

# GREAT AUSTRALIAN BIGHT RESEARCH PROGRAM

## RESEARCH REPORT SERIES

### **Interim Community Profile and Literature Review** **Project 6.1: Social Profile of the Eyre Peninsula and West Coast** **Region: Literature Review and Community Analysis**

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## GREAT AUSTRALIAN BIGHT RESEARCH PROGRAM

The Great Australian Bight Research Program is a collaboration between BP, CSIRO, the South Australian Research and Development Institute (SARDI), the University of Adelaide, and Flinders University. The Program aims to provide a whole-of-system understanding of the environmental, economic and social values of the region: providing an information source for all to use.

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## ACRONYMS

<b>ABS</b>	<b>Australian Bureau of Statistics</b>
<b>DC</b>	District Council
<b>DIDO</b>	Drive in, drive out (refers to mining workforce)
<b>EPLGA</b>	Eyre Peninsula Local Government Association
<b>EPNRM</b>	Eyre Peninsula Natural Resources Management
<b>EPWC</b>	Eyre Peninsula and west coast
<b>FIFO</b>	Fly in, fly out (refers to mining workforce)
<b>GAB</b>	Great Australian Bight
<b>LGA</b>	Local Government Area
<b>RDWEP</b>	Regional Development Australia Whyalla and Eyre Peninsula
<b>SLA</b>	Statistical Local Area

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The authors would like to thank Hayden Faulkner for data extraction and manipulation. Thanks also go to the people who participated in interviews and structured conversations.

The authors of this report recognise the great diversity among the people who inhabited Australia prior to European people's arrival. We also recognise the fact that the terms 'Aboriginal', 'Torres Strait Islander' and 'Indigenous' are labels that have emerged post-colonisation, and are a product of the colonisation process rather than a way in which First Nations persons of Australia identify themselves. Notwithstanding, we have used the term 'Aboriginal people' or 'Aboriginal persons' throughout this report to identify persons of First Nations descent. This is not intended to generalise attributes across a population in which it is understood great diversity exists (Hordacre et al., 2011). We also recognise the Eyre Peninsula and west coast's first people and respect and recognise their deep attachment and relationship to Country.

## EXECUTIVE SUMMARY

This report is an initial outcome from research into the social and economic structure of the Eyre Peninsula of South Australia. The study sets out to establish a baseline of data, against which future developments and change can be assessed. The overarching goals of the project are to:

1. Provide a description of the region's social structure and the processes currently driving change.
2. Identify community perceptions with respect to the potential impact of BP's activities on the region, including the potential for onshore developments.
3. Develop an understanding of the region's capabilities and capacity, to take advantage of future developments.

This report provides a first analysis of these issues and will be complemented by the discussion of qualitative and quantitative primary data in subsequent reports.

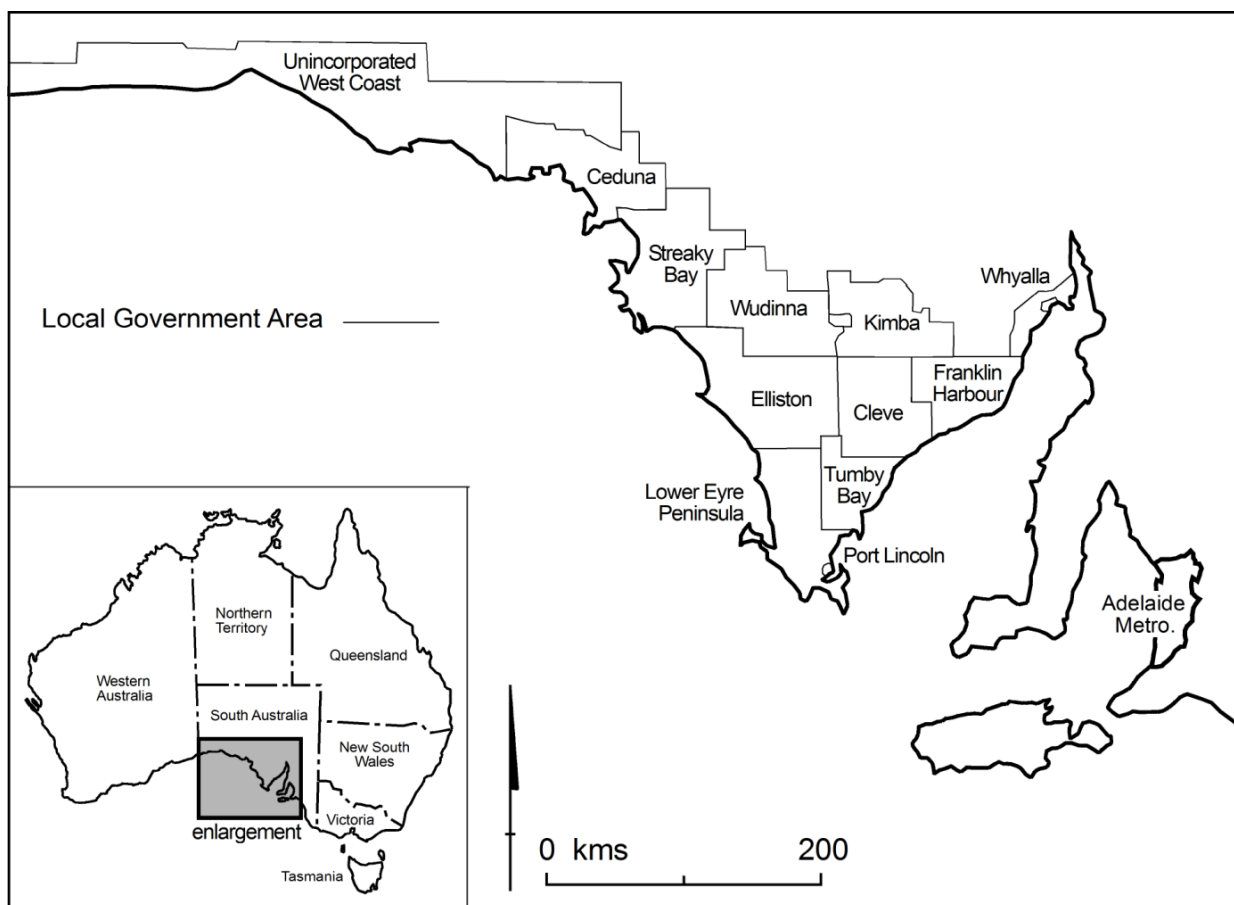
This report finds that:

- The Eyre Peninsula is the country of a number of Indigenous nations and a number have maintained links to their traditional lands;
- There are numerically significant populations of Indigenous Australians on the Eyre Peninsula;
  - It is a relatively young population, especially in the larger urban centres of the Eyre Peninsula;
- The region has a small population but is economically significant, with major export industries in grains production, fisheries and aquaculture, livestock production and minerals;
- A number of centres have recorded a decline in population over recent years and this reflects a number of demographic processes, as well as economic shifts, including the amalgamation of farm holdings;
- There have been significant shifts in population over recent years, and the population overall is ageing with more than half the population aged over 40;
- Some coastal centres, such as Franklin Harbour appear to be attracting older in-migrants;
- Family households comprised of a couple with children are the most common household type in the region and may expand further if major resource developments proceed;

- Many young people leave the region in order to find employment or to take up educational opportunities, with 30 per cent expressing an intention to move;
- Average household incomes are more variable than for South Australia as a whole, and in part this reflects shifts in business income – including farm income. Growth in aquaculture earnings has also contributed to income growth;
- Some local government areas within the Eyre Peninsula have relatively high incomes, but elsewhere there is entrenched disadvantage;
- Whyalla remains an important manufacturing centre, but in other localities employment is dominated by primary industries. Service industries are a relatively small proportion of the total;
  - Tourism, and especially marine tourism, is an important part of the service economy;
- Educational attainment on the Eyre Peninsula is below the state average, and this reflects both the limited number of educational institutions and the structure of industry in the region;
- A number of new mines have been proposed for the Eyre Peninsula, with a small number already developed and others in prospect;
- The Eyre Peninsula has a small labour force and major projects – such as the previously proposed expansion of mining at Olympic Dam – were expected to have a major impact on the local workforce;
  - Some studies have forecast labour force shortages of up to 4,000 workers if all developments scheduled for the Eyre Peninsula proceed;
- There is evidence that Eyre Peninsula residents place considerable value on the lifestyle benefits associated with the region and the quality of their environment.

## INTRODUCTION

This literature review and community analysis provides the background to the continuing systematic and detailed understanding of the social structure of the Eyre Peninsula and west coast (EPWC) region of South Australia (see Figure 1) and has been prepared under Theme 6 of the Great Australian Bight (GAB) Research Program. This study sets out to summarise the formally published and ‘grey’ research into the nature and structure of communities living in the EPWC region. The collection and review of information from publicly available sources, including social media, is an important and continuous process during the life of Project 6.1.



Source: The University of Adelaide.

**Figure 1.** Map of the Eyre Peninsula and west coast (EPWC) region study area (Local Government Areas and unincorporated west coast), 2014.

Information has been gathered from the Australian Bureau of Statistics (ABS) Census data. Primarily 2011 Census data<sup>1</sup> has been used where available to provide information about populations in the 11 Local Government Areas (LGA)<sup>2</sup> plus the unincorporated west coast that make up the study area. Existing reports gathered – so far – from stakeholders and communities through the qualitative process have been used to build a picture of the communities living in the study area. This literature includes government plans and policies, information from planning projects conducted in the vicinity of the study area, academic research, media reports (including social media) and community based websites. A list of sources is included in the References.

The socioeconomic environment refers to a wide range of interrelated and diverse aspects and variables relating to, or involving, a combination of social and economic factors. These aspects and variables can include, economic, demographic, public services, fiscal and social variables. This literature review and community analysis will assess the prevailing socioeconomic conditions and identify the main areas of concern. In this report the social aspects involve:

- community life as well as social and cultural attitudes and values;
- community and public services such as housing and infrastructure;
- demographic aspects including population profiles, distribution and density; and
- economic factors including general characteristics, structures and changes, various economic activities and employment.

This socioeconomic profile provides a snapshot of the social, cultural, economic and political conditions of individuals, groups, communities and organisations living in the EPWC region. The profile is intended to assess the prevailing socioeconomic conditions in the study area. This includes provision of a baseline study characterising the existing state of the region and the nature of changes already occurring. It must be remembered the social reality and the variables under study are dynamic, and socioeconomic conditions are difficult to predict and assess as they are related to human beings who differ widely within the same community and from one community to another, and who can also identify with more than one community.

Specific assessments of proposed developments in the study region are common. As noted by Gillanders et al. (2013, p 42), “typically such studies assume a large degree of project independence and assume that flow-on consequences and cumulative impacts can be

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<sup>1</sup> Used at the LGA level, unless otherwise stated.

<sup>2</sup> Includes the DCs of Ceduna, Streaky Bay, Elliston, Wudinna, Kimba, Cummins, Lower Eyre Peninsula, Tumby Bay and Franklin Harbour, and the cities of Port Lincoln and Whyalla. For the purposes of this study the Maralinga Tjarutja Lands, unincorporated Whyalla, and unincorporated Port Lincoln are excluded. See Figure 1 for study area.

managed and, in aggregate, will be positive". Some projects need to establish a socioeconomic and environmental baseline to enable the consequences of one development to be separated from other developments. While it may be possible to attribute an environmental impact, to one particular development, in the socioeconomic landscape impacts are sometimes more difficult to attribute to a single development. For example, direct employment flowing from a development could be measured however the in-direct employment could be attributable to several projects at the same time, and might well be over emphasised.

## **BACKGROUND AND NEED**

BP's licensed exploration activity in the GAB could change the structure of at least some regional communities on the west coast and throughout the Eyre Peninsula. Even more significant changes can be expected if the results of exploration lead to the development of a gas and/or oil resource. In order to assess any potential impacts to EPWC communities from activities undertaken by BP, it is necessary to understand the current nature and structure of these communities. The EPWC region has a relatively small population scattered over an area roughly equal to Wales. Despite its sparse population it is comprised of complex communities including:

- Significant Indigenous populations, some of whom continue to live on traditional Country and maintain many cultural practices (including language and for some a semi-nomadic lifestyle), while others have a more contemporary lifestyle;
- Populations of persons born overseas and their children and grandchildren living in communities that identify strongly with their place of origin;
- Dryland farming communities;
- Fishing and aquaculture communities; and,
- An increasing population of retirees.

Change has been evident in these communities over the last three decades, including a decline in conventional agriculture, the rise of aquaculture and value-added fishing and the emergence of mining and tourism, both in the recent past and in prospect. Today, the region has a complex socio-economic structure based on a wide range of industries and communities.

Project 6.1 will establish a baseline understanding of the nature of communities residing in the EPWC region, their dynamics, potential and processes of change. It will provide a valuable resource for understanding how BP's activities may reshape these communities. This project will address the following knowledge gaps identified by the BP Working Group (2012):

- baseline social and economic conditions and potential impacts;
- community profiles and their level of economic diversification with an emphasis on identifying communities' reliance on particular industries such as fishing and tourism, and understanding their resilience and adaptation capacities;
- how communities are structured socially (including the strength of bridging and bonding social capital), incorporating information on Indigenous communities, labour force, education, religion, political persuasion, and 'generic' top line information on sentiment toward change;
- temporal community and labour force cycles related to seasonal industries and the extent and patterns of FIFO/DIDO work practices; and,
- further features of the business cycle of economic importance and community impact, including influxes due to tourism and their links to factors such as school holidays.

## GOALS OF THE STUDY

The aims of Project 6.1 are to:

1. Provide a description of the region's social structure and the processes currently driving change.
2. Identify community perceptions with respect to the potential impact of BP's activities on the region, including the potential for onshore developments.
3. Develop an understanding of the region's capabilities and capacity, to take advantage of future developments.

This literature review and community analysis provides a partial response to all of the above aims. The second phase of the project uses interviews, focus groups and a survey, to further explore the region's social structure, processes driving change, community perceptions of exploration and development, capabilities and capacity. The results of this research will be presented in a final report in September 2015.

It is important to note that a comprehensive study on the Spencer Gulf – *Spencer Gulf Ecosystem Development Initiative (SGEDI)* – is also underway. The SGEDI will “provide all stakeholders with access to independent and credible information about Spencer Gulf and opportunities to better understand any potential impacts so that informed decisions can be made” (Gillanders et al. 2013, p 9).

## DESCRIPTION OF STUDY AREA

For the purposes of this study, the Eyre Peninsula and west coast (EPWC) region consists of 11 LGAs and the unincorporated west coast (see Figure 1). For ABS Census purposes the eastern side of Eyre Peninsula is classified as “remote”, and the western side and the unincorporated west coast is classified as “very remote”. The region has approximately one third of the State’s coastline and stretches from Whyalla, a major urban centre located in the Upper Spencer Gulf, across to the South Australia/Western Australia border—or over 2,000 km (RDAWEP, 2014 p 36). Eyre Peninsula is a triangular shaped piece of land bounded by South Australian Outback country to the north, the relatively calm Spencer Gulf (a sheltered, tidal, inverse estuary) to the east and the rougher waters of the Great Australian Bight on the west coast. Waves blown by the dominant Westerlies in the Southern Ocean have carved the southern and west coast of the Eyre Peninsula. Headlands and promontories display precipitous cliffs which are pounded by the strong waves below. The base of the cliffs is “predominately calcareous cemented aeolianites and calcretes” which can be “anything from less than 1m thick to over 100m thick” (Martin 1988, p 11). The wind and waves similarly pound the long exposed beaches of western Eyre Peninsula. Behind the beaches are coastal dunes which can be 10 to 30 metres high. In contrast to the dramatic coastal cliffs are large sheltered embayments (Coffin, Streaky and Denial Bays) consisting “of mud/silt beaches or sandy beaches backed by low cliffs or dunes, or extensive development of inter-tidal rock platforms formed from Pleistocene calcarenites” (Martin 1988, p 11). The mangrove-samphire communities of the lower Eyre Peninsula and the west coast are important nursery grounds for many fish species, including King George whiting, silver whiting, garfish, tommy ruff, snapper, Australian salmon, and snook. The seagrass communities are important feeding grounds for most adult fish species listed (Martin 1988, p 14). The coastal environments may be modified by the presence of near shore reefs or islands which give protection from the rough seas, for example the Nyuts Archipelago off the west coast. See Martin (1988, pp 11-13) for a more detailed description of the landforms, tides, water movement and intertidal zonation of the EPWC coast.





Cape Bauer, 2009 (CJ Thredgold)

The region's climate is generally warm to hot dry summers and cool, wet winters. Southern Eyre Peninsula has a relatively mild moist coastal climate, and upper Eyre Peninsula has a warmer drier climate. The region was first mapped in 1840 and by the 1890s agriculture and mining occurred over much of the study area, and continue to this day. In the early days of European arrival the favourable climate enticed the newcomers to clear the native landscape for agricultural production. However farmers soon discovered the climate was unpredictable and struggles with severe droughts especially in recent decades have impacted on economic prosperity and community wellbeing. Vegetation clearance for agricultural purposes ranges from 14 per cent in the far west to 72 per cent in the south. About 15 per cent of the region's grazing area is covered with scattered vegetation (EPLGA 2014, p 4). Some 7.5 million hectares of land remains protected in national and conservation parks and reserves (RDAWEP 2014, p 37). There are State and National marine parks within the GAB.

Some older people in the region have described the area as an "island-like separation from 'the mainland'" (Smailes 1993, p 2). The EPWC region is a large and remote geographical area. Some parts of the region have relatively pristine coastal and land environments while others have been fundamentally changed by European farming practices. The region supports a small number of people, including a high, and growing, proportion of Aboriginal

people, who reside in sparsely settled small towns and rural holdings (excluding Port Lincoln and Whyalla). The region is an economically significant part of the State with a diverse industry base. Some sectors such as the mining, tourism and renewable energy sectors are emerging alongside the more traditional agriculture and manufacturing sectors (RDAWEP 2014, p 5). While some prospects are on the horizon, the region faces challenges and constraints due to competing economic, community and environmental needs which are affected by economies of scale, the 'tyranny of distance' from metropolitan Adelaide and the limited capacity of existing, and requirements of new, infrastructure (RDAWEP 2014, p 5). Water security is perhaps the most urgent requirement for most communities and industries in the region.

## DEMOGRAPHIC PROFILE

### Population

In 2011 the region's 11 Local Government Areas and the Outback Communities Authority<sup>3</sup> administered to 56,286 people, or 3.5 per cent of the State's population. Approximately 64 per cent of the EPWC region's population resided in the City of Whyalla (22,088) and City of Port Lincoln (14,086) in 2011. At the other extreme of the region's population distribution is the 1.1 per cent (635) of the population living in over 23,537km<sup>2</sup> of the unincorporated west coast. Nine of the region's LGAs, with a total population of 19,477 in 2011, covered an area of 42,948km<sup>2</sup>.

**Table 1.** Population of EPWC LGAs, 2011 and per cent change 2012-2013\*.

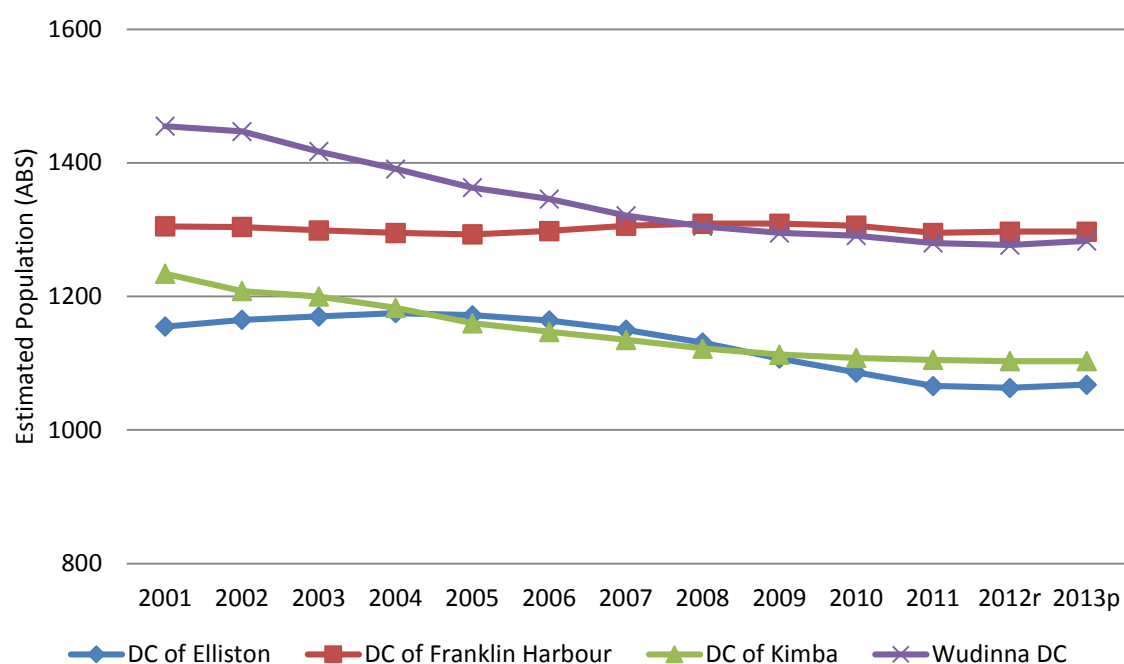
LGA	2012		2012r-2013p	
	Persons (%)	Persons (No.)	% change	No.
Ceduna	6.2	3,480	0.2	8
Cleve	3.1	1,733	0.0	0
Elliston	1.9	1,046	0.5	5
Franklin Harbour	2.3	1,273	0.0	0
Kimba	1.9	1,088	0.0	0
Lower Eyre Peninsula	8.7	4,916	-1.4	-71
Port Lincoln	25.0	14,086	1.0	146
Streaky Bay	3.7	2,102	2.2	48
Tumby Bay	4.6	2,586	3.2	84
Whyalla	39.2	22,088	-0.4	-80
Wudinna	2.2	1,253	0.5	6
Unincorp. west coast	1.1	635	na	na
<b>Total</b>	<b>100.0</b>	<b>56,286</b>		<b>297</b>

<sup>3</sup> Serves the remote west coast unincorporated area.

Revised population estimates (r) for 2012, and preliminary population estimates (p) for 2013. \* based on place of usual residence

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat No 2001, various, and ABS, 2014, Census of Population and Housing Regional Population Growth, Australia, 2011, cat. no. 3218.0, table 4.

In the decade 2001 to 2011, population growth was subdued in most LGAs. Overall the EPWC communities have been growing at a slower rate than the State average (SACES 2013, pp 17-18). Since 2001 the region's population has grown by 4.5 per cent but this is not consistent across the region as a whole. The DCs of Elliston (-15.2 per cent), Wudinna (-13.7 per cent) and Kimba (-8.5 per cent) experienced population decline over the decade 2001 to 2011 (EPLGA 2014, pp 5-6). Figure 2 shows the reduction in the population of three of the locations, Wudinna, Kimba and Elliston. Nevertheless in general the reductions are small, but it should be noted that these reduction are from a very low base. The loss of fifty to 100 people for a township with a base population between 1,000 and 1,500 people has an ongoing impact on local services including retail outlets, schools, medical services and so forth. The Franklin Harbour council area population increased very slightly between 2001 and 2013, but again the numbers are very small.

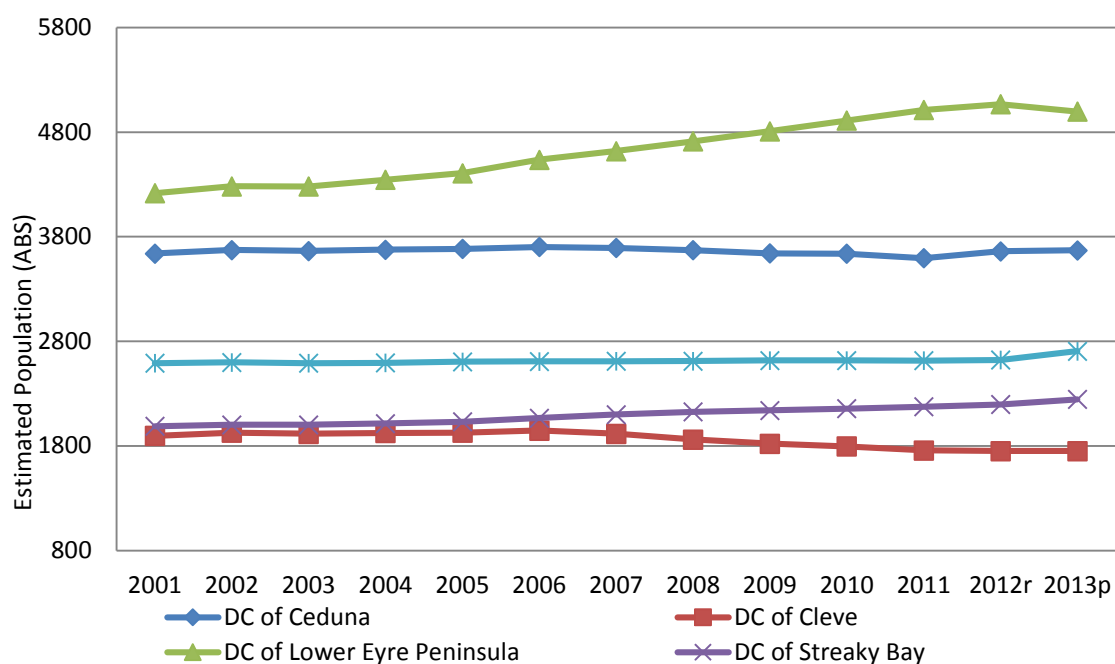


**Figure 2.** Population trends - Elliston, Franklin Harbour, Kimba, Wudinna, 2001 to 2013\*.

Estimates are final for 2001 to 2011, revised (r) for 2012, and preliminary (p) for 2013. \* based on place of usual residence

Source: ABS, 2012 and 2014, Census of Population and Housing Regional Population Growth, Australia, 2011, Cat. No. 3218.0, table 4.

With regard to the middle size townships and local councils there is a slightly different pattern over the period 2001 to 2013. The DC of Cleve has lost population but in all of the other areas there has been some minimal growth over the period. In no case however has the growth been sufficient to increase the need for services in general. It should however be noted that these graphs do not give an analysis of the age structure and change in that structure, nor do they show movement in and out of the relevant regions over the decade. The DC of Lower Eyre Peninsula experienced growth of 17.2 per cent (see Figure 3), however provisional ABS data shows population decline in DC of Lower Eyre Peninsula for the first time in a decade. The demographic change is caused by several factors including sea change lifestyle being driven by retirees from the agricultural sector with Streaky Bay and Tumby Bay being desirable coastal locations. Population growth in the DC of Lower Eyre Peninsula can be partly attributed to the numerous coastal townships and proximity to the City of Port Lincoln and Port Lincoln Airport (EPLGA 2014, pp 5-6).

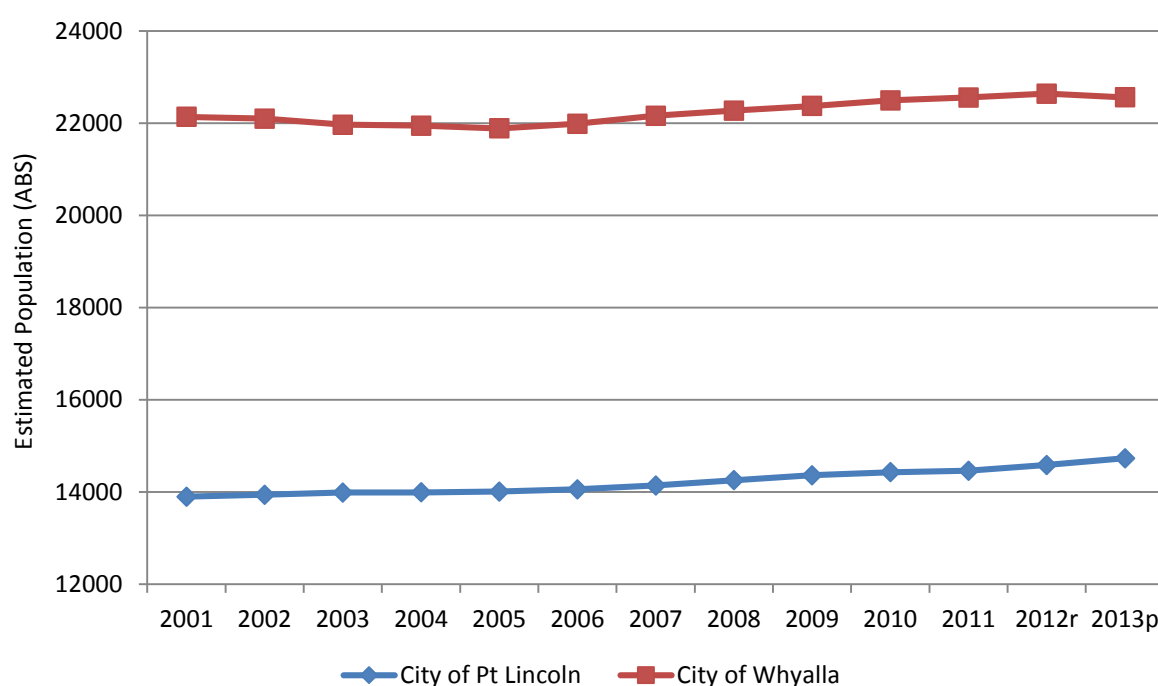


**Figure 3.** Population trends - Ceduna, Cleve, Lower Eyre Peninsula, Streaky Bay and Tumby Bay, 2001 to 2013\*.

Estimates are final for 2001 to 2011, revised (r) for 2012, and preliminary (p) for 2013. \* based on place of usual residence

Source: ABS, 2012 and 2014, Census of Population and Housing Regional Population Growth, Australia, 2011, Cat. No. 3218.0, table 4.

Between 1996 and 2001 Whyalla's population declined steadily from just under 25,000 to around 23,000 people, Port Lincoln on the other hand experienced steady population increase between 1996 and 2001 (Collins Anderson Management 2007, p 9). Figure 4 below shows with regard to Port Lincoln and Whyalla data, the urban centres maintained their populations with little change from 2001 to 2006. From 2007 to 2013 each then gained small numbers of population, although it is unclear if Whyalla is maintaining this increased level post 2013.



**Figure 4.** Population trends - Port Lincoln and Whyalla, 2001 to 2013\*.

Estimates are final for 2001 to 2011, revised (r) for 2012, and preliminary (p) for 2013. \* based on place of usual residence

Source: ABS, 2012 and 2014, Census of Population and Housing Regional Population Growth, Australia, 2011, cat. no. 3218.0, table 4.

Table 1 shows the DCs of Tumby Bay (3.2 per cent) and Streaky Bay (2.2 per cent) and the City of Port Lincoln (1 per cent) experienced population growth of over one per cent in 2012 to 2013. The DC of Lower Eyre Peninsula (-1.4 per cent) and the City of Whyalla (-0.4 per cent) were the only LGAs to experience a population decline.

## Cultural heritage and linguistic diversity

Nearly 83 per cent of the region's population was born in Australia, with over 5.5 per cent (3,162) of the population identifying as an Aboriginal person at the 2011 Census. In 2011 more than 90 per cent of the region's Aboriginal people lived in the LGAs of Whyalla (920/4.2 per cent), Ceduna (866/24.9 per cent), Port Lincoln (784/5.6 per cent) and the unincorporated west coast (317/49.9 per cent). Over 90 per cent of the region's population speak only English at home. Aboriginal languages, including Kokatha, Wiringu, Mirning, and Pitjantjatjara, were the next most common languages and small numbers of people spoke Greek, Italian, or Croatian at home in 2011. Table 2 shows the ancestry of the region's population by the birthplace of their parents.

**Table 2.** Ancestry by birthplace of parent(s) - Ceduna, Port Lincoln, Whyalla and rest of region, 2011\*.

Parent's birthplace	Ceduna^		Port Lincoln^		Whyalla^		Rest of EPWC region^	
	M (%)	F (%)	M (%)	F (%)	M (%)	F (%)	M (%)	F (%)
Australia	47.7	54.6	47.7	51.7	56.2	58.8	41.5	45.1
England	49.0	56.5	45.7	56.5	51.0	56.1	43.3	45.1
Scotland	4.0	11.1	12.8	13.8	13.3	16.1	10.8	7.8
Ireland	11.9	5.6	9.2	4.5	7.9	7.6	5.3	4.9
Germany	14.6	6.5	10.2	9.3	7.1	7.0	7.1	4.1

\* based on place of usual residence; ^multiple responses allowed

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, various.

## Aboriginal Heritage

The Nauo (south western Eyre), Barngarla (eastern Eyre), Wirangu (north western Eyre), and Mirning (far western Eyre) are the original Aboriginal Nations present when Europeans arrived (Tindale 1974, in DEH 2004a; SATC 1999, in RDAWEP n.d.) and maintain traditional ties to Country in the study area. However people may belong to more than one Nation through blood ties (mother and father's country) and marriage. For example, in the Whyalla area the Malkaripangala people, a group within the Barngarla Nation are also culturally linked to the Lake Eyre and Lake Torrens Nations. The Kokatha (north Eyre Peninsula) Nation shared sites (Lake Newland area) and territorial boundaries, including the Gawler Ranges with the Eyre Peninsula Nations. The Barngarla and Nauo Nations are the traditional owners of the land of Lincoln National Park with a number of sites of Aboriginal significance having been described, including fish traps in Porter and Proper Bays (DEH 2004b, in RDAWEP n.d.).

As in other parts of Australia, the history of the Indigenous inhabitants of the Eyre Peninsula includes violence and conflict. The early European arrivals on the Eyre Peninsula were extremely isolated and, with police help several days travel away, naturally felt vulnerable. Aboriginal attacks were not unknown. Sheep farmer John Brown and his hut-keeper were murdered at Port Lincoln in 1842 (*Southern Australian* 1842, p 2). A shepherd, John Hamp,

was murdered near Port Lincoln in 1848 (*South Australian Register* 1849, p 2). In an attempt to contain the situation, ration depots were set up to supply basic food items and Aboriginal missions were established at Poonindie (near Port Lincoln) and later at Koonibba and Yalata (Prest 2001, p 11). Two police stations were established at Three Lakes and near Franklin Harbour in response to the 1849 murders of James Beevor and Anne Easton (Sumerling 1987, p 13; *South Australian Register* 1849, p 4). While these acts of violence are well recorded, less well documented is the violence against Aboriginal people that also occurred. However the historical discourse is clouded by folklore and it can be difficult to separate fact from fiction. For example, given conflicting accounts, the incident known as the Elliston Massacre of 1849 is not completely understood. Some say the massacre never happened while others claim as many as 250 Aboriginal people were forced off a cliff by the Europeans. Well-documented killings of Eyre Peninsula Aboriginal people by European people include: one in August 1848 at Lake Newland, five in May 1849 near Yeelanna and two at the Waterloo Bay cliffs also in May 1849 (Foster et al. 2001, pp 47-49.). The death penalty was not imposed consistently. In 1860 an Aboriginal man was publicly hung at Streaky Bay effectively ignoring the recently-passed law that banned public executions in South Australia. Later, special laws were passed to allow for public executions of Indigenous offenders while executions of white men remained strictly private events (Lennan et al. 2012, p 665). It should also be noted that while there are marked sites to commemorate European people killed by Aboriginal people on the Eyre Peninsula, similar sites have not been established to remember Aboriginal people killed by European people (Sumerling 1987, p 14.).

All Aboriginal Nations on Eyre Peninsula are known to have used a wide variety of native plant and animal (including fish) species for food and other resources. Barngarla people hunted both land and marine animals; however traditionally oysters and shellfish were not included in their diet. An archaeological survey along the Anxious Bay coast from Elliston to Fowlers Bay yielded important information about the use of coastal areas and Lake Newland during day-to-day life, through a number of camp sites and midden finds (DEH 2003, in RDAWEP n.d.). One of the most comprehensive archaeological studies undertaken to date on the Eyre Peninsula and surrounding areas was a fish trap study by Archaeologist Sarah Martin in 1988. Martin provides a description of some aspects of Aboriginal life, mainly about the use of fish traps and other fishing methods, using historical documents of early Europeans and oral histories, including many older Aboriginal people living in the EPWC region in the 1980s.

Martin's (1988, p 51) research recorded 52 fish traps/possible fish traps in the lower Eyre Peninsula and west coast areas (excluding the northern area of Spencer Gulf), as well as a number of campsites along the coast. Of the areas surveyed the lower Eyre Peninsula had a greater concentration of existing fish traps than the rest of the Eyre Peninsula (Martin 1988, p 57). The surveyed areas in the west coast yielded more natural fish traps where Aboriginal people used the reefs running off rock platforms, with small modifications, as fish traps



(Martin 1988, p 70). The landforms where most fish traps are found are: tidal channels and swamps/creek estuaries; shallow sheltered beaches in protected bays and inlets; rocky headlands in protected bays and areas protected by reefs and islands; and rock reefs forming on rock platforms (Martin 1988, p 79). Fish trap design varied due to the species caught and the environmental setting (Martin 1988, p 86). Fish traps sites are sometimes found adjacent to campsites and ceremonial/exchange sites. Martin (1988, p 83) noted a relationship between fish trap sites and known “mythological/ceremonial areas”. She also noted the sites “represent a fragile and non-renewable cultural resource of great significance” and they remain of contemporary cultural significance to the Aboriginal people of the area. The sites have been affected by natural processes; urban development (including waste disposal, coastal road construction and marinas); recreational fishers and vehicles; and increased visitation to the area and more people living, working and playing on the coast (Martin 1988, pp 84-86).

In 1999 Eddie Munro was commissioned by the (then) Australian Heritage Commission to conduct an archaeological and anthropological survey of lower Eyre Peninsula. Munro reviewed data collected from past studies to establish a database of over 145 sites, including burials, stone arrangements, middens and fish traps (RDAWEP n.d). Other archaeological/anthropological studies on Eyre Peninsula were predominantly commissioned by companies or agencies in response to proposed developments. No comprehensive study has been undertaken for the Eyre Peninsula and west coast region to date. Sites of cultural significance are recorded under the State Heritage Register but there are many unrecorded sites of major significance to Aboriginal people (RDAWEP n.d).

The majority of registered and reported Aboriginal Heritage Sites in the EPWC region occur along the coast, with clusters around the coastlines near Coffin Bay and Avoid Bay, Port Lincoln and Louth Bay, Cowell, Whyalla, the coastline west of Sheringa, Anxious Bay, Sceale Bay, Corvisart Bay and Streaky Bay, Smoky Bay, Ceduna, the coastline between Denial Bay and Point Bell, and Fowlers Bay. Inland sites include Lake Malata, Wanilla, Yalata Aboriginal Reserve and near Kimba. An absence of registered or reported sites does not indicate an absence of sites or objects; it may simply indicate that an area has not been surveyed for Aboriginal cultural heritage sites (RDAWEP n.d.).

There are eight Aboriginal homelands within 30km of Ceduna who rely on services and facilities in the town. The Aboriginal population in Ceduna fluctuates due to a number of cultural and community issues or events. Koonibba is a larger Aboriginal community located 43 km northwest of Ceduna with a population ranging from 150 to 300 people. There are approximately 50 Aboriginal Housing Authority properties and community administration buildings which are maintained and upgraded by the community, through Koonibba Building Pty Ltd. In addition to English, languages spoken by some Koonibba residents are Kokatha, Wiringu, Mirning and Pitjantjatjara. Another Aboriginal community lives at Scotdesco, situated 25 km west of Penong and 34 km east of Fowlers Bay, which is home to



approximately 55 people. There is currently a waiting list for the 17 houses within the community. English is the main language, but some community members speak Wirangu and Kukotha (Rural Solutions SA 2009, pp 14-15).



Koonibba Aboriginal Community, 2009 (CJ Thredgold)

**Table 3.** Number and proportion of Aboriginal people, EPWC LGAs, 2001.

<b>2011 (Census URP)</b>			
<b>LGA</b>	Aboriginal people	Total population	Aboriginal population as proportion of total population (%)
<b>Ceduna</b>	866	3,482	24.9
<b>Cleve</b>	12	1,735	0.7
<b>Elliston</b>	17	1,048	1.6
<b>Franklin Harbour</b>	15	1,269	1.2
<b>Kimba</b>	15	1,087	1.4
<b>Lower Eyre Peninsula</b>	144	4,916	2.9
<b>Port Lincoln</b>	784	14,088	5.6
<b>Streaky Bay</b>	30	2,101	1.4
<b>Tumby Bay</b>	21	2,586	0.8
<b>Whyalla</b>	920	22,088	4.2
<b>Wudinna</b>	21	1,251	1.7
<b>Unincorp. west coast</b>	317	635	49.9
<b>Totals</b>	3,162	56,286	5.6
<b>South Australia</b>			1.9

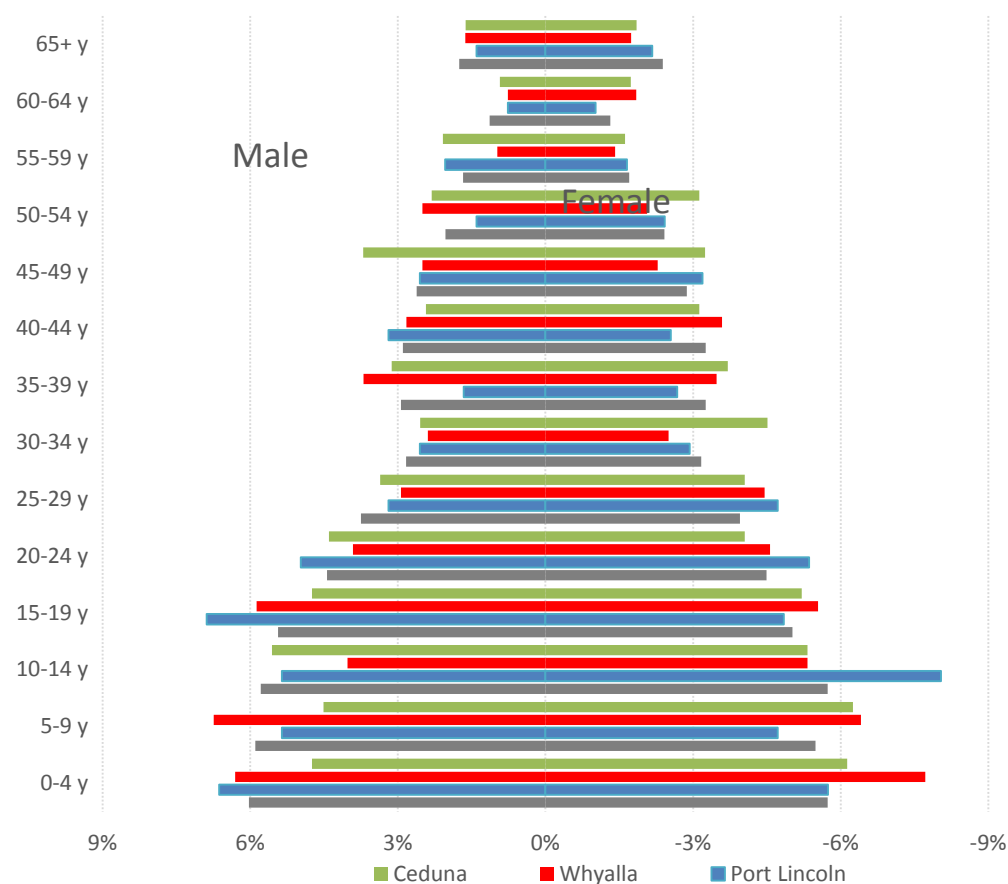
Source: PHIDU, 2014.

Table 3 shows the number of Aboriginal people counted in each LGA at the 2011 census. It is clear that the population is concentrated into a limited number of the LGAs with the urban centres of Whyalla (920 persons), Ceduna (866) and Port Lincoln (784) having the greatest populations. As a proportion of total population the vast unincorporated west coast region stands out with half the population for this region identifying as Aboriginal. This area takes in a number of Aboriginal settlements and is the Country of a number of groups (see earlier) and so it is not surprising that the enumeration is high in this area. With regard to the urban areas a quarter of the Ceduna population were enumerated in this category. As noted by the ABS care must be taken in interpretation of these data. The population count is subject to the limitations which apply when a population is less settled and many members of that population are living a semi traditional lifestyle.

Figure 5 shows the age sex structure of the Aboriginal population of the three largest urban centres in 2011 in the study region. These are shown against the total Aboriginal population for South Australia. It is evident from the data that the Aboriginal population in all the areas discussed is a very young population. In all regions there are high proportions of people under 20 years and much lower proportions over 50 years of age. This is very typical of the national Aboriginal population. Some areas stand out as having greater percentages in particular age groups. For example around a quarter of Aboriginal population of Whyalla is aged less than 10 years, with a further 20 per cent in the cohort aged 10 to 19 years. The need for education and other services for such a large proportion of young people within

the region has ongoing impacts for the local service providers. The data for Port Lincoln are very similar and though there are some differences between the gender balance within the two locations, this group of young people need to be taken into account when any future plans for the region are adopted. While the pattern for Ceduna is less pronounced there are still larger proportions of young people within the population than for the overall total population. However in the case of Ceduna there are also proportionally greater number s of young adults and those in the middle and older years. These cohorts are of working age and also retirement ages and their service needs will be different from the younger cohorts.

It must also be noted that there are a number of inherent problems in the ABS Census data and the counting of people who are identified as Aboriginal and/or Torres Strait Islander. These data depict a picture of a count taken at a single point in time. As noted earlier many of the people within this region are living a life both on Country and in urban areas.



**Figure 5.** Population structure of Aboriginal people - Ceduna, Whyalla, Port Lincoln and South Australia, 2011.

Source: ABS, 2012, Census of Population and Housing Basic Commur 10. 2001, various.

## **Non Indigenous Heritage**

The first Europeans to encounter the region were members of a Dutch expedition which mapped Australia's southern coast as far east as St Peter Island in 1627. Whalers and sealers operated from Port Lincoln and other sites on the Eyre Peninsula well before South Australia became a British colony. However, it is unlikely that whalers were active in the region much earlier than 1790 (Kostoglou et al. 1991, p 1). These marine industries enjoyed a few decades of prosperity before their collapse due to depleted stocks caused by poor management. Matthew Flinders mapped the Eyre Peninsula coastline in 1802 followed by Nicholas Baudin and Louis de Freycinet in the same year. Edward John Eyre explored the interior of the eponymous peninsula and the Nullarbor Plain in 1839 declaring the area unsuitable for agriculture (Sumerling 1987, p 2). After being rejected by Colonel Light as the colony's capital, Port Lincoln was settled by Europeans in 1839 and by the 1870s much of the region was being grazed (RDAWEP n.d.). At the same time the majority of Aboriginal people lived in fringe camps near white settlements (Whyalla n.d.).

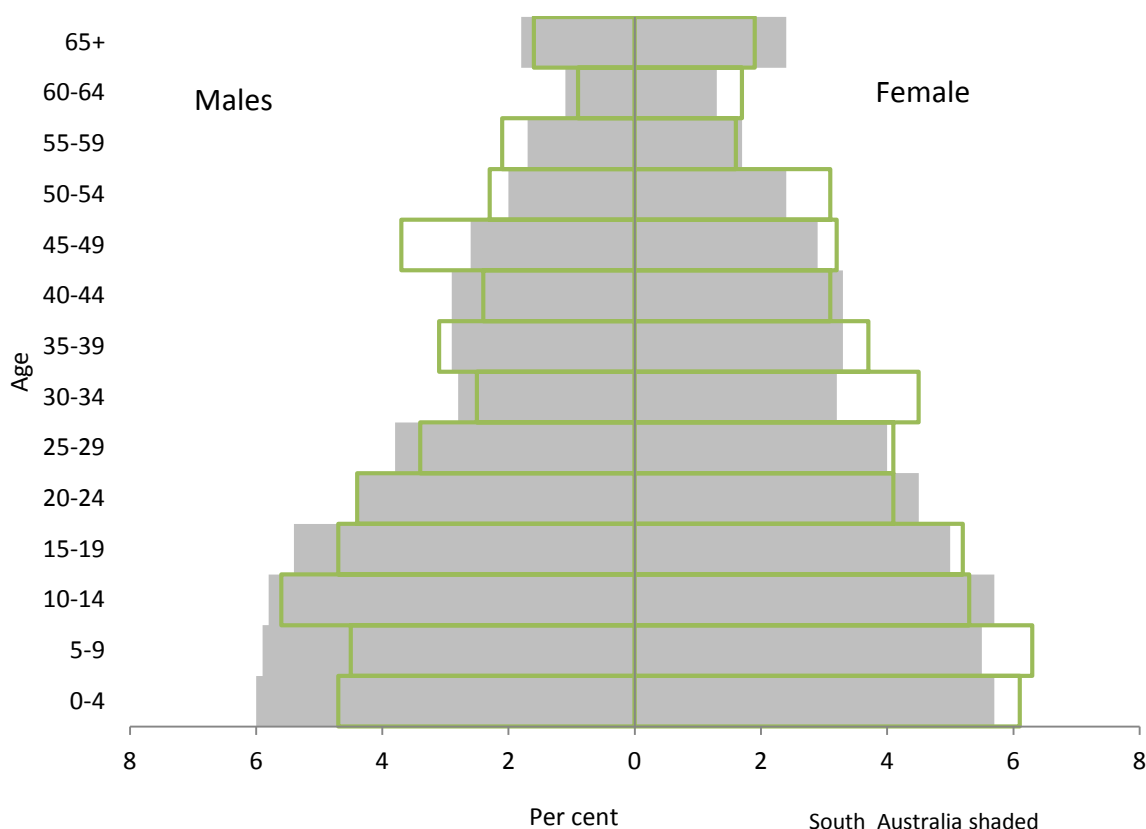
Falling below Goyder's Line of dependable rainfall, and contrary to Edward John Eyre's opinion, the Eyre Peninsula was to become an important grain growing area. In addition, pastoralism became a key industry with leases along the coast from Streaky Bay to the Cowell-Cleve area being established by the mid-1850s. However, large areas of the interior of Eyre Peninsula remained undisturbed until the twentieth century (Sumerling 1987, p 2). The establishment of rail lines in the early 1900s and the Tod River pipeline in 1922 also facilitated agriculture (Prest 2001, p 184).

Early mining ventures on the peninsula proved challenging. While beginning as early as 1849, the first two copper mines near Tumby Bay only lasted a couple of years as miners left for the Victorian Goldfields. Later attempts to restart the mining industry in various locations were only successful for brief periods with the exception of Iron Knob which produced high quality iron ore from 1897 to 1998 (Sumerling 1987, p 9; visitors guide n.d.). However, today magnetite, graphite, kaolin and zircon are mined in the region (EPLGA 2014).

Many places of European heritage significance are related to early industries in the EPWC region including settlements of sealers and whalers and other maritime heritage places (lighthouses and coastal jetties). As mining and agriculture developed so did better shipping facilities for primary products. Shipwreck sites reflect the early industries and portray early maritime engineering and general life in the 19th and 20th Centuries. Other industrial heritage sites include mills, mines and agricultural buildings (RDAWEP n.d.). Monuments, cemeteries, dwellings, churches, hotels, railways infrastructure, farm buildings, school buildings, and buildings and infrastructure associated with businesses such as blacksmiths, postal companies and bakeries are some other sites of European heritage significance (RDAWEP n.d.).

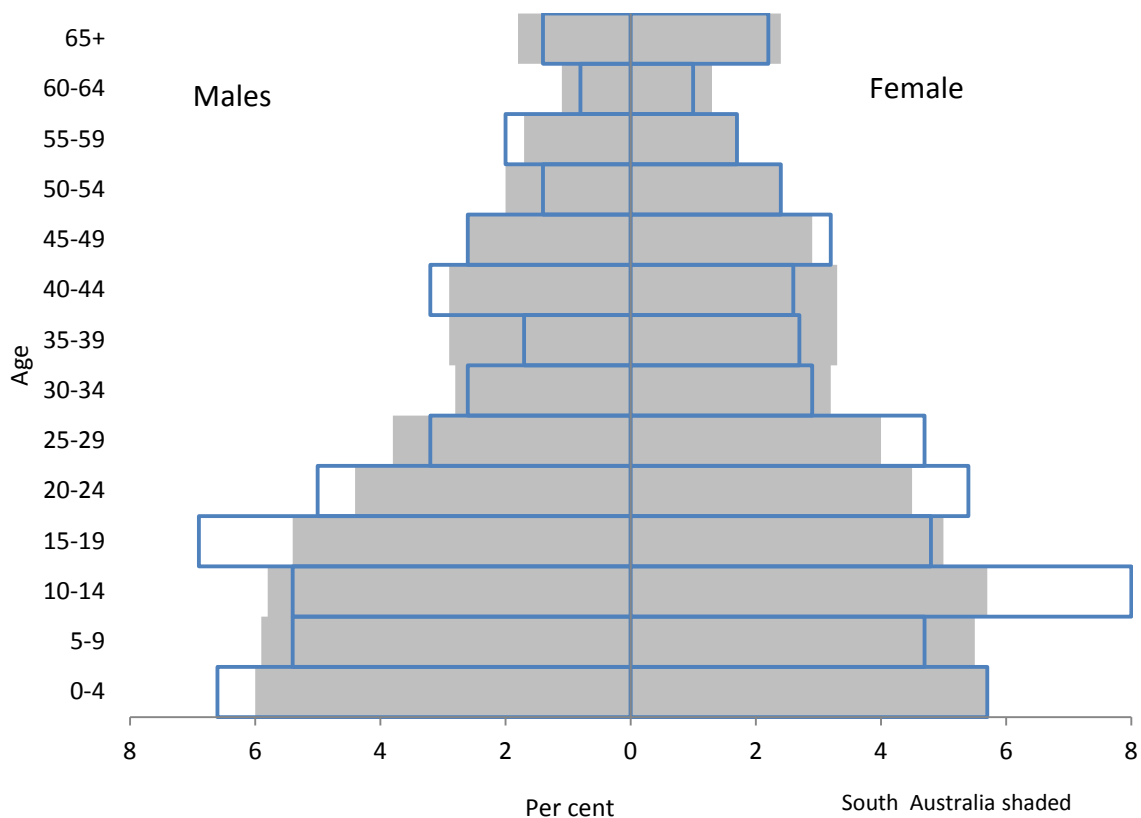
### Age and gender profile

Almost half of the EPWC region's population was over the age of 40 years and one fifth of the population was over 60 years of age in 2011 (RDAWEP 2014, p 39). The age sex structures for the three urban centres Ceduna (Figure 6), Port Lincoln (Figure 7) and Whyalla (Figure 8) are contrasted with the structure for total South Australia. There are few major differences between the regions and the state within most cohorts, although as with the Aboriginal populations discussed earlier the country regional towns have a larger proportion of their populations in the younger age groups. In Port Lincoln this difference is the most marked for the population aged between 10 and 19 years, which may be indicative of children living in Port Lincoln in order to complete high school studies. For Whyalla there is a slightly higher proportion of those aged under twenty, but the general patterns are very typical of the entire state.



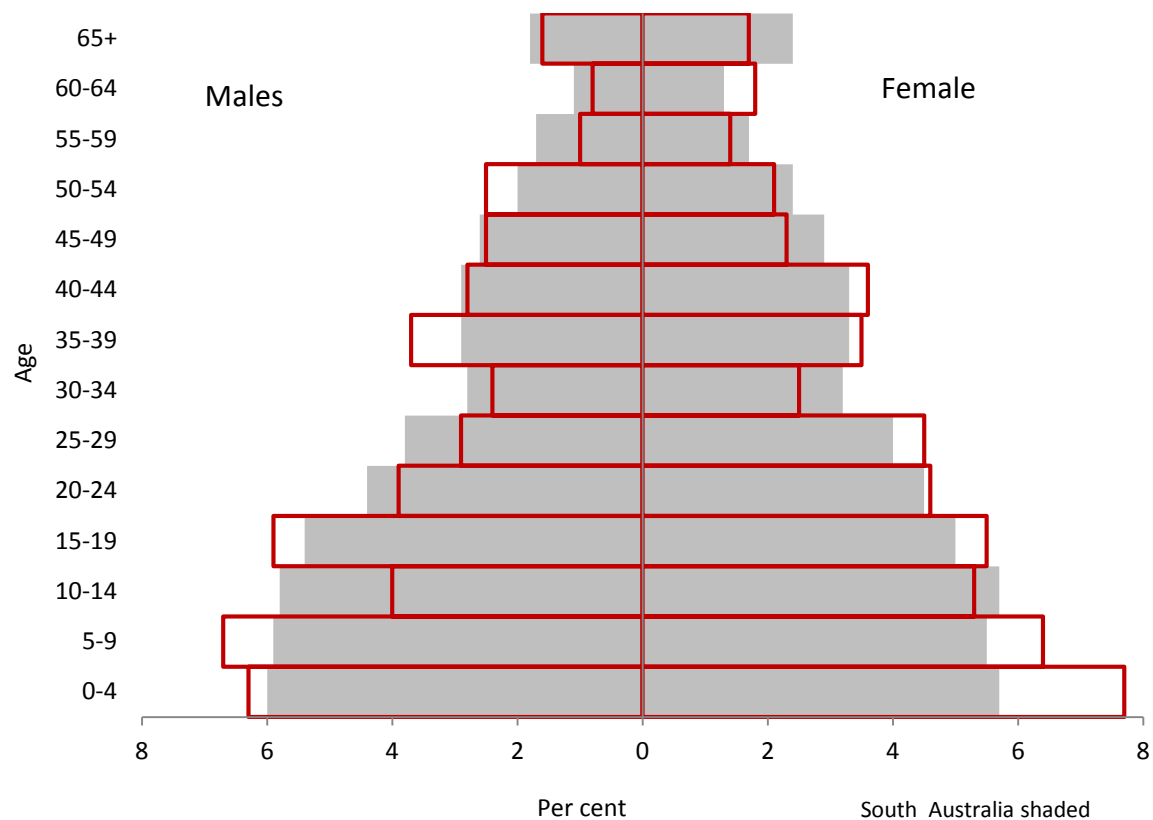
**Figure 6.** Age sex structure of Ceduna and South Australia (shaded) 2011.

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, Ceduna and South Australia.



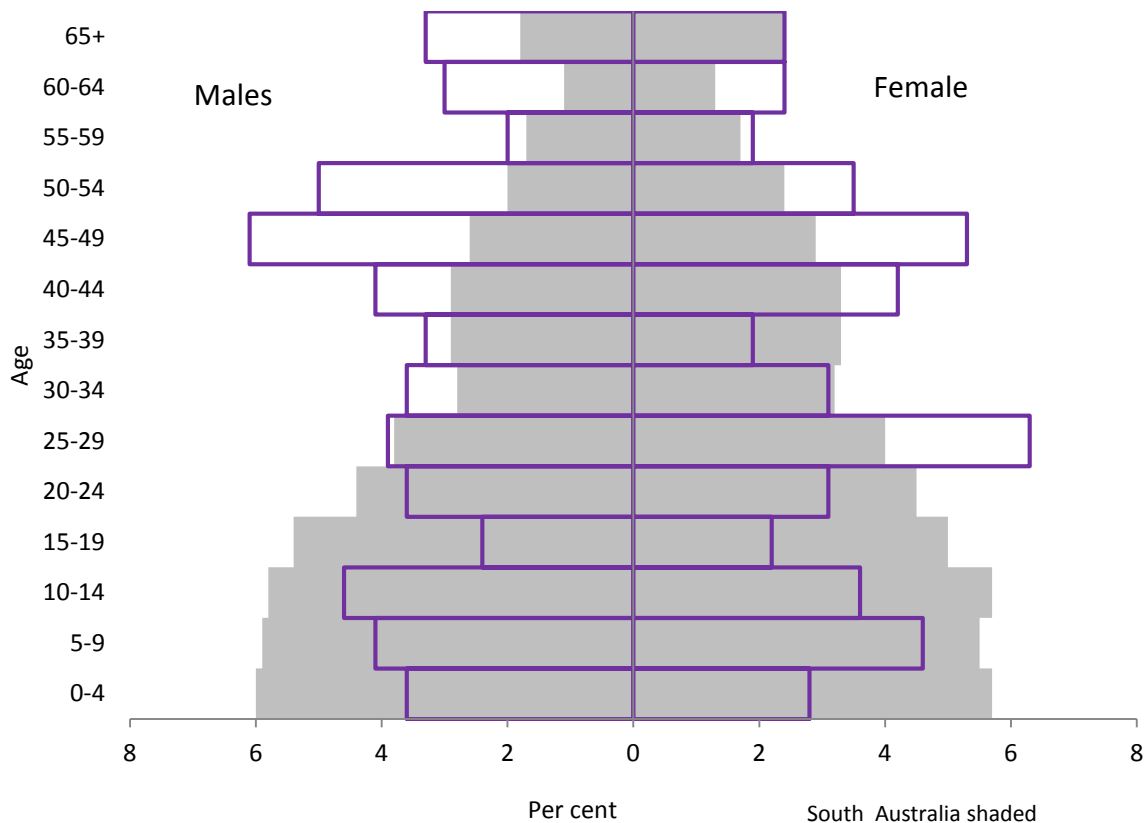
**Figure 7.** Age sex structure of Port Lincoln and South Australia (shaded) 2011.

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, Port Lincoln and South Australia.



**Figure 8.** Age sex structure of Whyalla and South Australia (shaded) 2011.

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, Whyalla and South Australia.



**Figure 9.** Age sex structure of unincorporated west coast and South Australia (shaded) 2011.

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, unincorporated west coast and South Australia.

With regard to Figure 9 for the unincorporated west coast region the differences are stark. Here the population is top heavy with a far greater proportion of people in the young working ages of 25 to 29 years, especially young women, and this is then followed by a greater percentage of all cohorts over 40 years. This would appear to be related to the large proportion of people within this area living on stations and the general older age of the Australian community actively involved in primary industry work on sheep and cattle properties. The Aboriginal population (49.9 percent) living in the unincorporated west coast area dominate the younger cohorts and the non-Indigenous population dominates the 45 years and older age groups.

### Migration

Recent research found 25 to 30 per cent of the region's young people intended to move to Adelaide or elsewhere for employment and/or education (RDAWEP 2014, p 40). This was backed by research into the intentions of the Class of 2013 graduating from Port Lincoln High School, where 30 per cent intended moving. Further evidence from the 2011 Census highlights that between 2006 and 2011 over 30 per cent of the region's 20 to 24 age cohort, and over 22 per cent of the 25 to 29 age cohort moved out of the region. Research by



Smailes (1993, p 14) in the early 1990s shows this phenomenon is not new with significant numbers of 16 to 29 year olds leaving the districts between 1986 and 1991. State government cost cutting in the early 1990s led to the rationalisation of branches of services such as banks and saw the withdrawal of staff from smaller centres and a concentration in larger regional centres (Smailes 1993, p 62).

Mining industry factors that may affect in-migration to the EPWC region include: the reality of mining companies being able to hire and maintain a labour force made up of local people; the extent unemployed people are able to take up employment; the number of people already employed who leave to take a job in mining; the ability of the farming workforce to contribute to employment in mining; and the intentions of the under-employed and those not in the labour force. Each of these factors influences the extent of in-migration to the region, and the location and life of a mine influences where the population will locate (SACES 2013, p 2). Wudinna is expected to benefit from being located 26km from the Warramboo mine site<sup>4</sup> and could attract new families to town. The mine's operators optimistically<sup>5</sup> estimate a construction workforce of 1,600 and 500 workers required for ongoing operation which could double the size of Wudinna (SACES 2013, pp 7-8).

The loss of population, particularly young adults remains a problem facing the EPWC region, and exacerbates the ageing process. Without a replacement population, retirements will shrink the workforce by about 40 per cent in future years. The RDAWEP (2014, p 7) has adopted a policy of proactively marketing the region to attract "workforce families". The RDAWEP recognises that for this strategy to work the region's infrastructure and services will need upgrading and expansion.

### **Ageing**

Between 2001 and 2006 the Statistical Local Areas (SLA) of Franklin Harbour (11.6 per cent) and Cleve (11.3 per cent) experienced rapid growth in the proportion of people aged 55 to 64. The Whyalla SLA had the largest growth in the number of people aged 55 to 64 in non-metropolitan South Australia (Hugo 2008, p 84). This age group incorporates early and pre-retirees and the numbers are more substantial and are growing more rapidly than the cohort 10 years older (Hugo 2008, p 82). Coastal communities on the Eyre Peninsula, such as Tumby Bay and Arno Bay, saw a growth in the population aged 65 to 74 years (Hugo 2008, p 79). Cleve, Franklin Harbour and Elliston SLAs also experienced a growth in the proportion of 65 to 74 year olds between 2001 and 2006 and Whyalla SLA had the second largest growth in the number of 65 to 74 year olds in the non-metropolitan regions after Victor Harbor (Hugo 2008, p 81). Between 2001 and 2006 Cleve and the unincorporated west coast were amongst the SLAs with the fastest growing percentage of population of over 75 years of age. During the same period both Port Lincoln and Whyalla experienced a growth in the number

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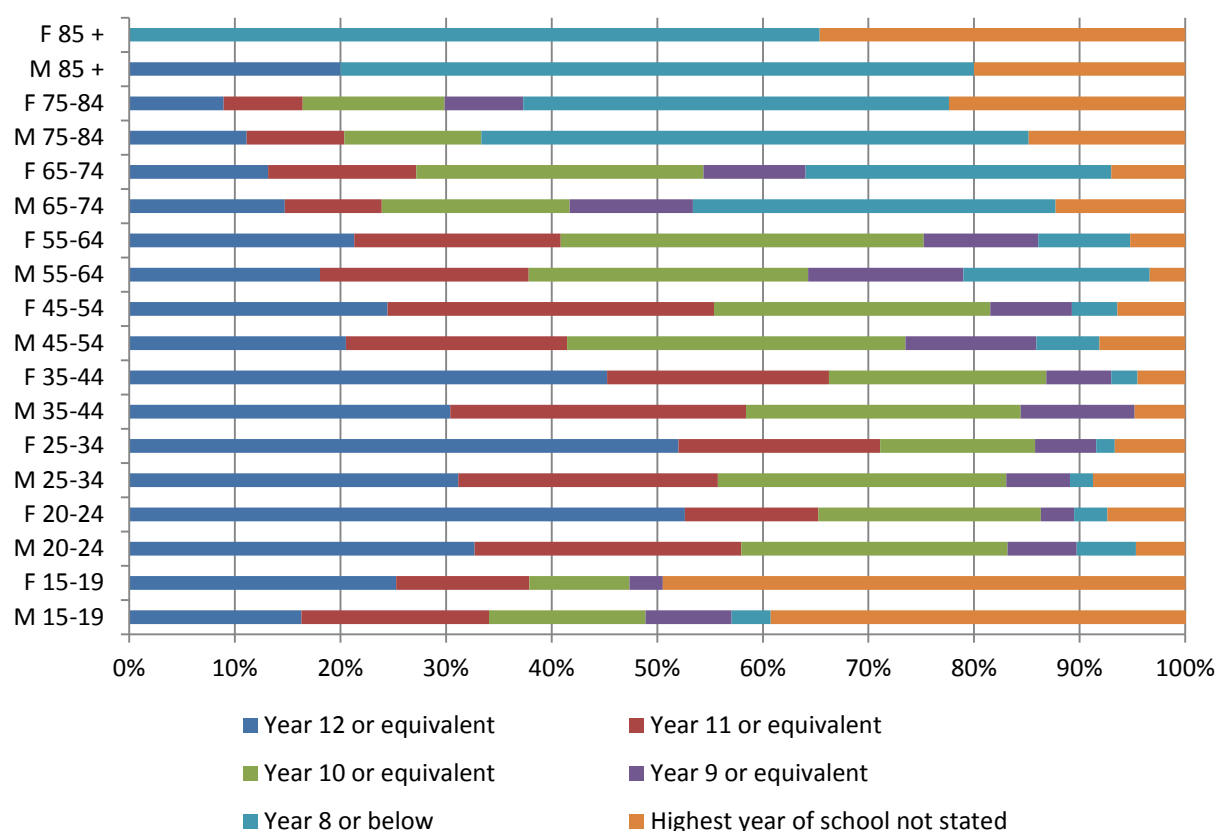
<sup>4</sup> Potentially the biggest project in the State after Olympic Dam.

<sup>5</sup> SACES recommends a degree of caution in estimating impacts and planning for growth.

people over 75 years of age (Hugo 2008, p 78). While the age structure of the region's LGAs varies, in 2011 Tumby Bay had a higher proportion of older residents, resulting in a higher median age. The median age of Tumby Bay was 48 years old, Lower Eyre Peninsula 40 years old, Port Lincoln 38 years old which compared to South Australia with a median age of 39 years (Herriot 2014, p 6). Retirees and older populations will require a more specialised housing product which is currently being addressed through the Aged Care and Disability Master Plan for Whyalla. The region is generally well serviced by health and aged care facilities with related services available in most of the smaller towns. Nevertheless the health care sector finds it difficult to attract and retain a workforce in the region (RDAWEP 2014, p 18).

## Education

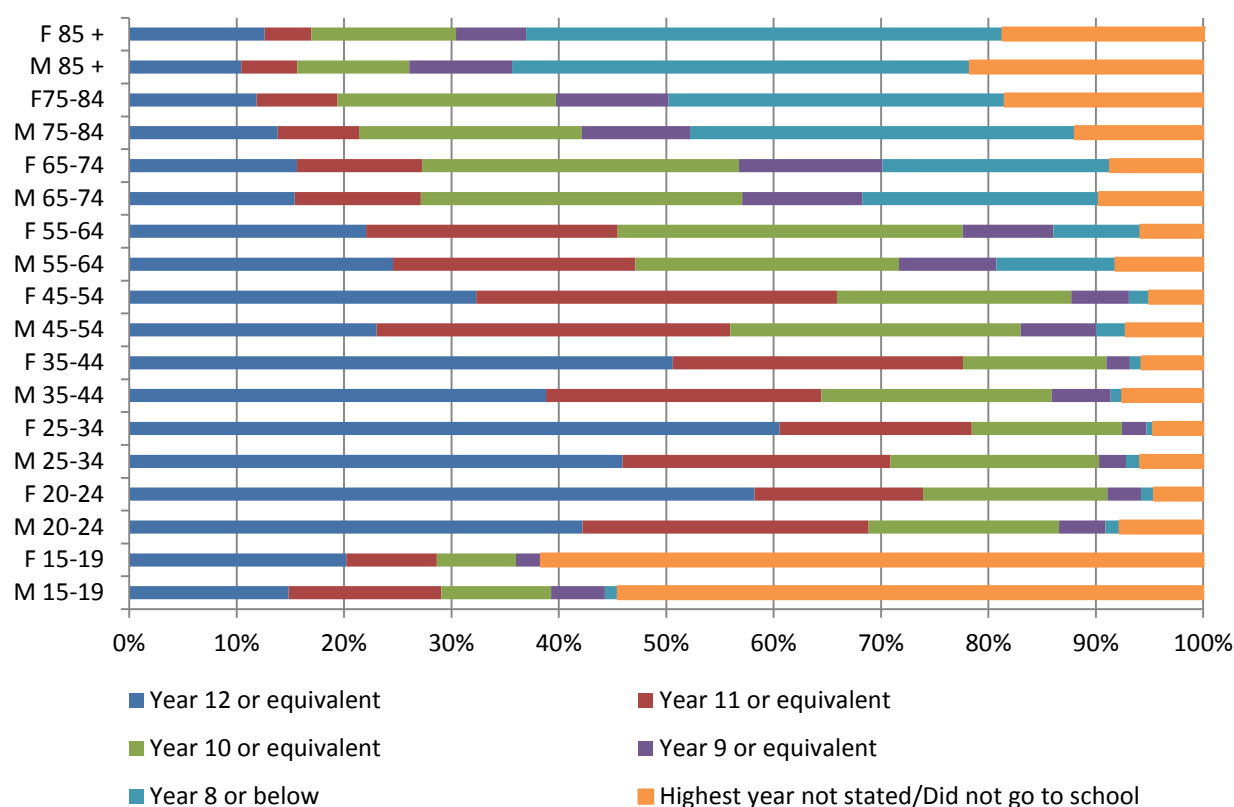
In the EPWC, the general level of education and qualifications is below the state average, with below average levels of school achievement and post-school qualifications (DFEEST 2012, p 9). Figures 10, 11 and 12 show the percentage of the highest year of school completed. The Figures show that many more young women aged 20 to 34 completed Year 12 or equivalent than young men in Ceduna, Port Lincoln and Whyalla. The older age groups in Ceduna are the least educated of the three urban centres with the majority of older women in particular with Year 8 or lower education levels.



**Figure 10.** Percentages of highest year of school completed by age and by sex, Ceduna, 2011\*.

\* based on place of usual residence

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, Ceduna.



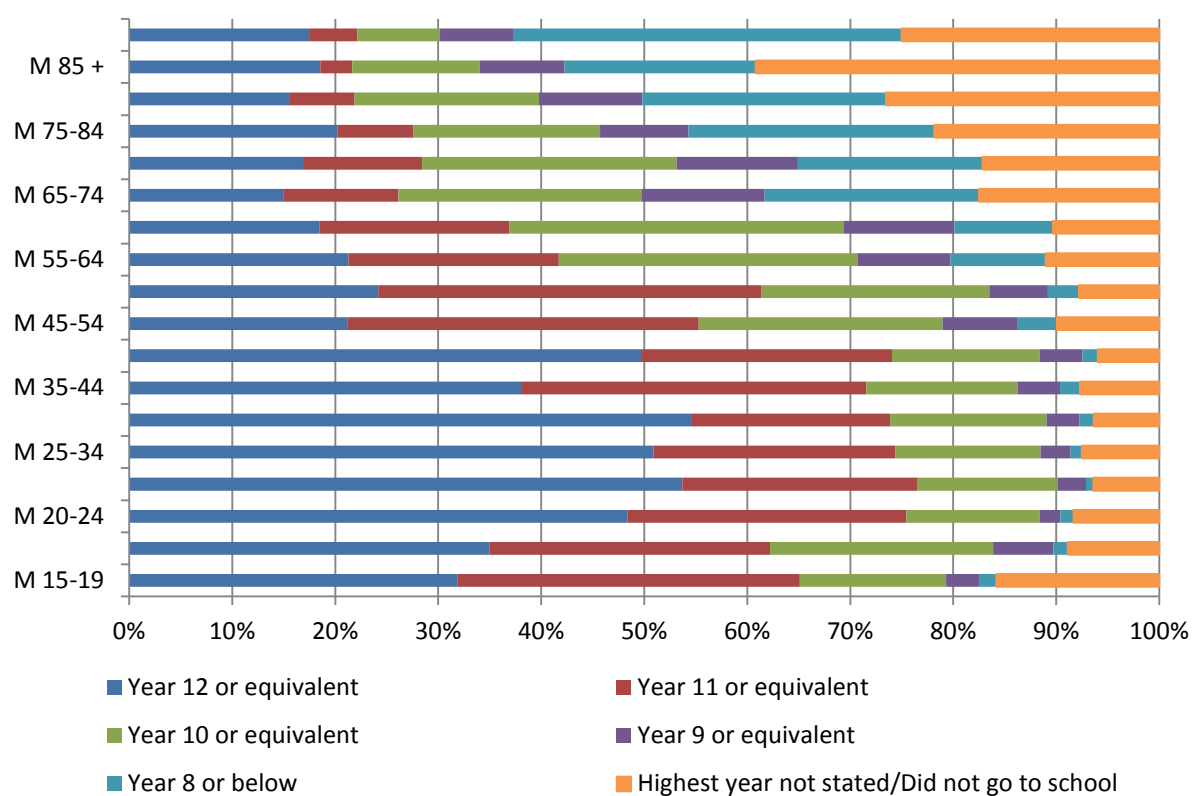
**Figure 11.** Percentages of highest year of school completed by age and by sex, Port Lincoln, 2011\*.

\* based on place of usual residence

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, Port Lincoln.



Denial Bay, school bus, 2009 (CJ Thredgold)



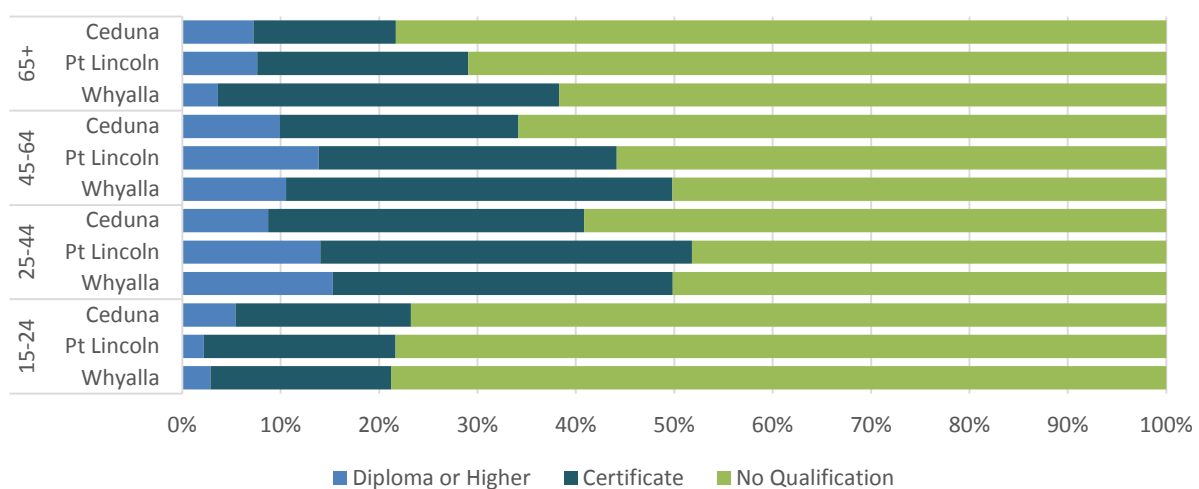
**Figure 12.** Percentages of highest year of school completed by age and by sex, Whyalla, 2011\*.

\* based on place of usual residence

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, Whyalla.

## Training

The residents of Port Lincoln and Whyalla have higher levels of post-school education than those of other LGAs in the region (Figure 13). This is reflected in the professional occupational profile of the large centres, construction which is dependent on trade qualifications, and government services and administration (SACES 2013, p 25). The growth of the mining sector will place increasing demands on the existing workforce as demand for skilled and semi-skilled labour increases (SACES 2013, p 10). Training for aged care workers was conducted in Whyalla in 2013/14. As the demand for workers in the region increases remote training opportunities in smaller towns are being explored by TAFE SA (RDAWEP 2014, p 18).

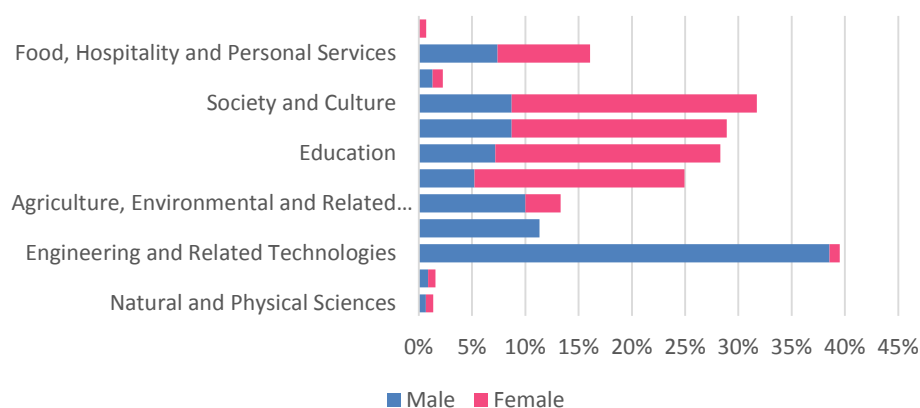


**Figure 13.** Percentage of non-school qualification: level of education by age, Ceduna, Port Lincoln and Whyalla, 2011\*.

\*based on place of usual residence

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, various.

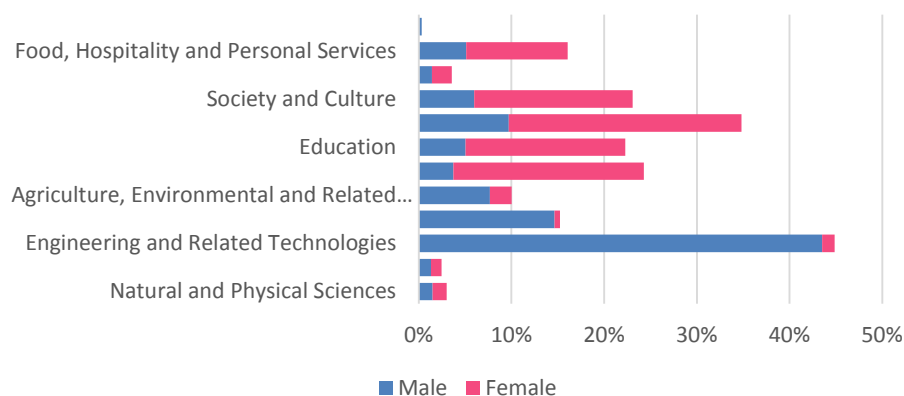
Figures 14, 15 and 16 clearly show the domination of Engineering and related Technology qualifications for residents of Whyalla, Port Lincoln and Ceduna. There are however differences between the three locations in other qualifications. Management and Commerce are the second highest ranking in Port Lincoln and Whyalla but in Ceduna this category is third after Society and Culture. The role of health services is important in all LGAs but Education lags behind these other fields of study which may have relevance for future training of many staff and development of new and required skills in the area.



**Figure 14.** Non-school qualification: field of study and by sex, Ceduna, 2011\*.

\* based on place of usual residence

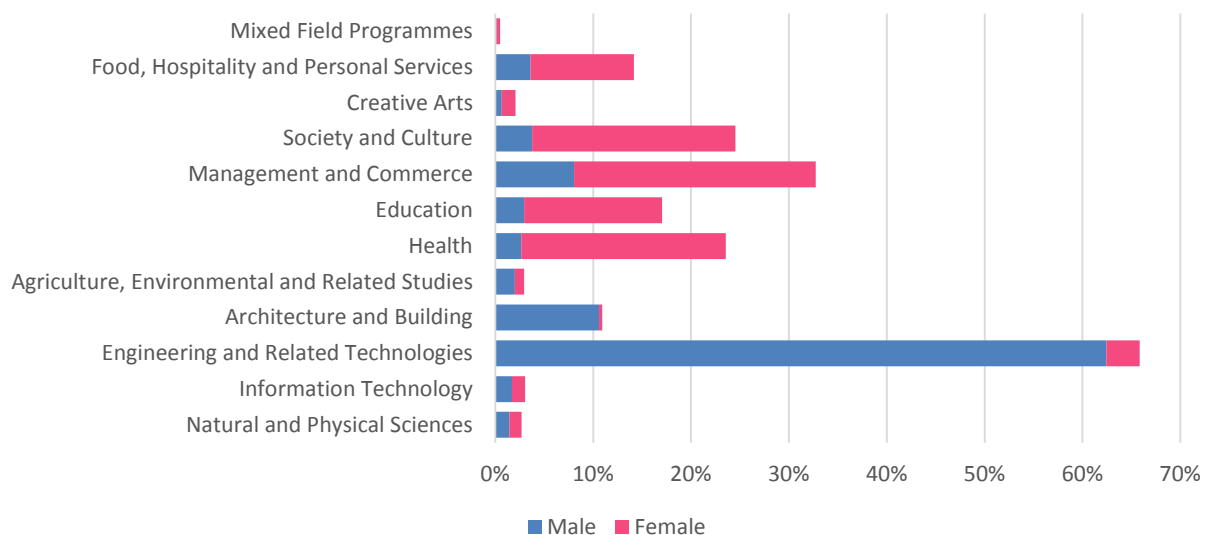
Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, Ceduna.



**Figure 15.** Non-school qualification: field of study and by sex, Port Lincoln, 2011\*.

\* based on place of usual residence

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, Port Lincoln.



**Figure 16.** Non-school qualification: field of study and by sex, Whyalla, 2011\*.

\*based on place of usual residence

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, Whyalla.

### ATSI education, training and employment

Some mining companies have entered into Native Title Agreements with Aboriginal Nations which outline a range of obligations and initiatives to create jobs for Aboriginal people, including one company operating near Ceduna with a target of 20 per cent indigenous employment (SACES 2013, p 10). The region’s Indigenous Economic Development Strategy is expected to provide opportunities for Aboriginal people to pursue business enterprises, including diversifying cultural tourism products (RDAWEP 2014, p 21). However literacy, numeracy and other skills are often required to reduce barriers and to obtain employment.



TAFE SA Wudinna Campus, 2009 (CJ Thredgold)

### **Workforce**

The reduction of the younger working ages in the region has led to an older workforce profile with nearly 44 per cent of the workforce aged 45 years and older. In some industries (agriculture, health and transport) over 50 per cent of the workforce is aged 45 years and over. Regional workforce data show regional workforces are older and there is demand for replacement workers for those who retire from the workforce (RDAWEP 2014, p 40). The expansion of mining in the EPWC region and the anticipated growth in population will increase demand for services and open up employment opportunities for skilled and experienced workers, including in health and education (SACES 2013, p 11). Aboriginal people living on the Eyre Peninsula have low workforce participation compared with non-Indigenous people and those Aboriginal people in the workforce are most likely to be working within government and community sectors (Rural Solutions SA 2009, pp 16-17).

Table 4 shows estimates of key economic data for LGAs in the region. Of note is the small number of local jobs in Whyalla and Lower Eyre Peninsula relative to the number of population living in the LGA. The City of Port Lincoln's SME sector is also highlighted with the City having 1,654 businesses, almost double that of the City of Whyalla.



**Table 4.** Estimates of Gross Regional Product (GRP) and related statistics, EPWC LGAs, 2013.

LGA	GRP \$m	No. of local jobs	Worker productivity (GRP/worker ) \$	No. of business es	GRP per business \$	No. of populatio n
<b>Ceduna</b>	195	1 919	101,593	327	596,330	3,662
<b>Cleve</b>	114	972	117,505	348	327,586	1,750
<b>Elliston</b>	84	612	137,346	233	360,515	1,055
<b>Franklin Harbour</b>	51	505	101,409	164	310,975	1,288
<b>Kimba</b>	85	642	133,238	240	354,166	1,100
<b>Lower Eyre Peninsula</b>	213	1,612	132,219	560	380,357	5,014
<b>Streaky Bay</b>	114	1,099	103,830	334	341,317	2,177
<b>Tumby Bay</b>	126	1,099	114,894	345	365,217	2,616
<b>Wudinna</b>	82	700	117,172	214	383,177	1,267
<b>Port Lincoln</b>	742	7,562	98,122	1,654	448,609	14,519
<b>Whyalla</b>	819	7,486	109,462	832	984,375	22,580
<b>Total SA</b>	83,212	815,253	102,000	140,458	592,433	1,633,625

Source: Id and National Economics, 2013, in SACES 2013 p 32.

### Labour force

The unemployment rate for the EPWC region in 2011 was 5.8 per cent, a slight decrease from 2006. In 2011, apart from the LGAs of Whyalla and Elliston, the other LGAs in the region had lower unemployment rates than the region as a whole. Whyalla's unemployment rate of above 8 per cent in 2006 and 2011 is the highest in the region. The regional labour force participation rate was nearly 60 per cent. The generally low levels of unemployment in the smaller LGAs reflect the fact that most job seekers have already left the district. The larger centres offer more potential to gain employment and tend to attract job seekers who hope the job market will eventually improve, or the facilities and attractions of a place are enough to keep people living there, even if unemployed (Smailes 1993, p 15).

Table 5 shows a predominance of full time work for males in all LGAs. The proportion however is relatively low in Port Lincoln. This may be related to the ephemeral nature of some employment opportunities. For example seasonal employment in fishing, aquaculture and cropping could influence these data. Almost 50 per cent of the employed females in Ceduna are listed as in full time work, higher than in the other areas.

The decision by BHP Billiton to postpone the Olympic Dam expansion has been favourable for the EPWC region by alleviating a potential skills shortage for mines in the region (SACES 2013, p 10). An important finding of the journey to work data shows most EPWC LGAs are self-contained, with the only significant population movements across LGAs between Port Lincoln and Lower Eyre Peninsula, and perhaps Tumby Bay (SACES 2013, p 37).

**Table 5.** Labour force status by sex – Ceduna, Port Lincoln and Whyalla, 2011\*.

	Ceduna (%)		Port Lincoln (%)		Whyalla (%)	
	Male	Female	Male	Female	Male	Female
<b>Employed</b>	95.4	95.6	94.5	94.5	91.8	92.0
<b>Full Time</b>	72.2	49.0	67.5	38.9	71.8	39.7
<b>Part Time</b>	17.0	39.0	19.0	48.5	12.8	45.4
<b>Other</b>	6.2	7.6	8.0	6.9	7.3	6.9
<b>Unemployed</b>	4.6	4.4	5.5	5.5	8.2	8.0

\* based on place of usual residence

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, various.

### Incomes

In South Australia in 2010-11 the mining centre of Roxby Downs recorded the third highest average total income (\$74,933) and the highest level within the rest of South Australia (Table 6). The Eyre Peninsula rural ABS Statistical Areas of Le Hunte-Elliston (\$67,840), Kimba-Cleve-Franklin Harbour (\$59,356) and West Coast (\$53,984) all had high average total incomes. Le Hunte-Elliston also recorded the highest average annual growth rate (30.9 per cent) in South Australia (and Australia) for 2005-06 to 2010-11. Kimba-Cleve-Franklin Harbour (26.0 per cent) and West Coast (14.1 per cent) also had good income growth rates. Interestingly, four of the five highest average annual growth rates in the State were recorded in and around the Eyre Peninsula. This growth coincides with large increases in business income and the growing local aquaculture and seafood processing industries (ABSa, 2013).

**Table 6.** Top average total incomes, South Australia, 2005-06 to 2010-11(a).

		2005-06	2010-11	Average rate 2005-06 to 2010-11	annual growth
Broad region	Select SA2s(a)	\$	\$	%	
Greater Adelaide GCCSA		39,115	49,031	4.6	
Rest of SA					
	Roxby Downs	56,357	74,933	5.9	
	Le Hunte- Elliston	17,653	67,840	30.9	
	Kimba-Cleve- Franklin Harbour	18,677	59,356	26.0	
Rest of SA		31,714	43,743	6.6	
South Australia		37,437	47,853	5.0	

(a) Excludes SA2s with <100 income earners.

Source: ABS, 2013, Estimates of Personal Income for Small Areas, Time Series, 2005-06 to 2010-11, Cat No 6524.0.55.002.

As well as pockets of high income earners in the region there are pockets of entrenched unemployment, particularly in Whyalla and Ceduna as seen in Table 5. Port Lincoln (28.2 per cent) has over the state (23.9 per cent) average of children living in low income and welfare dependent families. “Children in low income families can be more vulnerable to psychological and social difficulties, behavioural problems, lower self-regulation and elevated physiological markers of distress” (Herriot 2014, p 10). Nearly one quarter of the region’s population relies on some form of government income (RDAWEP 2014, p 16). There will be movement within the employed workforce as mining companies offer higher wages which may entice workers away from other industries within a town. There is potential for shortages of workers required for the function and survival of towns (SACES 2013, p 10). Some local people, such as unemployed and disadvantaged people, with limited education and training may be able to back-fill positions vacated by job movers, however some will require improvement in skills to be work ready (RDAWEP 2014, p 16).

In the EPWC region households living in some Aboriginal communities have significantly lower weekly incomes than the national average. This is due to factors such as chronic disease, remoteness of communities, and low car ownership and is exacerbated by more people residing in a dwelling, which results in more people needing to be supported on lower household incomes. The situation is made more pronounced because within Aboriginal society income is sometimes distributed or reciprocated in a different manner to some non-Indigenous cultures (Rural Solutions SA 2009, p 18).

The income profile for all the regions shown here (Table 7) has a degree of similarity but there are some standout records. It is clear that overall females have a lower weekly income than males with greater proportions with an income lower than \$600 per week. In all locations around 40 per cent of men fall into this category, whilst for women in Whyalla the data show 65.7 per cent, Port Lincoln 62.4 per cent and Ceduna 54.1 per cent. The difference in the Ceduna data may be linked to the higher proportion of women in that LGA who are in full time employment. The higher level of general education in Whyalla and the greater proportion of people employed in the engineering area may be associated with the higher proportion (12.0 per cent) of males in that LGA with a weekly income of \$1,500-1,999. This figure stands out from the other areas with Port Lincoln at 6.2 per cent and Ceduna at 6.0 per cent for males while women in this category are all under 3.0 per cent.

**Table 7.** Personal weekly incomes by sex – Ceduna, Port Lincoln and Whyalla, 2011\*

PERSONAL (WEEKLY) Income \$	Ceduna (%)		Pt Lincoln (%)		Whyalla (%)	
	Male	Female	Male	Female	Male	Female
Negative/Nil	5.0	6.5	5.2	6.5	4.9	7.9
\$1-\$199	4.7	6.7	5.2	8.7	5.6	10.0
\$200-\$299	11.2	14.0	10.0	12.6	13.1	16.5
\$300-\$399	8.2	11.6	9.7	17.0	9.4	15.8
\$400-\$599	11.0	15.3	10.9	17.6	7.0	15.5
\$600-\$799	13.7	12.9	12.3	11.5	6.8	9.0
\$800-\$999	10.0	10.5	11.0	7.2	7.0	5.8
\$1,000-\$1,249	12.0	7.0	10.1	5.3	8.7	5.3
\$1,250-\$1,499	6.8	4.1	6.8	3.2	8.6	2.9
\$1,500-\$1,999	6.0	2.6	6.2	2.7	12.0	2.3
\$2,000 or more	2.7	1.7	5.4	1.5	7.6	0.9
Personal income not stated	8.9	7.3	7.3	6.2	9.3	8.3

\* based on place of usual residence

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat No 2001, various.

**Table 8.** Family weekly incomes – Ceduna, Port Lincoln and Whyalla, 2011\*.

FAMILY (WEEKLY) Income \$	Couple with children (%)	Family no children (%)	Couple with children (%)	Family children (%)	One parent family (%)	Other family (%)	Total (%)
<b>Ceduna</b>							
Negative/Nil	1.7		0.0		2.4	0.0	1.1
\$1-\$299	1.7		1.1		8.0	0.0	2.5
\$300-\$599	15.3		2.5		29.6	16.7	13.0
\$600-\$999	24.2		16.5		24.0	33.3	21.6
\$1,000-\$1,499	18.2		21.9		20.8	16.7	19.9

<b>FAMILY (WEEKLY) Income \$</b>	<b>Couple with children (%)</b>	<b>Family no with children (%)</b>	<b>Couple with children (%)</b>	<b>Family with children (%)</b>	<b>One parent family (%)</b>	<b>Other family (%)</b>	<b>Total (%)</b>
<b>\$1,500-\$1,999</b>	16.7		22.6		8.0	16.7	17.4
<b>\$2,000-\$2,499</b>	11.0		12.9		2.4	16.7	10.4
<b>\$2,500-\$2,999</b>	6.9		10.8		2.4	0.0	7.4
<b>\$3,000 or more</b>	4.3		11.8		2.4	0.0	6.6
<b>Pt Lincoln</b>							
<b>Negative/Nil</b>	1.3		0.3		1.6	0.0	1.0
<b>\$1-\$299</b>	1.7		0.7		7.6	10.3	2.5
<b>\$300-\$599</b>	18.4		3.2		32.0	20.5	15.3
<b>\$600-\$999</b>	25.7		13.9		34.3	23.1	22.8
<b>\$1,000-\$1,499</b>	17.6		23.6		16.4	35.9	19.9
<b>\$1,500-\$1,999</b>	17.0		32.4		11.0	10.3	21.6
<b>\$2,000-\$2,499</b>	16.6		27.9		4.6	28.2	18.7
<b>\$2,500-\$2,999</b>	9.3		22.7		3.3	7.7	13.2
<b>\$3,000 or more</b>	6.5		11.5		0.5	0.0	7.2
<b>Whyalla</b>							
<b>Negative/Nil</b>	0.9		0.2		0.9	0.0	0.6
<b>\$1-\$299</b>	2.3		0.6		9.7	0.0	3.2
<b>\$300-\$599</b>	23.8		2.3		37.3	13.9	18.4
<b>\$600-\$999</b>	23.4		10.0		28.0	34.7	19.5
<b>\$1,000-\$1,499</b>	14.0		17.9		13.0	26.4	15.4
<b>\$1,500-\$1,999</b>	11.2		20.4		6.3	5.6	13.6
<b>\$2,000-\$2,499</b>	11.0		17.7		2.6	15.3	11.8
<b>\$2,500-\$2,999</b>	6.2		14.4		1.9	4.2	8.3
<b>\$3,000 or more</b>	7.5		16.4		0.3	0.0	9.2

\* based on place of usual residence

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, various.

When weekly family incomes are considered (Table 8) in all LGAs around 50 per cent of the couple families with no children received between \$0-999 weekly however around 75 per cent of one parent families fall into this category. It is likely that a large proportion of the couples with no children will be retirees and many supported by a government or other pension. This is also likely to be the case for a high proportion of the one parent families. Conversely couple families with children show out as having a much lower proportion in this category – 13.1 per cent in Whyalla, 18 per cent in Port Lincoln and 21.2 per cent in Ceduna. This could well show that the two parent families are also likely to be two income families.

### Family composition

Research undertaken by the South Australian Centre for Economic Studies (SACES 2013, pp 12-13) asked mining companies about the wide ranging advantages and disadvantages of

the fly-in/fly-out (FIFO) mining workforce. Depending upon the location of the mine site, some respondents thought FIFO offered a better home and family life than a one company town, and domestic issues were kept separate from work. Other respondents thought the lack of family life resulted in a high social cost with a high rate of marriage separations after a few months of living a FIFO life.

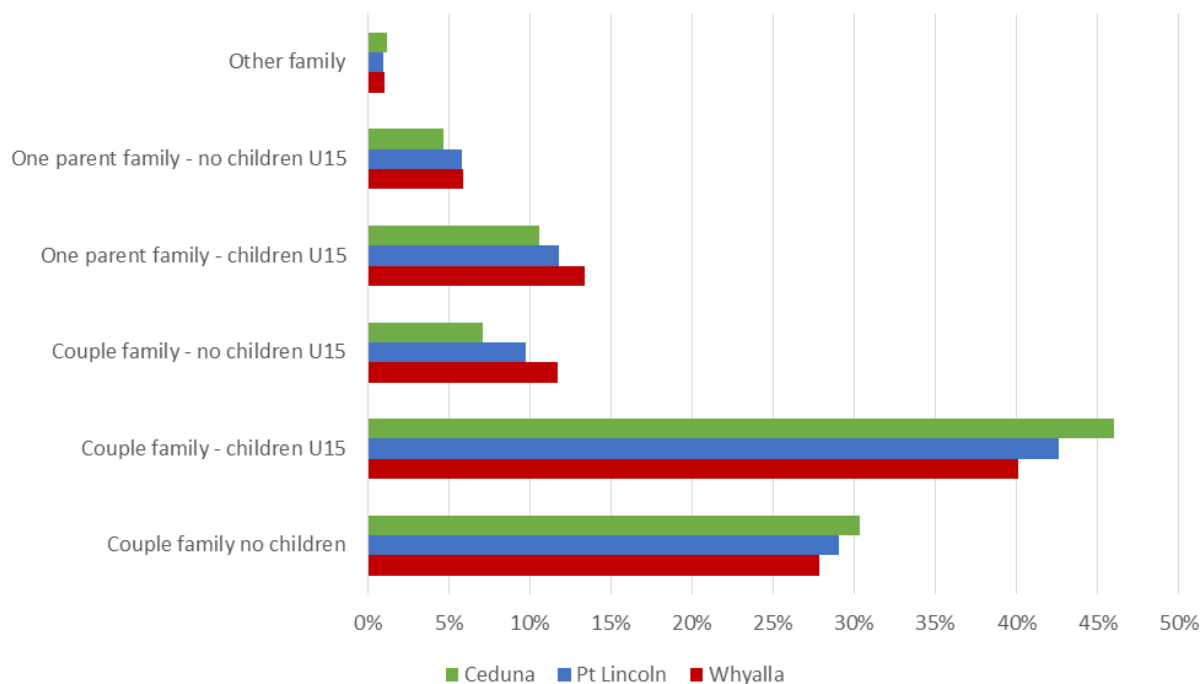
SACES (2013, p 51-53) analysis uses Roxby Downs in the north of South Australia as a comparison mining centre to forecast what could be expected for towns on the Eyre Peninsula. One potential future is a gradual change in demographic profile with a higher proportion of 20 to 44 year olds and younger families with children. A more rapid change in some centres could see an increase in the number of single males aged between 20 and 44 years old, as this cohort makes up a much higher proportion of the population in Roxby Downs. Currently there exists a more balanced gender profile across the EPWC region (slightly more men in most age cohorts). The significant gender imbalance of mining towns should not result in additional social and community problems “provided the services and non-work recreational opportunities are available”.<sup>6</sup> The towns in the region who host a mining workforce should convey acceptable behaviours to the newcomers in order to maintain social cohesion and order. The location choice of some workers will be influenced by the availability of services and infrastructure related to their family composition and workforce needs.



Streaky Bay, 2009 (CJ Thredgold)

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<sup>6</sup> The authors of this report note that some “recreational opportunities” offered in some towns for some miners (e.g. sex workers/brothels/massage parlours offering sexual services) may not be in the best interests of the host town, or the women and men engaged in the sex work



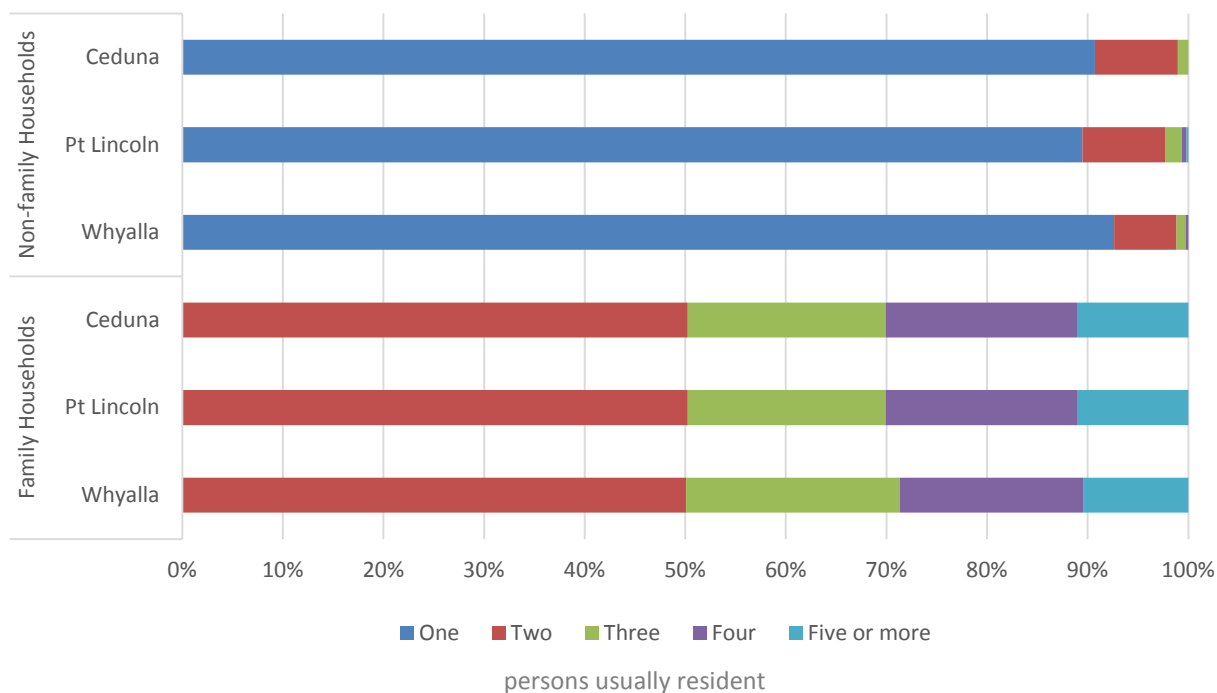
**Figure 17.** Family composition - Ceduna, Port Lincoln and Whyalla, 2011.

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, various.

Currently family composition in Ceduna, Port Lincoln and Whyalla is dominated by couples with children comprising 40-45 per cent falling within this category (Figure 17). This grouping is followed by couples with no children. This second category could be composed of either childless young couples or those whose children have left home. For each of the three locations there are between 27 and 30 per cent in this group. One parent families either with or without children under 15 years old are more significantly represented in Whyalla than Port Lincoln or Ceduna. Together they make up around 18 to 25 per cent in all areas. Thus single person households are overrepresented in this region.

These data are backed up by Figure 18 which compares household composition according to number of persons resident. A relatively low percentage of family households have more than five members. Further when the relationships within households are considered Figure 19 clearly identifies married couples as the highest relationships with young children in those households. Around 20 to 30 per cent are in lone person households with the proportion fairly equal between males and females. Ceduna stands out as having a greater population of de facto relationships with over 12 per cent of both males and females in this category.





**Figure 18.** Household composition by number of persons usually resident - Ceduna, Whyalla, and Port Lincoln, 2011.

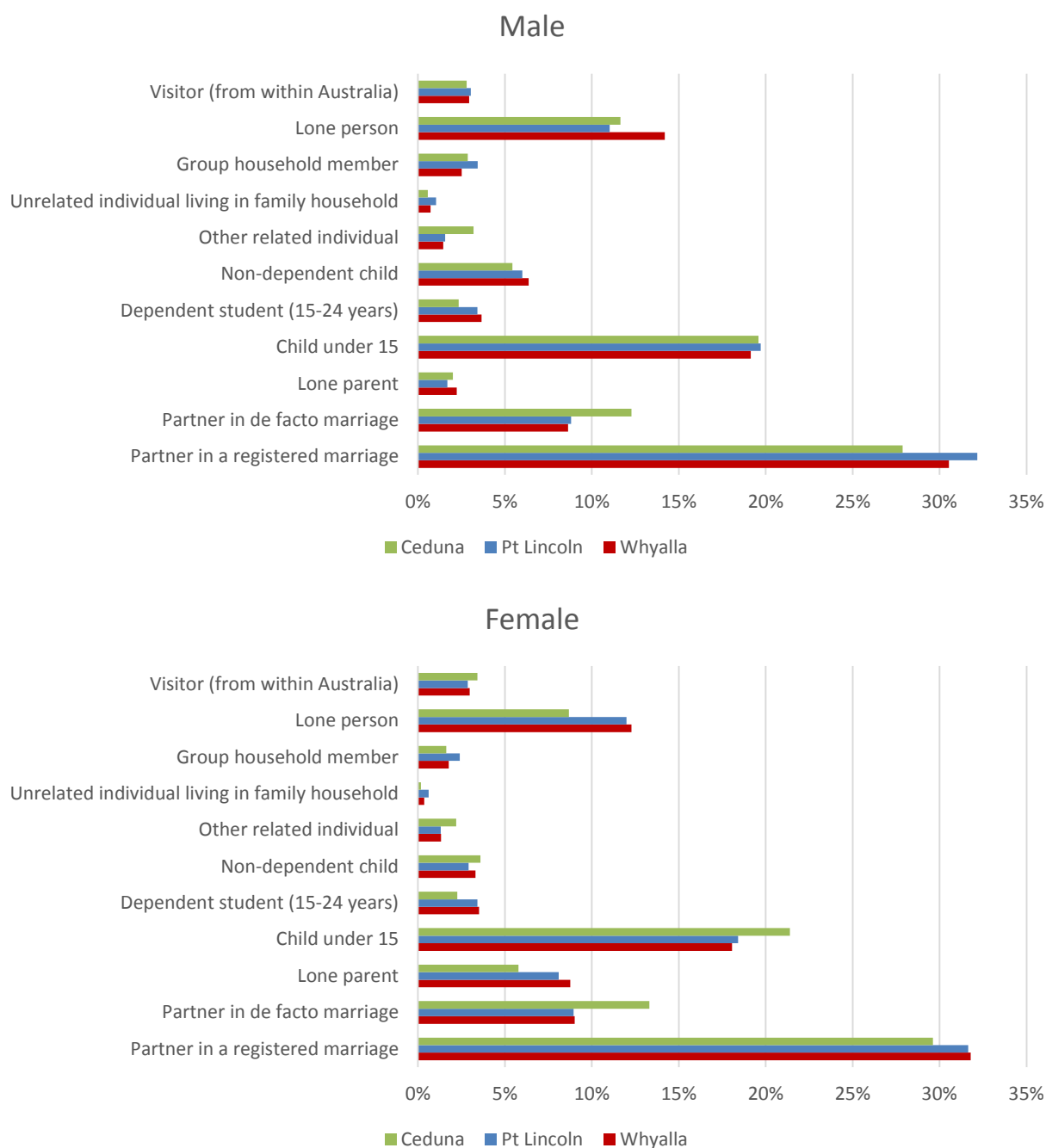
Note: Non-family Households Comprise of 'Lone person' and 'Group households'.

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, various.



Streaky Bay, 2014 (CJThredgold)





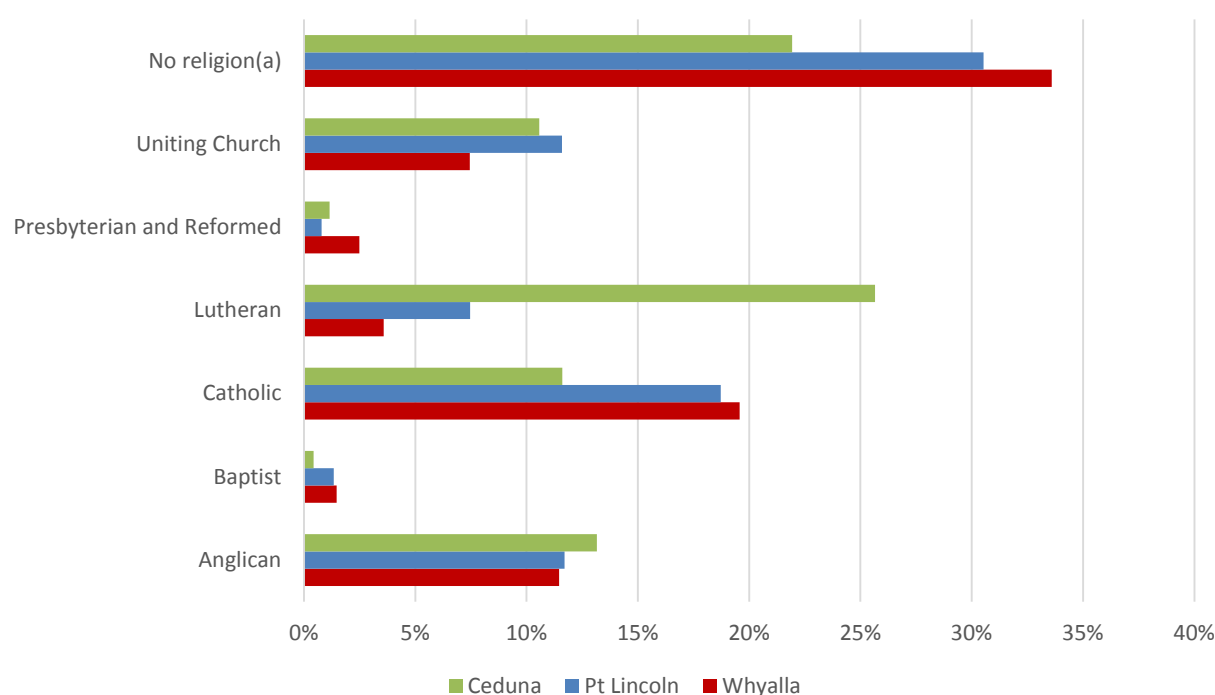
**Figure 19.** Relationship in household by sex - Ceduna, Port Lincoln and Whyalla 2011.

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, various.

### Religion and spirituality

The religious profile of the three urban centres is very divergent. Figure 20 shows only Christian religions and adherents who chose to respond to this Census question. The strong

Lutheran affiliation in Ceduna is linked to early German Missionaries and farmers who arrived in the late 1800s. There is no data available for other affiliations such as Buddhism, Islam or more importantly in this region, traditional Aboriginal belief systems which must be clearly understood when activities such as mining are proposed.



**Figure 20.** Religious affiliation - Ceduna, Port Lincoln and Whyalla, 2011.

(a) Comprises 'No Religion, nfd', 'Agnosticism', 'Atheism', 'Humanism' and 'Rationalism'.

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, various.

### Health and wellbeing

Residents of the EPWC region have access to 11 hospitals<sup>7</sup> and a wide range of health services. Seven Community Health Centres and four dedicated Indigenous Health Centres are located across the region (SACES 2013, p 11). It is clear that there are a number of people requiring a degree of assistance to manage their everyday lives (Table 9). Around 6 to 7 per cent of males are providing unpaid assistance to someone in need. The proportion of females supplying assistance is higher in all three LGAs, 11 per cent in Whyalla and Port

<sup>7</sup> Ceduna Hospital underwent a \$36 million redevelopment in 2009/10; Whyalla Hospital's \$69 million redevelopment was completed in 2013; and Port Lincoln Hospital redevelopment is in planning stage (SACES 2013, p 11)

Lincoln, but 9.7 per cent in Ceduna. In general almost two thirds of people in the region do not supply unpaid assistance to another individual in need.

**Table 9.** Per cent of people who provided unpaid assistance to a person with a disability by sex – Ceduna, Port Lincoln and Whyalla 2011.

Unpaid assistance	Ceduna		Port Lincoln		Whyalla	
	Male (%)	Female (%)	Male (%)	Female (%)	Male (%)	Female (%)
<b>Provided</b>	6.5	9.7	6.4	11.0	7.1	11.0
<b>Not provided</b>	66.4	62.1	66.3	63.2	64.6	62.3
<b>not stated</b>	6.3	5.4	6.3	6.0	7.8	7.5

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, various.

The index of socio-economic advantage and disadvantage, Socio-Economic Index for Areas (SEIFA index<sup>8</sup>), is a composite index where lower scores indicate more disadvantage and higher scores indicate more advantaged areas. The index is formulated using a number of different variables that indicate both advantage (for example high income, tertiary qualification) and disadvantage (for example high levels of unemployment, low income). Based on the 2011 data Whyalla was the most disadvantaged LGA in EPWC region with a SEIFA score of 897; significantly below the South Australian average (959) (the unincorporated west coast SEIFA score was 873). The most advantaged LGAs are Kimba (1,019) followed by Wudinna (999) (ABS, 2013b).

## EMPLOYMENT, ENTERPRISE AND THE ECONOMY

An important feature of the historical development of land uses of the EPWC region is its changing economic and social geography. The early development of commercial uses tended to be dispersed across a large number of very small ports and settlements however there has been a gradual concentration of economic activity. Lower intensity uses such as suburban and other residential developments, and tourism and recreational industries have gradually emerged along other parts of the coast. While there is a degree of concentration associated with both, they are now affecting parts of the coastline of the region (Gardner et al. 2007, p 22). Diversification continues in the region with mining the fastest growing industry and yet to be fully exploited internationally recognised locations for wind, solar and

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<sup>8</sup> For SEIFA 2011, the notion of relative socio-economic advantage and disadvantage is the same as that used for SEIFA 2006. That is, the ABS broadly defines relative socio-economic advantage and disadvantage in terms of *people's access to material and social resources, and their ability to participate in society*.

wave energy (RDAWEP 2013, p 6). Renewable energy projects being pursued include wind farm developments, pumped hydro power generation and the production of biofuel from algae and feed stocks (RDAWEP 2014, p 17). The region's diverse economy provides resilience to overcome some of the challenges of operating in a global economy. There is also potential for further diversification through new products, value-adding and enhancing business capability (RDAWEP 2014, p 21). For example, as demand for seafood exceeds the total potential catch, aquaculture will continue to be a crucial way to fill the gap. Opportunities exist to grow and diversify the existing aquaculture industry sectors as well as establish new aquaculture species, locations, systems, products and technologies (Gillanders et al. 2013, p 47).

Businesses in regional towns and centres tend to be dominantly locally owned, with some businesses branches of regional, state and national organisations (Smailes 1993, p 41). Smailes' (1993, p 46) research on the DC of Cleve found owners of farms supported their local service town in household purchases, but purchases of farm business inputs caused leakage to other centres. The processes started in the early 1990s of farmers and farm workers undertaking part time off-farm and non-farm employment (Smailes 1993, p 70) has become a feature of the regional economy—people with adaptable skills are employed across industries (group interview, pers comm, 8 October 2014).

The region's small-to-medium enterprise (SME) sector finds it difficult to sustain their businesses due to the small regional population and limited customer groups and declining in-store sales (RDAWEP 2014, p 15). The anticipated growth in mining over the next decade in the EPWC region will first see employment created at a mine site, and then in support industries such as housing construction, transport, and shopping and personal services. First round impacts will be direct employment in mining, a shift of labour from existing industries and lower unemployment. Second round impacts will flow from investment in housing, household consumption and population growth (SACES 2013, p 17). An employment multiplier of between two and three new jobs for every mining job has been estimated for a mine site near Lock (SACES 2013, p 21). Another trend is the emergence of new industries, usually in areas that offer specific ecological or economic advantages (Gardner et al. 2007, p 22). "Industrial diversity, business capability and product development need to be encouraged to enhance the region's competitiveness" (RDAWEP 2014, p 8).

Table 10 compares occupational data for people in Ceduna, Port Lincoln and Whyalla with the total for South Australia. The region is underrepresented in many of the more professional categories, Managers, Professionals, Clerical and administrative workers, but slightly overrepresented in technical services. Some outliers are indicative of the industries already located in particular areas within the region. For example the higher proportion of involvement in marine industries located in Port Lincoln shows out in a higher proportion employed as labourers (16.0 per cent compared with 11.1 per cent for the whole of South Australia). Similarly Ceduna has almost double the percentage of other areas and South

Australia, involved in Community and personal services (18.9 per cent compared with around 10.0 per cent) and also a greater proportion of Clerical and administrative workers (17.8 per cent to 14.4 per cent).

**Table 10.** Occupations of employed persons – Ceduna, Port Lincoln, Whyalla and total South Australia, 2011\*.

Profession	Ceduna (%)	Port Lincoln (%)	Whyalla (%)	SA (%)
Managers	5.3	11.6	7.9	12.6
Professionals	7.7	15.2	14.5	19.6
Technicians and trades workers	15.5	15.3	19.2	14.1
Community and personal service workers	18.9	10.8	10.0	10.5
Clerical and administrative workers	17.8	12.3	10.0	14.4
Sales workers	18.0	10.5	9.2	9.6
Machinery operators and drivers	10.5	6.4	14.7	6.4
Labourers	4.6	16.0	11.9	11.1
Inadequately described/Not stated	1.7	1.8	2.6	1.6

\* based on place of usual residence

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, various.

There are clear differences between the locations as regards the industry in which people are employed (Table 11). Whyalla has almost a quarter (22.3 per cent) of its workforce in the Manufacturing sector. In the more rural centres of Port Lincoln and Ceduna primary industries – Agriculture forestry and fishing – are greater in importance. The Retail trade employs between 10 to 14 per cent in each LGA and a slightly higher proportion 12 to 14 per cent are in the Health care and social assistance realm.

**Table 11.** Per cent of persons employed by industry – Ceduna, Port Lincoln and Whyalla, 2011\*.

Industry	Ceduna (%)	Port Lincoln (%)	Whyalla (%)
Agriculture, forestry and fishing	14.5	8.8	0.4
Mining	3.4	1.5	6.7
Manufacturing	1.7	7.4	22.3
Electricity, gas, water and waste services	0.7	1.3	0.8
Construction	6.6	9.3	5.6
Wholesale trade	3.4	4.1	1.8
Retail trade	9.8	13.1	11.1
Accommodation and food services	7.4	6.6	6.2
Transport, postal and warehousing	6.8	5.2	4.5
Information media and	0.5	0.8	0.8

Industry	Ceduna (%)	Port (%)	Lincoln	Whyalla (%)
<b>telecommunications</b>				
<b>Financial and insurance services</b>	1.9	2.2		1.3
<b>Rental, hiring and real estate services</b>	0.7	1.3		1.1
<b>Professional, scientific and technical services</b>	2.1	3.2		2.6
<b>Administrative and support services</b>	3.6	3.0		4.2
<b>Public administration and safety</b>	7.1	5.2		4.1
<b>Education and training</b>	8.8	8.0		8.1
<b>Health care and social assistance</b>	14.0	12.3		12.6
<b>Arts and recreation services</b>	0.5	0.7		0.5
<b>Other services</b>	4.8	4.2		3.8
<b>Inadequately described/Not stated</b>	2.5	2.0		2.3

\* based on place of usual residence (totals may not add due to rounding)

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat No 2001, various.

### Primary production

The preference and potential for local workers to engage in the mining industry will see the transition of workers from the agricultural sector to mining, and possibly also those employed in professional services and public administration (SACES 2013, p 10). Farmers in the EPWC region have expressed some reservations about mining proposals located on fertile agricultural land, and have concerns that farming operations could be negatively impacted upon during seeding and harvest time (SACES 2013, p 14). The rise in employment in mining has been matched by a corresponding decrease in employment in agriculture. Although other factors such as another drought, continued amalgamation of farms and long run trends of improvement to on-farm productivity caused a decline in agricultural employment, there has been some shift towards mining from agriculture (SACES 2013, p 21).

### Agriculture

The region's farmers are challenged with a capricious climate. Table 12 provides a brief glimpse of the turbulent events for farmers of recent times and highlights the climate variability.

**Table 12.** Season variability and events impacting agriculture production, EPWC, 1982 – 1995.

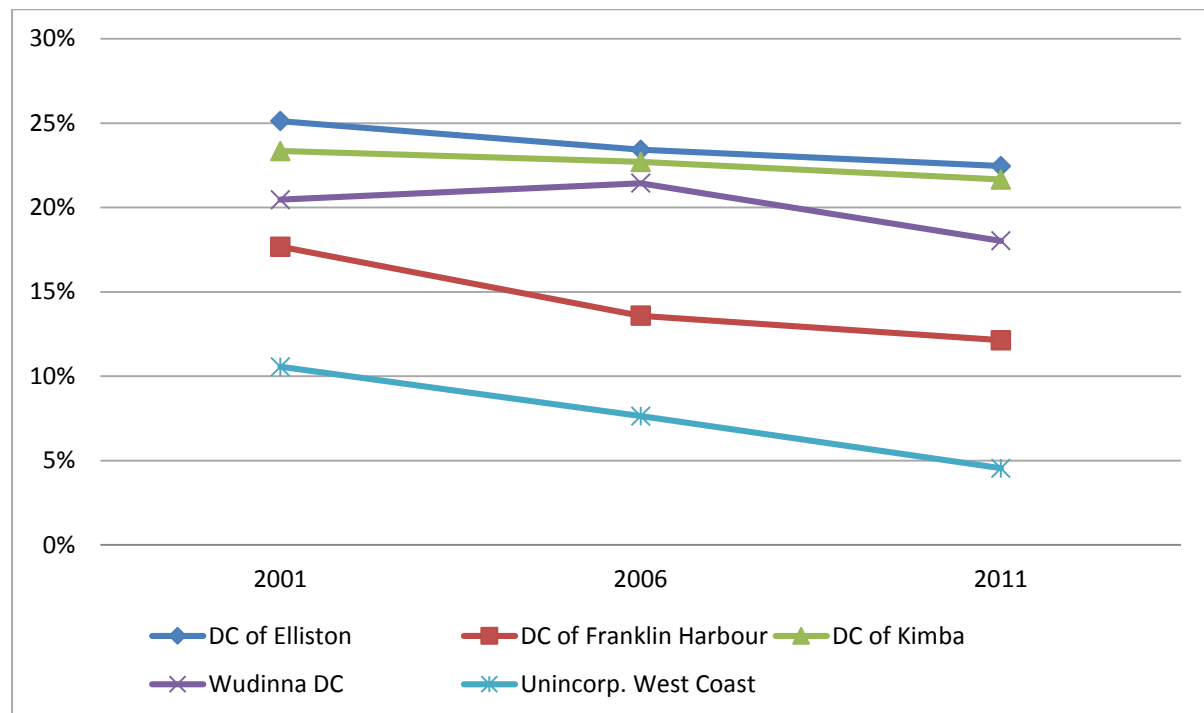
Year	Events
<b>1982</b>	drought reduced farm profits to zero
<b>1983/84</b>	excellent year
<b>1984-86</b>	three consecutive poor years
<b>1986/87</b>	very low point

Year	Events
1987	recovery year
1988	drought
1989/90	excellent year - \$489m derived from agricultural production
1990/91	poor year - the season yielded \$215m
1992	record rainfall during harvest led to weather damaged and downgraded cereal grain crops
1993	mouse plague causes substantial loss
1993/94	drought and poor course grain prices
1995	Eyre Peninsula Task Force established to investigate and make recommendations

Source: Smailes 1993, p 47 and Eyre Peninsula Regional Strategy, 1998 pp 3-4.

In 2014 agriculture remains the second largest industry in the region's economy. The region contributes 37 per cent of South Australia's total agriculture production. The 2013/2014 harvest produced 40 per cent of South Australia's wheat, 24 per cent of the barley crop and 22 per cent of the canola crop. Around 97 per cent of the region's annual crops are exported (RDAWEP 2014, p 56). The average annual volume of grain crops from the Eyre Peninsula is about 2.2 million tonnes and the total value of the agriculture industry exceeds \$450 million. Farmers on the Eyre Peninsula have minimal rights under the South Australian *Mining Act 1971* and are compelled to sell their land to mining companies when required. The region's farmers are lamenting the end of an era as the children of generational farming properties seek alternative opportunities and a way of life, and communities and people change. Other farming families face uncertainty about pursuing farm repairs; when mining will start and infrastructure will be built; and the impact on crops of hyper-saline water used to suppress the dust from mining operations. This 'limbo' situation is putting emotional and psychological stress on farming families and people in the region. Some farmers state they are not anti-mining however they believe mining should not be permitted in the fertile southern Eyre Peninsula, south of Goyder's line. Compared with the Central Eyre Iron Project (CEIP) near Wudinna (projected to produce 21.5 million tonnes (annually) of iron ore for export, develop export infrastructure and employment, as well as most likely leave the land unviable for farming once mining ceases in around 2040), some Eyre Peninsula farmers ask "how do you put a price on land that otherwise would continue producing food for hundreds of years?" (Brookes 2014; unknown author 2014). The recent announcement of the next stage in the approval process for the CEIP, the production of an Environmental Impact Statement, met with polemic views in online comments. For example, Surfer said "Great, bring it on. How long will this take, we need some jobs on the EP" to Catherine who commented on her concerns about the impact of infrastructure on marine environments, and the long term ramifications on land use and rehabilitation. Catherine also commented that much of the negative impact occurs in the local community while distant shareholders and company owners' profit (InDaily 2014).

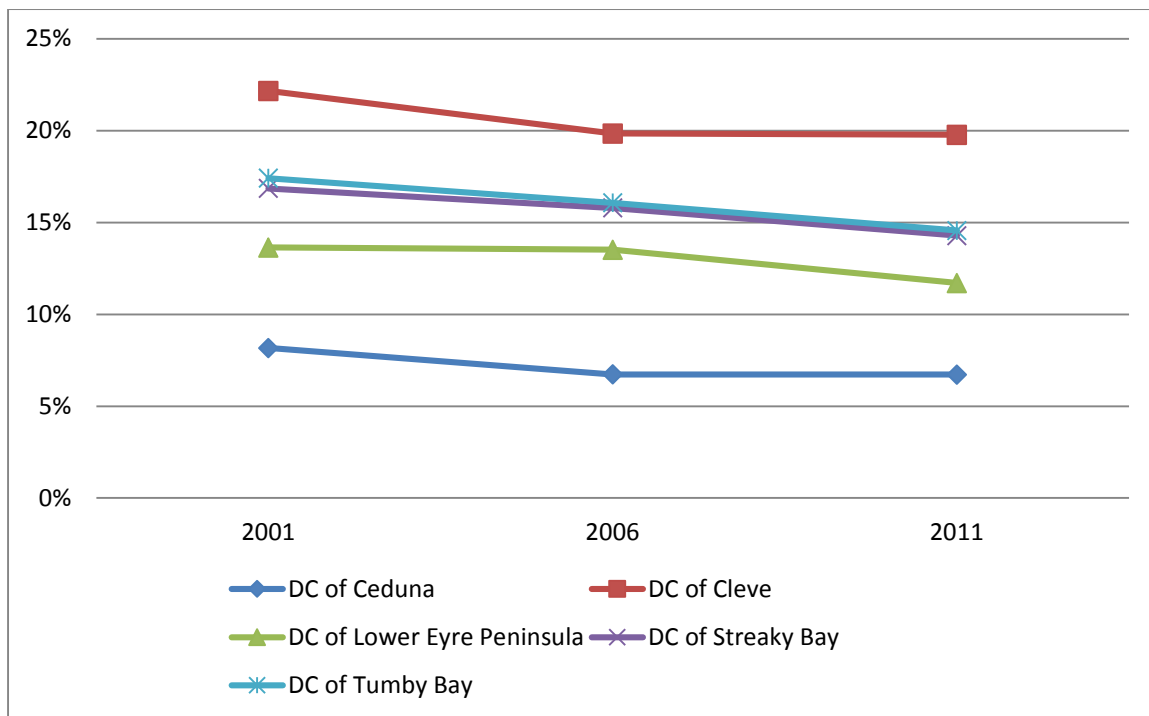
As can be seen in Figures 21, 22 and 23 employment in agriculture, forestry and fishing has generally been slowly declining in most of the region's LGAs since 2001.



**Figure 21.** Per cent employed, agriculture, forestry and fishing - Elliston, Franklin Harbor, Kimba, Wudinna and unincorporated west coast 2001, 2006 and 2011.

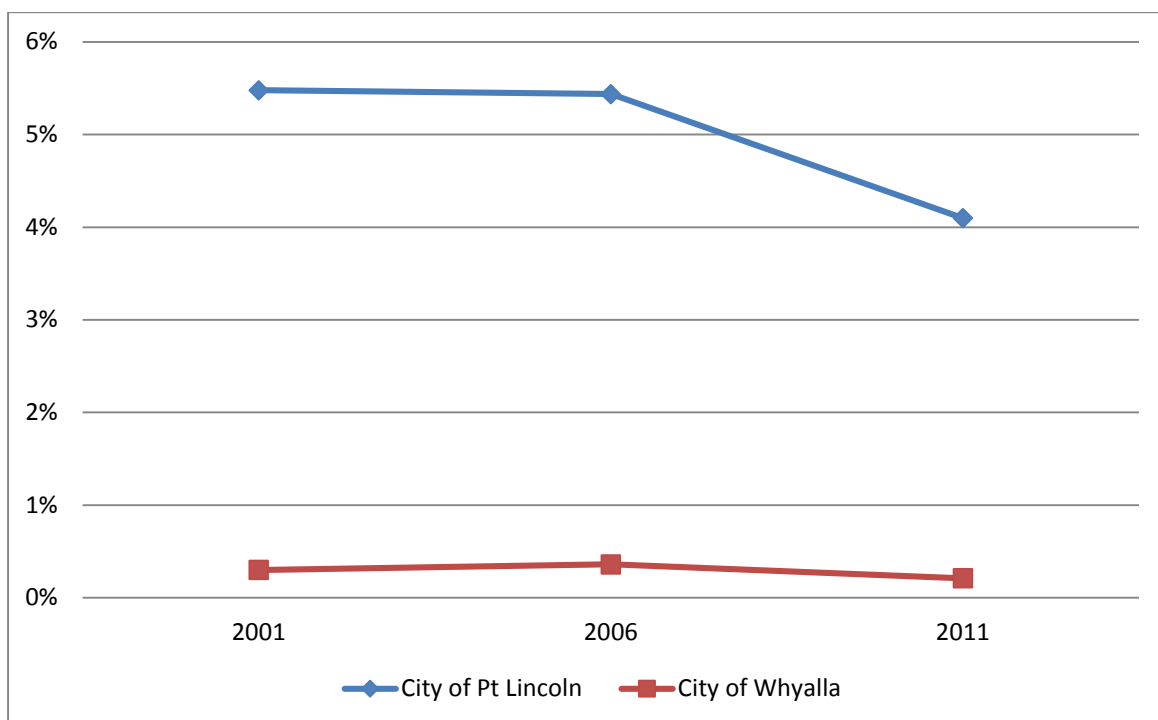
Source: ABS, 2012, Census of Population and Housing Time Series Community Profile, Cat. No. 2003, various.





**Figure 22.** Per cent employed, agriculture, forestry and fishing - Ceduna, Cleve, Lower Eyre Peninsula, Streaky Bay and Tumby Bay, 2001, 2006 and 2011.

Source: ABS, 2012, Census of Population and Housing Time Series Community Profile, Cat. No. 2003, various.



**Figure 23.** Per cent employed, agriculture, forestry and fishing - Port Lincoln and Whyalla, 2001, 2006 and 2011.

Source: ABS, 2012, Census of Population and Housing Time Series Community Profile, Cat. No. 2003, various.

### *Fisheries and aquaculture*

The aquaculture industry expanded rapidly in South Australia since its inception in 1988-89 with production increasing from around 100,000 kilograms per year (Gardner et al. 2006, p 139) to 19,531,000 kilograms in 2012/13 (EconSearch 2014, p ix). Today the region's aquaculture and fishing industries have an international reputation as a producer of premium and diversified seafood product. The region is branded as *Eyre Peninsula – Australia's Seafood Frontier* which the hospitality sector has embraced. The region is gaining a reputation as a culinary tourism destination (RDAWEP 2014, pp 5 and 21).

Southern Bluefin Tuna (SBT) is a highly valued fish species. Juvenile SBT (2–3 years old) are caught in the GAB by Australian fishers using purse-seine gear. Most of the catch is transferred to aquaculture farming operations off Port Lincoln, where the fish are grown to achieve higher market prices. The gross value of production (GVP) from the SBT Fishery in 2010/11 was an estimated \$30.5 million and in 2011/12 the estimated GVP was \$40.6 million. For most fish caught in the SBT Fishery, this value reflects the value of fish at the point of transfer to pens for farming. The value of wild-caught SBT in 2010/11 was significantly lower in real terms than in previous years, although higher than in 2009–10 (\$25 million). The farmed value of SBT production in 2010–11 (after ranching and grow-out) was \$115.3 million. The increased price of SBT through 2012 is understood to be the result of reduced supply of Bluefin Tuna to the global market. This has contributed to an increase in the real value of SBT exports in 2011/12 (PGS Australia 2014, p 15; TGS 2014, p 21).

State fisheries of note include:

- Abalone Fishery: Western Zone;
- Blue Crab Fishery;
- Charter Boat Fishery – a large number of species are caught by charter boat fishers, with key target species including snapper, King George whiting and SBT (TGS, 2014 p 22);
- Marine Scalefish Fishery;
- Miscellaneous Fishery: The Giant Crab Fishery;
- Prawn Fisheries: Gulf St Vincent, Spencer Gulf and West Coast;
- Rock Lobster Fishery: Northern Zone; and

- Sardine Fishery.

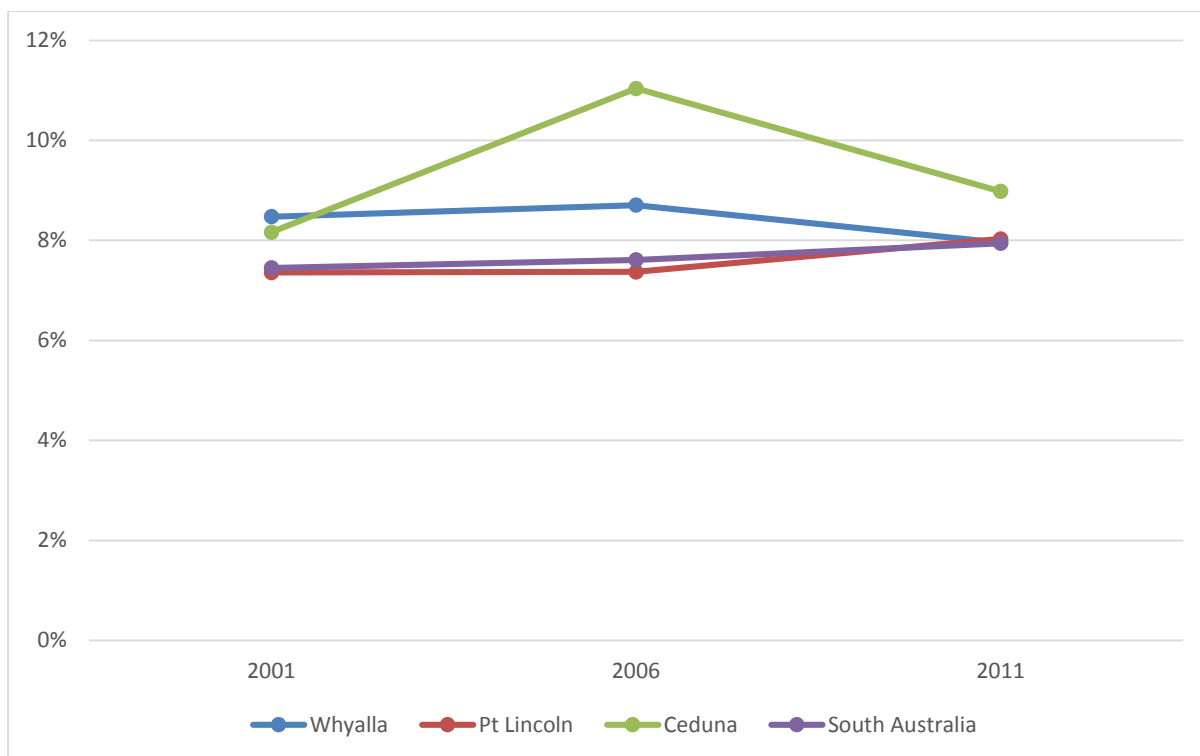
Just under 7 per cent of those employed in Ceduna work in fishing and agriculture (Figure 22). While only 4.1 per cent in Port Lincoln are in this category this is substantially greater than identified in Whyalla (0.2 per cent) (Figure 23). The industry continues to develop and despite some challenges it is likely this industry will continue to expand and offer further workplace opportunities in the future.

## **Services**

### *Research, education and training*

The EPWC region has research Centres for agriculture - dry-land farming (Minnipa) and marine science (Port Lincoln) and a campus of the University of South Australia (Whyalla). A TAFE SA campus is situated in Whyalla. While not physically located in the region, The University of Adelaide and The Flinders University of SA also undertake research for, and about, the region.

The percentage of those employed in education and training is slightly higher in the three LGAs than for South Australia as a whole (Figure 24), but in all areas there has been little change over the ten years from 2001 to 2011. Ceduna showed the most variability with an increase from just over 8.0 per cent to around 11.5 per cent between 2001 and 2006, but then dropped again to 8.5 per cent by 2011. It should be noted that such variations are likely to be due to the cyclical nature of the expansion and contraction of government investment in education and training seen over the last few decades.



**Figure 24.** Per cent employed, education and training – Ceduna, Port Lincoln and Whyalla and total South Australia, 2011.

Source: ABS, 2012, Census of Population and Housing Time Series Community Profile, Cat. No. 2033, various.

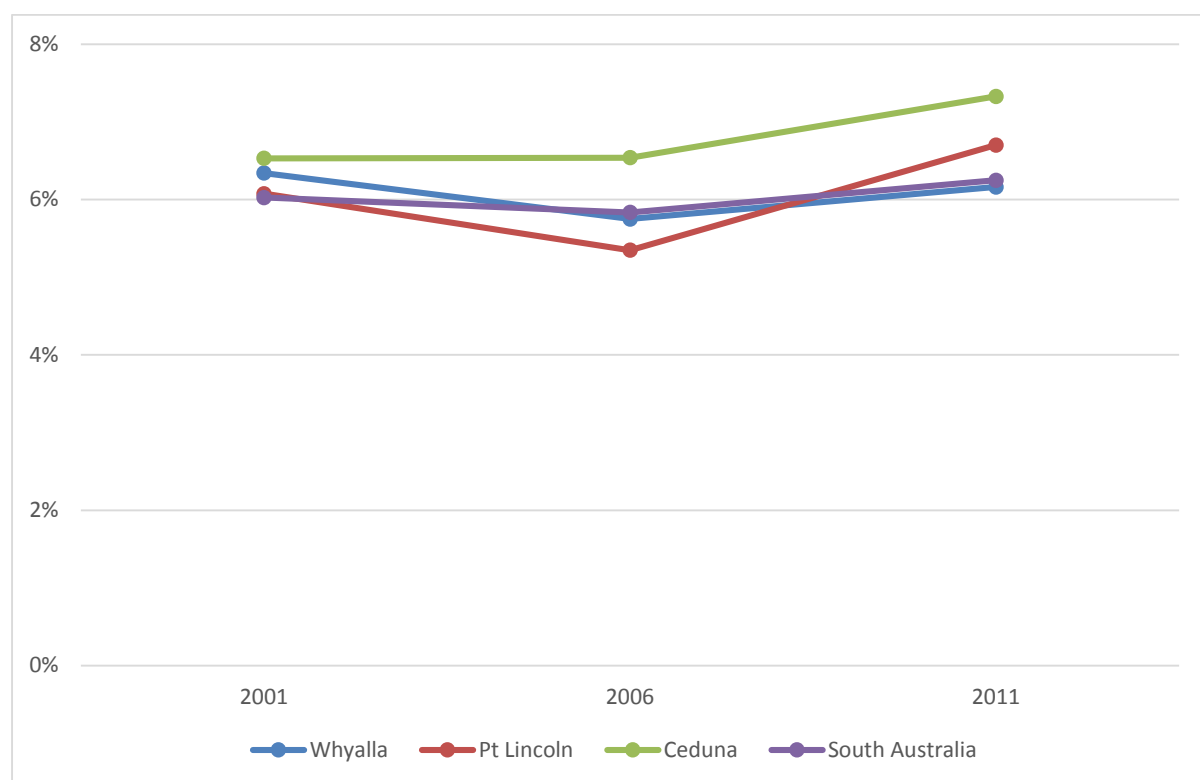
### *Tourism*

The region's natural environment, the clean and green quality food and nature-based experiences have made tourism an important and growing industry with new product being developed and potential for more growth (RDAWEP 2014, p 5). The Port Lincoln and Whyalla airports were upgraded between 2012 and 2014; Ceduna Airport is currently being upgraded, and planning is underway to upgrade the Wudinna airport to potentially cater for FIFO mine workers which could also benefit tourism and trade (SACES 2013, p 12; RDAWEP 2014, p 20). The seafood and tourism industries are benefiting from cross promotion through the export of seafood to Asia, and attracting Asian tourists to the region (RDAWEP 2014, p 21). Kimba and Wudinna are the only Councils without a coastline and this impacts their appeal and tourism development potential (EPLGA 2014, p 6).

A growing segment of the tourism market in the region is marine tourism which covers a variety of activities from whale watching, SCUBA diving, shark cage diving and recreational beach use through to cruise ship visits. As a result, the industries that service this sector are equally diverse, ranging from providers of tourism experiences such as charter boat operators through to associated services such as bait suppliers and service stations (Gardner et al. 2006, p 68). Perhaps the most notable marine tourism operation in the region is the

whale viewing at The Head of Bight Marine Park. This is where Southern Right whales visit the region on their annual breeding migration, spending the winter months in the protection of the bay at the head of the Great Australian Bight. The whale viewing area is located on the Yalata Indigenous Protected Area and revenues from land-based whale watching are earned for the local Indigenous community. The consistent whale sightings in season at such a close proximity to the land mean this is a significant tourist drawcard for such an isolated location. Other examples include visitor interactions with sea lions and dolphins at Baird Bay (Gardner et al. 2006, pp 76-77) and shark cage diving in Port Lincoln. Cruise ships are increasingly seen as a valuable source of income as cruise passengers tend to spend higher amounts per day than other international tourists (Gardner et al. 2006, p 83). Cruise ships are increasingly calling into Port Lincoln, however it requires significant planning as 1,500 to 2,000 people are suddenly in town and may overwhelm the City. There could be a reputational risk if the Port Lincoln community and businesses cannot cope and tourists leave with a bad impression or experience (group interview, pers comm, 8 October 2014).

The data for those employed in accommodation and food services between 2001 and 2011 also show only minimal change (Figure 25). Just over 6 per cent were employed in this sector in 2001, and for all locations other than Ceduna there was a small decrease over the subsequent five years. From 2006 the percentage in all areas increased slightly but even so no more than 7 per cent of the employed population were enumerated in this category.



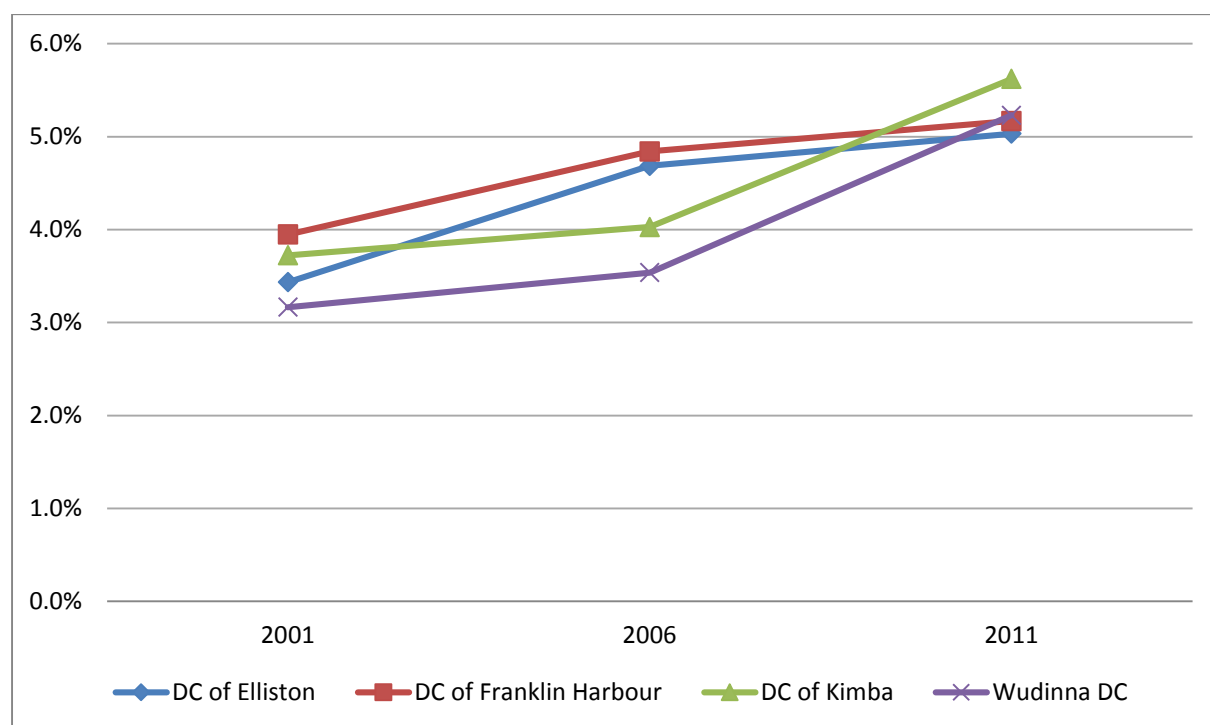
**Figure 25.** Per cent employed, accommodation and food services – Ceduna, Port Lincoln, Whyalla and total South Australia, 2011.

Source: ABS, 2012, Census of Population and Housing Time Series Community Profile, Cat. No. 2003, various.

### *Health and aged care*

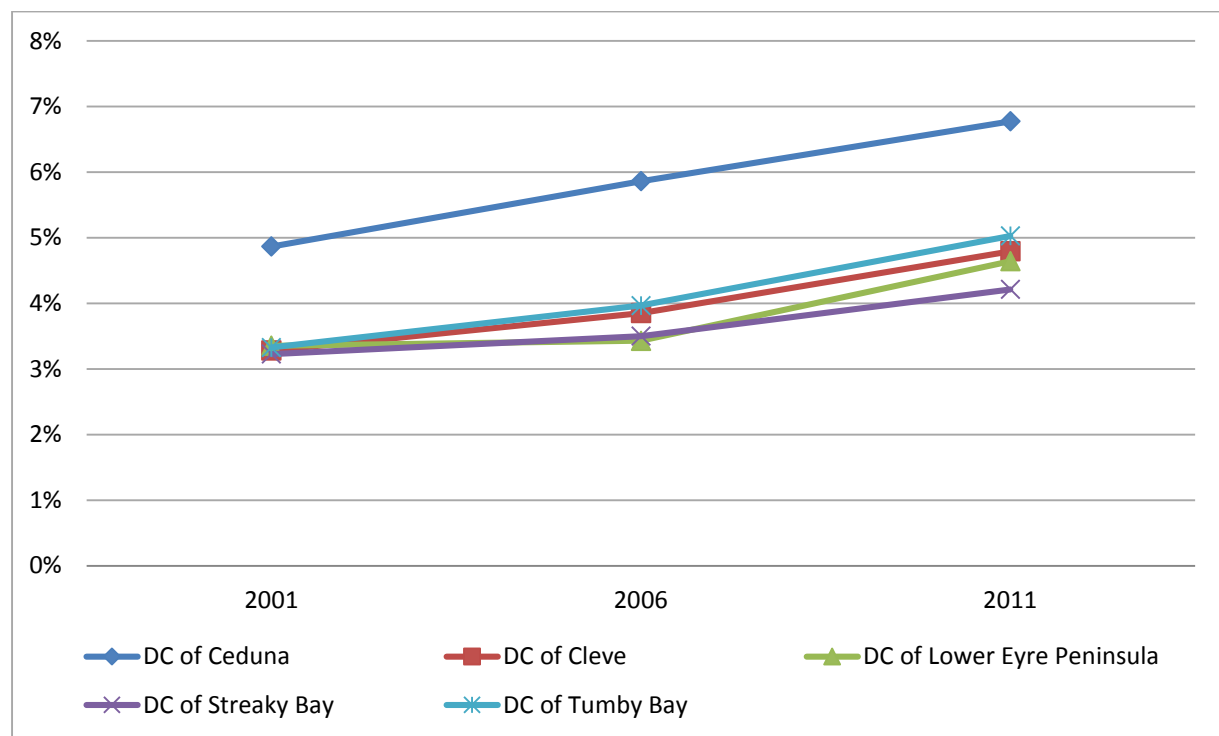
The need for the health and community services sector, including aged services and health and allied services, is growing, however workforce attraction and retention is a major issue for aged care service provision everywhere including the EPWC region. The aged care workforce is ageing with most workers over the age of 50 years, the majority working on a part-time basis on low wages. These factors combined with formal education requirements and widespread poor perceptions of working in the sector to make it difficult to attract aged care workers to the industry (RDAWEP 2014, p 18).

Converse to employment in agriculture, forestry and fishing (which is in decline in most LGAs in the study area) employment in health care and social assistance is on the rise. This is most likely linked to the ageing of most of the LGA populations.



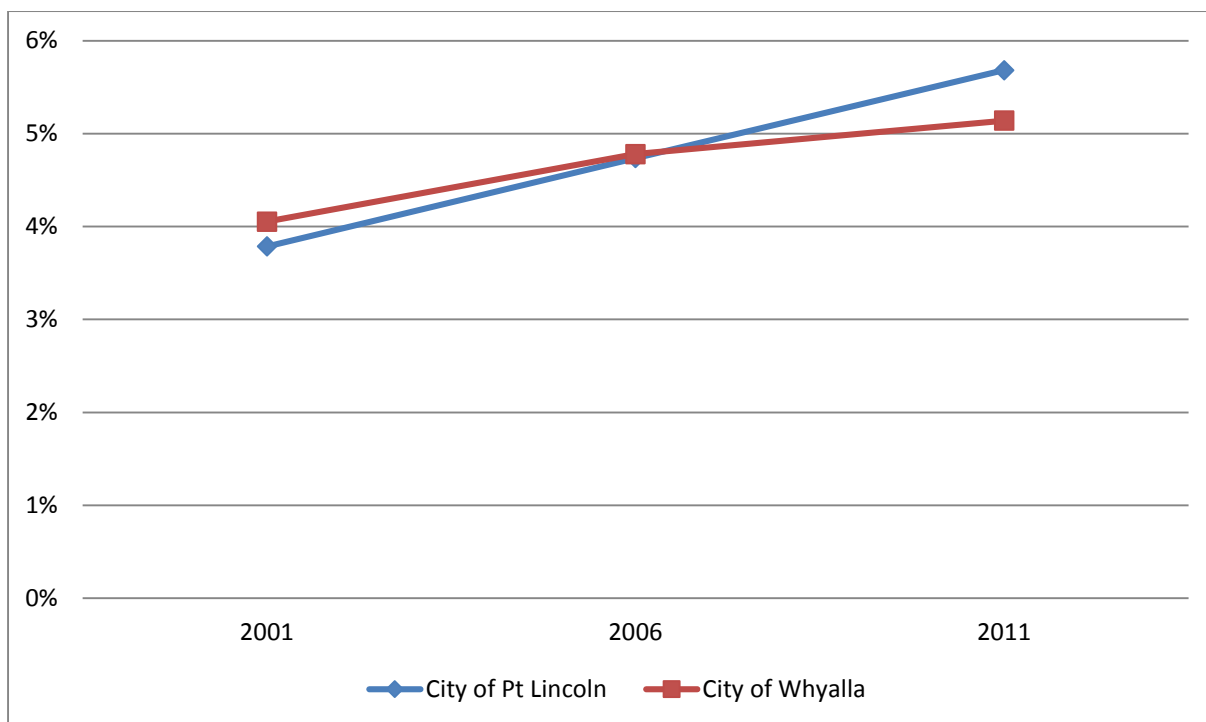
**Figure 26.** Per cent employed, health care and social assistance - Elliston, Franklin Harbor, Kimba and Wudinna, 2001, 2006 and 2011.

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, various.



**Figure 27.** Per cent employed, health care and social assistance - Ceduna, Cleve, Lower Eyre Peninsula, Streaky Bay and Tumby Bay, 2001, 2006 and 2011.

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, various.



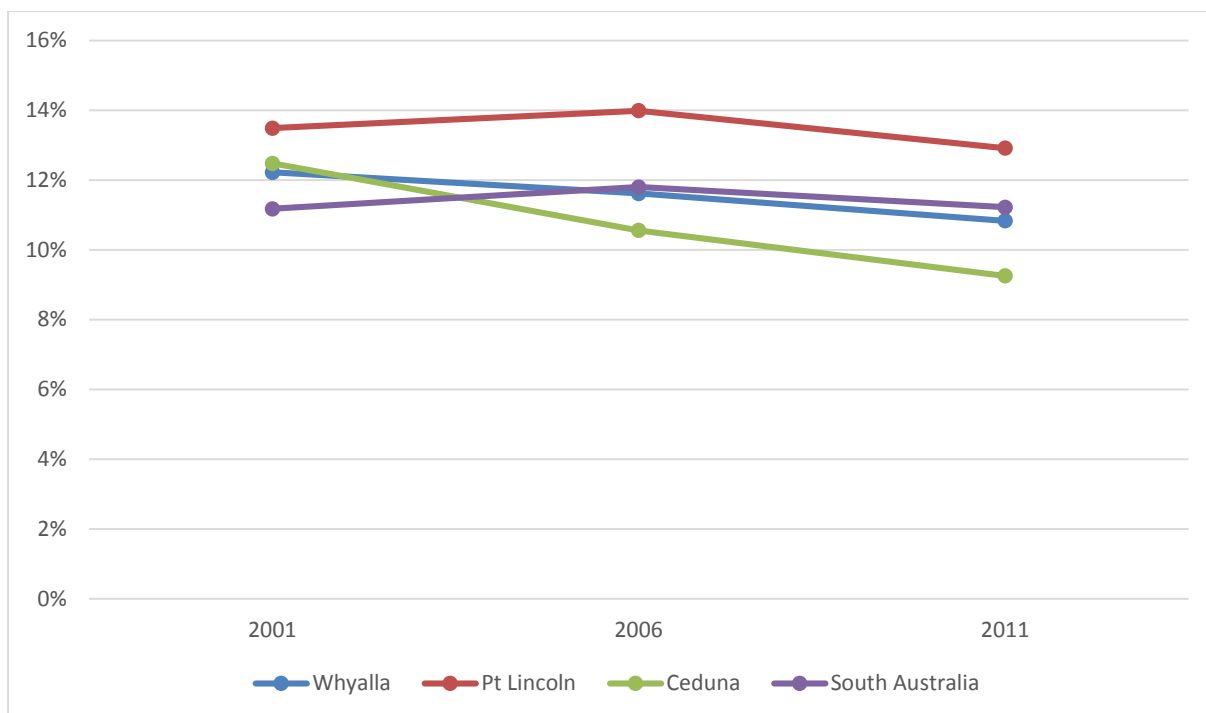
**Figure 28.** Per cent employed, health care and social assistance - Port Lincoln and Whyalla, 2001, 2006 and 2011.

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, various.

### Retail

The proportion of the working population employed in the retail trade showed no major variations over the period 2001 to 2011 (Figure 29). The greatest change occurred in Ceduna with a decrease from just over 12 per cent in 2001 to just below 10 per cent in 2011. Retail employment has changed in many ways with the introduction of on-line shopping, large sectors adopting more self-service checkouts, and the continuing closure of small traditional shops. These changes have had an impact on employment prospects in this field for people of all ages.



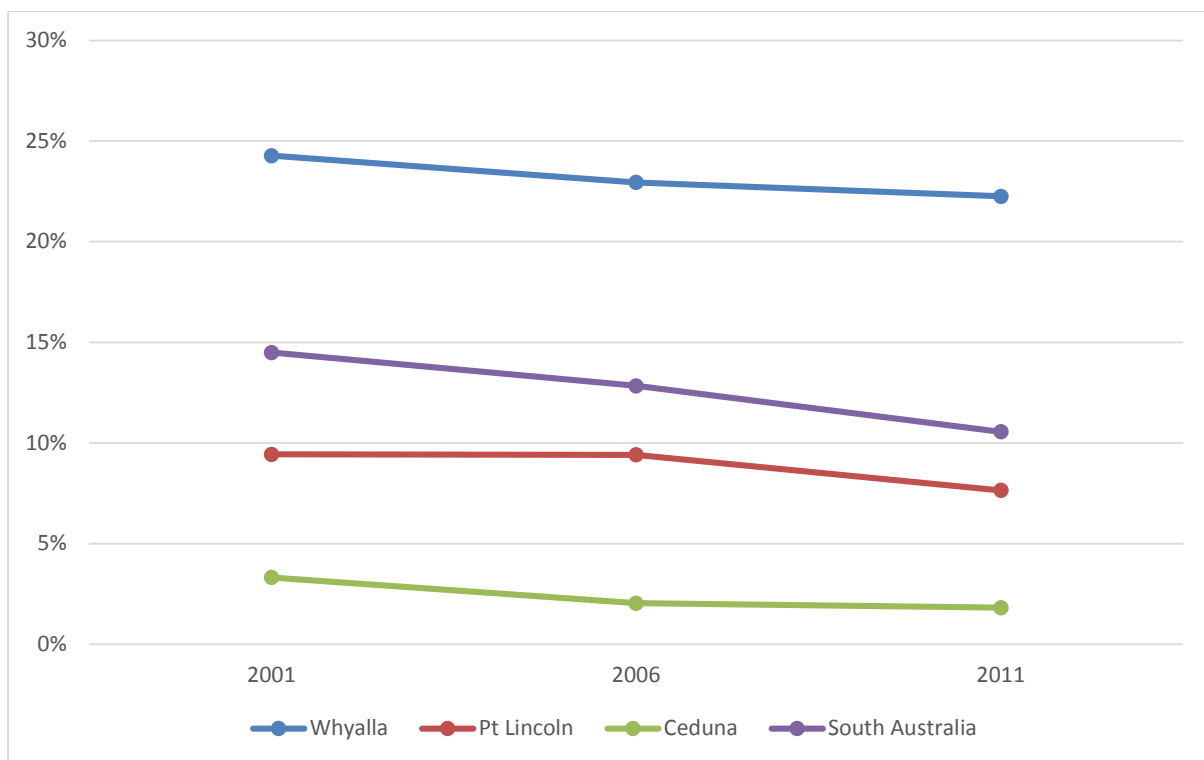


**Figure 29.** Per cent employed, retail trade – Ceduna, Port Lincoln, Whyalla and total South Australia, 2001, 2006 and 2011.

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, various.

### Manufacturing

As shown in Figure 30 manufacturing is a very important sector in Whyalla where it can be seen 22 per cent of the workforce was employed in manufacturing in 2011. The City is well placed to service the mining and minerals processing sectors and new industrial projects will bring new employment, business and housing development opportunities (RDAWEP 2014, p 6). Although manufacturing is in decline in other regions Port Lincoln will host a graphite processing plant which will bring advanced manufacturing options to the region (RDAWEP 2014, p 21).



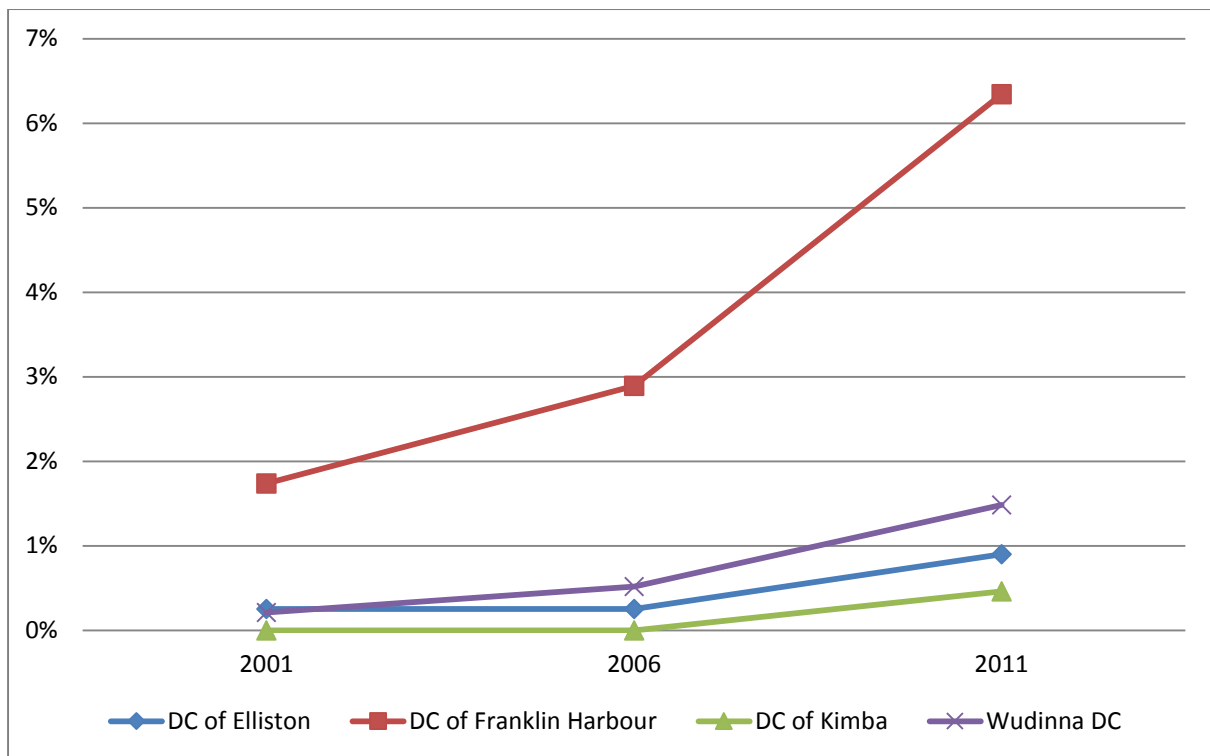
**Figure 30.** Per cent employed, manufacturing – Ceduna, Port Lincoln, Whyalla and total South Australia, 2001, 2006 and 2011.

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, various.

### Mining

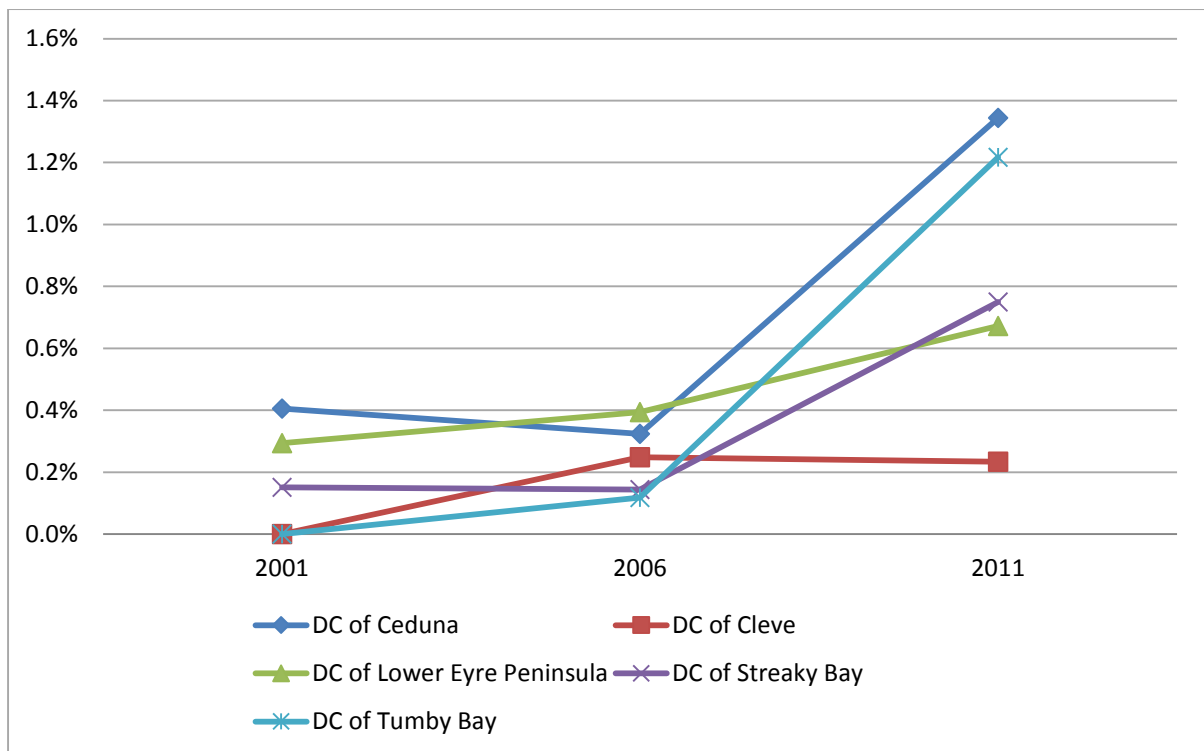
The future of mining in South Australia is dependent on a number of external considerations including overseas economic conditions as the majority of output is exported overseas, commodity prices, international demand and supply, the availability of processing facilities and internal considerations including associated infrastructure such as roads, rail, power, etc. (SACES 2013, p 5).

The Eyre Peninsula contains mineral rich regions such as the Gawler Craton and Eucla Basin. Currently the mining sector comprises a small, but growing, share of economic activity (SACES 2013, p 5). During the five years between 2006 and 2011 most LGAs in the EPWC region experienced an increase in levels of employment in the mining industry (the DC of Cleve was the exception) (see Figures 31, 32 and 33). The City of Whyalla, and the DCs of Ceduna and Franklin Harbour experienced the most employment growth due to proximity to mines. Based on these results, but dependent on the size of operations, both Wudinna and Kimba could potentially grow with planned and developed mines on their door step (SACES 2013, p 19).



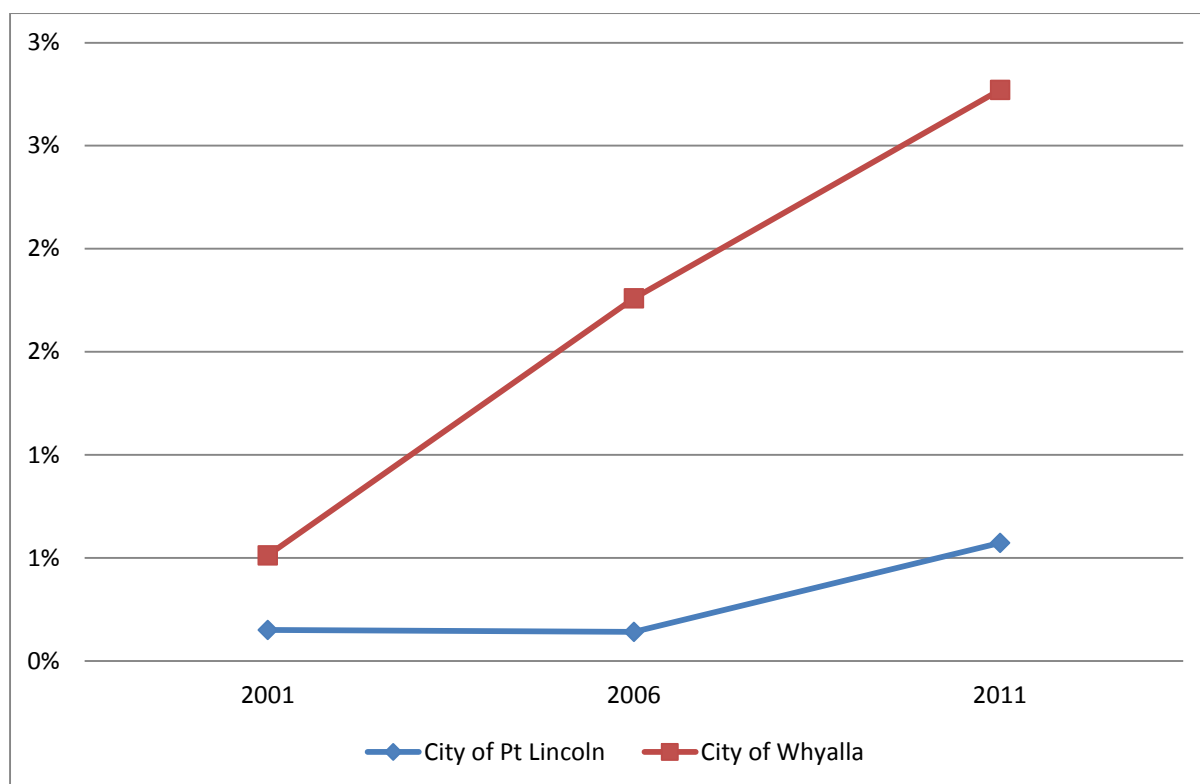
**Figure 31.** Per cent employed, mining - Elliston, Franklin Harbor, Kimba and Wudinna, 2001, 2006 and 2011.

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, various.



**Figure 32.** Per cent employed, mining - Ceduna, Cleve, Lower Eyre Peninsula, Streaky Bay and Tumby Bay, 2001, 2006 and 2011.

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, various.



**Figure 33.** Per cent employed, mining - Port Lincoln and Whyalla, 2001, 2006 and 2011.

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, various.

In 2012/13 there were nine new mining developments in the EPWC region valued at \$5.8 billion, on top of this the region supports five operating mines with a further projects in the development stages (SACES 2013, pp 6-7). Table 13 shows the known mines and the distance to the nearest town where people could reside. Over the next decade as mines are opened population, incomes and wealth in local EPWC towns are expected to grow (SACES 2013, p 9). This strong mining interest in the region prompted the establishment of the Eyre Peninsula Mining, Oil and Gas Community Development Taskforce in 2014 to provide a single body with a regional perspective in facilitating the impacts of the mining industry and on environmental and planning issues.

**Table 13.** Distance from mine site to closest town, EPWC, 2014.

Mine <sup>^</sup>	Company	Resources	Closest town /location
Approved mines			
<b>A1</b> Iron Chieftain	Arrium Ltd	Iron ore	60km E of Whyalla (Middleback Ranges, NW Eyre Pen.)
<b>A2</b> Jacinth-Ambrosia (8+)	Iluka Pty Ltd	Heavy sands mineral	Closest to Penong / 200km NW of Ceduna
<b>A3</b> Project Magnet	Arrium Ltd	Iron ore	60 km E of Whyalla

	Mine^	Company	Resources	Closest town /location
	/ Middleback Ranges			(Middleback Ranges, NW Eyre Pen.
A4	Wilcherry Hill (5) **	Ironclad Mining Ltd	Iron ore magnetite	- 30km N of Kimba
A5	Wilgerup (6) **	Centrex Metals Ltd	Iron ore hematite	- 30km SE of Lock
Developing mines				
D1	Atacama	Iluka Resources Ltd	Heavy minerals	Closest to Penong /200km NW of Ceduna
D2	Bungalow (10)	Centrex Metals Ltd (JV w Baogang)	Iron ore magnetite	- 9km NW of Cowell
D3	Fusion (20) **	Centrex Metals Ltd (JV w WISCO)	Iron ore magnetite	- 20km W of Tumby Bay
D4	Gum Flat (20+)	Lincoln Minerals Ltd	Iron ore hematite magnetite	- 20km N of Port Lincoln &
D5	Hematite Extension Project	Arrium Ltd	Iron ore	60km E of Whyalla (Middleback Ranges, NW Eyre Pen.)
D6	Menninnie Dam	Terramin Australia Ltd	Lead - graphite, Zinc, Silver	Closest to Kimba (Northern Eyre Pen.)
D7	Paris (5-10)	Investigator Resources Ltd	Silver	70km NW of Kimba
D8	Poochera (50+) / Carey's Well~	Minotaur Exploration Ltd	Kaolin	100km SE of Ceduna / 45km E of Streaky Bay
D9	Samphire Project (10)	Uranium SA	Uranium	20km SW of Whyalla
D10	Sonoran (9+)	Iluka Resources Ltd	Heavy minerals	Closest to Penong /200km NW of Ceduna
D11	Tripitaka (3)	Iluka Resources Ltd	Heavy minerals	Closest to Penong /200km NW of Ceduna
D12	Typhoon	Iluka Resources Ltd	Heavy minerals	Closest to Penong /200km NW of Ceduna
D13	Uley Graphite Project (10) **	Valence Industries/ Mega Graphite Inc (Strategic Energy Resources)	Graphite	23km SW of Port Lincoln
D14	Central Eyre Iron Project (CEIP) (inc Warrambo) (25) **	Iron Road Ltd (JV)	Iron ore magnetite	- 20km SE of Wudinna

	Mine <sup>^</sup>	Company	Resources	Closest town /location
	Other mines			
<b>01</b>	Hercules (10)	Iron Clad Mining	Iron ore	30km N of Kimba / 15km E of Wilcherry Hill
<b>02</b>	Carrow (10)	Centrex Metals		25km from Port Spencer (20km N of Tumby Bay / 6km NW of Port Neill)
<b>03</b>	Purdilla (40)	Minotaur Exploration	Gypsum	17km S of Streaky Bay
<b>04</b>	Kookaburra Gully **	Lincoln Minerals	Graphite	26km SW of Tumby Bay
<b>05</b>	Campoona/ Sugarloaf and Waddikee~	Archer Exploration	Graphite	

<sup>^</sup> estimated life of mine in brackets; \*\* mines used in employment analysis discussed in text.

Source: SACES, 2013, pp 7, 21, 33 – 37, 48; ~ RDAWEP, 2013, p 6.

Project D14, the CEIP, in Table 13 moved closer to approval stage in November 2014 with the state government determining that an Environmental Impact Statement (EIS) is required. The EIS will be a rigorous assessment of expected environment, social and economic effects of the project (InDaily 2014). SACES (2013, pp 52-53) estimated new mines (including some of those in Table 13) on the Eyre Peninsula could create approximately 2,150 to 2,180<sup>9</sup> new direct mining jobs to the year 2020. For various reasons not all workers will want to move to the EPWC region and SACES' research uses three scenarios to estimate 1,530 (1), 1,600 (2) or 1,661 (3) new mine workers could take up residence in the region by 2026. In addition to mine workers (and their families) are the indirect jobs created by the additional people in a town/region plus the employees working on mining infrastructure projects. Recent RDAWEP (2014, p 14) analysis of various employment scenarios for the mining industry conservatively estimates 7,100 additional direct and in-direct jobs could be created by 2020 if only seven of the possible mining projects commence operations (those marked \*\* in Table 13). Factoring in various variables, the RDAWEP estimated the region will be approximately 3,800 people short of the 2020 labour force requirements and will need to recruit from elsewhere. The estimate does not include the temporary construction phase employment. Table 14 shows the perceived positive and negative impacts of mining from CEOs from the EPWC LGAs.

<sup>9</sup> Not including workers on infrastructure projects related to mines/mining or workers constructing new mines (who are often transitory).

**Table 14.** Likely major impacts of mining in local council area - Council CEOs, Eyre Peninsula (exc. Port Lincoln and Whyalla), 2013.

<b>Economic</b>	<b>Services and infrastructure</b>	<b>Social</b>
<b>Positive</b>		
<b>Local economic growth</b>	← Population increase	→
<b>Community wealth/ economic wealth</b>	← Community infrastructure, e.g. recreation facilities	→
<b>Economic multiplier impacts</b>	Opportunities for key local infrastructure	→
<b>Township development</b>	Utilisation of medical facilities/ services, e.g. hospital	→
<b>Increased rate base / funding for local government</b>	Improved student retention rates and greater use of school facilities	→
<b>Business opportunities, e.g. engineering, construction →</b>	FIFO passengers to Port Lincoln Airport	
<b>Drought proofing through diversification</b>	← Increased services, e.g. health	→
<b>More jobs/employment growth</b>		← Retention of younger population cohorts - balanced social structure
<b>Increase in property values</b>		← Attraction of families with young children
<b>Economies of scale for Council services →</b>		
<b>Negative</b>		
<b>Payroll pressure</b>	Degradation of infrastructure, e.g. Council rural and urban roads	Degradation of biodiversity/amenity
<b>Labour shortages and competition for labour</b>	Loss of affordable housing	Social issues arising from mining culture
<b>Skill drain in local government and farming</b>	Pressure on community infrastructure and services due to rapid change in population, e.g. education facilities, day care	Reduced amenity due to noise, increased traffic, dust, transport infrastructure
<b>Inability to attract and retain staff in other businesses</b>	Property owners' land required for infrastructure. Council approval required	Rapid change in culture
<b>Cost of living concerns</b>	Water supply and lifecycle management (especially Ceduna and Franklin Harbour)	Conflict between farming and mining communities
		Maintaining a demographic balance



Source: SACES 2013, pp 39-43.

Mining companies have already stated a desire to create jobs for local EPWC residents and a commitment to education, training and employment opportunities for Aboriginal people (SACES 2013, p 10). The emerging mining company recruitment policies favouring people who live in, or are willing to move to, the region will increase the regional population (RDAWEP 2014, p 15).

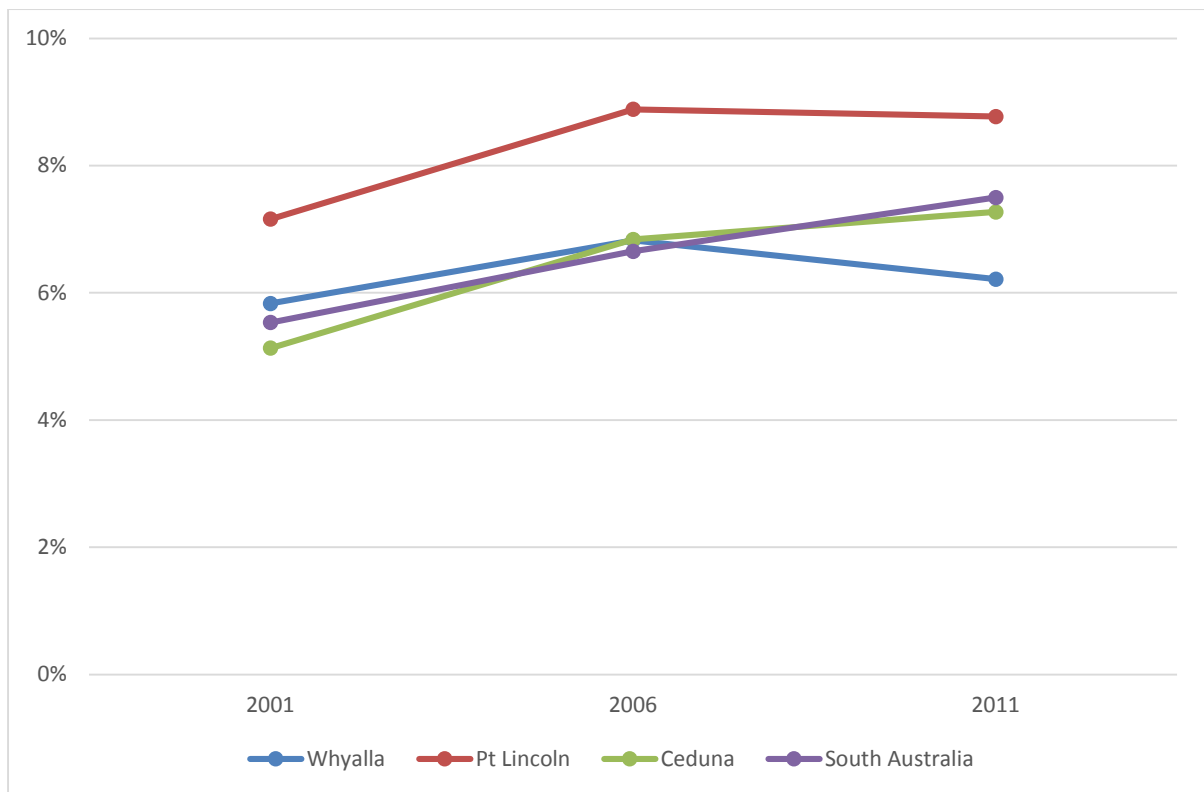
### *Mining workforce*

The capacity of human capital needs to be improved to provide skilled and experienced labour. Workforce attraction is also necessary because the regional population is too small to provide the labour force for predicted industry growth (RDAWEP 2014, p 8).

A mining workforce operating on a mostly FIFO basis has been found to have limited economic benefit for local towns, while the workers use community facilities and services. Mining companies have been found to bypass local businesses in their supply chains—the phenomena known interstate as the “flyover effect” (SACES 2013, p 13). An implication of the mining workforce residing in the region is that the demand on housing from the generally highly paid mining workforce increases real estate prices, which is already happening in Tumby Bay. This is not necessarily a negative consequence for some, but it may lead to people not employed in mining, or in financial difficulties, moving out of some towns or out of the region to where housing costs are lower. A further implication of the emerging mining sector is the loss of skilled workers from other industries such as primary production and tourism enticed to mining by higher wages. The increase in mining workers and potentially new families will result in pressure on schools in the region for new teachers and upgraded/expanded facilities. Employment will also be created in non-mining areas to service the new population (SACES 2013, pp 73-74; RDAWEP 2014, p 15).

### **Construction**

The proportion of the region’s population employed in the construction industry has also changed little between 2001 and 2011 (Figure 34). There was a general increase in percentage in each individual LGA from 2001 to 2006 however after 2006 there was some divergence in the pattern. While Ceduna, and Port Lincoln levelled off somewhat, the percentage in Whyalla actually dropped and by the end of the period had returned to around 6 per cent similar to the level in 2001. In comparison for South Australia as a whole the percentage employed in the construction industry continues a small but steady increase.



**Figure 34.** Per cent employed, construction – Ceduna, Port Lincoln, Whyalla and total South Australia, 2001, 2006 and 2011.

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat. No. 2001, various.

#### *Housing and urban development*

Unlike the experience of Western Australia, the Northern Territory and Far North Queensland, the mine operations located in the EPWC region are generally within an hour's drive of a settlement. This presents the prospect of stable, residential populations of a drive-in/drive-out (DIDO) workforce and flow-on demand for household investment and consumption (SACES 2013, p 13). The implication is that existing town residents employed in mining will adopt the DIDO arrangement, which will be followed by new residents taking up employment over the next decade. Several LGAs in the EPWC region have subdivisions within their towns to attract mine workers—even LGAs without a mine site within their boundary are hoping for a 'spill-over' effect which will provide employment for local residents (SACES 2013, p 40). A \$4.7 million, 80 person low density, worker accommodation development has been constructed on Council land in Kimba and will be leased to IronClad Mining Ltd (SACES 2013, p 62).



Cleve, 2009 (CJ Thredgold)

The short-term boost in population driven by the infrastructure and construction phase of mining operations will place pressure on housing, rent and existing accommodation in nearby towns. The proportion of low-income households in Tumby Bay (16.3 per cent), Lower Eyre Peninsula (10.2 per cent) and Port Lincoln (9.6 per cent) experiencing mortgage and rent stress is higher than the state average (8.9 per cent) (Herriot 2014, p 10). SACES (2013, p 9) sees a potential need for demountable, short-term accommodation. Single person households are the fastest growing household type in Australia and there is limited affordable housing stock for them, even in lower demand areas. The DC of Kimba (-3.4 per cent) and DC of Streaky Bay (-0.9 per cent) were the only LGAs in the EPWC region to experience a decline in lone person households between 2006 and 2011. The DC of Elliston had a 36 per cent increase (17 per cent in DC of Wudinna and 15 per cent in DC of Ceduna) in lone person households over the same period (Renewal SA 2013, p 3). Perhaps a more innovative solution to the short-term accommodation requirements in the construction phase of mining projects is exploring affordable housing that is “sustainable, renewable and smart” (RCCC 2013, p 30) and could cater to the region’s lone person households once the construction phase of mining operations is complete. The sooner new workers are settled in a town, regional communities will benefit from housing construction, consumption, school enrolments, etc. At the other end of the spectrum of household size are some Aboriginal households experiencing overcrowding and requiring purpose-built housing in the Aboriginal communities of Yalata and Koonibba (and Oak Valley which is outside the study area). Demand for rental properties and public housing within the range of low income families is increasing in Whyalla, Port Lincoln and Ceduna (RDAWEP 2014, p 18).

Whyalla, Ceduna and Cowell have the strongest population growth and demand for housing due to the impact of new mines nearby. The availability of land for housing is a critical issue for local governments and mining companies and pre-planning and collaboration will be of “immeasurable importance” (SACES 2013, p 11). It has been estimated that the existing housing stock in Kimba and Wudinna will be insufficient to cope with an increase in population, even though both locations have experienced population decline over the last two decades. It was reported Wudinna had only 10 vacant dwellings in 2013 (SACES 2013, p 27). The DC of Wudinna could be home to a workforce of up to 550 people and is preparing a structure plan to assess how much housing and infrastructure may be required (RDAWEP 2014, p 17). It is estimated that Cleve could support an additional 500 persons which the LGA has lost over the last 20 years, and Lock, in the DC of Elliston, also has spare capacity due to population loss (SACES 2013, p 43). Based on current trends Cleve, Elliston, Franklin Harbour, Kimba and Wudinna could experience continued population decline if mining projects do not progress (SACES 2013, p 54). The DC of Tumby Bay owns land which it intends to rezone to residential to meet demand for housing from mining operations and will have sufficient land to meet population increases (SACES 2013, p76). The RDAWEP (2014, p 17) also predicts increased housing demand in Port Neill. Table 15 shows potential housing and land requirements to 2026 in some EPWC LGAs. The projection is for baseline growth and includes population increase that had occurred to 2011. Impacts to the coast from urban development include a potential increase in jetties and marinas and increased input of nutrients and other pollutants into coastal waters (Gillanders et al. 2013, p 53).

**Table 15.** Dwelling demand and land supply analysis for baseline growth, select EPWC LGAs by 2026.

Year	Port Lincoln		Whyalla		Streaky Bay^^		Lower Peninsula		Eyre	Ceduna^	
	Dwelling growth <sup>▲</sup>	Land supply (ha)*	Dwelling growth <sup>▲</sup>	Land supply (ha)*	Dwelling growth <sup>▲</sup>	Land supply (ha)*	Dwelling growth <sup>▲</sup>	Land (ha)*	supply	Dwelling growth <sup>▲</sup>	Land supply (ha)*
<b>2016</b>	67		46		21		95			2	
<b>2021</b>	113		78		36		170			4	
<b>2026</b>	115		79		38		186			4	
<b>Total to 2026</b>	295	23.6	203	16.2	95	7.6	452	36.1		10	0.8

Source: SACES, 2013, pp 63, 83 and 88-91; ^new residential subdivisions and an additional residential development is underway; ^^good supply of residential zoned land with 2013 stagnation in local real estate, oversupply of properties for sale (p 43).

▲ incremental and based on long-term trend (includes population increases which have occurred as a result of mining up to 2011), based on 2.9 people per dwelling, does not include knock down rebuild (one for one).

\*Low density (net) = 12.5 houses per hectare (SA Planning Strategy, 2010). Note possibility for Port Lincoln and Whyalla to require less land requirements due to higher density potential.

### **Community values and lifestyles**

The EPWC region is a complex and integrated system which strongly links the country with its people (Smailes 1993, p 60). Aboriginal people report they derive physical, spiritual, emotional and cultural benefits from their connection to Country. Access to traditional lands and waters gives an indication of Aboriginal Australians' connection to Country and, for some, is associated with improved health outcomes (SCRGSP 2014, p 32). Research undertaken in the EPWC region by Rural Solutions SA (2009, p 37) on behalf of the Eyre Peninsula Natural Resources Management (EPNRM) found there was a clear connection between practising cultural activities, such as hunting, camping and harvesting bush tucker, and caring for Country. Aboriginal people have cultural responsibilities and relationships between people and the land, such as gathering bush medicine and bush foods, collecting rocks, painting, site preservation and 'cultural identifying'. Regardless of age or gender harvesting and hunting of bush foods and fishing was a form of caring for Country (Rural Solutions 2009, pp 37-38).

Megan Poore undertook her Doctor of Philosophy, *Being Ceduna: Survival on the Far West Coast of South Australia*, at the Australian National University in 2002. Her research was on the non-Indigenous population residing in and around Ceduna. Poore's (2002, p 183) research found many non-Indigenous people have "a very special connection with their surrounds", "love their physical environment" and have "a genuine affection for the land". Much of this thinking is connected to the survival ethic and believing the landscape has an emotive effect on a person's state of mind. The coast and coastal sites are "the most significant, well-known, talked about and visited" places of the non-Indigenous people living in Ceduna. Most local non-Indigenous people have a detailed knowledge when describing the 160km of coast between Acraman Creek and Clare Bay, they love exploring the coast and they are reasonably familiar with the coast from Elliston to the Head of Bight, a distance of over 700km (Poore 2002, p 186). But people are not just connected to coastal environments, Poore's research (p 224) found descendants of early European arrivals to the west coast "gain strength from living on the land – they feel its potency as they dig it up, plant seeds in it and watch things grow out of it". Anyone who decides to live in the west coast region has to be tough and appreciate Mother Nature – for human survival and for the brilliance and wonder of natural land- and seascapes of the region (Poore 2002, p 225). Non-Indigenous people living in Ceduna often see themselves as emotionally tied to their physical environment and have far-reaching knowledge of the region including familiarity of landmarks (Poore 2002, p 234).

### *Recreation, leisure and community groups*

Population growth, and workforce attraction and retention, will only succeed if the region's towns and communities have the social infrastructure, services and amenity to enhance the quality of life of workforce families and residents (RDAWEP 2014, p 8).

Across the EPWC region people are passionate about the region as a place and want to be actively involved in decisions about future development with potential to change the environment, recreational spaces and the liveability of towns (RDAWEP 2014, p 18). Recreational fishing is a popular pastime in the coastal areas of the region and one of the key features of the region's liveability. The principal fish species caught by recreational fishers in the 1980s included mullet, flounder, flathead, catfish, sweep and trevally (the latter two species off rocky headlands), and mullaway (Martin 1988, pp 13-14). In 2002 the non-Indigenous population of Ceduna continued to enjoy recreational fishing, with King George whiting abundant and popular with fishers. People fished from jetties, rocks, cliffs, small boats and some went surf fishing, catching snapper, salmon, flathead and small silver whiting (Poore 2002, p 61).



Road to Cactus Beach, 2009 (CJ Thredgold)

Many people living in, and visiting, the EPWC region entertain themselves by going camping, bush bashing, fishing, surfing or sailing. Non-Indigenous people living in Ceduna see the

coast and sea as a place to have fun in and by, but they also see the coast as a place to relax and get away from it all (Poore 2002, p 226). Poore (2002, p61) reported few non-Indigenous people skin dive or SCUBA dive in Ceduna due to a fear of sharks, however small boats are popular. When non-Indigenous people living in Ceduna “travel to the coast, they partly see themselves as modern consumers of fun and freedom” and the Far West Coast is “a vital, exciting place to be if you know where to go and how to experience it. Inland provides a more ancient, ancestral encounter with the landscape ...” (Poore 2002, p 230). Newcomers discover the west coast landscape for themselves and learn to love, respect, and fear it, and thus learn to “be Ceduna” (Poore 2002, p 231). The love and respect for the land- and seascape is often not the view of new comers to the west coast. On arrival to Ceduna some new comers describe the landscape as ugly, barren, harsh, dry, windswept, desolate – but if a person is to survive in difficult conditions, not just socially and emotionally, then an appreciation of, and respect for, the environment will assist. Newcomers are encouraged by locals to get out and explore the countryside and coast to gain an appreciation of their surroundings, and hence “become Ceduna” (Poore 2002, pp 226-228). At the time of writing the EPNRM is undertaking a survey asking people what they love about the region (see Appendix 1 for the questions). This will be important data to include in the final report for Project 6.1 if it is available.

Rural Solutions SA (2009, p 38) found Aboriginal people were very active in outdoor activities such as fishing, boating, swimming, surfing, diving, gardening, land management and conservation, farming, harvesting bush foods, and other similar activities. Most Aboriginal people surveyed were involved in fishing and other water based activities (swimming, surfing and diving). One respondent considered fishing and bush foods as his main source of food.

In 2002 Poore (pp 77 and 173) noted that community organisations such as the Country Women’s Association (CWA) were slowly dying out, as too few new recruits were added to their dwindling ranks. In 2014, SACWA branches throughout South Australia are experiencing renewed interest from younger women. A number of new branches have, and are, opening in the Greater Adelaide region and there is also a renewed interest with branches opening in country areas, including the Eyre Peninsula. Women today are favouring meeting in the evenings, quite often at the local hotel for a dinner meeting. This is being driven by younger women who are often busy and time poor during the day but crave the friendship, pleasure, skill sharing and the opportunity to help in their local and the wider community (Bertram L, pers comm, 4 December 2014).

In 2002 it was important for non-Indigenous people to belong to a community group as it meant they were community minded and committed to the town’s social survival. Community groups included sports clubs, social clubs, emergency services and charity organisations that enabled people to “serve the community” (Poore 2002, pp 158-159). The



non-Indigenous population of Ceduna also belonged to informal social groups who are collections of friends/mates and meet in private gatherings (Poore 2002, p 162).

**Table 16.** Per cent of people undertaking voluntary work for an organisation or group by sex – Ceduna, Port Lincoln and Whyalla, 2011.

<b>Volunteer</b>	<b>Ceduna (%)</b>		<b>Port Lincoln (%)</b>		<b>Whyalla (%)</b>	
	Male	Female	Male	Female	Male	Female
<b>Volunteer</b>	19.8	24.0	16.6	21.0	13.4	17.8
<b>Not a volunteer</b>	53.2	47.7	56.4	53.7	58.8	56.1
<b>not stated</b>	6.3	5.3	6.0	5.6	7.3	6.5

Source: ABS, 2012, Census of Population and Housing Basic Community Profile, Cat No 2001, various.

Volunteerism is a good indication of community wellbeing and involvement (Table 16). Around 50 per cent of all census respondents to this question at the 2011 Census are not volunteers with any organisation. The highest of any population who were formal volunteers were females in Ceduna which showed out at 24.0 per cent. Males in Ceduna are also well represented with almost 20 per cent involvement. The lowest volunteer population recorded across all the three locations was in Whyalla with just 13.4 per cent of males were involved as volunteers. Overall these data may reflect the lack of opportunities available to the people in each area to become involved in local organisations. They could also be linked with proportions of males employed in full time employment and in some cases the role of shift work or unsocial hours including FIFO.

In 2007 participation in sport was generally high for residents of the Eyre Peninsula with over 84 per cent of females doing an activity, which was higher than the State average (Collins Anderson Management 2007, p 20). The consequences of the loss of young people aged 15 to 24 from communities across the region implies difficulties in filling sports teams, as well as higher median ages in some LGAs (Herriot 2014, p 9).

### *Social capital and cohesion*

The 1980s was a turbulent decade for farmers on the Eyre Peninsula and west coast region with several negative events coinciding, including a decline in annual rainfall, a rise in interest rates, the decline of commodity prices and the collapse of rural land values. Social stresses at the time included family friction, divorce and some suicides of farmers (Smailes 1993, p 6). A notable example of mobilising community resources and spirit is in 1993 when the Tumby Bay District Community Support and Action Group published *Tumby Bay ... A Decision to Turn the Tide. The Story of Some Steps Taken Toward Economic Self Sufficiency, Social Self Confidence and political Self Reliance* (Smailes 1993, p 65). In 2014 Tumby Bay residents remain actively involved in the development of their town with the Tumby Bay District Community Consultative Group formed to provide comment on developments with potential to impact on the local community (RDAWEP 2014, p 18). In 1990 staffing threats in



local hospitals mobilised the Community Initiative Group, with representatives from the DCs of Elliston, Le Hunte<sup>10</sup> and Streaky Bay, who showed where the elimination of waste and better coordination between government departments could provide rural services and minimise the impact of staff cuts (Smailes 1993, p 73). Luther's (in Smailes 1993, p 65) 1990 *Characteristics of Communities that have been more successful than the average of those around them* (Appendix 2) remains relevant for regional communities attempting to be successful and satisfying places to live and attract new people.

Today the Clean Bight Alliance Australia (CBAA) uses social media (Facebook, Twitter (joined 12 June 2014 @cleanbightaus) and Instagram (joined 10 June @cleanbightalliance)) to push “for public release of both the environmental plan and oil spill modelling data from BP regarding the Great Australian Bight” through an online petition on [www.change.org](http://www.change.org) (petitions were also handed out in towns across the Eyre Peninsula and Yorke Peninsula); advocate for the use of renewable energy; connect with other community action groups; post news of current BP court cases in the USA regarding the impact of their operations in the Gulf of Mexico in 2010 and the subsequent impact of the blowout; and educate their followers about potential impacts of oil spills by posting disasters occurring in other places on Earth and about the unique animal and bird species at home in the GAB. After establishing a Facebook presence on 9 June 2014, CBAA reached over 200 ‘likes’ by 13 June 2014, 300 ‘likes’ by 24 June and by 10 December 2014 had 575 people who ‘liked’ the site. The online petition was loaded on [www.change.org](http://www.change.org) on 12 June, by 20 June there were over 2,000 signatures and by 22 June 2014 there were 3,066 signatures. The CBAA held an information session (Whale Watching/Information Weekend) at Fowlers Bay on 9-10 August 2014. Of the 210 people invited via Facebook 11 attended. The aim of the information session was to raise awareness of the issues surrounding BP and their plan to drill for oil and gas in the GAB (CBAA 2014). Locals and interstate tourists marvelled at the whales at the Head of Bight before going to Fowlers Bay to watch the screening of *The Big Fix*—a documentary detailing the Gulf of Mexico Deepwater Horizon oil spill in 2010 (West Coast Sentinel 2014). The CBAA believes BP is operating in the GAB without transparency and a full appreciation for some of the roughest ocean conditions in the world. The CBAA also believes there is too much at stake in the GAB to allow oil and gas exploration and production, and asks “the search for oil and gas continues – but at what cost?”. The renewable energy sector could offer more long-term local employment opportunities, as does a sustainable fishing industry—which risks reputation damage due to off-shore oil and gas exploration and potential production (Thistelton 2014).

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<sup>10</sup> Now Wudinna DC.



Venus Bay, 2009 (CJ Thredgold)

Poore (2002) categorises the different types of non-Indigenous people living in Ceduna and compares the experience with towns and villages in Australia, Greece, the United Kingdom, Melanesia and the United States of America in her PhD Thesis. Other towns in the EPWC region may recognise similar categories within their communities. At any time different sections of town communities may draw on different responsibilities and obligations from different sections to aid survival, as shown in Table 16. The categories of non-Indigenous people living in Ceduna help determine how they participate in town life. People do not need to discuss or mention the categories of town's people rather "their shared system of meaning anticipates any overt enunciation regarding the intricacies of each category" (Poore 2002, p 65). Generally if a person lives within 20 to 30km east of Penong, they are considered from Penong; living east of Nunjikompita means the person is a local of Wirrulla and if a person lives south of Haslam they would consider Streaky Bay their local town. Ceduna locals come from Koonibba, Mudamuckla and Smoky Bay (Poore, 2002 p 73).

**Table 17.** Categories of non-Indigenous people, Ceduna, 2002.

Category	Social capital	Timeline
<b>Old locals</b>	Accepted in town by virtue of their heritage and pioneering ancestors; not required to have high group-participation profile; do not have more authority, but enjoy a certain status in the community by virtue of family ties/name; stick together and help each other out; elderly members (usually women) tend to belong to established community organisations	Several generations; traced back to first European farm families, or at least early 1900s; helped establish the town (through ancestors); strong emotional links (belong) to the land; demonstrable ties of kinship

Category	Social capital	Timeline
	(CWA, National Trust, Meals on Wheels, Agricultural and Horticultural Show Committee, Red Cross); men and younger female members tend to participate in sport; some farmers do not join groups; open to new ideas	
<b>New locals</b>	Have strong, established group ties and are active organisers of community events; participate in community groups (often two or more); more likely found running OysterFest Committee or Community Radio than traditional groups; knows about the town's groups and what is where; 'acts like a local'; appreciates landscape; ambassadors for town	Generally moved in because of work commitments; chosen to call the town their home; lived in town for 10 to 40 years and made measurable contributions to the community's survival; more coast focused
<b>New people</b>	Enthusiastic community members who enjoy exploring the coast and making the most of the lifestyle; respect for the landscape; accepted into community	Have learnt the basics of life in the town; more coast focused
<b>New comers</b>	Bring fresh ideas and different experiences (given a fair go); expected to join groups and learn about countryside; often invited by old locals to join established groups ensuring social continuation of groups; undertake "attitude test"* (thoughts, feelings); if accepted become new people	Undertake a crash course in living the town and all that entails; more coast focused *6-12 months to complete, tested on personality and practical skills, encouraged to join groups, must demonstrate desire to be accepted
<b>Outsiders</b>	Often ardent members of one group only and their contribution to the group is incontestable, reluctantly accepted as having input; may not consider themselves as 'local'	May have lived in town for 25 years but not participated broadly in town affairs
<b>Blow ins</b>	Held outside of normal town society, come to town to earn money without discernibly giving anything back to the community; considered a waste of effort by others as they do not contribute to town survival; likely to move on	Anyone who moved to town in the last two to three years and is unlikely to contribute to the community outside of their paid work (e.g. government and itinerant workers, work transfers)
<b>Doctor</b>	Must be retained for as long as possible; can be a 'top doctor' or 'dickhead'; minor celebrity; not required to join groups due to long working hours	Chooses to work in the town

Source: Poore, 2002, p 63-68, 74, 77, 80-82, 84, 87, 98 and 236.

As Poore's research was on the non-Indigenous population she makes fleeting references to the position of Aboriginal people within the social structure of Ceduna in 2002. For example cross-cultural interactions are often strained (p 1); Aboriginal people are generally considered unsightly (p 7), 'The Problem' of Aboriginal people (property crimes, alcohol abuse) (p 9), the lifestyles of many Aboriginal people do not conform to European expectations (p 15), and drinking in public (p 104). Almost all Aboriginal people were excluded from "belonging to Ceduna". Most Aboriginal people were neither members of community groups nor asked to attend BBQs held by accepted community members (Poore 2002, p 15). Aboriginal people who were accepted into European Ceduna society were "known to be educated, employed, civilised and respectable" (Poore 2002, p 16).

The need for community survival outweighs potential distrust or dislike of outsiders and those accepted into the town through their dedicated service to the community move into 'new local' category after several years (Poore 2002, p 82). A person's community spirit is a marker of their attitude towards the town of Ceduna and its people (Poore 2002, p 84). Residents of remote and small towns tend to fortify their sense of belonging to a particular community by interlocking and interdependent interests (Bowman, in Poore 2002, p 90). In this instance belonging implies one is an integral piece of the community, however "there can be belonging without acceptance, but not acceptance without belonging" (Poore 2002, p 92). In Ceduna anyone who "makes an effort", "joins in" or "becomes involved" has a good chance of being accepted into non-Indigenous Ceduna society (Poore 2002, p 95). For the town's survival new people must be guided in how to help. Without community members working together there would be no local volunteer emergency services and no businesses associations (Poore 2002, pp 22-23).

#### *Governance - networks, collaboration and resilience*

As noted by Smailes (1993, p 68) the major problems faced by communities in the EPWC region in the 1980s were exacerbated by the lack of a united regional voice with resources to act on behalf of the entire regional economy and wider community interests. The early 1990s saw the Regional Development Board (RDB) established and together with the Eyre Peninsula Local Government Association (EPLGA) these organisations were seen as opportunities for coordination and action. Over the last 20 years the RDB has morphed into the Regional Development Australia Whyalla and Eyre Peninsula (RDAWEP) Board (established in 2009) and together with the EPLGA, the EPNRM and AWNRM Board, and a wide range of individuals and organisations representing diverse interests, they have developed a model of regional collaboration and coordination to drive long term economic and community development in the region. The region's vision, priorities and action plan are clearly articulated in the *Regional Plan 2014 – 16*. The RDAWEP ensures alignment with Local Government priorities and issues. The wordle<sup>11</sup> below represents the vision

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<sup>11</sup> Greater prominence is given to words that appear more frequently in the source.

statements of the region's LGAs from their Annual Reports. The picture shows the community is the highest priority of the EPWC region LGAs, with prosperity, diverse, environment and sustainable the next most used words. The LGAs rightly focus on localised planning and the RDAWEP undertakes broader regional planning. Increasingly LGAs are adopting policy on a regional basis (RDAWEP 2014, p 24).



Source: LGA Annual Reports, various

SACES (2013, pp ii-iii) has identified scenarios of potential population pressures for local government areas in the EPWC region due to the growth in mining. Councils will be expected to facilitate the provision of new infrastructure, services and land for housing, as well as new and expanding businesses and industries. At the same time Councils will face

resource constraints when trying to meet these expectations. A high quality of life, relatively low cost of living and housing<sup>12</sup>, and the provision of social and community infrastructure will attract and retain people to towns and it is in the interests of both Councils and mining companies to collaborate in order to fulfil these objectives. In fact collaboration between Councils, mining companies, State and the Australian Governments is required to prepare structure plans for the region's cities and towns expected to grow in order to ensure timely provision of land and infrastructure. The cost impact on Local Governments from policies of other organisations, for example from the Native Vegetation Council, is emerging as an issue (RDAWEP 2014, p 16).

On Sunday 23 November 2014, a Country Cabinet Public Forum was held in Ceduna as part of the State Government's Charter for Stronger Regional Policy. Cabinet members, including Premier Jay Weatherill, visited the region (DCs of Ceduna, Streaky Bay, Wudinna and Elliston) between 23-25 November to hear from the community. The main issues for the communities of the four LGAs of the Forum's focus are infrastructure (including roads; limited transport options; ITC access and reliability; recreation and sport; and Port Thevenard upgrades) and service provision (including airline and bus services; access to specialist health services; culturally appropriate addiction treatment and support services for Aboriginal people; adult, youth and child mental health services; education and training; mentoring; emergency services (including volunteer ambulance officers); a youth plan to support vulnerable young people; child care; and business training and development for SMEs). The region's Aboriginal communities seek proactive engagement with government and other providers in the design and delivery of education and social services. There was concern among the community about the large number of Aboriginal people in the Ceduna area who have been displaced due to safety issues due to their alcohol addiction. Homelessness was raised as an increasing issue for the region and the lease arrangements for Aboriginal housing is considered problematic, as is municipal service provision in Aboriginal communities.

Mentioned several times, and an obvious significant issue, is the difficulty in attracting and retaining a skilled workforce in particular in Councils and schools, as well as Indigenous and youth unemployment. A further concern is that a restriction of alcohol sales may occur in Streaky Bay, and there are tensions in the community regarding the alcohol restrictions in place in Ceduna. Disengagement from education is occurring in part due to the lack of internet infrastructure enabling a more diverse curriculum and learning options. This in turn is leading to parents' decision to place their children in larger schools in Adelaide or Port Lincoln, thus further reducing a school's ability to offer a broad curriculum to a smaller cohort of students. As noted elsewhere in this report the exodus, and non-return, of the region's youth is a major concern. The community themselves realise consideration of

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<sup>12</sup> This is particularly important for the non-mining workforce, for example, part-time, retail, care and hospitality workers.

council amalgamations is necessary, especially in light of potential Australian Government funding cuts (unknown author, 2014).

## **Challenges**

### *Infrastructure*

Investment attraction is essential because many development opportunities will not be realised without a substantial upgrade of key infrastructure (RDAWEP 2014, p 8).

The decisions of mining companies about ports, pipelines, the use of roads and rail will impact on local Councils, however it is still too early to determine what the impacts will be (SACES 2014, p 3). The influx of new population and workers will increase demand for community infrastructure and services<sup>13</sup>, but also provides the critical mass needed to ensure viable services while avoiding potential cuts to services. Depending upon final population numbers, schools in coastal towns, child care centres and recreational facilities for young people in particular will be required (SACES 2013, p 11). As towns expand other infrastructure which is currently cost prohibitive for service providers, such as telecommunications, could become more viable. Currently a lack of telecommunications infrastructure impacts on market penetration of SMEs and grain producers, and school students and emergency services lack access to information needed to operate at full potential (RDAWEP 2014, p 19).

Land use planning has the potential to severely impact on the amenity and lifestyle of the region. Already farming and mining operations are in conflict and the co-existence of industrial developments and recreation/tourism use is a major concern. Increased population and a changing demography will require new and upgraded social and community infrastructure in some towns, including arts and cultural infrastructure (RDAWEP 2014, p 19). There is potential for land use conflict due to the infrastructure requirements of the mining industry which may need to pass through private farms. Minimal disturbance of farm operations should be negotiated between farmers and mining companies (SACE 2013, p 29). The CEOs of EPWC LGAs interviewed by the SACES in 2013 estimated that in the short-term infrastructure was sufficient to meet the needs of a growing population. Several CEOs stated that power and water infrastructure require augmentation in the long-term to keep pace with expected population growth, and the lack of coordinated upgrades is seen as one of the most significant barriers to the region's potential growth and development (SACES 2013, pp 44-45). If mining goes ahead as anticipated other infrastructure required in the long-term are two bulk commodity ports and transport infrastructure (upgrades and new roads and rail).

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<sup>13</sup> Including emergency services, cultural facilities (places of worship, theatres, galleries), community facilities (halls, libraries, centres), traffic and access, communications, health, education, child care, training, power, waste



In response to the Regional Communities Consultative Council's (2013, p 30) draft Regional Statement, participants from the Eyre Peninsula and west coast region stated they felt ignored by state governments about critical infrastructure requirements for the region, including power, water, gas, airports, railway and sea ports. Participants highlighted that when the region has good infrastructure in place, it diminishes the obvious disadvantages of distance. The RDAWEP (2014, p 19) uses the example of Whyalla which is the only town in the region to have natural gas supplied, but the limited capacity of the supply line is halting proposed industrial developments. The *Regional Plan 2014-16* (RDAWEP, 2014) further highlights the economic and social imperative of a range of infrastructure needs. The lack of, and inadequate, infrastructure in the region hampers economic development and reduces community capacity. Regional organisations have had input into the State Government's *Integrated Transport and Land Use Plan* (DPTI, 2013) which outlines the actions and solutions required to support economic and social goals, including road improvements to support the mining and grain industries.

Aboriginal communities of the Eyre Peninsula have also highlighted their most serious needs are a reliable water supply, an uninterrupted power supply and houses designed for the climate, with solar energy and improved water collection systems (Rural Solutions SA 2009, p 46). Before any infrastructure developments occur feasibility studies are required, and investment finance from governments and the private sector needs to be secured. The timing of developments is affected by "Asian demand for resources, fluctuating commodity prices, and the high value of the Australian dollar" (RDAWEP 2014, p 21).

Approximately one third of the populations living in the City of Whyalla (31.5 per cent), City of Port Lincoln (29.7 per cent) and DC of Ceduna (34.8 per cent) do not have an internet connection at home. As the Internet of Everything happens the lack of internet connection in the EPWC hampers business development, social interaction, expanded school and post-school curriculum, health services, retail opportunities, access to entertainment, etc

#### *Water security*

A reliable water supply must be found for community and industry use (RDAWEP 2014, p 8).

Water resources are considered 'a time bomb' for Eyre Peninsula and west coast communities, with particular urgency expressed around the lack of a sustainable and efficient supply for residential and town requirements (RCCC 2013, p 30). The use of water from aquifers is not sustainable (RDAWEP 2014, p 26). Population growth and economic development cannot be achieved without water security. Existing water supply for the region is drawn from ground water basins with a top-up reliance on water from the River Murray (piped all the way to Ceduna). There is increasing community concern about the long-term impact of using aquifer water to supply a growing region (RDAWEP 2014, pp 15-16). The 2011 supply and demand plan for the Eyre Peninsula predicts that desalinated water will be required in the future. The South Australian Government expects mining



companies to source their own water leading to mining companies having to pay for desalination plants (SACES 2013, p 46; RDAWEP 2014, p 16). Desalination is becoming more viable and economically feasible to satisfy demand for freshwater. The extensive coastline of the region holds possibilities, but the saline concentrate generated by desalination plants can pose a threat to the marine environment. Other developments that have impacts on water quality can have an impact on the operation of the desalination plant (Gillanders et al. 2013, pp 50-51). A solar operated desalination system is being progressed in Ceduna, and all LGAs have implemented water sensitive design to optimise water use (RDAWEP 2014, pp 16-17).

## CONCLUSION

While many potential drivers of change have been described in this report, in reality, there are a myriad of drivers of change that could affect both the economic development and social dynamics of the region: “from cyclical drivers such as el Niño, changes in labour availability, and world and local interest rates, to longer-term systemic drivers such as global climate change and resource depletion” (Gillanders et al. 2013, p 156). The economic and social characteristics of the EPWC region are also shaped by the international political and policy environment. In particular international trade policies, especially issues associated with agricultural subsidies in Europe and North America. Protectionism and free trade have manipulated the region over the past two decades. As this report shows the region is also impacted by Australian and State Government policies, economic growth, population dynamics and resource constraints such as those involving natural resources and labour (Gillanders et al. 2013, p 153).

Arguably, drawdowns on natural capital challenge or impair resilience because previous ecosystem services which supported the production of environmental resources are either compromised or not as accessible in future times of need, which devolves to a matter of inter-generational equity. In practice, the health and wellbeing of humans depends upon the services provided by ecosystems and their on-going capacity to produce water, air, soil, nutrients and organisms (Rural Solutions SA 2009, p 10).

As is the case with similar economic studies, the research on the potential impacts of mining undertaken by SACES and reviewed in this report assume developments will have no environmentally adverse impacts to undermine the scale of the development (Gillanders et al. 2013, p 42). Potential climate change impacts for the EPWC have been documented by the EPNRM, but there are pre-existing non-climate related stressors that reduce the resilience and adaptive capacity of natural systems. “Social and environmental stressors are linked in time and space through previous drawdown on accumulated natural capital, which challenges or impairs future resilience” (Rural Solutions SA 2009, p 10). A key resource in the region to aid understanding of natural processes are Aboriginal Elders who revealed knowledge gained from observing and describing changes in coastal formations, plants,

availability of traditional foods and changes to landscapes to researchers undertaking the vulnerability assessment (Rural Solutions SA 2009, p 11). Rural Solutions SA (2009, pp 41-42) considers many, if not all, of the Aboriginal communities on the west coast are vulnerable to climate change and other stressors as they have low levels of human, social, physical, economic and natural capitals.

The EPWC region's core strengths are the natural environment (under increasing development and pleasure pressure); a collaborative network of agents operating across the region (despite being spread out); a diversifying economy (strong potential of renewable energy and tourism); and lifestyle and amenity (strongly tied to the natural environment). The social capital of the EPWC region is also a key strength and for Ceduna and the unincorporated west coast in particular, is a means of emotional and physical survival in a distant, dry place. Various land- and seascapes provide attractions for existing and emerging tourism operators and produce premium food, but they are also a core part of a person's being and belonging to the region. For the people who live in the EPWC region the land- and seascapes can provide emotional and/or spiritual sustenance (Strang in Poore 2002, p 221). As noted in Gillanders et al. (2013, p 70) management and decision-making processes generally do not consider ecosystem services or cumulative impacts, largely because of a focus on one project or sector. Consideration of cumulative impacts also requires an understanding of tradeoffs. Tradeoff analyses can be used to inform siting of new facilities and infrastructure in order to minimise conflicts among multiple users (Gillanders et al. 2013, p 75). The growth and development of the EPWC region must seriously consider the cumulative impacts of disparate projects which could change the way ecosystems function and social systems operate. For example the threats of mining to "native plant and animal species, vegetation clearing and loss of biodiversity, reduced surface water quality in lakes and rivers, reduced groundwater quality, reduced quality of prime farming and grazing land, reduced air quality and greenhouse gas emissions" and potential contamination of underground water aquifers (SACES 2013, p 14). Both onshore and offshore mining infrastructure (such as oil and gas platforms, ports, rail and roads) and other industry sectors such as tourism and agriculture may have an impact on the region.

The advent of mining projects may significantly transform the social structure of communities and some towns in ways that are both positive and negative. The people of the region recognise that economic growth at any cost is not an option, but they also welcome the prospect of increased investment in the region and employment growth. There is an aspiration to find a balance between these seemingly conflicting objectives but the lifestyle, amenity and physical environment of the region will be retained (RDAWEP 2013, p 8).

The Eyre Peninsula Integrated Climate Agreement (EPICCA) Committee has developed models for dealing with projected climate change on land and sea-based industries, Local Government operations, infrastructure development and water resources management. The models can be applied to decision making timeframes for project planning and

implementation. Regional models such as those developed by the EPICCA Committee require consideration of the longer term impacts of major infrastructure projects when planning regional development (RDAWEP 2014, p 17).

The surveys, focus groups and interviews to be undertaken in 2015 will build on the evidence and substantiate information in this literature review and community analysis, such as community values and thoughts about change. This information will be included in the final report. As mentioned at the beginning of this report the process of building a picture and detailed understanding of the social structure of communities living in the study area will continue over the next ten months.

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## APPENDIX 1



We all know that Eyre Peninsula is home to some of the most beautiful places in the country.

Secluded beaches, rugged ranges, wilderness areas, productive agricultural land and pristine waters are just some of the diverse landscapes we enjoy right on our very doorstep.

Natural Resources Eyre Peninsula would like to know what places you love and why they are special to you.

The following short survey will only take a couple of minutes to complete.



Name your favourite place on the Eyre Peninsula (eg Gunyah Beach, Mt Wedge, Sir Joseph Banks Group etc.) (map provided on line)

Why do you value this place? Check any that apply

- |                                     |   |
|-------------------------------------|---|
| <input type="checkbox"/> Social     | <input type="checkbox"/> Native plants      |
| <input type="checkbox"/> Recreation | <input type="checkbox"/> Native animals     |
| <input type="checkbox"/> Cultural   | <input type="checkbox"/> Primary production |
| <input type="checkbox"/> Historic   | <input type="checkbox"/> Water resources    |
| <input type="checkbox"/> Spiritual  | <input type="checkbox"/> Tourism            |
| <input type="checkbox"/> Aesthetic  | <input type="checkbox"/> Other              |

In 25 words or less, please describe why this is your favourite place.

Do you believe this place faces any threats now or into the future? Check any that apply

- |   |   |
|---|---|
| <input type="checkbox"/> Future development pressure                | <input type="checkbox"/> Climate change risks   |
| <input type="checkbox"/> Existing degradation from past development | <input type="checkbox"/> Lack of resources (financial and/or human) to manage or protect it |
| <input type="checkbox"/> Fire risks                                 | <input type="checkbox"/> Competing uses (e.g. production versus conservation)               |
| <input type="checkbox"/> Pest animal damage                         | <input type="checkbox"/> Other  |
| <input type="checkbox"/> Pest plant outbreaks                       |   |

How might these threats be addressed? Check any that apply

- ☐ Additional human resources (eg Parks staff, compliance, extension staff)
- ☐ Increased monitoring (eg condition of plants and animals)
- ☐ Increased awareness (eg signage, education programs)
- ☐ Additional on-ground works (eg tree planting, fencing, pest plant and animal control)
- ☐ Support for volunteers and landholders (eg grants, incentives)
- ☐ Regulate development activities (eg housing, mining, tourism, aquaculture)
- ☐ Other

Can you recommend any actions for the future management of your favourite place?

Please indicate the council area in which you reside. Check any that apply

- |   |   |
|---|---|
| <input type="checkbox"/> District Council of Ceduna | <input type="checkbox"/> City of Port Lincoln |
|---|---|

- |   |  |
|---|--|
| <input type="checkbox"/> District Council of Cleve                | <input type="checkbox"/> District Council of Streaky Bay |
| <input type="checkbox"/> District Council of Elliston             | <input type="checkbox"/> District Council of Tumby Bay   |
| <input type="checkbox"/> District Council of Franklin Harbour     | <input type="checkbox"/> Wudinna District Council        |
| <input type="checkbox"/> District Council of Kimba                | <input type="checkbox"/> City of Whyalla                 |
| <input type="checkbox"/> District Council of Lower Eyre Peninsula | <input type="checkbox"/> Other                           |
| <input type="checkbox"/> City of Port Augusta                     |  |

How did you hear about this survey? Choose one of the following answers

- |  |  |
|--|--|
| <input type="radio"/> Email            | <input type="radio"/> Facebook             |
| <input type="radio"/> Newspaper        | <input type="radio"/> Friend or Colleague  |
| <input type="radio"/> Media Release    | <input type="radio"/> Other                |
| <input type="radio"/> Cash Classifieds | <input checked="" type="radio"/> No answer |
| <input type="radio"/> Twitter          |  |

Which age group are you in? Choose one of the following answers

- |                                   |  |
|-----------------------------------|--|
| <input type="radio"/> 0-19 years  | <input type="radio"/> 66-80 years          |
| <input type="radio"/> 20-35 years | <input type="radio"/> 80+ years            |
| <input type="radio"/> 36-50 years | <input checked="" type="radio"/> No answer |
| <input type="radio"/> 51-65 years |  |

Would you like to be involved in Natural Resource Management activities on the Eyre Peninsula? Choose one of the following answers

- ☐ No further involvement
- ☐ Volunteer for on-ground works
- ☐ Participate in planning activities

- ☐ Help monitor the condition of our Natural Resources
- ☐ Learn more about NRM
- ☒ No answer

(accessed 4 November, 2014)

## APPENDIX 2

**Characteristics of Communities that have been more successful than the average of those around them** (Luther V, 1990, Learning from Successful Communities: Rural Case Study Research in Dykeman, F W (ed) *Entrepreneurial and Sustainable Rural Communities*, proceedings of a conference held in St Andrews-by-the-Sea, N.B., June 1988, 193-200, page 197, in Smailes, 1993)

1. Evidence of community pride
2. Emphasis on quality in business and community life
3. Willingness to invest in the future
4. Participatory approach to community decision-making
5. Cooperative community spirit
6. Realistic appraisal of future opportunities
7. Awareness of competitive positioning
8. Knowledge of the physical environment
9. Active economic development program
10. Deliberate transition of power to a younger generation of leaders
11. Acceptance of women in leadership roles
12. Strong belief in and support for education
13. Problem-solving approach to providing health care
14. Strong multi-generational family orientation
15. Strong presence of traditional institutions that are integral to community life
16. Attention to sound and well-maintained infrastructure
17. Careful use of fiscal resources
18. Sophisticated use of information resources
19. Willingness to seek help from the outside
20. Conviction that, in the long run, you have to do it yourself.



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