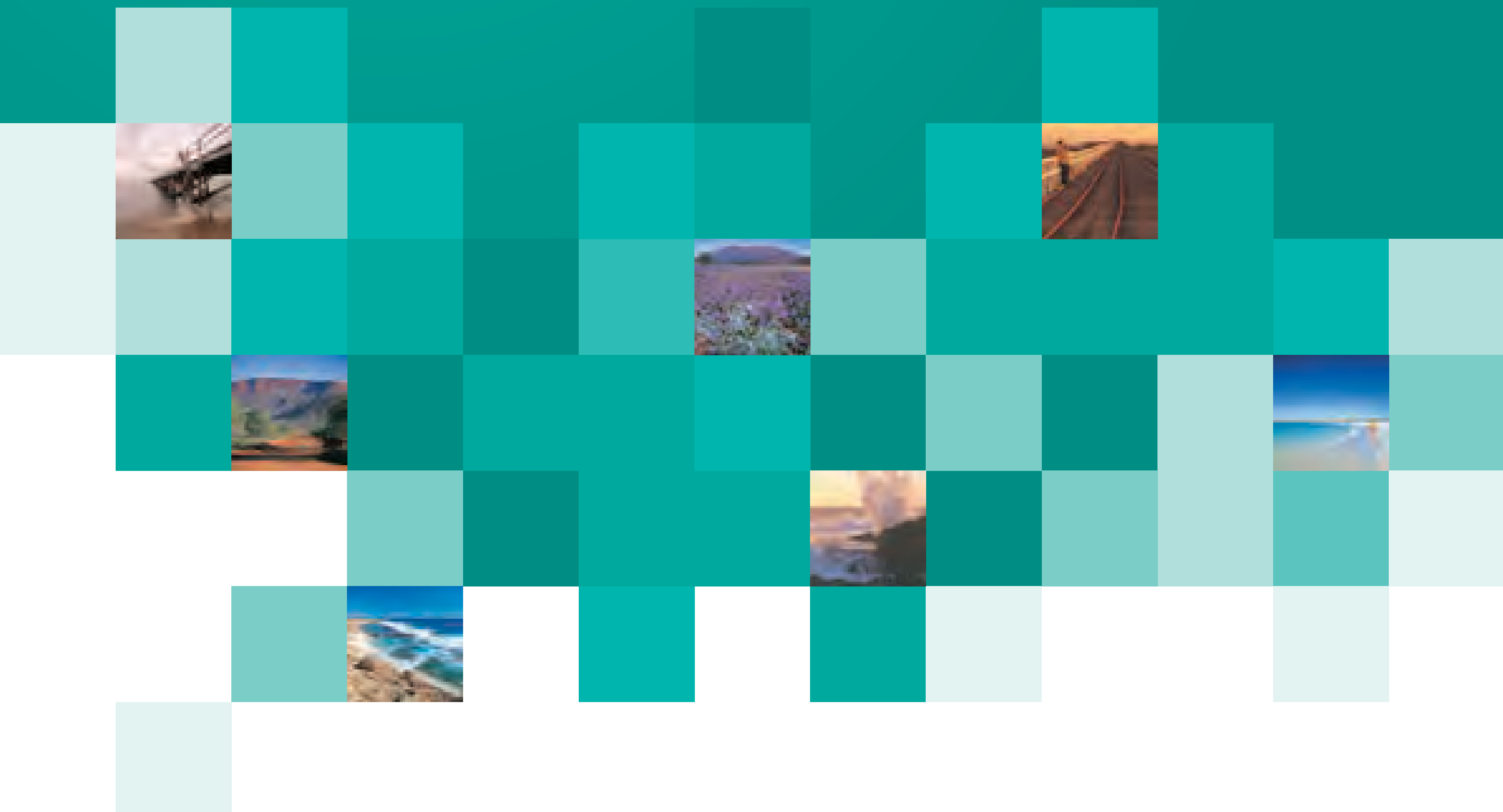
Gascoyne workforce development plan 2015–2018



Government of **Western Australia**
Department of **Training**
and Workforce Development

Gascoyne Workforce Development Alliance

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The term 'Aboriginal' people in this publication is inclusive of Torres Strait Islanders. It is noted that the terms 'Aboriginal' and 'Indigenous' have both been used in this publication as a result of the terminology used in sourced information.

Guide to implementation

The *Gascoyne workforce development plan 2015–2018* (the plan) aims to build, attract and retain a skilled workforce to meet the economic needs of the Gascoyne region. It contains a range of priority actions which were identified by local stakeholders to address local workforce development challenges.

The plan aligns with the State Government's *Skilling WA – A workforce development plan for Western Australia (Skilling WA)*, which provides a framework for government and industry's response to Western Australia's skill and workforce needs.

The Gascoyne Workforce Development Alliance, which is made up of industry, community and government representatives from the region, will be responsible for overseeing the implementation of the plan. The Alliance will identify those actions within the plan that should be given highest priority and facilitate their implementation. Progress will be reported to stakeholders annually and be included in *Skilling WA's* annual progress report.

The plan has been designed as an important reference point for all stakeholders as it identifies the challenges, agreed solutions and organisations that have a key stake in its implementation.

For the Regional Development Council, as the peak advisory body to the Western Australian Government on regional development matters, the plan is used to identify workforce issues and solutions which require policy consideration across regions. Importantly, the plan will also be closely aligned and will support the long term aspirations of the *Gascoyne Development Commission Blueprint*. It is expected that the *Blueprint* will have a significant role in prioritising many funding decisions in the region including Royalties for Regions initiatives.

For local government bodies, the plan identifies workforce issues to be taken into account as part of local government decision making processes.

The plan will be used by industry associations and employer peak bodies as a reference when working directly with employers to implement industry and enterprise solutions to workforce development challenges.

The plan also captures the views and aspirations of the broader community and provides a useful reference when engaging on workforce development issues across the region.

The Department of Training and Workforce Development in conjunction with the Gascoyne Workforce Development Alliance will facilitate the coordination of State Government responses outlined in the plan. This will include working with those agencies and training providers designated to take the lead on priority actions in the plan.

Contents

Background and methodology

Strategic context

Skilling WA

Over recent years, regional Western Australia has faced a number of challenges associated with ensuring the availability of a skilled and flexible workforce that can respond to the State's changing economic needs. Maintenance of a labour market environment that allows the State's regions to meet their full economic and social potential has been impacted by a combination of:

- rapid economic growth, followed by a recent softening;
- shifts in the nature of employment demand;
- inter-regional migration trends;
- ageing workforces; and
- changes in the nature of education and training.

To address this issue the Western Australian Department of Training and Workforce Development has developed a coordinated and integrated whole of state workforce planning and development process: *Skilling WA — A workforce development plan for Western Australia*[1] *(Skilling WA)*. The overarching objective of *Skilling WA* is to maximise the availability of skilled labour to meet the needs of employers, the community and the individual and involves a number of core considerations:

- an assessment of current and future demand for workforce skills;
- an examination of existing capacity and capability of the workforce;
- current and future workforce gaps; and
- the development of realistic and achievable workforce development strategies.

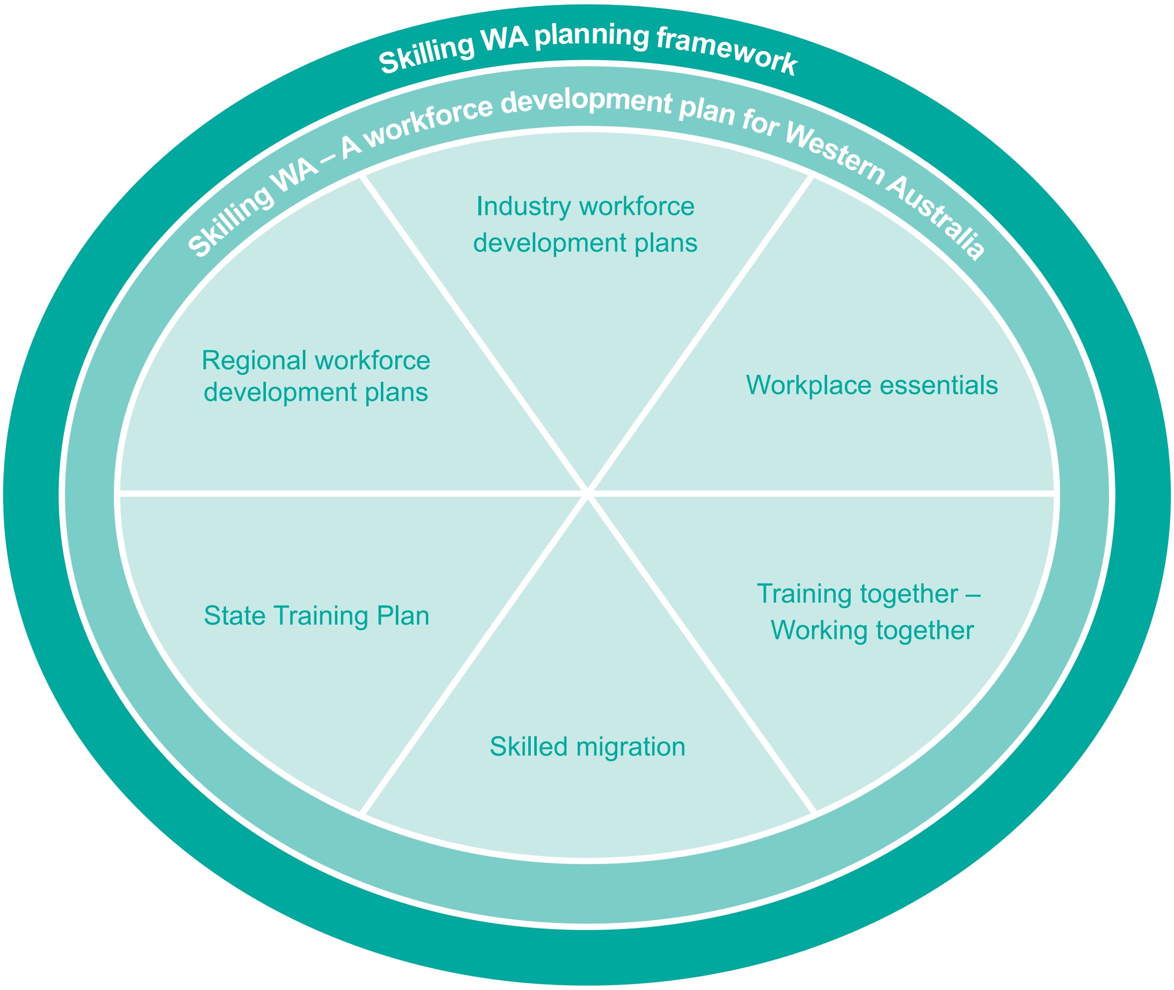
The *Skilling WA* outputs shown in diagram 1.1 ensure that the specific needs of industries, regions and those under-represented in the workforce, as well as major projects and enterprises are addressed. Governments, industry, community, education and training providers, enterprises, new job seekers and workers all have a role to play in meeting the workforce development needs of the State. Only in partnership with these stakeholders will the State address the skill and labour demands of our industries and provide the opportunity for all Western Australians to benefit from our strong economy.

Skilling WA is reviewed and updated by the Department of Training and Workforce Development as required. *Skilling WA, second edition*[2] was released in November 2014.

[1] Available from dtwd.wa.gov.au.

[2] Ibid.

Diagram 1.1: Skilling WA planning framework



Source: Department of Training and Workforce Development

Gascoyne Regional Investment Blueprint

The Gascoyne region faces significant opportunities and challenges in meeting its economic potential. The *Gascoyne Regional Investment Blueprint* (the *Blueprint*), currently being developed by the Gascoyne Development Commission (GDC) will outline the region's long term growth and development aspirations, comparative advantages and will provide a set of initiatives and investment opportunities to drive future growth. It will articulate a series of 'transformational pillars' to facilitate achievement of the Gascoyne's vision for its future.

1 Developing industries and markets.
2 Improving regional accessibility.
3 Advancing human capacity and knowledge.
4 Encouraging innovation.
5 Developing Aboriginal and small business economic capacity.
6 Enhancing health and lifestyle.

Opportunities include: enhanced hospitality and tourism offerings; expansion of pastoral, fishing, aquaculture and horticulture industries (including value added food chains), underpinned by the optimal use of land and water, and supplying both domestic and international markets; an expanding oil and gas industry; and potential expansion of defence operations in the region. Investment in transport infrastructure will be needed to optimise these opportunities. Other challenges include labour market efficiencies and communications connectivity.

It is anticipated that a common theme of all of the transformational pillars will be the critical imperative of human capacity building to support the economic and social future of the region. All pillars will have a training and workforce development response. Importantly, once the *Blueprint* is finalised, the Gascoyne Workforce Development Alliance will ensure that the *Gascoyne workforce development plan 2015–2018* initiatives are aligned with and support the *Blueprint*.

Methodology

The *Gascoyne workforce development plan 2015–2018* has been developed in partnership with the Gascoyne Development Commission and overseen by the Gascoyne Workforce Development Alliance, which comprises key industry, community and government representatives from across the region.

To support the preparation of the *Gascoyne workforce development plan 2015–2018*, extensive desktop research was undertaken, including a review of current research, literature and statistical data. While a number of data limitations were encountered, this material provided the basis for the development of an economic and social profile for the Gascoyne region. The research was then validated via a series of consultations conducted in Carnarvon, Gascoyne Junction, Denham and Exmouth. These included three forums and a number of one on one and small group interviews with the regional community, State and Commonwealth Government agencies and industry personnel, together with teleconferences. In total over 100 stakeholders participated. Appendix A contains a list of agencies and organisations involved in the consultation process.

Pre-reading for these forums and interviews included a discussion paper designed to provide background information for the consultation phase of this project. Importantly, this paper offered a basis for discussion and debate about workforce planning in the region and provided:

- an overview of selected employment trends in the Gascoyne; and
- a review of some of the key attraction and retention issues in the region.

The consultations were used to validate the priority issues facing the Gascoyne's workforce which form the basis for actions in the *Gascoyne workforce development plan 2015–2018*.

Profile of the Gascoyne region

Regional overview

The Gascoyne region represents approximately 6% of the land area of Western Australia. It covers over 135 000 square kilometres and has a coastline which extends along more than 600 kilometres of the Indian Ocean and reaches 500 kilometres inland (see figure 2.1).

The region encompasses four local government areas (LGA), namely the Shires of Carnarvon, Exmouth, Shark Bay and Upper Gascoyne. Key centres in the Gascoyne region include Carnarvon, Coral Bay, Denham, Exmouth and Gascoyne Junction. There are three Aboriginal communities, Burringurrah and Woodgamia in the Shire of Upper Gascoyne and Mungullah in the Shire of Carnarvon. The average distance between towns across the region is 300 kilometres. This can present challenges for the development of the region.

According to the Australian Bureau of Statistics (ABS) 2011 Census of Population and Housing there were 9 291[3] people across the region, of which 1 369 were Aboriginal and Torres Strait Islander. The majority of the population live in the Shire of Carnarvon which has a population of 5 787 (ABS 2012a and 2012b).

The Gascoyne is a region of diverse and remote landscapes with coastal reefs and outback ranges. Internationally recognised natural features such as the Ningaloo Reef, Coral Bay, the Shark Bay World Heritage Area and Monkey Mia may be found along its coastline. Inland areas include the dramatic features of the Kennedy Range and Mount Augustus. Generally, the land of the Gascoyne region is low lying and in the main is semi-arid scrub with little or no tree cover.

With its numerous natural features the region has a particularly strong tourism sector. Livestock grazing is the main land use activity and is widespread across the Gascoyne. Carnarvon's horticulture industry is developing and diversifying. Further growth is expected through the Gascoyne Food Bowl Initiative which comprises a number of projects to further horticulture development in the lower Gascoyne River area. Mining activity is evident in the Shires of Carnarvon and Shark Bay where salt and gypsum are mined. Developments, existing and potential, in the oil and gas industry provide further prospects for the region, in particular the Shire of Exmouth.

[3] This figure is based on place of usual residence. It is worth noting that the ABS estimated resident population for the Gascoyne was 9 766 in 2012 (GDC 2013).

Figure 2.1: Gascoyne region

Source: Department of Regional Development, 2014

As a result, the economy of the region is regarded as diverse. Fishing, horticultural and pastoral industries (the food industries), as well as tourism and mining, are major contributors to the Gascoyne economy. These industries are supported by a network of retail, administrative and trade services. Environment and natural resource management and government services also feature strongly in the region.

With approximately 320 days of sunshine each year, the Gascoyne can be described as having a moderate arid tropical climate. While the coastal areas have the more moderate climate, inland areas experience the extremes of heat in the wet season and cold in the winter. The majority of the region's rainfall occurs as a result of cyclonic activity. Thus rainfall is highly variable and low averaging about 200 millimetres per year.

Throughout this regional overview, data are presented at the regional level, and where possible, at the level of the four LGAs.

Regional economy

This section provides an analysis of the structure and dynamics of the Gascoyne's economy. It focuses on those aspects of the regional economy that have both direct and indirect consequences for labour markets and workforce planning. Central to this is a discussion of the external drivers of economic growth, the structure of the primary industries and resources sectors, tourism, industrial concentration, incomes and regional development investment.

The Department of Regional Development (DRD) estimated the Gross Regional Product (GRP) for the Gascoyne region to be $870 million in 2012–13, representing 0.3% contribution to the Gross State Product (GSP) (DRD 2014a).

Primary industries sector

Overview

This section outlines the key components of the primary industries sector in the region and the impact it has on the State and regional economies. The main source of information about the sector is provided by the ABS Agricultural Census. The most recent Agricultural Census was conducted in June 2011.

As shown in table 2.1, the gross value of Western Australia's agricultural commodities in 2010–11 was $5 386.6 million of which $73.2 million was contributed by the Gascoyne region (ABS 2011).

Pastoral

There are approximately 80 pastoral stations in the region which are leasehold and cover more than 125 500 hectares. Livestock is generally raised on natural pasture and watered through a variety of local sources. The carrying capacity of these pastoral areas and therefore the value of pastoral production, is variable as it depends on the irregular rainfall over the area. Thus productivity per hectare is relatively low compared with productivity in the southern agricultural regions of Western Australia. Nonetheless this low productivity is offset by the large size of pastoral leases and the relatively large herds and flocks on each lease (GDC 2012).

Table 2.1: Value of agricultural commodities produced, Western Australia and the Gascoyne region, 2010–11

Commodity	Western Australia		Gascoyne	
	Gross value $M	Local[4] value $M	Gross value $M	Local value $M
Agriculture	5 386.6	4 974.6	73.2	64.6
Crops	3 213.3	2 962.5	52.8	46.2
Crops (excl. hay)	3 109.6	2 858.8	52.8	46.1
Horticulture – Nurseries, cut flowers and cultivated	123.5	113.6	0.1	0.1
Horticulture – Vegetables for seed	10.1	9.0	0.1	0.1
Horticulture – Vegetables for human consumption	356.7	300.2	35.5	30.2
Horticulture – Fruit	288.3	260.9	17.2	15.8
Horticulture – Fruit – Citrus fruit	17.9	14.7	0.4	0.3
Horticulture – Fruit – Other orchard fruit	40.5	34.9	3.9	3.4
Horticulture – Fruit – Plantation fruit	13.1	12.5	9.0	8.8
Horticulture – Fruit – Grapes	104.7	102.3	3.8	3.3
Livestock – Livestock slaughtered	1 410.2	1 279.6	18.2	16.3
Livestock – Livestock products	763.1	732.5	2.1	2.0

Note: The values listed in the above table are not all mutually exclusive.

Source: ABS Cat. 7503.0, 2012y

While wool production had been the focus of the region, it is now predominately beef, sheep and lamb meat (see table 2.2). There is evidence of diversification as some pastoral stations are moving into goats, horticulture, inland aquaculture and outback tourism (GDC 2012).

These and other directions and initiatives in the region were influenced by the Gascoyne Murchison Strategy which concluded in 2004. The $50 million program was a Commonwealth /State partnership developed to revive the pastoral industry and give pastoralists the opportunity to bring their operations up to date (Department of Agriculture 2004). The *Gascoyne Regional Development Plan 2010–2020* refers to the benefits of developing a similar second strategy (GDC 2010a).

[4] The value placed on commodities at the point of production (i.e. farm gate). Local value of production is equal to gross value of production less marketing costs. Gross and local value of agricultural commodities may be the same if they are consumed as raw materials to produce other agricultural commodities (e.g. hay consumed by livestock), since no marketing costs are involved (ABS, 2012y).

Table 2.2: Livestock products in the Gascoyne, 2010–11

Commodity	Gross value ($million)
Cattle and calves	14.3
Sheep and lambs	3.1
Wool	1.9
Eggs (produced for human consumption)	0.2

Source: ABS Cat. 7503.0, 2012y

In its *Pastoralism Investment Profile* (2012), the Gascoyne Development Commission has identified the following medium to long term economic opportunities for the pastoral industry:

- potential agreements or joint ventures between Western Australia and Malaysia and Western Australia and Indonesia for the supply of red meat;
- the development of an abattoir to service the north west;
- breeding goats for the Malaysian market;
- the supply of boxed red meat to the Asian market and boxed goat meat for the domestic market;
- supplying meat to mine site caterers north of the Gascoyne;
- export of intellectual property in such areas as farm management and breeding best practice;
- bio-fuel plantation production;
- free range meat production;
- organic cattle farming;
- development of a Gascoyne brand and local distribution;
- food product development; and
- pivot irrigation of fodder crops.

Horticulture

The horticulture industry is well established and flourishing in the Gascoyne. The Carnarvon Horticulture District located on the fertile soils of the Gascoyne River delta is the area which is responsible for most of the produce grown in the region. The major crops grown on these fertile soils include bananas, tomatoes, capsicums, cucurbits, avocados and mangoes. Recently, there has also been an expansion into low-chill stone fruits (peaches, nectarines and plums), red grapefruit and table grapes. In addition a number of pastoral leases have diversified into horticultural enterprises, producing melons, table grapes, citrus and asparagus.

Approximately 1 100 hectares are under cultivation with plantations varying in size from six hectares to 130 hectares. The water, so vital to this industry is abstracted from the

Gascoyne River or delivered via the irrigation water scheme supply (GDC 2010a). The area, while comparatively small in terms of Australian horticulture, is becoming increasingly important to Western Australia. It is also well placed to expand into the many Asian and Middle East markets.

The region and its horticulture industry are susceptible to the impact of adverse climate conditions. Issues with drought and water supply have been mitigated by changes to the delivery of water, although cyclones, fires and floods are still of concern. Both the value and volume of production in the Carnarvon Horticulture District has increased in recent times due to increased State Government investment in research and development and the impact of the National Water Market reform. The introduction of innovations such as horticultural fertigation[5], open hydroponics and shade cropping, have also had a positive impact on production (GDC 2009 and 2010a).

The industry is set to expand even further with the State Government's Gascoyne Food Bowl Initiative (GFI). It is made up of a number of projects to further develop horticulture in the lower Gascoyne River. The GFI is investigating the development of new water resources, and aims to expand the Carnarvon horticulture area by up to 400 hectares.

Under the Royalties for Regions program, $45 million has been allocated to the GFI:

- $20 million to flood mitigation works; and
- $25 million to the further development of land and water resources for horticultural expansion, including:
  - exploration and development of the northern bore field; and
  - land development, including head works for horticultural expansion (Redman 2012).

Of significance to the planned expansion of the horticulture industry was the opening of the $19.9 million Gascoyne irrigation pipeline (2012). The pipeline is 31 kilometres long and will be used to deliver groundwater from bore fields across the Carnarvon Horticulture District. It will provide water for nearly 200 growers and be capable of servicing the proposed expansion of horticultural land. Funding for the pipeline was provided by the State Government through the Royalties for Regions ($7.4 million), the Gascoyne Water Co-Operative ($5.9 million) and the Commonwealth Government's Water for the Future initiative ($6.6 million) (Grylls, Marmion and Redman 2012).

Key GFI components due for completion by 2016 are the:

- sourcing and delivery of additional water suitable for horticultural production (minimum four gigalitres) including surface water optimisation strategies;
- electrification of the existing northern bore field and a new bore field;
- identification, development and release of an additional 400 hectares of land for horticultural purposes; and
- natural resource management including the provision of assistance to address the impacts of flooding and water shortages during drought (Department of Agriculture and Food 2014).

[5] Fertigation is the technique of supplying dissolved fertiliser to crops through an irrigation system.

According to the Gascoyne Development Commission (2009), this planned expansion of the horticulture industry has the potential to provide a number of economic opportunities including:

- developing existing and emerging export markets;
- capitalising on Western Australia's proximity to the Asian markets;
- increasing citrus production to respond to the growing export market for fresh and juicing fruit; and
- value adding to horticultural produce to meet future demand for ready to cook and pre-packed products.

Fishing

Commercial fishing is a significant industry in the Gascoyne region. It has three of the State's more valuable and internationally recognised best practice fisheries, namely the Shark Bay Prawn, Exmouth Gulf Prawn and Shark Bay Scallop fisheries. The three fisheries land combined catches valued in the range of $40–$50 million annually. These trawl-based fisheries have operated sustainably in the region since the mid 1960s (Department of Fisheries 2013a).

Table 2.3 presents the commercial catch in the Gascoyne region for 2011. Gascoyne seafood is competitive in the local, national and international market. Producers are capitalising on the close proximity of the neighbouring Asian markets and successfully exporting into Japan, Hong Kong and Singapore (GDC 2010).

Table 2.3: Total volume of commercial catch by species in the Gascoyne region, 2011

Species	Catch (tonnes)	Commercial value ($million)
Blues swimmer crab	910	Less than 6
Pink snapper	237	1-5
Prawns	2 990	37
Rock lobster*	5 501	194
Scallop	295	1.5
Spangled emperor	4	N/A
Spanish mackerel	47	N/A
Tailor	18	N/A

*The fishery operates between Shark Bay and Cape Leeuwin.

Source: Department of Fisheries, 2013

A key growth area for the fishing industry in the Gascoyne region may be the manufacturing of value added products. A precedent has already been set with a number of seafood businesses not only manufacturing value added products but also diversifying their supply streams to include the hospitality industry (GDC 2010).

Resources sector

The resources sector and mining in the Gascoyne is mainly focussed on salt production and the oil and gas industry. Nonetheless it is becoming a more important and valuable sector. Table 2.4 details the value of minerals and petroleum in the region for the period 2013–14. Table 2.5 details the value by local government authority.

Table 2.4: Value of minerals and petroleum, Gascoyne 2013–14

Minerals/Petroleum	$
Salt and gems	134 136 926
Gypsum and limesand-limestone	3 690 331
Construction materials	514 375
Total	**138 341 632**

Source: Department of Mines and Petroleum, 2014

Table 2.5: Value of minerals and petroleum, by local government authority, Gascoyne 2013–14

Local government authority	$
Carnarvon	97 896 049
Exmouth, Shark Bay and Upper Gascoyne	40 445 583
Total	**138 341 632**

Source: Department of Mines and Petroleum, 2014

Salt and gypsum mining occurs at Lake MacLeod and there is a separate salt mining operation at Useless Loop. These two operations are capable of producing 5.2 million tonnes of salt per annum. This represents almost half of the State's total salt production (Department of Planning 2012).

The Gascoyne region also has a variety of resources including oil, gas and uranium. Oil and gas exploration and production occurs in the Exmouth Gulf area. Uranium occurrences have also been identified in the Gascoyne (GDC 2010a). A variety of minerals are also being explored at various inland locations in the Upper Gascoyne.

According to the *Western Australian minerals and petroleum statistics digest 2012–2013* the major crude oil producers in Western Australia in 2012–13 were located in the Carnarvon Basin. Producers in the Carnarvon Basin include the Pyrenees development operated by BHP Billiton. From this, Australia's largest oil project in the last decade, crude is extracted from the Ravensworth, Crosby and Stickle fields. It is located about 45 kilometres off the coast of Exmouth.

BHP Billiton (the operator) with 50% equity and Woodside with 50% equity have a joint venture in the Stybarrow oil project located 65 kilometres north west of Exmouth. The project involves a subsea development and a floating production, storage and offloading facility (FPSO).

The Woodside operated North West Shelf joint venture is the next largest crude oil producer. This includes the Cossack, Hermes and Wanaea fields. Woodside also operates the Enfield and Vincent projects in a joint venture with Mitsui (40%).

Other Carnarvon Basin operators include:
- Apache Energy Ltd's Harriet, Stag and Van Gogh projects;
- Vermillion Energy's Wandoo; and
- Santos Ltd's Mutineer Exeter.

According to the *Gascoyne Regional Development Plan* (2010a), the region and its economy could benefit from the expansion of existing mining and oil and gas ventures and the commencement of new ones. These have the potential to provide more jobs and employment opportunities and thus greater prosperity for the region.

Any new mining operations would benefit the region's economy if they had a permanent locally based workforce and obtained most services from local business. However if these were not to occur, the Gascoyne, particularly Carnarvon and Exmouth has an opportunity to provide a home base for fly-in fly-out (FIFO) operations. The local towns can demonstrate comparative advantages such as their relative proximity to many mining operations and lower house prices compared to the Kimberley and Pilbara (GDC 2010a).

The GDC (2013a) undertook a recent review of regional infrastructure and provided a synopsis of the current state of the resources and mining sector. The following information was taken from that review.

Carnarvon - salt mining

Salt production was a by-product of potash mining which began in 1965 at Lake MacLeod. In 1978 it was taken over by Dampier Salt. Rio Tinto Minerals was formed in 2006 between Dampier Salt, US Borax and Luzenac Talc. Under this banner, the 10 millionth tonne of gypsum was shipped from Lake MacLeod in January 2007, and in August 2007 Lake MacLeod was expanded to 1.9 million tonnes per year. Salt produced at Lake MacLeod is shipped from stockpiling and shipping facilities located at Cape Cuvier.

Carnarvon - gypsum

In 1997, Dampier Salt established a gypsum project next to the Lake MacLeod solar salt fields. The product was exported to Japan and other parts of Asia, Africa and within Australia. When market conditions deteriorated during the global financial crisis the operation was placed into care and maintenance. With improvements in market conditions and Dampier Salt's projections for medium term trends for gypsum operations recommenced in 2013.

Exmouth - limestone

Limestone is quarried near Mowbowra Creek approximately 8.5 kilometres south of the Exmouth town centre. The quarry is owned and operated by Exmouth Limestone Pty Ltd.

Exmouth - oil and gas

Oil and gas production in the Exmouth Sub-basin is, in the main, carried out using FPSO vessels connected to subsea wells via flexible flow lines. This industry is carried out in Commonwealth waters and the production value is not considered part of the Gascoyne economy. Servicing the off shore oil and gas industry near Exmouth is considered a significant development opportunity for Gascoyne businesses.

Woodside

Woodside, an Australian publicly traded oil and gas exploration and production company, operates a number of oilfields in the Greater Exmouth area. Woodside operates and has interest in the following oil fields:

- Enfield – the Enfield project is part of a new oil field in the deep waters off North West Cape. It includes Woodside's Stybarrow, Vincent and Laverda discoveries. Discovered in 1999, Enfield is a significant oil resource located 50 kilometres north west of Exmouth. The $1.48 billion project commenced production in July 2006. Oil is produced through five subsea wells connected to the FPSO. As an indication of the size and extent of the resource, the FPSO has a maximum design production rate of about 100 000 barrels per day and a storage capacity of about 900 000 barrels of oil.
- Stybarrow – the Stybarrow project was discovered in 2003 and commenced production in November 2007. It is located 65 kilometres north west of Exmouth. The project involves a subsea development and a FPSO. The FPSO has a design production capacity of 80 000 barrels per day and will have a storage capacity of 900 000 barrels.
- Vincent – the Vincent oil project is approximately 50 kilometres north west of Exmouth. It was discovered in 1998 and began production in 2008. Vincent has 13 development wells and the project has produced 27 million barrels of oil since production began. In December 2011 a FPSO was purchased in order to extend the field life at Vincent.
- Laverda – the Greater Laverda area is located in the Exmouth Sub-basin, about 10 kilometres west of the Enfield oil project. Appraisal wells Laverda North-1 and Laverda North-2 have confirmed the existence of oil-bearing sands in the Laverda oil field, which was discovered by Woodside in 2000. Preliminary evaluation suggests that the combined volume of the Greater Laverda area has the potential to contain a recoverable volume in excess of 100 million barrels of oil (100% basis).

BHP Billiton

BHP Billiton is a leading global resources company. The company is among the world's largest producers of major commodities such as coal, iron ore, manganese and uranium. It also has substantial interests in oil and gas. BHP Billiton operates and has interests in the following oil and gas projects in the region:

- Pyrenees – oil production at the Pyrenees project commenced in 2010. There are 13 subsea wells, an extensive subsea gathering system and a FPSO facility. The FPSO has a production capacity of approximately 96 000 barrels of oil and gas reinjection capacity of 60 million cubic feet of gas per day (100% basis). Gas produced by the development will be reinjected into the reservoir of the nearby Macedon gas field for future recovery.
- Ravensworth – Ravensworth is located approximately 45 kilometres off the coast from Exmouth. It has been developed in conjunction with BHP's Pyrenees field. Ravensworth is a separate development with its own wells and gathering system. The oil produced is processed for off-take via the Pyrenees project's FPSO vessel. Crude oil production came online in September 2010 (Wilkinson 2010).
- Macedon – the Macedon gas field is situated in the Northern Carnarvon Basin. It is approximately 90 kilometres west of Onslow and 40 kilometres north of Exmouth.

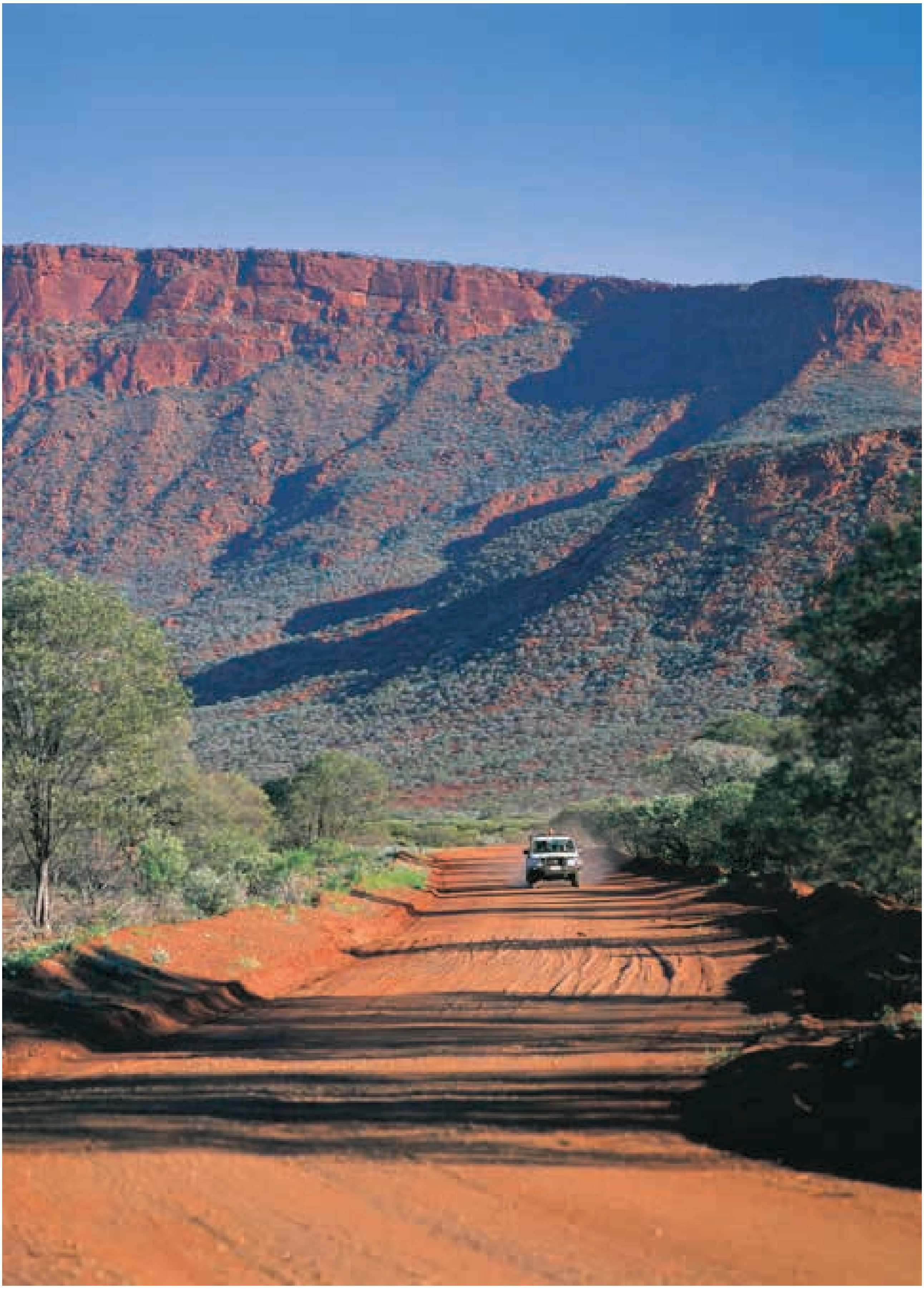
The Macedon project includes four off shore production wells and an on shore gas treatment plant at Onslow. In addition, it will use the Dampier to Bunbury Gas Pipeline to export the gas. The first gas started flowing in August 2013. Macedon has a production capacity of up to 200 terrajoules of gas per day, making it BHP's largest domestic gas operation. The Macedon project is expected to supply domestic gas for the wholesale market in Western Australia until at least 2033, with 20% of the State's daily domestic gas supply for consumers and industry to be provided by this project (The Australian 2013).

Apache Corporation

Apache Corporation is an American independent oil and gas corporation. It has regional offices worldwide including an Australian office in Perth. In the main, Apache's holdings in Australia are focused on off shore Western Australia in the Carnarvon Basin, the Exmouth Basin and the Browse Basin. The following Apache projects are of relevance to the region:

- Van Gogh location – the Van Gogh field, which is part of the Vincent field, is about 50 kilometres north of Exmouth. Apache is developing the field on behalf of the project's joint venture participants Apache Northwest and Inpex Alpha, of Japan.

  Production commenced in February 2010. At peak production the field is expected to reach 60 000 barrels of oil per day. There are 19 production wells, two water-injection wells and one gas-injection well were drilled. The Van Gogh project involves subsea well-production equipment connected to a FPSO vessel (Kable Intelligence Ltd 2012 in GDC 2013a).
- Coniston – the Coniston Development Project is a new subsea oil field development located in the Exmouth Basin. The project commenced in late 2011 and is due for completion in 2014. It involves development of the Coniston and Novara oilfields via a tie-back to subsea infrastructure already in place for the Van Gogh. The project will also use the Van Gogh FPSO.



Shark Bay - salt

The Shark Bay salt field covers an area of 7 000 hectares and is located in the Shark Bay World Heritage Area. Shark Bay Salt Pty Ltd which operates the salt field is a wholly owned subsidiary of Mitsui and Co. The site produces around 1.3 million tonnes of salt every year. The salt produced is the purest grade of salt in the world. This is attributed to pristine seawater, extremely low rainfall and extended periods of sunshine.

The jetty and ship loading facility enable salt to be loaded directly onto ships. These ships can carry between 35 000–40 000 deadweight tonnages. The wash plant, which washes the harvested salt before it is loaded onto ships, was upgraded in 2012 to ensure continued operational efficiency.

Shark Bay salt is chiefly used in high-end food markets in Japan and other Asian countries. Some is sold to industrial markets (Mitsui and Co. (Australia) Ltd 2013 in GDC 2013a).

Upper Gascoyne - minerals

The inland Gascoyne has little mining development. However, there is considerable ongoing exploration. Natural resources found in the area include barite, copper, lead, zinc, dimension stone, gems and semi-precious stones, gold, iron ore, lithium, magnetite, rare earths, tantalum, tin, uranium and traces of hydrocarbons and diamonds.

Tourism

Tourism is a major contributor to the Gascoyne's economic activity. It is expected to remain one of the region's major growth industries. The region has spectacular natural attractions which draw significant numbers of intrastate, interstate and international visitors. From April to October the region is popular with domestic (intrastate and interstate) visitors. International tourists tend to visit during the period of October to December. Many of the visitors coming to the region for holiday or leisure are self-drive tourists looking for a nature based experience (GDC 2010b).

Tourism Western Australia (Tourism WA) estimated that visitors to the Gascoyne region averaged 214 700 per year in the period 2011–13. Domestic visitors averaged 172 000 persons during the same period and there was an average of 43 000 international tourists (Tourism WA 2014).

Western Australia has five tourism regions as defined by Tourism WA. The Gascoyne is in the Coral Coast region which extends north from Cervantes to Exmouth and inland via the shires bordering the Midlands Road to Mullewa.

Between 2007 and 2009 intrastate visitors accounted for 61% of visitors to the region, while 23% were international visitors and 16% were interstate visitors. With regard to tourist expenditure, in the period 2006–08, it is estimated that the annual domestic visitor expenditure was $162 million with the annual international visitor expenditure estimated to be $29.5 million (GDC 2010b).

Tables 2.6 to 2.12 provide further information on tourism in the region. The tables indicate that intrastate visitors still account for the largest percentage of visitors (66%) with 72% of these domestic visitors coming to the region for holidays and leisure activities. The domestic visitors to the Coral Coast in 2012–13 spent $258 million.

Table 2.6: Gascoyne visitor summary, 2011–13

	YE Dec 2011/12/13 average annual visitors	YE Dec 2011/12/13 percentage (%)
Estimated visitors		
Intrastate	142 300	66
Interstate	29 700	14
International	43 000	20
Total	**214 700**	**100**
Estimated visitor nights		
Intrastate	1 039 000	60
Interstate	206 000	12
International	489 300	28
Total	**1 734 300**	**100**
Average length of stay (estimated nights)		
Intrastate	7.3	-
Interstate	6.9	-
International	11.4	-
Total	**8.1**	**-**

Source: Tourism WA, 2014b

Table 2.7: Purpose of visit to the Gascoyne, 2011–13[6]

Purpose	YE Dec 2011/12/13 average annual visitors		YE Dec 2011/12/13 average annual visitors	
	Estimated domestic visitors		Estimated international visitors	
	Number	Percentage (%)	Number	Percentage (%)
Holiday or leisure	123 300	72	39 800	93
Business	23 700	14	1 500	4
Visiting friends or relatives	12 000	7	1 000	2
Other	16 700	10	1 800	4
Total	**175 700**		**44 100**	

Source: Tourism WA, 2014b

Table 2.8: Carnarvon visitor summary, 2011–13

	YE Dec 2011/12/13 average annual visitors	YE Dec 2011/12/13 percentage (%)
Estimated visitors		
Domestic	50 000	80
International	12 700	20
Total	**62 700**	**100**
Estimated visitor nights		
Domestic	177 700	N/A
International	N/A	N/A
Total	**N/A**	**N/A**
Average length of stay (estimated nights)		
Domestic	3.6	-
International	N/A	-
Total	**N/A**	**-**

Source: Tourism WA, 2014

[6] Purpose of visit is a multiple response question. Therefore totals may not add up to 100%.

Visitor fact sheets are also produced at the tourism region level. Two of those produced for the Coral Coast tourism region are of interest to this profile, namely Carnarvon and Exmouth[7]. Tables 2.9 to 2.12 provide visitor summaries for these areas.

Table 2.9: Exmouth visitor summary, 2011–13

	YE Dec 2011/12/13 average annual visitors	YE Dec 2011/12/13 percentage (%)
Estimated visitors		
Intrastate	122 300	64
Interstate	27 700	14
International	40 900	21
Total	**190 900**	**100**
Estimated visitor nights		
Intrastate	888 000	62
Interstate	179 700	13
International	362 600	25
Total	**1 429 900**	**100**
Average length of stay (estimated nights)		
Intrastate	7.3	-
Interstate	6.5	-
International	8.9	-
Total	**7.5**	**-**

Source: Tourism WA, 2014a

Table 2.10: Expenditure on accommodation, food and beverages (AFB) by international visitors Coral Coast, 2012–13

Total expenditure ($million)	AFB expenditure ($million)	AFB share of region expenditure percentage (%)
71	30	42

Source: Tourism Research Australia, 2013

[7] These are based on the ABS statistical areas not the local government areas.

Table 2.11: Destination expenditure by purpose of visit by domestic visitors Coral Coast, 2012–13

Purpose	Expenditure ($million)	Share of expenditure (percentage %)	Visitors ('000)	Visitor nights ('000)	Expenditure per visitor ($)	Expenditure per night ($)
Holiday or leisure	258	72	416	2 238	621	115
Visiting friends and relatives	46	13	144	519	322	89
Business	49	14	96	428	511	115
Other	N/A	N/A	N/A	N/A	N/A	N/A

Source: Tourism Research Australia, 2013

Table 2.12: Tourism business in the Coral Coast tourism region, 2011–12

Employing businesses and number of employees					Non-employing businesses	Total businesses
Micro (1–4 employees)	Small (5–19 employees)	Medium (20–199 employees)	Large (200+ employees)	Total employing		
244	259	115	0	618	345	963

Source: Tourism Research Australia, 2013

GDC's *Gascoyne Tourism Investment Profile* (2010b) identified a number of opportunities to support and expand this important industry sector, particularly in eco-tourism accommodation and activities.

Medium to long term opportunities for the tourism industry in the Gascoyne region include:

- development of small tourist node businesses, for example surfing lessons, kayak hire, snorkelling tours and heritage walks;
- eco-style accommodation development;
- resort accommodation;
- fishing charters;
- Indigenous tours;

- pastoral and plantation station stay accommodation, adventure sports experiences and work experience; and
- potential marketing directions:
  - extending the shoulder season through event development; and
  - marketing direct to the Pilbara workforce.

In addition to the GDC's *Gascoyne Tourism Investment Profile* (2010b), there are a number of other strategies which address tourism in whole or in part. These include the *Ningaloo Coast Regional Strategy Carnarvon to Exmouth* (DoP 2004), the draft *Coral Bay Settlement Structure Plan* (Shire of Carnarvon 2013) and Tourism WA's (2010) *Australia's Coral Coast: Tourism development priorities 2010-2015*.

Regional economic performance

This section provides an analysis of the structure and dynamics of the Gascoyne regional economy. It focuses on those aspects of the regional economy that have both direct and indirect consequences for labour markets and workforce planning. Central to this is a discussion of the external drivers of economic growth such as the industrial concentration, incomes and regional development investment.

Gross Regional Product

The region's economy is diversified with tourism and agriculture, forestry and fishing traditionally making the most significant contributions. According to Deloitte Access Economics (2011) this diversity is the region's greatest strength and evidence of the diversity is the range of industries in which people are employed.

Relative to other regions such as the Pilbara and the Goldfields, the Gascoyne does not have a large GRP. In 2012–13 its GRP was the smallest of all the State's regions. The estimated value of GRP for the Gascoyne was $870 million which represents 0.3% of the GSP (DRD 2014a).

Even though the GRP has increased in the period 2008–09 to 2011–12, its contribution to GSP has largely remained static at around 0.4%. This may be due, in large part, to the overall growth of the State's GSP. For example, in 2010–11, GSP grew by 19.8% and in 2011–12 by 7.8% (Department of Treasury 2011 and 2012).

The National Economic Indicators Series produced by the company .id, is a set of key economic measures presented at the LGA level. Table 2.13 presents the GRP for the Gascoyne for 2012–13 at the LGA level taken from this series.

Table 2.13: Gross Regional Product and worker productivity in local government areas, 2012–13

Local government area	Gross Regional Product		Worker productivity (GRP/worker)
	$million	State %	$
Carnarvon	434	0.17	144 294
Exmouth	372	0.15	245 885
Shark Bay	60	0.02	132 094
Upper Gascoyne	5	0.00	89 460

Source: .id, [2014]

Industry structure

Location quotients (LQs)[8] are a simple means of determining which sectors can be regarded as forming the economic base of an area. They are indicators of economic drivers. A quotient greater than 1.0 means that the area's labour force is usually biased towards that particular group. A quotient of 2.0 indicates that the area has twice as many persons in a given sector as expected and a quotient of 0.5 means half as many[9].

Table 2.14 presents the LQs for each industry sector in the Gascoyne region. At this regional level the LQs indicate that agriculture, forestry and fishing sector and mining have provided the basis of the regional economy in 2011. Other industries with LQs greater than or equal to 1.0 included:

- electricity, gas, water and waste services;
- accommodation and food services;
- transport, postal and warehousing;
- construction;
- public administration and safety; and
- administrative and support services.

Business structure

The majority of businesses in the Gascoyne are in agriculture, forestry and fishing and construction. Transport, postal and warehousing, the retail trade and rental, hiring and real estate services also have high numbers of active businesses. The number of businesses in the category of accommodation and food services may not be as numerous as would be expected given the importance of the tourist industry. Table 2.15 presents a breakdown of businesses by industry sectors for the region.

[8] A location quotient is a ratio comparing local economic activity in a particular sector, with that in a wider reference economy. Usually this is the national economy. A location quotient of greater than one (1) suggests a local or regional advantage or a concentration of employment in that sector. A location quotient of less than one (1) suggests that the sector is not a driving/leading industry within the local economy.

[9] Calculated as: LQir = (Eir/Er)/(EiN/EN). Where: Eir = employment in sector i in region r ; Er = total employment in region r ; EiN =employment in sector i in the national economy; EN = employment in the national reference economy.

Table 2.14: Location quotients by industry sector in the Gascoyne, 2011

Industry sector	2011
Agriculture, forestry and fishing	4.21
Mining	3.11
Electricity, gas, water and waste services	1.37
Accommodation and food services	1.36
Transport, postal and warehousing	1.35
Public administration and safety	1.25
Construction	1.22
Administrative and support services	1.09
Rental, hiring and real estate services	0.95
Education and training	0.90
Retail trade	0.87
Other services	0.84
Wholesale trade	0.65
Arts and recreation services	0.64
Health care and social assistance	0.62
Manufacturing	0.58
Professional, scientific and technical services	0.50
Information, media and telecommunications	0.29
Financial and insurance services	0.29

Source: Based on ABS *Census*, 2012

Most businesses in the region are small, with less than 20 employees (95%). A high percentage of small to medium businesses is a common structure across regions in Australia. These businesses provide services to the general population as well as the larger sectors such as mining, agriculture, forestry, food and tourism. In 2013, 29% of businesses were in the agriculture, forestry and food sector. The construction sector represented 15% of all the businesses. Of this number 98% or 153 businesses had less than 20 employees, including 104 non-employing businesses.

Table 2.15: Businesses according to industry sector in the Gascoyne to June 2013

		No. of persons				
Industry sector	**Non employing**	**1–4**	**5–19**	**20–199**	**200+**	**Total number**
Agriculture, forestry and fishing	162	71	43	15	0	291
Construction	104	38	11	3	0	156
Transport, postal and warehousing	37	30	18	0	0	85
Retail trade	19	22	23	6	0	70
Rental, hiring and real estate services	49	13	8	0	0	70
Accommodation and food services	16	22	15	8	0	61
Unknown *	49	7	3	0	0	59
Other services	17	19	6	0	0	42
Financial and insurance services	30	3	0	3	0	36
Professional, scientific and technical services	21	7	3	0	0	31
Administrative and support services	11	9	6	5	0	31
Manufacturing	17	8	0	3	0	28
Wholesale trade	0	8	3	3	0	14
Mining	7	3	0	0	0	10
Health care and social assistance	7	0	3	0	0	10
Education and training	6	0	3	0	0	9
Arts and recreation services	3	6	0	0	0	9
Information, media and telecommunications	6	0	0	0	0	6
Electricity, gas, water and waste services	3	0	0	0	0	3
Public administration and safety	0	0	0	0	0	0
Total	**564**	**266**	**145**	**46**	**0**	**1 021**

* This refers to those businesses that are yet to be coded by the ATO to an industry, sector and/or main State of operation through the Australian Business Register (ABR) new business registration process.

Source: ABS *Cat. 8165.0*, 2014a

Improvements in wider economic conditions and the drop in the value of the Australian dollar could lead to increased numbers of visitors and a positive impact on businesses related to tourism. Projects such as the GFI also have the potential to assist the local economy. Existing and planned oil and gas projects, while operating off shore, may require more services and products from local businesses.

Income distribution

Personal income

In 2011, 57.1% of the region's residents aged 15 years and over had a gross weekly personal income of $400 or more. This compares with 58.6% for Western Australia as a whole. Approximately 29.5% (2 148) had a gross weekly personal income of less than $400 (ABS 2012j and 2012w).

Table 2.16: Weekly personal income comparison, Gascoyne and Western Australia 2011

Weekly income	Gascoyne		Western Australia	
	Persons (No.)	Population (%)	Persons (No.)	Population (%)
Less than $400	2 148	29.5	584 920	32.5
$400 - $999	2 311	31.7	488 249	27.1
$1 000 - $1 999	1 398	19.2	403 119	22.4
Over $2 000	453	6.2	165 452	9.2
Total	**7 293**		**1 799 102**	

Please note: Totals exclude persons where personal income was not stated

Source: ABS *Census*, 2012j and 2012w

Household income

In 2011, 55% of all households in the Gascoyne region had a gross weekly household income of $1 000 or more. In 2006, 47% of all households in the region had a gross weekly household income of $1 000 or more.

It is worth noting that in 2011 the median weekly household income in the Gascoyne was $1 167 compared to $1 415 across the State. While the State median monthly mortgage repayments were $1 950, Exmouth and Carnarvon reported median weekly household incomes of $1 181 and $1 146 respectively, with median monthly mortgage repayments of $2 000 and $1 517 respectively.

Taxation

The number of persons paying income tax in the Gascoyne region decreased from 3 887 in 2007 to 3 833 in 2010. In 2008 the number rose to 4 135. Over this period the average taxable income has increased from $48 670 to $55 771. The average taxable income for the State in 2007 was $54 572 and $65 829 in 2010.

From 2007 to 2010, the average net tax increased from $10 224 to $10 814. Net tax as a proportion of taxable income went from 21% in 2007 to 19% in 2010. The combined taxable income was $189.2 million in 2007 and $213.8 million in 2010 (ABS 2013a).

Dwelling approvals

The number of dwelling approvals can be a helpful indicator of the performance of a local economy. Dwelling approvals not only indicate the level of domestic construction activity but can also be used as a de facto measure of economic confidence. High rates of approval usually indicate stronger economic performance and confidence in the future. As new dwellings are often a response to migration-driven demand, dwelling approvals can be a useful pointer towards future population change. While this can be influenced by factors such as changing household size and the replacement of existing housing stock, very high rates of dwelling approval are often associated with in-migration.

On the other hand, low levels of dwelling approvals tend to indicate areas with lagging economies. A slower rate of dwelling approvals can also be an indication of an ageing population and reduced economic opportunities.

There was a gradual increase in the number of dwelling approvals in the region from 2007–10. In 2011 there was a 20% decline on the previous year. The total number of residential dwelling approvals in 2011 was 68.

In 2007 the value of total residential approvals was $8.5 million. By 2010 it had risen to $32.7 million before dropping slightly in 2011 to $31 million. This overall increase may be attributed to the increasing value of housing and housing construction (ABS 2013a). Tables 2.17 and 2.18 present the number of building approvals and their value for the period 2007–11.

Table 2.17: Dwelling approvals in the Gascoyne, 2007–11

	2007 (No.)	2008 (No.)	2009 (No.)	2010 (No.)	2011 (No.)
Total private sector houses[10]	21	42	59	68	51
Total new private sector houses	20	39	59	67	51
Total dwelling units	31	58	65	85	68

Source: ABS *Regional National Profile*, 2013a

[10] Type of work can include ‘new’, ‘alterations and additions’ and ‘conversions’. Unless otherwise specified, building data in the National Regional Profile is total building, which is the sum of new, alterations and additions, and conversions.(ABS, 2013a – Explanatory Notes.)

Table 2.18: Value of dwelling approvals in the Gascoyne, 2007–11

	2007 ($million)	2008 ($million)	2009 ($million)	2010 ($million)	2011 ($million)
Value of total private sector houses	6.4	13.7	20.4	28.3	23.1
Value of new private sector houses	5.0	12.1	19.0	26.8	20.8
Value of new residential building	6.8	16.9	20.8	30.7	26.5
Value of total residential building	8.5	19.6	22.5	32.7	31.0
Value of total non-residential building	12.3	56.6	36.8	15.3	40.5
Value of total building	20.8	76.2	59.3	48.0	71.5
Average value of private sector houses ($'000)	304.2	325.5	345.2	415.5	452.1

Source: ABS *Regional National Profile*, 2013a

Tables 2.19 and 2.20 present more recent figures released from the ABS in January and October 2014 on building approvals. These figures at the LGA level, indicate that the Shires of Carnarvon, Exmouth and Shark Bay experienced a decline in new houses from 2012–13 to 2013–14 while the Shire of Upper Gascoyne experienced no new activity in those years.

Table 2.19: Building approvals in local government areas, Gascoyne 2013–14

	New houses (No.)	New other residential building (No.)	Total dwellings (No.)	Value of new houses ($'000)	Value of new other residential building ($'000)	Value of alterations and additions including conversions to residential building ($'000)	Value of total residential building ($'000)
Carnarvon	8	2	10	2 214.3	463.0	530.0	3 207.3
Exmouth	11	0	11	6 110.6	0.0	285.9	6 396.5
Shark Bay	4	0	4	797.9	0.0	32.4	830.3
Upper Gascoyne	0	0	0	0.0	0.0	0.0	0.0
Total	**23**	**2**	**25**	**9 122.8**	**463.0**	**848.3**	**10 434.1**

Source: ABS *Census*, 2014b

Table 2.20: Building approvals in local government areas, Gascoyne 2012–13

	New houses (No.)	New other residential building (No.)	Total dwellings (No.)	Value of new houses ($'000)	Value of new other residential building ($'000)	Value of alterations and additions including conversions to residential building ($'000)	Value of total residential building ($'000)
Carnarvon	26	0	26	8 402.6	0.0	1 038.8	9 441.4
Exmouth	19	0	19	10 393.8	0.0	709.0	11 102.8
Shark Bay	12	0	12	6 504.7	0.0	215.0	6 719.7
Upper Gascoyne	0	0	0	0.00	0.0	0.00	0.00
Total	**57**	**0**	**57**	**25 301.1**	**0.0**	**1 962.8**	**27 263.9**

Source: ABS *Census*, 2014

According to the Real Estate Institute of Western Australia (2013) the value of houses and land varied across the region. Tables 2.21 and 2.22 illustrate this variability. For example, house prices in Exmouth increased 12.3% over 10 years while those in the Carnarvon urban area grew by 12.0% in the same period. Across regional Western Australia there was an increase of 8.9% over the 10 year period.

Table 2.21 Comparison of changes in median house prices, 2013

Areas	YTD Qtr	1 year (%)	5 years (%)	10 years (%)
Carnarvon urban area	1.7	8.9	-0.3	12.0
Exmouth	1	9	1.2	12.3
Regional Western Australia	0	1.4	1	8.9

Source: Real Estate Institute of Western Australia, 2013

Table 2.22 Comparison of changes in land prices, 2013

Areas	YTD Qtr (%)	1 year (%)	5 years (%)	10 years (%)
Carnarvon urban area	-15.6	-59.1	-11.9	10.0
Exmouth	-1.4	21.9	8.3	19.8
Regional Western Australia	0.3	2.1	0.7	6.8

Source: Real Estate Institute of Western Australia, 2013

Cost of living

Table 2.23 compares the cost of living across the Western Australian regions in 2013. The information is based on the Regional Price Index (RPI). The RPI compares the cost of a common basket of goods and services at regional locations with the cost in the Perth metropolitan region. Perth as the base has an index of 100. Regional costs are shown as a variation of that base.

Across the regions the cost of the entire basket of goods and services was highest in the Pilbara and lowest in the Great Southern. With the exception of recreation and education, all the regional price indices in the Gascoyne were higher than Perth. In general, the Gascoyne region had the third highest RPI after the Kimberley and Pilbara regions. Most notable of these in all three regions is the cost of housing.

Table 2.23: Comparison of Regional Price Indices for the WA regions, 2013

Commodity/Service	Great Southern	Southwest	Wheatbelt	Goldfields	Mid West	Gascoyne	Kimberley	Pilbara
Basket	97.6	99.9	100.5	104.1	102.8	110.0	114.7	118.6
Food	102.4	98.6	103.6	106.5	104.3	110.0	114.5	101.5
Cigarettes, tobacco and alcoholic drinks	101.2	102.8	107.4	105.4	104.6	109.0	113.6	108.4
Clothing	104.9	112.2	127.1	108.7	121.6	119.4	116.9	109.0
Housing	85.6	95.0	93.1	97.4	97.5	120.7	125.6	139.8
Household equipment and operation	100.9	100.9	100.3	104.2	104.1	106.0	109.7	108.9
Health and personal care	111.2	100.7	108.7	119.0	115.4	104.8	103.7	129.6
Transport	100.0	100.2	102.0	101.8	100.2	105.9	108.8	112.0
Recreation and education	103.9	106.7	94.8	111.0	104.4	95.6	106.5	111.7
RPI	**97.3**	**99.9**	**100.5**	**104.1**	**102.8**	**110.0**	**114.7**	**118.6**

Source: Department of Regional Development, 2013

Regional development investment

This section gives an overview of the Royalties for Regions Funding Scheme which is at present, a significant form of public investment in the regions. The previous section on the regional economy also includes information on industries in the region which have received public sector and private sector investment.

Royalties for Regions funding scheme

The Royalties for Regions program which came into being in 2008, has led to a significant increase in public sector funding for regional Western Australia. The equivalent of 25% of the State's royalties from mining and on shore petroleum was earmarked for investment in regional areas each year. This investment underpinned a range of new economic, social and other projects. In the 2013–14 budget the State Government made significant changes to the structure of the funding scheme. Nonetheless it remains an important source of funding in the regions.

At its inception, the Royalties for Regions program comprised four specific purpose funds:

- Regional Infrastructure and Headworks Fund;
- Country Local Government Fund (no new funding has been available since the 2012–13 funding round);
- Regional Community Services Fund; and
- Regional Development Fund.

Allocations to these funds are based on six policy objectives:

- building capacity in communities;
- retaining benefits in local communities;
- improving services to achieve equality with metropolitan communities;
- attaining sustainability;
- expanding opportunity; and
- growing prosperity.

The complexity of the scheme, combined with the recent changes, makes it difficult to report on the breadth of its investments or impacts. However there are a number of elements of the scheme that can be considered in order to provide insights into the scope of the policy.

One of the aspects of the Royalties for Regions funding from which the Gascoyne region has benefitted is the Country Local Government Fund (CLGF) allocations. These funds are allocated to individual country local governments and groups of country local governments to assist them to build and maintain their infrastructure.

Table 2.24 sets out the CLGF allocations across the four LGAs in the Gascoyne for 2012–13. The allocation totalled just over $2 million. Carnarvon was the biggest beneficiary ($938 636), followed by Upper Gascoyne ($516 320) (Department of Regional Development and Lands 2012a).

Table 2.24: Country local government fund allocations Gascoyne, 2012–13

Local government	Allocation ($ ex GST)	% of Region's allocation (rounded)
Carnarvon	938 636	42
Exmouth	399 570	18
Shark Bay	378 341	17
Upper Gascoyne	516 320	23
Total	**2 232 867**	

Source: Department of Regional Development and Lands (DRDL), 2012a

The *Gascoyne Revitalisation Plan* (DRD 2014b), which is drawn from projects identified in the *Gascoyne Regional Development Plan 2010–2020* (GDC 2010b), provides the framework for Royalties for Regions funding. This plan was developed in December 2009 by the GDC and the four Gascoyne local governments. For the period 2010–11 to 2015–16 an investment of $150 million was planned for the Gascoyne. This investment was to cover major infrastructure, headworks and community priority projects (DRD 2014).

The State Government's Royalties for Regions budget allocation for 2013–14 totalled $1.3 billion. Table 2.25 outlines the budget allocation by project for the Gascoyne region in 2013–14 (Buswell and Grylls 2013 and Projectlink 2013).

Table 2.25: Royalties for Regions budget allocations Gascoyne, 2013–14

Project	Allocation
Carnarvon flood levees	$35 million
Carnarvon police and justice complex	$29 million
Carnarvon Health Campus redevelopment, including $2.7 million for the Exmouth Multipurpose Service towards the new ambulatory care facility	$6.3 million
Carnarvon power station redevelopment	$18.3 million
Carnarvon dual purpose alcohol and drug centre	$1.3 million
Exmouth North wastewater treatment	$1 million
Carnarvon Senior High School	$5 million
Coral Bay seasonal staff accommodation	$237 000
Commencement of work on the $161 million Royalty for Regions funded North West Health Initiative	$1 million

Source: Projectlink+, 2013

Regional demography

This section provides an overview of demographic trends in the Gascoyne region. It focuses on total population trends, age/gender structure and population mobility. All of these trends provide insights not only into the broader economic and social changes affecting the region, but also aspects of the regional labour market and workforce dynamics.

Demographic trends

On Census night August 8, 2006 there were 8 889 persons counted in the region based on usual place of residence. By the next Census on August 9, 2011, this had grown to 9 291 persons. Of these, 52% were males and 48% were female (ABS 2007 and 2012j).

The population represents about 0.4% of the total State population. Over the past five years the population grew by approximately 4.5%. During the same period the State's population grew by 14% (ABS 2012j and 2012w).

The region also has a large transient population. The 2011 Census shows that there were more than 6 700 persons in the region other than those usually in residence. This represents a more than 70% increase in population. The Census was conducted during the period regarded as the peak tourism period so the increase in the population in the three LGAs with the key tourist attractions should not be unexpected (ABS 2012).

Table 2.26: Population, place of usual residence and place of enumeration Gascoyne, 2011

Statistical area	Population – usual residence	Population – enumeration[11]
Gascoyne	9 290	16 038
Shire of Carnarvon	5 788	8 857
Shire of Exmouth	2 392	4 741
Shire of Shark Bay	857	2 152
Shire of Upper Gascoyne	253	292

Source: ABS *Census*, 2012a, 2012c, 2012e, 2012g, 2012j, 2012l, 2012n, 2012p, 2012r and 2012t

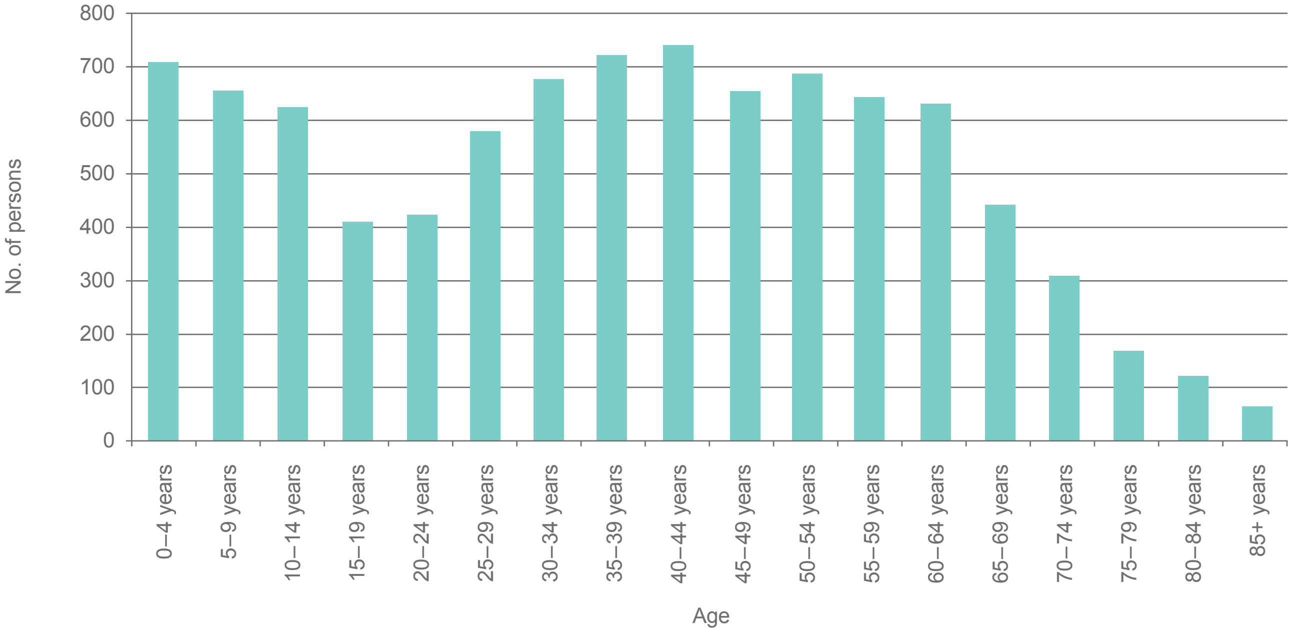
Age structure

The 2011 Census indicates that the region had a median population age of 38 years. The State median age was 36 and the median age was 37 for Australia as a whole. Children aged 0–14 years made up 21% of the population, 28% of the population were aged 45–64 years and persons aged 65 years and over made up 12% of the population.

[11] The Census count for Place of Enumeration is a count of every person in Australia on Census Night, based on where they were located on that night. This may or may not be the place where they usually live.

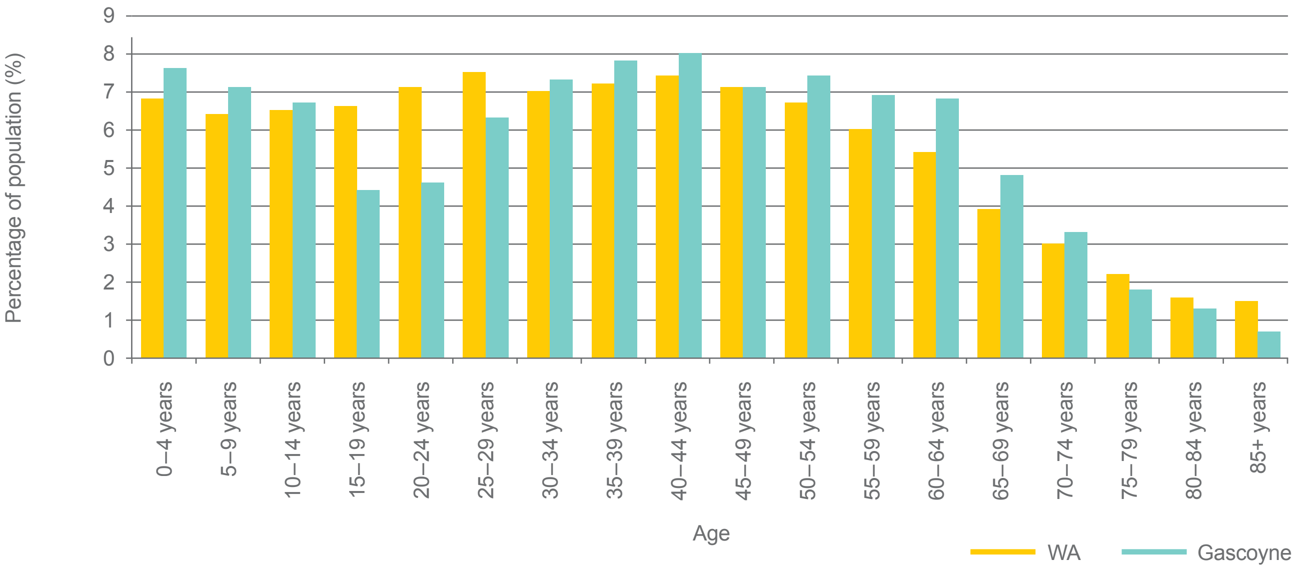
At the time of the 2011 Census, approximately 4 800 persons were under the age of 40 years. This represents approximately 52% of the population. Almost 2 400 (26%) persons were aged 55 years and over. Figure 2.2 shows the age structure for the region as a whole in 2011. Figure 2.3 compares the Gascoyne and Western Australian age structures.

Figure 2.2: Age structure of the Gascoyne, 2011



Source: ABS *Census*, 2012j

Figure 2.3: Age structure of the Gascoyne and Western Australia, 2011



Source: ABS *Census*, 2012j

Gender structure

In 2011, 52% of the region's population were male. Across Western Australia in 2011 approximately 50% of the State's population were male. Table 2.27 compares the gender structure across the region according to the LGAs. From the table it can be seen that in all the LGAs and in the region, there are marginally more men than women.

Table 2.27: Gender structure in the Gascoyne, 2011

Statistical area	Males (No.)	Males (%)	Females (No.)	Females (%)	Total
Gascoyne	4 845	52	4 446	48	9 291
Shire of Carnarvon	2 964	51	2 823	49	5 787
Shire of Exmouth	1 285	54	1 108	46	2 393
Shire of Shark Bay	458	53	399	47	857
Shire of Upper Gascoyne	138	55	113	45	251

Source: ABS *Census*, 2012a, 2012e, 2012j, 2012n and 2012r

Population mobility

From the 2011 Census it can be seen that approximately 48% of the region's population were living at the same address in 2011 as in 2006. Table 2.28 provides detailed Census 2011 statistics on mobility.

Table 2.28: Population mobility persons aged 5 years and over in the Gascoyne, 2011

Place of residence	Five years ago	One year ago
Same usual address	4 112	6 680
Different same usual address in same statistical area	1 039	589
Moved from elsewhere in WA	1 672	704
Moved from elsewhere in Australia	461	203
Moved from overseas	317	80
Not stated	977	901
Total	**8 578**	**9 157**

Source: ABS *Census*, 2012j

Population projections

According to the Department of Planning's (DoP) (2012b) population projections, there is the possibility of marginal long term population loss in the Gascoyne. The average annual growth rate is estimated to be -0.6% with a lowest change rate of -1.5% and a high of 0.5%. Table 2.29, taken from DoP's *Gascoyne regional planning and infrastructure framework* (2015), illustrates the projections for 2016–26.

Notwithstanding the DoP's population projections for the Gascoyne, there is the prospect of significant regional population growth should a number of potential economic developments occur in the resources, agriculture and tourism industries. There is current optimism regarding a number of potential economic projects for the region. It is worth noting other planning documents, such as the draft *Gascoyne Regional Investment Blueprint* have aspirational targets for the future population growth of the region.

Table 2.29: Gascoyne population projections to 2026

Local government area	Current population[12] 2013	Population forecast (median value)[13]		
		2016	2021	2026
Carnarvon	6 139	5 500	4 900	4 400
Exmouth	2 570	2 500	2 500	2 500
Shark Bay	928	1 100	1 200	1 300
Upper Gascoyne	262	330	340	350

Source: DoP, 2015

[12] 2013 estimated residential population – ABS *Cat. 3218.0*, 2014.

[13] *WA Tomorrow* population projections based on 'band C' scenario (DoP, 2012b).

Regional labour market

This section considers the Gascoyne region's labour market. In addition to describing the overall trends in employment and unemployment, it addresses more specific location distinctions and sectoral characteristics of the labour force. Topics include an assessment of participation in the labour force, employment by industry sector, occupational structures, FIFO operations and the ageing of the workforce. It also examines the educational and skills base of the region.

Labour force trends

Table 2.30 presents the Commonwealth Department of Employment's (DoE) small area labour markets labour force statistics for 2008–13. The average labour force in the Gascoyne has grown slightly over the past five years, from 5 488 in 2008 to 6 412 in 2013. This represents an increase of approximately 17% (DoE 2014).

Table 2.30 Estimated Gascoyne labour force, quarterly average 2008–13

Statistical area	2008	2009	2010	2011	2012	2013
Carnarvon	3 377	3 254	3 538	3 656	3 754	3 927
Exmouth	1 399	1 368	1 487	1 536	1 578	1 650
Shark Bay	529	515	560	579	594	621
Upper Gascoyne	184	177	192	199	205	214
Gascoyne	**5 488**	**5 314**	**5 777**	**5 968**	**6 130**	**6 412**

Source: DoE, 2014

Current employment and unemployment profiles

The region's unemployment rate averaged 3.4% or 211 persons in 2012 and increased to an average of 5.8% (373 persons) in 2013. By comparison, the average Western Australian unemployment rate in 2013 was 4.4% (DoE 2013 and 2014). Table 2.31 shows the average unemployment rates for 2012 and 2013 in the Gascoyne.

Table 2.31 Gascoyne region unemployment rates, quarterly average 2012–13

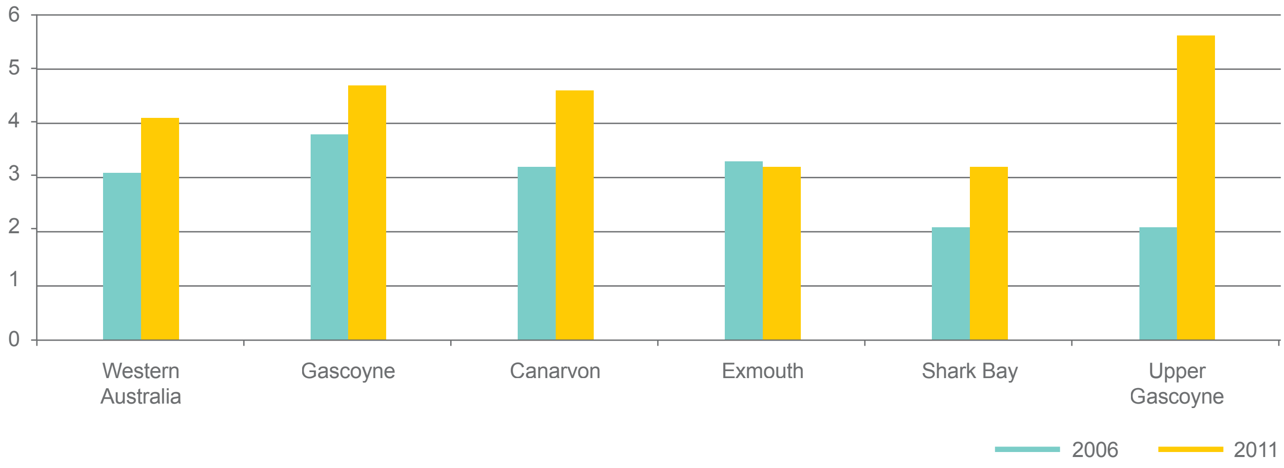
Statistical area	Unemployment rate (%) quarterly average 2012	Unemployment (No.) quarterly average 2012	Unemployment rate (%) quarterly average 2013	Unemployment (No.) quarterly average 2013
Carnarvon	4.5	168	8.0	294
Exmouth	1.4	21	2.2	34
Shark Bay	1.1	7	3.4	19
Upper Gascoyne	7.7	16	13.1	26
Gascoyne	**3.4**	**211**	**5.8**	**373**

Source: DoE, 2014

Figure 2.4 presents a comparison of the unemployment rates across the region for 2006 and 2011 as recorded in the relevant Censuses. The unemployment figures for Western Australia are also provided.

From figure 2.4 it can be seen that the unemployment rate in the Gascoyne region was higher than the State's rate in 2006 and 2011. Overall the four LGA's rates of unemployment fluctuated over the 10 year period. By 2011 Carnarvon and the Upper Gascoyne had rates higher than the State unemployment rate.

Figure 2.4: Comparison of unemployment rates, Gascoyne region and Western Australia 2006–11



Source: ABS *Census*, 2012d, 2012h, 2012m, 2012q, 2012u and 2012x

Employment and industry sector

The comparatively diversified economy of the region is demonstrated in the range of industries in which persons are employed. The industry and business structures outlined further in this plan also complement the economic diversity and the industry/employment profile.

The importance of the primary industry sector is demonstrated by its 10.5% share of the region's employment. The significant tourism industry is illustrated by the number of workers in accommodation and food services (10.0%) and retail (9.9%).

Table 2.32 presents the complete profile for employment by industry as captured in the 2011 Census. The major industries recorded in terms of employment were:

- agriculture, forestry and fishing (10.5%);
- accommodation and food services (10.0%);
- retail trade (9.9%);
- public administration and safety (9.9%); and
- construction (9.0%).

Ageing of the workforce

It is acknowledged that Australia's and Western Australia's population and workforce are ageing. While the rate of ageing may not be as swift as that being experienced elsewhere in the world, it is still a cause for consideration and concern. In concert with the rest of Western Australia, the Gascoyne's population and workforce are ageing, with 21% aged 55 years and over and 44% aged 45 years and over (ABS 2012j). The loss of labour, skills and knowledge would be considerable if the majority of those aged over 55 years left the workforce in the next five years.

In 2000 the participation rate of Australians aged 55 to 64 years was 48% and Australia was ranked 18th among Organisation for Economic Co-operation and Development (OECD) countries. In 2011 it had risen to 63% and rated 12th among OECD countries and well above the OECD average (Australian Workforce and Productivity Agency, 2013).

The ABS (2010) noted that this increase in labour force participation over the past decade was probably due to the strong economic growth experienced over the period which had led to an increase in demand for labour. Another factor may have been the increased flexibility in employment arrangements which enable older workers to move to part time work as a transition to retirement. Older workers may also be encouraged to remain in the workforce by the tax concessions for workers aged 55 years and over. Older women may be remaining in the workforce because of the increase in the age at which they are eligible for the age pension.

While regional level figures are not available, it is reasonable to expect that the statistics for the Gascoyne would be similar.

Table 2.32: Gascoyne employment by industry, 2011

Industry of employment	No. of persons	Percentage of employment
Agriculture, forestry and fishing	459	10.5
Accommodation and food services	436	10.0
Retail trade	431	9.9
Public administration and safety	428	9.9
Construction	389	9.0
Education and training	317	7.3
Health care and social assistance	301	6.9
Transport, postal and warehousing	288	6.6
Mining	265	6.1
Manufacturing	198	4.6
Administrative and support services	158	3.6
Other services	127	2.9
Professional, scientific and technical services	123	2.8
Inadequately described/Not stated	117	2.7
Wholesale trade	93	2.1
Electricity, gas, water and waste services	68	1.6
Rental, hiring and real estate services	60	1.4
Arts and recreation services	34	0.8
Information, media and telecommunications	25	0.6
Financial and insurance services	23	0.5
Total	**4 340**	

Source: ABS *Census*, 2012j

The National Centre for Vocational Education Research commissioned six researchers to write essays on issues related to retaining older Australians in the workforce. The research indicated that more older Australians were participating in the labour force and this was a trend that was likely to continue. Nonetheless there were impediments to this group participating in the labour force. The major themes which emerged from the research highlight these impediments were:

- the need to recognise the diversity of older workers;
- the challenge of low literacy and numeracy skills for some groups of older workers;
- issues around discrimination and stereotypes;
- lifelong learning as a core concept in modern careers, aligned with the notion of active ageing; and
- that it should not be assumed that all older workers want to keep working (Griffin and Beddie 2011).

According to Deloitte Access Economics (2012) there are three key reasons to expect continued improvements in mature age participation, namely:

- the flow-through of higher participation rates among women;
- ongoing increases in the aged pension age; and
- traditional attitudes to retirement becoming obsolete as Australians recognise the impact of increases in longevity.

In considering the age profile of the Gascoyne it is evident that some industries are at greater risk due to the ageing of the population. Significantly, the majority of these industries are the key industry employers and also represent those industries with the largest economic impact. For example in agriculture, forestry and fishing, 54% of workers are aged 45 years and over and 31% are aged 55 years and over. In the healthcare and social assistance sector, 55% are aged 45 years and over and 30% are aged 55 years and over.

Fly-in fly-out workforce

It has been estimated that in 1996 approximately one quarter of those employed in the Western Australian resources sector worked on a fly-in fly-out (FIFO) basis. By 2006 it was estimated that more than four in 10 workers in the sector were FIFO. In 2008 the Chamber of Minerals and Energy estimated that 45% of workers directly engaged in the State's mining industry were employed on a FIFO basis. The workforce for the resources sector had risen to approximately 101 000 in 2011. The Chamber of Minerals and Energy of Western Australia estimated that 52% of these persons were employed on FIFO rosters (CME 2008 and 2012).

According to the *Gascoyne Regional Development Plan* prepared by Regional Development Australia (RDA) in 2012, the region has an opportunity to promote its advantages as a home base for FIFO operations. Carnarvon and Exmouth were cited as particular examples of such bases. The advantages offered by these towns include relative proximity to many of the mining operations and lower house prices.

In their 2012 report for the GDC on economic opportunities, SGS Economics and Planning recognised that the majority of the labour force required for planned future developments in off shore oil and gas and on shore mining sectors could not be sourced from the Gascoyne region. However the companies involved in these sectors stated they would investigate the feasibility of transporting employees who chose to live in the region to their workplace under a fly-in fly-out (FOFI) or drive-out drive-in (DODI) basis. Rio Tinto is already flying staff from Carnarvon to Paraburdoo on a weekly basis and has now nominated Exmouth as one of its regional FIFO towns. The Chamber of Minerals and Energy reinforced FIFO opportunities in the WA State Growth Outlook 2011, saying that some FIFO workers for the Pilbara could also be sourced from the Gascoyne region.

While the above examples focus on the oil and gas and mining sectors, FIFO is in operation in a range of other sectors, including construction, medical and health services. FIFO and drive-in drive-out (DIDO) are increasingly being adopted in the agricultural sector.

As the profile and use of FIFO has increased so has the debate over its value as a workforce practice. In 2013 the House of Representatives Standing Committee on Regional Australia reported on the FIFO and DIDO working arrangements on mining towns. These recommendations included reviewing local government funding and taxation concessions, improving the supply of affordable housing and access to health services, training and mining industry jobs for residents of mining towns and encouraging the provision of tertiary education.

Occupational trends

In the 2011 Census 809 (19%) persons described themselves as managers. As such this was the most common occupational group in the Gascoyne. Labourers accounted for 16% of the workforce, closely followed by technicians and trade workers at 15%. Those engaged in sales work represented the smallest occupational group at 7% (ABS 2012j).

In the agriculture, forestry and fishing industry sector 65% of the labour force were managers and 26% were labourers. Of those in the mining sector 38% were machinery operators and drivers. Almost 49% of those in retail trade were sales workers and approximately 30% of those in accommodation and food services were classed as labourers and 24% as managers (ABS 2012j).

At the LGA level, managers dominated in Carnarvon with 21%, followed by labourers at 16% of the labour force. In Exmouth 20% (255 persons) were technicians and trades workers. Machinery operators and drivers were the smallest group with 69 persons or approximately 5%. The occupational groups were more evenly spread in Shark Bay with no one group comprising more than 17% of the workforce - for example, managers (17%), labourers (17%) and technicians and trades workers (15%). Clerical and administrative workers (12%), professionals (11%), community and personal services workers (9%) and machinery operators and drivers (9%) were clustered. Sales workers were the smallest group at 8%. In the Upper Gascoyne managers (27%) and labourers were the largest occupational groups (28%) (ABS 2012a, 2012e, 2012n and 2012r).

The breakdown of the occupational groups at the LGA level to a large extent reflects the dominant industries in each area. For example, the predominance of the pastoral industry in the Upper Gascoyne accounts for the high percentage of managers and labourers. Figures 2.5 and 2.6 indicate the occupational groups which comprise the labour force in the Gascoyne. Figure 2.5 includes a breakdown of occupations by LGA.

Figure 2.5: Labour force by occupation Gascoyne, 2011

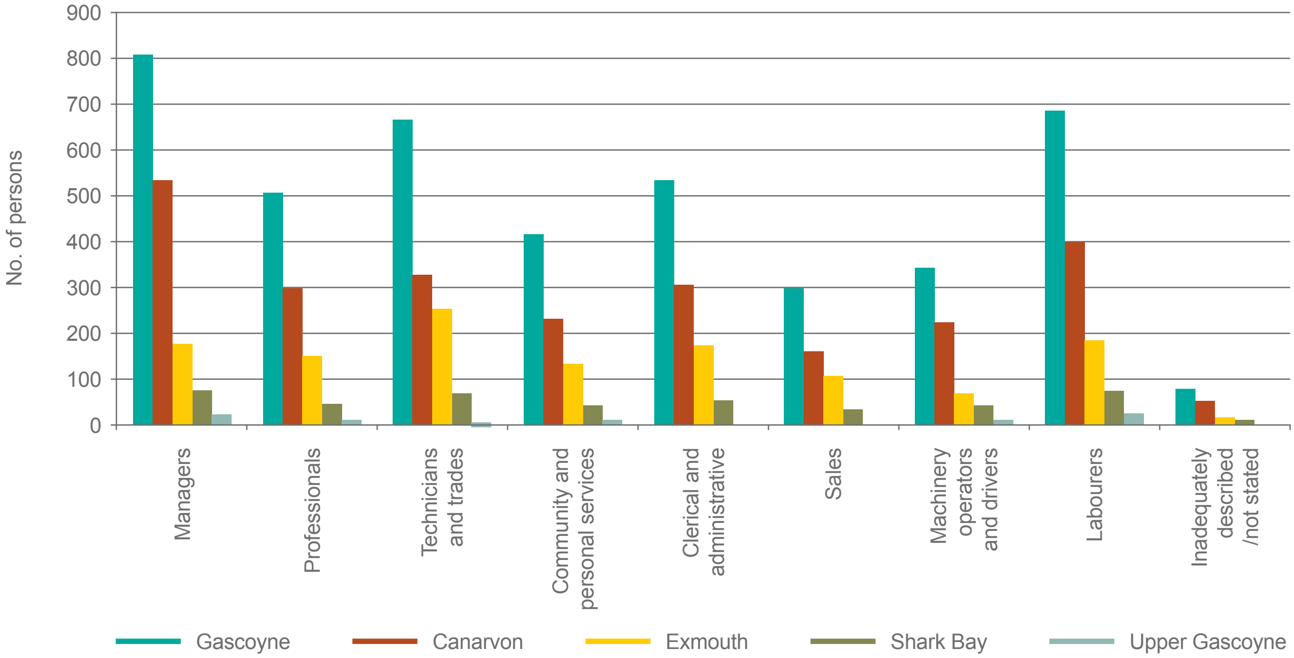
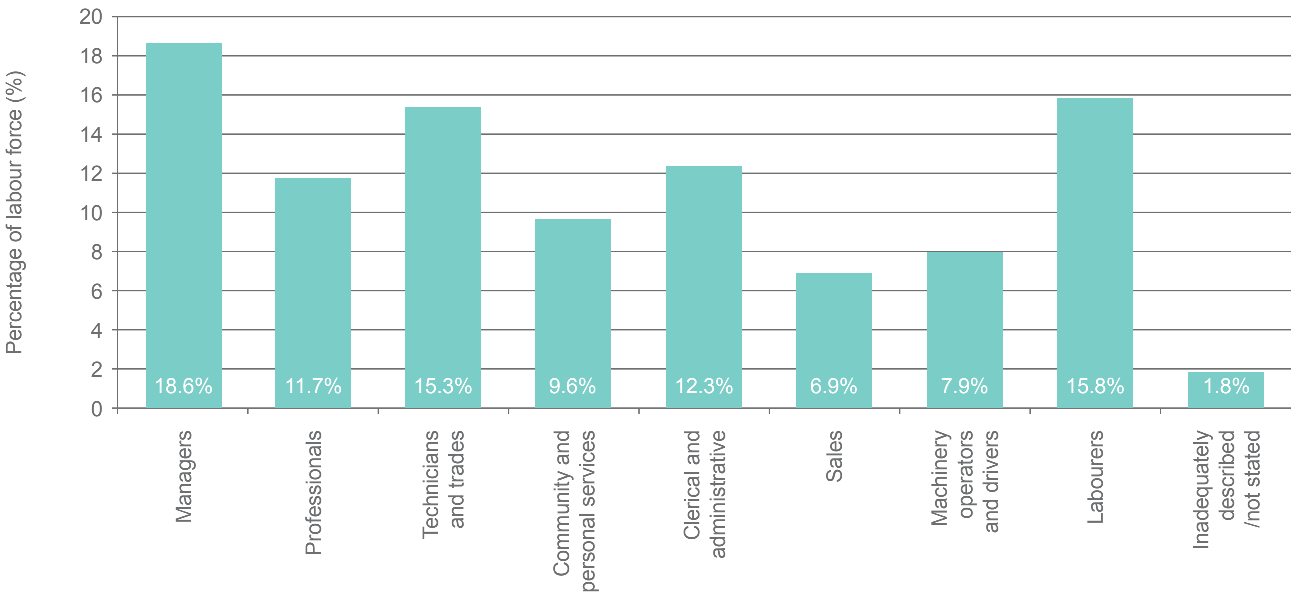


Figure 2.6: Percentage of labour force by occupation Gascoyne, 2011



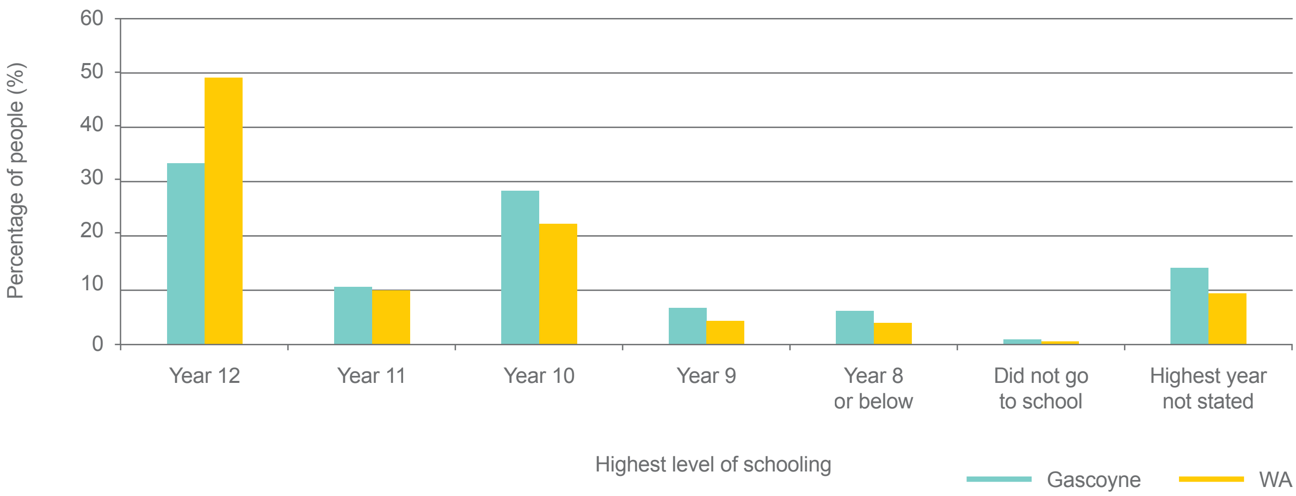
Source: ABS *Census*, 2012a, 2012e, 2012j, 2012n and 2012r

Education base

The highest level of schooling achieved by the majority of residents in the Gascoyne was Year 12 (33%). This was lower than the Western Australian rate which was 48%. Approximately 28% of those in the Gascoyne achieved Year 10 (ABS 2012j and 2012w). The level of schooling achieved across the region reflects that primary and secondary industries are central to the regional economy. The requirement for formal education and training in these industries is lower than in other sectors. It also complements the high percentage of labourers in the occupational groupings.

Figure 2.7 presents the highest level of schooling in the Gascoyne region compared with that for Western Australia as a whole in 2011.

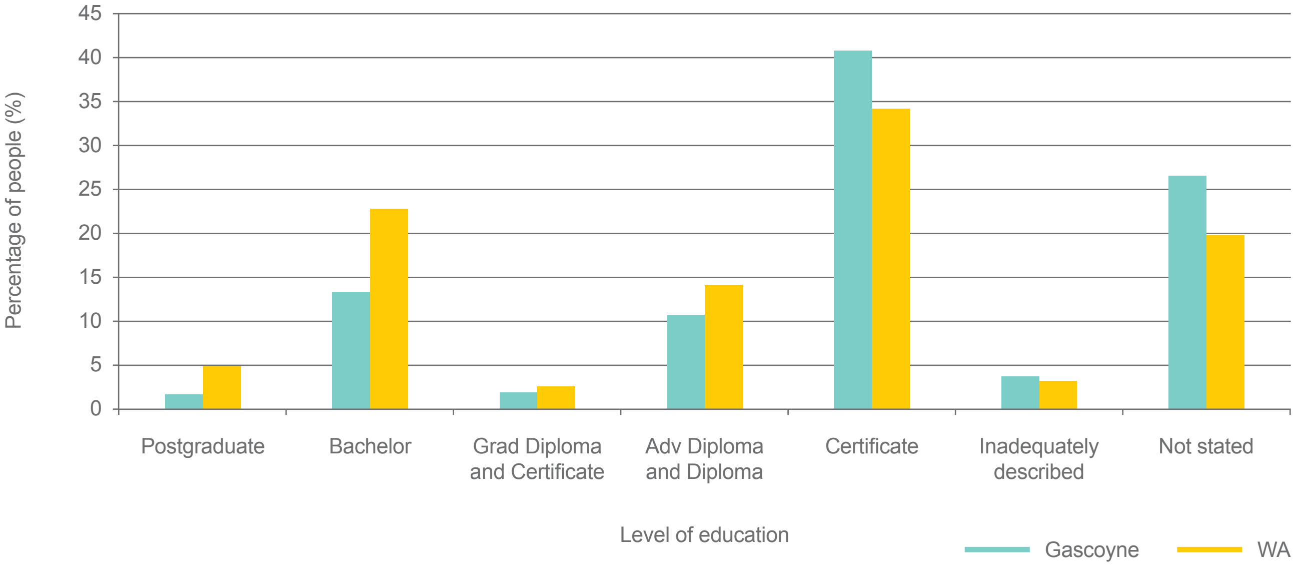
Figure 2.7: Highest level of schooling comparison Gascoyne and Western Australia, 2011



Source: ABS *Census*, 2012j and 2012w

Post school qualifications across the region in 2011 are presented in figure 2.8. Approximately 18% of the region's population with post school qualifications had attained bachelor level education. For Western Australia as a whole it was 31% (ABS 2012j and 2012w). The lower post school qualification rate for the region may be indicative of the needs of the main employing industries and is exacerbated by the lower levels of educational attainment by the Aboriginal population outlined in the Aboriginal participation section.

Figure 2.8: Post school qualifications comparison Gascoyne and Western Australia, 2011



Source: ABS *Census*, 2012j and 2012w

Vocational education and training

Durack Institute of Technology is the largest provider of vocational education and training for the Mid West, Murchison and Gascoyne regions. The main campus is located in Geraldton. The Gascoyne is serviced by two smaller campuses, one in Carnarvon and the other in Exmouth.

The Carnarvon campus was established in 1988. It offers approximately 40 qualifications and has an estimated 600 students each year. The training offered includes courses in art, business administration, clothing production and printmaking, community services, hospitality and information technology.

The Exmouth campus was established in 1997. It offers approximately 26 qualifications and has an estimated 250 students each year. The training offered includes courses in art, business administration, education support, horticulture, hospitality, marine, retail and tourism.

Table 2.33 shows the number of apprentices and trainees in training who were living and working in the Gascoyne in the five year period 2009–13. The total number of apprentices and trainees increased by approximately 25% over the time period. Across regional Western Australia there was a 19% increase and for Western Australia the numbers increased by approximately 20% during this five year period.

In the Gascoyne, there was a 76% increase in the apprentices/trainees engaged in the building and construction area and a 60% decline in the numbers engaged in metals, manufacturing and services. The increases may be attributable to the growth in business confidence at the time, following the decline caused by the 2008 global financial crisis.

Table 2.33: Apprentices and trainees in training - living and working in Gascoyne by trade category, 2009–13

Trade	At 31 December 2009	At 31 December 2010	At 31 December 2011	At 31 December 2012	At 31 December 2013
Building and construction	17	18	20	21	30
Automotive	7	8	9	11	12
Electrical	6	7	7	6	6
Metals, manufacturing and services	15	9	6	7	6
Wholesale, retail and personal services	8	8	5	8	5
Mining industry	-	4	4	-	-
Other	16	25	27	31	27
Total	**69**	**79**	**78**	**84**	**86**

Source: Department of Training and Workforce Development, TRS data, 2014

The Department of Training and Workforce Development's unpublished statistics also show that at 31 December 2013 there were 120 apprentices and trainees in training and living in the Gascoyne region. Of these:

- 12 were undertaking the Certificate III in Automotive Mechanical Technology;
- 11 were undertaking the Certificate III in Carpentry and Joinery; and
- 10 were engaged in the Certificate III in Civil Construction. In the period 2009 to 2012, no one was enrolled in this Certificate course.

Skilled migration

The *Gascoyne Regional Development Plan* (GDC 2010a) highlighted the importance of developing and maintaining a skilled population which could contribute to the economic development of the region. With its geographic isolation and sparse population this could prove challenging. Skilled migration, particularly in regional areas is often an important source of labour.

A 2011 survey of recruitment experiences in the Mid West and Gascoyne employment service area (by the then Commonwealth Department of Education, Employment and Workplace Relations) explained that the area's remoteness and its small population may be the cause of the high level of recruitment difficulty experienced by employers. Difficulties associated with skills shortages/recruitment, geographical location and a changing market were reported as challenges to finding suitable staff in the future.

While a priority for the region may be to provide access to education and training through which the labour force may develop its skill set, other approaches may be needed. Relying solely on the existing labour force may not be sufficient to meet demand. The smaller population growth means that not all workers can be sourced locally. Thus skilled labour may need to be attracted to and retained in the region.

There are several migration strategies which have been established to address skills shortages and these can be accessed by employers and businesses in the Gascoyne. Examples of the most commonly used include:

- Skilled regional sponsored visa (Subclass 475);
- Skilled sponsored visa (Subclass 176); and
- Temporary business (long stay) – regional sponsored visa (Subclass 457) (Department of Training and Workforce Development 2013).

Employers can exercise these migration options to attract skilled workers from overseas when positions cannot be filled locally.

Regional infrastructure

This section addresses the key infrastructure issues which have the potential to influence or impact on the economic development of the region. There are several developments and improvements which could have a positive impact on economic and social conditions. Capital investment in infrastructure in the areas of power, water and transport remains a key factor in attracting new industries and in expanding those already established in the region. The issues presented here are the:

- road network;
- airports and air services;
- water resources;
- energy supplies;
- ports;
- telecommunications network;
- health services;
- education; and
- housing.

Road network

The road network across the Gascoyne is important to the social and economic fabric of the region with its extensive landmass and sparse population. Some parts of the network are very heavily used and others experience low volumes of traffic. To illustrate, the North West Coastal Highway arteries carry a significant amount of freight traffic and large volumes of tourist traffic. The highway links the Gascoyne to the regional centres of Geraldton, Carnarvon, Karratha and Port Hedland. It is a strategically important land transport corridor for industry, defence, freight and tourism. As such these links are critical to the regional economy.

In comparison the network in the more sparsely populated areas experiences much lower volumes of traffic. However it does provide vital linkages to inland settlements, pastoral stations and for freight and tourists and to the Great Northern Highway in some instances (DoP 2012a).

The region has a 5 944 kilometre network of local and state roads which represents 3.97% of the State's roads (Main Roads 2013). This network is under increasing pressure due to the increased use by tourists, freight services and resources sector. Main Roads (2013) has identified a number of priority projects for the region, most of which are associated with the North West Coastal Highway.

Airports and air services

Air services and airports are important to the region given its distance from Perth and other major centres, its growing tourism industry and the potential for more resource industry development. Other services and industries such as health services and the pastoral industry also rely on air services.

The region has a variety of air services and a number of airports. In addition to the major regional airports, there are several hundred private light aircraft strips located at pastoral leases and mine sites throughout the Gascoyne. Some have the capacity to take Royal Flying Doctor Service (RFDS) aircraft. However most are used for aerial mustering. The *Gascoyne Regional Infrastructure Review* conducted by GDC (2013a) records all the airstrips in the region and their RFDS status.

Regular services to and from Perth operate from airports at Carnarvon, Denham and Exmouth. There are smaller airstrips at Coral Bay, Gascoyne Junction, Burringurrah and Mount Augustus. These are suitable for light aircraft including the RFDS.

The Shire of Exmouth operates the civil airport located within the Royal Australian Air Force (RAAF) Learmonth base, approximately 35 kilometres south of Exmouth and 120 kilometres north of Coral Bay. It can accommodate large jet aircraft used for international flights. There is also a small light aircraft strip between Learmonth and the town. Learmonth is the region's busiest airport. With multiple passenger flights daily, it currently handles about 40 000 – 50 000 passengers per year. There are daily flights to and from Perth as well as regular passenger flights to Geraldton and Broome. A heliport which mainly provides services to off shore oil and gas rigs, has been in operation since January 2012. It is also operated by the Shire of Exmouth and is located to the south of the civil terminal (Shire of Exmouth 2013).

Exmouth Aerodrome has been identified as the Shire's preferred general aviation, charter and fixed base maintenance site. A master plan is currently being prepared to identify future development and growth.

The Carnarvon airport is owned and operated by the Shire of Carnarvon. It has a sealed runway suitable for Fokker 50 and Dash 8 turbo prop aircraft and is unsuitable for commercial jets on a regular basis. The airport is adjacent to the town and handles approximately 20 000 – 25 000 passengers annually with at least one regular passenger flight per day. Most regular passenger flights are between Perth and Carnarvon. Currently there are no regular passenger flights between Learmonth and Carnarvon. At present the airport is experiencing capacity constraints.

A new terminal was opened in 2010 and the runway was resealed and repaired. This project was aimed at making the airport useable until directions on future airport development in Carnarvon are concluded (DoP 2012 and GDC 2013a).

The *Gascoyne Regional Development Plan* (GDC 2010a) identified the redevelopment and relocation of the airport as a 'flagship project'. Funding of $250 000 was provided under Gascoyne Regional Grants Scheme Round 1 in 2009. In 2013 the Shire of Carnarvon received a grant of approximately $570 000 to assist with the maintenance and development works for the Carnarvon Airport.

Ports

The extent, structure and use of harbour infrastructure vary in the region. In addition to government managed facilities, there is privately owned and operated port infrastructure. Use ranges from bulk carriers for the local resources industries to fishing operations and recreational use.

Shire of Carnarvon

The Shire of Carnarvon has two harbours, the first located at Carnarvon and the second at Cape Cuvier. The Department of Transport operates the Small Boat Harbour in Carnarvon. Fishing and prawning operations and marine support businesses operate from the harbour. Dampier Salt Ltd (Rio Tinto) owns and operates the harbour at Cape Cuvier which is used to export salt from the Lake MacLeod solar salt operation. Rio Tinto is proposing to increase production capacity of the salt operation. Thus it will require larger bulk carriers and larger tugs to handle them. At present, the Small Boat Harbour is also the homeport for tugs required for the private port operations at Cape Cuvier.

Carnarvon has a new recreational boat launching facility which was completed in 2012. It is managed by the Department of Transport. Funding for this project was provided under the Royalties for Regions *Gascoyne Revitalisation Plan* and the Recreational Boating Facilities Scheme (GDC 2013a).

Shire of Exmouth

Exmouth has a marina which opened in 1997. It was developed over a ten year period as an initiative to promote and sustain the local economy when the United States (US) Defence personnel left the nearby communications station.

The harbour accommodates commercial fishing, tourism and recreational boating. Additionally, the harbour is used as a base by a number of larger vessels servicing the oil and gas industries to the north and north west.

The private sector has put forward proposals for further development and expansion of the Exmouth facilities in response to the growth in the oil and gas exploration and production industry in Exmouth Gulf and adjacent waters. The Department of Transport, GDC and the Shire of Exmouth have a project underway to determine the future demand for harbour facilities by the oil and gas industry and ancillary services.

The US Navy has a port facility suitable for large vessels at the northern end of the Cape. It is a secure facility with limited public access.

There is also a privately owned jetty to the east of Learmonth airport. It is used by commercial fishing and prawn trawlers as a refuelling depot (GDC 2013a).

Shire of Shark Bay

Within the Shire of Shark Bay there are two harbour facilities. There is a private facility at Useless Loop operated by Shark Bay Salt Pty Ltd (Mitsui Salt Pty Ltd). It is used for loading salt. The second facility is on the foreshore of Denham. The jetty and combined boat ramp and slipway caters for commercial fishing fleet and tourist and recreational boats. The facility needs to be upgraded, particularly in the light of the growth in tourism. The Shire of Shark Bay and the Department of Transport are investigating options for redevelopment (GDC 2013a).

While there are currently eight port authorities in Western Australia, there are not any in the Gascoyne region. However the State Government announced in February 2012 that seven of the State's eight port authorities would be consolidated into four regional port authorities. In addition 12 smaller ports under the control of the Department of Transport would be included in the new regional port authorities. Of relevance to the Gascoyne is the proposal to form a Mid West Ports Authority, comprising the port of Geraldton, the proposed new port of Oakajee and the ports at Cape Cuvier and Useless Loop (Department of Transport 2012).

Water resources

The Gascoyne's water supply is drawn from groundwater sources which vary greatly in quality and quantity across the region. The Water Corporation operates and maintains schemes at Carnarvon, Exmouth, Denham, Coral Bay and Gascoyne Junction. Other centres including Burringurrah do not have a regular water service.

Carnarvon obtains water supplies from groundwater aquifers spread along the Lower Gascoyne River. The water is chlorinated before use but no other pre-treatment is necessary due to the good quality of the water. Many irrigation properties in Carnarvon do not have access to the treated Town Water Supply. Therefore they use either untreated water from the irrigation scheme or from their private bores in the river.

As the extent and supply of fresh water is finite, abstraction is tightly controlled through monthly and annual pumping rates. Salinity is monitored on a regular basis and there are management thresholds in place to protect the aquifer and associated environmental assets.

The Department of Water's *Lower Gascoyne Water Allocation Plan* (2011) guides the management of ground and surface water resources that support the Carnarvon horticultural area. The Carnarvon Water Allocation Advisory Committee, a collaborative body of industry and interest groups has an important role in ensuring the long term sustainability and reliability of the water.

Exmouth's water supplies come from bores in the Cape Range, drawing water from a limestone aquifer. The water is chlorinated and fluoridated before being reticulated to domestic and business consumers.

Coral Bay's water supplies come from two main sources, an artesian bore and desalinated water produced through a reverse osmosis process. The water is chlorinated for domestic use. There are a number of privately operated artesian bores in the area.

Likewise Denham doesn't have a suitable fresh water source. It has a dual water supply service. Consumers have a desalinated water quota for internal domestic use and a saline supply for toilets and external garden use.

The inland areas of the Gascoyne region get water from a series of bores and pump stations. Gascoyne Junction's drinking water comes from the Gascoyne River. Due to high levels of salinity, the water needs to be desalinated by means of reverse osmosis before being chlorinated and distributed to consumers. Those on the north side of the river at Gascoyne Junction do not access scheme water.

The Burringurrah community gets its water from a system of submersible bores.

Most of the town of Carnarvon has a combination of deep and vacuum sewers. However some areas have septic or self-contained treatment systems. Exmouth, Coral Bay and Denham have deep sewerage. At Gascoyne Junction all treatment and disposal is done using septic tanks and leach drains (DoP 2012 and GDC 2013a).

Energy supplies

The Gascoyne does not have a regional electricity transmission network. All towns and settlements generate their own electricity typically through diesel, gas, wind or a combination of sources. Horizon Power is the supply authority for the Gascoyne. It regulates electricity services to Carnarvon, Exmouth, Denham, Coral Bay and Gascoyne Junction.

Carnarvon is served by the only power station in regional Western Australia that can run on diesel, gas or a combination of diesel and gas. Diesel fuel is trucked in from Geraldton and gas is delivered via a spur line of the Dampier to Bunbury Natural Gas Pipeline.

In 2011 Horizon Power embarked on a $77 million project to build, own and operate a new power station and transmission infrastructure to meet the growing electricity needs of the Carnarvon community. Known as the Mungullah Power Station, which uses both diesel fuelled and gas fuelled generators, it became fully operational and began supplying power to residents in July 2014 (Horizon Power 2014).

In May 2012 the private company Energy Made Clean opened a solar power station in Carnarvon. It is the biggest solar installation in the region. The electricity it generates will be sold to Horizon Power under a Power Purchase Agreement (PPA).

Exmouth is a non-interconnected system in the Gascoyne area. The Exmouth power station is owned and operated by Worley Parsons and it has a PPA with Horizon Power. The power is gas generated. Gas is trucked in from the Dampier to Bunbury Natural Gas Pipeline. Three small wind turbines augment power to the town.

Coral Bay has a relatively small isolated power system based on wind and diesel generation. Verve Energy sells the electricity it generates to Horizon Power under a PPA.

Denham also has a system that is an isolated network. It generates electricity via wind and diesel. The power station and the diesel generators, fuel farm and pipe work are operated and owned by Horizon Power. Verve Energy owns the wind turbines, the control system, busbar and switchgears at the power station. Verve Energy has a PPA with Horizon Power.

The Gascoyne Junction power station is owned, managed and operated by EDL-RE, which has a PPA with Horizon Power. The power station uses containerised diesel generators. This is a standalone power system. It is not connected to any other Horizon Power network. Horizon Power maintains the distribution to consumers.

Burringurrah Settlement has a self-managed community owned and operated power station which supplies the community. The Pilbara Meta Maya is responsible for maintenance of the plant (GDC 2013a).

The Dampier to Bunbury Natural Gas Pipeline crosses the region and has a lateral pipeline to Carnarvon. While the pipeline has some spare capacity, at present Carnarvon doesn't have a reticulated gas network. The piped gas is only used for power generation. The development of a regional energy strategy investigating the Gascoyne's future regional energy requirements has been proposed (DoP 2012a). This proposal complements the Office of Energy's (2011) Strategic Energy Initiative Directions Paper, *Energy 2031* (DoP 2012).

Telecommunications network

The range of telecommunications infrastructure available in the region includes landline telephones, mobile phone services, internet access, broadcast radio and television services. While most towns have access to all of the above, the service provision is variable.

The *Gascoyne Redevelopment Plan 2010–2020* (GDC 2010a) reflected the state of telecommunications in the region with its identification of a major project to significantly improve mobile phone coverage throughout the Gascoyne region. The project was flagged to include the length of North West Coastal Highway, Gascoyne Junction, Shark Bay and the west coast of North West Cape. It highlighted that the Upper Gascoyne LGA had neither asymmetric digital subscriber line (ADSL) nor mobile coverage.

The Telstra optic fibre network is available through Carnarvon's two main telephone exchanges. Telstra is the only service provider for ADSL in Carnarvon. Other internet service providers (ISPs) have the option of utilising Telstra's network. Several ISPs operate in Carnarvon and ADSL is available to many residents, however there are still major issues with some areas of the community only having access to dial up or satellite broadband. The network continues to be upgraded.

Wireless internet coverage in Carnarvon is only available through Telstra Next G.

Optus provides access via their 'yes' G Network. Mobile phone services in general are variable and hence often problematic. As such they are seen by industry and the community as critical challenges that need to be addressed.

In September 2010, $39.2 million was made available through Royalties for Regions funds for a new mobile telecommunications network infrastructure. Known as the Regional Mobile Communications Project it will provide eight towers within the Gascoyne region (GDC 2013a).

In 2012 the Regional Development Authority of the Mid West/Gascoyne received $30 000 in Commonwealth funding to help develop strategies for the rollout of the National Broadband Network (NBN). It was provided to assist the development of a regional digital plan and connected implementation strategies and projects (RDA 2012).

The NBN is a next-generation broadband network. It was initially developed to provide faster, more reliable broadband access through a mix of three technologies namely, optic fibre, fixed wireless and next-generation satellite. Construction of the NBN was due to commence in Carnarvon in April 2014. NBN Co, the Commonwealth Government's service provider has recently reviewed its rollout information due to the new government's policy changes. No further information was available at the time of writing.

In its Gascoyne plan, DoP (2015) identifies the need for a Gascoyne Regional Digital Economy Strategy. The strategy was seen as necessary to guide the development of the Gascoyne's telecommunications infrastructure to adequately service the region's economic and social requirements, including consideration of the impacts of new and emerging communications technologies.

Health services

The WA Country Health Service operates a regional and a district hospital and population health and mental health units. There are two remote nursing posts, as well as regular clinics in 12 specialist fields. Services are also offered by some private sector providers.

The key regional hospital facility is the Carnarvon Hospital. It provides a range of services to Carnarvon and the wider community including emergency, general, maternity, paediatric, palliative and permanent care, community health, mental health and community based aged care services.

Carnarvon Hospital doctors also fly twice weekly to Denham/Useless Loop and the Burringurah Community. The Gascoyne Population Health and Primary Health Care is also based at the Carnarvon Hospital. It provides a range of allied health services including physiotherapy, speech therapy, occupational therapy, diabetes education, dietician, child health services and an alcohol and drugs team. There is also a visiting podiatrist.

The Carnarvon Medical Service Aboriginal Corporation offers primary and secondary health medical services, tertiary specialist, allied health services and a dental clinic to Aboriginal persons as well as other persons in Carnarvon and surrounding areas.

The Carnarvon Medical Centre has three rural general practitioners. These doctors perform home visits, conduct mine medicals and participate in the on-call roster at Carnarvon Hospital. Allied health services such as optometrists, podiatrists and psychologists are also provided from the Centre.

Exmouth Hospital offers a range of inpatient and outpatient services for the local community. These include emergency services and intensive care to home and community care.

The 2013–14 facility Royalties for Regions budget allocations for Gascoyne included $6.3 million for the redevelopment of the Carnarvon Health Campus. Of this allocation, $2.7 million was for the Exmouth multipurpose service towards the new ambulatory care.

WA Country Health Services remote area nursing posts are located at Coral Bay and the Burringurrah Community. The Silver Chain also operates state of the art nursing post in Denham and Shark Bay. Services are provided by a nurse practitioner. Doctors visit Denham on a regular basis.

Given the sparse population and the significant distance between medical facilities, the Royal Flying Doctor Service is of great value and importance to the region. Even so, the service does not maintain a permanent base in the region. The nearest base is at Meekatharra.

The expected increase in tourists and visitors and any growth in the resources sector are expected to put pressure on health services (DoP 2012 and GDC 2013b).

Education

Education services are provided via a variety of means across the region. Both government and private schools are available as well as the School of Isolated and Distance Education and the Carnarvon School of the Air.

Government schools are located in the larger centres such as Exmouth, Shark Bay, Carnarvon, Gascoyne Junction, Burringurrah Aboriginal Community and Useless Loop. Schools cater for kindergarten to Year 12. However the only facilities for years 8–12 are located in Carnarvon and Exmouth. In other schools this is delivered via the School of Isolated and Distance Education. The more remote areas have access to primary level education through the Carnarvon School of the Air. There are private schools located in Carnarvon which offer primary level education.

The Durack Institute of Technology has campuses in Carnarvon and Exmouth. It provides of a range of academic and community courses including off campus courses for those in other areas of the Gascoyne (DoP 2012, DRDL 2011 and GDC [n.d.]).

The 2013–14 State Budget through the Royalties for Regions program allocated $5 million to the redevelopment of the Carnarvon Senior High School (Projectlink 2013).

It is worth noting that access to higher education is limited to external study only.

Housing

A number of strategic plans including the *Gascoyne Regional Development Plan 2010–2020* (GDC 2010a) and the Shire of Carnarvon's *Strategic Community Plan* (2012) identified the provision of quality housing and accommodation as a priority issue. SGS *Economics and Planning report* (2012) on economic opportunities associated with the resource sector, highlighted housing and supporting infrastructure as critical considerations for the resource sector. Expenditure on housing construction can stimulate local construction, leading to immediate as well as economic benefit to the community.

In 2012 the GDC undertook an initial assessment of housing issues and priorities. This was done in response to housing being identified as a critical region issue. Current and expected pressure on housing is as a result of increased tourism, the need to service the resources sector and the second tier service industries such as transport and trades which supply the resources sector.

The GDC secured funding through the Regional Development Council to develop a Gascoyne Affordable Housing Strategy. The Commission is now working with the Department of Housing and LandCorp to identify the housing needs in the region and to thus create demand and supply forecasts. The aim is to develop strategic priorities and actions to address critical shortages in housing for essential service workers, low income earners, retirees and seniors across Gascoyne communities (GDC 2013 and 2013a).

Undoubtedly, the Gascoyne will face challenges in the provision of housing for the government and private sectors across the region. These are mainly due to the geographic spread of the region compounded by rising commodity prices in the building sector, and the great distance from building suppliers (GDC 2010a).

Aboriginal participation

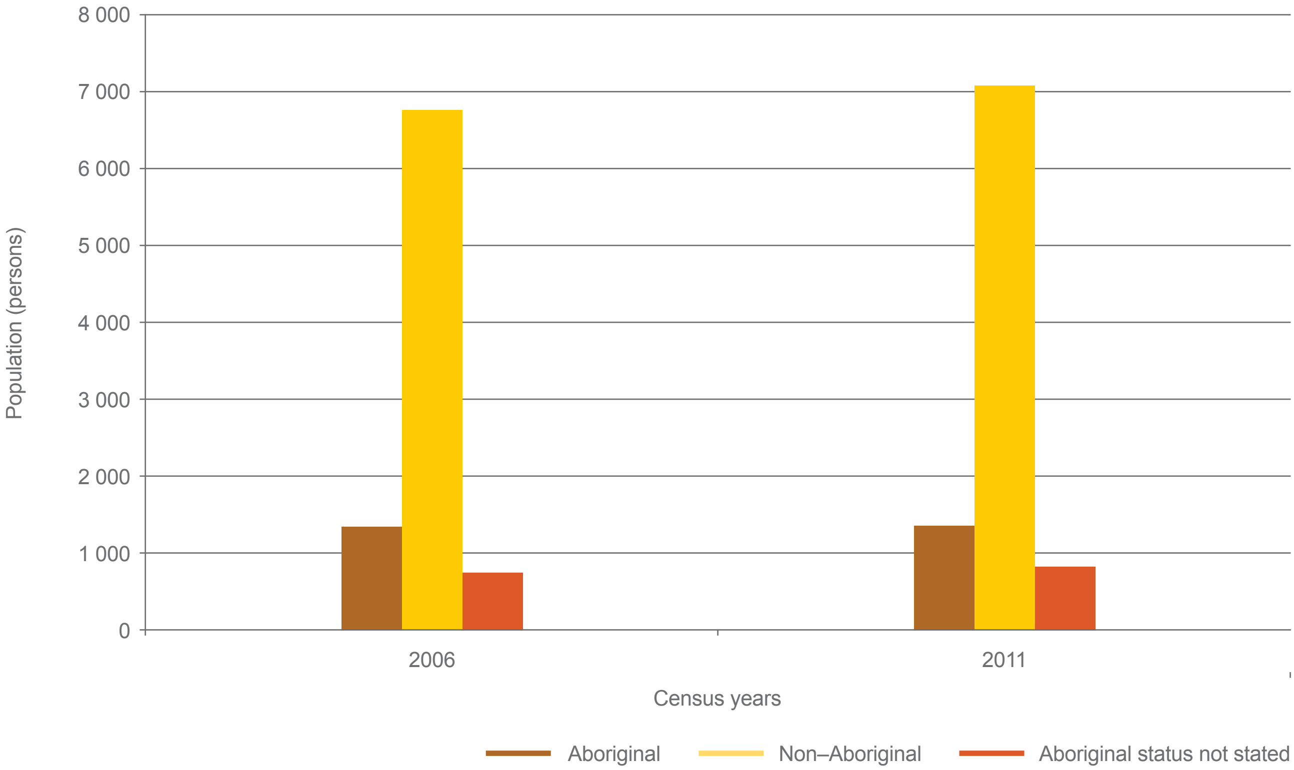
This section examines the employment characteristics of the Aboriginal and Torres Strait Islander cohort of the Gascoyne population. It first summarises the general demographic characteristics of the population, before examining rates of participation, education unemployment and employment.

Aboriginal demographics

According to the 2011 Census there were 1 369 Aboriginal persons in the Gascoyne region. Of these 657 (or 48%) were male and 712 (or 52%) were female. The median age was 24 years compared to 38 years for the region. Approximately 15% of a total population of 9 291 are Aboriginal persons. By comparison, Aboriginal persons make up 3.4% of the Western Australian population (ABS 2012j and 2012w). In the 2006 Census there were 1 362 Aboriginal persons across the region, indicating a relatively stable population (ABS 2007).

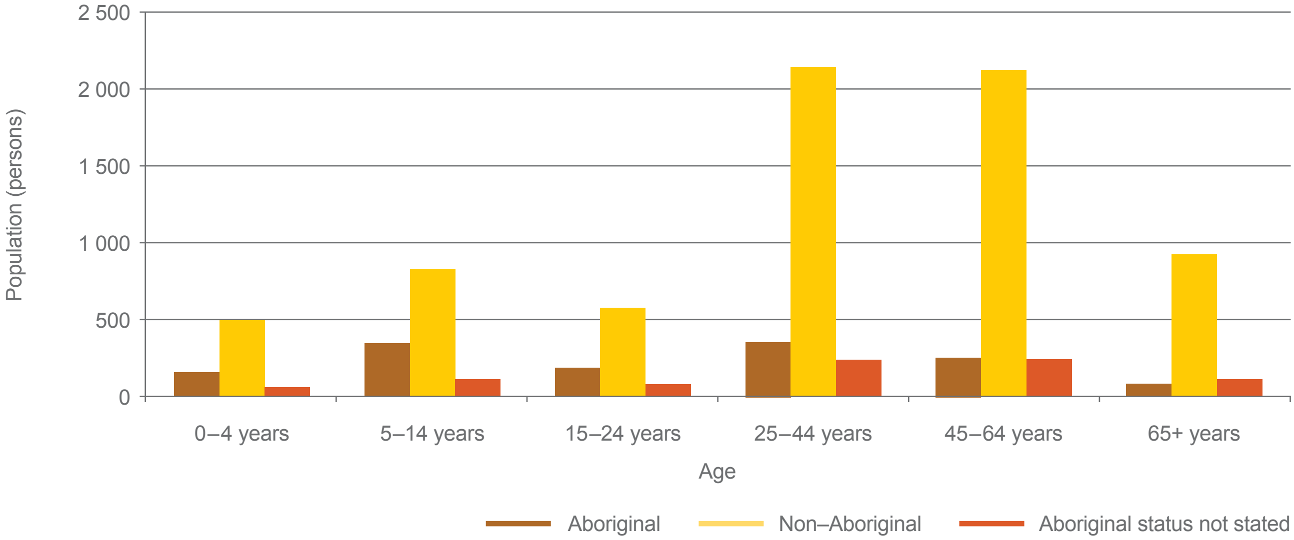
Figure 2.9 shows the Aboriginal population of the region as recorded in the 2006 and 2011 Census. Figure 2.10 presents the 2011 population by age and table 2.34 presents the breakdown of the Aboriginal population by gender and by statistical area in 2011.

Figure 2.9: Aboriginal population in the Gascoyne 2006 and 2011 Census



Source: ABS *Census*, 2007 and 2012i

Figure 2.10: Aboriginal and non-Aboriginal population by age Gascoyne, 2011



Source: ABS *Census*, 2012i and 2012j

In 2011, the Census indicated that the Aboriginal population represented 15% of the total population in the region. Approximately 50% of the Aboriginal population were under 25 years of age whereas 27% of the non-Aboriginal population was under 25 years of age. Twenty seven per cent of the Aboriginal population was aged over 40 years and under 65 years. The comparatively young age of the Aboriginal population and their concentration in the Shire of Carnarvon have implications for future workforce planning (ABS 2012j).

Table 2.34: Aboriginal and Torres Strait Islander population by gender Gascoyne, 2011

Statistical area	Aboriginal males	Aboriginal females	Aboriginal persons	Aboriginal status not stated
Gascoyne	657	712	1 369	838
Shire of Carnarvon	519	589	1 108	600
Shire of Exmouth	29	19	48	175
Shire of Shark Bay	42	32	74	42
Shire of Upper Gascoyne	71	69	140	16

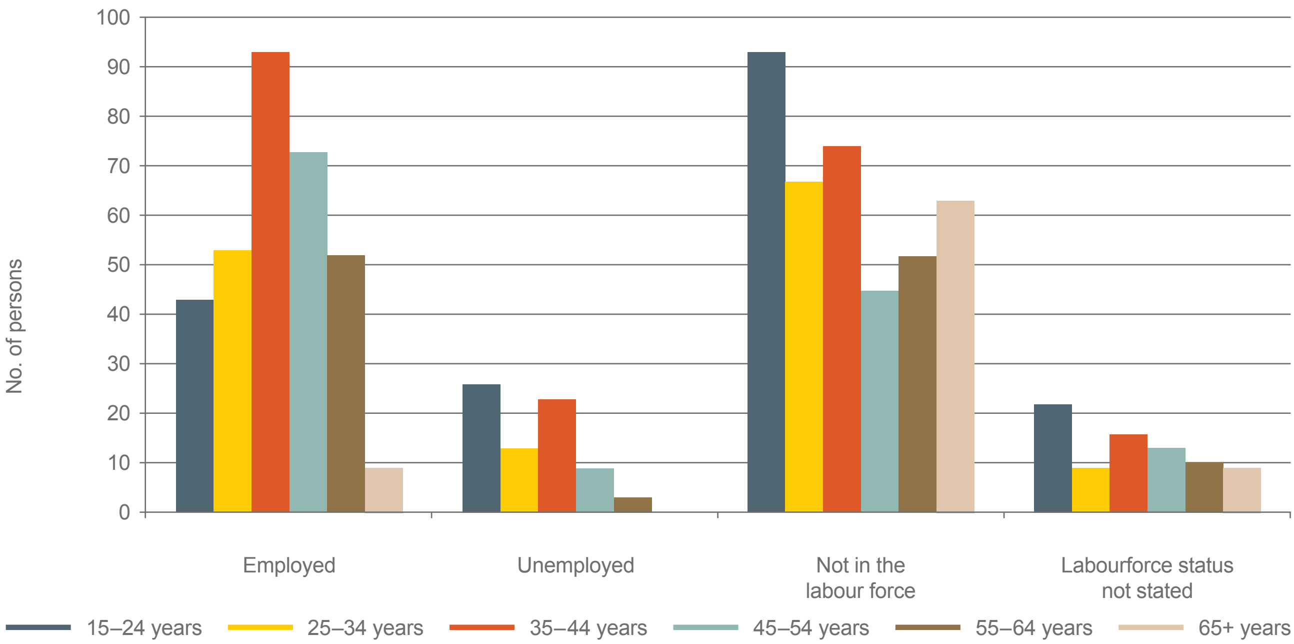
Source: ABS *Census*, 2012a, 2012e, 2012j 2012n and 2012r

Aboriginal participation in the labour force

As in most regional areas the issue of improving Aboriginal employment opportunities is an area of concern for the Gascoyne. For many years there have been a large number of government and private sector programs focussed on the issue. These programs and other services notwithstanding, sustainable employment outcomes for Aboriginal persons are still significantly lower than for non-Aboriginal persons.

At the 2011 Census, the labour force participation rate for Aboriginal persons was 45% compared with 71% for non-Aboriginal and 62% for the total region. Figure 2.11 outlines the Aboriginal labour force statistics at the 2011 Census (ABS 2012i).

Figure 2.11: Aboriginal labour force Gascoyne, 2011



Source: ABS *Census*, 2012i

Aboriginal unemployment rates

Low rates of participation in the labour force are often combined with very high unemployment rates. In areas of high unemployment, it is not uncommon for participation rates to fall as individuals withdraw from the labour market due to the low levels of success in finding work (Siegal and Swanson 2004). For the Aboriginal population there also is a considerable body of evidence pointing to exclusion from the labour market on the basis of racial discrimination, lack of qualifications and socio-cultural difference (Altman 2000).

Low participation rates can reflect a degree of self-exclusion from the labour market. However, unemployment rates reflect external exclusion whereby persons willing to be employed are unable to gain work. According to Gray, Hunter and Lohar (2011), this exclusion can be due to:

- human capital (that is, lower education and skill level);
- ill health and disability;
- locational disadvantage and access to services;
- arrest and interactions with the criminal justice system;
- discrimination;
- job retention and labour demand; and
- job search behaviour and labour supply.

At the time of the 2011 Census, the unemployment rate for Aboriginal persons in the Gascoyne was 19% compared with 3% for the non-Aboriginal population and 4.4% for the total population in the region. In terms of employment, 37% of Aboriginal persons aged 15 years and over were employed (employment to population ratio). For the non-Aboriginal population the ratio was 69% and 60% for the total population.

The comparative figures for Western Australia at the 2011 Census were 18% unemployment rate for Aboriginal persons, 5% for the non-Aboriginal population and 5% for the total population. In terms of employment, 38% of Aboriginal persons aged 15 years and over were employed (employment to population ratio). For the non-Aboriginal population the ratio was 65% and 61% for the total population (ABS 2012i and ABS 2012v). Table 2.35 provides details of the Aboriginal labour force in the Gascoyne at the time of the 2011 Census.

Table 2.35: Aboriginal labour force status by gender Gascoyne, 2011

	Worked full time	Worked part time	Away from work	Unemployed	Not in the labour force	Labour force status not stated	Total
Males	96	49	29	36	144	42	**396**
Females	72	59	18	38	250	37	**474**
Total	**168**	**108**	**47**	**74**	**394**	**79**	**870**

Source: ABS *Census*, 2012i

Aboriginal employment by industry sector

Table 2.36 shows levels of Aboriginal employment across the major industry sectors within the Gascoyne region in 2011. The largest number of Aboriginal persons in the labour force is employed in the private sector. Approximately 6% of those Aboriginals in the labour force are engaged in Community Development Employment Projects (CDEP). The CDEP program helps Aboriginal job seekers to gain the skills, training and capabilities needed to find sustainable employment. The program aims to also improve the economic and social wellbeing of communities[14].

Table 2.36: Aboriginal and non-Aboriginal employment by major industry sector Gascoyne, 2011

Industry by employment	Aboriginal No.	Non-Aboriginal No.	Aboriginality not stated No.
Government	80	742	10
Private	230	3 191	29
CDEP participant	24	0	0
Self employed	8	297	0
Total	**342**	**4 230**	**39**

Source: ABS *Census*, 2012i

Education status of Aboriginal persons

One of the factors hindering increased levels of Aboriginal employment in rural and remote Australia is relatively low levels of education. The educational status of Aboriginal persons varied considerably across the statistical areas at the 2011 Census. In the Gascoyne region, 12% of Aboriginal persons completed Year 12 compared with 40% of the entire Gascoyne population.

Table 2.37 details the highest level of schooling achieved by the Aboriginal population of the Gascoyne region. Fifty eight per cent of the Aboriginal population across the region completed schooling to Year 10 or higher in 2011 compared with 82% of the non-Aboriginal population.

Aboriginal income

Table 2.38 compares median weekly incomes of Aboriginal persons across the region in 2011. The disparity across the region between Aboriginal and non-Aboriginal persons is clearly evident. Forty nine per cent of Aboriginal persons earn less than $400 per week. The low incomes have a direct impact on the social and economic wellbeing of the Aboriginal population and reinforce the need for a continued focus on education and employment.

[14] At the time of the 2011 Census the CDEP Program was still in place. On 26 April 2012, the Commonwealth Government announced the Remote Jobs and Communities Program (RJCP) would commence on 1 July 2013. The CDEP Program was transitioned into this new program.

Table 2.37: Highest level of schooling by Aboriginal persons Gascoyne, 2011

Year achieved	Gascoyne	
	Aboriginal persons	Aboriginality not stated
Year 12 or equivalent	97	21
Year 11 or equivalent	96	8
Year 10 or equivalent	298	21
Year 9 or equivalent	98	7
Year 8 or below	110	9
Did not go to school	21	3
Highest year of school not stated	125	590
Total	**845**	**659**

Source: ABS *Census*, 2012i

Table 2.38: Total individual (weekly) income, Aboriginal and Gascoyne working population, 2011

Weekly income	Aboriginal persons in the Gascoyne (No.)	Gascoyne working population (No.)
Negative/Nil income	71	454
$1 - $199	60	365
$200 - $299	181	706
$300 - $399	114	623
$400 - $599	76	883
$600 - $799	84	822
$800 - $999	52	606
$1 000 or more	106	1 851
Personal income not stated	127	983

Source: ABS *Census*, 2012i and 2012j

Data limitations

Where available the most recent government and industry data have been used in the plan. However, there are a number of limitations associated with the availability and accuracy of data, the ABS Census being the most notable. There are well known concerns with the accuracy of some Census data in rural and remote areas. This is particularly so where labour and populations are highly mobile, which is often the case with Aboriginal communities. Where possible, alternative sources of data have been used or the trends and patterns have been cross-checked during regional consultations.

The data used was mostly derived from the ABS 2011 Census, labour force and business data and from the Commonwealth Department of Employment's Small Area Labour Market data. In addition, published secondary sources of data and information have been used, such as that available from the Gascoyne Development Commission, the former Department of Regional Development and Lands now Department of Regional Development, Regional Development Australia, Department of Planning, Department of Training and Workforce Development and a number of private sector reports.

As the Gascoyne is statistically a small region, its data sets are often small and volatile. Caution should be used in analysing and interpreting the data, including any projections, as these are not necessarily as rigorous as larger data sets would be.

Considerable caution must also be exercised when using Aboriginal labour market data from the ABS Census. The 'net undercount' for Western Australia's Aboriginal population in 2011 is estimated to have been around 20%. While the ABS does have a methodology to adjust for this, it is only applied to basic counts of Aboriginal persons, but not to any labour market related variables. Also there are cultural considerations and other difficulties related to collecting information from a small and highly dispersed group of people. This means that any Census labour market data for Aboriginal people (particularly in the more remote/traditional communities) may have a higher than average error rate.

It should be noted that some sources combine the data for the Gascoyne with the Mid West region thus making some statistical analysis less reliable and accurate for the individual regions[15].

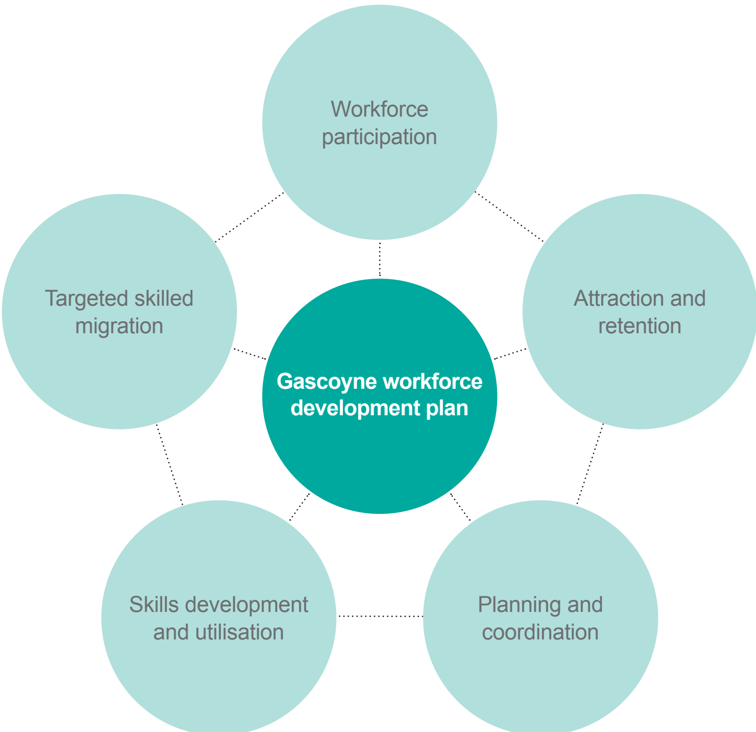
[15] Please note that some of the percentages presented in this document may not total 100% due to rounding.

Regional workforce development plans

Regional workforce development plans are a key element of the Skilling WA framework. These are being developed by regional workforce development alliances to provide a whole of government, industry and community sector approach to providing services, infrastructure and support for the nine regions in Western Australia.

Skilling WA articulates five strategic goals which set the direction for workforce planning and development in Western Australia and are aimed at building, attracting and retaining a skilled workforce to meet the economic needs of the State. With this in mind, the *Gascoyne workforce development plan 2015–2018* identifies local workforce issues related to these strategic goals, and suggests strategies and priority actions to address these. The *Skilling WA* strategic goals considered in the *Gascoyne workforce development plan 2015–2018* are shown in diagram 3.1.

Diagram 3.1: Strategic goals of the Gascoyne workforce development plan 2015–2018



The following sections explore in more detail Gascoyne's current and future workforce challenges and opportunities in the context of economic aspirations of the region. Issues are grouped into the five strategic goals of the *Skilling WA*.

Workforce participation

Skilling WA: Strategic goal 1
Increase participation in the workforce particularly among the under-employed and disengaged, mature-aged workers, Aboriginal and Torres Strait Islander and other under-represented groups.

This goal relates to addressing issues which act as barriers to people entering or remaining in the workforce, including the under-employed and those disengaged from the workforce. In the Gascoyne, unemployment rates vary considerably across the region, reflecting different economic, age and social profiles. For example:

- as at December 2013, the Upper Gascoyne had the highest unemployment rate (15.1%) compared to the regional average (7.2%). However, this is for a very small number of workers so its statistical validity is questionable. In contrast, Exmouth had the lowest unemployment rate (2.5%); and
- the unemployment rate, based on the 2011 Census, for Aboriginal people in the Gascoyne was 18.6% compared with 2.9% for the non-Aboriginal population and 4.4% for the total population in the region. There is an urgent need to address this imbalance.

Targeted skilled migration

Skilling WA: Strategic goal 2
Supplement the Western Australian workforce with skilled migrants to fill employment vacancies unable to be filled by the local workforce and address those factors which support a growing population.

This goal relates to addressing issues which impact on the growth and composition of the State's population including overseas and interstate migration. In the Gascoyne region this includes:

- extensive use of seasonal workers, including backpackers, in the key industries of tourism and horticulture;
- the use of 457 visa holders for skills shortages areas such as the engineering trades; and
- the need for a more flexible skills migration policy to enable businesses to recruit suitably qualified employees, particularly in the tourism and food industries.

The 2011 Census revealed that approximately 48% of the region's population were living at the same address in 2011 as in 2006, and that 461 and 317 people moved in from elsewhere in Australia and overseas respectively. Consultation indicated that out-migration, particularly of the non-Aboriginal population occurs primarily due to a perceived lack of career pathways, educational and employment opportunities in the region.

Attraction and retention

Skilling WA: Strategic goal 3
Attract workers with the right skills to the Western Australian workforce and retain them by offering access to rewarding employment, a diverse and vibrant community and environment to live in.

This goal relates to addressing issues affecting the attraction of people into Western Australia, especially regional Western Australia and encouraging them to stay. In the Gascoyne region:

- the high proportion of smaller businesses, particularly those with less than 10 employees, are more acutely affected by skilled labour shortages than larger organisations and face issues including the rising cost of wages, attraction of new staff and high staff turnover;
- tourism and horticulture feature strongly, but are not industries which provide high salaries and wages. As a result, the region generally has a lower income profile than the national average;
- the availability of suitable and affordable housing and adequacy of public services act as a barrier to effective attraction and retention of workers and hence to improved regional development, business activity and job creation; and
- an increasing trend of out-migration of young people has significant ramifications for the Gascoyne as it creates difficulties in attracting and retaining young people to fill skilled job vacancies and apprenticeship positions.

Skills development and utilisation

Skilling WA: Strategic goal 4
Provide flexible, responsive and innovative education and training which enables people to develop and utilise the skills necessary for them to realise their potential and contribute to Western Australia's prosperity.

This goal relates to addressing factors impacting on the level of training participation by those in the workforce and those yet to enter the workforce. In the Gascoyne region:

- Certificate level qualifications are most common for residents, accounting for almost half of the population with post-school qualifications;
- Bachelor Degree level and Advanced Diploma and Diploma level qualifications account for the next largest shares (19.5% and 15.9%);
- availability and access to quality education post Year 10 is perceived to be an issue in retaining young people in the region; and
- there is a need for greater commitment to a workforce development culture by many of the region's key industries.

Planning and coordination

Skilling WA: Strategic goal 5
Plan and coordinate a strategic State Government response to workforce development issues in Western Australia.

This goal relates to addressing issues which impact on the ability of the State, industries and enterprises to strategically manage the development of their workforce. In the Gascoyne region:

- the prospect of an additional 400 hectares (initially) of irrigated land as a further stage of the Gascoyne Food Bowl Initiative represents a significant increase in horticulture production which is likely to have major social and economic multiplier effects on Carnarvon and the surrounding region, including workforce implications; and
- the ongoing off shore liquefied natural gas production and construction projects, possible future developments in defence and Exmouth's proximity to the Pilbara may result in a significant increase in the region's population and workforce. Capacity planning, such as the provision of adequate water supply will be important should this eventuate.

Priority issues in the Gascoyne

Summary of priority issues

The following provides a summary of the key workforce development related challenges for the region, confirmed through consultation forums, one on one and small group meetings:

- perceptions relating to the availability and quality of access to education, vocational education and training (VET) and higher education as well as career pathways;
- out-migration of young adults (followed by their parents and families – who are experienced workers);
- competitive salaries and wages in other parts of Western Australia resulting in a clear income differential between the local and State average;
- the quality and affordability of accommodation;
- challenges in securing local labour and appropriate skills;
- the seasonal and transient nature of parts of the labour force;
- availability and access to childcare services;
- low labour force participation and high unemployment rates for Aboriginal people; and
- availability and access to air services.

The following sub-sections explore these key workforce development related challenges in more detail.

Access to education, VET and higher education

Education (particularly secondary and tertiary education) services are seen as lacking across the region and are a major driver of the loss of young adults from the Gascoyne. A key labour force challenge is ensuring that education and training opportunities are available and accessible. Education and training are key to ensuring student skills are matched to current and future labour needs. Consultations highlighted issues around literacy, numeracy, general comprehension and work readiness. Stakeholder consultation also indicated some limitations within government schools in providing access to VET. Flexible VET course options should be examined.

Education services are provided via a variety of means across the region. Both government and private schools are available as well as the School of Isolated and Distance Education and the Carnarvon School of the Air.

The 2013–14 State Budget through the Royalties for Regions program allocated $5 million to the redevelopment of the Carnarvon Senior High School (Projectlink 2013).

Stage 1 is complete with the amalgamation of two existing primary schools and the senior high school into Carnarvon Community College and includes a new trades training centre. As with any major change, consultations in Carnarvon highlighted the need for ongoing communication strategies to both inform and engage the local community on the recent changes and the future direction of the College.

The Durack Institute of Technology has campuses in Carnarvon and Exmouth. It provides a range of vocational training and community courses including off-campus courses for those in other areas of the Gascoyne (DoP 2012, DRDL 2011 and GDC [n.d.]).

It is worth noting that:

- access to higher education is limited to external study only;
- Year 11 and 12 study is only available in Carnarvon and Exmouth through the Carnarvon Community College and Exmouth District High School; and
- currently there is no opportunity in the region for mature age students to undertake university entrance or Western Australian Certificate of Education (WACE) programs, although Tuart College in Perth offers online courses to post-compulsory age students, and tertiary entrance can be gained through Certificate IV and Diploma courses at Durack Institute of Technology.

As the regional centre for the Gascoyne, it is important Carnarvon provides future access to a broader range of academic and vocational opportunities through the Carnarvon Community College and the expansion of courses offered by Durack Institute of Technology. In turn, this would support human capacity building and the needs of the local economy.

It would be useful to re-examine an initiative previously explored by the GDC in 2003 to enhance the role of education and lifelong learning and support pathways to appropriate education solutions through a Carnarvon Learning Centre. The general intent and proposed activities remain relevant today, particularly in promoting access to higher education courses that align to industry career pathways relevant to the Gascoyne region.

Out-migration

The Gascoyne region experiences difficulties in retaining young adults, particularly those undertaking secondary and tertiary education and training.

The perceived quality of education facilities, particularly secondary schools, is a key concern for the community and also for those planning to come to the region. Numerous studies have shown that the transition from primary to high school and from school to work or tertiary studies are when high rates of out-migration occur by individuals and their families.

There has been considerable research into the demographic shifts affecting the region and how this might impact on the labour market. The key demographic changes include a net loss of young people. In the Gascoyne region only 9.0% of the population were aged 15–24 years in 2012, compared to 13.7% across Western Australia (ABS 2012j and 2012w).

Education facilities are therefore a critical piece of social/community infrastructure and an important issue for labour force attraction and retention. Perceptions facing rural areas include (Pelusey, Hatch and Tonts 2010):

- limited education opportunities after Year 10;
- more limited Year 11 and 12 course options than metropolitan schools;
- limited tertiary education options; and
- higher rates of teacher turnover and less experienced teachers.

Addressing these perceptions in the Gascoyne region will be important in assisting with labour force attraction and retention and reducing youth out-migration.

Competitive salaries and wages

One of the major challenges facing the public and private sector in attracting and retaining labour is the capacity to pay competitive salaries and wages. In 2011, 55% of all households in the Gascoyne region had a gross weekly household income of $1 000 or more, compared to 62% across the State (ABS 2012j and 2012w). While the Gascoyne's high Aboriginal unemployment and resulting welfare dependency need to be considered, the relative income differentials can be attributed to a number of factors:

- farm incomes have decreased in relative terms across Australia over the past two decades, which has major direct impacts on median incomes in regions with a heavy dependence on farming;
- many businesses in the Gascoyne, because of their close links to horticulture, have not been able to increase their wages in line with the State average;
- there has been a shifting geography of trade in agricultural regions with increasing amounts of business being conducted in larger regional centres, often bypassing local economies. This has led to a contraction of many private enterprises and restricted wages growth; and
- rapid increases in wages elsewhere, particularly in those regions with strong resource sectors, has contributed to a significant increase in the Western Australian average when compared to the median incomes in the Gascoyne.

It is worth noting that in 2011 the median weekly household income in the Gascoyne was $1 167 compared to $1 415 across the State. While the State median monthly mortgage repayments were $1 950, Exmouth and Carnarvon reported median weekly household incomes of $1 181 and $1 146 respectively, with median monthly mortgage repayments of $2 000 and $1 517 respectively (ABS 2012j and 2012w). In addition, the 2013 Regional Price Index indicates that the cost of living in the Gascoyne was 10% higher than that in the Perth metropolitan region (DRD 2013).

Quality and availability of accommodation

Affordable and suitable housing is crucial to accommodate the unskilled and semi-skilled workforce required for seasonal work in tourism, hospitality and horticulture. As indicated above, more households are under pressure to pay a high proportion of their incomes on housing, particularly in Exmouth.

According to the Real Estate Institute of Western Australia (2013) the value of houses and land has increased across the region. For example, house prices in Exmouth increased by 12.3% and the Carnarvon urban area grew by 12% over 10 years, compared to an 8.9% increase for regional Western Australia. Over the same period, land prices in Exmouth increased by 19.8% and Carnarvon urban area by 10%, compared to 6.8% for regional Western Australia.

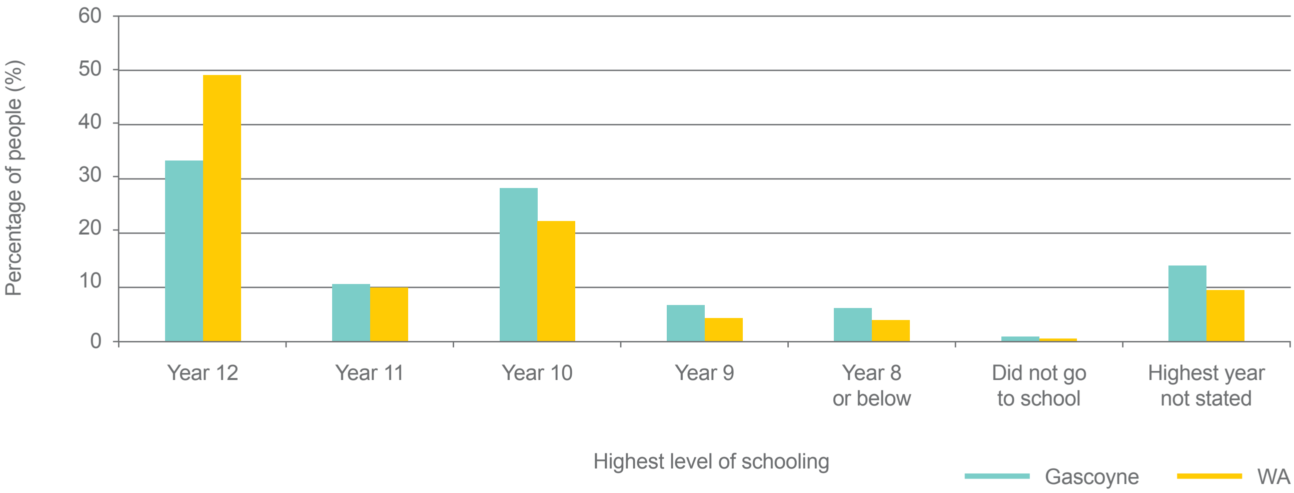
Current and expected pressure on housing is as a result of increased tourism, the need to service the resource sector and the second tier service industries such as transport and trades which supply the resource sector. It is likely that the Gascoyne will face challenges in the provision of housing for the government and private sectors across the region. These are mainly due to the geographic spread of the region, compounded by rising commodity prices in the building sector and the great distance from building suppliers (GDC 2010). An additional challenge for the provision of affordable housing is the region's cyclone rating, with building code requirements increasing building costs significantly.

In response to housing being identified as a critical regional issue, the GDC secured funding through the Regional Development Council to develop the Gascoyne Affordable Housing Strategy. The Commission is now working with the Department of Housing and LandCorp to identify the housing needs in the region and to thus create demand and supply forecasts. The aim is to address critical shortages in housing for essential service workers, low income earners, retirees and seniors across Gascoyne communities (GDC 2013).

Securing local labour and appropriate skills

Figure 4.1 indicates that the highest level of schooling achieved by the majority of residents in the Gascoyne was Year 12 (33%). This was lower than the Western Australian rate of 49%.

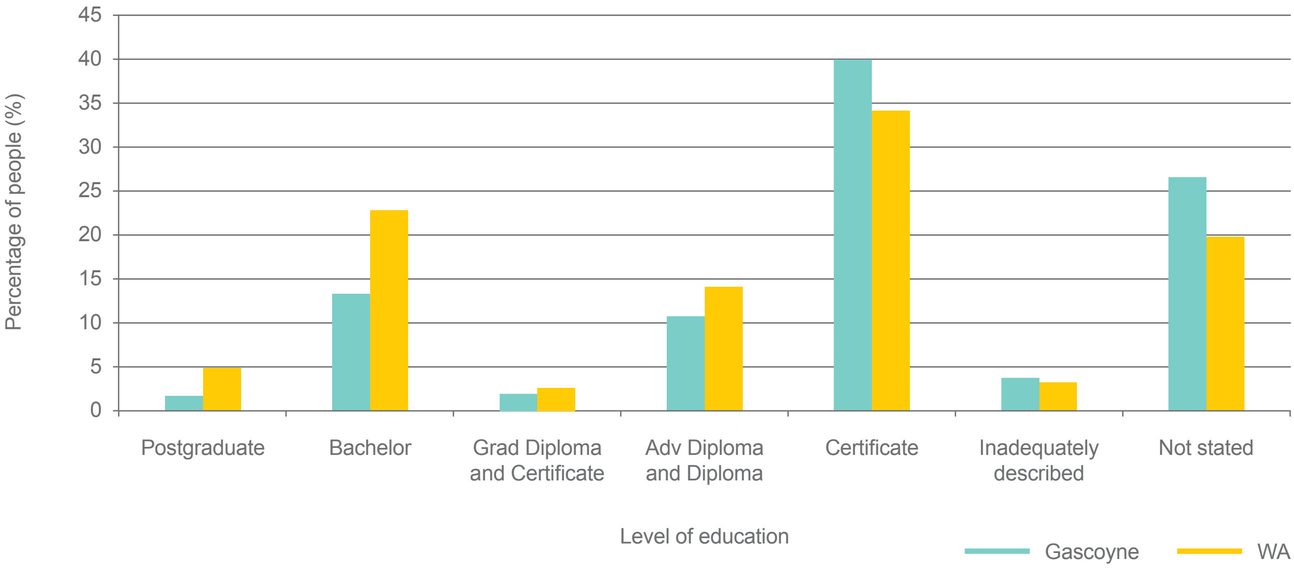
Figure 4.1: Highest level of schooling comparison Gascoyne and Western Australia, 2011



Source: ABS *Census*, 2012j and 2012w

Post school qualifications across the region in 2011 are presented in figure 4.2. Approximately 18% of the region's population with post school qualifications had Bachelor Degree level education. For Western Australia, as a whole, it was 31% (ABS 2012j and 2012w).

Figure 4.2: Post school qualifications comparison Gascoyne and Western Australia, 2011



Source: ABS *Census*, 2012j and 2012w

There is a need to ensure a steady supply of labour in the region by ensuring that education, training and employment pathways are established, together with a range of career opportunities.

It will be important to enhance links between the region's key industries and education providers leading to a more highly skilled and better qualified regional workforce. This in turn will assist with the attraction and retention of young people and families in the region.

In addition, the population of the Gascoyne is slightly older and ageing faster than the Western Australian average. Twenty one per cent of the workforce was aged 55 years and over and 44% was aged 45 years and over in 2011 (ABS 2012j). The loss of labour, skills and knowledge would be considerable if the majority of those aged over 55 years left the workforce in the next five years. However, the standout in 2012 was Shark Bay with over one in every eight residents of retirement age. This ageing can and will decrease the relative size of the labour force available to new businesses and industries.

In considering the age profile of the Gascoyne it is evident that some industries are at greater risk due to the ageing of the population. Significantly, the majority of these industries are the key industry employers and also represent those industries with the largest economic impact. For example, in agriculture, forestry and fishing, 54% of workers are aged 45 years and over and 31% are aged 55 years and over (ABS 2012j).

Seasonal and transient labour force

Human capacity building is a serious issue for the Gascoyne's major employers who regularly cannot attract or retain skilled workers, impacting the sustainability and commercial viability of regional business and industry. As a result, many of the Gascoyne's industries including tourism and horticulture are characterised by the use of seasonal workers to supplement their workforce. Whether a Designated Area Migration Agreement (DAMA) would assist industry is worth considering.

Education and training is an important contributor to building the human capacity of the region. An opportunity exists to improve the alignment between training and key regional industries, particularly in tourism and horticulture, by increasing investment in the development of the region's workforce. In turn, this would increase productivity and result in employment and career pathways that would better attract and retain workers in the Gascoyne. Regional economic growth is increasingly becoming dependent on integrating tertiary education and research with innovative, knowledge intensive industries and a dynamic small business community. The availability of a skilled residential workforce could significantly enhance potential investment in the region particularly by the resource sector.

Availability and access to childcare services

Regional consultations indicated the limited availability and cost of childcare is restricting parents, particularly women, from participating in the workforce. It also has implications for attracting and retaining families in the region. In addition, there is some suggestion that the lack of Aboriginal childcare workers is contributing to the low take up of childcare services by Aboriginal parents.

There are approximately 650 children in the region under 5 years of age, of which over 150 are of Aboriginal descent and almost 1 200 between the age of 5 and 14 years, of which over 340 are of Aboriginal descent. There is one main provider of childcare in Carnarvon and the introduction of national quality assurance requirements, including new higher qualification levels has seen the closure of many family day care centres in Exmouth.

The Department of Local Government and Communities (DLGC) supports the development of regional education and care services through the Regional Community Child Care Development Fund. Consultation with the DLGC indicated that they are currently undertaking the development of a *Regional Children's Services Plan* in the Gascoyne through this fund. This project will undertake regional analysis and identify gaps in service provision.

High Aboriginal unemployment

The need to improve Aboriginal employment is a priority issue. Low rates of participation in the labour force are often combined with very high unemployment rates. In areas of high unemployment, it is not uncommon for participation rates to fall as individuals withdraw from the labour market on account of the low levels of success in finding work (Siegal and Swanson 2004).

Low participation rates can reflect a degree of self-exclusion from the labour market. However, unemployment rates reflect external exclusion whereby persons willing to be employed are unable to gain work. According to Gray, Hunter and Lohar (2011), this exclusion can be due to:

- human capital (that is, lower education and skill level);
- ill-health and disability;
- locational disadvantage and access to services;
- arrest and interactions with the criminal justice system;
- discrimination;
- job retention and labour demand; and
- job search behaviour and labour supply.

Aboriginal people comprise an above average share of the Gascoyne's residential population and are not evenly distributed across the Gascoyne. Almost one in every five residents (18.3%) identified themselves as Aboriginal in 2011 compared to State (3.7%) and national averages (3.0%), highlighting the important role of Aboriginal people in the Gascoyne population. The largest number reside in the Carnarvon LGA (1 107 persons in 2011), accounting for 19.1% of the local population and 81.8% of Aboriginal residents of the Gascoyne. In contrast, Exmouth (2.1% of local residents) and Shark Bay (8.5%), have lower proportions of Aboriginal residents. However, the highest proportion, adjusting for total population size, is in the Upper Gascoyne, where more than three in every five residents are of Aboriginal descent, many of them living in remote communities.

It is also worth noting that approximately 50% of the regional Aboriginal population is under 25 years of age, compared with 27% of the non-Aboriginal population. Only 12% of Aboriginal persons have completed Year 12 or equivalent compared with 33% for the entire Gascoyne population (ABS 2012j).

The Gascoyne region has a low labour force participation and high unemployment rate for Aboriginal people. According to the 2011 Census:

- the labour force participation rate for Aboriginal people was 46% compared with 71% for non-Aboriginal population and 62% for the total population in the region;
- the unemployment rate for Aboriginal people in the Gascoyne was 18.6% compared with 2.9% for the non-Aboriginal population and 4.4% for the total population in the region; and
- in terms of employment, 37.1% of Aboriginal people aged 15 years and over were employed (employment to population ratio). For the non-Aboriginal population the ratio was 69.0% and 59.5% for the total population (ABS 2012i and ABS 2012v).

The Aboriginal unemployment rates in the Gascoyne indicate that a number of external factors, such as lack of qualifications and socio-cultural differences, may contribute to the unemployment rate and low participation rate in the region. In particular, the Aboriginal community in Carnarvon requires targeted support to address systemic issues which manifest themselves in poor education and employment outcomes, including long term unemployment. Literacy, numeracy, general comprehension and work readiness issues are seen as critical areas of focus for improving Aboriginal employment and workforce participation.

There is a view that employment options and social and economic conditions would improve if Aboriginal communities were afforded the opportunity to develop more social and commercial enterprises in keeping with their traditions and culture. Examples cited include the supply of bait for the wild-dog program and building on the success of recent research into the health and medical benefits of the Gubinge fruit tree experimental program. Whilst the *Western Australian Aboriginal Economic Participation Strategy* was developed for the whole of State, with a number of initiatives agreed upon at a national level, any appropriate initiatives listed in the strategy related to addressing high rates of long term Aboriginal unemployment should be considered for Carnarvon's Aboriginal community, which requires targeted support.

Other areas highlighted during the consultations include:
- income tests connected to the eligibility for housing acting as a disincentive for individuals to take-up or retain their employment. Transitional housing models, such as the scheme recently piloted in the East Kimberley should be given consideration;
- the need for seamless and continued mentoring services that are linked to an individual rather than a program, to assist in successfully sustaining employment;
- leveraging existing Aboriginal community activity that could lead to increased business start-ups and local employment opportunities;
- strategies to enable more Aboriginal people to be employed in local government should be investigated; and
- the limited number of Aboriginal people employed by State Government agencies, particularly where services are being provided directly to Aboriginal families.

Availability and access to air services

Air services and airports are important to the region given its distance from Perth and other major centres, its growing tourism industry and the potential for more resource industry development. Other services and industries such as health services and the pastoral industry also rely on air services.

Currently there are direct flights between Perth and Exmouth (Learmonth), and Carnarvon and Denham with some of these only available on alternate days. In addition, there are very limited intra-regional flights and no connections between Exmouth and Carnarvon or Denham.

Consultations indicate that this limited access and connectivity of air services is a critical issue for the growth of business, employment, incomes and the broader economy that needs to be addressed. Consistent comments were received about this lack of connectivity and interface within and beyond the region. In addition, costly air services for Carnarvon and inadequate terminal facilities were seen to have an adverse effect on tourism and attracting fly-in fly-out workers and their families to live in the region.

Other observations

The adequacy of access to general practitioner services, particularly in peak tourist season, was identified as an issue in Exmouth and Denham.

A common concern expressed by stakeholders is that government sector services are being increasingly delivered outside the region (Geraldton and Karratha).

The status of Carnarvon as a regional centre needs to be confirmed as the regional headquarters of key government services. This is an important consideration as it impacts on the identity of Carnarvon, the provision of employment opportunities and the town's ability to attract and retain its workforce.

Future workforce needs for the Gascoyne region

Economic drivers for future labour force demand

A range of major investment projects are currently underway that present opportunities for the Gascoyne economy, these are identified below.

Carnarvon Horticulture Expansion (Gascoyne Food Bowl Initiative)

Carnarvon is growing its horticultural precinct through the provision of new land and water resources for irrigation expansion, including water infrastructure development and sustainable soil, water and catchment management practices. The initiative is seen as a key driver for the Carnarvon horticultural industry to reach a production scale that will support export markets, and therefore increase opportunities for existing and new producers to market their produce both domestically and internationally. The first stage is a proposed 400 hectare expansion of the horticulture industry, with a further expansion of 400 hectares of irrigated land envisaged in the future.

Highlights reported in the August 2014 Gascoyne Food Bowl Initiative newsletter include:

- drilling and water tender contracts have been awarded with targets identified and access paths cleared;
- a contract for the electrification of the existing northern borefield has been awarded to Horizon Power and works have commenced;
- the infrastructure corridor for the existing northern borefield has been completed; and
- economic studies on developing new and target markets investigating existing and new market opportunities, and to consider the impacts of growth on industry development are being developed.

Carnarvon Airport redevelopment

According to a media release from the Shire of Carnarvon on 12 May 2014, the Carnarvon Council adopted a planning report that will enable the redevelopment of the Carnarvon Airport precinct within the existing 340 hectare site. A tender to undertake geotechnical and preliminary design assessments for the airport development has been awarded. Strategies for redevelopment of the airport includes realignment and relocation of the existing airstrip towards the east of the site, which is expected to enable up to 1 400 mixed density residential lots along with industrial and commercial land development over a 20 year horizon. The Shire President acknowledged that there could potentially be an alternative airport site on reserved land to the north of the town.

Nimitz Street residential development

As part of an ongoing attempt to address affordability in Exmouth, there are 15 residential lots in stage one of Nimitz estate being offered for sale via an exclusive pre-release. Development of the estate is dependent on market demand.

Ningaloo Centre

The $30 million plus Ningaloo Centre project is funded through the State Government's Royalties for Regions (Gascoyne Revitalisation Fund), the Regional Development Australia grant program and a Shire contribution. The Ningaloo Centre will be a multi-purpose building providing a centralised resource for scientific research, education and community engagement with a new visitors centre, library, museum, convention centre, cafe and childrens playground. It will function as a major facility for scientists studying the Ningaloo Reef and Cape Range national parks. The Ningaloo Centre is expected to generate economic growth for Exmouth, including a boost in tourism and an increase in employment opportunities.

Exmouth Boat Harbour expansion

The Exmouth Boat Harbour is set to undergo a major $20 million upgrade, extending the service wharf with the construction of a heavy lift facility and additional moorings. The two year upgrade funded through the Royalties for Regions program will offer significant economic benefit to the wider Gascoyne region, and will further promote a diversified local economy. The project is expected to create approximately 140 new jobs for current operators and the wider community. As the only harbour between Carnarvon to the south and Dampier to the north, the project will further strengthen Exmouth's ability to supply and service the resources sector, including off shore oil and gas. The construction phase of the upgrade is scheduled to commence in 2015–16.

Future projections

Employment forecasting, particularly in regions with small and volatile populations is difficult. For example, in the Gascoyne occupational projections and forecasts have been subject to and may continue to feel the influences of:

- fluctuations in the agricultural (including pastoral) market;
- the comparatively small population and hence a smaller local workforce;
- the income differential between the local and State average;
- the immediate and flow-on effects of a series of severe weather events in recent years (floods in 2010 and fires in 2012) on the tourism sector in particular; and
- the high Aboriginal population in Carnarvon and the need to address issues of meaningful employment.

At present a comprehensive picture of future skills demand in the region is not available. During development of the *Gascoyne workforce development plan 2015–2018*, stakeholders were surveyed on current and anticipated occupational shortages in the region. The results are included as appendix C. Due to the low response rate, demand for specific occupations now and into the future will need further investigation. Once released, the *Gascoyne Regional Investment Blueprint* will provide further insights on the likely areas of skills growth.

For example, should the aspirational population targets of just over 15 700 residents by 2026 and 23 000 by 2050 be realised, the quality of health, aged care and child care services will be paramount. Education and training will be critical in supporting economic development in the region, not only in terms of 'job-readiness' but also higher order skills such as leadership, entrepreneurship, critical thinking and problem solving.

Consultations have highlighted a number of considerations related to future labour force requirements including, but not limited to the following opportunities.

- The Department of Agriculture and Food's 'Seizing the Opportunity in Agriculture' initiative is likely to result in skill demands with projects involving horticulture, biosecurity and diversification and support of the beef industry, including Indigenous pastoral ventures, all of which have implications for the Gascoyne labour force.
- Rio Tinto's Dampier Salt is planning to expand its Lake MacLeod. It is intended to increase annual salt production. Should this occur, there is a reasonable expectation the workforce will increase to meet production levels.
- The Gascoyne region is strategically located to support and facilitate the development of major off shore oil and gas deposits with the centre of Exmouth already fulfilling the role of a strategic hub for existing operations. The growth in investment expected in the medium term has the potential to underpin future economic growth in the region, providing employment, supply chain opportunities, training and economic engagement opportunities during both construction and operational phases.
- Exmouth is strategically positioned in closer proximity to major South East Asian centres than Darwin, providing defence with a rapid response capability. Any expansion of defence operations in Exmouth would provide a critical mass of employment, population and expenditure activity. This is analogous with Darwin and Townsville, albeit on a smaller scale.
- Pending investment decisions, the Coburn Mineral Sands Project situated just outside the southeast edge of the Shark Bay World Heritage Property is ready to commence. Gunson Resources Limited has indicated that the total workforce to be employed at the site is expected to be 173.
- The population age profile of the Gascoyne is older than the State average. This is expected to underpin growing demand for health, medical and welfare based services (including retirement accommodation and aged care). This is particularly the case in Shark Bay.

It is also worth noting that the Gascoyne region may be expected to compete for workforce requirements from other regions such as the Mid West and the Pilbara.

Gascoyne workforce development – the way forward

Roles, responsibilities and timeframes

The *Gascoyne workforce development plan 2015–2018* has a four year timeframe and is intended to provide a broad assessment of the workforce development trends and issues in the region. It does not aim to tackle in depth all of the various issues and scenarios associated with employment in the region but rather to develop a more general analysis of problems, likely solutions and required actions.

The plan's implementation will be overseen by the Gascoyne Workforce Development Alliance. Specific government, industry and community based agencies will be given the 'lead' responsibility to coordinate strategies and projects included in the plan. Progress on these will be monitored on a six monthly basis. As economic conditions evolve the Alliance will monitor the progress of the workforce strategies and projects included in the plan, and review and modify these as necessary to address the prevailing conditions in the region.

Workforce development initiatives will align closely with the long term growth and development aspirations of the *Gascoyne Regional Investment Blueprint*, once developed.

Action plan

In order to address the workforce challenges and opportunities in the Gascoyne a series of priority actions have been developed. These draw on inputs from stakeholder consultations and have been refined through the input of the Gascoyne Workforce Development Alliance and nominated lead agencies to ensure both relevance and practicality of action implementation.

Implementation of the 23 priority actions (some of which are inter-related) will be overseen by the Alliance.

Action ID	Skills development and utilisation - recommended priority actions
1.1	As a matter of priority the Gascoyne Development Commission initiate a staged establishment of Industry Education, Training and Career clusters (IETCs) in the region's key industries including: • food (horticulture, fishing and pastoral); • tourism (including hospitality); • resources; • environment and natural resource management; and • government services.
	Lead agency: Gascoyne Development Commission
1.2	Each IETC, with the support of the Gascoyne Development Commission, to develop regional industry career pathways linked to accredited qualifications which can be delivered by regional schools, training providers including Durack Institute of Technology, the proposed open learning university centre or a combination as appropriate.
	Lead agency: Gascoyne Development Commission
1.3	The Gascoyne Development Commission to investigate the feasibility of establishing an open learning university centre which would promote access to higher education courses that are aligned to the industry career pathways developed by the IETC.
	Lead agency: Gascoyne Development Commission

Action ID	Skills development and utilisation - recommended priority actions
CONTEXT The rationale for actions 1.1–1.3 relates to the need to enhance links between the region's key industries and education providers leading to a more highly skilled and better qualified regional workforce. This in turn will assist with the attraction and retention of young people and families in the region. The membership of each IETC will need to include representatives from the following (with industry representatives to be appointed as cluster Chairs): • industry; • schools; • Durack Institute of Technology; • Employment Plus, the region's Regional Jobs and Community Program (RJCP) provider; • the proposed open learning university centre; • Aboriginal community; • government agencies; and • others as appropriate. It is important that Carnarvon Community College, Exmouth District High School, Shark Bay School and St Mary's College actively participate in the IETCs and provide Year 11 and 12 programs where possible, which are linked to the industry career pathways. Employment Plus will need to actively participate in the IETCs and where possible, align their employment and training activities with the industry career pathways. It is essential that all the regional key stakeholders take an active role in supporting the work of the IETCs.	
1.4	Durack Institute of Technology, under the direction of the IETC, and as required, to undertake feasibility studies on the future training needs of Exmouth, based on confirmed industry investment decisions in areas which may include: • tourism and hospitality; • training relevant to the resource sector; • natural resource management in partnership with the Department of Parks and Wildlife; • marine industry; and • aquaculture.
	Lead agency: Durack Institute of Technology
CONTEXT Potential industry growth and development in and around Exmouth must be assessed to ensure that any training and workforce development needs likely to arise from confirmed projects are identified early. This will allow Durack Institute of Technology to align training programs, subject to cost efficiencies with the key needs of local industry.	

Action ID	Skills development and utilisation - recommended priority actions
1.5	Carnarvon Community College to commence investigating the concept of links with industry to include VET in Schools opportunities in the proposed expansion of the horticulture industry.
	Lead agency: Carnarvon Community College
CONTEXT It is worth investigating the concept of links with industry to include VET in Schools opportunities given the intended expansion of the horticulture industry and the importance being placed on the region's Food Bowl Initiative. Currently the Carnarvon Community College's new trades training centre only intends to offer construction and engineering trades related training.	
1.6	The Department of Education is committed to exploring flexible ways by which students in the Gascoyne region can access accredited training programs which contribute to the new requirements of the Western Australian Certificate of Education (WACE).
	Lead agency: Department of Education
CONTEXT Stakeholder consultation indicates some limitations in the Department of Education schools in the Gascoyne region to provide access to vocational education and training. Examination of this issue by the Department of Education will continue to assist schools to enhance their VET course options.	

Action ID	Workforce participation - recommended priority actions
2.1	The Shires of Carnarvon, Shark Bay, Exmouth and Upper Gascoyne in collaboration with the Department of Local Government and Communities, through the Regional Community Child Care Development Fund, to analyse the: • adequacy of childcare services in Carnarvon, Denham and Exmouth; and • need for childcare services in Gascoyne Junction with the support of the Shire of Upper Gascoyne.
	Lead agencies: Shires of Carnarvon, Shark Bay, Exmouth and Upper Gascoyne
2.2	The Department of Local Government and Communities to encourage the development of funding applications for initiatives/pilot projects that contribute to increasing the uptake of traineeships, including Aboriginal traineeships, in the Gascoyne under the Regional Community Childcare Development Fund initiative.
	Lead agency: Department of Local Government and Communities
2.3	Durack Institute of Technology to research the demand for accredited childcare training programs and the opportunity to provide them through flexible delivery arrangements.
	Lead agency: Durack Institute of Technology
CONTEXT Regional consultations indicated that the limited availability and cost of childcare was restricting parents, particularly women from participating in the workforce. It is worth noting that childcare is currently not available in Gascoyne Junction. In addition, there is some suggestion that the lack of Aboriginal childcare workers is contributing to the low take up of childcare services by Aboriginal parents. The lack of affordable childcare has implications for attracting and retaining families in the region.	
2.4	The Shires of Carnarvon, Shark Bay, Exmouth and Upper Gascoyne to ensure that Aboriginal employment strategies in their workforce plans encourage greater Aboriginal participation.
	Lead agencies: Shire of Carnarvon, Shark Bay, Exmouth and Upper Gascoyne
CONTEXT The number of Aboriginal people employed in the local governments is variable. The inclusion of strategies designed to promote Aboriginal employment would enhance the experience of Aboriginal communities in engaging with local government.	

Action ID	Workforce participation - recommended priority actions
2.5	The Alliance to consider which of the initiatives listed in the *Western Australian Aboriginal Economic Participation Strategy* are relevant to address systemic issues relating to the high rate of long term unemployment in the Carnarvon Aboriginal community and if appropriate, work with local, State and Commonwealth agencies to promote and support their implementation in the region.
	Lead agency: Gascoyne Workforce Development Alliance
CONTEXT Carnarvon's Aboriginal community requires targeted support to address systemic issues which have resulted in high rates of long term unemployment. Whilst the *Western Australian Aboriginal Economic Participation Strategy* was developed for the whole of State with a number of initiatives agreed upon at a national level, any initiatives listed in the strategy related to addressing high rates of long term Aboriginal unemployment should be considered for Carnarvon's Aboriginal community.	
2.6	The Alliance with the assistance of the Department of Aboriginal Affairs' Chief Operating Officer, to examine the issues within the Burringurrah community which are limiting participation in the region's workforce. The Alliance is to monitor the relevant agencies' activity against those issues, to complement the work of the Commonwealth's Remote Jobs and Community program provider in the Burringurrah community.
	Lead agency: Gascoyne Workforce Development Alliance
CONTEXT Regional consultations identified significant concern with what appears to be dysfunctional aspects of this community which manifest themselves in poor education and employment outcomes.	
2.7	The WA Public Sector Commission to encourage State Government agencies located in or servicing the Gascoyne region to include recruitment strategies which lead to increased employment of Aboriginal people particularly where front line services are being delivered to the Aboriginal community.
	Lead agency: Public Sector Commission
CONTEXT Regional consultations have indicated that there are a limited number of Aboriginal people employed by State Government agencies particularly where services are being provided directly to Aboriginal families.	

Action ID	Workforce participation - recommended priority actions
2.8	The Department of Housing to give consideration to the introduction of the transitional housing scheme (piloted in the Kimberley) in the Gascoyne region.
	Lead agency: Department of Housing
CONTEXT The Department of Housing is currently evaluating the East Kimberley Development Package Transitional Housing Program which has been operating in Kununurra since September 2012. The outcome of the evaluation (including identification of potential funding models) will inform the potential expansion and/or replicability of the model in other regions. The income tests related to the eligibility for housing is often seen to act as a disincentive for individuals to take-up or retain their employment and this transitional housing program is a strategy to address this issue.	

Action ID	Attraction and retention - recommended priority actions
3.1	The Department of Housing to review the affordable housing needs in the Shires of Carnarvon, Exmouth, Shark Bay and Upper Gascoyne.
	Lead agency: Department of Housing
CONTEXT Under the State Government's *Affordable Housing Strategy 2010-2020: Opening Doors to Affordable Housing*, the Department of Housing delivers a range of affordable housing options across WA and engages with local government as part of this process. Consultations in these shires indicated that the limited supply of affordable and appropriate housing (including owner occupier and rentals) is significantly impacting on families being attracted to the region.	
3.2	The Gascoyne Development Commission in collaboration with the Shires of Carnarvon, Exmouth and Shark Bay and other regional industry stakeholders, to work with the Department of Transport in the development of a Gascoyne aviation services strategy and consider the workforce development implications of this.
	Lead agency: Gascoyne Development Commission
CONTEXT Consistent comments were received about the lack of connectivity and interface within and beyond the region. Costly air services for Carnarvon and the inadequate terminal facilities were seen as having an adverse impact on tourism and acting as a deterrent for fly-in fly-out workers and their families to live in the region. A Gascoyne aviation services strategy would take into account the need to service the region's major towns and passenger travel costs.	
3.3	The Shires of Exmouth and Shark Bay in collaboration with the Department of Health, to review the adequacy of general practitioner services in Exmouth and Denham and identify options to attract private medical practices.
	Lead agencies: Shires of Exmouth and Shark Bay
CONTEXT Waiting times to see a general practitioner in Denham and at the Exmouth Hospital sometimes extends to several weeks. The availability of readily accessible health services is an issue for families particularly in the peak tourism season.	

Action ID	Attraction and retention - recommended priority actions
3.4	Carnarvon Community College to develop and implement, as a matter of priority, a community communication and engagement strategy.
	Lead agency: Carnarvon Community College
CONTEXT Consultations in Carnarvon highlighted the need for recent changes in the future direction of the college to both inform and engage the local community. The strategy should consider how community engagement can be sustained to enable the college to enhance community support and involvement and to further build the college's reputation and intention to become an Independent Public School.	
3.5	The Department of Education is committed, when funding permits, to complete stages 2 and 3 of the Carnarvon Community College.
	Lead agency: Department of Education
CONTEXT Completion of the college will encourage community acceptance of the community college concept and emphasise its importance as a significant regional resource.	

Action ID	Targeted skilled migration - recommended priority actions
4.1	The Gascoyne Development Commission to consult with regional industry to determine the need and support for a Designated Area Migration Agreement.
	Lead agency: Gascoyne Development Commission

CONTEXT

It is evident that many of the Gascoyne region's key industries including tourism and horticulture, will continue to rely on a seasonal workforce and skilled migration to complement other strategies to fill the labour gaps. Whether a Designated Area Migration Agreement (DAMA) would assist industry is worth considering.

<table>
<tr><th>Action ID</th><th>Planning and coordination - recommended priority actions</th></tr>
<tr><td rowspan="2">5.1</td><td>The Gascoyne Development Commission to collaborate with the Departments of Agriculture and Food, Regional Development, Water and Planning in the identification of any direct and ancillary workforce implications as a result of the possible future development of the additional 400 hectares (initially) of irrigated land in Carnarvon as a further stage of the Gascoyne Food Bowl Initiative.</td></tr>
<tr><td>Lead agency: Gascoyne Development Commission</td></tr>
<tr><td colspan="2">CONTEXT
The prospect of an additional 400 hectares represents a significant increase in horticulture production which is likely to have major social and economic multiplier effects on Carnarvon and the surrounding region, including workforce implications.</td></tr>
<tr><td rowspan="2">5.2</td><td>As the Water Corporation addresses future water requirements in the Gascoyne, it provides advice to the Alliance through the Gascoyne Development Commission on activities which may have workforce implications to allow the Alliance to assess project implications for workforce requirements.</td></tr>
<tr><td>Lead agency: Water Corporation</td></tr>
<tr><td colspan="2">CONTEXT
Advice received during the consultations indicated that any significant increase in the Gascoyne's population would require desalination facilities to be established to process either sea or artesian water sources.</td></tr>
<tr><td rowspan="2">5.3</td><td>The Gascoyne Development Commission in collaboration with other relevant State Government agencies, to identify any direct and ancillary workforce implications as a result of Exmouth becoming a major services centre for the resource and/or defence sectors.</td></tr>
<tr><td>Lead agency: Gascoyne Development Commission</td></tr>
<tr><td colspan="2">CONTEXT
The ongoing off shore liquefied natural gas production and construction projects, possible future developments in defence and Exmouth's proximity to the Pilbara may result in a significant increase in the region's population and workforce. Planning will be important to prepare for the region's capacity to respond to such an eventuality.</td></tr>
</table>

Appendix A: Gascoyne consultation list

Aboriginal Affairs Coordinating Committee
Aboriginal Family Law Service
Aquanorth Aboriginal Corporation
Association of Relatives and Friends of the Mentally Ill – Mental Health Carers
Australian Petroleum Production and Exploration Association
Baiyungu Aboriginal Corporation
Best Western Hospitality Inn
Carnarvon Aboriginal Congress
Carnarvon Community Charitable Trust
Carnarvon Community College
Carnarvon Community Men's Group
Carnarvon Community Women's Group
Carnarvon Development Aboriginal Corporation
Carnarvon Family Support Services
Carnarvon Medical Service
Carnarvon Tourism Alliance
Carnarvon Trustees Aboriginal Corporation
Centacare
Chamber of Commerce and Industry (Carnarvon)
Chamber of Commerce and Industry (Exmouth)
Chevron Australia
Commonwealth Department of Employment
Commonwealth Department of the Prime Minister and Cabinet
Community Services, Health and Education Training Council

Construction Training Council
Dowling Giudici and Associate
Durack Institute of Technology
Electrical, Utilities and Public Administration Training Council
EMU Services
Engineering and Automotive Training Council
Ethnic Disability Advocacy Centre
Exmouth District High School
Exmouth Visitors Centre
Financial, Administrative and Professional Services Training Council
Food, Fibre and Timber Industries Training Council
FutureNow Creative and Leisure Industries Training Council
Gascoyne Asset Maintenance
Gascoyne Development Commission
Granny Glasgow Education and Care Centre
Gunson Resources Limited
Logistics Training Council
Milyuranpa Banjyma Aboriginal Corporation
Mungullah Community Aboriginal Corporation
Novotel Ningaloo Resort
Police and Community Youth Centre
Public Sector Commission
Resource Industry Training Council
Retail and Personal Services Training Council
Salvation Army – Employment Plus
Shark Bay Resources
Shire of Carnarvon
Shire of Exmouth
Shire of Shark Bay
Shire of Upper Gascoyne
WA Department of Aboriginal Affairs

WA Department of Agriculture and Food
WA Department of Child Protection and Family Services
WA Department of Education
WA Department of Health (Western Australian Country Health Service)
WA Department of Housing
WA Department of Local Government and Communities
WA Department of Parks and Wildlife
WA Department of Regional Development
WA Department of Training and Workforce Development
WA Department of Planning
WA Department of Water
WA Police Service
Water Corporation
Wurrakaj Aboriginal Corporation
Yuggoo Aboriginal Corporation

Forums (26 and 27 March 2014)

Carnarvon Aboriginal Reference Group (CARG)

Aquanorth Aboriginal Corporation – John Oxenham
Bayiyungu Aboriginal Corporation – Paul Baron
Carnarvon Aboriginal Congress – Maria Poland
Carnarvon Community Charitable Trust Aboriginal Corporation – Jenny Walsh
Carnarvon Community Men's Group Aboriginal Corporation – Jalba Dann
Carnarvon Development Aboriginal Corporation – Beverley Ladyman
Carnarvon Medical Services Aboriginal Corporation – Aileen Mitchell
Carnarvon Trustee Aboriginal Corporation – Kathleen Musulin
Former Commonwealth Department of Families, Housing, Community Services and Indigenous Affairs – Larina Burke
Milyuranpa Banjyma Aboriginal Corporation – Roddesa Mitchell
Ukkakaga Corporation – Merle Dann
Yuggoo Aboriginal Corporation – Susan Oakley

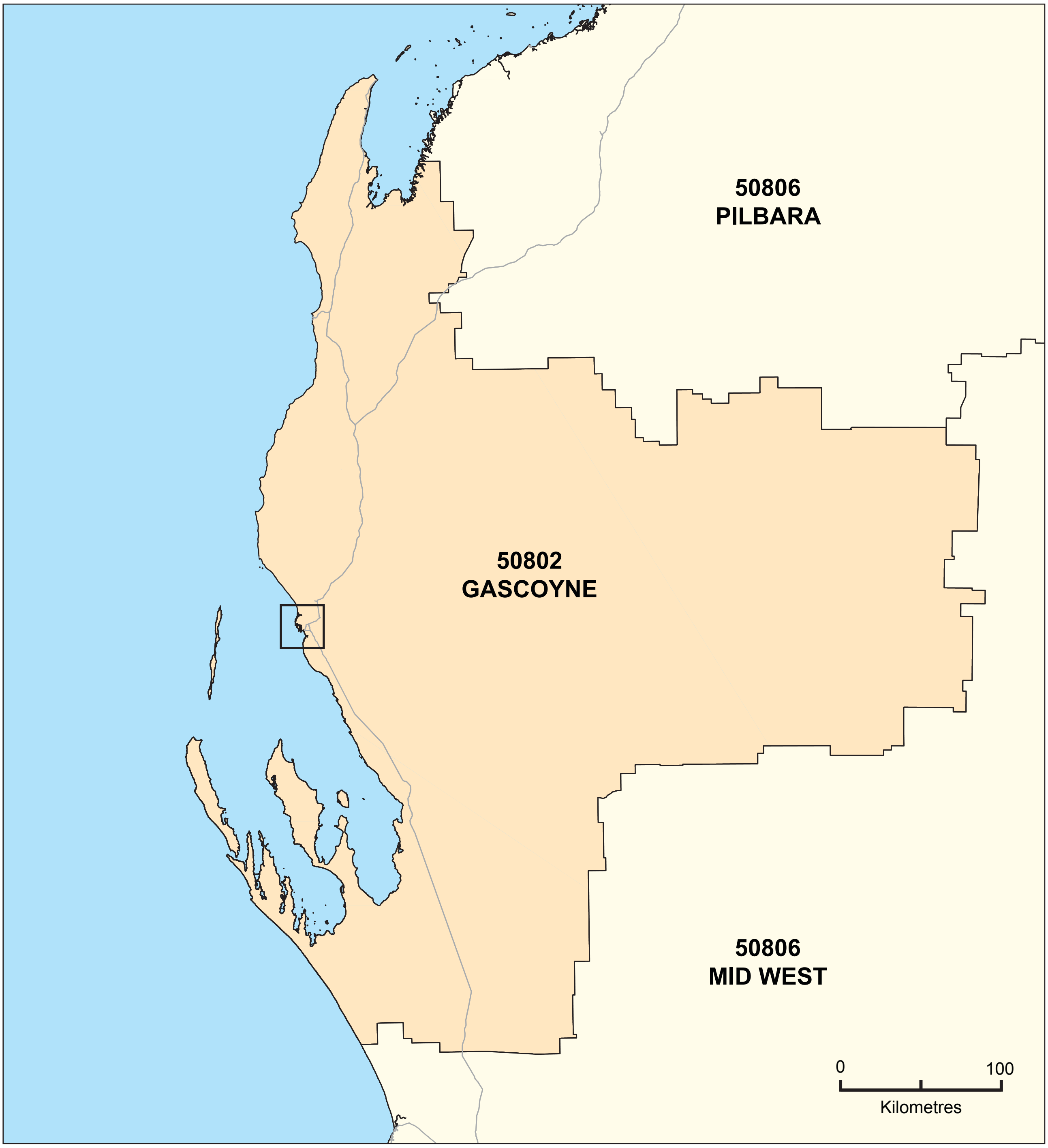
Carnarvon Non-Government Organisations Network (CNGON)

Aboriginal Family Law Service – Susan Oakley
Association of Relatives and Friends of the Mentally Ill – Medical Local Partners in Recovery – Ross Monaco
Carnarvon Family Support Services – Julee Nelson
Carnarvon Medical Services Aboriginal Corporation – Aileen Mitchell
Carnarvon Community Men's Group – John Oxenham
Carnarvon Community Women's Group – Ella Oxenham
Carnarvon PCYC – Gloria Quinn and Benita Donda
Centacare – Tracey Armstrong and Santosh Shende
EMU Services – Jackie Cameron
Ethnic Disability Advocacy Centre – Wil Nayar
Former Commonwealth Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) – Larina Burke
Gascoyne Asset Maintenance – Natalie Perry
Mungullah Community Aboriginal Corporation – Leisha Norling
Salvation Army Employment Plus – Sylvia Bush

Carnarvon Human Services Agency Group (CHSAG)

Aboriginal Education Manager – Margaret Maxwell
Department of Aboriginal Affairs – Elise Ronan and Kym Carter
Department of Child Protection and Family Support – Sandra McGhie
Department of Employment – Wayne Murray
Department of Health Gascoyne – Helen Webb
Department of Housing – Ted Duke
Former Commonwealth Department of Families, Housing, Community Services and Indigenous Affairs – Larina Burke
Gascoyne Development Commission – Paul Niesler and Kim Pervan
Shire of Carnarvon – Charlie Brown and Vivienne Tonga
WA Police – Paul McComish and Jane Gillham

Appendix B: ABS Statistical area level map – Gascoyne



Appendix C: Gascoyne regional community identified occupation list

As part of the qualitative research undertaken for this project, a survey instrument was deployed to capture Gascoyne community views on skilled occupations in the region:

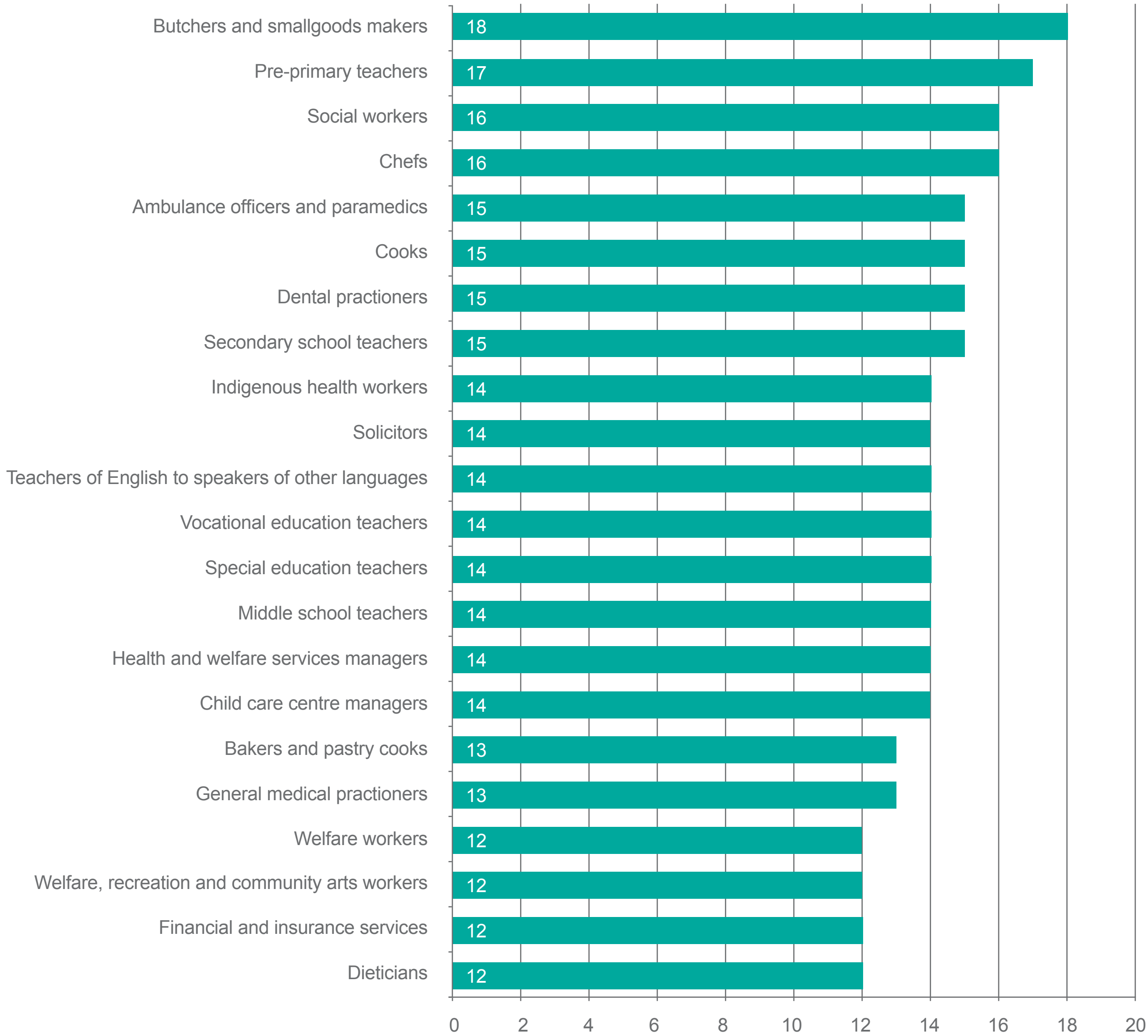
- that are likely to be in critical demand (i.e. crucial to industry operations, growth and development and/or could seriously harm business viability if not addressed); or
- where employers are unable to fill or have considerable difficulty filling vacancies due to skill shortages.

While the survey instrument was distributed widely, the response rate was low. The survey results are therefore not conclusive and can be considered broadly indicative only.

An analysis of the nominated occupations indicates services to support families and communities in the Gascoyne region are considered important. It should be noted that:

- while teachers featured strongly in the survey results (pre-primary school teachers, secondary school teachers, teacher of English/other languages, vocational education teachers, special education teachers and middle school teachers), it is likely that this is a function of high rates of teacher turnover and less experienced teachers rather than a shortage of teachers, leading to community perceptions of inconsistent quality and/or substandard offerings;
- health services and related professional services are relatively accessible in Carnarvon and generally people are well serviced in Exmouth, except in peak seasons. While there is a desire by the Gascoyne community to increase the range of health services provided in regional towns, stakeholders also understand that more resources in smaller towns may not necessarily be economically feasible;
- the identified need for a given occupation may be town or sub region-specific and may not necessarily indicate a critical shortage. One example is ‘butchers and smallgoods makers’ which may actually be covered by alternative services provided by supermarkets; and
- while it could be argued that hospitality occupations could be filled by seasonal workers or backpackers, some difficult to fill positions in hospitality require skilled workers, such as chefs and bakers and pastry cooks. These positions are significant to the tourism and hospitality industries.

The following presents a summary of the occupations identified by 45 stakeholders in the Gascoyne community as being of high priority.



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