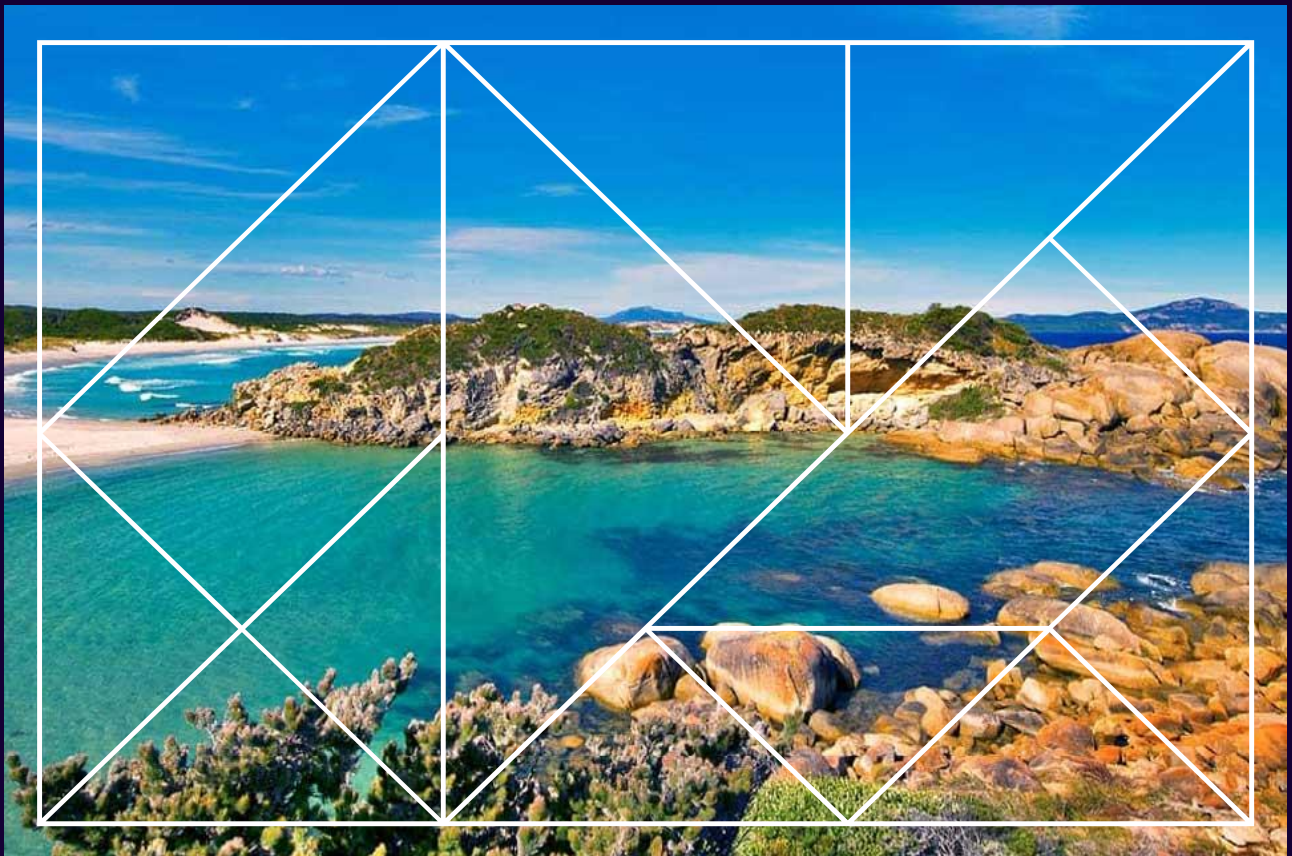


18 September 2023

Report to Department of Biodiversity, Conservation and Attractions

The social and economic value of the South Coast region

Final report



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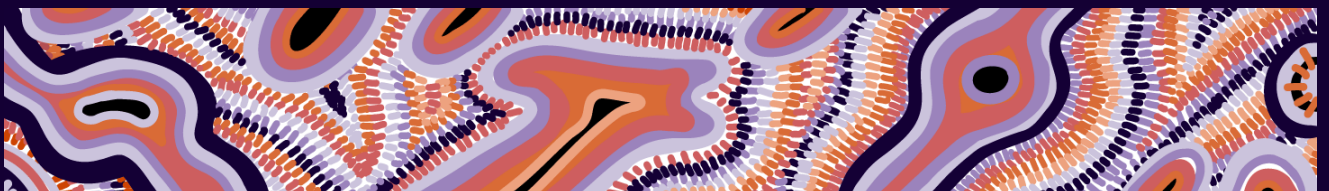
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Excerpt of a painting titled *Goomup*, by Wadjuk, Yued, Ballardong artist Jarni McGuire

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Executive summary

In 2019, the Western Australian Government announced the Plan for Our Parks initiative to create five million hectares of new national and marine parks and conservation reserves which will increase the State's conservation estate by 20 per cent. This includes the establishment of the proposed South Coast Marine Park.

The creation of the proposed South Coast Marine Park will ensure that there is ongoing protection for its marine habitats and biodiversity while allowing for ongoing sustainable economic and social use of its waters. It will also ensure that the South Coast and Eucla bioregions which form it are represented in the State network of marine parks and reserves, and Australia's National Representative System of Marine Protected Areas.

This report provides an evaluation of the potential social and economic impacts of the proposed South Coast Marine Park. It includes a baseline profile of the economy and community of the South Coast region and the key coastal towns contained within it. This baseline is used to estimate the likely economic and social changes from the establishment of the proposed Marine Park including their likelihood and magnitude based on the experience of the creation of marine parks elsewhere in Australia and overseas.

The South Coast region occupies an area of 169,418km² or 6.7 per cent of the Western Australian land mass and is comprised of the City of Albany, and the Shire of Jerramungup in the Great Southern Development Commission, and the Shire of Ravensthorpe, Shire of Esperance, and Shire of Dundas in the Goldfields Esperance Development Commission. Aboriginal people have had connection to the region for tens of thousands of years whilst European interaction with the region began in the 17th century and later with the development of the whaling, sealing, pastoral and mining industries.

The current socio economic profile of the South Coast region is largely influenced by the City of Albany and the Shire of Esperance which contain the largest share of the region's population and workforce. The region is currently home to 2.1 per cent of the State's population and 8.3 per cent of Western Australia's regional population with most of the population in the coastal towns of Albany, Bremer Bay, Ravensthorpe, Hopetoun, and Esperance. It supports a diverse economy built on its natural resources with agriculture, fishing, forestry, mining, and tourism providing important economic contributions.

The establishment of the proposed South Coast Marine Park will include the implementation of zones which define how they are used. The aims of the zones are to ensure that the natural values that the Marine Park was created to conserve are adequately protected whilst recognising cultural values and supporting the needs and aspirations of other users such as recreational and commercial fishers. The majority of the proposed South Coast Marine Park will be general use zone to minimise impacts on existing use. The inclusion of recreation and sanctuary zones will impact some users of the proposed Marine Park most notably recreational and commercial fishers.

An analysis of the socio economic impact of the South Coast Marine Park including the implementation of sanctuary zones found that the environmental values of marine parks that lead to their creation support social, cultural, and economic values of the communities and economies in which they are located.

Marine protected areas have been created throughout Australia and the world more broadly. Various attempts and methodologies have been pursued to quantify the socio economic impacts of them. Available reports and documents focussing on other jurisdictions have been used to capture the approaches, key findings, and outcomes of this report. The report finds that the establishment of the South Coast Marine Park:

- is likely to have some impact on commercial fishers requiring them, if possible, to adjust their spatial fishing effort and potentially impacting their total catch. Experience elsewhere suggests that some fisheries will benefit from the establishment of sanctuary zones while others will experience no change to the volume of their catch.¹ It is possible that some fisheries will experience change. The impact of socio economic change is likely to be larger in the smaller coastal towns where the fishing industry plays a large role in the community and economy.
- may displace recreational fishers from some areas. Experience elsewhere has shown that the value from the recreational activities at marine parks is significant. Further, recreational fishers continue to use other parts of marine park areas when sanctuary zones are implemented. The benefits of sanctuary zones on the effort per catch and the biomass of targeted species can create improved outcomes for recreational fishers.²
- has important recreation values including recreational fishing and other outdoor recreational activities which benefits the health and wellbeing of users.
- provides improved socio economic outcomes for local Aboriginal people in the form of employment opportunities, and business development opportunities. There are significant cultural benefits from an improved connection to country and culture.
- will result in improved tourism experiences resulting from the protection of marine habitats resulting in increased visitation to these areas. The creation of marine parks has benefits for the businesses that rely on the visitor market including tour operators, retail outlets, and the businesses that provide services to the tourism industry.
- is likely to impact existing use of the area by visitors however experience elsewhere has found these visitors will displace to other parts of the marine park area.
- will have no impact on mining activities in the South Coast region. There is potential for South Coast Marine Park boundary adjustments to accommodate port waters and coastal elements of the proposed Western Green Energy Hub.
- is likely to have no impact on the key transport, port and shipping infrastructure in the South Coast region. There could be an impact on businesses in the transport and logistics industry with the impact focussed on those that directly rely on commercial fishing for revenue. The size of the impact will therefore depend on the impact of the proposed South Coast Marine Park on commercial fishers.
- further benefit the existing and growing science and research industry in the South Coast region. The experience elsewhere shows that marine parks are successful in attracting research funding and scientific collaboration which has benefits to local economies.
- is likely to impact local businesses in the form of new opportunities in tourism, and in the businesses that support the tourism, and scientific research industries. Dependent on the impact of the sanctuary zones on the viability of commercial fishers, there could be a resulting

¹ Goetz JS et al (2021). Increased connectivity and depth improve the effectiveness of marine reserves. *Global Change Biology*

A. Justin Nowakowski, Steven W. J. Canty, Nathan J. Bennett, Courtney E. Cox, Abel Valdivia, Jessica L. Deichmann, Thomas S. Akre, Sara E. Bonilla-Anariba, Sebastien Costedoat and Melanie McField (2023), Co-benefits of marine protected areas for nature and people, *Nature Sustainability*

Kieczkowski M, Babcock R, Clapin G (2008). Density and size of reef fishes in and around a temperate marine reserve. *Marine and Freshwater Research*; 59: 165–76

Michael D.E. Haywood, Richard Pillans¹, Russ Babcock, Emma Lawrence, Ross Darnell, Charis Burridge, Darren Dennis, Anthea Donovan, Sue Cheers, Robert Pendrey, Quinton Dell¹ (2019), Changes in fish and crab abundance in response to the Moreton Bay Marine Park rezoning

² Ibid

adverse impact on other businesses in the region and particularly those that directly support this industry.

- will be important in protecting the cultural value of the region for Aboriginal people. The joint management of the park will bring cultural benefits as well as employment and self determination benefits.
- could have some impact on the coastal towns of the South Coast region with the magnitude of this impact dependent on the impact of sanctuary zones on the viability of the commercial fishing industry.

The key socio economic benefits that are generated from the establishment of the proposed South Coast Marine Park are in the form of attracting additional expenditure in the adjacent region from spending by visitors, researchers, and for the management of the Marine Park. This has benefits for the local economy including a boost to existing businesses and the opportunity for the creation of new businesses particularly as they relate to nature based and Aboriginal tourism.

There are important cultural and economic benefits for local Aboriginal people by protecting significant sites, and in the jobs required for the joint management of the parks. Other important benefits include the recreational values associated with enjoying the Marine Park and the improved ability to view nature.

The role of the fisheries industry in the South Coast region is important to its economic and social fabric. The establishment of sanctuary zones in the proposed South Coast Marine Park is likely to have an impact on commercial and recreational fishers. The size and location of these zones have not yet been allocated so the magnitude of their impact is not yet known. Experience elsewhere has found that it is likely that commercial and recreational fishers will be required to adjust their spatial fishing effort because of sanctuary zones. Experience elsewhere suggests that recreational and potentially commercial fisheries can benefit from the establishment of sanctuary zones through greater catch per effort in the areas around these zones.³ Studies of other marine parks have found that most fisheries experience improved or no changes to catches, but some fisheries do experience a small but reduced catch.

The impact of socio economic change in the South Coast region is dependent on the impact of sanctuary zones on the commercial fishing industry. Any impact on businesses, employment, and population is likely to be larger in the smaller coastal towns where the fishing industry plays a larger role in the community and economy. Further, the socio economic impact of the proposed South Coast Marine Park is likely to be focussed on the Shire of Esperance, Shire of Ravensthorpe, Shire of Jerramungup, and Shire of Dundas as the closest communities to the proposed Marine Park area.

³ Hunter S. Lenihan, Jordan P. Gallagher, Joseph R. Peters, Adrian C. Stier, Jennifer K. K. Hofmeister & Daniel C. Reed (2021), Evidence that spillover from Marine Protected Areas benefits the spiny lobster (*Panulirus interruptus*) fishery in southern California, Scientific Reports

Introduction

1

In 2019, the Western Australian Government announced the Plan for Our Parks initiative to create five million hectares of new national and marine parks and conservation reserves which will increase the State conservation estate by 20 per cent. Plan for Our Parks is a whole of government initiative overseen by a multiagency Directors General Steering Group and approved by the Ministers for Environment, Aboriginal Affairs and Mines and Petroleum. The Plan includes the establishment of the proposed South Coast Marine Park located in the coastal areas of the Great Southern and Goldfields Esperance regions.

This report provides a baseline of the population and economy of the South Coast region which is the area that lies adjacent to the proposed Marine Park. It also provides an analysis of the potential socio economic impact of the proposed Marine Park on the communities and economies of the region that will be affected by its establishment.

1.1 Proposed South Coast Marine Park

Scientific studies have shown the marine biodiversity in the estuarine and coastal waters of the proposed South Coast Marine Park are globally significant. Its coastal waters support vast kelp forests and extensive rhodolith beds, productive reefs and islands, and marine species such as the ruby sea dragon which are found nowhere else. The waters also include southern right whale nursery areas, seal and sea lion colonies, and important fisheries.⁴

The creation of the proposed South Coast Marine Park will ensure that there is ongoing protection for these important marine habitats and biodiversity while allowing for ongoing sustainable economic and social use of its waters. It will also ensure that the South Coast and Eucla bioregions which form it are represented in the State network of marine parks and reserves, and Australia's National Representative System of Marine Protected Areas. This includes the marine park network along Western Australia's south coast which currently includes the Walpole and Nornalup Inlets Marine Park.

A marine protected area is an area of sea especially dedicated to the protection and maintenance of biodiversity, and of natural and associated cultural resources, and managed through legal or other effective means. There are intended benefits of marine parks for the environment, communities and economies which include:

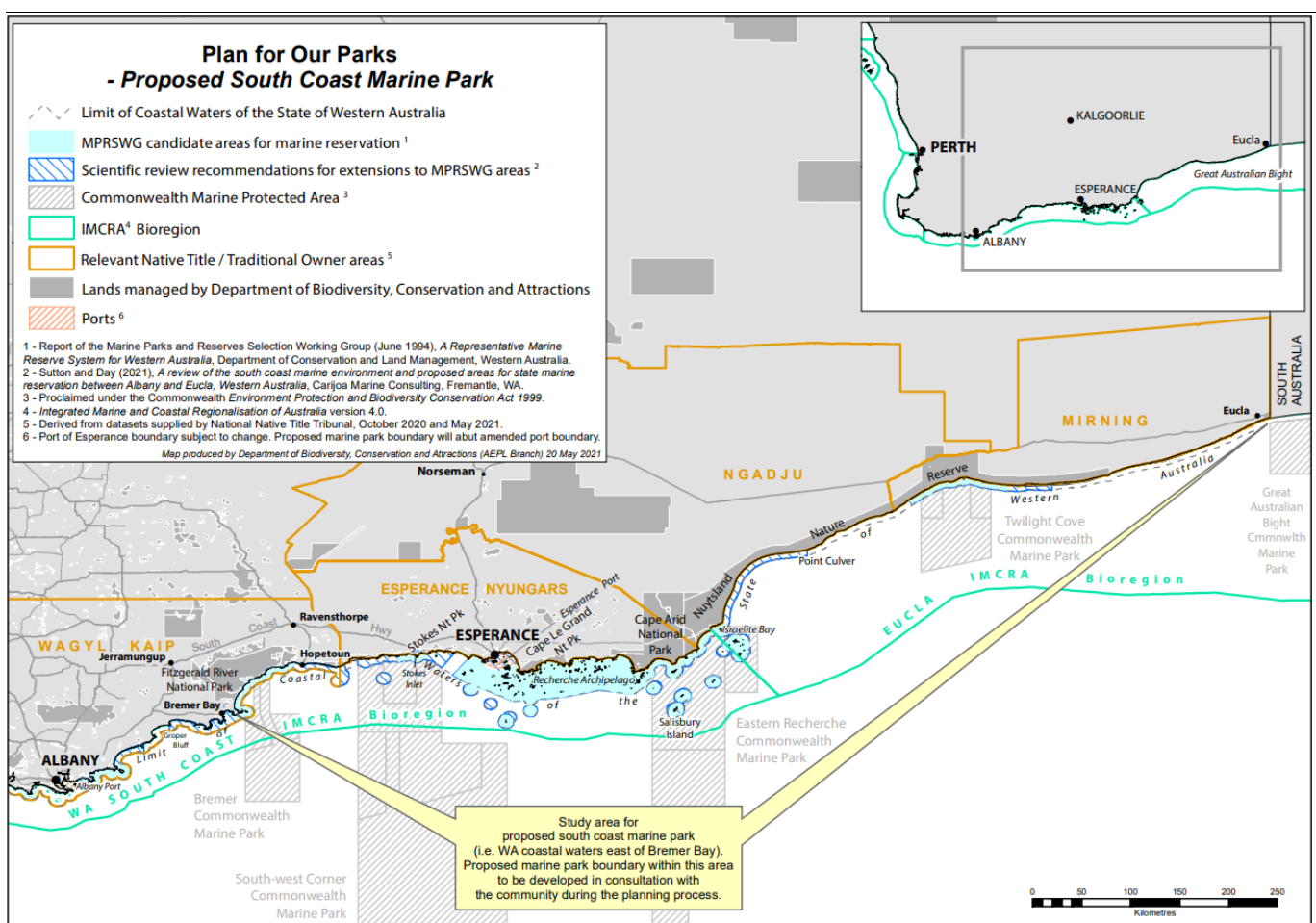
- Biodiversity conservation – species, genes, and ecosystems
- Improved fisheries – increased biomass and stock replenishment
- Climate mitigation and resilience – enhanced ecosystem resilience and carbon storage
- Disaster risk reduction – protecting coastlines and coastal populations from extreme weather, tsunamis and coastal erosion
- Restoration – providing places to restore ecosystems such as reefs, sea grasses and mangroves

⁴ Department of Biodiversity, Conservation and Attractions (2023), Proposed south coast marine park. <https://www.dbca.wa.gov.au/management/parks/plan-our-parks/proposed-south-coast-marine-park> accessed August 2023

- Tourism and recreation, jobs and commerce – economic and health benefits to coastal communities
- Protection of cultural and spiritual resources and values – saving our history and sacred places
- Research and education - building an understanding of our ocean and promoting good stewardship
- Models of fair and open governance – recognising rights and help in sharing benefits through transparent and inclusive decision-making processes.⁵

Figure 1.1 presents the proposed location of the South Coast Marine Park which covers an area of approximately 1.3 million hectares extending from east of Bremer Bay to the border between Western Australia and South Australia near the town of Eucla. It also shows the offshore high tide line to the limit of State waters.

Figure 1.1 Proposed South Coast Marine Park location



Source: Department of Biodiversity, Conservation and Attractions

1.2 Scope of report

This report provides an evaluation of the potential social and economic impacts of the proposed South Coast Marine Park. It includes a baseline profile of the economy and community of the South Coast region and the key coastal towns contained within it. This baseline is used to estimate the likely economic and social changes from the establishment of the proposed Marine Park including

⁵ Department of Climate Change, Energy, Environment and Water (2003), The Benefits of Marine Protected Areas, Commonwealth of Australia

their likelihood and magnitude based on the experience of the creation of marine parks elsewhere in Australia and overseas.

1.3 Data sources and key assumptions

The main data sources used to compile this report include:

- Data to describe the people and the workforce resident in the South Coast region was sourced from the 2021 Australian Bureau of Statistics Census by place of usual residence. This was supplemented by more recent population, population growth, employment, and unemployment data provided by the Australian Bureau of Statistics and the National Skills Commission
- Business statistics were sourced from the Australian Bureau of Statistics
- Data to describe the industries in the region were from a variety of sources. Agricultural production data was sourced from the Australian Bureau of Statistics, commercial and recreational fisheries data was sourced from the Department of Primary Industries and Regional Development, minerals production was sourced from the Department of Mines, Industry Regulation and Safety, and data to describe the visitor market was sourced from Tourism WA and Tourism Research Australia
- Various data sources were used to describe other socio economic information in the report. These sources are identified in the body of the report.

There are limitations associated with some data sets. These include those described in the following sections.

2021 Australian Bureau of Statistics Census

The Census is a snapshot in time as of 10 August 2021. It is possible that there have been changes in the demography of the South Coast region since that time.

Agricultural production

The Australian Bureau of Statistics provides estimates of the value of production of agriculture and the component agricultural products for each Local Government Area in Australia. For some industries, the total value did not add to the same value as the component industries. Where this has occurred, ACIL Allen adjusted the total value to be the sum of the component values including:

- For the Shire of Esperance, total broadacre production was reported by the Australian Bureau of Statistics as \$74.4 million however the sum of the component broadacre industries added to \$410.5 million.
- For the Shire of Esperance, the total value of livestock was adjusted to equal the sum of its component industries.

Commercial fisheries production

The value of wild catch fisheries production in the South Coast region was supplied by the Department of Primary Industries and Regional Development for the following fisheries:

- South Coast Crustacean Managed Fishery
- Southern Demersal Gillnet and Demersal Longline Managed Fishery
- Octopus Interim Managed Fishery
- South Coast Purse Seine Fishery
- South Coast Trawl Fishery
- Estuarine Managed Fishery

- South Coast Open Access Fishery
 - South Coast Nearshore Net
 - South Coast Line and Fish Trap
- South Coast Salmon Fishery
- Specimen Shell Managed Fishery
- Marine Aquarium Fish Managed Fishery
- Abalone Managed Fishery
- Fishing Tour Operator Licence

To protect the confidentiality of small data sets, some data has been masked which means that the data set may not be a true representation of the total production in the South Coast region.

Recreational fisheries

The data used to describe the recreational fishing industry was sourced from the Department of Primary Industries and Regional Development from a survey of recreational boat users. It may therefore exclude some fishers who fish from the shoreline, jetties, and other places.

1.4 Report outline

This report provides a socio economic profile of the South Coast region, and its coastal towns that may be impacted by the establishment of the South Coast Marine Park. The final section in the report details the potential impact of the South Coast Marine Park on the industries and towns in the South Coast region using evidence and experience observed in other jurisdictions. The sections in this report include:

- **Section 2** – Socio economic profile of the South Coast region
- **Section 3** – Socio economic profile of the coastal towns in the South Coast region
- **Section 4** – Potential impact analysis of the proposed South Coast Marine Park.

1.5 Terms and acronyms

Acronyms and definitions have been used in this report. **Table 1.1** provides a summary of these.

Table 1.1 Acronyms and definitions

Acronym	Description
\$m	Million dollars
Aboriginal	Aboriginal and Torres Strait Islander people
FTE	Full Time Equivalent
km	kilometres
km ²	Square kilometres
South Coast region	The region comprised of the City of Albany, Shire of Jerramungup, Shire of Ravensthorpe, Shire of Esperance, and Shire of Dundas
T	Tonnes
Urban Centres and Localities	Areas of concentrated urban development used in the 2021 Census of Population and Housing to describe towns.
Source: ACIL Allen	

South Coast region

2

This chapter presents a profile of the South Coast region and the five Local Government Areas that comprise it in terms of the population, workforce, businesses, infrastructure, and industry characteristics.

2.1 The South Coast region

The South Coast region occupies an area of 169,418km² or 6.7 per cent of the Western Australian land mass. The region is comprised of the City of Albany, Shire of Jerramungup, Shire of Ravensthorpe, Shire of Esperance, and Shire of Dundas.

Aboriginal people have had connection to the region for tens of thousands of years and there are many registered Aboriginal heritage sites in the region and along its coast line. Native title or traditional ownership has been recognised for the Wagyl Kaip and Southern Noongar Traditional Owners, and the Esperance Nyungar, Ngadju People and Mirning People. European interaction with the region began in the 17th century when explorers sailed along its coastline. Early European economic development resulted from the whaling, sealing, pastoral and mining industries.

The current socio economic profile of the South Coast region is largely influenced by the City of Albany and the Shire of Esperance which contain the largest share of the region's population and workforce. The region is currently home to 2.1 per cent of the State's population and 8.3 per cent of the Western Australia's regional population with most of the population in the coastal towns of Albany, Bremer Bay, Ravensthorpe, Hopetoun, and Esperance. It supports a diverse economy built on its natural resources with agriculture, fishing, aquaculture, forestry, mining, and tourism providing important economic contributions.

Figure 2.1 South Coast region map



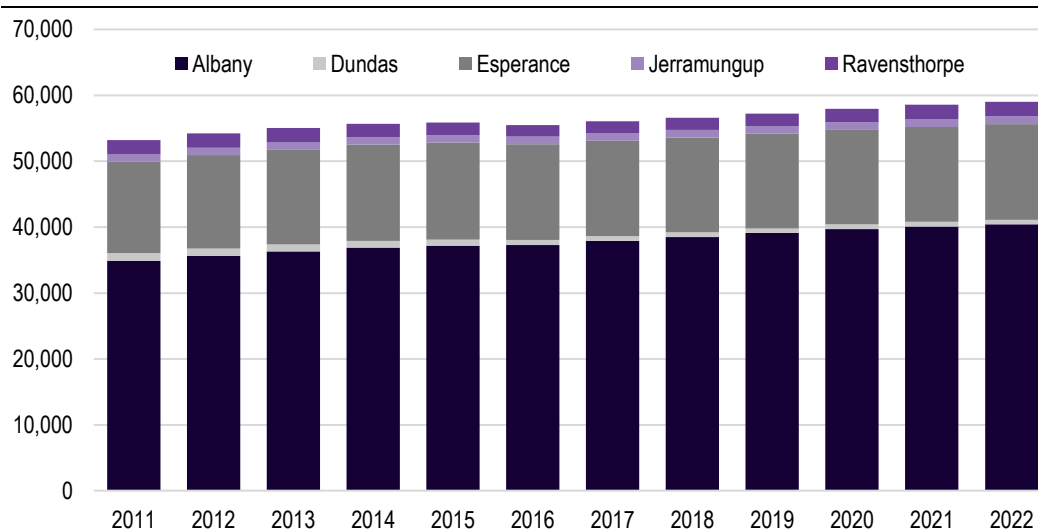
Source: ACIL Allen

The remainder of this chapter provides a socio economic overview of the South Coast region including a profile of its population, workforce, businesses, key industries, and economic infrastructure particularly as it relates to port infrastructure.

2.2 Population

The South Coast region has a population of 59,017 people which represents 2.1 per cent of the Western Australian population and 8.3 per cent of the regional population of the State. Around two thirds of the region's population live in the City of Albany which is home to 40,434 people (**Figure 2.2**). A further 14,500 people or 25 per cent of the regional population lives in the Shire of Esperance. There are smaller populations residing in the other parts of the region including 2,190 people in the Shire of Ravensthorpe, 1,197 people in the Shire of Jerramungup, and 697 people in the Shire of Dundas.

Figure 2.2 Estimated resident population: South Coast region (number of persons)



Source: Australian Bureau of Statistics (2022), *Regional Population Growth, Australia Cat. 3218.0*. Note: Annual population change in the South Coast is labelled.

Aboriginal people are the traditional custodians of the land and waters of the South Coast region. As of the 2021 Census, there were 2,297 Aboriginal⁶ people in the region representing 4.1 per cent of its total population. In comparison, Aboriginal people make up 3.1 per cent of the Western Australian population and 4.8 per cent of the population of regional Western Australia.

Table 2.1 Aboriginal people: South Coast region (2021)

	Aboriginal population (number of persons)	Total population (number of persons)	Aboriginal people as a share of total population (%)
Albany	1,476	38,763	3.8
Jerramungup	39	1,160	3.4
Ravensthorpe	88	2,085	4.2
Esperance	601	13,883	4.3
Dundas	93	677	13.7
South Coast region	2,297	56,568	4.1
Western Australia	88,693	2,660,026	3.3

Source: Australian Bureau of Statistics 2021 Census by place of usual residence. Including Aboriginal and Torres Strait Islander people

⁶ Aboriginal and Torres Strait Islander people

The largest Aboriginal population in the region resides in the City of Albany where there are 1,476 Aboriginal people or almost two thirds of the Aboriginal people who live in the South Coast region. The Shire of Dundas is home to 93 Aboriginal people who account for 13.7 per cent of its residents. This reflects the highest proportion of Aboriginal people as a share of total population in the region (**Table 2.1**).

2.2.1 Population growth

The population of the South Coast region has experienced below average population growth of an average of 0.9 per cent per annum over the decade between 2012 to 2022 (**Table 2.2**). There has been a slightly higher level of growth of 1.1 per cent per annum in the second half of the decade. In comparison, there has been population growth of an average of 1.5 per cent per annum in the State, and 1.1 per cent per annum in regional Western Australia over the past decade.

Population growth in the South Coast region has been driven by growth in the City of Albany, where there has been above average growth of an average of 1.3 per cent per annum over the past decade, and the Shire of Esperance where it has grown by an average of 0.9 per cent per annum. There has been some population growth in the shires of Ravensthorpe and Dundas while population decline has been observed in the Shire of Jerramungup.

Table 2.2 Population growth: South Coast region (average % per annum)

	One year 2021 to 2022 (%)	Five year 2017 to 2022 (%)	Ten year 2012 to 2022 (%)
Albany	0.8	1.3	1.3
Jerramungup	-0.3	-1.6	-3.9
Ravensthorpe	0.7	0.1	0.2
Esperance	0.0	1.3	0.9
Dundas	1.5	4.1	0.2
South Coast region	0.8	1.1	0.9
Regional WA	1.4	1.2	1.1
Western Australia	1.4	1.5	1.5

Source: Australian Bureau of Statistics (2022), Regional Population Growth, Australia Cat. 3218.0

2.2.2 Age profile

The population in the South Coast region is older than the State's population with an estimated median age of 44 compared to 38 in Western Australia. All Local Government Areas in the South Coast region have a relatively higher median age which ranges from 40 years of age in the Shire of Jerramungup to 50 years of age in the Shire of Dundas (**Table 2.3**).

The older population in the region is a result of its higher share of residents of retirement age with around 22 per cent of the region's population aged 65 and over, compared to Western Australia where 16 per cent of the population is aged 65 and over. The population profile is driven by the age profile of the City of Albany where the largest population lives and where almost a quarter of its residents are aged 65 and over.

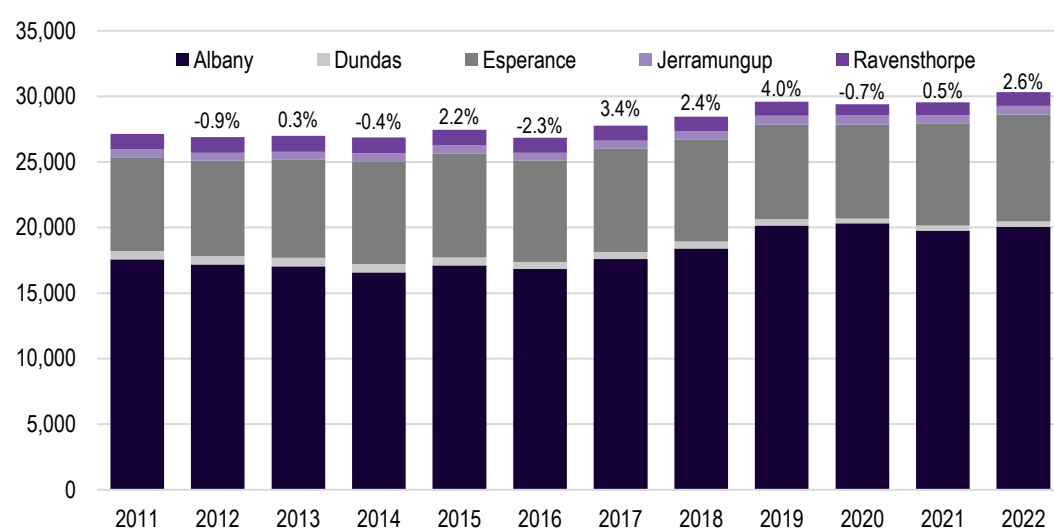
Table 2.3 Age distribution and median age: South Coast region (2021) (number of persons and share of population)

	0-14	15-64	65 and older	0-14	15-64	65 and older	Median age
Albany	6,796	22,927	9,044	18%	59%	23%	45
Jerramungup	252	724	191	22%	62%	16%	40
Ravensthorpe	389	724	379	10%	19%	71%	42
Esperance	2,718	8,472	2,688	20%	61%	19%	42
Dundas	80	450	147	12%	66%	22%	50
South Coast	10,235	33,297	12,449	18%	59%	22%	44[^]
Western Australia	506,194	1,727,171	428,935	19%	65%	16%	38

Source: Australian Bureau of Statistics 2021 Census [^] estimation based on population in City of Albany and Shire of Esperance

2.3 Workforce characteristics

The South Coast region has a workforce of 30,327 people who are either employed or seeking employment. This is equivalent to 2.0 per cent of the Western Australian workforce and 8.2 per cent of the workforce who live in Western Australia's regions. Around two thirds of workforce of the South Coast region lives in the City of Albany and 27 per cent live in the Shire of Esperance where the major population centres are located, and the majority of employment opportunities exist.

Figure 2.3 Workforce: South Coast region (number of persons and workforce growth)

Source: National Skills Commission

Over the decade from 2011 to 2021, there was annual average growth in the workforce of 0.9 per cent per annum with the growth driven by increases in the workforces who live in the City of Albany and the Shire of Esperance (**Figure 2.3**). In the City of Albany, the workforce grew by an average of 1.2 per cent per annum which is slightly below the growth in its population. There was also strong growth in the Shire of Esperance with annual average increase of 0.9 per cent per annum over the decade. This compares to regional Western Australia where the workforce grew by an average of 0.7 per cent per annum and growth in the State workforce of 1.4 per cent per annum.

2.3.1 Unemployment rate

In 2022, there were 29,538 employed people in the South Coast region which represents 1.9 per cent of the State's employed workforce. There are 788 unemployed people in the region reflecting a 10 year low rate of unemployment of 2.6 per cent. This rate of unemployment is below that for the State of 3.7 per cent and the regional areas of Western Australia where it is 3.6 per cent (Table 2.4). Low unemployment rates are common throughout the region ranging from 1.2 per cent in the Shire of Ravensthorpe to 3.1 per cent in the City of Albany

Overall, the unemployment rate in the region is influenced by the City of Albany and the Shire of Esperance which together account for 93 per cent of the workforce and 95 per cent of unemployed people in the region.

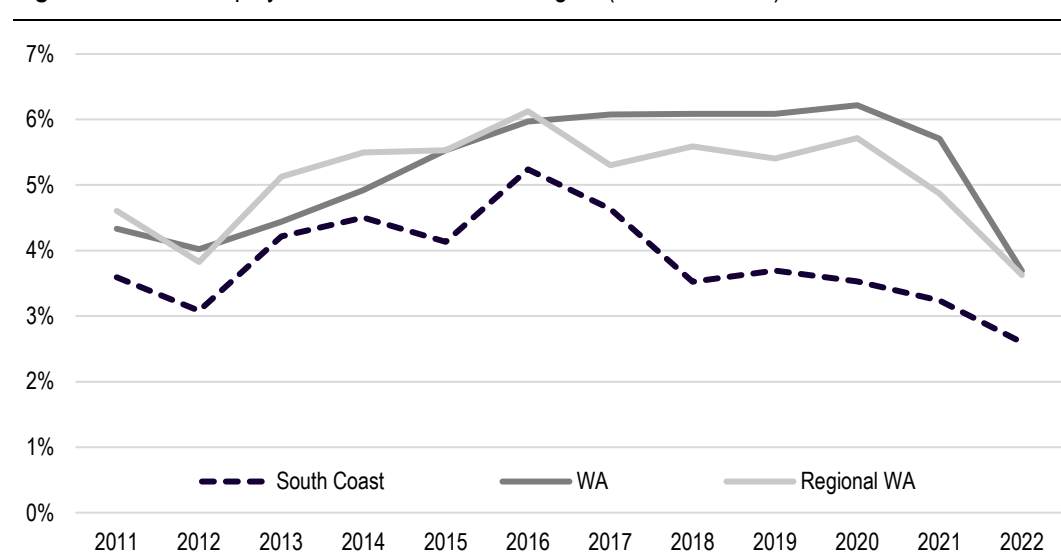
Table 2.4 Workforce characteristics: South Coast region (2022)

	Workforce (number of persons)	Unemployment (number of persons)	Unemployment rate (% of workforce)
Albany	20,050	626	3.1
Dundas	426	12	2.8
Esperance	8,140	126	1.5
Jerramungup	669	13	1.9
Ravensthorpe	1,043	12	1.2
South Coast region	30,327	788	2.6
Regional WA	369,298	13,386	3.6
Western Australia	1,530,746	56,478	3.7

Source: National Skills Commission

Over the past decade, the unemployment rate in the South Coast region has consistently remained below that of the State and the regional areas of Western Australia (Figure 2.4). Prior to 2016, the comparative rates of unemployment were more aligned however from 2016 onwards, the difference in the level of unemployment diverged with the South Coast region approaching a falling unemployment rate, while the rate in Western Australia and its regions remained constant.

Figure 2.4 Unemployment rate: South Coast region (% of workforce)



Source: National Skills Commission, Small Area Labour Markets

2.3.2 Industry of employment

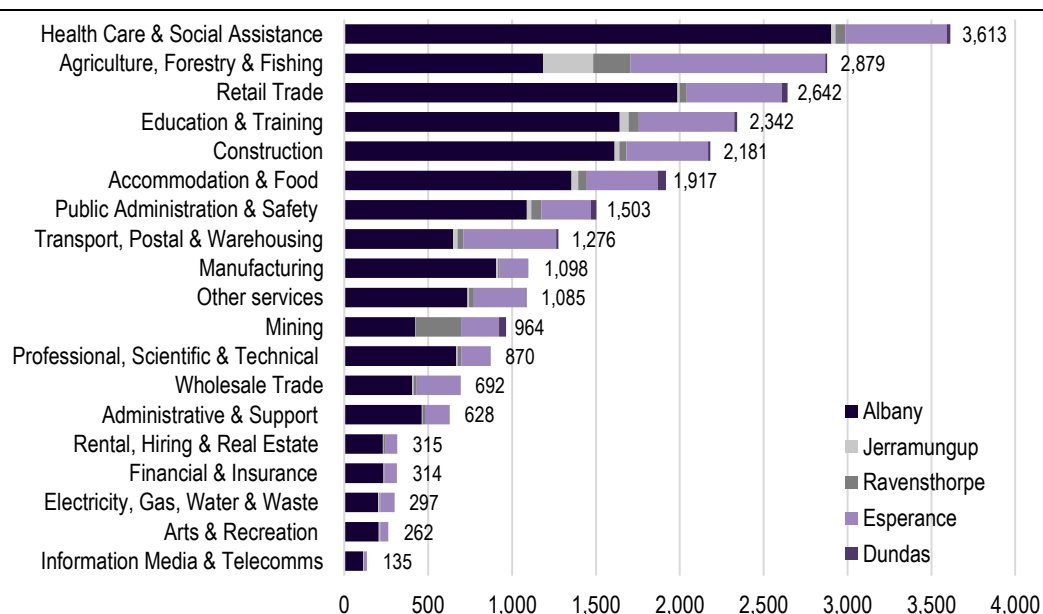
The employment profile in the South Coast region is less diverse than elsewhere in the State. The top three industries of employment for the region's residents account for 35 per cent of jobs compared to 31 per cent in the State and 32 per cent in Western Australia's regional areas.

Figure 2.5 presents the industry of employment in each of the Local Government Areas that comprise the South Coast region. Many of key employers in the region are those industries that support the local population including health care and social assistance, retail trade, education and training, public administration and safety, and transport postal and warehousing. This is particularly evident in the larger regional centres of the City of Albany and the Shire of Esperance which is where many of these services are located.

The primary industry of employment in the South Coast region is the health care and social assistance industry which employs 3,613 people or 13 per cent of the total workforce. Many of these employees work in the major hospitals and associated health facilities in the towns of Albany and Esperance.

The agriculture, forestry and fishing industry is the second largest employing industry in the region providing jobs for 2,879 people or 11 per cent of the workforce. The majority of the people employed in the industry live in the City of Albany and the Shire of Esperance. The accommodation and food services industry services local residents and the visitor market, but is an indicator of the tourism sector. It employs 1,917 people or 7.4 per cent of workers who live in the region.

Figure 2.5 Industries of employment: South Coast region (2021) (number of persons)



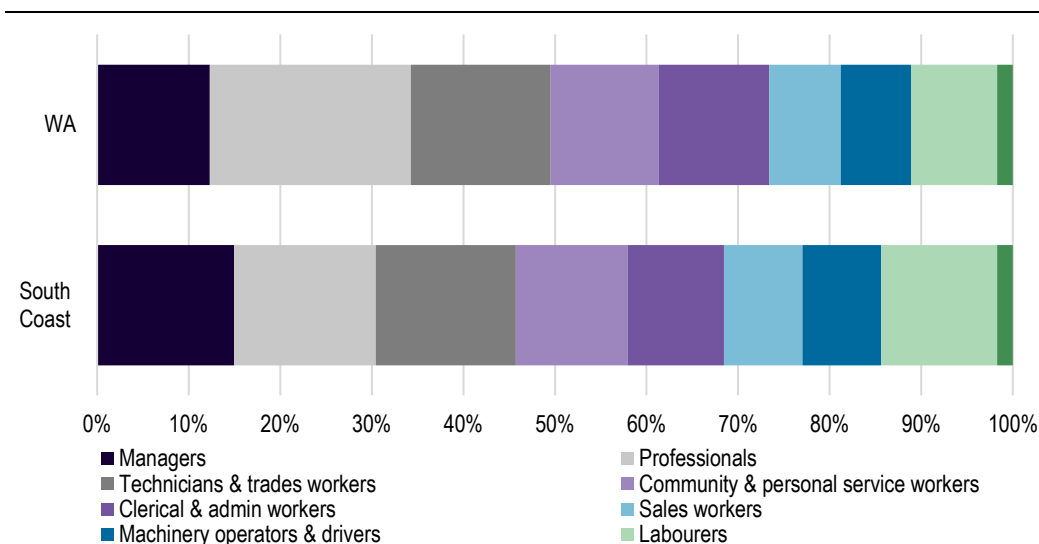
Source: Australian Bureau of Statistics 2021 Census

2.3.3 Occupation

The most common occupation for people employed in the South Coast region is a professional, with 15 per cent of the total workforce employed in this occupation. Professional occupations are consistent with the high share of employment in the government services sector in the region and employment in the agriculture, forestry, and fishing industry. A further 15 per cent of the workforce are employed as technicians and trades workers which are roles that are also reflective of the agriculture, forestry and fishing industry, and the mining industry.

While these two key occupations are consistent with the top two occupations in the State, the share of the State workforce who are employed in professional occupations is far higher. As of the 2021 Census, 22 per cent of the State's workforce was employed in a professional role and 15 per cent were technicians and trades workers (**Figure 2.6**). In Western Australia's regions, 18 per cent of the workforce is employed as a technician or trades worker and 14 per cent are employed in a professional occupation.

Figure 2.6 Occupation: South Coast region and Western Australia (2021) (% of employed workforce)



Source: Australian Bureau of Statistics 2021 Census

There is a far higher share of labourers employed in the South Coast region compared to Western Australia and this is due to the role of the primary industries including agriculture, and mining as key employers. In the South Coast region, 13 per cent of people are employed as labourers compared to 9.4 per cent of the State workforce.

2.4 Businesses

In 2021-22 there were nearly 6,000 business in the South Coast region representing 2.4 per cent of businesses in the State (**Table 2.5**). The City of Albany is home to 61 per cent of businesses in the region while a further 30 per cent are in the Shire of Esperance. Nearly all businesses in the region are small to medium sized enterprises with 2,389 businesses or 41 per cent of the region's business community employing one or more staff compared to a State average of 38 per cent.

The business profile in the South Coast region reflects its strong primary industries base with 29 per cent of businesses in the agriculture, forestry and fishing industry. A large share of the business community is involved in those industries that service the primary industries sector and the local population including 18 per cent in the rental, hiring and real estate services industry⁷, and 17 per cent in the construction industry. Together these three industries account for 64 per cent of all businesses in the region.

In comparison, 17 per cent of all businesses in Western Australia are in the construction industry, the professional, scientific and technical industry comprises 13 per cent of businesses, and rental, hiring and real estate services industry businesses make up 11 per cent of the State's business sector. Together they account for 42 per cent of all businesses in the State.

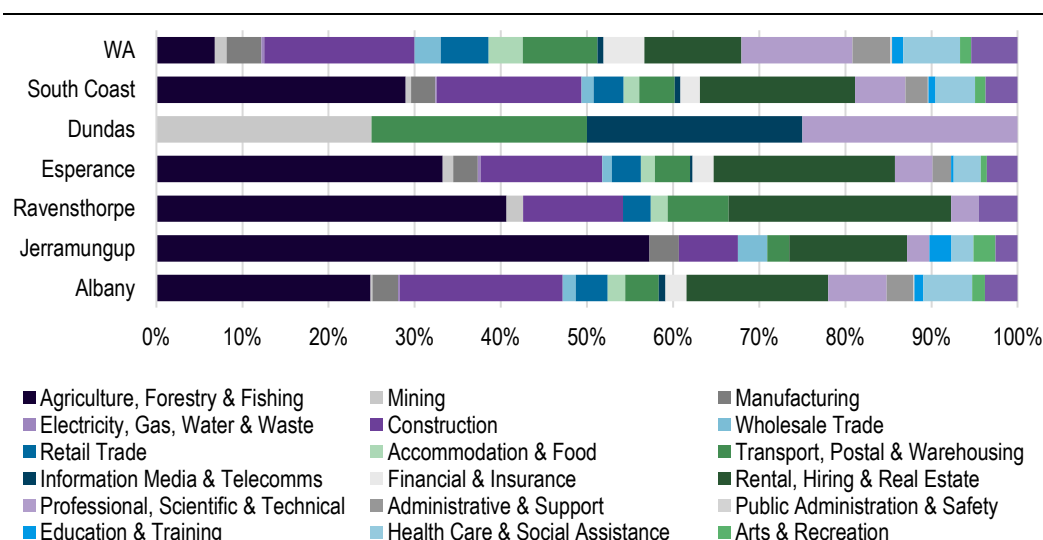
⁷ The Australian Bureau of Statistics defines this industry as the renting, hiring, or otherwise of real estate, equipment, patents and trademarks, and the provision of real estate services such as selling, renting and/or buying real estate for others, managing real estate for others, and appraising real estate.

Table 2.5 Number of businesses by employment size: South Coast region (2022)

	Non employing	1-4 Employees	5-19 Employees	20-199 Employees	200+ Employees	Total
Albany	2,232	888	409	86	3	3,617
Jerramungup	118	82	26	3	-	230
Ravensthorpe	158	74	33	5	-	270
Esperance	983	502	231	29	-	1,746
Dundas	16	10	8	-	-	35
South Coast region	3,507	1,556	707	123	3	5,898
Western Australia	150,111	61,620	23,306	6,624	478	242,139

Source: Australian Bureau of Statistics Count of Australian Businesses Cat. 8165.0

The businesses in each of the Local Government Areas that comprise the region are reflective of their individual economy. Agriculture, forestry and fishing industry businesses comprise large shares of the business community in four of the five Local Government Areas (**Figure 2.7**). In the City of Albany and the Shire of Esperance, there is greater business diversity due to their roles as key population and service centres.

Figure 2.7 Share of businesses by industry: South Coast region (2022) (% of all businesses)

Source: Australian Bureau of Statistics catalogue 8165.0

2.5 Infrastructure

The South Coast region is connected to the State's road, rail, port, and Regular Passenger Transport (RPT) airport network. Key infrastructure in the region includes:

- **Roads** – There are multiple roads located in the South Coast region which provide internal connections and broader connectivity with the Perth Metropolitan Area, as well as connections to the National road network. The South Coast Highway runs along the length of the South Coast region connecting the towns of Albany, Ravensthorpe, and Esperance. The town of Albany is situated on the junction of the Albany Highway which provides connections to Perth. The Newdegate Ravensthorpe Road provides an indirect route between the town of Ravensthorpe and the Perth Metropolitan Area. The town of Esperance is connected to the

Coolgardie Esperance Highway with links to the the Great Eastern Highway connecting the region to Perth, and the Eyre Highway which provides links to the east coast of Australia.

- **Rail** – The freight rail network in the region is extensive and forms part of the State network. It provides connections between the Port of Albany to the wider network and from the Port of Esperance to Kalgoorlie where it connects with the State and National rail networks. The network carries a large amount of freight including grain, minerals, and woodchips.
- **Airports** – The Albany and Esperance airports provide daily direct RPT services to Perth Airport.
- **Ports** – The key ports in the region are the Port of Albany and Port of Esperance which are State significant ports that facilitate large volumes of trade. There are four smaller ports in the region that cater to the recreational boating and fishing, commercial fishing, and tourism industries. These include the Albany Waterfront Marina, Albany Emu Point Boat Harbour, Bremer Bay Boat Harbour, Hopetoun Maritime Facility, and Bandy Creek Boat Harbour.

2.5.1 Port of Albany

The Port of Albany is the State's oldest deepwater port and is operated by the Government trading enterprise known as Southern Ports. The Port has four land backed berths that handle general purpose trade, grains, woodchips, and fuel. In 2021-22, the Port handled 126 vessels and 4.4 million tonnes of trade including 4.2 million of exports and 0.21 million of imports as well as cruise ship vessels. Grain is the key export commodity making up 73 per cent of the total export volume in 2021-22 when almost 3.1 million tonnes was exported. Other key exports include 1.0 million tonnes of woodchips, 0.2 million tonnes of silica sand, and 0.02 million tonnes of timber (Table 2.6).

Table 2.6 Port of Albany shipping (tonnes, and number of vessels)

	2018	2019	2020	2021	2022
Exports					
Grain	2,783,882	2,684,847	2,619,382	2,676,202	3,059,537
Silica sand	220,860	225,145	199,458	146,360	191,690
Sundry	0	20,000	0	0	0
Timber products	58,079	50,993	38,305	45,005	15,183
Woodchips	1,595,715	1,537,051	961,632	825,831	951,633
Total exports	4,658,536	4,498,036	3,818,777	3,693,398	4,218,043
Imports					
Total imports	156,075	173,487	176,663	203,015	206,992
Total trade	4,814,611	4,671,543	3,995,440	3,896,413	4,425,035
Vessels	161	168	151	131	126

Source: Southern Ports

2.5.2 Port of Esperance

The Port of Esperance is operated by the Government trading enterprise known as Southern Ports. It is the deepest port in the southern part of Australia and supports three berths including two that are land backed. Number 1 berth is leased to Cooperative Bulk Handling to load grain, Number 2 berth is used to load nickel concentrates and discharge petroleum, fertilizer, and other minor cargoes, and Number 3 berth is a purpose built dolphin berth to load mineral products. It also handles cruise ship vessels.

In 2021-22, the Port handled 200 vessels and 13.7 million tonnes of trade including 12.8 million of exports and 0.91 million of imports. The Port is the largest exporter of nickel concentrate in the southern hemisphere exporting 0.14 million tonnes in 2021-22. In terms of volume, the main exports are iron ore and grain with 8.6 million tonnes of iron ore exported in 2021-22 and nearly 3.0 million tonnes of grain (**Table 2.7**).

Table 2.7 Port of Esperance shipping (tonnes, and number of vessels)

	2018	2019	2020	2021	2022
Exports					
Copper	27,740	49,892	44,150	43,077	42,377
Grain	2,492,802	2,516,127	2,248,394	2,251,649	2,971,164
Iron ore	8,206,916	3,156,445	7,378,420	10,186,370	8,585,478
Nickel	165,350	177,908	119,323	143,318	135,846
Spodumene	201,655	414,278	583,920	702,729	703,899
Sundry	17,598	6,960	91,899	55,814	13,451
Timber products	3,706	-	-	-	-
Woodchips	234,167	363,382	279,506	125,377	327,943
Total exports	11,349,934	6,684,992	10,745,612	13,508,334	12,780,158
Imports					
Total imports	474,422	432,681	674,748	847,558	914,268
Total trade	11,824,356	7,117,673	11,420,360	14,355,892	13,694,426
Vessels	203	186	193	196	200

Source: Southern Ports

2.5.3 Albany Waterfront Marina

The Albany Waterfront Marina facilities include a two-lane boat ramp with floating jetty, land backed service wharf, diesel fuel facilities, fixed timber jetty suitable for larger vessels, short term visitor jetty, fishing platform, and boat pens for recreational and commercial vessels.

2.5.4 Albany Emu Point Boat Harbour

The Emu Point Boat Harbour is in Oyster Harbour. Its facilities include a concrete loading jetty which provides single and three phase power, water, lighting, and vehicle access. It includes a privately operated small boat lifter, 24 commercial and recreational boat pens, four jetties, a three-lane boat ramp with two floating universal access jetties, and fish cleaning facilities.

2.5.5 Bremer Bay Boat Harbour

The Bremer Bay Boat Harbour provides boat launching facilities, a service wharf, and mooring area for tourism, fishing, and recreational vessels. The wharf is a timber jetty attached to a groyne and includes single and three phase power, water, lighting, secure gate, and CCTV system. A dual concrete lane ramp with a fixed timber jetty boat ramp is provided by the Shire of Jerramungup along with fish cleaning facilities.

2.5.6 Hopetoun Maritime Facility

The Hopetoun Maritime Facility includes a service jetty located towards the end of a groyne structure, and a single lane concrete boat ramp.

2.5.7 Bandy Creek Boat Harbour

The Bandy Creek Boat Harbour is located approximately 10km to the east of Esperance. The east side of the harbour services commercial vessels with a land backed service wharf, slipway, diesel fuelling, and maintenance facilities, fish factory and boat pens. Facilities at the wharf include single phase power, limited three phase power, water, and lighting. There is a trawler jetty located at the southern end of the service wharf that provides single and three phase power, water, and accommodation for two larger vessels. The berths are secured with an entry gate and monitored by CCTV.

The Esperance Professional Fisherman's Association operates a private slipway on the north eastern side of the harbour. The west side of the harbour is for recreational vessels with Mediterranean style boat pens, two lane boat ramp with catwalk, and car and trailer parking.

2.6 Key industries

The economy of the South Coast region is built on its abundant natural resources. Its history of economic development is founded on the establishment of its primary industries including mining, agriculture, and fishing. The growth of key towns in the region has allowed the development of the government and services sectors including significant regional social infrastructure. The current regional economy is focussed on servicing the resident population and the surrounding regional areas which are prominently based on the agricultural sector. It is one of the State's key producers of broadacre crops, and it has a growing reputation for premium food and beverage production including seafood and aquaculture products. It is also a popular visitor destination with people attracted to its towns, coastline, and parks.

2.6.1 Policy setting

There are a range of government policies that aim to support and develop the economy and community of the South Coast region. At a local level, these include initiatives by the Shire of Esperance through its Invest in Esperance⁸ economic development strategy that aims to support high value industries, develop employment opportunities, and increase the value of exports through Esperance Port. Tourism is recognised as an economic driver, along with the opportunity to add value to agricultural and mineral production produced in and around the Shire.

The overarching State Government economic development strategy for Western Australia is Diversify WA which aims to create an additional 30,000 regional jobs by mid 2024 by focussing on creating secure, quality jobs, growing and diversifying the economy, and attracting investment.⁹ Nine targeted, sector specific opportunities have been identified including boosting regional tourism through Aboriginal cultural experiences, developments that harness nature based, sustainable and conscientious tourism experiences, and adding value to food production.

The Department of Primary Industries and Regional Development's *Primary Industries Plan 2020–2024* has an objective of setting clear priorities for investment, and the establishment of a platform for strengthened collaboration between government and primary industries. The key outcomes focus on employment, primary production, food and beverage manufacturing, and export market distribution, and it identifies two relevant strategic initiatives for aquatic resources and fishery systems. Initiative 1 focusses on the sustainable management of fish and aquatic resources, while Initiative 3 focusses on systems based fisheries and aquaculture.

The priorities of the two Regional Development Commissions that have responsibility for the region align with the State Government's strategic themes for regional development. In the Great

⁸ Shire of Esperance (no date), Invest in Esperance WA, Shire of Esperance

⁹ Department of Premier and Cabinet (), Diversify WA, Government of Western Australia

Southern region which includes the City of Albany and the Shire of Jerramungup, the strategic priorities centre on growing the mining and related industries, growing new industries, regional living standards, Aboriginal economic development, and organisational excellence. These build on the region's comparative advantages of primary production, tourism, vocational and tertiary education and research, and lifestyle and natural amenity.¹⁰

The Goldfields Esperance Development Commission identifies the strategic themes of resource and industry development, industry diversification, regional living, Aboriginal economic development, and organisational excellence. Future opportunities for economic development in the region include Aboriginal cultural and visitation experiences and the development of local food and beverage sectors linked to tourism as well as growing domestic and export markets for fish, meat and other primary and value add products.¹¹

2.6.2 Agriculture

Agriculture is a key contributor to the economy and many of the communities in the region rely on the industry and the businesses that support it. The region is a significant producer of wheat, canola, and barley that are traded through the Port of Esperance and the Port of Albany. It is a major livestock and wool producer and is increasingly becoming a producer of premium food and beverage products including wine, craft beer, pantry products, and high value horticulture crops.

Agriculture accounts for 86 per cent of all land use in the South Coast region. Two thirds of the agricultural land in the South Coast region is for the grazing of livestock in the pastoral areas in the Shire of Dundas and the Shire of Esperance. Cropping takes place on just under a third of agricultural land however the industry is one the region's key economic drivers.

Employment

The agriculture, forestry and fishing industry is the second largest employer in the South Coast region providing jobs for 2,879 of its residents. This includes 2,686 people employed in the agriculture and the industries that support it of which 2,241 are employed in agriculture with the majority of these likely to be employed in broadacre cropping and livestock production (**Table 2.8**).

Table 2.8 Employment in primary industries: South Coast region (2021) (number of persons)

	Agriculture	Aquaculture	Forestry and Logging	Support Services	Other	Total
Albany	829	25	139	95	19	1,107
Jerramungup	254	13	0	13	5	285
Ravensthorpe	190	0	0	19	0	209
Esperance	961	0	19	85	10	1,075
Dundas	7	0	0	3	0	10
South Coast region	2,241	38	158	215	34	2,686
WA	24,978	380	744	2,258	337	28,697

Source: Australian Bureau of Statistics 2021 Census Note: Figures are subject to adjustments by the ABS to manage confidential data.

¹⁰ Great Southern development Commission (no date), Strategic Plan 2022-23 to 2024-25, Government of Western Australia

¹¹ Goldfields Esperance Development Commission (2022), Strategic Plan 2022-2024, Government of Western Australia

Number of businesses

There are around 1,000 businesses in the agriculture, forestry, and fishing industry in the South Coast region with the majority of these involved in the agriculture industry and specifically in broadacre farming. Together they form the largest grouping of businesses in the region accounting for 29 per cent of the business community compared to 6.2 per cent of businesses in the State.

Over half of these businesses are in the City of Albany and a third are in the Shire of Esperance. The remainder are spread between the Shires of Jerramungup and Ravensthorpe. While the Australian Bureau of Statistics does not report any businesses in the industry in the Shire of Dundas, there are cattle and sheep stations located in the Shire.

Table 2.9 Number of businesses in the agriculture, forestry, and fishing industry: South Coast region (2022)

	Number of businesses	Share of all businesses (%)
Albany	555	25
Jerramungup	67	57
Ravensthorpe	63	40
Esperance	327	33
Dundas	None reported	n/a
South Coast region	1,012	29
WA	16,434	6.2

Source: Australian Bureau of Statistics Catalogue 8165.0 Counts of Australian Businesses

Value of production

The total value of agricultural production in the South Coast region in 2020-21 was \$1.34 billion which is 13 per cent of the total value of production in the State. Cereal crops contributed the largest share of agricultural production with wheat, canola, and barley the most valuable crops.

Table 2.10 Gross value of agricultural commodities: South Coast region (2020-21) (\$ million):

	Total agriculture
Albany	159.4
Jerramungup	168.7
Ravensthorpe	222.8
Esperance	782.5
Dundas	7.1
South Coast	1,340.5
Share of region	100.0%
WA	10,201.34
Share of WA	13.1%

Source: Australian Bureau of Statistics Value of Agricultural Commodities 2020-21

The livestock industry in the region is also significant contributing an estimated 9.2 per cent of the value of wool production produced in the State, and 5.6 per cent of its livestock production. The total livestock industry in the region contributed a combined \$178.5 million or 13 per cent of the total value of production.

2.6.3 Fishing and aquaculture

The fishing industry in the South Coast region is made up of the commercial fishing, seafood processing, and aquaculture industries, and the recreational fishing sector. These industries support businesses in the region that supply goods and services to support them.

Commercial fishing

Commercial fishing vessel operators in the South Coast region often hold several licences to create a viable year round fishing operation. The major commercial fisheries of the South Coast Bioregion are the abalone, southern rock lobster and deep-water crab trap fishery, purse seine fishery which targets pilchards and other small pelagics, and the demersal gillnet fishery that targets sharks and scale fish. Other smaller commercial fisheries include the beach seine fishery that targets Western Australian salmon, and the intermittent scallop trawl fishery. There are commercial net fisheries for finfish operating in the estuaries and beaches of the region and commercial fishers also target demersal scale fish offshore with droplines and handlines.¹²

Fish and seafood processing

There are fish processing facilities in Albany, Bremer Bay, and Esperance that process locally caught fish including shark, salmon, pilchards, herring, snapper, and other fin fish as well as rock lobster, deep sea crab, and octopus. These facilities contribute to the economy through the employment of local people and through sales of fish to domestic and export markets.

Cold storage facilities in Bremer Bay that are required for the fish processing industry also provide essential cold storage opportunities for other industry sectors that service the community.

Aquaculture

The aquaculture industry is a growing industry in the South Coast region. It is predominantly located around the town of Albany where the Albany Aquaculture Development Zone is located. This is an area of approximately 800 hectares of water in Oyster Harbour, Princess Royal Harbour and King George Sound. The industry in the region is currently focussed on the production of edible oysters and mussels from Oyster Harbour and Mistaken Island in King George Sound but there are also abalone farms at Wylie Bay near Esperance.

The State Government funded Albany Aquaculture Park includes a shellfish hatchery that produces shellfish spat such as oysters, mussels, and scallops on a commercial basis to aquaculture facilities throughout the State. There are also private hatcheries in the bioregion, including those that produce abalone.

The Department of Primary Industries and Regional Development reports significant private investment in the aquaculture industry which is driving growth in the South Coast region including growing interest in seaweed aquaculture.¹³ The Shire of Esperance has identified opportunities to expand the high value aquaculture industry and the associated supply chain.¹⁴

Recreational fishing

Fishing provides recreational activity for residents and tourists, and it stimulates the economy particularly through the visitors it attracts to the region, and in the businesses that support fishers such as fuel suppliers, marine servicing, and bait and tackle providers. Economic value is also

¹² Department of Primary Industries and Regional Development (2023), State of the Fisheries: Status reports of the fisheries and aquatic resources of Western Australia 2021/22, Government of Western Australia

¹³ Department of Primary Industries and Regional Development (2023), State of the Fisheries: Status reports of the fisheries and aquatic resources of Western Australia 2021/22, Government of Western Australia

¹⁴ Shire of Esperance (no date), Invest in Esperance WA, Shire of Esperance

generated through fishing competitions such as the Esperance Archipelago Offshore Angling Classic which attracts large numbers of visitors from outside the region.

Much of the South Coast region is remote or difficult to access which means that recreational fishing tends to be concentrated around major towns and visitor destinations. The major target species for beach and rock anglers are West Australian salmon, Australian herring, whiting and trevally. Boat fishers target a variety of demersal fish which includes pink snapper, queen snapper, Bight redfish and King George whiting, and pelagic species such as bluefin tuna, yellowtail king fish and Samson fish. Fishers who target dinghy and shoreline fishing in estuaries and rivers are focused on black bream, whiting (including King George whiting) and flathead. Recreational netting also takes place in estuaries primarily targeting black bream and mullet.¹⁵

The South Coast region in this report forms only part of the South Coast fishing region¹⁶ with much of the recreational fishing activity based in and around more easily accessible towns in the western parts. The most frequently caught species by recreational fishers in the South Coast fishing region are King George whiting, Australian herring, and school whiting and the most frequently caught invertebrate species is squid. In 2020-21 there were 7,603 people in the region who held a recreational fishing from boat licence which is 5.8 per cent of all licence holders in the State. Nearly all undertook fishing trips within the region.¹⁷

Table 2.11 Recreational boat fishing: South Coast region

	2011-12	2013-14	2015-16	2017-18	2020-21	WA 2020-21
Fishing events	44,323	29,774	25,267	22,637	27,325	468,682
Fishing hours	145,483	91,753	83,972	83,147	94,839	1,248,093
Boat days	42,070	27,837	24,658	21,631	25,886	431,175

Source: Department of Primary Industries and Regional Development

The South Coast fishing region attracts recreational boat fishers throughout the year. Summer attracts 34 per cent of recreational fishers while 31 per cent fish in autumn, 28 per cent in spring and seven per cent in winter. The region is a popular destination for recreational fishers from outside the region. In 2020-21, there were 27,325 recreational fishing events in the region which was 5.8 per cent of the recreational fishing effort in the State. Almost eight per cent of fishing hours in Western Australia took place in the region and 6.0 per cent of fishing days (**Table 2.11**). Half of fishers, fish near the shore compared to 28 per cent that fish in the inshore demersal area, and 18 per cent in estuarine areas.¹⁸

Employment

The fishing industry provides jobs for those involved in the industry and in the businesses that provide goods and services to support the industry. The Australian Bureau of Statistics records 294 people employed in the fishing industry in the South Coast region. This includes 65 in fishing, 31 in aquaculture of which at least six are employed in offshore aquaculture facilities, 12 in seafood processing, 41 in retail services including in the sale of inputs to the fishing industry including bait, dive equipment, and boats, and 136 in the fishing support services.

¹⁵ Department of Primary Industries and Regional Development (2023), State of the Fisheries: Status reports of the fisheries and aquatic resources of Western Australia 2021/22, Government of Western Australia

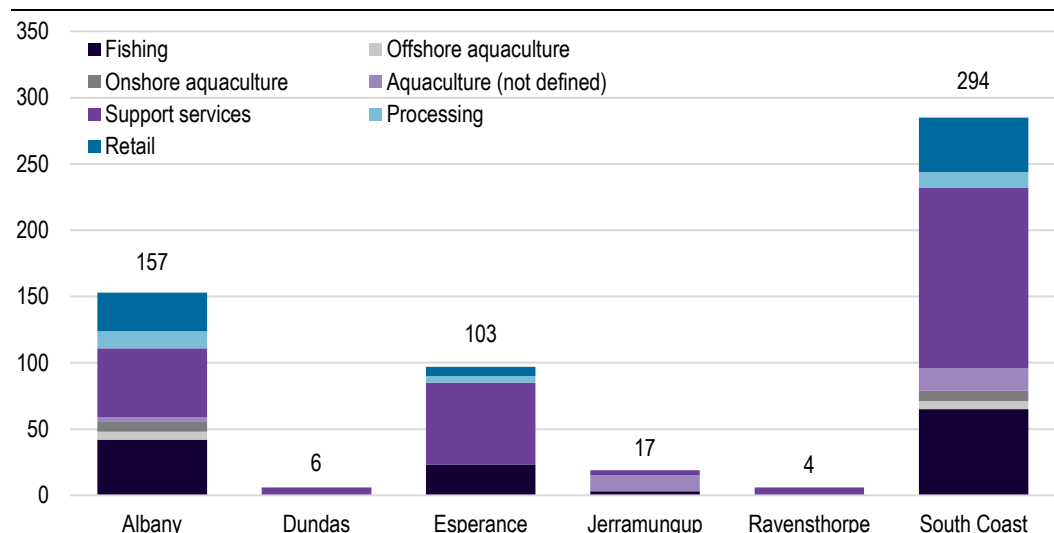
¹⁶ South Coast fishing region refers to the Great Southern and Goldfields Esperance region and is therefore larger than the South Coast region referred to in this report

¹⁷ Department of Primary Industries and Regional Development (2022), Boat-based recreational fishing in Western Australia 2020/21, Government of Western Australia

¹⁸ Department of Primary Industries and Regional Development (2022), Boat-based recreational fishing in Western Australia 2020/21, Government of Western Australia

Just over half (53 per cent) of people who work in the fishing industry live in the City of Albany (Figure 2.8), 35 per cent live in the Shire of Esperance, and 5.8 per cent live in the Shire of Jerramungup. There are small numbers of people who work in the industry and live in the Shire of Ravensthorpe and the Shire of Dundas.

Figure 2.8 Employment in the fishing industry: South Coast region (2021) (number of persons)



Source: Australian Bureau of Statistics 2021 Census. Note that some figures do not add to the totals because of rounding put in place by the Australian Bureau of Statistics to protect the confidentiality of data.

Number of businesses

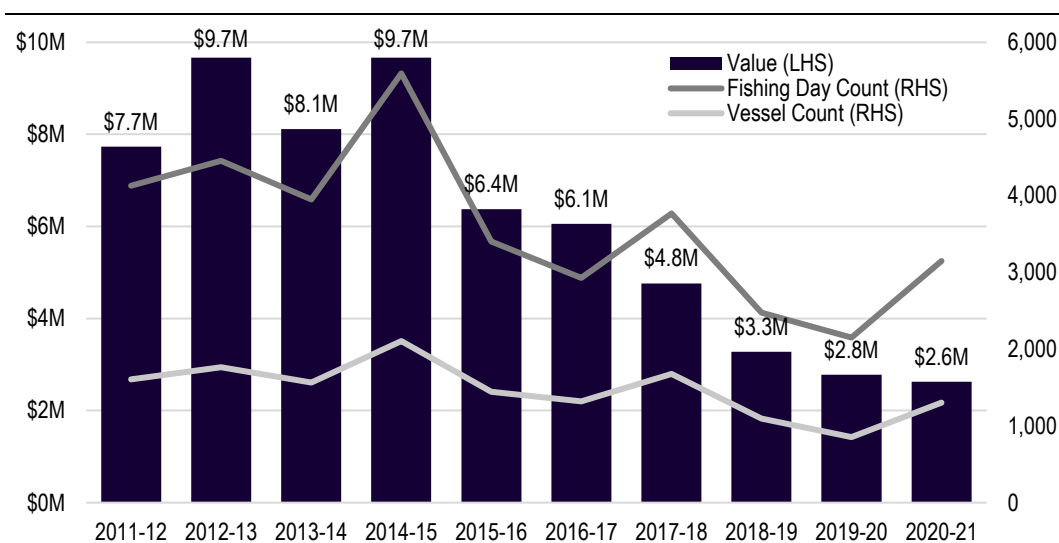
There are no statistics that quantify the number of businesses in the fishing sector however, there are businesses in most of the Local Government Authorities in the South Coast region that directly service the industry including those that supply bait, tackle, dive gear, dive training, boat equipment, fuel, and equipment hire and those that supply charters to the industry.

Value of production

The value of commercial wild catch fishing in the South Coast region¹⁹ has averaged \$6.1 million between 2011-12 and 2020-21. There has been a 73 per cent decline in the value of catch between 2014-15 when it was \$9.7 million and the current value of \$2.6 million (Figure 2.9). This compares to a total State catch of \$344 million in 2020-21.²⁰

¹⁹ Fishing zones include the Abalone Managed Fishery, South Coast Trawl Fishery, Octopus Interim Managed Fishery, Open Access in the South Coast Bioregion, South Coast Crustacean Managed Fishery, South Coast Purse-Seine Managed Fishery, South Coast Salmon Managed Fishery, Southern Demersal Gillnet and the Demersal Longline Managed Fishery.

²⁰ Department of Agriculture, Fisheries, and Forestry (2022), Australian fisheries and aquaculture production, Government of Australia

Figure 2.9 Commercial wild catch across managed fishery zones and bioregions: South Coast region

Note: This data excludes 60x60NM Blocks and 10x10NM Blocks with <1,000 in weight (kg) and less than 3 vessels recorded against vessel count. These figures may therefore understate values.

Source: Department of Primary Industries and Regional Development

The value of recreational fishing can be measured in terms of the spending on goods and services to travel to a fishing spot, the gear required for fishing, and the expenditure required to maintain a boat. A study of the Western Australian sector found that recreational fishers spent \$2.41 billion in the State in 2018 including \$1.86 billion travelling to and staying at their fishing destination, \$160 million on fishing gear, and \$390 million on boat related costs.²¹ Applying the share of the boat fishing hours in the region to these costs provides an indication of the value of recreational fishing to the South Coast region. The region accounts for almost 8.0 per cent of fishing hours indicating an estimated \$190 million total spend by recreational fishing in the South Coast region noting that much of the recreational fishing activity in the region occurs in the western part of the region.

2.6.4 Mining

Mining and minerals processing are important to the economy of the South Coast region providing economic value add, exports, job opportunities, and business opportunities. The region's economic infrastructure is critical to the industry with its roads, rail network, and ports supporting the production of silica sands, lithium, nickel concentrate, and gold. Apart from the Shire of Jerramungup, there are mines in Local Government Areas in the South Coast region as well as four that are at an advanced stage of development. These include the South Downs Magnetite project in the City of Albany, the Munglinup graphite mine in the Shire of Ravensthorpe, and the Mt Thirsty nickel, and Medcalf vanadium mines in the Shire of Dundas.

Employment

There are 964 people employed in the mining industry in the South Coast region with these people predominantly living in the City of Albany, Shire of Ravensthorpe, and Shire of Esperance. Mining accounts for 3.7 per cent of all employment in the region compared to 7.5 per cent of the State workforce. The role of the industry as a key employer is particularly important in the Shire of Ravensthorpe and the Shire of Dundas where it accounts for 16 per cent of all jobs (Table 2.12).

²¹ Department of Primary Industries and Regional Development, Recfishwest, and Recreational Fishing Initiatives Fund (2018), Economic Dimension of Recreational Fishing in Western Australia: Research Report for the Recreational Fishing Initiatives Fund, Government of Western Australia

Table 2.12 Employment in the mining industry: South Coast region (2021)

	Number of persons	Share of workforce (%)
Albany	421	2.4
Jerramungup	3	0.5
Ravensthorpe	271	16
Esperance	228	2.5
Dundas	41	16
South Coast region	964	3.7
WA	98,036	7.5

Source: Australian Bureau of Statistics 2021 Census

Number of businesses

There are 23 businesses in the South Coast region employed in the mining industry of which just over half are in the Shire of Esperance. Mining businesses comprise 0.7 per cent of businesses in the South Coast region compared to 1.4 per cent of the State's business community (**Table 2.13**).

Table 2.13 Number of businesses in the mining industry: South Coast region (2022)

	Number of businesses	Share of businesses (%)
Albany	5	0.2
Jerramungup	0	0.0
Ravensthorpe	3	1.9
Esperance	12	1.2
Dundas	3	19
South Coast region	23	0.7
Western Australia	3,308	1.4

Source: Australian Bureau of Statistics Count of Australian Businesses Cat. 8165.0

Value of production

In 2021-22, there was \$2.4 billion of minerals production in the South Coast region which is 1.3 per cent of the \$179.7 billion of minerals (excluding petroleum) production in the State. Half of this regional value is generated in the Shire of Ravensthorpe, and just under half in the Shire of Dundas. Mining also takes place in the City of Albany and the Shire of Esperance (**Table 2.14**).

Table 2.14 Value of minerals production: South Coast region (2021-22)

	Value of production (\$m)	Share of region (%)
Albany	7.4	0.3
Jerramungup	0.0	0.0
Ravensthorpe	1,209.8	50.3
Esperance	2.3	0.1
Dundas	1,184.1	49.2
South Coast region	2,403.6	100.0
Western Australia	179,729.9	

Source: Department of Mines, Industry Regulation and Safety

2.6.5 Tourism

Tourism forms a crucial part of the economy of the South Coast region with visitors attracted to the coastline and wilderness areas including its national parks. The Shire of Norseman is the gateway to Western Australia for travellers entering the State by road and rail. In the coastal parts of the region, whale watching, including expeditions to the largest known group of killer whales in the Southern Hemisphere at the head of the Bremer Canyon, and other marine wildlife experiences are popular,²² along with nature watching, hiking, camping, and water based sports. There are several renowned national parks along the coastline including the Fitzgerald River National Park, Cape Le Grand National Park, and the Cape Arid National Park.

There are opportunities to expand the tourism sector in the region and the Shire of Esperance has identified this sector as key to economic development in the region.²³ Enhancing the regional tourism experience is also a vision of the State Government outlined in its State and Aboriginal tourism development strategies, and tourism has been identified by the Great Southern Development Commission and the Goldfields Esperance Development Commission as key to economic development.

Employment

There are 1,930 people employed in accommodation and food services industry in the South Coast region, accounting for 2.2 per cent of the State's employment in the industry. Most of these people are employed in cafes, restaurants and takeaway services which provide jobs for 1,186 people (Table 2.15). The accommodation and food services industry is also a major employer accounting for 567 jobs in the region.

Most of the employment in the accommodation and food services industry is in the City of Albany and to a lesser extent, the Shire of Esperance. Together, they are home to 92 per cent of the people who are employed in this industry.

Table 2.15 Employment in the accommodation and food services industry: South Coast region (2021)

	Accommodation & food services	Food & Beverage Services	Cafes, Restaurants & Takeaway	Pubs, Taverns & Bars	Clubs	Total
Albany	340	25	898	65	17	1,347
Jerramungup	30	0	10	3	0	44
Ravensthorpe	24	0	26	13	0	65
Esperance	139	6	242	33	4	422
Dundas	34	0	10	3	0	52
South Coast region	567	31	1,186	117	21	1,930
WA	11,926	2,154	61,299	8,445	1,526	85,347

Source: Australian Bureau of Statistics 2021 Census Note: Figures are subject to adjustments by the ABS to protect confidential data.

Number of businesses

The South Coast region is a popular visitor destination and there are many businesses involved in the industry that cater directly to the visitor market such as accommodation providers, tour

²² Department of Primary Industries and Regional Development (2023), State of the Fisheries: Status reports of the fisheries and aquatic resources of Western Australia 2021/22, Government of Western Australia

²³ Shire of Esperance (2022), Invest in Esperance Western Australia, Shire of Esperance

operators, visitor experiences, souvenir outlets, and food and drink outlets. In addition, there are businesses that indirectly service the industry such as the retail and transport industries, as well as those business that provide the goods and services that provide inputs to the industry.

Table 2.16 Number of businesses in the accommodation and food services industry: South Coast region (2022)

	Number of businesses	Share of businesses (%)
Albany	45	2.0
Jerramungup	0	0.0
Ravensthorpe	3	1.9
Esperance	16	1.6
Dundas	0	0.0
South Coast region	64	1.8
WA	9,555	3.9

Source: Australian Bureau of Statistics Count of Australian Businesses Cat. 8165.0

The accommodation and food services industry provides an indication of the number of tourism related businesses in the region (**Table 2.16**). In 2020-21, there were 64 business located in the region in this industry with 45 of these in the City of Albany and 16 in the Shire of Esperance. Businesses in the tourism industry accounted for 1.8 per cent of all businesses in the region compared to 3.9 per cent of the State-wide business community.

Value of production

In 2019, there were an estimated 1.4 million visitors to the region which is 4.9 per cent of all visitors to Western Australia. This includes 497,000 day visitors and 880,000 overnight visitors with overnight visitors staying an average of four nights in the region. The region accounted for 4.5 per cent of all visitor nights in Western Australia.

Table 2.17 Visitors and visitor spending in the South Coast region (2019)

	International	Domestic overnight	Domestic day	Total
Visitors '000	88	792	497	1,439
Nights '000	502	2,591	-	3,094
Average nights	6	4	-	4
Expenditure \$m	31	463	85	579
Spend per trip \$	352	585	171	402
Spend per night \$	62	179	-	187

Source: Tourism Research Australia

Total visitor spending in the region is estimated to be \$579 million which is 5.4 per cent of all visitor spending in the State. Day visitors spending an average of \$171 per trip. International overnight visitors stay an average of six nights in the region and spend an average of \$352 per visit while domestic visitors who stay overnight stay for an average of four nights and spend \$585 per trip (**Table 2.17**). The average overnight visitor to Western Australia stays two nights.

2.6.6 Aboriginal economic development

The Department of Biodiversity, Conservation and Attractions (DBCA) enters into joint management agreements between Traditional Owners and the Parks and Wildlife Service to work

together in Caring for Country. In 2020-21, there were 16 partnerships that managed 46 parks and reserves covering 5.25 million hectares of land in Western Australia. This area represents 21 per cent of the State's total conservation reserve system.

The aim of these partnerships is the greater involvement of Traditional Owners in decision-making about the management of the State's protected areas. Through joint management arrangements, Traditional Owners and Aboriginal rangers undertake a wide range of activities on country with DBCA staff, including aerial and ground burning, weed control, feral animal monitoring and control, fauna management, biodiversity and threatened species surveys, building and maintaining visitor infrastructure, collecting litter, and management planning. DBCA provides training and professional development to Aboriginal people to provide them with the capacity to undertake these activities.

The partnerships also provide rights for Aboriginal people to undertake certain activities for customary purposes by providing a defence against certain offences under the *Conservation and Land Management Act 1984* and the *Wildlife Conservation Act 1950*. Aboriginal people can access country for customary purposes such as preparing and consuming food, preparing or using medicine, practising artistic, ceremonial or other customary activities, engaging with their culture, and for intergenerational knowledge transfer.

2.6.7 Conservation

Conservation is a significant employer in the region providing jobs in the management of the State's conservation estate. It also provides indirect employment and business opportunities through its role as a major drawcard for visitors to the region.

Employment

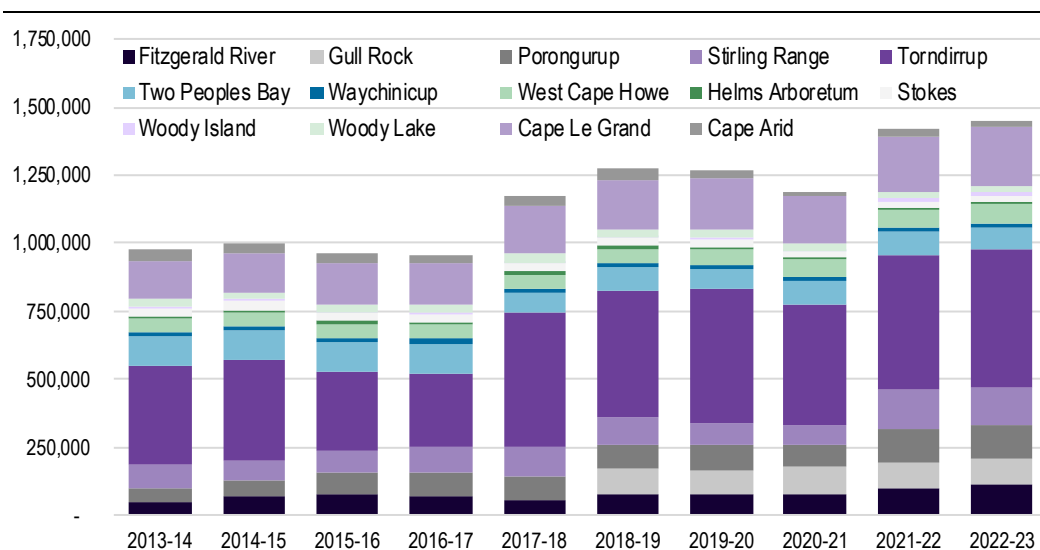
The Regional and Fire Management Services branch of DBCA is responsible for landscape scale conservation of biodiversity, protection of Aboriginal culture and heritage, threat mitigation, bushfire preparedness and response, visitor planning and visitor risk management, training and welfare of employees and volunteers. It employs 68 people in the South Coast region including 33 in the Albany district, 21 in the Esperance district, and 14 in the other coastal areas of the region.

Visitor statistics

In 2022-23, there were 1.45 million visits²⁴ to the 14 parks managed by DBCA in the region with the most popular being the Torndirrup National Park near Albany which attracted 509,745 visits or 35 per cent of all visits. Other frequently visited parks include the Cape Le Grand National Park which accounted for 15 per cent of visits, the Stirling Range National Park which accounted for 10 per cent of visits, and the Porongurup National Park which attracted 8.1 per cent of visits.

The number of visitors to parks in the region has grown by almost 50 per cent or 0.98 million visits since 2013-14 representing average annual growth of 4.8 per cent per annum.

²⁴ Visits are recorded as a person entering a park. Typically, the visit statistic has no length of stay data associated with it which means that if a person leaves the park and re-enters at a later time, a second visit data unit is recorded.

Figure 2.10 DBCA operated park visits in the South Coast region (number of visits)

Source: DBCA

Size of conservation estate

As of 30 June 2022, the Department of Biodiversity, Conservation and Attractions managed 31.6 million hectares of land and water in Western Australia, some of which is either solely or jointly vested with the Conservation and Parks Commission and Aboriginal traditional owners.

DBCA manages 2.8 million hectares of land and waters in the South Coast region which accounts for 8.8 per cent of the State's conservation estate. The proposed South Coast Marine Park will increase the conservation estate by 1.3 million hectares.

2.6.8 Emerging industries

The emerging industries in the South Coast region are those that can capitalise on its natural resources. The region is a growing premium food and beverage producer, and it has potential for an expanded renewable energy sector.

Premium food and beverages

There is a growing number of businesses producing premium food and beverage products in the South Coast region including wagyu beef, truffles, aquaculture products, seafood, dairy products, craft beer, wine, organic foods, and pantry products. The State Government's Food Industry Innovation project is designed to capitalise on the growing global demand for food by increasing the production of premium, value-added consumer-ready export products. The project builds on the State Government's Our Priorities: Sharing Prosperity – Stronger Economy target of an extra 150,000 jobs by mid way through 2024 including 30,000 regional jobs.²⁵

Oil and gas

Seismic surveys have been undertaken to the east of the South Coast region to inform prospective oil and gas exploration in the western Great Australian Bight but exploratory drilling is yet to target the region.²⁶

²⁵ Department of Jobs, Tourism, Science and Innovation (2019), Diversify WA: July 2019 to July 2021, Government of Western Australia

²⁶ Department of Primary Industries and Regional Development (2023), State of the Fisheries: Status reports of the fisheries and aquatic resources of Western Australia 2021/22, Government of Western Australia

Renewable energy

The natural assets of the region provide a high potential for renewable energy from wind, waste, tidal, solar, and geothermal sources. A large share of the electricity grid in the region is already provided by renewable energy including wind farms at Albany and Esperance, and standalone solar power stations provided to the more remote areas of the grid.

There are plans to establish the Western Green Energy Hub²⁷ in the Shire of Dundas on the traditional lands of the Mirning people. The project is expected to cover 15,000km² and is estimated to produce up to 50 Gigawatts of wind and solar energy. Infrastructure for the planned project would be developed in stages over a 15 year period and at full operations would have the capacity to produce up to 3.5 million tonnes of renewables based hydrogen or around 20 million tonnes of ammonia per annum. The project is planned to commence first production in the beginning of the 2030's with the final investment decision expected in 2027.

2.6.9 Scientific research

The Western Australian Marine Science Institution (WAMSI) is a collaboration of State and Federal government and academic science organisations to provide independent marine research for the benefit of the environment, the community, and the Blue Economy. It has developed the Blueprint for Marine Science 2050 which is the strategic plan for applied marine science in Western Australia and identifies opportunities and initiatives for marine science to improve the future sustainable use and management of Western Australia's coastal and estuarine marine environments.²⁸ The Blueprint identifies ten strategic sectors that can benefit from scientific research including the energy sector, ports, Traditional Owner, community, conservation, Government regulation, aquaculture, research, recreational fishing, and commercial fishing.

There are already globally significant marine research activities being undertaken in the region including the Great Southern Marine Research Facility in Albany that hosts the University of Western Australia's (UWA) Wave Energy Research Centre (WERC). Established in 2018, it provides world-renowned research expertise in ocean engineering that includes Oceanography, Wave Energy Converter Hydrodynamics and Geotechnical Engineering. The aim of the WERC is to support technology developers towards deployment of devices that are cost-competitive with traditional sources of energy.

The M4 Wave Energy Converter project is funded by the Blue Economy Cooperative Research Centre, Department of Primary Industries and Regional Development, and UWA. The project aims to demonstrate the potential of wave energy to power the aquaculture industry and enable an ecosystem of other surrounding activities including development of a test site, market demonstrator and academic research in related fields.

²⁷ Western Green Energy Hub (WGEH). Available from: <https://wgeh.com.au/> accessed July 2023

²⁸ Western Australian Marine Science Institution (2022), The Blueprint for Marine Science for 2050 (Refresh 2022-2027)

Towns of the South Coast region

3

This chapter provides a socio economic profile of the towns of Albany, Bremer Bay, Ravensthorpe, Hopetoun, and Esperance which are the key coastal towns in the South Coast region.

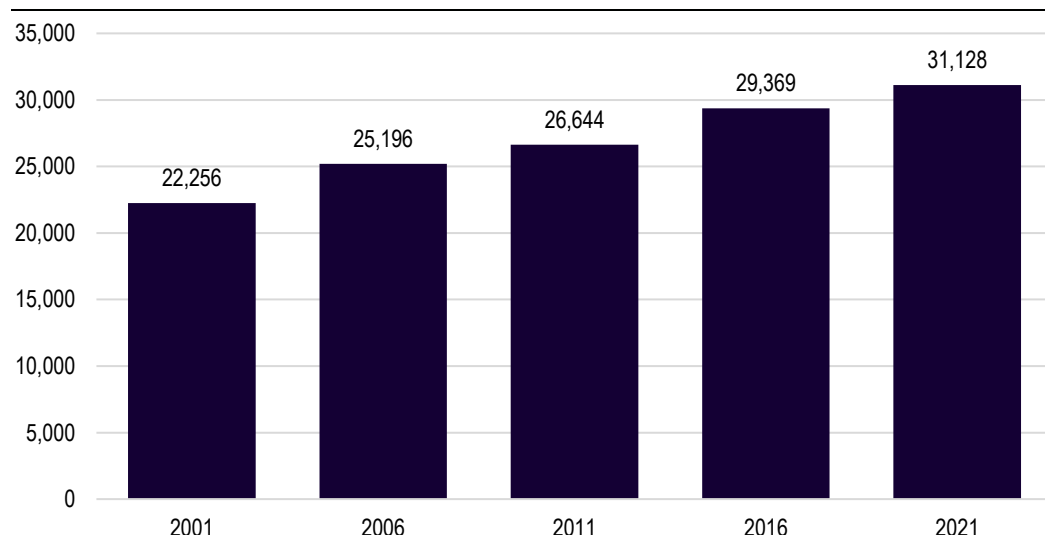
3.1 Town of Albany

The town of Albany is on the traditional lands of the Minang people. It was the first European settlement in Western Australia and remains a key regional centre with significant economic and social infrastructure including the Port of Albany, Albany Health Campus, Albany Airport, and UWA Albany Campus as well as the National ANZAC Centre which is a nationally significant tourism destination. Its economy is built on providing services to the local population and the surrounding agricultural industry. Tourism is a key part of the economy along with the fishing and aquaculture industries.

3.1.1 Population

The town of Albany is the main population centre in the South Coast region and as such it is the driver of the socio economic profile for the region. As of the 2021 Census, there were 31,128 people in the town which is 55 per cent per cent of population of the South Coast region (**Figure 3.1**). This includes the region's largest Aboriginal population of 1,359 people who comprise 4.4 per cent of Albany's population. In comparison, Aboriginal people make up 4.1 per cent of the population of the State and 3.3 per cent of the regional population.

Figure 3.1 Population: town of Albany (number of persons) (2021)



Source: Australian Bureau of Statistics 2021 Census

There has been sustained population growth in the town of an average of 1.7 per cent per annum since 2011 (**Figure 3.1**) which has outpaced the other towns in the South Coast region.

Albany supports an older population with a median age of 44 due to the large share of people aged 65 and over living in the town. Twenty four per cent of the town's population is of retirement age

compared to 22 per cent of the regional population (**Table 3.1**) suggesting that it is an attractive place to live for retirees.

Table 3.1 Age distribution: town of Albany (number of persons and share of population) (2021)

	0-14	15-64	65 and older	0-14	15-64	65 and older	Median age
Town of Albany	5,434	18,328	7,362	17%	59%	24%	44
City of Albany	6,796	22,927	9,044	18%	59%	23%	45
South Coast region	10,235	33,297	12,449	18%	59%	22%	44 [^]

Source: Australian Bureau of Statistics 2021 Census ^ estimation based on population in City of Albany and Shire of Esperance

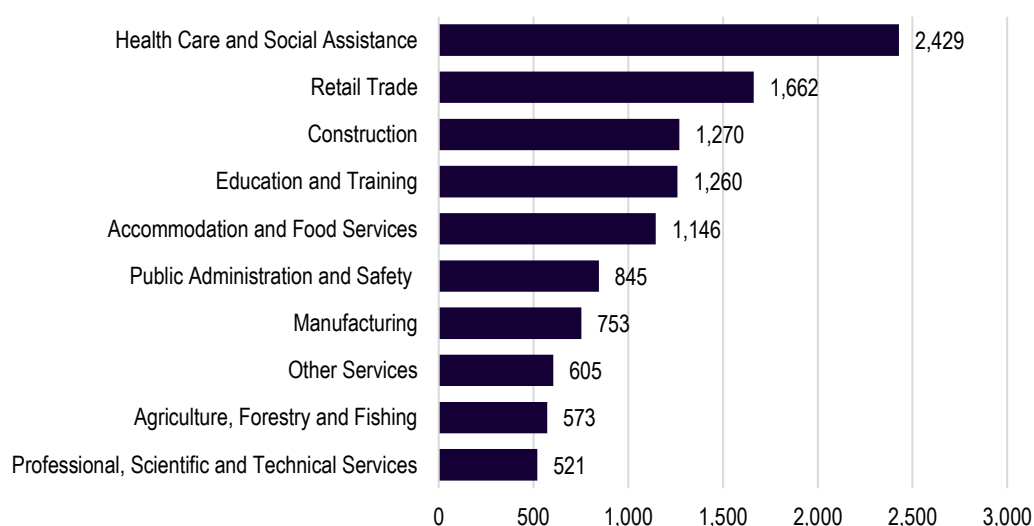
3.1.2 Workforce

There is a workforce of 30,327 employed and unemployed people that live in the City of Albany of which 14,405 live in the town of Albany. This includes 13,826 employed people and 579 job seekers representing an unemployment rate of 4.2 per cent which is above the unemployment rate in the region of 2.6 per cent and the highest of the coastal towns in the South Coast region.

Industry of employment

The employment profile of the town is dominated by the industries that service the local population. The largest industry of employment is the healthcare and social assistance industry which provides jobs for 2,429 people or 17 per cent of the employed people who live in the town. The retail trade industry employs 1,662 people accounting for 12 per cent of jobs and the construction industry employs 1,270 residents which is 8.8 per cent of Albany's employed residents (**Figure 3.2**).

Figure 3.2 Top ten industries of employment: town of Albany (number of persons) (2021)



Source: Australian Bureau of Statistics 2021 Census

3.1.3 Businesses

There are 2,232 businesses in the City of Albany of which 555 or 25 per cent are in the agriculture, forestry and fishing industry. While many of these agriculture businesses will be located in the regional areas of the Local Government Area, those involved in the fishing industry are located in or near the town of Albany. Construction businesses make up 19 per cent of the City of Albany's

business community, and those in the renting, hiring and real estate industry make up 16 per cent. Nearly all of these are expected to be located in the town of Albany.

3.2 Bremer Bay

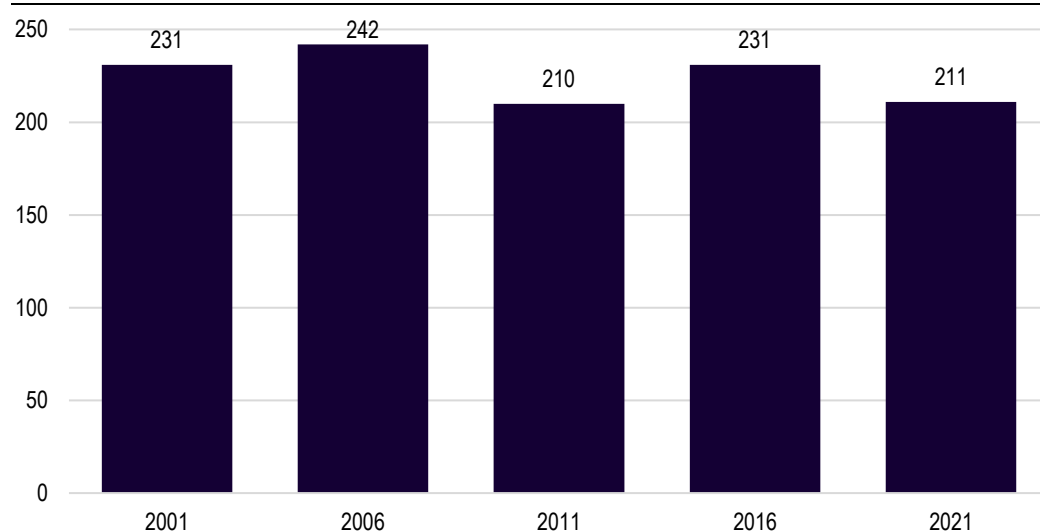
Bremer Bay is a small coastal town located in the Shire of Jerramungup on the lands of the Goreng people. It was established by European people as a telegraph station in the 1880's and now supports a fish processing facility, and range of businesses that cater for its location as a popular tourism destination.

3.2.1 Population

Bremer Bay is home to 211 people comprising 18 per cent of the population of the Shire. During the peak tourism season there is a large visitor population which swells the town considerably. There are seven Aboriginal people who live in the town who comprise 3.3 per cent of its population.

The town supports a stable population however there has been some variability (**Figure 3.3**) over the period from 2001 to 2021 caused by very small changes in the number of residents.

Figure 3.3 Population: town of Bremer Bay (number of persons)



Source: Australian Bureau of Statistics 2021 Census

Bremer Bay is a popular place for retired people and as a result it is the oldest of any of the coastal towns in the South Coast region. Its median age is 57 which is well above the median age in the Shire of Jerramungup where it is 40 years and in the South Coast region where it is 44.

Table 3.2 Age distribution: town of Bremer Bay (number of persons and share of population)

	0-14	15-64	65 and older	0-14	15-64	65 and older	Median age
Town of Bremer Bay	24	115	88	11%	51%	39%	57
Shire of Jerramungup	252	724	191	22%	62%	16%	40
South Coast region	10,235	33,297	12,449	18%	59%	22%	44 [^]

Source: Australian Bureau of Statistics 2021 Census [^] estimation based on population in City of Albany and Shire of Esperance

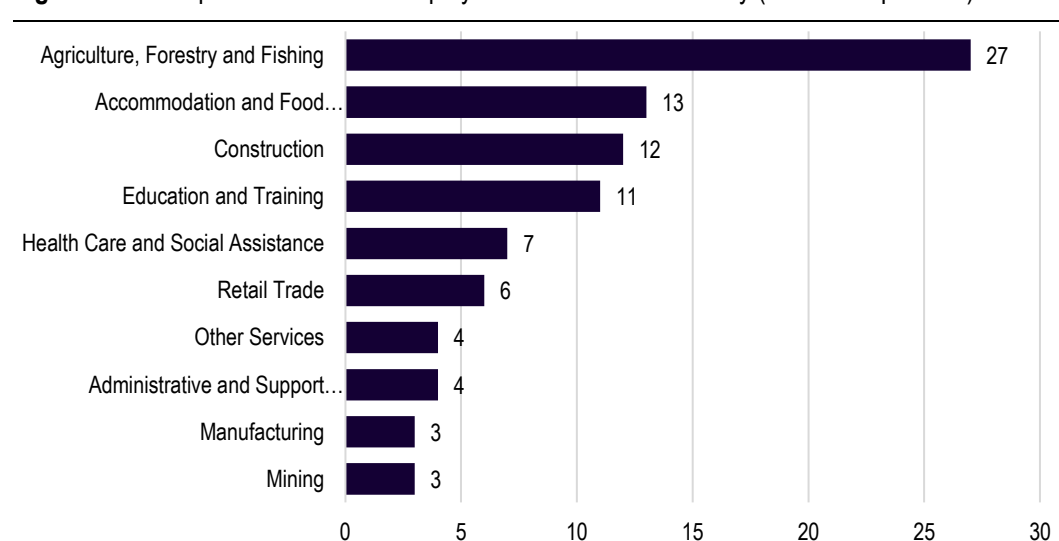
People aged 65 and over comprise 39 per cent of the town's population compared to the Shire of Jerramungup where this age group contributes 16 per cent and the South Coast region where it contributes 22 per cent (**Table 3.2**).

3.2.2 Workforce

The workforce of 109 people who live in the town of Bremer Bay make up 16 per cent of the workforce who live in the Shire of Jerramungup. In 2021, there were 105 employed people and four unemployed people representing an unemployment rate of 3.8 per cent. Although this rate is comparatively high when compared to the South Coast region, it represents a small number of job seekers.

The largest industry of employment for the residents of Bremer Bay is the agriculture, forestry and fishing industry which employs 27 people or 25 per cent of employed people. Whilst it is not possible to disaggregate this data further, it is likely that most of these people are employed in the fishing industry including in the seafood processing facility located in the town. The tourism sector is also well represented in the town with the accommodation and food services industry employing 13 people or 12 per cent of the town's employed population. The construction industry employs a further 12 people or 11 per cent of employed residents (**Figure 3.4**).

Figure 3.4 Top ten industries of employment: town of Bremer Bay (number of persons)



Source: Australian Bureau of Statistics 2021 Census

3.2.3 Businesses

There are 118 businesses in the Shire of Jerramungup of which 67 are in the agriculture, forestry and fishing industry reflecting the strong broadacre and livestock industries in the Shire. A further 16 are in the renting, hiring and real estate industry, and eight are in the construction industry. There are very few businesses located in Bremer Bay with the key businesses in the town providing goods and services to the fishing industry, tourism sector, and the local population. This includes fish processing, tour operator, dive instructor, and dive equipment retail businesses.

3.3 Ravensthorpe

The town of Ravensthorpe is located on the traditional lands of the Wadjari people. It is an historic town that was established with the development of the mining and broadacre farming. It is now the major services centre in the Shire of Ravensthorpe supporting the surrounding mining and agricultural industries and providing key goods and services to the Shire's population. It is strategically located on the junction of the South Coast Highway and Newdegate Ravensthorpe Road which are transport routes linking the town to key regional population centres and the Perth Metropolitan Area. Its key economic infrastructure includes the CBH grain silos and rail network

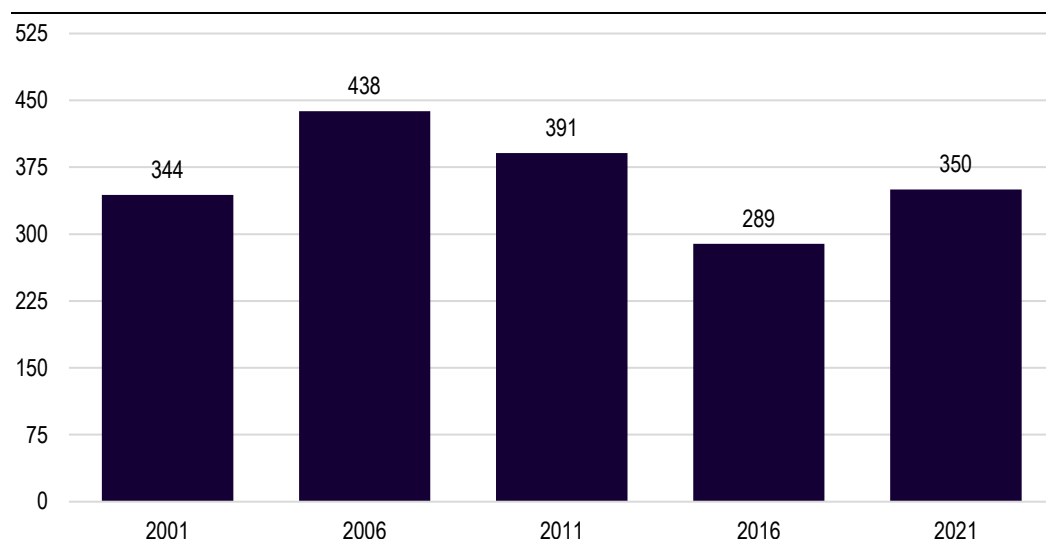
which also form part of the Silo Art Trail, while social infrastructure includes a health centre, police station, and district high school.

3.3.1 Population

There are 350 people who live in the town which is 17 per cent of the population of the Shire. The remainder of the Shire's population lives in the nearby town of Hopetoun and on the many surrounding farming properties. There are 15 Aboriginal people who live in the town of Ravensthorpe who comprise 4.3 per cent of its population.

There has been a highly variable population in the town which results from activity in the mining sector and particularly activity at the Ravensthorpe Nickel Mine which is located on the outskirts of the town. The mine is currently in operation resulting in a higher population than in 2016 when it was not operating (**Figure 3.5**).

Figure 3.5 Population: town of Ravensthorpe (number of persons)



Source: Australian Bureau of Statistics 2021 Census

The median age of people living in the town of Ravensthorpe is 40 years which is the youngest of the coastal towns in the South Coast region and less than the average for the Shire of 42 years. This is due to the larger share of the population being of working age consistent with its role as a service centre and the location of the nearby Ravensthorpe Nickel Mine as the major employer.

Table 3.3 Age distribution: town of Ravensthorpe (number of persons and share of population)

	0-14	15-64	65 and older	0-14	15-64	65 and older	Median age
Town of Ravensthorpe	68	240	53	19%	66%	15%	40
Shire of Ravensthorpe	389	1,318	379	19%	63%	18%	42
South Coast region	10,235	33,297	12,449	18%	59%	22%	44 [^]

Source: Australian Bureau of Statistics 2021 Census [^] estimation based on population in City of Albany and Shire of Esperance

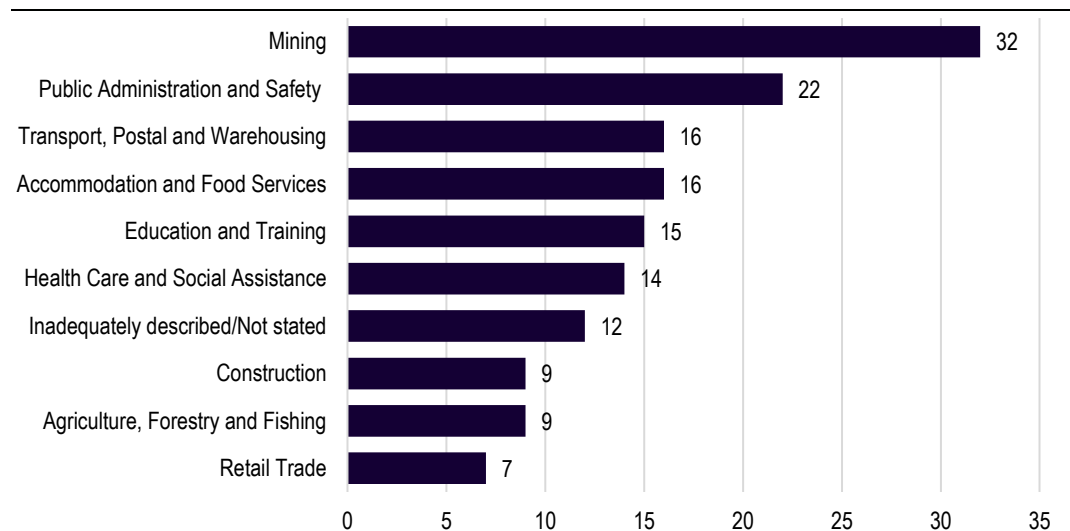
3.3.2 Workforce

There are 179 people in the workforce who live in Ravensthorpe. This includes 172 who are employed and a further seven who are seeking work. Whilst the number of job seekers is low, the unemployment rate of 4.1 per cent is high compared to the regional rate of 2.6 per cent.

The key industry of employment for people living in Ravensthorpe is mining which employs 32 residents or 18 per cent of employment. The majority of these people are likely to be employed in the Ravensthorpe Nickel Mine but it is also possible that they are employed in other mining regions in the State on a fly in – fly out or drive in – drive out basis.

The public administration and safety industry employs a further 22 people in the town which is 12 per cent of the workforce, and the accommodation and food services, and transport, postal and warehousing industries each employ 16 people or 8.9 per cent of employed people who live in the town (**Figure 3.6**).

Figure 3.6 Top ten industries of employment: town of Ravensthorpe (number of persons)



Source: Australian Bureau of Statistics 2021 Census

3.3.3 Businesses

There are 158 businesses located in the Shire of Ravensthorpe of which 63 are in the agriculture, forestry and fishing industry with most of these involved in broadacre and livestock production. A further 40 businesses are in the renting, hiring and real estate industry, and 18 are in the construction industry.

There is a comparatively large business community in the town of Ravensthorpe because of its proximity to the mine site and CBH Group grains facility and rail network, and its location on the key transport routes of the South Coast Highway and Newdegate Ravensthorpe Road. Businesses in the town supply goods and services to a range of industries including the tourism sector, mining industry, and agriculture industry.

3.4 Town of Hopetoun

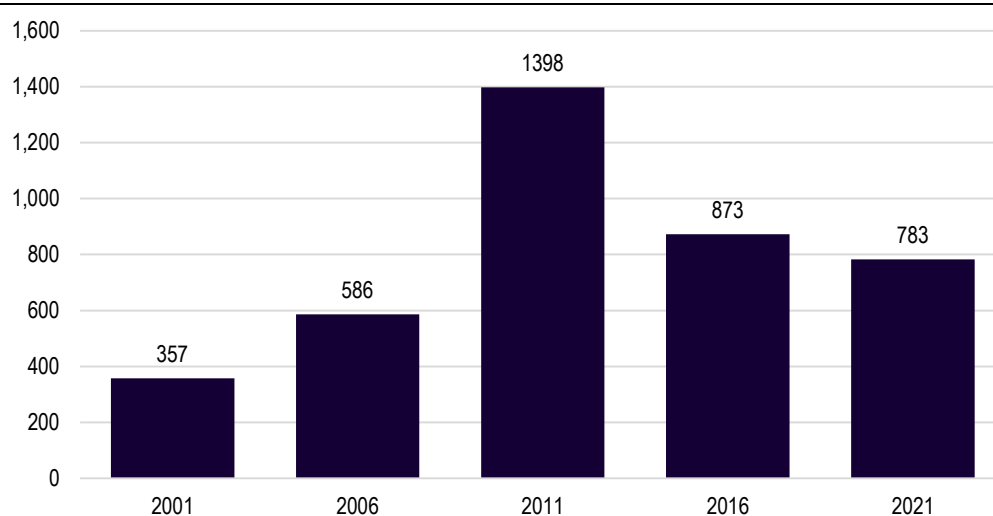
Hopetoun is a small coastal community located in the Shire of Ravensthorpe at the entrance to the Fitzgerald National Park. It is located on the traditional lands of the Wadjari people. It was first established by European people in 1900 as a port to service the nearby gold mining industry. It is now a popular place to live for people employed in the nearby mining industry and as such supports a range of social and economic infrastructure including a primary school, police station, and the Hopetoun Maritime Facility.

3.4.1 Population

Hopetoun is an attractive place in which to live. It is the largest population centre in the Shire and home to many of the people who work at the Ravensthorpe Nickel Mine and in the industries that support and depend on the National Park. There are 783 people who permanently live in Hopetoun which is 38 per cent of the people who live in the Shire. These numbers increase significantly during tourist season with an influx of temporary workers and visitors. There are currently 37 Aboriginal people who live in the town which is 4.7 per cent of the town's population.

Due to Hopetoun's dependence on the Ravensthorpe Nickel Mine as a major employer, the town has experienced a highly variable population which reflects the activity at the mine (**Figure 3.7**).

Figure 3.7 Population: town of Hopetoun (number of persons)



Source: Australian Bureau of Statistics 2021 Census

The median age of 42 in Hopetoun is lower than the average for the South Coast region. Despite this, a larger share of the town's population are children compared to the average in the region (**Table 3.4**). This is because of the large number of mine workers who live in the town with their families.

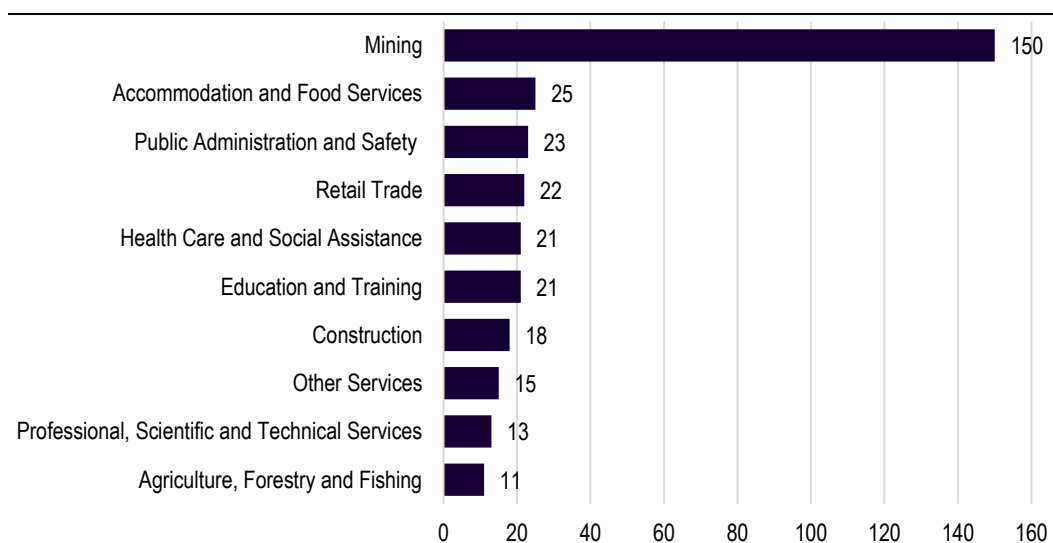
Table 3.4 Age distribution: town of Hopetoun (number of persons and share of population)

	0-14	15-64	65 and older	0-14	15-64	65 and older	Median age
Town of Hopetoun	167	451	163	21%	58%	21%	42
Shire of Ravensthorpe	389	1,318	379	19%	63%	18%	42
South Coast region	10,235	33,297	12,449	18%	59%	22%	44 [^]

Source: Australian Bureau of Statistics 2021 Census [^] estimation based on population in City of Albany and Shire of Esperance

3.4.2 Workforce

The workforce who lives in the town of Hopetoun is the largest in the Shire of Ravensthorpe comprising 60 per cent of all employed and unemployed people in the Shire. This includes 350 employed people and six job seekers. It supports a very low unemployment rate of 2.3 per cent which is the lowest unemployment rate of any of the towns in the coastal areas of the South Coast region. This low rate indicates that people move to the town to work in local industries and then leave to seek employment elsewhere.

Figure 3.8 Top ten industries of employment: town of Hopetoun (number of persons)

Source: Australian Bureau of Statistics 2021 Census

The role of the nearby Ravensthorpe Nickel Mine as a major employer and the ability of the local workforce to access in other mining locations has resulted in the mining industry employing 150 of the town's residents accounting for 42 per cent of employment in the town. The tourism sector is also an important source of employment with 25 people employed in the accommodation and food services industry accounting for 7.0 per cent of employed people. The public administration and safety industry employs 23 people which is 6.5 per cent of employment and is likely reflective of the roles in the adjacent National Park and in government services including WA Police. The other key industries of employment are largely those that are required to support a local population as illustrated in **Figure 3.8**.

3.4.3 Businesses

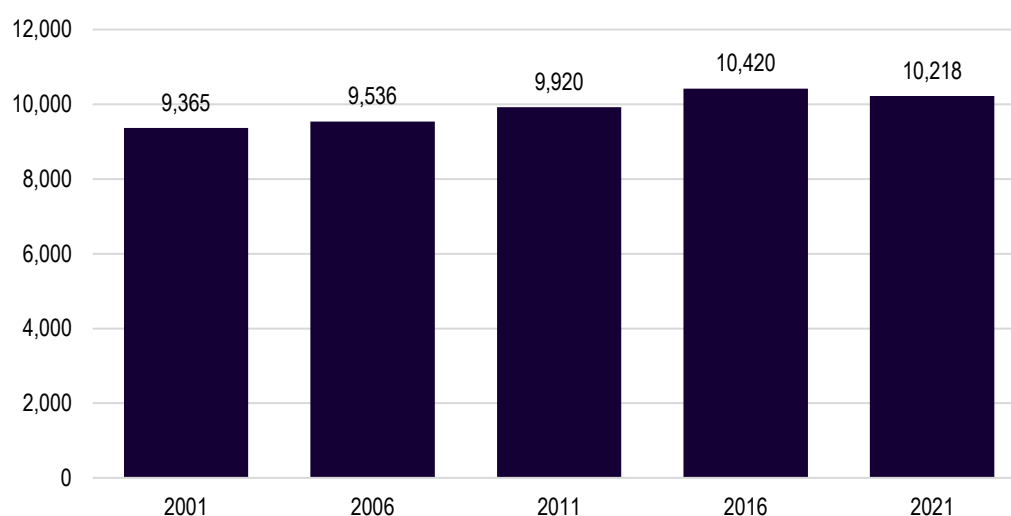
There are a range of businesses in Hopetoun that cater for the local population and the tourism sector. These include retail outlets, restaurants, accommodation providers, mechanics, fuel suppliers, freight providers, and construction services.

3.5 Esperance

The town of Esperance is an attractive coastal town located on the traditional lands of the Esperance Nyungar people. It is the key population and services centre for the Shire of Esperance and supports key regional services such as the Port of Esperance, Esperance Airport, and Esperance Health Campus. The town is a popular place to live and visit and as such, the economy is largely based on providing goods and services to the local and regional population and the visitor economy. Its role as a port town also brings significant economic value to the town.

3.5.1 Population

In 2021, the town of Esperance had a population of 10,218 which is 74 per cent of the population of the Shire of Esperance. There are 512 Aboriginal people who live in the town and comprise 5.0 per cent of its population. There has been steady long term population growth in Esperance with a slight contraction in population from 2016 to 2021 (**Figure 3.9**) to reach population levels recorded in 2011.

Figure 3.9 Population: town of Esperance (number of persons)

Source: Australian Bureau of Statistics 2021 Census

There is a younger population in the town with a median age of 41 years compared to 42 in the Shire of Esperance. This is the second youngest of the populations of the coastal towns in the South Coast region with the younger age profile driven by a higher share of children and people of working age than in other towns (**Table 3.5**).

Table 3.5 Age distribution: town of Esperance (number of persons and share of population)

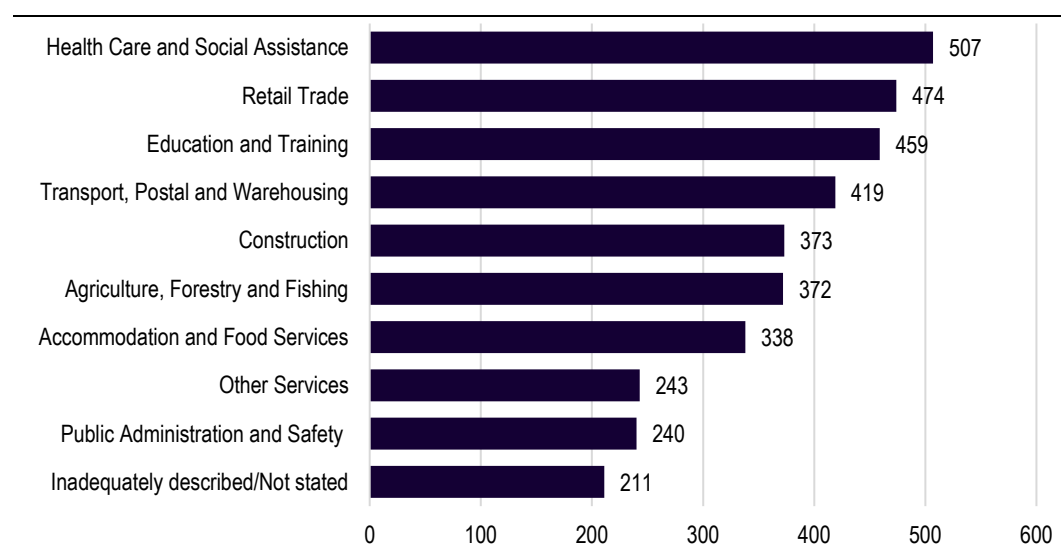
	0-14	15-64	65 and older	0-14	15-64	65 and older	Median age
Town of Esperance	1,957	6,148	2,105	19%	60%	21%	41
Shire of Esperance	2,718	8,472	2,688	20%	61%	19%	42
South Coast region	10,235	33,297	12,449	18%	59%	22%	44 [^]

Source: Australian Bureau of Statistics 2021 Census [^] estimation based on population in City of Albany and Shire of Esperance

3.5.2 Workforce

There is a workforce of 4,784 employed and unemployed people in the town of Esperance of which there are 4,645 employed people and 139 job seekers. This represents an unemployment rate of 3.0 per cent which is the second lowest rate of the coastal towns in the South Coast region but above the unemployment rate in the region of 2.6 per cent.

The top industries of employment for employed people living in the town are representative of those that support a resident population. The health care and social assistance industry is the largest employer providing jobs for 507 people or 11 per cent of the employed workforce. The retail trade industry employs 474 people or 10 per cent of workers, and the education and training industry employs 459 people accounting for 9.9 per cent of employment (**Figure 3.10**).

Figure 3.10 Top ten industries of employment: town of Esperance (number of persons)

Source: Australian Bureau of Statistics 2021 Census

3.5.3 Businesses

There are 983 businesses in the business community in the Shire of Esperance of which 327 or 33 per cent are in the agriculture, forestry, and fishing industry. Renting, hiring and real estate businesses make up 21 per cent of the business community, and those in the construction industry make up 14 per cent. With the exception of the agricultural businesses, many of these businesses are likely to be located in the town of Esperance.

Potential impact analysis

4

This chapter describes the potential impacts of the South Coast Marine Park on the industries and communities in the South Coast region.

4.1 Impact of the South Coast Marine Park

The establishment of the proposed South Coast Marine Park will include the implementation of zones which define how they are used. The aim of the zones is to ensure that the natural values that the Marine Park was created to conserve are adequately protected whilst recognising cultural values and supporting the needs and aspirations of other users such as recreational and commercial fishers. The zones within the South Coast Marine Park will include:

1. **General use zone** – these zones are used to conserve the marine environment while allowing sustainable commercial and recreational activities to continue.
2. **Recreation zone** – these zones are used primarily for recreational purposes, including recreational fishing where it is compatible with the primary recreation purpose of the zone. Commercial fishing is prohibited in recreation zones.
3. **Special purpose zone** – these zones are used for a specific conservation purpose, such as the protection of marine habitats or cultural heritage values. Commercial and recreational activities that are compatible with the specific conservation purpose of the zone are allowed.
4. **Sanctuary zones** – these zones provide the highest level of protection for marine plants and animals. They generally include representative habitats and biodiversity, important areas for threatened and protected species, and areas that include significant natural or cultural features. Sanctuary zones are 'look but don't take' areas and the only zone where all types of fishing and collecting are prohibited. People can continue to enjoy nature based activities within sanctuary zones, such as wildlife watching, diving, snorkelling, and boating.

The majority of the proposed South Coast Marine Park will be general use zone to minimise impacts on existing use. The inclusion of recreation and sanctuary zones will impact some users of the proposed Marine Park:

- sanctuary and recreational zones will impact the commercial fishing industry
- sanctuary zones - will impact the recreational fishing sector.

The size and location of these zones in the proposed South Coast Marine Park have not yet been allocated. The proposed zoning scheme for the combined area comprising of the Mamang Maambakoort, Wadjari, Ngadju and Mirning marine parks has resulted in:

- Proposed sanctuary (no take) zones that comprise 25 per cent of the area of the parks were designed to include representative (typical) areas of different habitat types and biodiversity, threatened species habitat, nursery or breeding areas, important cultural sites, and internationally and nationally recognised areas.
- Seventy five per cent of the parks have remained open to commercial and recreational fishing of which 14 per cent has been zoned special purpose (cultural protection) and four per cent as special purpose zone (whale conservation).

- Social and economic factors have influenced the placement of zones to minimise impacts on existing use.
- Tourism operations are an important aspect of each marine park, often enabling visitors to better appreciate and understand the area and its natural values. Commercial tour operators require a licence which allows them to operate in different zones of a marine park depending on their type of activity.
- Sanctuary zones are important for research and monitoring so we can continue to learn about the marine park's ecological, cultural and social values, detect impacts and manage change.

4.2 Experience elsewhere

Marine parks or marine protected areas have been established throughout Australia and the world as a way of protecting marine ecosystems, conserving biodiversity, and managing human activities to ensure the sustainable use of marine resources. This is partly in keeping with commitments made by 150 government leaders at the 1992 Rio Earth Summit to target the protection of 30 per cent of Earth's lands, oceans, coastal areas, inland waters by 2030.²⁹ The following sections provide examples of other marine parks and their impacts.

4.2.1 South Australia marine park network

In 2012, the South Australian government established 19 marine parks covering around 2.6 million hectares of the State's waters and 26,700 hectares of coastal land and islands. The objective for their establishment was to provide for biodiversity conservation and public appreciation, and ecologically sustainable development and use of marine resources. Other identified benefits included the avoidance of adverse evolution, the maintenance of fishery value, stakeholder satisfaction, broader support to regional tourism, commercial and recreational fishing, aquaculture and shipping, and cultural value for Aboriginal people.

The establishment of the marine parks resulted in restrictions to commercial fishers through the implementation of 83 sanctuary zones that came into effect in 2014. Two reports have been published that examine the impact of the marine parks. The report published in 2017³⁰ examines their impact in their first five years since their establishment. The report found that despite the time required for ecological change, the early indications were:

- **Marine life:** there has been a benefit to the southern rock lobster in the Cape du Couedic Sanctuary Zone where the catch per unit has increased by 4.4 times, the number of lobsters per pot has increased by 3.5 times, and the legal size has increased in the sanctuary zone area. No change in the overall catch rates have been observed in areas that are not protected.
- **Aquaculture and shipping industry:** the aquaculture and shipping industries have continued to operate unaffected by the marine parks.
- **Fish prices:** a case study of the price of six locally caught fish species found that prices remained stable over the three years to 2017.
- **Commercial fisheries:** the total catch of marine scale fish in the two years since sanctuary zones were implemented is comparable to the previous two years prior to its establishment.
- **Tour operators:** the total number of tour operators using the marine parks has increased from 59 in 2014 to 63 in 2017; and

²⁹ Convention on Biological Diversity, <https://www.cbd.int/article/cop15-cbd-press-release-final-19dec2022> accessed August 2023

³⁰ Department of Environment, Water and Natural Resources (2018), Technical information supporting the 2018 marine protected areas (marine parks network) Environmental Trend and Condition Report Card and Department of Environment, Water and Natural Resources (2018), South Australia's marine parks 5-year status report 2012–2017

- **Recreational fishing:** participation rates for recreational activities such as snorkelling, fishing and boating have remained stable.

A subsequent study in 2018³¹ supported these findings including the following observed impacts:

- **Commercial fisheries:** the removed effort from the establishment of the sanctuary zones for all commercial fisheries operating in the marine parks was estimated to represent 2.0 per cent of the total gross value of production of the fisheries. There has been a continuation of existing trends in terms of catch per unit effort, and licence values with no obvious change since 2014 in all the affected fisheries, indicating that the marine park zoning has not impacted the sustainability of these fisheries. There have been some declines in some fisheries however these are consistent with external factors. The abalone, sardine and marine scale fish fisheries experienced an increase in the catch per effort suggesting that the marine parks had benefited them.
- **Recreational fishing:** has not been significantly affected.
- **Towns:** a comparative analysis of socio economic trends in terms of population, labour force, unemployment property prices and school enrolments in large, medium and small towns near sanctuary zones compared to those that were located away from sanctuary zones found no discernible trend difference indicating that the marine parks have not affected the socio economic performance of these towns.

4.2.2 Ningaloo reef

The Ningaloo Marine Park comprises of around 5,000km² of State and Commonwealth waters that stretch for approximately 300km along Western Australia's North West Cape. It is World Heritage listed and includes Ningaloo Reef which is the largest fringing coral reef in Australia. The Marine Park consists of five zone types: no-take sanctuary zones, special purpose (benthic protection) zones, special purpose (shore-based activities) zones, recreation zones and a general use zone. In 2004, the State Government approved the expansion of sanctuary zones in the Marine Park increasing the protected area from 10 to 34 per cent of its total area.

A socio economic study of the impact of the changes undertaken in 2008³² focussed on the impact of the changes on visitation to the Ningaloo Marine Park. Its key findings included:

- **Recreational fishing:** the sanctuary zone changes may have resulted in some modification of boat fishing and cray diving activities however recreational fishers continued to use the Marine Park for recreational fishing purposes.
- **Tourism:** there appears to have been no sustained downturn in camping numbers along the Ningaloo coast with some localised displacement of camping from zone changes. A survey found that 99 per cent of visitors intended to return to the Ningaloo Marine Park area despite the new zoning.

Studies of the reef habitat have found:

- **Marine life:** has benefited from the protection of complex and diverse coral, seagrass and mangrove habitats that support high levels of abundance and diversity of tropical and temperate fish species. Populations of species such as whales, whale sharks, dugongs and adult turtles are stable or increasing and there is a high diversity and abundance of herbivores which help maintain the balance between corals and macroalgae that are of benefit to the reef.

³¹ Department for Environment and Water (2018), Environmental, Social and Economic Values of Marine Park Sanctuary Zones, Government of South Australia; and Department for Environment and Water (2020), Supplementary Report to 'Environmental, Social and Economic Values of Marine Park Sanctuary Zones', Government of South Australia

³² Northcote, J and Macbeth, J (2008), Socio-Economic Impacts of Sanctuary Zone Changes in Ningaloo Marine Park: A preliminary investigation of effects on visitation patterns and human usage, Sustainable Tourism CRC

- **Fish abundance:** trends in fish stock are variable and uncertain. There have been local declines in the abundance of corallivorous fishes across the Ningaloo Marine Park since 2011 which are correlated with decreases in coral cover. Estimations of fish species that are targeted by recreational anglers vary greatly, with some studies finding evidence of stable, or even increasing populations, and others finding overall declines in some species.³³

A study³⁴ of the economic contribution on the Ningaloo reef found that the region contributed \$110 million of value add (Gross State Product) to the economy in 2018-19, while supporting over 1,000 FTE jobs. This value is a function of tourism expenditure by international, interstate, and local visitors in the towns along the North West Cape coastline, the value of catch from commercial fishers, residents of the Ningaloo region undertaking recreation activity in the Ningaloo Marine Park area, and the expenditure required to manage the Marine Park and to undertake research.

Other benefits of the region were found to include its intrinsic non-use value such as from the existence of the asset, the value for the local Baiyungu, Thalanyji and Yinikurtura people, and in the ecosystem services to the region.

4.3 Potential socio economic impact analysis

Marine protected areas have been created throughout Australia and the world more broadly and various attempts and methodologies have been pursued to quantify the socio economic impacts of them. Available reports and documents focussing on other jurisdictions have been used to capture the approaches, key findings, and outcomes to inform the remainder of this chapter.

A review of the literature of the impacts of marine parks on the surrounding economies have found that the environmental values that lead to their creation support the social, cultural, and economic values of the communities and economies in which they are located. These values form the basis of the potential socio economic impact analysis to the South Coast region from the establishment of the proposed South Coast Marine Park. These values are:

- **Natural values** - the habitats, species and ecological communities within marine parks, and the processes that support their connectivity, productivity, and function.
- **Cultural values** - the Indigenous beliefs, practices and obligations for country, places of cultural significance and cultural heritage sites.
- **Heritage values** - the non-Indigenous heritage that has aesthetic, historic, scientific, or social significance. They include ship wrecks, camp grounds, and wilderness experiences such as the ability to watch wildlife.
- **Socio economic values** - the benefits that marine parks provide for people, businesses, and the economy. This includes opportunities for social participation and enjoyment such as that derived from recreational fishing. From an economic perspective they provide opportunities for the creation of direct economic value through visitor spending, the attraction of research funds, and the management of the parks. There is also an indirect economic value from the stimulus to the businesses along the supply chain that this spending allows.

The impact of the proposed South Coast Marine Park is likely to be focussed on the Shire of Esperance, Shire of Ravensthorpe, Shire of Jerramungup, and Shire of Dundas as the closest communities to the proposed Marine Park area. There is likely to be less of an impact on the City of Albany due to its relative distance from the proposed Marine Park.

³³ Department of Biodiversity, Conservation and Attractions (no date), Resilient Reefs Ningaloo, Government of Western Australia

³⁴ Deloitte Access Economics (2020), Economic contribution of Ningaloo: one of Australia's best kept secrets

4.3.1 Commercial fisheries

Commercial fishing is a key industry in the South Coast region providing jobs for 294 of its residents and supporting businesses in the catch and processing of seafood, providing goods and services to the industry, and in the sale of seafood products. In 2020-21, the value of wild caught fish from the region was \$2.6 million compared to the total State catch of \$344 million. Much of the catch in the South Coast region is exported overseas providing valuable export revenue to the State.

Within the proposed South Coast Marine Park, existing sustainable commercial activities will continue to operate. However, commercial fishing will be prohibited in sanctuary zones which are estimated to comprise around 25 per cent of the area of the Marine Park. These restricted areas will be in addition to zones already in place including those implemented under Section 43 of the *Fish Resources Management Act 1994* which include the waters surrounding the wreck of the Sanko Harvest east of Esperance, and Esperance Jetty. The South-west Marine Parks Network also includes restricted areas to commercial fishers.^{35 36}

The experience of the establishment of sanctuary zones in other marine parks suggests that commercial fishers have had to adjust their spatial fishing patterns to accommodate restricted fishing areas. The impact on commercial fishing from the introduction of the proposed South Coast Marine Park will depend on the location of the restricted fishing zones compared to the current effort of the industry, and the potential for these fisheries to adjust their spatial fishing pattern.

There is evidence to show that sanctuary zones can increase the amount and size of fish around these zones providing benefits to commercial fishers. Sanctuary zones protect the habitat that is important to spawning, juvenile settlement, nursery grounds, and major feeding grounds of aquatic species. Strategically located protected areas provide sites for settlement and early growth of juveniles which when mature, spill over into adjacent fished areas.³⁷

A study of 91 marine reserves in Australia found that on average, the sanctuary zones within these reserves had a 28 per cent greater abundance and 53 per cent greater biomass of fished species compared to adjacent areas that are open to fishing.³⁸ This finding is supported by research along the Mesoamerican Reef coastline which found that restricted areas tend to support higher mean abundance stable or increasing trends compared to areas where restrictions did not apply. Fish biomass was 27 per cent greater in restricted areas and the biomass of commercially important species was 35 per cent higher.³⁹ After 16 years of protection in the Kingston Sanctuary Zone on Rottnest Island, Western Australia Dhufish abundance was reported at ten times greater inside the sanctuary zone, while the amount of the Breaksea Cod was 3.2 times higher.⁴⁰

In the Moreton Bay Marine Park in Queensland, catch rates and the biomass of mud crabs and finfish including snapper, spangled emperor, redthroat emperor, blackspot tuskfish, Maori rock cod and goldspot wrasse yellowfin bream were higher in longer established sanctuary zones compared to newer sanctuary zones and areas that were not protected. However, sand crabs did not show any significant responses to sanctuary zoning and there was no significant change in the abundance of targeted aquarium species. Overall, there was evidence of a trend towards increased

³⁵ Australian Marine Parks (2018), South west Marine Parks Network Management Plan 2018 Zoning and Rules, Government of Australia

³⁶ Hunter S. Lenihan, Jordan P. Gallagher, Joseph R. Peters, Adrian C. Stier, Jennifer K. K. Hofmeister & Daniel C. Reed (2021), Evidence that spillover from Marine Protected Areas benefits the spiny lobster (*Panulirus interruptus*) fishery in southern California, Scientific Reports

³⁷ Department of Environment and Heritage (2003), The Benefits of Marine Protected Areas, Commonwealth of Australia

³⁸ Goetz JS et al (2021). Increased connectivity and depth improve the effectiveness of marine reserves. *Global Change Biology*

³⁹ A. Justin Nowakowski, Steven W. J. Canty, Nathan J. Bennett, Courtney E. Cox, Abel Valdivia, Jessica L. Deichmann, Thomas S. Akre, Sara E. Bonilla-Anariba, Sebastien Costedoat and Melanie McField (2023), Co-benefits of marine protected areas for nature and people, *Nature Sustainability*

⁴⁰ Kleczkowski M, Babcock R, Clapin G (2008). Density and size of reef fishes in and around a temperate marine reserve. *Marine and Freshwater Research*; 59: 165–76

numbers and biomass of some targeted species in sanctuary zones within three years of their implementation.⁴¹

The experience in South Australia shows that there has been no noticeable impact on commercial fisheries from the introduction of sanctuary zones in 19 marine parks⁴² and that some fisheries had increased their catch per effort since the establishment.⁴³ Other studies have found that there could be an impact on the commercial fishing industry. A report investigating the impact of the introduction of 44 marine parks in Australia in 2012 found that an estimated annual average of 544 tonnes of catch with an annual average value of \$4.12 million could be displaced because of restrictions on commercial fishing. This is equivalent to 0.3 per cent of the total value of the wild capture fishery in Australia or 5.4 per cent of the value of fisheries within the boundaries of the marine parks. The impact of this reduction to reduce regional economic activity by \$7.2 million in the short term.⁴⁴

Depending on the size of the impact on commercial fishers in the South Coast region, there could be a flow on impact that will change the socio economic profile of the region. This could result from reduced viability of the businesses that directly rely on the industry, and the potential loss of people employed in the industry and the businesses that directly support it. If these impacts are significant, they could cause population to move away from the region. This impact will be largest in small communities such as Bremer Bay given the larger contribution that the industry makes to its socio economic fabric.

Key Finding 1 Commercial fisheries

The establishment of the South Coast Marine Park is likely to have some impact on commercial fishers requiring them to adjust their spatial fishing effort, if possible, and potentially impacting their total catch. Experience elsewhere suggests that some fisheries will benefit from the establishment of sanctuary zones while others will experience little to no change to their catch. It is possible that some commercial fishers in the South Coast region will experience a change to their catch. The impact of socio economic change is likely to be larger in the smaller coastal towns where the fishing industry plays a larger role in the community and economy.

4.3.2 Recreational fisheries

Recreational fishing is an important part of the economy of the South Coast region attracting fishers throughout the year and providing economic benefits to local towns in the region from the purchases of accommodation, food, drink, fuel, retail items, tours, and other goods and services. It is estimated that 7,603 people in the region hold a recreational fishing from boat licence and the region attracts 27,325 fishing trips each year.⁴⁵ Recreational fishing will continue to be allowed in the proposed South Coast Marine Park however to conserve representative habitats and biodiversity, fishing and collecting will be prohibited in sanctuary zones.⁴⁶

⁴¹ Michael D.E. Haywood, Richard Pillans¹, Russ Babcock, Emma Lawrence, Ross Darnell, Charis Burrige, Darren Dennis, Anthea Donovan, Sue Cheers, Robert Pendrey, Quinton Dell¹ (2019), Changes in fish and crab abundance in response to the Moreton Bay Marine Park rezoning

⁴² Department of Environment, Water and Natural Resources (2018), South Australia's marine parks 5-year status report 2012–2017, Government of South Australia

⁴³ Department for Environment and Water (2018), Environmental, Social and Economic Values of Marine Park Sanctuary Zones, Government of South Australia; and Department for Environment and Water (2020), Supplementary Report to 'Environmental, Social and Economic Values of Marine Park Sanctuary Zones', Government of South Australia

⁴⁴ Larcombe, J & Marton, N (2018), Potential displacement of commercial fisheries by an Australian Marine Parks zoning scheme: Report on recommended management plan zoning, ABARES technical report, Canberra, January. CC BY 4.0

⁴⁵ Department of Primary Industries and Regional Development (2022), Boat-based recreational fishing in Western Australia 2020/21, Government of Western Australia

⁴⁶ Department of Biodiversity, Conservation and Attractions, Proposed South Coast Marine Park frequently asked questions, www.dbca.wa.gov.au/management/parks/plan-our-parks/proposed-south-coast-marine-park/proposed-south-coast-marine-park-frequently-asked-questions, accessed July 2023

A report on the economic contribution of the recreational fishing sector found that in the regional areas of Western Australia, there was a direct contribution to Gross Regional Product of \$249 million from the direct expenditure that these fishers make in the regions. In addition, there are flow on impacts of \$121 million from the additional consumption along the supply chain that is stimulated by the spending by recreational fishers, and \$67 million from the flow on production induced impacts.⁴⁷

Experience elsewhere has shown that the establishment of marine parks can benefit the recreational fishing sector by providing safe habitats for aquatic life which increases their ability to catch species that live near these protected habitats and increases the biomass of targeted species. The rezoning of Moreton Bay Marine Park in 2007 increased the area of its sanctuary zones and removed trawl fishing from parts of the park. An economic analysis showed that these changes may have added from \$1.3 million to \$2.5 million in economic benefits to the Bay's recreational fishing sector, which was already valued at \$20 million.⁴⁸

When sanctuary zones were changed in the Ningaloo Marine Park, recreational fishers and campers were displaced to other areas of the Park however they continued to use or planned to return to use the Park suggesting that the expansion of the zones did not impact these activities.⁴⁹ A survey to understand the impact of the establishment of 19 marine parks in South Australia found that less than six per cent of respondents believe that marine parks have had a negative impact on their rate of participation in recreational activities including fishing.⁵⁰

Key Finding 2 Recreational fisheries

The establishment of the proposed South Coast Marine Park may displace recreational fishers from some areas. Experience elsewhere has shown that the value from the recreational activities at marine parks is significant. Further, recreational fishers continue to use other parts of marine park areas when sanctuary zones were implemented. The benefits of sanctuary zones on the effort per catch and the biomass of targeted species creates improved outcomes for recreational fishers.

4.3.3 General recreation

As well as recreational fishing, the South Coast Marine Park will be used for a variety of other outdoor recreational activities such as swimming, diving, snorkelling, boating, hiking, surfing, and other water based sports. Its establishment can benefit some of these activities particularly from sanctuary zones that can enhance nature watching from improved habitats and biodiversity. This represents benefits to snorkellers, divers, and other watchers of aquatic life and systems.

Spending time outdoors in nature areas especially with likeminded friends and family has been found to have multiple benefits for a person's health and wellbeing. Outdoor activity can support wellbeing through positive emotions and experience, relaxation/restoration, nature connection, strengthening social connections, improved self-efficacy, and physical and mental health. This includes benefits to people recovering from physical and mental health problems.⁵¹

⁴⁷ Moore, A, Schirmer, J, Magnusson, A, Keller, K, Hinten, G, Galeano, D, Woodhams, J, Wright, D, Maloney, L, FRDC, ABARES, UC, (2023), National Social and Economic Survey of Recreational Fishers 2018-2021: RDC Project No 2018-161, Fisheries Research and Development Corporation

⁴⁸ Pascoe S et al (2014). Economic value of recreational fishing in Moreton Bay and the potential impact of the marine park rezoning. *Tourism Management*; 41: 53–63

⁴⁹ Northcote, J and Macbeth, J (2008), Socio-Economic Impacts of Sanctuary Zone Changes in Ningaloo Marine Park: A preliminary investigation of effects on visitation patterns and human usage, Sustainable Tourism CRC

⁵⁰ Department of Environment, Water and Natural Resources (2018), South Australia's marine parks 5-year status report 2012–2017, Government of South Australia

⁵¹ Moore, A, Schirmer, J, Magnusson, A, Keller, K, Hinten, G, Galeano, D, Woodhams, J, Wright, D, Maloney, L, FRDC, ABARES, UC, 2023, National Social and Economic Survey of Recreational Fishers 2018-2021

Marine parks have been found to have important recreation values. A study found that the Cape Byron Marine Park in New South Wales attracted 40,000 visitors each year including recreational fishers, with value to the economy of \$2.5 million per annum. The Jervis Bay Marine Park attracts 58,000 visitors each year generating economic value of \$1.9 million, and the 52,000 visitors to the Batemans Bay Marine Park generate annual economic value of 1.6 million.⁵² This suggests that each visitor generates between \$31 and \$62 to the local economy.

Key Finding 3 Recreational fisheries

The establishment of the proposed South Coast Marine Park has important recreation values including recreational fishing and other outdoor recreational activities which benefits the health and wellbeing of users, and provides important economic value to the local economy.

4.3.4 Indigenous socio economic development

The proposed joint management arrangements for the proposed South Coast Marine Park between DBCA and Traditional Owners will have social and economic benefits for Aboriginal people. A review of other joint managed conservation estate in Western Australia found that Aboriginal people employed as rangers on these lands benefited from improved wellbeing including increased confidence, self-esteem and pride, increased respect and pride from their families and communities, demonstrated leadership in their communities, improved health and mental health, and increased skills in literacy and technology. The employment of Aboriginal rangers allowed a connection to country and culture, with these employees acting as community role models providing inspiration to young people in the community.⁵³

Further, the joint managed areas provided Aboriginal people with new employment opportunities creating career pathways in a diverse range of occupations including park rangers, administration, maintenance of vehicles and vessels, and visitor centre staff. The outcome of this job creation was greater financial security and the creation of role models in the community. Similar opportunities for Aboriginal people in the management of the proposed South Coast Marine Park will form part of the establishment of the park. It is estimated there will be an additional 12 FTE jobs available for Aboriginal people in the joint management of the proposed South Coast Marine Park.

There are also likely to be opportunities in other industries that could benefit from the establishment of the South Coast Marine Park such as the tourism sector. Research shows that Aboriginal cultural experiences are on the wish list of 81 per cent of visitors to Western Australia. This trend is a major theme in the Jina: WA Aboriginal Tourism Action Plan 2021 – 2025 developed by the State Government. The Plan includes a vision for Western Australia to be recognised as the premier destination for Aboriginal tourism in Australia. The joint management of national parks has been identified as one way for Aboriginal tourism to grow along with Aboriginal cultural tourism experiences.⁵⁴

⁵² Gillespie Economics (2007). The recreation use value of NSW marine parks. Department of Environment and Climate Change

⁵³ Department of Biodiversity, Conservation and Attractions (2020), A review of the Conservation Legislation Amendment Act 2011: How are Western Australia's joint management arrangements working? Government of Western Australia

⁵⁴ Tourism WA (2021), Jina: WA Aboriginal Tourism Action Plan 2021 – 2025, Government of Western Australia

Key Finding 4 Indigenous socio economic development

The establishment of the proposed South Coast Marine Park provides improved socio economic outcomes for local Aboriginal people in the form of employment opportunities, and business development opportunities. There are also significant cultural benefits from an improved connection to country and culture.

4.3.5 Tourism

The South Coast region is a popular place to visit. The region draws visitors from around Australia and the globe with an estimated 1.4 million visitors to the region each year and annual visitor spending of \$579 million. Tourism has been identified by local and regional government organisations as a crucial part of the future economy of the South Coast region with particular emphasis on Aboriginal tourism experiences, and nature based and agrifood tourism.

Nature based tourism is a rapidly growing visitor segment in Australia. International nature based visitor numbers rose 12 per cent in 2016 compared to total international visitor growth to Australia of 11 per cent. Similar patterns were evident for domestic visitor numbers with the number of overnight domestic visitors who undertook nature based activities rising six per cent in 2015 compared to four per cent for all domestic overnight visitors. Nature based day trip visitors rose 15 per cent in 2016 compared to six per cent for all day trip visitors.⁵⁵

Visits to marine parks continue to increase worldwide due to increasing mobility, education levels and leisure time.⁵⁶ A survey of visitors to the Ningaloo area found that changes to sanctuary zones did not change the number of people camping along the Ningaloo coast, however there was some modification of boat fishing activities and some localised displacement in terms of camping location. Nearly all campers indicated that they would visit the area again in the future.⁵⁷

Sanctuary zones have been found to enhance the nature watching experiences by protecting marine habitats and the natural features and biodiversity of these areas which are values that are attractive to tourists. This was a key finding of the evaluation of the South Australian marine park network⁵⁸. Improved diving and other experiences have benefits to the local visitor market including for businesses such as tour operators, retail diving outlets, and the businesses that provide goods and services to the industry including marine services, accommodation providers, and food and drink outlets.

The tourism industry provides critical benefits for regional economies. In 2015–16, visitor expenditure at the Great Barrier Reef contributed around \$5.7 billion to the Australian economy including \$2.4 billion to regional areas.⁵⁹ An evaluation of the impact of tourism at the Ningaloo Marine Park found that total expenditure by the 279,000 visitors to the Ningaloo region amounted to \$174 million in 2018-19. This resulted in economic contribution to the State economy of \$99.5 million and the creation of 954 FTE jobs.⁶⁰ The analysis indicates that every visitor to the Ningaloo Marine Park region contributed \$356 to the State economy.

⁵⁵ Tourism and Transport Forum Australia (2017), *Unlocking the Great Outdoors*

⁵⁶ Murdoch University (2007), *Importance-satisfaction analysis for marine-park hinterlands: A Western Australian case study*

⁵⁷ Northcote, J and Macbeth, J (2008), *Socio-Economic Impacts of Sanctuary Zone Changes in Ningaloo Marine Park: A preliminary investigation of effects on visitation patterns and human usage*, Sustainable Tourism CRC

⁵⁸ Department for Environment and Water (2018), *Environmental, Social and Economic Values of Marine Park Sanctuary Zones*, Government of South Australia; and Department for Environment and Water (2020), *Supplementary Report to 'Environmental, Social and Economic Values of Marine Park Sanctuary Zones'*, Government of South Australia

⁵⁹ Deloitte Access Economics (2017), *At what price? The economic, social and icon value of the Great Barrier Reef*, Great Barrier Reef Foundation

⁶⁰ Deloitte Access Economics (2020), *Economic contribution of Ningaloo: one of Australia's best kept secrets*

Key Finding 5 Tourism

The establishment of sanctuary zones have resulted in improved tourism experiences in marine parks resulting from the protection of marine habitats resulting in increased visitation to these areas. The creation of marine parks has benefits for the businesses that rely on the visitor market including tour operators, retail outlets, and the businesses that provide services to the tourism industry. It is likely that sanctuary zones in the proposed South Coast Marine Park could impact existing use of the area by visitors however these visitors will likely displace to other parts of the Marine Park area.

4.3.6 Mining

Mining activity occurs in the South Coast region with the current industry employing 964 employees who live in all the Local Government Areas that comprise the region. In 2021-22, the value of minerals production in the region was \$2.4 billion which is 1.3 per cent of the State's total production. The industry supports 23 businesses with most of these located in the Shire of Esperance.

No current or planned mining activity is identified in the proposed South Coast Marine Park. There are plans to establish the Western Green Energy Hub in the eastern part of the South Coast region which if constructed, would commence first production in the beginning of the 2030's. This development would require access to water and could potentially require an offshore ship loading facility⁶¹ however, there is potential for Marine Park boundary adjustments to accommodate port waters and coastal elements of the proposed Western Green Energy Hub.

Key Finding 6 Mining

There are no current mining activities in the South Coast region that will be impacted by the proposed South Coast Marine Park. There is potential for Marine Park boundary adjustments to accommodate port waters and coastal elements of the proposed Western Green Energy Hub.

4.3.7 Transport, port, and shipping

The South Coast region forms part of the State transport network including key transport infrastructure that supports the agriculture, fishing, mining, and forestry industries. The ports of Albany and Esperance are critical export ports, and the road and rail infrastructure in the region connects Western Australia to the national road and rail network.

A review of the South Australian Marine Park network found that there would be some impact on the downstream part of the supply chain for each fishery located in the park from sanctuary zones. Downstream activities include seafood processing, transport, retail trade and food services. The impact for all fisheries was very small with the total economic loss from the sanctuary zones of 0.1 per cent or less of the regional economy with the downstream impact making up less than 20 per cent of this decline.⁶²

The impact on the transport and logistics sector will depend on the impact on the catch of commercial fishers with the most affected part of the sector that which directly relies on the commercial fishing for its revenue.

⁶¹ <https://research.csiro.au/hyresource/western-green-energy-hub/> accessed July 2023

⁶² Department for Environment and Water (2018), Environmental, Social and Economic Values of Marine Park Sanctuary Zones, Government of South Australia; and Department for Environment and Water (2020), Supplementary Report to 'Environmental, Social and Economic Values of Marine Park Sanctuary Zones', Government of South Australia

Key Finding 7 Transport, port and shipping

There is likely to be no impact on the key transport, port and shipping infrastructure in the South Coast region from the establishment of the South Coast Marine Park. There could be an impact on transport and logistics businesses in the industry with the impact focussed on those that directly rely on commercial fishing for revenue. The size of the impact will therefore depend on the impact of the proposed South Coast Marine Park on commercial fishers.

4.3.8 Science and research

The establishment of marine parks in other areas has facilitated scientific research that has resulted in collaboration between research institutions and attracted significant funding creating a valuable contribution to the surrounding regional and State economies. It is estimated that in 2015–16, \$130 million of revenue was generated by science related organisations through the conduct of scientific research, reef management, and related activities at the Great Barrier Reef. This includes \$57 million on wages for their employees and \$65 million on intermediate inputs contributing around \$182 million to the Australian economy.⁶³

In Western Australia, there is a large research program at the Ningaloo Reef that brings economic value to the region and the State. This includes Ningaloo Outlook which is a collaboration between CSIRO and BHP to increase the ecological understanding of the deep and shallow reefs and the shark and turtle populations. Phase one of the project attracted \$5.4 million of funding and phase two has attracted \$7.0 million.

The Ningaloo Research Program was a collaboration between CSIRO's Ningaloo Collaboration Cluster, Western Australian Marine Science Institution, Australian Institute of Marine Science, the Sustainable Tourism Cooperative Research Centre, Department of Environment and Conservation, Department of Fisheries, and Murdoch, Curtin, UWA, Edith Cowan, Australian National University and University of Queensland. The collaboration attracted \$36 million over ten years to research into new scientific knowledge.⁶⁴

A study into the economic contribution of the management of the Ningaloo Marine Park and research undertaken at the park estimates that these activities contributed \$1.3 million to the State economy in 2018-19 and supported the creation of 55 FTE jobs including 52 that were directly created.⁶⁵ At the Great Barrier Reef, this type of activity added \$182 million to the Australian economy including \$161 million to the economy of Queensland of which \$155 million was realised in regional areas.⁶⁶

The establishment of the South Coast Marine Park and its sanctuary zones will allow scientists to carry out long term monitoring of marine habitats and biodiversity which are relatively unimpacted by human activities. The attraction of increased scientific interest in the region may bring additional spending to local economies and will assist in attracting further research funding to the region and the State providing value contributions to the economy and the creation of jobs.

⁶³ Deloitte Access Economics (2017), At what price? The economic, social and icon value of the Great Barrier Reef, Great Barrier Reef Foundation

⁶⁴ <https://research.csiro.au/ningaloo/ningaloo-collaboration-cluster/> accessed August 2023

⁶⁵ Deloitte Access Economics (2020), Economic contribution of Ningaloo: one of Australia's best kept secrets

⁶⁶ Deloitte Access Economics (2017), At what price? The economic, social and icon value of the Great Barrier Reef, Great Barrier Reef Foundation

Key Finding 8 Science and research

There is an existing and growing science and research industry in the South Coast region which is likely to further benefit from the establishment of the South Coast Marine Park. The experience elsewhere shows that marine parks are successful in attracting research funding and scientific collaboration which has benefits to local economies.

4.3.9 Businesses

The South Coast region supports a large business community in a range of industries. This includes businesses that rely on the commercial fishing industry such as fishers, fish processors, businesses that provide goods and services to the industry, transport and logistics companies, and retail outlets.

A study of the impact of the establishment of 19 marine parks in South Australia found that the number of businesses associated with the marine parks remained broadly stable over the period before and after the marine parks were established. Trends in business counts over time were similar to those in many other Local Government Authorities in the State. There was no positive or negative impact identified in any of the Local Government Authorities impacted by the establishment of the marine parks or the implementation of fishing restrictions in sanctuary zones. The study included a survey which found that less than nine per cent of respondents believe that marine parks have had a negative impact on local businesses where they reside or visit.⁶⁷

A report on the establishment of a marine park in the Kimberley region of Western Australia found that the tourism, cultural and conservation economy of the region could grow by \$134 million per year from the stimulus to local businesses. Its creation could result in an additional 367 jobs through the establishment, management and promotion of the park and the resulting boost to the tourism, conservation management and education industries.⁶⁸

It is likely that businesses in the South Coast region will benefit from additional expenditure from visitors, research activities, and park management. The location of these benefits will depend on where this expenditure will take place. It is likely that the larger business centres of Albany and Esperance will benefit from the greater share of this additional expenditure as this is where most businesses in the region are located. The proportional impact will be greatest in small towns such as Bremer Bay where the business community is more reliant on commercial fishing.

The impact on fishing related businesses will depend on the impact on commercial fishers. There could be an impact on that part of the sector that directly relies on the commercial fishing for its revenue with the proportional magnitude of the impact focused on the town of Bremer Bay whose economy is more reliant on the commercial fishing industry than elsewhere in the region.

⁶⁷ Department of Environment, Water and Natural Resources (2018), Technical information supporting the 2018 marine protected areas (marine parks network) Environmental Trend and Condition Report Card and Department of Environment, Water and Natural Resources (2018), South Australia's marine parks 5-year status report 2012–2017

⁶⁸ Murdoch University (2015), The Economic Benefits of Creating A 'World Class' Great Kimberley Marine Park, The Wilderness Society (WA) and Environs Kimberley

Key Finding 9 Businesses

It is likely that there will be impacts on local businesses from the establishment of the proposed South Coast Marine Park. New opportunities are likely in tourism, and in the businesses that support the tourism, and scientific research industries are likely. Dependent on the impact of the sanctuary zones on the viability of commercial fishers, there could be a resulting impact on other businesses in the region.

4.3.10 Aboriginal communities

Experience of joint management arrangements in the Kimberley and Pilbara regions found that the ability for Aboriginal people to work on and look after country gave them a strong sense of satisfaction and worth from meeting cultural obligations and learning about and expressing their cultural identity. The access to land to undertake customary activities, has facilitated the continuation of culture by providing elders with an avenue to pass on traditional knowledge to the younger generation, and provide guidance, leadership, and authority.⁶⁹

The value of Aboriginal peoples' connection to country along the Ningaloo coast arises from the connection of the ecosystem with human, built and cultural services specific to Aboriginal culture such as providing bush foods and medicines, material resources, and shelter along with cultural, and spiritual values.⁷⁰

There will be a benefit to Aboriginal people from the proposed South Coast Marine Park from the protection of its cultural values and in the joint management arrangements for the Park.

Key Finding 10 Aboriginal communities

The creation of the South Coast Marine Park will be important in protecting the cultural value of the region for Aboriginal people. The joint management of the park will bring cultural benefits as well as employment and self determination benefits.

4.3.11 Local towns

A comparative analysis of socio economic trends including population, labour force, unemployment property prices and school enrolments in large, medium and small towns near sanctuary zones of marine parks in South Australia compared to those that were located away from sanctuary zones found no discernible trend difference. This suggests that the Marine Park Network in South Australia has not affected the socio economic performance of these towns.⁷¹

The coastal towns of the South Coast region support different socio economic profiles with the town of Bemer Bay far more dependent on the fishing and tourism industries than the larger towns of Albany and Esperance which support far bigger populations and more diverse economies. The town of Ravensthorpe is largely shaped by the surrounding broadacre and mining industry while Hopetoun is a tourism related town which is a popular place to live for people who work at the nearby Ravensthorpe Nickel mine.

⁶⁹ Department of Biodiversity, Conservation and Attractions (2020), A review of the Conservation Legislation Amendment Act 2011: How are Western Australia's joint management arrangements working? Government of Western Australia

⁷⁰ Deloitte Access Economics (2020), Economic contribution of Ningaloo: one of Australia's best kept secrets

⁷¹ Department for Environment and Water (2020), Supplementary Report to 'Environmental, Social and Economic Values Of Marine Park Sanctuary Zones', Government of South Australia

Local towns are likely to benefit from the establishment of the South Coast Marine Park in the form of additional tourism, research, and park management expenditure. Any adverse impacts on local towns will depend on the impact on commercial fishers. There could be an impact on that part of the business community that directly relies on the commercial fishing for its revenue which could potentially result in unfavourable social and economic outcomes. It is likely that the impact would be most felt in the towns of Albany, Esperance and Bremer Bay where the majority of fishing related businesses are located. A proportionally larger impact is likely in Bremer Bay where the population and economy is far more reliant on the commercial fishing industry.

Key Finding 11 Local towns

Experience elsewhere suggests that the establishment of the South Coast Marine Park will have little impact on the coastal towns of the South Coast region with the magnitude of this impact dependent on the impact of sanctuary zones on the viability of the commercial fishing industry.

4.3.12 Conclusion

The experience of the establishment of marine parks elsewhere is that the protection of marine species and their habitats has protected or improved the environmental values that lead to their creation supporting the social, cultural, and economic values of the communities and economies in which they are located.

The key socio economic benefits are in the form of attracting additional expenditure in the adjacent region from spending by visitors, researchers, and for the management of the marine park. This has benefits for the local economy including a boost to existing businesses and the opportunity for the creation of new businesses particularly as they relate to nature based and Aboriginal tourism.

There are important cultural and economic benefits for local Aboriginal people by protecting significant sites, and in the jobs required for the joint management of the parks. Other important benefits include the recreational values associated with enjoying the marine park and the improved ability to view nature.

The role of the fisheries industry in the South Coast region is important to its economic and social fabric. The establishment of sanctuary zones in the proposed South Coast Marine Park will have an impact on commercial and recreational fishers. However, the size and location of these zones have not yet been allocated so the magnitude of their impact is not known. Experience elsewhere has found that it is likely that commercial and recreational fishers will be required to adjust their spatial fishing effort because of sanctuary zones. Further, recreational and potentially commercial fisheries can benefit from the establishment of sanctuary zones through greater catch per effort in the areas around these zones. Studies of other marine parks have found that most fisheries experience improved or no changes to catches, but some experience a small reduced catch.

The impact of socio economic change is dependent on the impact on the commercial fishing industry in the South Coast region. Any impact on businesses, employment, and population is likely to be larger in the smaller coastal towns where the fishing industry plays a larger role in the community and economy. Further, the socio economic impact of the proposed South Coast Marine Park is likely to be focussed on the Shire of Esperance, Shire of Ravensthorpe, Shire of Jerramungup, and Shire of Dundas as the closest communities to the proposed Marine Park area.

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