cultivation requires greater level of chemical inputs in comparison to tillage based farming methods. It also requires the purchase of specialised seeding equipment designed to plant seeds into undisturbed soil and crop residues, which not all farmers are able to afford (Eyre Regional Development Board, 2007).

The current, heavy reliance of Tumby Bay on agriculture, illustrated in Section 4.2.3, leaves the area particularly vulnerable to unfavourable market and environmental farming conditions. Farmers interviewed in the immediate study area (ISA), reported significant financial losses and erosion of financial reserves and assets in recent years. Farmers cited the recent droughts and the high cost of agricultural inputs such as fuel and chemicals as contributors to these financial losses.

A number of farmers interviewed expressed a desire to reduce crop production in future years and increase sheep numbers. This is due to the perception that it is a more profitable enterprise in the current climate. Farmers reported an increase in the sale of farms by households seeking to leave the area. Interviewees also expressed concerns related to an increase in farm costs associated with higher oil prices and lower wool prices. The concerns raised by the interviewees support secondary evidence which indicates large declines in farm incomes and high debt levels within the Eyre region in recent years.

4.3.4.4 *Income Levels - Conclusions*

Low income levels for the Tumby Bay SLA at the time of the 2006 census can be explained by the following factors;

- a high proportion of the population employed in agriculture
- adverse farming conditions and low farm income levels in recent years
- absence of a large town
- significant retired population, and
- relatively low percentage of wage and salary earners.

4.3.5 *Income Distribution*

Chart 11 presents a break down of income distribution of gross household weekly incomes for the Tumby Bay SLA, Eyre SD and South Australia. Tumby Bay has a higher proportion of low to middle income households than the State and a lower proportion of high income households. This is to be expected in light of issues raised above. The SLA has a high proportion of retirees and people employed in agricultural industries as well as the absence of a large urban centre.

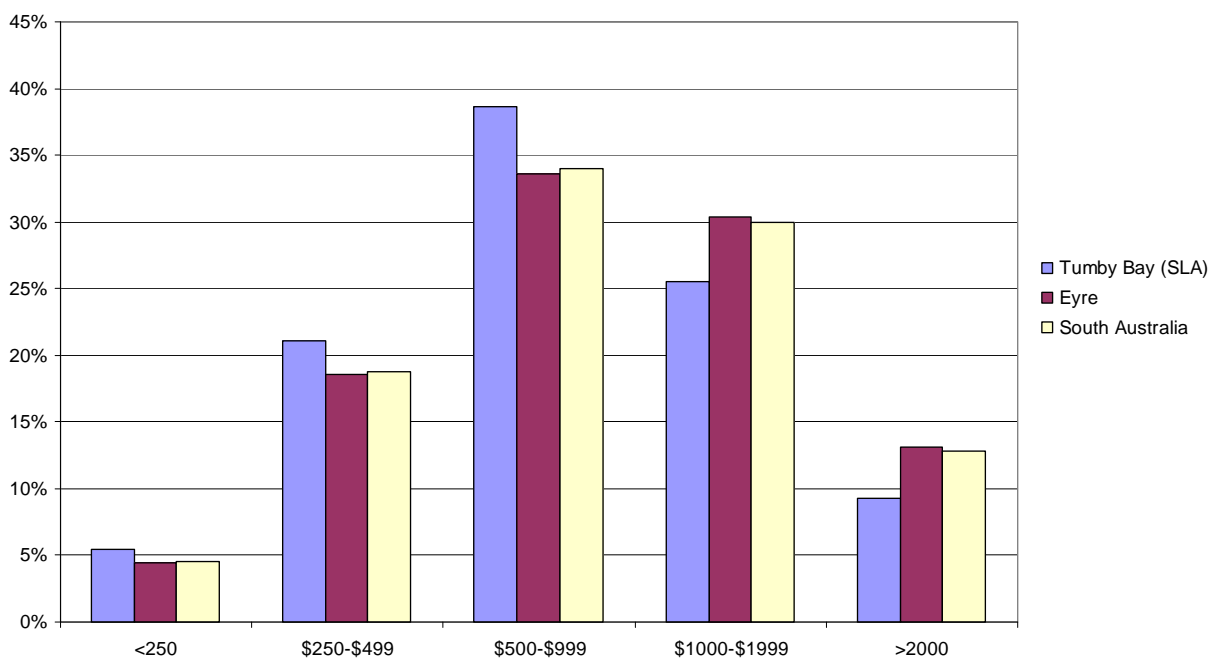


Chart 11: Distribution of incomes for Tumby Bay SLA, Eyre and South Australia in 2006

Source: 2006 Census, Australia Bureau of Statistics

4.3.6 Unemployment

Unemployment rates in Tumby Bay SLA were 3.7% in 2006, which was lower than the State unemployment rate of 5.2% and a decrease from the 2001 level of 6.4% (ABS ,2001). The unemployment rate in Eyre has dropped in recent years from 7.7% in 2002 to 3.5% in 2006, which is also significantly below the State level.

The nature of Tumby Bay SLA, being a rural area where large numbers of people are self employed or employed in agriculture and the relatively low proportions of young people would explain low unemployment levels for the region.

4.3.7 Housing

Housing statistics for the Tumby Bay SLA, Eyre SD and South Australia are presented in Table 8. In 2006, 48.2% of households were fully owned in Tumby Bay SLA compared with 37.8% for Eyre and 34% for South Australia. A lower proportion of homes were being bought or rented in the Tumby Bay compared with the wider region. Median weekly rent rates were \$95 in the Tumby Bay compared to \$150 for South Australia as a whole. Median housing loan repayments were relatively low in Tumby Bay at \$800 compared with \$867 and \$1018 for the Eyre Region and South Australia respectively.



Table 8: Housing indicators for Tumby Bay SLA, Eyre and South Australia

Key Characteristics	Tumby Bay (SLA)	Eyre SD	South Australia
% of houses fully owned	48.2	37.8	34
% of houses being Purchased	22.1	25.7	33.5
% of households being rented	22.4	28.4	25.6
Median rent (\$ weekly)	95	111	150
Median housing loan repayment (\$ monthly)	800	867	1018

Source: 2006 Census, Australia Bureau of Statistics

4.4 Community Services and Infrastructure

This section presents data on the locations and provisions of key community infrastructures in the Tumby Bay SLA. This information provides a comprehensive profile of the current community services in the local area in order to gain an understanding of community needs and issues that may be relevant to the project. A map of local key facilities and services is displayed in Figure 4.

4.4.1 Schooling

Tumby Bay town has one state government school, which caters for grades 1 to 12. The school has a strong enrolment rate and overall enrolment increased by 20 students from 2006 to 2007. The school also has a relatively high pupil and staff retention rate. Only two students from Year 9 and three students from Year 10 transferred to Non-Government Schools in 2005. In 2006 there were no students who transferred to Non-Government Schools. In 2007, the school employed 22 permanent staff, 80% of which had Bachelor degrees. Year 11 and 12 students leave if they have been successful obtaining employment elsewhere (Tumby Bay Area School, 2007).

Port Neill has one primary school, however enrolment levels are weak and the school is currently struggling to sustain itself due to low levels of demand. Some children living on rural properties in the immediate study area (ISA) and wider Tumby Bay SLA undertake distance education and are taught from home, according to interviews with local farmers (Personal Communication).

4.4.2 Health Facilities

Tumby Bay has a 35 bed hospital which services the SLA and provides a comprehensive acute and residential care service, maternity services and community nursing services. There is also a 24 hour Accident and Emergency service and short-term intensive care services. Attached to the Tumby Bay Hospital is the Uringa Hostel, a low care facility for the aged. As part of the Lower Eyre Regional Health Service, there is also a comprehensive Community Health Service.

A larger modern 50-bed hospital complete with High Dependency Unit, Renal Dialysis, and operating facilities is located in Port Lincoln 35 km south of Tumby Bay. The hospital comprises a comprehensive Community Health department and a 24-hour Accident and Emergency service is available for emergency cases (SA Department of Health, 2006).



4.4.3 Police Service

The only police station in the local area is situated in Tumby Bay town. There is one police officer for the whole SLA. Opening office hours vary daily and a sign is placed on the door to indicate the opening hours for the following day (Personal Communication).

4.4.4 Fire Service

Tumby Bay Country Fire Service is located on West Terrace, Tumby Bay and serves the district area (Personal communication).

4.4.5 Public Transport

There are no public transport services in Tumby Bay. Transport is restricted to private vehicles and school buses for children. Although the town does have an unsealed airfield, it is not usually used for private flights, rather for the Flying Doctor and crop spraying aircraft.

The town is serviced daily by a Premier Stateliner coach service. The Council owns a 19 seat Mazda Bus which is available for hire by persons in our Council District (Tumby Bay District Council, 2009).

4.4.6 Recreation and Community

Tumby Bay has a variety of recreation and leisure facilities, including football, cricket, netball, basketball, tennis, bowls and golf clubs. Most of the clubs compete in local leagues (Tumby Bay District Council, 2009).

A number of community groups service the Tumby Bay SLA area. These include:

- District Council of Tumby Bay
- Tumby Bay Activity Group
- Tumby Bay Agricultural Bureau
- Tumby Bay Homes Inc.
- Tumby Bay Landcare Group
- Tumby Bay Hospital & Health Services
- Tumby Bay National Trust
- Tumby Bay Red Cross
- Tumby Bay School/Community Library
- Tumby Bay Senior Citizens Club
- Tumby Bay School Governing Council
- Port Neill Progress Association
- Port Neill Agricultural Bureau
- Ungarra Progress Association
- Ungarra Hall Committee



- Ungarra Agricultural Bureau
- Lipson Progress Association

4.4.7 Waste Management

Waste refuse sites in Tumby Bay SLA are located at the towns of Tumby Bay, Port Neill and Ungarra. According to Tumby Bay Council, these facilities are planned for closure and will be replaced by a new regional waste management site to be located in the SLA in the coming months (Tumby Bay District Council, 2009).

4.5 Community Values and Lifestyle

Interviews with local community members in rural and township areas of the SLA indicated that residents value the community spirit of the area. The interviewees indicated that local residents value the community interaction and kinship that comes with living in a small community. They enjoy the trust and honesty associated with the supportive community structure. Participants depicted the towns of Tumby Bay and Port Neill as open and friendly neighbourhoods that valued their familiarity with the town's residents.

Other aspects that participants indicated they valued about the Tumby Bay local area included the:

- quietness of the area
- low levels of crime and high levels of safety
- small-town lifestyle
- clean, relaxed and stress-free environment.

The rural character and geographic beauty of the area were also identified by local residents of the SLA as features of value to their lifestyle. They valued landscape features included the Lipson Island Conservation Park and unspoilt beaches including Roger's Beach in the ISA, which has an informal public access track.



5.0 PROJECTED SOCIO-ECONOMIC CHARACTERISTICS

The following section outlines the socio-economic characteristics identified in this report as likely to be subject to change as a result of the project. The areas listed below are those where social and economic changes, either positive or negative, are anticipated to occur. Section 5.1 outlines expected and possible social and economic changes in the Tumby Bay SLA and Section 5.2 outlines these changes for the broader Eyre region. Social changes cannot be predicted with certainty owing to the large number of variables that affect social structures and evolution. The identification of a change as adverse or beneficial is often subjective and requires community engagement and thorough analysis through an impact assessment process. It is not the intention of this report to identify impacts or provide impact assessment as this is beyond the scope of a baseline analysis.

5.1 Tumby Bay SLA

The following changes in socio-economic characteristics for the Tumby Bay SLA are projected to occur as a result of the project.

5.1.1 Demographics

Population

The project will require a considerable workforce for construction, operation and maintenance. The towns of Tumby Bay and Port Neill are likely to house the majority of the construction work force, which could result in a transient population change. The prospect of employment at the Port may attract people looking for opportunities from surrounding areas, resulting in a further low-level transient effect on the population. During operations, permanent workers employed with the project, may cause longer term changes to the local population in both size and structure. Permanent workers are likely to bring family members to live in the local area resulting in population increases. Employment prospects from the port may reduce, temporarily, the out flow of young adults from the Tumby Bay SLA. These factors may cause a change in absolute numbers of the population from the baseline study.

Age and Sex Distribution

Population changes would affect the age and sex structure of the population. Currently, Tumby Bay SLA has an aging population profile with relatively low proportions of people aged between 20-40 years. The construction workforce is expected to be predominantly 18 to 45 years of age. Should a large proportion of the project workforce be housed in Tumby Bay, the influx of port workers and their families is likely to increase the proportion of young adults and children in the area. Furthermore the nature of construction work, being predominantly a male based industry, could temporarily change current sex ratios and sex distribution. These factors would change child dependency and elderly dependency ratios for the SLA.

Vulnerable Groups

The SLA comprises a low proportion of indigenous people and non Australian born population. The area is home to an aging population, due to the high number of retired people in Tumby Bay town. Retirees themselves, who mostly reside in Tumby Bay town, would not be considered a particularly vulnerable group. However, elderly people, with reduced mobility and openness to change may be more vulnerable to effects from the project. Ethnic minority groups are generally considered to be more vulnerable to effects from a large project than other groups in the community. The extent to which ethnic minorities in the Tumby Bay SLA will be affected by the project is not known until an impact assessment is conducted.



5.1.2 Lifestyles and Community Enterprises

There are several characteristics and values considered important to the Tumby Bay community which could experience change as the result of the project.

These include:

- small-town lifestyle
- familiarity with community members
- quietness of the area
- employment opportunities and new employment industries
- visual amenity of the local area

5.1.3 Infrastructure and Services

The project may result in a change in the demand for public services and amenities in Tumby Bay. Local residents interviewed in Tumby Bay SLA perceived that the project would stimulate demand that would sustain or improve the level of existing public services.

Schooling

The project could result in an increase in demand for schooling in the area thus strengthening the ability of these schools to command government funding. This change would be beneficial for the local primary school in Port Neill, which is struggling to attract pupils due to the small population of the town and aging population of the area. The Project may also have a minor change on schooling in Port Lincoln if there is an increase in enrolments due to families moving to the area.

Health

Any changes to the population from the project would have some effect on health care facilities in Tumby Bay area. The hospital is not presently stretched for capacity; however, the hospital will need to take the any increases in population into consideration.

The introduction of the Port within the catchment of the hospital may lead to a change in the number of vehicle or industrial accidents. This may impact on the hospital's service planning and delivery.

There may also be a minor increase in demand for health care services in Port Lincoln either due to a slight increase in population in the area or higher numbers of cases being sent to Port Lincoln hospital for more specialist treatments.

The Project is not expected to cause change to aged care facilities in the area.

Emergency Services

Any changes to population, social cohesion and infrastructure that occur as a result of the project would result in an increased role for the police, ambulance and fire services in the Tumby Bay SLA.



5.1.4 Labour Force

The project will require persons to be employed in port infrastructure development from mobilisation through to completion of construction. It is understood that some of the construction workforce would be sourced from the local area. This could lead to changes in unemployment levels and labour force participation within the Tumby Bay SLA.

5.1.5 Economic Activity

The construction, operation and maintenance of a large project like the Sheep Hill Marine Port, is likely to cause changes in local economic activity. This could be through all or any of the following changes:

- demand for services
- demand for facilities
- levels of consumption and expenditure
- changes, improvements or additions to current services and infrastructures
- demand for housing
- employment demand and employment industry structure.

Changes in any or all of the above factors would impact on local economic activity and the economic base of the Tumby Bay SLA. This could provide benefits to the area which currently has a narrow economic base with a high reliance on agriculture and low employment diversity.

5.1.6 Land and Housing

One property would be directly affected by the project in terms of land loss. The owner has agreed to sell a 40 metre strip of land and for an existing road leading to the Port to be straightened. A further three properties in the ISA are situated adjacent to the proposed transport corridor. These properties are likely to be impacted by the increase in traffic along the Swaffers Road transport corridor.

Increased traffic, noise and changes to the visual amenity of the area may have the potential to negatively change house prices for some properties in the ISA. The extent of this change on the local population would depend on compensation and mitigation measures.

5.1.7 Wage and Income Levels

It is expected that the project workforce would be predominantly wage and salary earners. This would result in changes to the both the absolute number of and total income for of wage and salary earners in the local area. This would create further flow on changes to labour force participation rates, the employment base and median individual and household income levels in the Tumby Bay SLA.

5.1.8 Price Levels

Any changes to labour force participation, income levels, and general demand and supply pressures within the local economy would impact on price levels. Changes in demand for housing, basic food stuffs, services and facilities would impact on price levels and the inflation rate. An increase in demand for products and services within the local economy will likely cause increases in prices and inflation rates for those products and services.



5.2 Eyre Statistical Division (SD)

This section highlights regional social and economic characteristics which are projected to undergo change as a result of the Sheep Hill Project. For the purposes of this report, the Eyre SD is synonymous with the Eyre region.

5.2.1 Employment and Business Development

The project is expected to generate regional business and jobs in a range of industries related to the project such as construction and engineering. Employment would generate a 'flow on' effect in the wider economy and stimulate economic activity.

The project has the potential to encourage private investment for mineral exploration in southern and central Eyre Peninsula, the areas the Port will serve, and facilitate the broad expansion of the mining sector across the Eyre region. This expansion would bring substantive and broad based economic benefits to the region in the form of new employment opportunities and increased economic activity. The development of the mining sector would also aid the diversification of the Eyre economic base, which is presently heavily dependent on the agriculture.

5.2.2 Government Revenues

Royalties and taxes generated by the project would increase government revenues at Federal, State and Local Government levels. Sources of government income would include personal taxes from employees, corporate taxes, port charges, rail freight charges and fringe tax benefits. Increased Government revenues could benefit the region through reinvestment in regional economic infrastructures, including roads and rail, and public services and community development initiatives.

5.2.3 Exports

The Sheep Hill Port at Tumby Bay has been proposed as a multi user facility and could be used to export farm products such as grain. The shipping of grain from the proposed Port could lead to a reduction in grain shipping from Port Lincoln, from where grain is currently shipped. This would lead to changes in economic activity in industries related to transport of storage of grain in Port Lincoln and Tumby Bay.

The shipping of grain from Tumby Bay could increase the ease and reduce the cost of grain exportation in the SLA due to the immediate proximity of the Port. This was perceived by a number of farmers interviewed in the ISA to be a key advantage of the Project.

5.2.4 Infrastructure

The Project is likely to create development in regional railway infrastructure. The present railway system on the Peninsula has suffered from a lack of funding and a lack of demand to support future investment (ERDB, 2007). A 27 km spur line from Ungarra to Sheep Hill planned for the Port has the potential to encourage current rail providers to upgrade the existing narrow gauge track to handle greater axle loads. This would generate increased railway revenues which can be reinvested in track upgrades, and possibly decrease rail costs for grain producers.



6.0 CONCLUSIONS AND RECOMMENDATIONS

The Centrex project is expected to bring about a series of changes to the social and economic characteristics of the Tumby Bay SLA and the broader Eyre region. The main trajectories of change are likely to be stimulation of economic activity through changes to employment opportunities, infrastructure development and new business development opportunities within the region. Demographic changes are also likely, through the extent to which these occur locally or regionally depend on where the project workforce is to be housed. The baseline reports indicates that project activities which increase the profitability of farming within the study areas or provide alternate income and employment opportunities are likely to be perceived as beneficial by the population. The extent to which project revenues are reinvested back into the local or regional communities will further determine the impacts of change resulting from the project.

7.0 LIMITATIONS

It is recommended that further assessment be conducted on all of the above issues to assess the likelihood of these changes and resultant project related impacts. Further investigation and assessment is required to determine the nature of these impacts and mitigation measures designed to reduce or avoid negative impacts and enhance positive ones.

Your attention is drawn to the document – “Limitations”, which is included in Appendix C of this report. The statements presented in this document are intended to advise you of what your realistic expectations of this report should be. The document is not intended to reduce the level of responsibility accepted by Golder Associates, but rather to ensure that all parties who may rely on this report are aware of the responsibilities each assumes in so doing.



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Report Signature Page

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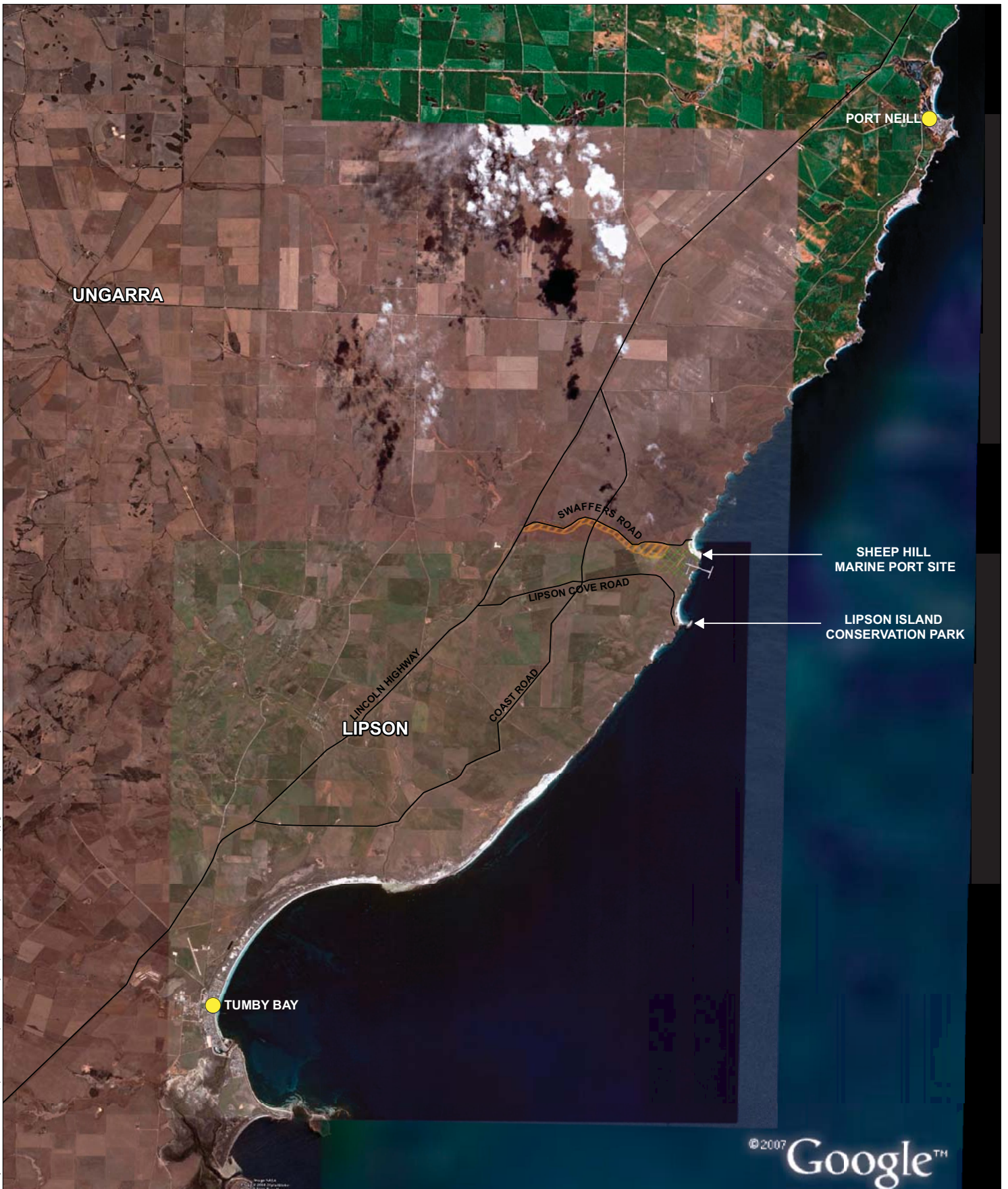
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APPENDIX A

Figures







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CENTREX METALS LIMITED

**SHEEP HILL MARINE PORT FACILITY
DEVELOPMENT APPROVAL AND
BASELINE STUDY**

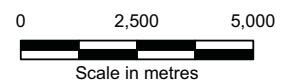
**SITE LOCATION -
REGIONAL PERSPECTIVE PLAN**

Legend

-  Cadastral Project Boundary
-  Transport Corridor Study Area
-  Township
-  Road

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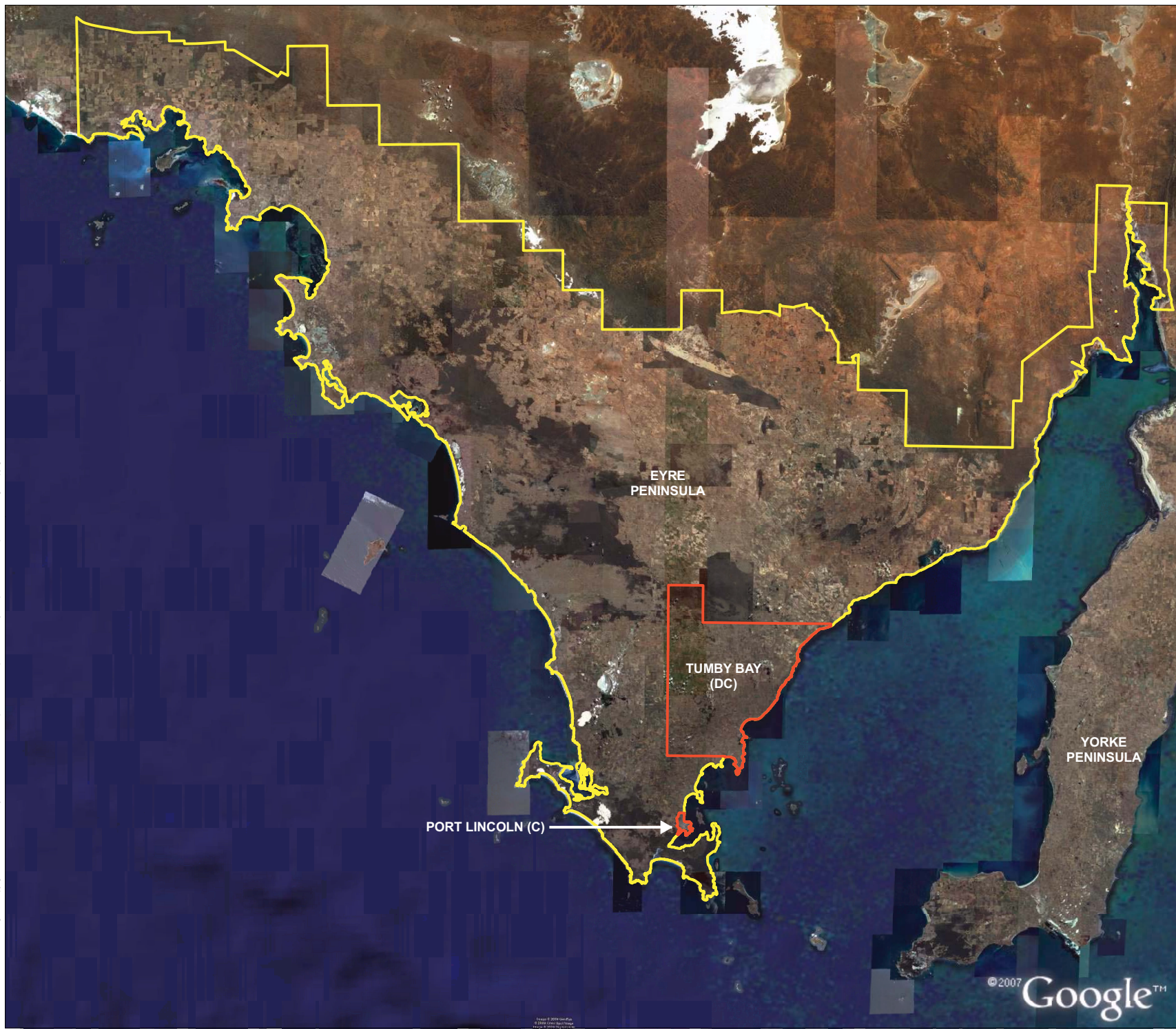
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**DATUM GDA 1994
PROJECTION MGA Zone 53**

FIGURE 1



Project: 087661006 Figure No: F0006
 Drawn: KB Date: 30.10.2008
 Checked: AB Date: 30.10.2008



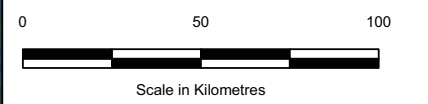
CENTREX METALS LIMITED
SHEEP HILL MARINE PORT FACILITY
DEVELOPMENT APPROVAL AND
BASELINE STUDY

REGIONAL STUDY AREA
LOCATION PLAN

- Legend**
- Eyre Peninsula Boundary
 - Statistical Local Area Boundary

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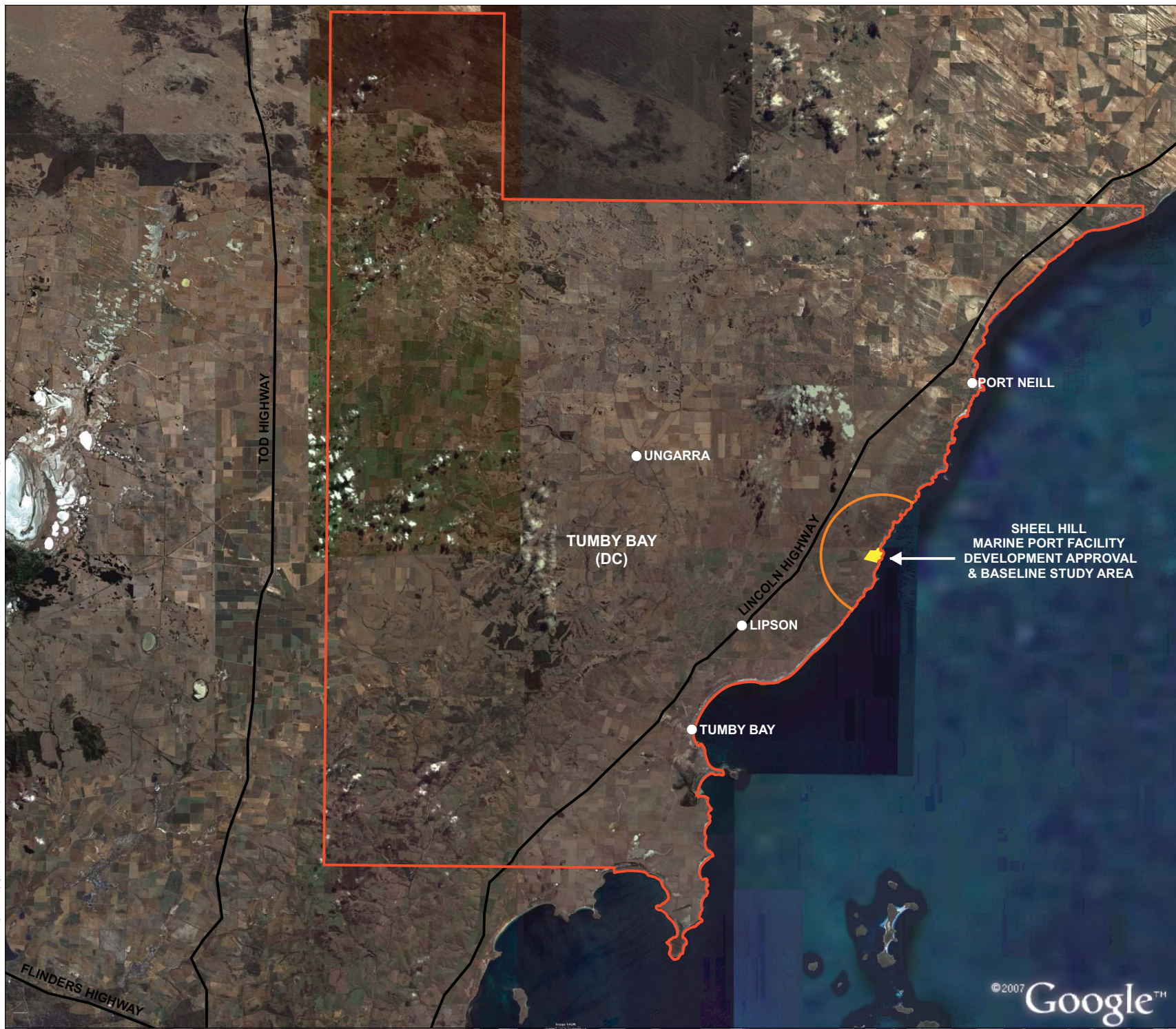
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PROJECTION MGA Zone 53

Project: 087661006 **Figure No:** F0014
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FIGURE 2

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CENTREX METALS LIMITED
SHEEP HILL MARINE PORT FACILITY
DEVELOPMENT APPROVAL AND
BASELINE STUDY

LOCAL STUDY AREA
LOCATION PLAN

- Legend**
- Sheep Hill Marine Port Facility Development Approval and Baseline Study Area
 - Statistical Local Area Boundary
 - Township Location
 - Immediate Study Area (ISA) Boundary
 - Road

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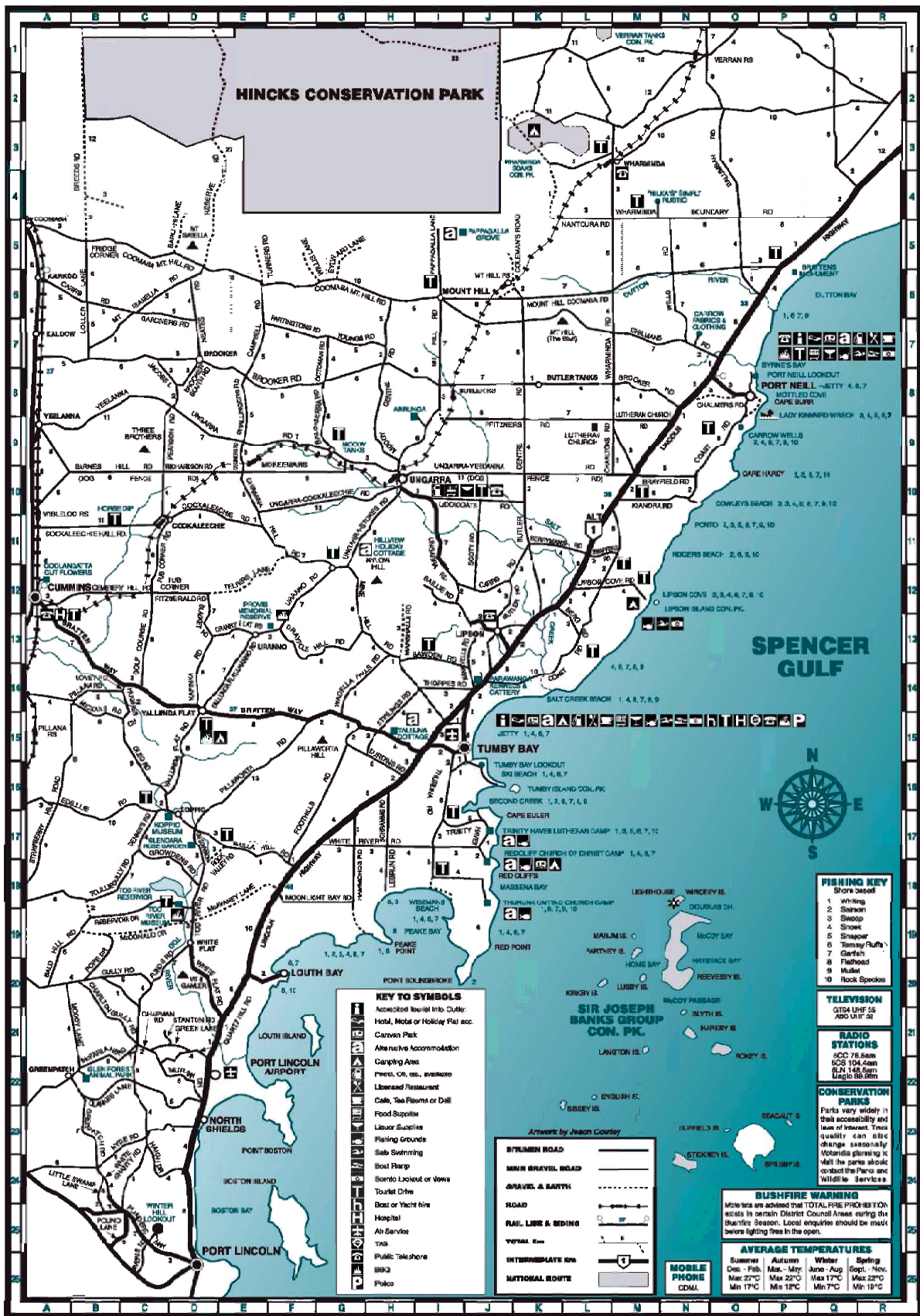


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FIGURE 3

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SHEEP HILL MARINE PORT FACILITY
DEVELOPMENT APPROVAL AND
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LOCATION OF KEY SERVICES
AND FACILITIES PLAN

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FIGURE 4



APPENDIX B

Interview Questions - Immediate Study Area



INTERVIEW QUESTIONS AND ANSWERS – IMMEDIATE STUDY AREA

The following is a list of guiding discussion points used when conducting interviews with selected persons in the immediate study area during fieldwork carried out between the 3 and 5 November 2008. Discussions were conversational in nature and allowed to flow where this information was deemed relevant to the research project.

1. General Information

- History of the area (dates moved to the area, generations lived here etc)
- Household size and composition
- Perceived changes in local rural population (size, structure)

2. Composition of Livelihoods

a) Farming

- ◆ Types of farming activities conducted eg. Animal husbandry, machinery, outputs
- ◆ Seasonality of Agriculture
- ◆ Division of labour and farm employment
- ◆ Yields
- ◆ Sale of farm produce
- ◆ Irrigation
- ◆ Commodity prices

b) Off Farm Income Sources

3. Livelihood trends

- Changes in livelihood composition in recent years
- Changes in farming practices
- Effects of the drought and other environmental changes
- Adaptations made to changing conditions
- Perceived changes in yields and profitability

4. Perceptions of Local Services and Amenities

a) Shopping centres

b) Schooling

- ◆ Distance learning
- ◆ Distances to schools

c) Health Care services and access



APPENDIX C

Limitations (LEG04, RL1)

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