

Economic Analysis

WHITSUNDAY REGION

Updated Economic and Population Study Stage 3 – 2019 Revision

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Prepared by:

Jon Norling, Director

Norling Consulting Pty Ltd
Business & Property Economics

Level 5, 320 Adelaide Street

GPO Box 5061

Brisbane Qld 4001

mail@norling.com.au

ABN: 92 082 232 540

Warranty

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As this report involves future market projections which can be affected by a number of unforeseen variables, they represent our best possible estimates at this point in time and no warranty is given that this particular set of projections will in fact eventuate.

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1 Introduction

1.1 Background and Study Objectives

Norling Consulting has been commissioned by the Whitsunday Regional Council to prepare an Updated Economic and Population Study for the Whitsunday Regional Council Local Government Area. It updates the Economic and Population Study previously prepared by Norling Consulting in November 2013, approximately four years previously.

With the recent release of the 2016 ABS Census data and continually changing economic conditions, it is now opportune to update the economic analysis and population and employment projections.

The primary purposes of this Updated Economic and Population Study were to:

- (a) Update the population, employment and other relevant data with the 2016 ABS Census data;
- (b) Identify changes in economic conditions;
- (c) Identify key strategies and responses to likely economic conditions;
- (d) Prepare employment and population projections based upon two growth scenarios; and
- (e) Prepare employment and population projections based upon five LGIP Catchment Areas.

This Study has been undertaken in three Stages, in order to provide Council with an opportunity to consider and select a preferred growth scenario prior to the development of the population and employment projections for the LGIP Catchment Areas.

This Report incorporates Stages 1, 2 and 3 and is referred to as the Stage 3 Report. This 2019 Revision of the Stage 3 Report corrects an error of the Stage 3 Report in respect of the floorspace per employee in the Community and Industry sectors. This error affected only Tables 8.5 and 8.10.

1.2 Methodology

In preparing Stage 1, Norling Consulting has employed the following methodology:

- (a) Held an inception meeting with Council staff by teleconference;
- (b) Reviewed all relevant background material supplied by Council, the 2015 Government population projections, the 2016 ABS Census data, 2016/7 building approval data and background information on key industry sectors;
- (c) Identified the current and likely future economic drivers for the Region and assessed their strengths, weaknesses, opportunities and threats;
- (d) Recommended actions for Council to respond to the identified economic strengths, weaknesses, opportunities and threats;
- (e) Consulted with Council staff by teleconference to identify two potential growth scenarios, the key assumptions that underpin them and relevant Projection Areas of the Region;
- (f) Prepared revised population and employment projections for the Region and Projection Areas for the period 2017 to 2036 based upon two scenarios;

- (g) Consulted with Council staff by teleconference to confirm the projections and agree on a preferred scenario of the two potential scenarios; and
- (h) Provided a brief report that summarised the results of the above tasks.

In preparing Stage 2, Norling Consulting employed the following methodology:

- (a) Confirmed with Council staff via teleconference the contents of the Stage 1 Report, the preferred growth scenario and the relevant Catchment Areas;
- (b) Reviewed aerial photos to convert the estimated 2017 population, dwellings and employment projections to the five Catchment Areas;
- (c) Reviewed aerial photos and the zoning maps of the Whitsunday Regional Council Planning Scheme 2017 to convert the preferred growth scenario to the five Catchment Areas;
- (d) Updated the Stage 1 Report to consolidate the results of Stage 2; and
- (e) Provided the Excel models of growth projections, together with training on their use and applicability to Council staff.

Stage 3 involved the addition of a Low Scenario to the population projections, such that a total of three projection Scenarios have now been provided to Council.

2 Economic Profile

2.1 Overview

The Whitsunday Region is a local government area (LGA) located in North Queensland, approximately 1,000 kilometres north of Brisbane and 600 km south of Cairns. The Region comprises the former LGAs of Bowen and Whitsunday Shires, which from March 2008 formed the Whitsunday Regional Council. The coast is a gateway to the 74 islands of the Whitsundays and to the Great Barrier Reef whilst the mainland contains agriculturally and mining rich areas, including direct access to the northern tip of the coal-rich Bowen Basin. The estimated Gross Regional Product (GRP) for the 2015/16 year was \$2.5 billion, with the similar Gross Value Added (GVA) estimated at \$2.3 billion as shown in TABLE 2.1.

Table 2.1: Gross Value Added and Gross Regional Product, Whitsunday Region 2015-16

#	Industry	Level (\$ million)	% of total
1	Rental, Hiring & Real Estate Services	308.4	12.5%
2	Mining	295.2	12.0%
3	Agriculture, Forestry and Fishing	252.1	10.2%
4	Transport, Postal and Warehousing	232.4	9.4%
5	Accommodation and Food Services	199.2	8.1%
6	Construction	177.5	7.2%
7	Manufacturing	113.0	4.6%
8	Administrative and Support Services	109.3	4.4%
9	Retail Trade	103.7	4.2%
10	Health Care and Social Assistance	98.6	4.0%
11	Education and Training	88.4	3.6%
12	Financial and Insurance Services	64.9	2.6%
13	Public Administration & Safety	63.3	2.6%
14	Professional, Scientific & Technical Services	55.5	2.3%
15	Electricity, Gas, Water and Waste Services	39.6	1.6%
16	Wholesale Trade	39.0	1.6%
17	Other Services	37.0	1.5%
18	Information Media and Telecommunications	16.1	0.7%
19	Arts and Recreation Services	10.4	0.4%
Total Industry Value Added		2,303.5	93.6%
Taxes less subsidies on production and imports		156.7	6.4%
Gross Regional Product		2,460.2	100.0%

Source: Latest REMPLAN data from Whitsunday Regional Council

GRP is considered to be the most appropriate measure of the Region's economic performance. The Whitsunday Region generated approximately 0.8% of Queensland's Gross State Product in 2015/16. The major industries in the Region, in order of economic value, were tourism (comprising a large proportion of rental, hiring and real estate services; accommodation and food services; transport, postal and warehousing; and retail trade), mining, agriculture and manufacturing. It is recognised that the Collinsville mine was closed during part of the period covered and the Sonoma group of mines was operating at low production volumes, significantly depressing the production values of mining in these figures.

2.2 Population

The following provides a brief explanation of various population definitions that are commonly referred to by the ABS:

- (a) Enumerated population – the number of persons counted on Census night;
- (b) Place of usual residence population – represents the count of persons on Census night at their place of usual residence;
- (c) Estimated residential population (ERP) – is based upon the place of usual residence population after making additional adjustments to account for persons not counted by the Census (such as persons travelling overseas at the time of Census). This is the ABS' key measure of population and the one adopted by this Report; and
- (d) Non-resident workers – comprise workers who are living in an area of their workplace, but who have their usual place of residence elsewhere. They are not included in the estimated resident population of the area of the workplace, yet place additional demand for services within their workplace area. They typically travel between their usual place of residence and workplace on a fly-in/fly-out or drive-in/drive-out (FIFO/DIDO) basis.

TABLE 2.2 below sets out the historic and current estimated resident populations for the Region between 1991 and 2017. Historic estimates are based upon data from the Australian Bureau of Statistics (ABS) Household Censuses which are conducted every five years.

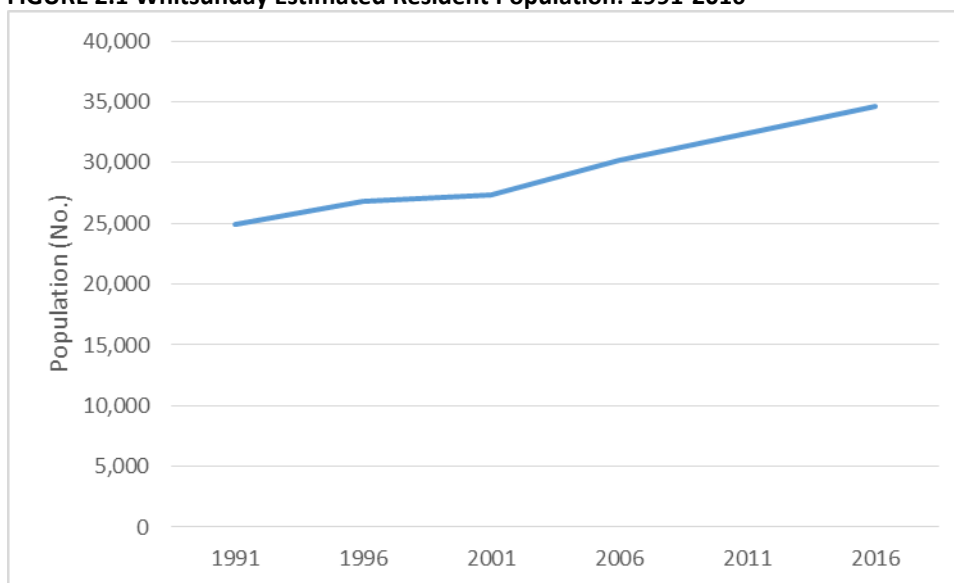
The 2017 figure in TABLE 2.2 is based on the 2017 ERP released by the ABS in April 2018. It is noted that building approvals in the 2016/17 period were quite low compared to previous financial years (47 total approvals, compared to an average of 140 in the previous five financial years). Building approvals published to date in the 2017/18 period (76 total dwellings from July to October) reveal that approvals appear to have reverted back to more normal levels. It should also be noted that, whilst the 2016 ABS estimated resident population is based upon the results of the 2016 Census, it is not yet regarded as the final estimated resident population for that year (to be released later in 2018).

TABLE 2.2: Whitsunday Region Historical Estimated Resident Population

	1991	1996	2001	2006	2011	2016	2017	% p.a. 1991- 2017
ERP	24,921	26,851	27,396	30,255	32,416	34,626	34,831	1.3
Households	9,585	10,530	11,087	12,355	13,391	14,433	14,510	1.6
Persons per household	2.60	2.55	2.47	2.45	2.42	2.40	2.40	n/a

Source: ABS and Norling Consulting's estimates

The above Table is illustrated below:

FIGURE 2.1 Whitsunday Estimated Resident Population: 1991-2016

Source: 1991, 1996, 2001, 2006, 2011, 2016 ABS Censuses

As illustrated in TABLE 2.2, the Whitsunday Region has experienced steady population growth between 1991 and 2017, with 1.3% annual growth being significantly below the state average of 2.1% over the same period.

Population growth in the Region has been quite varied during this 26 year period. Strong growth occurred in the 2001 to 2006 period (2.0% per annum), modest growth in the 1991 to 1996 period (1.5% per annum), 2006 to 2011 period (1.4% per annum) and 2011 to 2016 period (1.3% per annum) and very low growth in the 1996 to 2001 period (0.4% per annum). This indicates that the Region's population growth is significantly affected by the performance of a handful of industry sectors and the vagaries of a range of external macroeconomic factors.

Future population growth is examined in greater detail in Chapter 5.

2.3 Employment Profile

Analysis of the ABS Household and Population Census data has revealed the following residential workforce information for the Whitsunday Region since 2001. The following TABLE 2.3 provides an historic breakdown of the number of Whitsunday residents who were employed at the time of the 2001, 2006, 2011 and 2016 Censuses.

TABLE 2.3: Resident Worker Growth Whitsunday Region 2001 to 2016

	2001	p.a. growth	2006	p.a. growth	2011	p.a. growth	2016
Whitsunday	12,580	3.48%	14,926	1.34%	15,955	0.14%	16,069

Source: 2001, 2006, 2011 & 2016 ABS Household and Population Censuses, based on place of usual residence

As illustrated above, the number of resident workers within the Whitsunday Region has increased significantly during the 2001 and 2006 period, with modest growth occurring between 2006 and 2011 (coinciding with the GFC) and negligible growth has been achieved during the 2011 to 2016 period. This suggests that population growth over the last five year intercensal period has been driven by non-workers, namely retirees. This has been confirmed, with the population of persons aged 50 and over generating two-thirds of the net increase in population of the Region over the 2011 to 2016 intercensal period.

Labour force participation rates have remained steady during this period, increasing from 71.4% in 2001 to 74.3% in 2011 before decreasing slightly to 73.9% in 2016. Unemployment rates within the Whitsunday Region improved significantly between 2001 and 2006, in-line with downward trends experienced across the State and Australia over this period, decreasing from 6.9% in 2001 to 3.7% in 2006. Following the GFC and its ramifications on the economy and employment prospects, the unemployment rate increased to 4.7% in 2011 and to 6.7% in 2016.

An estimated 16,994 jobs were provided within the Whitsunday Region in 2016. The following TABLE 2.4 illustrates the historical workforce between 2001 and 2016, based on the results of the ABS Household and Population Censuses.

TABLE 2.4: Jobs within Whitsunday Region 2001 to 2016

	2001	p.a. growth	2006	p.a. growth	2011	p.a. growth	2016
Whitsunday	14,445	1.21%	15,337	-0.07%	15,281	2.23%	16,994

Source: 2001, 2006, 2011 & 2016 ABS Household and Population Censuses

Jobs growth in the Region has displayed a contrasting pattern to the growth of resident workers. Jobs growth has been strongest in the 2011 to 2016 period, modest in the 2001 to 2006 period and negative growth was incurred during the GFC period of 2006 to 2011. The strong increase in jobs growth in the five years leading up to 2016 was driven by tourism, agriculture, education, administration and health care, with manufacturing, mining, construction and trade all recording negative growth during this period.

A comparison of TABLES 2.3 and 2.4 reveals the net jobs balance for the Region, which measures the proportion of jobs supplied in the Region to the number of workers residing in the Region (Table 2.5). A net jobs balance of less than 100% means that fewer jobs are supplied than there are workers residing in the Region – implying a net export of workers to jobs located outside the Region. The net jobs balance for the Region is estimated below for the 2001 to 2016 period:

Table 2.5: Net Jobs Balance for the Region – 2001 - 2016

Year	Jobs Balance
2001	115%
2006	103%
2011	96%
2016	106%

Source: 2001, 2006, 2011 & 2016 ABS Household and Population Censuses

This shows a general pattern of the Region supplying slightly more jobs than its resident workforce over this period, with the Region relying upon workers living elsewhere to supply the balance (such as through FIFO/DIDO arrangements). The exception to this pattern occurred during the GFC period in 2011, where the Region's number of jobs fell below that of its resident workforce.

With an established trend by mining companies to prefer FIFO/DIDO workforces, it is expected that the net jobs balance in the future would remain in the 103% to 108% range and be at the upper end of this range during periods of high construction activity in the Region.

The Queensland Government Statistician's Office collects details of non-resident (FIFO/DIDO) workers working in the Bowen Basin. The relevant data for this Region relates to the former Bowen Shire part of the Region, it does not collect data on other non-resident workers, such as those currently working on reconstruction efforts following the damage caused by Cyclone Debbie in March 2017. The following TABLE 2.6 highlights these estimates (reflecting temporary residents of Collinsville and Bowen, with the 2011 figure also including Merinda):

TABLE 2.6 Non-resident workers on-shift*

LGA	2006	2011	2016	2017
Whitsunday (R) (Bowen only)	220	715	300	495

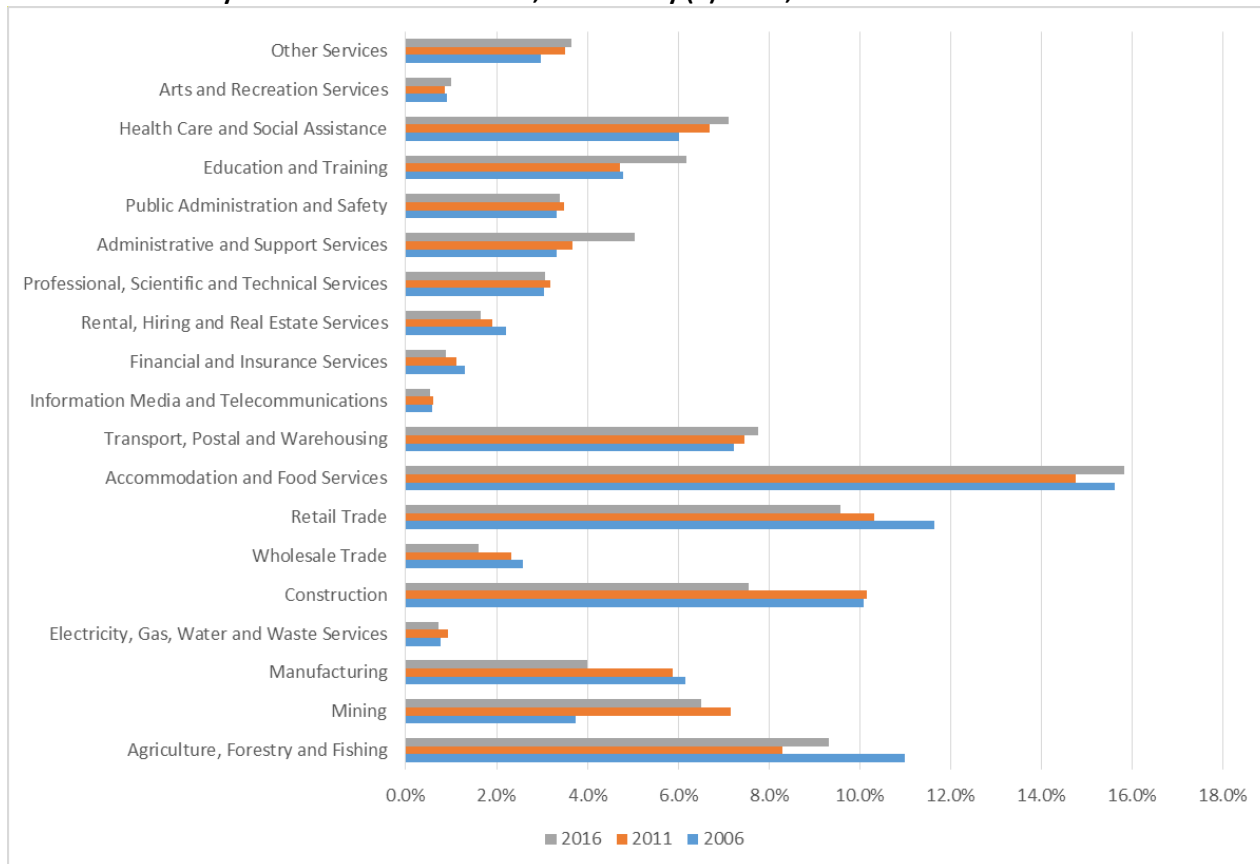
*due to shift arrangements, not all members of the non-resident workforce are present in the local area at one time. The figures therefore reflect the average number of non-resident workers on-shift, rather than total non-resident workforce numbers.

Source: Queensland Government Statistician's Office, Queensland Treasury

Queensland Treasury estimated that there were a total of 495 non-resident workers at Collinsville, Bowen and Merinda in 2017 (the latest date for which estimates have been released). The number of non-resident workers has fallen significantly since a peak of 735 in 2012 due to the subsequent contraction of the coal industry. The Collinsville mine was also closed for a period of time in 2016, which contributed to the reduced figure at that time.

The following FIGURE 2.2 illustrates how the industries of the Whitsunday Region workforce have trended since 2001. It shows the dominance of the tourism, agriculture, retail trade, construction, mining and health care sectors. Sectors demonstrating significant growth over this period comprise construction, retail and wholesale trade, manufacturing and agriculture.

FIGURE 2.2: Industry of the Resident Workforce, Whitsunday (R)- 2006, 2011 and 2016



Source: 2006, 2011 and 2016 ABS Household and Population Censuses

The above is also documented on the next page in greater detail (Table 2.7):

TABLE 2.7: Industry of the Resident Workforce, Whitsunday (R) - 2006, 2011 and 2016

	2006	2011	2016	Difference between 2006 - 2016
Agriculture, Forestry and Fishing	1,639	1,322	1,499	-140
Mining	558	1,141	1,046	+488
Manufacturing	918	940	642	-276
Electricity, Gas and Water Supply	113	150	115	+2
Construction	1,507	1,620	1,212	-295
Wholesale Trade	385	371	259	-126
Retail Trade	1,738	1,646	1,537	-201
Accommodation and Food Services	2,331	2,354	2,544	+213
Transport, Postal and Warehousing	1,079	1,190	1,247	+168
Information Media and Telecommunication	86	98	87	+1
Financial and Insurance Services	193	178	143	-50
Rental, Hiring and Real Estate Services	330	303	265	-65
Professional, Scientific and Technical Services	455	510	494	+39
Administrative and Support Services	495	585	810	+315
Public Administration and Safety	495	558	546	+51
Education and Training	716	751	995	+279
Health Care & Social Assistance	899	1,070	1,143	+244
Arts and Recreation Services	135	138	160	+25
Other Services	446	561	587	+141
Inadequately described/Not stated	408	468	737	+329
TOTAL	14,926	15,955	16,069	+1,143

Source: 2006, 2011 and 2016 ABS Household and Population Censuses

In contrast to the GRP data, the most important industries in terms of employment in the Region are tourism (which encompasses more industry sectors than accommodation and food services), retail, agriculture, transport, postal and warehousing, construction, health care and mining.

As shown above, the major increases have occurred within the mining, administrative and support services, education and training and health care.

The majority of decreases have occurred within the construction, manufacturing, retail trade and agriculture, forestry and fishing industry sectors.

2.4 Regional Profile

TABLE 2.8 below shows the proportion of the resident workforce employed by industry within the key urban areas of Proserpine, Airlie Beach/Cannonvale/Shute Harbour/Jubilee Pocket, Bowen and Collinsville as well as the balances of the former Whitsunday Shire and the former Bowen Shire. The most dominant industries of employment within each area are highlighted.

TABLE 2.8: Industry of the Resident Workforce, 2016

	Proserpine	Whitsunday Urban Area And Islands	Balance Whitsundays	Bowen Urban Area	Collinsville	Balance Bowen Shire
Agriculture, Forestry and Fishing	5.6%	0.6%	10.8%	17.0%	3.2%	43.4%
Mining	4.2%	5.5%	8.4%	4.7%	30.4%	9.3%
Manufacturing	8.4%	2.6%	6.3%	3.8%	3.8%	2.9%
Electricity, Gas and Water Supply	1.3%	0.3%	0.6%	0.5%	2.7%	0.0%
Construction	7.4%	7.5%	10.7%	6.9%	5.2%	6.3%
Wholesale Trade	1.9%	1.2%	1.8%	2.8%	0.0%	0.0%
Retail Trade	14.8%	9.3%	9.8%	9.5%	8.6%	4.8%
Accommodation and Food Services	8.2%	28.8%	8.4%	7.8%	6.3%	3.5%
Transport, Postal and Warehousing	4.8%	9.4%	5.2%	9.2%	4.7%	4.0%
Information Media and Telecommunication	0.7%	0.6%	0.6%	0.2%	0.0%	0.0%
Financial and Insurance Services	0.0%	0.8%	0.8%	0.8%	0.0%	0.3%
Rental, Hiring and Real Estate Services	1.2%	2.2%	1.6%	1.2%	0.0%	0.6%
Professional, Scientific and Technical Services	2.9%	3.3%	4.4%	2.6%	0.0%	2.2%
Administrative and Support Services	3.8%	6.4%	4.1%	4.0%	6.3%	2.3%
Public Administration and Safety	5.6%	2.4%	3.5%	4.4%	2.5%	1.5%
Education and Training	10.0%	4.1%	7.2%	6.8%	14.9%	4.8%
Health Care & Social Assistance	10.1%	5.1%	6.8%	10.1%	7.7%	4.7%
Arts and Recreation Services	0.2%	1.8%	0.7%	0.1%	0.0%	0.9%
Other Services	4.6%	3.7%	4.3%	3.7%	1.1%	2.4%
Inadequately described/Not stated	4.1%	4.5%	4.2%	4.0%	2.7%	5.9%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: 2016 ABS Household and Population Census

The agriculture, forestry and fishing industry is the major industry of employment for the Balance Bowen (43%), Bowen Urban Area (17%) and Balance Whitsunday Shire (11%). Unsurprisingly, mining is the dominant employment industry in Collinsville, comprising 30% of resident workers.

The accommodation and food services sector is the key employer within the Whitsunday Urban Area and Islands (29%).

Retail trade (15%), health care (10%) and education and training (10%) are the major industry sectors of workers living in Proserpine.

2.5 Key Industries

This section provides a brief overview of the key industries in the Whitsunday Region.

Mining

Australia

Australia has benefited from mining booms in the late 1960's, the early 1980's and during the 2000's. The latest boom has been driven by rapid urbanisation and industrialisation of emerging Asian countries, resulting in significant commodity price increases and leading to strong levels of mining exploration and investment. Coal, iron ore and gas have been the major growth sectors in the most recent boom. Mining exploration and expansion sustained Australia during the early part of the GFC. However, significant price falls in 2012 have led to cost-cutting measures being taken by miners, including delays to new projects, reduction in exploration, closure of some mines and negotiations with workforces to reduce wage costs and improve productivity.

Coal is generally described as black or brown coal, with the former having a much higher energy content. In Australia, black coal is predominantly mined in Queensland and NSW, whereas brown coal is mined in Victoria. There are three different types of black coal: coking coal, thermal coal and pulverised coal injections (PCI), which are utilised in different applications. Coking coal is primarily used in steel production and can be classified as soft, semi-soft or hard. Hard coking coal is the highest quality coal and therefore attracts the highest prices in the world market. Thermal coal is a lower grade coal utilised primarily in the production of electricity by power stations. PCI is also used in steel production, applied in a manner to reduce the extent of higher-priced hard coking coal.

The mining industry is heavily affected by fluctuating commodity prices, international markets and climate change mitigation efforts, such as carbon pricing. When commodity prices fall or there is a downturn in a major importing economy, the coal industry can be adversely affected. This can lead to sporadic changes in employment, population and the demand for services and facilities in mining-driven regions. The 2012 falls in coal prices, together with a slowing of China's economic growth, caused the closure of several coal mines, delayed the commencement of several new mines and created a cost-cutting drive by miners.

Queensland

Coal is Queensland's most important commodity, with more than 34 billion tonnes (raw coal) identified, of which 8.7 billion tonnes have been identified as hard coking coal (defined above). During 2016/7, Queensland produced 238 million tonnes of saleable coal, of which 87% (worth A\$36 billion) was exported.

The Bowen Basin in Central Queensland contains almost all of the state's hard coking coal, making it the most important source of export coal in Queensland. The Callide, Clarence-Moreton, Tarong and Surat Basins are important sources of thermal coal for domestic power generation.

The Bowen Basin contains the largest coal reserve in Australia and supplies around 80% of the coal produced in Queensland, and three quarters of the total value of exports. The Bowen Basin encompasses an area of 60,000 square kilometers, from Collinsville in the north, to Theodore in the south. The Bowen Basin contains the majority of operational coal mines in the State. There were 50 mines operating in the Bowen Basin as at July 2017.

In addition, there is now a focus on exploration for export thermal coal in the Galilee Basin, a large reserve of coal located to the west of the Bowen Basin and centred around Alpha in western Central Queensland. Seven large mines have been proposed, of which the Carmichael Coal Mine and Railway Project (Adani), Alpha Coal Project (GVK Hancock Coal), Kevin's Corner Coal Project (GVK Hancock Coal) and South Galilee Coal Project (AMCI Group and Bandanna Energy Ltd) have received State Government approvals. Adani has announced that the Carmichael Coal Mine and Railway Project is in the pre-construction stage, with financial close extended to end of March 2018. However, some level of uncertainty persists as to whether it will proceed, with opponents vigorously campaigning against it.

Coal from the Bowen Basin is currently exported from five coal terminals located at three ports: Abbot Point north of Bowen, Hay Point near Mackay, and the Port of Gladstone.

Lower global coal prices in the 2012 to 2016 period and several flooding events have increased production costs and reduced performance. This has particularly affected Central Queensland's mining dependent towns such as Mackay, Collinsville and Moranbah and related regional economies during this period. However, prices have recently improved and there are now some positive signs in this industry.

Whitsunday Region

The northern tip of the Bowen Basin extends into the Whitsunday Region, resulting in the Collinsville, Sonoma, Cows, Drake and Jax coal mines (these latter four coal mines are located close together, are all operated by Qcoal and their combined production is attributed to the Sonoma mine) and the Abbot Point Coal Terminal being located in the Region. Technically, the Newlands and Eastern Creek coal mines are just located within the Whitsunday Region's boundary. However, due to the Wollombi and Suttor Creek coal mines being located outside the boundary and these four related mines being serviced from the town of Glenden, which is also outside the boundary, these mines have been excluded from this analysis. However, their production is exported through the Abbot Point Coal Terminal and this activity is relevant to the performance of the Region.

Contributing 18% of the Region's GRP in 2016, mining has become the principal economic driver in the Whitsunday Region. In recent years, production volumes have declined from the Collinsville and Sonoma mines, despite the Sonoma mine having been recently strengthened by the addition of the adjacent and related Cows, Drake and Jax coal mines. Whilst total annual production averaged around 7 million tonnes per annum in the 2009 to 2012 period, production of saleable coal has reduced to 3.9 million tonnes in 2015/6 and to only 2.7 million tonnes in 2016/7. This has been influenced by the closure of the Collinsville mine for a period and flooding associated with Cyclone Debbie early in 2017. Annual capacity of these mines is estimated at 16 million tonnes, although it is not known when production capacity may be reached. The Jax coal mine is presently reported to be in a 'care and maintenance' program.

Annual throughput of coal at the Abbot Point Coal Terminal has improved in recent years, mainly due to expansion of the Newlands mines (now comprising four mines). Coal exports peaked at 28.8 million tonnes in 2014/5 and has contracted to 25.0 million tonnes in the latest financial year, 2016/7.

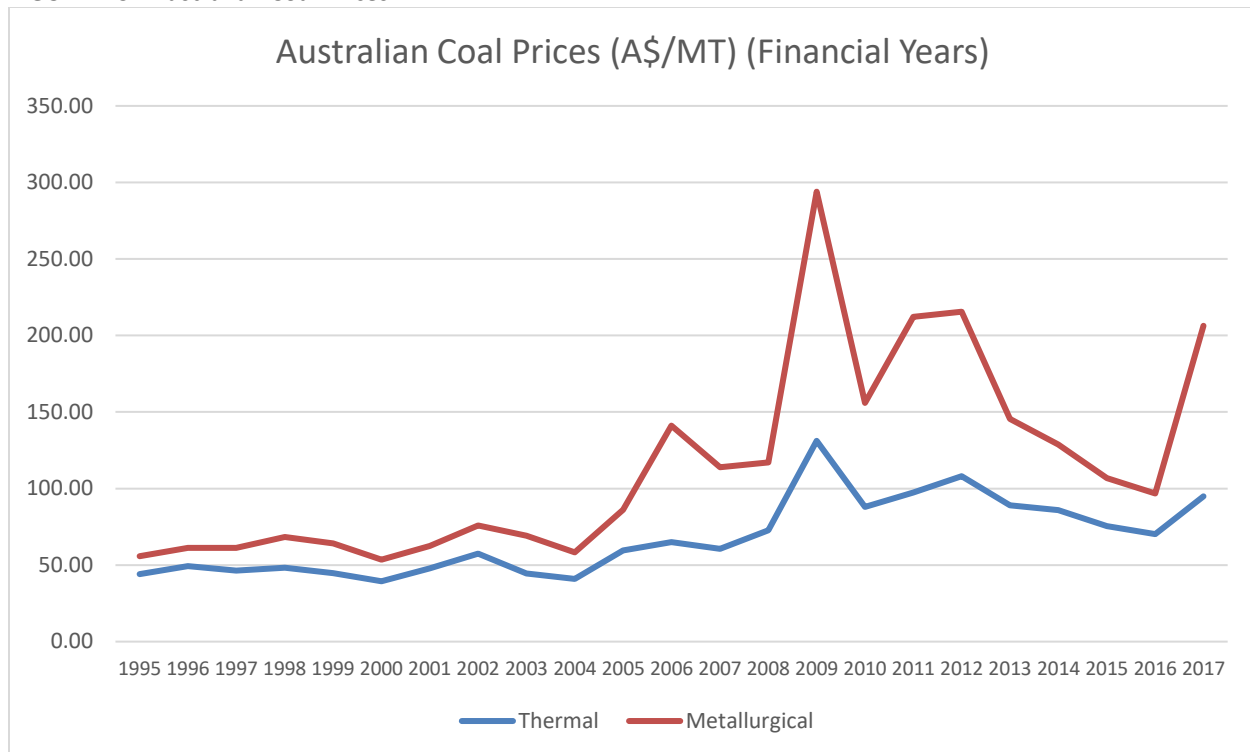
Future Outlook

While the very long-term future of thermal coal mining is uncertain due to global pressures relating to climate change, any fundamental change in China's, Japan's or Australia's dependence on coal-based fuels are not expected within the next 15 or 20 years. Such long-term uncertainty is not associated with hard coking coal mining, as there are currently no known replacements for its role in steel making.

Over the next decade or two, the major factors likely to affect coal mining will revolve around production costs, the opening up of the Galilee Basin (such as by Adani's Carmichael Coal Mine and Railway Project proceeding) and the future prices of coal.

Production costs are considered to have been largely brought under control during the 2012 to 2016 downturn. The excessive operational costs incurred by the sector during the previous mining boom have been reversed during this downturn and the sector is understood to be much leaner and more profitable when prices improve. Part of these changes have included a move towards a more transient workforce relying upon Fly-in Fly-out (FIFO) and Drive-in and Drive-out (DIDO) workers.

There have been several reasons for the delay in opening up the Galilee Basin. Approvals have taken many years to achieve. Substantial delays have been caused by opponents to these thermal coal mines. There is also a cost penalty for the first mine to open, given that it has to essentially fund the 500km rail line from the Basin to Abbot Point and consequent upgrades to the Abbot Point Coal Terminal. Once the first Galilee Basin mine becomes operational, it is expected that other mines will follow suit and utilise the established infrastructure. Thermal coal prices have also been depressed during the 2012 to 2016 period, providing a challenge to the potential profitability of these new mega mines. Figure 2.1 illustrates the average annual metallurgical and thermal coal prices for Queensland in Australian dollar values. It clearly shows the boom period as being from 2009 to 2012, followed by a slump in prices. The recent price surge has been picked up in the data for the financial year ended June 2017.

FIGURE 2.3: Australian Coal Prices

Source: DIIS

In December 2017, the prices had risen to A\$300/metric tonne (mt) for metallurgical coal and A\$130/mt for thermal coal, both of which are at near record highs. This has been due to supply constraints in Australia and other producing nations and strong demand. It is not expected that these high prices will be maintained and the local coal industry has provided a much more measured response to this price surge in comparison to the previous surge in 2009. Whilst these prices must fall, there is some prospect that prices will not return to the low levels on 2016 in the near future. Data from the World Bank's October 2017 Commodity Market Outlook predicts that Australian thermal coal prices (per mt) would maintain a range from US\$55 to US\$60 in the 2019 to 2030 period. At current exchange rates, this translates to A\$70 to A\$77, which is similar to the low prices achieved during the 2015 to 2016 period. This Outlook could be regarded as being on the low side, not having taken account of the most recent price surge since this publication. On balance, the industry is witnessing a price surge that should result in positive investment decisions being made in the near future. However, coal mining activities are long-term ventures and the expected long-term prices indicate that a return to more normal pricing and economic conditions will inevitably occur.

A number of mining and mining-related projects in the Region are planned or awaiting approval that are likely to create employment directly or indirectly for industries and businesses that provide supporting products and services. The most significant projects for the Region are discussed below:

- (a) The existing Collinsville, Sonoma, Cows, Jax and Drake mines have the potential to increase production by a factor of six over recent levels, depending upon demand levels and operational issues.

- (b) Abbot Point Coal Terminal in Bowen is planned to increase coal export capacity in the Bowen Basin from the existing 50 Mtpa capacity. The proposed two terminals, T0 (extension of T1 to a combined 70Mtpa) and T3 (60 Mtpa) would increase capacity to 130 Mtpa.
- (c) Activity in the Galilee Basin is expected to increase with four of the seven proposed mines now having received approval. The key appears to revolve around Adani actually commencing its previously announced construction of its Carmichael Coal Mine and Railway Project, with very recent news (mid-July 2018) that it had finalised funding for its Railway Project, having previously finalised funding of the Mine. There are no more hurdles for Adani to overcome, indicating that it is now most likely to proceed imminently. That should pave the way for other mines to follow suit in this Basin. There is potential to significantly increase jobs at Abbot Point (particularly during the construction phase) and allow the Region's workforce to access the proposed very large number of Galilee Basin jobs (during both the construction and operational phases) on a FIFO or DIDO basis.
- (d) There has been a proposal called the Project Iron Boomerang from East West Line Parks Ltd aiming to connect Port Hedland to Abbot Point proposing first stage iron and steel smelting plants at both Port Hedland and Abbot Point. The rail connection would efficiently transport iron ore to the east and coal to the west and result in substantially reduced shipping costs. This Project appears dormant at present.

Tourism

Australia

Australia received 8.7 million international visitors in the year ended October 2017, representing an increase of 7.1% from the previous year and an average of 7.5% per annum over the previous five years. This strong growth over this period has been fuelled by a more favourable exchange rate following a period of low growth following the GFC. Asia (68%) and the USA (18%) have generated the most growth over this five year period, with China (including Hong Kong) contributing 32%.

The Tourism Forecasting Reference Panel (TFRP) project a continuation of strong growth in international visitors over the next decade at 5.5% per annum, driven by Asian markets and the USA.

Domestic visitation growth has also been strong since the GFC, with visitor nights increasing at an average of 3.6% per annum since 2009, reaching 335m visitor nights in 2016. The TFRP projects annual increases of 2.2% over the next decade.

The tourism market is sensitive to global and Australian political and macroeconomic shocks and can therefore be expected to experience variations from these forecasts as they occur. Whilst particular shocks are not currently expected, they have the potential to lead to negative growth very quickly.

Queensland

Overnight tourism generated \$21 billion in visitor expenditure for the year ending June 2017 and contributed \$25 billion to the state economy for the year ending June 2016. For the year ended June 2017, domestic visitors generated 84 million visitor nights and international visitors generated 54 million visitor nights. Queensland has enjoyed strong growth in tourism in recent years, with domestic visitor nights increasing by 3.0% per annum over the past six years and international visitor nights increasing by 4.1% per annum over the past eight years. Queensland has now enjoyed a consistent period of growth since the impact of the GFC and other prior global shocks to the tourism market.

The TFRP has forecast strong tourism growth in Queensland to continue for each of the international (6.4% per annum) and domestic (2.7% per annum) sectors over the next decade.

Whitsunday

The Whitsunday Region is the most tourism dependent regional economy in Queensland, in terms of the contribution of tourism to the GRP (20%). Tourism represents the second highest contributor to the GRP, with approximately \$529 million for the year ended June 2016. The region accommodated 3.8 million overnight visitor nights for the year ended June 2017. With an average length of stay of five nights, these nights were generated by 518,000 domestic visitors and 241,000 international visitors.

Two airports service the Region, the Great Barrier Reef Airport (HTI) on Hamilton Island with services from Brisbane, Cairns, Melbourne and Sydney and the Whitsunday Coast Airport (PPP) in Proserpine with services from Brisbane, Sydney and Melbourne. For the year ending June 2017, the busiest routes to the area were Sydney – Hamilton Island (233,500 passengers), Brisbane - Proserpine (228,800 passengers) and Brisbane – Hamilton Island (141,700 passengers).

During 2017, 38 cruise ships docked at Airlie Beach, representing a 27% growth over the number docking in 2012. These ships delivered a potential capacity of 70,000 passengers to the Region.

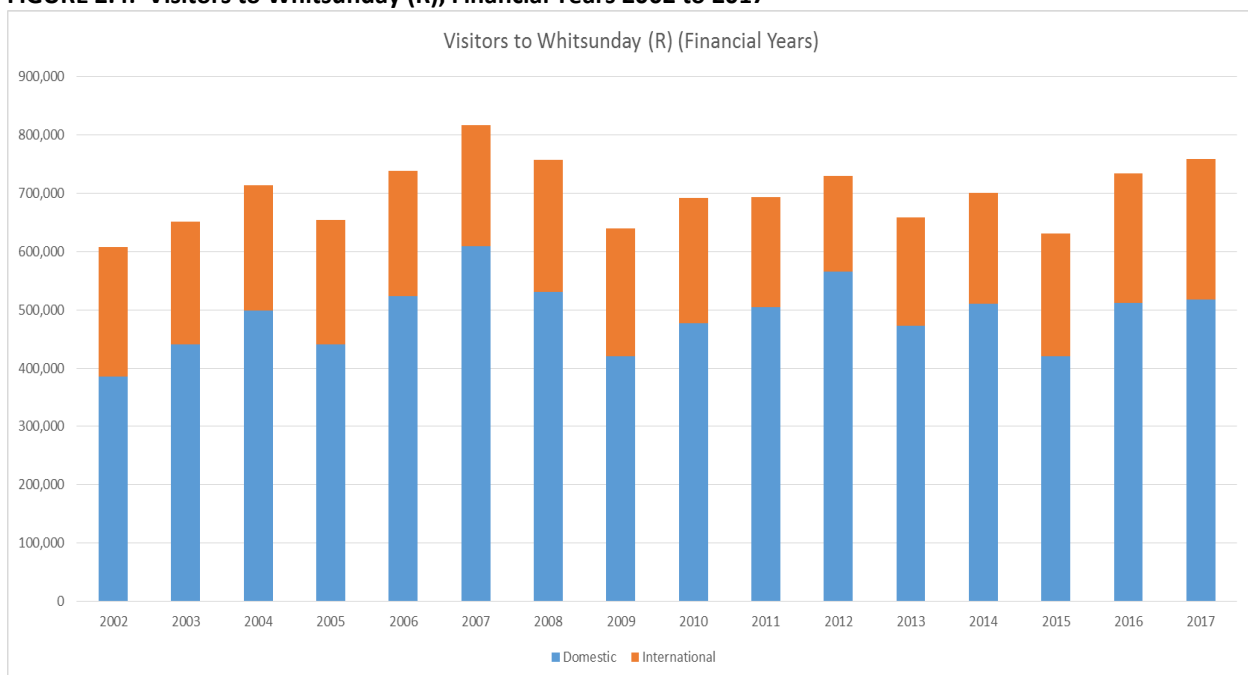
As at June 2016, there were 32 tourism accommodation establishments (hotels, motels and serviced apartments) offering some 7,400 bed spaces, representing a decline from the 51 establishments reported in 2010. Impacts from cyclones has resulted in several closures of island resorts. The main concentrations of accommodation in the Region comprise:

- (a) Middle to upper market islands resorts;
- (b) Airlie Beach accommodation dominated by serviced apartments and backpacker accommodation; and
- (c) Small scale resorts and caravan parks at Bowen.

Of the estimated 3.8 million visitor nights to the Region for the year ended June 2017, a significant 36% comprised international visitors. Of the Queensland tourist regions, only Brisbane, Tropical North Queensland and the Gold Coast achieved a higher percentage. Regional Queensland and Sydney are the key source markets for domestic visitors, whilst the United Kingdom, Germany and China are the main key international markets.

FIGURE 2.4 shows visitation patterns to the Whitsunday Region, revealing that whilst growth has been achieved over the past three years, the Region's visitation has fluctuated over the past 16 years. Visitation peaked in the year ended June 2007 and has been adversely affected by the GFC and subsequent increases in the Australian dollar and cyclone events. This visitation pattern has also been constrained due to the very limited additions to supply that have occurred over this period. In particular, supply of island resort accommodation has declined due to cyclone damage and ownership changes.

FIGURE 2.4: Visitors to Whitsunday (R), Financial Years 2002 to 2017



Source: QGSO

The Whitsunday Region is known as a “sailing paradise”, capitalising upon the protected waterways of its 74 islands. This sector comprises an important part of the Whitsunday experience.

Future Outlook

The TFRP projects that tourism in Regional Queensland will increase at a slightly lower rate (3.6% per annum) over the next decade than for the state (4.2% per annum) due to stronger growth expected to be experienced in Brisbane and the Gold Coast.

It is noted that existing accommodation operators report that some tourists are being turned away due to the high number of tradespersons in the Region working on repairing assets and infrastructure damaged by Cyclone Debbie.

It is very difficult to project visitor growth in coming years, due to the vagaries of the tourist industry and changes in tourist patterns and fluctuating markets due to unforeseen events such as the value of the Australian dollar, weather events and epidemics. However, the Australian dollar appears likely to remain low, favouring Queensland's tourism sector. Current trends suggest that Australia and Queensland are likely to continue to enjoy reasonably strong rates of tourism growth with few dark clouds on the horizon. However, the ability of the Whitsunday Region being able to participate in this growth appears to depend upon the ability of the Region to improve its supply of accommodation, both in terms of standard and in terms of number of rooms. If supply cannot be increased, then it is likely that the Whitsunday Region's tourism growth will fall behind that of other destinations.

It is noted that Daydream Island Resort is planned to reopen in August 2018, accepting bookings from the following month and Hayman Island is due to reopen in late 2018/early 2019, accepting bookings from March 2019.

Agriculture

Australia

The Australian agriculture sector is a critical element of the Australian economy. The total value of Australia's farms and fisheries food production was \$58.8 billion in 2015/6, of which livestock and livestock products, particularly cattle, contributed almost half (49%) of this value, followed by crops (29%), horticulture (18%) and fisheries (5%). Livestock and livestock products have significantly improved their share of total production at the expense of crops over the past five years. Although the value of farms and fisheries continues to grow annually, increased productivity and capital intensity (such as machinery) in agriculture has seen employment decline over recent years, particularly in the grains industry.

Queensland

Agriculture industries are integral to the Queensland economy, and are the backbone of many rural and regional communities in Queensland. During 2015/6, the total value of Queensland's primary industry commodities was \$13.4 billion, of which livestock and livestock products comprised the majority (55%) of that value, followed by crops (23%) and horticulture (20%). Queensland is an important source of tropical products, supplying 98% of bananas, 98% of peanuts, 94% of Australia's sugar cane, 68% of mangoes 64% of sorghum, 58% of mandarins and 57% of macadamias. The state's largest agricultural commodity in terms of production value is beef cattle, comprising 44% of the state's total production and 45% of Australia's beef production. Whilst most agricultural industries appear well established, production can be adversely affected by adverse weather events (droughts, floods and cyclones), global prices and the fluctuating value of the Australian dollar.

Whitsunday

Based upon 2015/6 production values horticulture (\$152m), beef cattle (\$123m) and sugar cane (\$43m) are the main agricultural sectors in the Whitsunday Region (total of \$319m). Due to its tropical dry climate and fertile soil, Bowen is Australia's most significant winter growing region, supplying the majority of Australia's tomatoes and capsicums. The industry is made up of over 13 major crop varieties which include tomatoes, capsicums, chillies, melons, beans and mangoes. The tomato industry is by far the most significant crop, with the region producing some \$60.5 million in 2015/6, representing half of Queensland's production.

Beef cattle is the major agricultural activity to the west of Bowen and improving cattle prices have led to a significant improvement in production values over recent years. Despite the Region accounting for only 1.4% of the state's land area, it generated 2.1% of its cattle production, with an estimated total of more than 250,000 head.

Sugar cane is also a prominent industry in the area, mainly grown and processed around the town of Proserpine. The Proserpine Mill has a production capacity of 2.1 million tonnes of cane, although production volumes are significantly affected by cyclones, wet weather and cane content supply (CCS), a measure of recoverable sugar in the cane. 2009 and 2016 have been good seasons for this area, with the plant operating well below capacity in many of the other intervening years. The Mill is now owned by Wilmar Sugar, the largest raw sugar producer and refiner in Australia, whose intention is to increase production at all its plants, including the Proserpine Mill. However, a 2016/7 dispute between Wilmar Sugar and growers placed great uncertainty upon growers in the lead-up to the most recent crushing season. Whilst this dispute has now been resolved, it indicates a divergence of views between growers and the Mill operator.

Future Outlook

Future growth in the agricultural sector is dependent upon many factors, including obtaining new sources of water, attracting interest from farmers willing to invest in the Region, sourcing new winter markets for the horticultural sector and the future global price of sugar. The current Labor government appears to have an aversion to the establishment of new dams, which is likely to curtail this opportunity over the medium term. The horticultural sector has sufficient quality soils for production to be increased by a factor of at least five. However, the identification of new winter markets, together with necessary transport infrastructure to those markets, is required before plantings can be significantly increased. The World Bank predicts sugar prices to be maintained at between US\$0.35/kg to US\$0.38/kg over the next decade, although shorter term swings are likely to be encountered over this period.

Therefore, despite the capacity to significantly expand the Region's horticulture, significant expansion of the agricultural sector may prove problematic for the reasons identified above. Any expansion would require a decrease in production costs to remain competitive.

The Region possesses a climate suitable for aquaculture and has sufficient lands fronting salt water. With strong domestic and international demand for seafood, the Region has the potential to accommodate aquaculture, which would broaden the Region's agricultural base.

Manufacturing

Australia

Manufacturing has been an integral part of the Australian economy, although its level of importance is diminishing. As at August 2016, the manufacturing sector employed approximately 684,000 persons. In 2016/7, it contributed approximately \$99 billion to the economy, representing 5.8% of GDP. This proportion has declined by more than half over the previous forty years (13.4% in 1976/7). In 2016/7, the food and beverage sector was the largest manufacturing sector in Australia in terms of industry value added.

Manufacturing in Australia has been challenged by increasing production costs and increasing global competition, resulting in lower production levels, reduced profitability and consequently a declining level of importance to the Australian economy. The GFC has served to accelerate this rate of decline, with employment in this sector declining by 28% in numeric terms and 39% in market share terms over the 2006 to 2016 intercensal period.

Queensland

Manufacturing in Queensland has exhibited a similar declining pattern to that described above for Australia, being adversely affected by the same macroeconomic factors. In August 2016, there were 129,000 persons working in the manufacturing sector, accounting for 6.0% of the state's workforce. This number had decreased by 29% over the previous decade and the market share had decreased by 39% over the same period. Queensland's manufacturing sector generated \$20 billion in 2016/7, accounting for 6.1% of the state's GSP. This share had almost halved from a significant 12.0% recorded in 1989/90.

Despite these trends, the Queensland Department of State Development, Manufacturing, Infrastructure and Planning has identified six Priority Industries to support and nurture, all of which involve some level of manufacturing. These comprise Advanced Manufacturing (products requiring a high level of technology and expertise throughout the value chain), Aerospace, Biofutures (manufacturing of products from sustainable organic and/or waste resources), Biomedical (including production of pharmaceuticals), Defence (including manufacture of defence assets) and Mining Equipment, Technology and Services (METS) (including the manufacture of mining equipment).

As part of its actions, the Department has set aside a series of State Development Areas throughout the state to accommodate large-scale manufacturing and other industrial activities.

Whitsunday

In the Whitsunday Region, manufacturing activity is mainly comprised of the sugar mill in Proserpine and small businesses specialised in the manufacture of steel, sheet metal, aluminium and glass products. In the Airlie Beach vicinity, there is also a variety of sailing and marine equipment and shade structure manufacturers that service the cruising, racing and charter fleet in the Whitsundays and surrounding areas.

Table 2.6 shows that the Whitsunday Region has not been immune from the widespread decline of the manufacturing sector, with employment in this sector declining by 276 jobs over the past decade.

Future Outlook

Future opportunities for the manufacturing sector for the Region may occur at Abbot Point, Bowen, Collinsville, Proserpine and Whitsunday Coast Airport, with significant industrial lands available at each of these locations.

Potential projects in the Region include:

- (a) The Abbot Point State Development Area (SDA), identified by the state government for the establishment of large scale industrial development, is situated adjacent to the port. The current Development Scheme provides for 3,200ha of this SDA to be developed for industrial purposes. However, since being declared in 2008, no industrial development has occurred to date and there have been no announcements of impending industrial development. Industries specifically considered suitable by the state government as being suitable for the Abbot Point SDA include:
 - (i) Large scale, value adding industrial development;
 - (ii) Bulk mineral resource unloading and stockpiling facilities;
 - (iii) Mineral processing;
 - (iv) Integrated steel mill;
 - (v) Liquefied Natural Gas (LNG) facility (since declaration of this SDA, three LNG plants have been constructed in Gladstone);
 - (vi) Fuel storage and associated infrastructure; and
 - (vii) Extractive industries.
- (b) A proposed redevelopment of the Bowen Boat Harbour at Bowen could support future marine manufacturing and servicing opportunities for the larger boats being attracted to the Whitsundays. To date, funding for the redevelopment has not yet been committed.
- (c) The LNP had recently proposed a redevelopment of the decommissioned Collinsville Power Station into a high-energy low-emissions coal-fired power station. That party did not return to power and the proposal is not part of the current state government's policy. The owner of the Power Station is now proceeding with a solar project, to generate 42MW.
- (d) The proposed Project Iron Boomerang aims to connect Port Hedland to Abbot Point by rail. By transporting iron ore to the east and coal to the west transport efficiencies are maximised. By locating five steel smelting plants at each end, Australia is able to maximise its value-added potential. Despite being proposed in 2006, the project has yet to be implemented. The Abbot Point SDA would be ideally located to accommodate these plants.

3 Economic SWOT Analysis of Region

The following TABLE 3.1 details the economic strengths, weaknesses, opportunities and threats of the Region for each of the major industries:

TABLE 3.1: Economic SWOT Analysis – Whitsunday Region

Industry	Strengths	Weaknesses	Opportunities	Threats
Mining	<ul style="list-style-type: none"> • Significant quality coal deposits • Few environmental constraints in Bowen Basin • Abbot Point Terminal infrastructure is capable of accommodating higher coal volumes 	<ul style="list-style-type: none"> • Limited water availability • Proximity to environmentally protected areas (GBR) • Movement to FIFO/DIDO workforces • Current lack of rail line from Galilee Basin to Abbot Point 	<ul style="list-style-type: none"> • Abbot Point Terminal Expansion • Capacity to expand production of existing mines • Byerwen coal mine under construction • Global demand for coal still increasing • Potential for AUD to fall 	<ul style="list-style-type: none"> • China’s slowdown • Coal prices expected to fall to long-term average • Climate change mitigation efforts • Global competition (e.g. Indonesia, USA) • Local competition (operating efficiencies at Galilee Basin) • Region prone to severe weather events • Action from environmental groups
Tourism	<ul style="list-style-type: none"> • Year round weather and tourism assets (GBR, 74 Island Wonders, Accommodation, Activities) • Region accessible from major cities (Bne., Melb., Syd. Cairns) & capacity for airport expansion at PPP • Two airports • Significant investment in tourism assets 	<ul style="list-style-type: none"> • Poor highway visibility and town landmarks • Tourism activities limited to the coast and water-based activities (e.g. sailing), mainland misses out • Lack of integration between regions (especially between Bowen and Airlie Beach) • Tourism accommodation capacity diminished due to tradespersons • Age of some tourism assets • Lack of major hotel assets and operators on mainland 	<ul style="list-style-type: none"> • Potential for AUD to fall • Tourism market is growing • Cater for high spending and growing Chinese market • Increase cruising capacity • Capitalise on variety of local produce (markets, fairs, events) • Fishing tourism able to grow 	<ul style="list-style-type: none"> • Global and regional competition (South East Asia, Pacific, TNQ) • Vulnerable to severe weather events

<p>Agriculture</p>	<ul style="list-style-type: none"> • Largest winter growing horticultural region • Established sugar cane infrastructure • Significant cattle industry • Good climate and access to salt water to support aquaculture 	<ul style="list-style-type: none"> • Seasonality of industry • Water limitations • Need to secure new horticulture markets • Access to transport infrastructure (sugar cane) • Ageing of farmers • Recent actions of mill owner 	<ul style="list-style-type: none"> • Abundant lands to increase horticulture • Access to new (winter) markets for horticulture • Interested end users could support “Water for Bowen” project • Farmer incentives • Improve Bowen horticulture brand • Value-add to horticultural products • Strong demand for aquaculture products 	<ul style="list-style-type: none"> • Loss of New Zealand tomato market
<p>Manufacturing</p>	<ul style="list-style-type: none"> • Small base of local manufacturers • Abundant industrial lands 	<ul style="list-style-type: none"> • No multi-cargo Facility • High labour costs • Need for water, power and gas supply to service new industrial estates • Lack of interest by investors 	<ul style="list-style-type: none"> • Capacity of Abbot Point State Development Area • Several large projects proposed • Bowen Marina expansion 	<ul style="list-style-type: none"> • Lower labour costs in Asia • Rising energy costs in Australia • Possible environmental protests
<p>General</p>	<ul style="list-style-type: none"> • Diverse economy, tropical weather, lifestyle opportunities, natural assets • Largest industrial precinct north of Gladstone • Planning regime for Abbot Point • Abbot Point Terminal and supporting infrastructure • Two passenger airports 	<ul style="list-style-type: none"> • Proximity to Protected Areas • Limited Infrastructure • Sewerage issues at Bowen • Require significant new water supply • Need to upgrade Bruce Highway 	<ul style="list-style-type: none"> • Expansion of Abbot Point Terminal • Service Galilee Basin • Attract FIFO/DIDO workers to live in Region • Steel mill and/or aluminium mill • Recommence power station at Collinsville 	<ul style="list-style-type: none"> • Vulnerable to natural disasters • Vulnerable to negative currency movements

4 Recommended Council Responses

In an attempt to manage the strengths, weaknesses, opportunities and threats identified in the previous Chapter, it is Norling Consulting's recommendation that Council consider undertaking the following actions with regard to each industry. These actions recognise that Council has limited funds at the present time.

General

- Promote Whitsunday Coast Airport for FIFO links to Bowen and Galilee Basins
- Lobby for a State High School at Cannonvale/Cannon Valley

Mining

- Lobby for the approval of a water source near Collinsville to support existing and proposed coal mines
- Lobby for Proserpine to Moranbah/Emerald/Alpha air services

Tourism

- Improve entrance to Bowen on the Bruce Highway
- Improve entrance to Airlie Beach on Bruce Highway to southbound traffic
- Improve linkages between Bowen and Airlie Beach products
- Facilitate expansion of Bowen marina
- Continue to upgrade Whitsunday Coast Airport and lobby for additional services
- Promote Airlie Beach mainland accommodation and services
- Encourage the development of a major hotel in Airlie Beach

Agriculture

- Promote backpackers as a source of labour to horticultural sector
- Facilitate approvals for aquaculture
- Promote increased local usage of local produce
- Support industry efforts to develop a food processing plant in Bowen
- Lobby for additional source of water for Bowen for the horticultural sector
- Ensure all existing and potential horticulture lands are identified as Important Agricultural Areas or Agricultural Land Classification Class A and B
- Ensure all existing and potential sugar cane lands are identified as Important Agricultural Areas or Agricultural Land Classification Class A and B
- Investigate further water potential on O'Connell and Andromache Rivers for sugar cane

Manufacturing

- Lobby for State Government to progress Multi-cargo terminal at Abbot Point
- Support investigations of water sources to supply Abbot Point
- Ensure sufficient land available for engineering services at Bowen, Proserpine and Collinsville
- Support gas pipeline to link Abbot Point to Moranbah to Townsville Gas Pipeline (North Queensland Gas Pipeline)

5 Projected Growth Scenarios

In providing a greater understanding of the economic opportunities and risks to the Whitsunday Region, this Chapter reviews previous population projections and develops new population growth projections. This will assist Council in its planning for future growth and infrastructure. This Chapter outlines the assumptions underpinning each projection, together with the implications and probabilities of each scenario occurring.

5.1 Previous Projections

At the time of preparing the 2013 population projections for the Region, the readily available projections were the 2011 low, medium and high projections prepared by the Office of Economic and Statistical Research (OESR). These OESR projections proved to be far too optimistic, with the ABS's estimated residential population for 2011 falling well below the starting population for each projection. The OESR projections were rejected and seven projection scenarios were proposed. Of these, two were adopted by Council: the Modest Growth Scenario; and the All Potential Growth Scenario.

The Modest Growth Scenario was based upon modest growth in each industry sector. The All Potential Growth Scenario was predicated upon strong growth in all industry sectors.

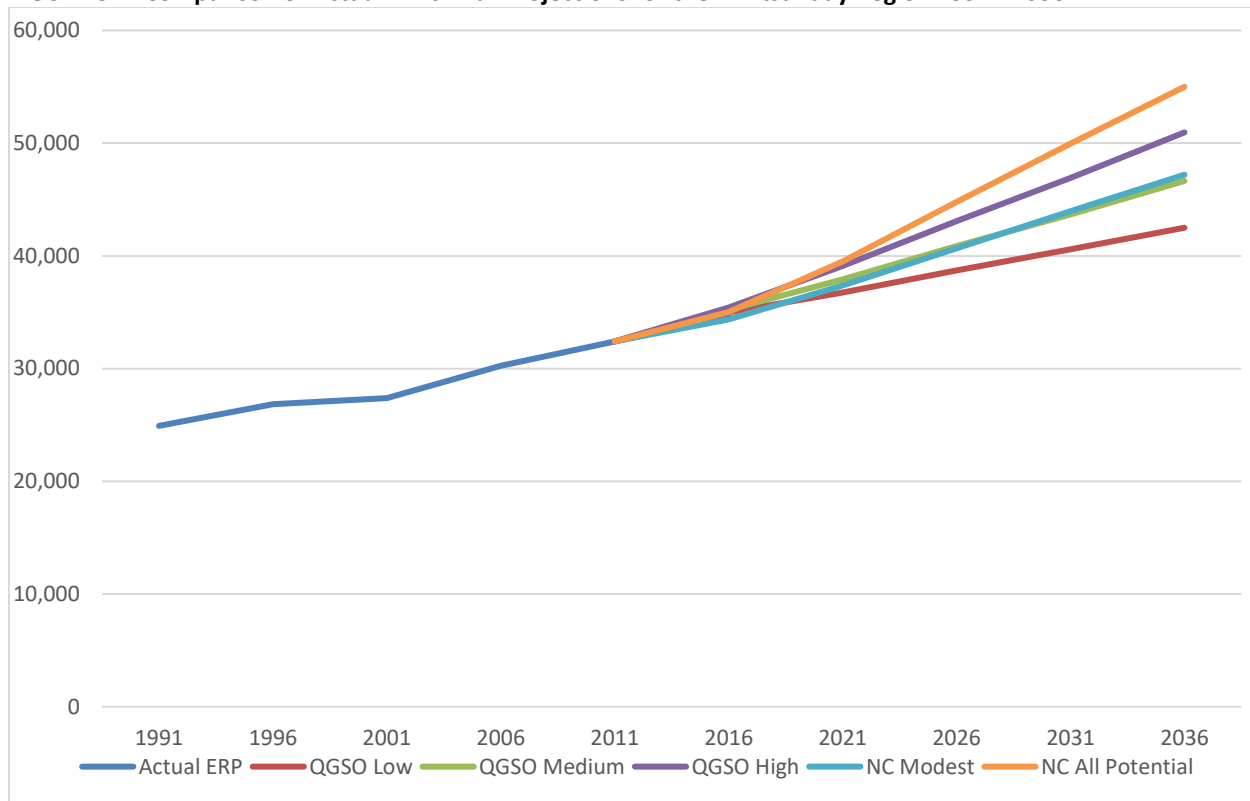
Since development of the 2013 projections for the Region, the Queensland Government Statistician's Office (QGSO and new name of the OESR) produced the 2015 low, medium and high population projections (released in early 2016).

The following Figure 5.1 sets out these five projection scenarios in comparison to the estimated resident populations from 1991 to 2016, with the relevant data set out in Table 5.1.

TABLE 5.1: Comparison of Actual ERPs with Projections for the Whitsunday Region 1991 - 2036

	1991	1996	2001	2006	2011	2016	2021	2026	2031	2036
Actual ERP	24,921	26,851	27,396	30,255	32,416	34,626				
QGSO Low					32,416	34,996	36,758	38,709	40,576	42,499
QGSO Medium					32,416	35,213	37,922	40,868	43,691	46,651
QGSO High					32,416	35,431	39,102	43,079	46,905	50,956
NC Modest					32,416	34,380	37,380	40,680	43,970	47,200
NC All Potential					32,416	35,020	39,510	44,780	49,950	55,000

Source: ABS historical ERP estimates, Norling Consulting projections

FIGURE 5.1: Comparison of Actual ERPs with Projections for the Whitsunday Region 1991 - 2036

Source: ABS, Norling Consulting 2013 Projections, 2015 QGSO Projections

A review of Figure 5.1 and Table 5.1 reveals that:

- (a) The historic ERP has tracked erratically over the previous 25 years;
- (b) The 2016 ERP has fallen short of each of the three QGSO projections for 2016;
- (c) The 2016 ERP slightly exceeds the Norling Consulting Modest Growth projection (by 246 persons) and has fallen short of the Norling Consulting All Potential Growth projection (by 394 persons);
- (d) The growth rate of the QGSO Low Series closely matches the actual growth over the past decade (when the Region suffered from adverse economic conditions);
- (e) The Norling Consulting Modest Growth projection is very similar to the QGSO Medium Series; and
- (f) The Norling Consulting All Potential Growth projection significantly exceeds the QGSO High Series.

With the 2016 actual ERP falling between the Modest and All Potential Growth Scenarios, but being closer to the Modest Growth Scenario, Norling Consulting considers that it validates the use of those two Scenarios at that time. However, a review of the population growth per small area reveals a greater range of differences:

- (a) The former Whitsunday Shire recorded a larger population growth than projected (1,118 additional persons);
- (b) This comprised stronger than expected growth in the Cannonvale to Jubilee Pocket corridor (775 persons, mostly retirees and semi-retirees) and stronger than expected growth on Hamilton Island (506 persons, mostly workers);
- (c) The former Bowen Shire recorded a much weaker population growth than expected (854 persons less) due to the unexpected closure of the Collinsville mine at the time of the 2016 Census (589 persons less than projected at Collinsville) and continuing delays to the expansion of the Abbot Point Terminal and rail line connecting Abbot Point with the Galilee Basin.

At first review, the QGSO Medium Series, NC Modest Growth Scenario and QGSO High Series appear to have some relevance in preparing projections at this point in time.

5.2 Scenario Assumptions

The key assumptions underpinning the 2018 population and employment projections are as follows:

- (a) **Low Scenario** – modest growth in the coal and tourism sectors, with no growth expected in other sectors. The total growth is likely to be similar to the QGSO 2015 Low Series.
- (b) **Medium Scenario** – relatively strong growth in the coal and tourism sectors, with very little growth expected in other sectors. The total growth is likely to be similar to both the QGSO 2015 Medium Series and the 2013 Modest Growth Scenario.
- (c) **High Scenario** – relatively strong growth in all industry sectors: coal; tourism; agriculture; and industrial. The total growth is likely to be similar to the QGSO 2015 High Series and a little below the 2013 All Potential Growth Scenario.

It is considered that the most likely projection trajectory would follow the Medium Scenario. However, due to the myriad of factors discussed in this Report likely to affect future population growth, it is considered most likely that the actual population projection would track a path somewhere between the Low Scenario and the High Scenario. It should be noted that the historic population growth rate of the Region (1991 to 2017) has averaged 1.3% per annum, which lies approximately mid-way between the Low and Medium Scenarios. This provides support for the notion that population growth may be closer to the Low Scenario rather than the High Scenario if the Medium Scenario trajectory is not achieved.

5.3 Scenario Projections

Using the above assumptions, population and employment projections were estimated to 2036 at the small area level (see Chapters 6 and 7). By way of a summary, the two projection Scenarios have produced the following population projections for the Region, TABLE 5.2:

TABLE 5.2: ERP Projections for the Whitsunday Region 2016 - 2036

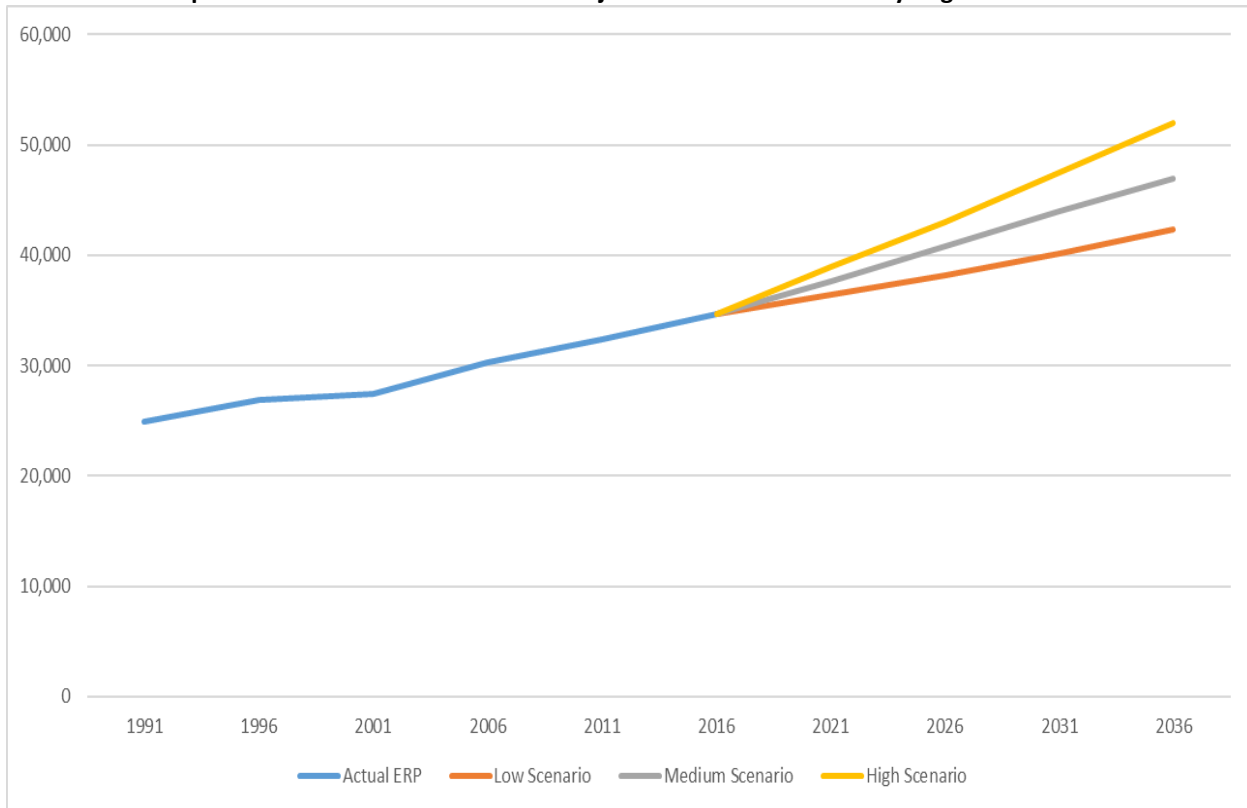
	2016	2021	2026	2031	2036	% p.a. growth
Low Scenario	34,626	36,400	38,200	40,200	42,300	1.01%
Medium Scenario	34,626	37,600	40,800	44,000	47,000	1.54%
High Scenario	34,626	39,000	43,000	47,500	52,000	2.05%

* Projections rounded to nearest 100 persons

Source: ABS 2016 ERP estimate, Norling Consulting projections

These projections are explained in greater detail in Chapter 7 and are illustrated on Figure 5.2.

FIGURE 5.2: Comparison of Actual ERPs with 2018 Projections for the Whitsunday Region 1991 - 2036



Source: ABS, Norling Consulting 2018 Projections

6 Definition of Projection and Catchment Areas

For economic and planning purposes, ten smaller Projection Areas have been identified in order to conduct more detailed employment and population projections. These ten Areas represent discrete communities and have been defined based on:

- (a) The ABS 2011 Urban Centre Localities (UL);
- (b) The smallest ABS statistical area available, Statistical Area 1 (SA1);
- (c) Natural and engineering constraints;
- (d) Planning and infrastructure limitations;
- (e) Discussions with Council staff; and
- (f) Match the ten Areas previously defined for the 2013 projections.

The ten Projection Areas are described and illustrated below:

1. Abbot Point/Merinda

The Abbot Point/Merinda area includes the Abbot Point SDA and the rural area located to its south to Euri Creek which forms its southern boundary. It also includes the small township of Merinda and the rural and open space area to its north, extending to the coastline and bordered by Don River to the east.

2. Bowen North

The urban area of Bowen has been separated into Bowen North and Bowen South. Bowen North comprises the northern part of the Bowen UL to the north of Doughtys Creek, including the Bowen CBD and Queens Beach, and the rural lands to the east of the Don River and to the north of Richmond Road.

3. Bowen South

Bowen South includes the southern part of the Bowen urban locality, which includes non-developable land to the south of Doughtys Creek, such as the Bowen Saltworks and the Bowen Airport, as well as the small residential pockets located south of the Airport and along Ocean View Drive.

4. Collinsville

The Collinsville area includes the urban localities of Collinsville and Scottsville, north of Pelican Creek.

5. Balance of Former Bowen Shire

Excluding the above four areas, the Balance of Former Bowen Shire includes the remainder of the former Bowen Shire, including the small townships of Gumlu, Guthagundra and Heronvale.

6. Whitsunday Islands

As the name states, this area includes the Whitsunday Islands that are located within the Whitsunday Region. Islands include Daydream, Hamilton, Hayman, Hook, Long and South Molle.

7. Jubilee Pocket - Shute Harbour

The Jubilee Pocket-Shute Harbour area extends from the intersection of Hermitage Drive and Shute Harbour Road in the west to include the suburbs of Jubilee Pocket, Mandalay, Flametree, Mt Rooper and Shute Harbour to the east.

8. Cannonvale – Airlie Beach

This area comprises the suburbs of Cannon Valley, Cannonvale and Airlie Beach, from the intersection of Gregory-Cannon Valley, Mountney and Shute Harbour Roads in the west to the intersection of Hermitage Drive and Shute Harbour Road in the east.

9. Proserpine

The Proserpine area includes the urban area of Proserpine to the west of the Bruce Highway and the south of the Proserpine River.

10. Balance of Former Whitsunday Shire

Excluding the urban areas of Proserpine, Cannonvale, Airlie Beach, Jubilee Pocket, Shute Harbour and the Whitsunday Islands (the above four areas), the Balance of Former Whitsunday Shire includes the remainder of the former Whitsunday Shire.

FIGURE 6.1 illustrates the location of these Projection Areas.

The Council has also defined five Catchment Areas for use in planning for trunk infrastructure needs of the Region. Population projections are also required to be developed for these five Catchment Areas, which are described below:

1. Town of Whitsunday

This Area comprises a contiguous urban area from Cannon Valley to Mandalay. This Area comprises a slightly smaller area than contained within the Jubilee Pocket – Shute Harbour and Cannonvale – Airlie Beach Projection Areas.

2. Bowen

This Area comprises five discrete urban areas of Bowen. Small areas are located at Horseshoe Bay, Rose Bay, the Whitsunday Breeze estate at Banks Drive and Whitsunday Shores at Ocean View Drive. This Area comprises a slightly smaller area than contained within the Bowen North and Bowen South Projection Areas.

3. Collinsville

This Area comprises the two discrete urban areas of Collinsville and Scottville. This Area comprises a slightly smaller area than contained within the Collinsville Projection Area.

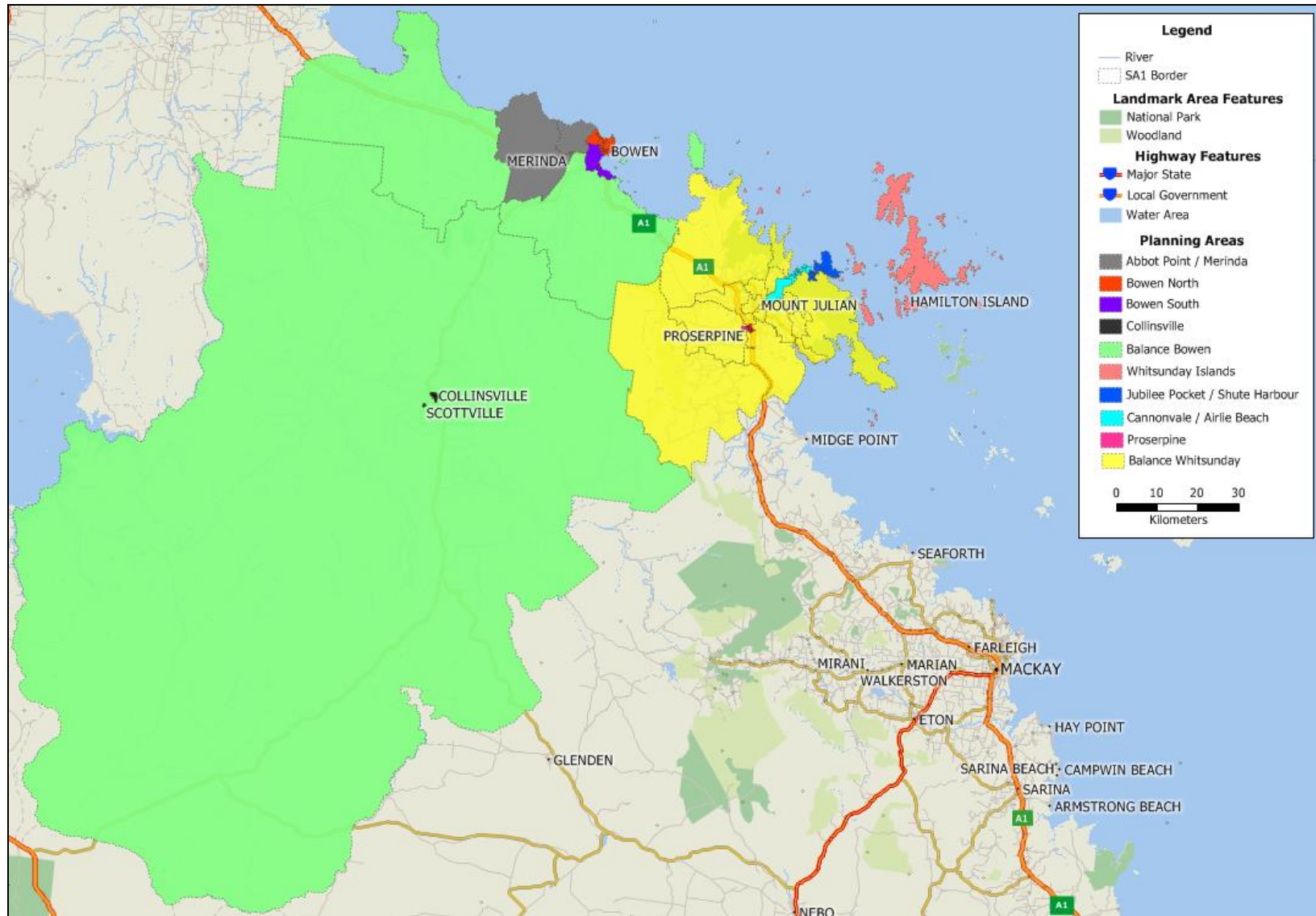
4. Proserpine

This Area comprises the urban area of Proserpine, including growth areas. This Area comprises a slightly smaller area than contained within the Proserpine Projection Area.

5. Balance

This Area comprises the balance lands of the Region.

FIGURE 6.1: Ten Smaller Areas within Whitsunday Region



7 Projection Area Population and Employment Projections

This Chapter details the population and employment projections for the ten Projection Areas in respect of the Low, Medium and High Scenarios.

The **Low Scenario** projections estimate the Whitsunday Region to reach a 2036 population of 42,300 persons with a workforce of 20,270. This Scenario is estimated to have a low probability of being realised and assumes that there is modest growth across the tourism and coal mining industries for the Region, with no growth occurring in other sectors.

The **Medium Scenario** projections estimate the Whitsunday Region to reach a 2036 population of 47,000 persons with a workforce of 22,525. This Scenario is estimated to have a high probability of being realised and assumes that there is relatively strong growth across the tourism and coal mining industries for the Region, with little growth occurring in other sectors.

The **High Scenario** projections for the Region have been based upon relatively strong growth across all industry sectors. While this Scenario has a very limited probability of occurring, it should be planned for in order to prevent the adverse impacts of not adequately planning for future growth. In such a Scenario, the Region could achieve a population of 52,000 persons by 2036 and with a workforce of 24,921.

TABLE 7.1 below summarises the Regional population projections for these Scenarios:

TABLE 7.1: ERP Projections for the Whitsunday Region 2016 - 2036

	2016	2021	2026	2031	2036	% p.a. growth
Low Scenario	34,626	36,400	38,200	40,200	42,300	1.01%
Medium Scenario	34,626	37,600	40,800	44,000	47,000	1.54%
High Scenario	34,626	39,000	43,000	47,500	52,000	2.05%

* Projections rounded to nearest 100 persons

Source: ABS 2016 ERP estimate, Norling Consulting projections

TABLE 7.2 provides a summary of the detailed projections undertaken for the ten Projection Areas for the Low, Medium and High Scenarios. The attached TABLES 7.3, 7.4 and 7.5 show a detailed breakdown of these population and employment projections per Projection Area for the Low, Medium and High Scenarios, respectively.

TABLE 7.2: 2016 - 2036 ERP Population and Employment Projections – Low, Medium & High Scenarios

Low Scenario						
Projection Areas	2016 Population	2016 Jobs	2036 Population	2036 Jobs	2016–2036 Population Difference	2016–2036 Jobs Difference
Abbot Point/Merinda	777	404	770	600	-7	196
Bowen North	8,062	3,860	8,150	4,000	88	140
Bowen South	1,228	296	2,500	350	1,272	54
Collinsville	1,371	420	1,500	480	129	60
Balance Former Bowen Shire	1,348	1,604	1,260	2,000	-88	396
Whitsunday Islands	2,346	2,456	2,860	2,800	514	344
Jubilee Pocket – Shute Harbour	2,491	835	4,100	920	1,609	85
Cannonvale – Airlie Beach	8,174	3,538	11,800	5,200	3,626	1,662
Proserpine	3,478	1,357	3,610	1,480	132	123
Balance Former Whitsunday Shire	5,351	2,225	5,750	2,440	399	215
TOTAL	34,626	16,995	42,300	20,270	7,674	3,275
Medium Scenario						
Projection Areas	2016 Population	2016 Jobs	2036 Population	2036 Jobs	2016-2036 Population Difference	2016-2036 Jobs Difference
Abbot Point/Merinda	777	404	820	705	+43	+301
Bowen North	8,062	3,860	8,220	4,089	+158	+229
Bowen South	1,228	296	3,030	411	+1,802	+115
Collinsville	1,371	420	1,750	514	+379	+94
Balance Former Bowen Shire	1,348	1,604	1,290	2,159	-59	+555
Whitsunday Islands	2,346	2,456	2,930	2,915	+584	+459
Jubilee Pocket – Shute Harbour	2,491	835	4,600	1,040	+2,109	+205
Cannonvale – Airlie Beach	8,174	3,538	14,650	6,516	+6,476	+2,978
Proserpine	3,478	1,357	3,750	1,611	+272	+254
Balance Former Whitsunday Shire	5,351	2,225	5,970	2,565	+619	+340
TOTAL*	34,626	16,995	47,010	22,525	+12,383	+5,530
High Scenario						
Projection Areas	2013 Population	2013 Jobs	2036 Population	2036 Jobs	2013-2036 Population Difference	2013-2036 Jobs Difference
Abbot Point/Merinda	777	404	860	1,206	+83	+802
Bowen North	8,062	3,860	8,830	4,233	+768	+373
Bowen South	1,228	296	4,170	471	+2,942	+175
Collinsville	1,371	420	1,910	544	+539	+124
Balance Former Bowen Shire	1,348	1,604	1,330	2,165	-18	+561
Whitsunday Islands	2,346	2,456	3,040	3,300	+694	+844
Jubilee Pocket – Shute Harbour	2,491	835	5,150	1,165	+2,659	+330
Cannonvale – Airlie Beach	8,174	3,538	16,410	7,421	+8,236	+3,883
Proserpine	3,478	1,357	4,130	1,761	+652	+404
Balance Former Whitsunday Shire	5,351	2,225	6,180	2,655	+829	+430
TOTAL*	34,626	16,995	52,010	24,921	+17,384	+7,927

*may be differences due to rounding

Source: ABS, Norling Consulting Estimates

The following points summarise the above:

- **Abbot Point/Merinda** is expected to generate future employment opportunities, with 200 (Low Scenario), 300 (Medium Scenario) and 800 (High Scenario) additional jobs projected within this area. A large proportion of workers will live within Bowen rather than within this area. Abbot Point is quite remote (approx. 30mins drive from Bowen) from services and a camp structure for a temporary construction workforce may be appropriate. However, permanent workers should be encouraged to live in Bowen where they have better access to goods and services and thereby contributing to the local economy. Population growth is therefore likely to be limited, with -7 (low Scenario), 40 (Medium Scenario) and 80 (High Scenario) additional people projected between 2016 and 2036. Merinda presently houses a temporary workers camp and pressure may be exerted to increase the capacity of Merinda to house temporary construction workforces.
- **Bowen North** is expected to experience a limited population growth of 90, 150 and 770 persons within the Low, Medium and High Scenarios, respectively, between 2016 and 2036 due to most of the residential areas being located within flood prone land. Therefore, the majority of future growth within Bowen will be directed to Bowen South. With the town centre being located within this Area, an additional 140 jobs is projected by the Low Scenario, 230 jobs by the Medium Scenario and an additional 370 jobs under the High Scenario. Jobs growth is most likely to occur within the tourism, employment servicing and agriculture servicing industries, as well as some growth in mining and transportation-related industrial uses.
- **Bowen South** functions as a dormitory suburb, with the majority of residents living in this area working within Bowen North. This is projected to continue into the future. In terms of population growth, the area is projected to house an additional 1,300 persons by the Low Scenario, an additional 1,800 persons within the Medium Scenario and an additional 2,900 persons by the High Scenario. As a dormitory area, jobs growth will be minimal, with only an additional 50, 110 and 170 jobs projected under the Low, Medium and High Scenarios, respectively.
- Under the Medium Scenario, only 380 extra persons between 2016 and 2036 are envisaged to settle in **Collinsville**, with 130 persons projected by the Low Scenario and 540 persons by the High Scenario. A large proportion of new jobs in the nearby coal mines are expected to go to persons living elsewhere on a FIFO or DIDO basis. Jobs growth at Collinsville is expected to be minor, an additional 60 in the Low Scenario, 90 pursuant to the Medium Scenario and 120 workers for the High Scenario.
- Growth in the **Balance of Former Bowen Shire** is likely to be driven by coal mining activities, which are located in this area. Population growth is expected to be slightly negative for all Scenarios, whereas jobs growth is projected at 400, 550 and 560, respectively, for the Low, Medium and High Scenarios.

- Growth within the **Whitsunday Islands** is reliant upon the state of the tourism industry and the proposed reopening of several tourist resorts. Whilst there has previously been evidence of a trend towards island workers commuting daily from the mainland, the 2016 Census revealed a high number of workers living on the islands. Between 2016 and 2036, this Area's population is projected to grow by 510 persons by the Low Scenario, 580 persons under the Medium Scenario and 690 persons within the High Scenario. Stronger jobs growth is projected, with 340, 460 and 840 jobs added under the Low, Medium and High Scenarios, respectively.
- The **Jubilee Pocket-Shute Harbour** area is expected to experience relatively strong population growth (1,600 by the Low Scenario, 2,100 under the Modest Growth Scenario and 2,700 under the All Potential Growth Scenario). This area is currently functioning as a dormitory suburb, with the majority of persons located within this area being employed elsewhere, particularly within the Cannonvale-Airlie Beach area, where the majority of businesses and services are located. Jobs growth will therefore be limited within this area unless the Shute Harbour Marina Project is approved and developed, with an additional 80 jobs projected by the Low Scenario, 200 jobs projected under the Medium Scenario and 330 by the High Scenario between 2016 and 2036.
- The **Cannonvale-Airlie Beach** area is likely to experience the strongest growth of all areas, due to its large capacity for housing, proximity to employment-generating tourism, business and retail areas, ready infrastructure and lifestyle opportunities. Cannonvale-Airlie Beach could accommodate an additional 6,500 persons and 3,000 jobs from 2016 to 2036 under the Medium Scenario. Tourism growth in Airlie Beach will be the main source of direct and indirect employment growth in the area, although this area is also likely to continue to attract a proportion of workers working in the Bowen and Galilee Basins under FIFO and DIDO arrangements. The Low Scenario projects an additional 3,600 persons and 1,700 jobs. Under the High Scenario, Cannonvale-Airlie Beach is projected to accommodate an additional 8,200 persons and 3,900 jobs by 2036.
- When adopting the Medium Scenario, **Proserpine** is projected to grow by an additional 270 persons between 2016 and 2036, reaching some 3,750 persons in total. An additional 250 jobs would also be required within Proserpine when adopting this Scenario. The Low Scenario projects the population to increase by 130 persons and the employment to increase by 120 jobs. The High Scenario would result in an increase in 650 persons and 400 jobs. The relatively weak growth projected for this area is due mainly to the very strong growth in the Cannonvale-Airlie Beach area, which is likely to continue to attract private and public sector investment in the non-residential sector.

- The **Balance of Former Whitsunday Shire** is projected to experience a modest rate of population growth, due to its limited capacity for residential expansion. Between 2016 and 2036, an additional 400 persons are expected by the Low Scenario, an additional 620 persons are projected to live within the Medium Scenario and 830 persons within the High Scenario. This area has a number of physical constraints, including agricultural and environmental, that require protection from encroachment of urban development. Jobs growth will be modest, heavily reliant upon the state of the agriculture industry and continued growth of tourism and industrial facilities at the Airport, with 210 additional jobs projected by the Low Scenario, 340 new jobs projected under the Medium Scenario and 430 projected by the High Scenario.

8 Catchment Area Projections

This final chapter applies the two most probable Scenario projections, the Medium and Low Scenarios, to the five Catchment Areas.

Table 8.1 sets out the resulting population, dwelling and employment projections for the five Catchment Areas in respect of the Medium Scenario. The largest population growths are expected to be derived by the Town of Whitsunday (68%), Bowen (16%) and Balance (11%).

The Balance Catchment Area is expected to accommodate the largest proportion of employed persons (jobs), due to the mines, agriculture and island resorts being located in this Catchment Area.

As requested by Council, Tables 8.2 to 8.5 provide more details surrounding the preferred Medium Scenario population projections for the five Catchment Areas:

- (a) Table 8.2 – occupied private dwelling projections by dwelling type;
- (b) Table 8.3 – employment projections by industry group;
- (c) Table 8.4 – estimated resident population by dwelling type; and
- (d) Table 8.5 – floorspace projections by industry group.

Table 8.6 sets out the population, dwelling and employment projections for the five Catchment Areas in respect of the Low Scenario. The largest population growths are expected to be derived by the Town of Whitsunday (69%), Bowen (18%) and Balance (10%).

The Town of Whitsunday is expected to accommodate the largest proportion of employed persons (jobs), due to the expected growth in tourism and the services to the increase population.

As requested by Council, Tables 8.7 to 8.10 provide more details surrounding the Low Scenario population projections for the five Catchment Areas:

- (a) Table 8.7 – occupied private dwelling projections by dwelling type;
- (b) Table 8.8 – employment projections by industry group;
- (c) Table 8.9 – estimated resident population by dwelling type; and
- (d) Table 8.10 – floorspace projections by industry group.

Table 8.1: Population, Dwellings and Jobs Projections - Medium Scenario

Catchment Area	2001	2006	2011	2016	2017	2021	2026	2031	2036					
Town of Whitsunday														
Population				9,570	0.63%	9,630	4.38%	11,430	3.60%	13,640	2.98%	15,800	2.64%	18,000
Dwellings				4,127	23	4,150	200	4,950	195	5,930	200	6,930	200	7,930
Persons per household				2.32		2.32		2.31		2.30		2.28		2.27
Resident workforce				4,706		4,493		5,298		6,278		7,212		8,140
Employed workforce				4,073		3,873		4,566		5,446		6,300		7,256
Net job balance				87%		86%		86%		87%		87%		89%
Bowen														
Population				8,480	0.35%	8,510	1.38%	8,990	1.19%	9,540	1.23%	10,140	0.62%	10,460
Dwellings				3,608	7	3,620	60	3,860	50	4,110	60	4,410	40	4,610
Persons per household				2.35		2.35		2.33		2.32		2.30		2.27
Resident workforce				3,565		3,970		4,167		4,390		4,629		4,730
Employed workforce				3,876		4,371		4,383		4,374		4,337		4,220
Net job balance				109%		110%		105%		100%		94%		89%
Collinsville														
Population				1,370	0.73%	1,380	2.61%	1,530	0.90%	1,600	1.46%	1,720	0.35%	1,750
Dwellings				635	0	640	20	720	7	760	11	820	4	840
Persons per household				2.15		2.15		2.12		2.11		2.10		2.08
Resident workforce				525		644		709		736		785		791
Employed workforce				400		490		520		510		530		500
Net job balance				76%		76%		73%		69%		68%		63%
Proserpine														
Population				3,590	0.84%	3,620	0.28%	3,660	0.38%	3,730	0.37%	3,800	0.05%	3,810
Dwellings				1,496	10	1,510	10	1,550	10	1,600	10	1,650	5	1,680
Persons per household				2.40		2.40		2.36		2.33		2.30		2.27
Resident workforce				1,474		1,689		1,697		1,716		1,735		1,723
Employed workforce				1,330		1,525		1,535		1,550		1,570		1,585
Net job balance				90%		90%		90%		90%		90%		92%

Balance																	
Population																	
	11,616	-0.05%	11,610	0.83%	12,000	0.48%	12,290	0.42%	12,550	0.69%	12,990						
Dwellings	4,567	17	4,580	50	4,780	40	4,980	31	5,140	45	5,370						
Persons per household	2.54		2.53		2.51		2.47		2.44		2.42						
Resident workforce	5,799		5,414		5,563		5,657		5,730		5,876						
Employed workforce	7,315		6,886		7,441		7,996		8,539		8,964						
Net job balance	126%		127%		134%		141%		149%		153%						
TOTAL																	
Population	27,396	2.01%	30,255	1.39%	32,416	1.33%	34,626	0.36%	34,750	2.00%	37,610	1.64%	40,800	1.53%	44,010	1.33%	47,010
Dwellings	11,087	254	12,355	207	13,391	208	14,433	57	14,490	340	15,850	302	17,360	312	18,920	294	20,390
Persons per household	2.47		2.45		2.42		2.40		2.40		2.37		2.35		2.33		2.31
Resident workforce	12,580		14,926		15,955		16,069		16,210		17,434		18,777		20,091		21,260
Employed workforce	14,445		15,337		15,281		16,994		17,145		18,445		19,876		21,276		22,525
Net job balance	115%		103%		96%		106%		106%		106%		106%		106%		106%

Table 8.2: Occupied Private Dwelling Projections by Dwelling Type and Catchment Area - Medium Scenario

Catchment Areas	Single #	Multiple #	Other #	Total #
2016				
Town of Whitsunday	2,732	1,271	124	4,127
Bowen	2,987	505	115	3,608
Collinsville	603	25	6	635
Proserpine	1,225	257	13	1,496
Balance	4,071	409	87	4,567
Total	11,619	2,468	346	14,433
2021				
Town of Whitsunday	3,267	1,534	149	4,950
Bowen	3,188	549	123	3,860
Collinsville	683	30	7	720
Proserpine	1,268	268	14	1,550
Balance	4,262	426	92	4,780
Total	12,668	2,808	384	15,860
2026				
Town of Whitsunday	3,875	1,877	178	5,930
Bowen	3,380	599	131	4,110
Collinsville	721	32	8	760
Proserpine	1,306	279	15	1,600
Balance	4,442	442	96	4,980
Total	13,724	3,230	426	17,380
2031				
Town of Whitsunday	4,470	2,252	208	6,930
Bowen	3,604	667	140	4,410
Collinsville	777	35	8	820
Proserpine	1,343	292	15	1,650
Balance	4,586	455	99	5,140
Total	14,780	3,701	469	18,950
2036				
Town of Whitsunday	5,040	2,652	238	7,930
Bowen	3,748	717	146	4,610
Collinsville	796	36	8	840
Proserpine	1,365	300	15	1,680
Balance	4,793	473	103	5,370
Total	15,741	4,178	510	20,430

Source: Norling Consulting

Table 8.3: Employment Projections by Industry Group and Catchment Area - Medium Scenario

Catchment Areas	Retail #	Commercial #	Community #	Industry #	Other #	Total #
2016						
Town of Whitsunday	888	1,478	452	680	574	4,073
Bowen	632	938	1,027	442	837	3,876
Collinsville	56	112	69	96	67	400
Proserpine	237	302	309	289	194	1,330
Balance	873	1,758	743	1,960	1,981	7,315
Total	2,685	4,588	2,600	3,467	3,654	16,994
2021						
Town of Whitsunday	959	1,644	548	776	639	4,566
Bowen	701	1,052	1,096	570	964	4,383
Collinsville	73	146	88	130	83	520
Proserpine	261	353	353	338	230	1,535
Balance	893	1,786	744	2,009	2,009	7,441
Total	2,887	4,980	2,829	3,823	3,926	18,445
2026						
Town of Whitsunday	1,116	1,933	681	953	762	5,446
Bowen	700	1,050	1,094	569	962	4,374
Collinsville	71	143	87	128	82	510
Proserpine	264	357	357	341	233	1,550
Balance	960	1,919	800	2,159	2,159	7,996
Total	3,111	5,401	3,017	4,149	4,198	19,876
2031						
Town of Whitsunday	1,260	2,205	819	1,134	882	6,300
Bowen	694	1,041	1,084	564	954	4,337
Collinsville	74	148	90	133	85	530
Proserpine	267	361	361	345	236	1,570
Balance	1,025	2,049	854	2,306	2,306	8,539
Total	3,320	5,805	3,208	4,481	4,462	21,276
2036						
Town of Whitsunday	1,415	2,503	980	1,306	1,052	7,256
Bowen	675	1,013	1,055	549	928	4,220
Collinsville	70	140	85	125	80	500
Proserpine	269	365	365	349	238	1,585
Balance	1,076	2,151	896	2,420	2,420	8,964
Total	3,505	6,172	3,381	4,749	4,719	22,525

Source: Norling Consulting

Table 8.4: Estimated Resident Population by Dwelling Type and Catchment Area - Medium Scenario

Catchment Areas	Single #	Multiple #	Other #	Total #
2016				
Town of Whitsunday	6,859	2,479	233	9,570
Bowen	7,360	934	186	8,480
Collinsville	1,320	42	8	1,370
Proserpine	3,101	419	70	3,590
Balance	10,732	716	168	11,616
Total	29,370	4,591	665	34,626
2021				
Town of Whitsunday	8,221	2,931	278	11,430
Bowen	7,784	1,011	196	8,990
Collinsville	1,472	49	9	1,530
Proserpine	3,160	429	71	3,660
Balance	11,109	718	173	12,000
Total	31,746	5,138	726	37,610
2026				
Town of Whitsunday	9,761	3,548	331	13,640
Bowen	8,255	1,079	206	9,540
Collinsville	1,539	52	9	1,600
Proserpine	3,211	447	73	3,730
Balance	11,392	720	178	12,290
Total	34,157	5,846	797	40,800
2031				
Town of Whitsunday	11,228	4,190	383	15,800
Bowen	8,729	1,193	218	10,140
Collinsville	1,655	55	10	1,720
Proserpine	3,265	461	74	3,800
Balance	11,645	725	180	12,550
Total	36,522	6,624	864	44,010
2036				
Town of Whitsunday	12,658	4,907	435	18,000
Bowen	8,962	1,276	223	10,460
Collinsville	1,683	57	10	1,750
Proserpine	3,265	471	73	3,810
Balance	12,076	727	188	12,990
Total	38,644	7,437	929	47,010

Source: Norling Consulting

Table 8.5: Floorspace Projections by Industry Group and Catchment Area - Medium Scenario

Catchment Areas	Retail	Commercial	Community	Industry	Other	Total
	m2	m2	m2	m2	m2	m2
2016						
Town of Whitsunday	28,413	29,570	31,647	81,623	n/a	171,253
Bowen	20,217	18,760	71,900	53,024	n/a	163,901
Collinsville	1,779	2,240	4,844	11,520	n/a	20,383
Proserpine	7,576	6,038	21,599	34,633	n/a	69,846
Balance	27,936	35,160	52,016	235,213	n/a	350,325
Total	85,922	91,768	182,006	416,013	n/a	775,708
2021						
Town of Whitsunday	30,684	32,875	38,354	93,146	n/a	195,060
Bowen	22,441	21,038	76,703	68,375	n/a	188,557
Collinsville	2,330	2,912	6,188	15,600	n/a	27,030
Proserpine	8,350	7,061	24,714	40,524	n/a	80,649
Balance	28,573	35,717	52,087	241,088	n/a	357,466
Total	92,378	99,603	198,045	458,734	n/a	848,760
2026						
Town of Whitsunday	35,726	38,667	47,653	114,366	n/a	236,411
Bowen	22,395	20,995	76,545	68,234	n/a	188,169
Collinsville	2,285	2,856	6,069	15,300	n/a	26,510
Proserpine	8,432	7,130	24,955	40,920	n/a	81,437
Balance	30,705	38,381	55,972	259,070	n/a	384,128
Total	99,542	108,029	211,194	497,891	n/a	916,655
2031						
Town of Whitsunday	40,320	44,100	57,330	136,080	n/a	277,830
Bowen	22,205	20,818	75,898	67,657	n/a	186,578
Collinsville	2,374	2,968	6,307	15,900	n/a	27,549
Proserpine	8,541	7,222	25,277	41,448	n/a	82,488
Balance	32,790	40,987	59,773	276,664	n/a	410,214
Total	106,230	116,095	224,585	537,749	n/a	984,659
2036						
Town of Whitsunday	45,277	50,066	68,569	156,730	n/a	320,643
Bowen	21,606	20,256	73,850	65,832	n/a	181,544
Collinsville	2,240	2,800	5,950	15,000	n/a	25,990
Proserpine	8,622	7,291	25,519	41,844	n/a	83,276
Balance	34,422	43,027	62,748	290,434	n/a	430,631
Total	112,168	123,441	236,636	569,839	n/a	1,042,084

Source: Norling Consulting

Table 8.6: Population, Dwellings and Jobs Projections - Low Scenario

Catchment Area	2001	2006	2011	2016	2017	2021	2026	2031	2036					
Town of Whitsunday														
Population				9,570	0.63 %	9,630	3.10%	10,880	2.06%	12,050	2.05%	13,340	2.17%	14,850
Dwellings				4,127	23	4,150	140	4,710	105	5,240	122	5,850	138	6,540
Persons per household				2.32		2.32		2.31		2.30		2.28		2.27
Resident workforce				4,706		4,671		5,110		5,260		6,170		6,610
Employed workforce				4,073		4,055		4,470		4,590		5,420		5,820
Net job balance				87%		87%		87%		87%		88%		88%
Bowen														
Population				8,480	0.35 %	8,510	0.78%	8,780	0.92%	9,190	0.77%	9,550	0.66%	9,870
Dwellings				3,608	7	3,620	38	3,770	38	3,960	38	4,150	40	4,350
Persons per household				2.35		2.35		2.33		2.32		2.30		2.27
Resident workforce				3,565		3,600		3,730		3,990		4,250		4,460
Employed workforce				3,876		3,880		3,911		3,988		4,063		4,070
Net job balance				109%		108%		105%		100%		96%		91%
Collinsville														
Population				1,370	0.73 %	1,380	0.36%	1,400	0.42%	1,430	0.55%	1,470	0.40%	1,500
Dwellings				635	0	640	4	660	4	680	4	700	4	720
Persons per household				2.15		2.15		2.12		2.11		2.10		2.08
Resident workforce				525		530		580		610		650		670
Employed workforce				400		420		452		464		481		482
Net job balance				76%		79%		78%		76%		74%		72%
Proserpine														
Population				3,590	0.84 %	3,620	-0.07%	3,610	0.11%	3,630	0.27%	3,680	0.22%	3,720
Dwellings				1,496	10	1,510	5	1,530	5	1,560	7	1,600	7	1,640
Persons per household				2.40		2.40		2.36		2.33		2.30		2.27
Resident workforce				1,474		1,516		1,526		1,576		1,626		1,666
Employed workforce				1,330		1,370		1,365		1,397		1,428		1,456
Net job balance				90%		90%		89%		89%		88%		87%

Balance																		
Population								11,616	-	11,610	0.26%	11,730	0.31%	11,910	0.43%	12,170	0.31%	12,360
									0.05%									
Dwellings								4,568	16	4,580	26	4,680	28	4,820	31	4,980	25	5,110
Persons per household								2.54		2.53		2.51		2.47		2.44		2.42
Resident workforce								5,798		5,429		5,614		5,677		5,698		5,669
Employed workforce								7,313		6,837		7,370		7,811		8,168		8,441
Net job balance								126%		126%		131%		138%		143%		149%
TOTAL																		
Population	27,396	2.01%	30,255	1.39%	32,416	1.33%	34,626	0.36%	34,750	1.17%	36,400	0.98%	38,210	1.03%	40,210	1.02%	42,300	
Dwellings	11,087	253	12,354	208	13,392	208	14,434	56	14,490	213	15,340	180	16,240	202	17,250	214	18,320	
Persons per household	2.47		2.45		2.42		2.40		2.40		2.37		2.35		2.33		2.31	
Resident workforce	12,580		14,926		15,955		16,068		15,746		16,560		17,113		18,394		19,075	
Employed workforce	14,445		15,337		15,281		16,992		16,562		17,568		18,250		19,560		20,269	
Net job balance	115%		103%		96%		106%		105%		106%		107%		106%		106%	

Source: Norling Consulting

Table 8.7: Occupied Private Dwelling Projections by Dwelling Type and Catchment Area - Low Scenario

Catchment Areas	Single	Multiple	Other	Total
	#	#	#	#
2016				
Town of Whitsunday	2,732	1,271	124	4,127
Bowen	2,987	505	115	3,608
Collinsville	603	25	6	635
Proserpine	1,225	257	13	1,496
Balance	4,071	409	87	4,568
Total	11,619	2,468	346	14,434
2021				
Town of Whitsunday	3,111	1,458	141	4,710
Bowen	3,116	533	120	3,770
Collinsville	627	27	7	660
Proserpine	1,252	264	14	1,530
Balance	4,172	418	90	4,680
Total	12,278	2,700	372	15,350
2026				
Town of Whitsunday	3,440	1,643	157	5,240
Bowen	3,263	571	126	3,960
Collinsville	646	28	7	680
Proserpine	1,275	271	14	1,560
Balance	4,298	429	92	4,820
Total	12,921	2,943	396	16,260
2031				
Town of Whitsunday	3,803	1,872	176	5,850
Bowen	3,404	614	132	4,150
Collinsville	664	29	7	700
Proserpine	1,305	281	15	1,600
Balance	4,442	442	96	4,980
Total	13,618	3,238	424	17,280
2036				
Town of Whitsunday	4,196	2,148	196	6,540
Bowen	3,548	664	138	4,350
Collinsville	683	30	7	720
Proserpine	1,333	292	15	1,640
Balance	4,559	453	98	5,110
Total	14,320	3,586	454	18,360

Source: Norling Consulting

Table 8.8: Employment Projections by Industry Group and Catchment Area - Low Scenario

Catchment Areas	Retail	Commercial	Community	Industry	Other	Total
	#	#	#	#	#	#
2016						
Town of Whitsunday	888	1,478	452	680	574	4,073
Bowen	632	938	1,027	442	837	3,876
Collinsville	56	112	69	96	67	400
Proserpine	237	302	309	289	194	1,330
Balance	873	1,757	743	1,960	1,980	7,313
Total	2,685	4,588	2,600	3,466	3,653	16,992
2021						
Town of Whitsunday	939	1,609	536	760	626	4,470
Bowen	626	939	978	508	860	3,911
Collinsville	63	127	77	113	72	452
Proserpine	232	314	314	300	205	1,365
Balance	884	1,769	737	1,990	1,990	7,370
Total	2,744	4,757	2,642	3,671	3,753	17,568
2026						
Town of Whitsunday	941	1,629	574	803	643	4,590
Bowen	638	957	997	518	877	3,988
Collinsville	65	130	79	116	74	464
Proserpine	237	321	321	307	210	1,397
Balance	937	1,875	781	2,109	2,109	7,811
Total	2,819	4,912	2,752	3,854	3,913	18,250
2031						
Town of Whitsunday	1,084	1,897	705	976	759	5,420
Bowen	650	975	1,016	528	894	4,063
Collinsville	67	135	82	120	77	481
Proserpine	243	328	328	314	214	1,428
Balance	980	1,960	817	2,205	2,205	8,168
Total	3,024	5,295	2,947	4,143	4,149	19,560
2036						
Town of Whitsunday	1,135	2,008	786	1,048	844	5,820
Bowen	651	977	1,018	529	895	4,070
Collinsville	67	135	82	121	77	482
Proserpine	248	335	335	320	218	1,456
Balance	1,013	2,026	844	2,279	2,279	8,441
Total	3,114	5,480	3,064	4,296	4,314	20,269

Source: Norling Consulting

Table 8.9: Estimated Resident Population by Dwelling Type and Catchment Area - Low Scenario

Catchment Areas	Single	Multiple	Other	Total
	#	#	#	#
2016				
Town of Whitsunday	6,859	2,479	233	9,570
Bowen	7,360	934	186	8,480
Collinsville	1,320	42	8	1,370
Proserpine	3,101	419	70	3,590
Balance	10,732	716	169	11,616
Total	29,370	4,591	665	34,626
2021				
Town of Whitsunday	7,832	2,784	264	10,880
Bowen	7,607	982	191	8,780
Collinsville	1,348	44	8	1,400
Proserpine	3,117	423	70	3,610
Balance	10,853	709	168	11,730
Total	30,756	4,941	702	36,400
2026				
Town of Whitsunday	8,652	3,106	292	12,050
Bowen	7,962	1,029	199	9,190
Collinsville	1,376	46	8	1,430
Proserpine	3,126	433	71	3,630
Balance	11,026	713	171	11,910
Total	32,142	5,326	741	38,210
2031				
Town of Whitsunday	9,535	3,482	323	13,340
Bowen	8,245	1,099	205	9,550
Collinsville	1,416	46	8	1,470
Proserpine	3,165	444	71	3,680
Balance	11,272	725	173	12,170
Total	33,633	5,796	781	40,210
2036				
Town of Whitsunday	10,517	3,974	359	14,850
Bowen	8,477	1,182	211	9,870
Collinsville	1,444	47	8	1,500
Proserpine	3,190	458	72	3,720
Balance	11,461	722	177	12,360
Total	35,090	6,384	827	42,300

Source: Norling Consulting

Table 8.10: Floorspace Projections by Industry Group and Catchment Area - Low Scenario

Catchment Areas	Retail	Commercial	Community	Industry	Other	Total
	m2	m2	m2	m2	m2	m2
2016						
Town of Whitsunday	28,413	29,570	31,647	81,623	n/a	171,253
Bowen	20,217	18,760	71,900	53,024	n/a	163,901
Collinsville	1,779	2,240	4,844	11,520	n/a	20,383
Proserpine	7,576	6,038	21,599	34,633	n/a	69,846
Balance	27,926	35,149	51,995	235,165	n/a	350,235
Total	85,912	91,757	181,985	415,965	n/a	775,619
2021						
Town of Whitsunday	30,038	32,184	37,548	91,188	n/a	190,958
Bowen	20,024	18,773	68,443	61,012	n/a	168,251
Collinsville	2,025	2,531	5,379	13,560	n/a	23,495
Proserpine	7,426	6,279	21,977	36,036	n/a	71,717
Balance	28,300	35,375	51,588	238,780	n/a	354,043
Total	87,813	95,142	184,934	440,576	n/a	808,464
2026						
Town of Whitsunday	30,110	32,589	40,163	96,390	n/a	199,252
Bowen	20,419	19,142	69,790	62,213	n/a	171,564
Collinsville	2,079	2,598	5,522	13,920	n/a	24,119
Proserpine	7,600	6,426	22,492	36,881	n/a	73,398
Balance	29,995	37,493	54,678	253,080	n/a	375,245
Total	90,202	98,249	192,644	462,483	n/a	843,578
2031						
Town of Whitsunday	34,688	37,940	49,322	117,072	n/a	239,022
Bowen	20,803	19,502	71,103	63,383	n/a	174,790
Collinsville	2,155	2,694	5,724	14,430	n/a	25,002
Proserpine	7,768	6,569	22,991	37,699	n/a	75,027
Balance	31,364	39,204	57,173	264,630	n/a	392,371
Total	96,777	105,909	206,312	497,214	n/a	906,213
2036						
Town of Whitsunday	36,317	40,158	54,999	125,712	n/a	257,186
Bowen	20,838	19,536	71,225	63,492	n/a	175,091
Collinsville	2,159	2,699	5,736	14,460	n/a	25,054
Proserpine	7,921	6,698	23,442	38,438	n/a	76,498
Balance	32,412	40,515	59,085	273,477	n/a	405,489
Total	99,647	109,606	214,486	515,579	n/a	939,319

Source: Norling Consulting