
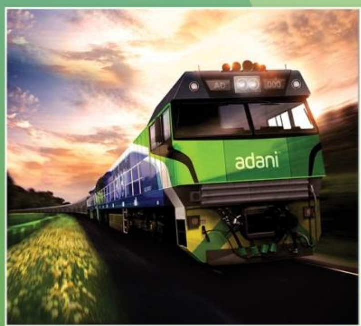

Adani Mining Pty Ltd

NORTH GALILEE BASIN RAIL PROJECT
Environmental Impact Statement

Appendix M Social baseline

November 2013

This North Galilee Basin Rail Project social baseline report ("the Report") has been prepared by GHD Pty Ltd ("GHD") on behalf of and for Adani Mining Pty Ltd ("Adani") in accordance with an agreement between GHD and Adani.

The Report may only be used and relied on by Adani for the purpose of informing environmental assessments and planning approvals for the North Galilee Basin Rail Project ("the Purpose") and may not be used by, or relied on by any person other than Adani.

The services undertaken by GHD in connection with preparing the Report were limited to those specifically detailed in this Report.

The Report is based on conditions encountered and information reviewed, including assumptions made by GHD, at the time of preparing the Report. Assumptions made by GHD are contained through the Report, including (but not limited to) concept design and operations information provided by Adani.

To the maximum extent permitted by law GHD expressly disclaims responsibility for or liability arising from:

- *any error in, or omission in connection with assumptions, or*
- *reliance on the Report by a third party, or use of the Report other than for the Purpose.*

Executive summary

The purpose of the social baseline was to develop an understanding of the existing conditions and characteristics of landholders and communities included within the study area. This provides the basis for predicting the effects of social changes arising from the North Galilee Basin Rail Project (NGBR Project) on landholders and communities, in addition to providing a benchmark against which predicted future change can be measured.

The study areas for the social baseline included the local study area comprising of the 64 properties crossed by the North Galilee Basin Rail Project (NGBR Project) and the regional study area comprising of the local government areas (LGA) crossed by the NGBR Project namely the Whitsunday Regional Council (WRC) and Isaac Regional Council (IRC).

Separate social baselines were prepared for the local and regional study areas. A detailed social baseline for Queensland was not prepared as the application of the state study area was restricted to the identification of higher-order social infrastructure services, labour sources and business services. Where applicable, regional baseline data was compared against the State of Queensland data/averages to understand the regional situation in relation to the state.

The social baselines were developed using a combination of desktop research and consultation with landholders and key stakeholders. This included the relevant regional councils, emergency service providers, community representative groups and other social infrastructure support service providers.

The social baselines describe the following characteristics of the local and regional study area:

- Property characteristics
- Landholder values, identity and lifestyle
- Key issues identified by landholders
- Community settlement patterns
- Housing availability, affordability and costs
- Community values and aspirations
- Demographic characteristics, including:
  - Total population; population trends, growth and forecasts
  - Full Time Equivalent (FTE) population estimates (resident and non-resident population)
  - Age and gender profile
  - Family composition
  - Cultural and ethnic composition
  - Education profile, including school and vocational training enrolments
  - Employment and unemployment profile, including industry and occupation profile
  - Income profile
  - Crime rate
  - Social health and wellbeing
  - Social and economic index of disadvantage
- Social and community infrastructure, including:

  – Housing and accommodation services and facilities
  – Health services and facilities
  – Emergency services
  – Community support services
  – Education and training facilities
  – Transport services
  – Lifestyle and recreation.

Interpretation of the local baseline data and information has led to the following key findings:

- Most of the properties traversed by the NGBR Project are used for cattle breeding, cattle grazing and horticulture
- Majority of the landholders either live on the property themselves or have family members living on the premises. Consultation revealed that the landholders value the quiet rural lifestyle associated with large scale grazing land and are proud of the effort and investments they have made in developing and nurturing the land
- The landholders have a strong connection to their properties based on generations of owning and running the farming practices on the properties, dating back to the late 1800's in some cases.

The regional social baseline found that both WRC and IRC LGAs have experienced high growth rates when compared to the State in recent years and population projections until 2031 indicate that the region will continue to grow at a faster rate (2.2 and 2.3 per cent in WRC and IRC LGAs respectively) than Queensland average which is projected at 1.8 per cent. This growth will be largely attributed to development in the labour intensive mining and infrastructure sector (including upgrades to the Port of Abbot Point) and to some extent growth in the tourism industry in WRC LGA. The regional study area is characterised by a sizable proportion of non-resident population, especially in IRC LGA, and a higher proportion of the population within the working age group (more specifically 25-64 age cohort) when compared to the Queensland average.

A review of the regional social baseline highlights the following key issues associated with the provision of social infrastructure:

- The high proportion of non-resident workforce in the regional study area is placing significant pressure and demand on existing social services and infrastructure particularly in the IRC LGA
- There is a recognised need to upgrade existing hard infrastructure such as water and sewerage treatment plants to cater for future growth in the regional study area, particularly in Bowen and Moranbah
- There is a current need for additional police resources in the region to undertake traffic management, administration and attend to calls in remote locations. However, resourcing additional staff is a challenge, because police staffing is related to the number of total population in the given region, and as the non-resident workforce is not recognised as part of the total permanent population, Queensland Police Service (QPS) is often faced with resource shortfalls
- There are existing capacity issues with Queensland Fire and Rescue Service (QFRS) in the region in terms of equipment and personnel including full time staff and volunteers and inability of volunteers to respond to rescue situations

- Inadequate capacity or resources of health services to cater for medical emergencies in the regional study area. Additionally, there is a current shortage in local medical General Practice (GP) services, particularly in Bowen where currently there are eight medical General Practitioners who are not accepting new patients due to capacity issues
- In the last 12 months a significant increase in rental vacancy rates was recorded in the regional study as a result of people moving away to find work elsewhere after job losses in the mining sector. This has increased the number of houses available for rent/sale in the region, particularly in Bowen and Collinsville. Housing affordability has also improved as a result of the increased availability of housing

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Terms and abbreviations

Terms and abbreviations	Definition
ABS	Australian Bureau of Statistics
Adani	Adani Mining Pty Ltd
CQ	Central Queensland
DIDO	Drive-in / Drive-out
EIS	Environmental Impact Statement
ESB	English Speaking Background
FIFO	Fly-in / Fly-out
Final NGBR Project footprint	The final NGBR Project footprint will accommodate all rail infrastructure required for construction and operation, scalable to accommodate 100 mtpa product coal transport, including passing loops, a maintenance road, rolling stock maintenance (provisioning, fuel storage and refuelling, maintenance, etc.), water supply and pipeline, track and signalling maintenance facilities, staff crib, accommodation and training facilities and other necessary infrastructure associated with the operational functions of the NGBR Project.
Final rail corridor	The final rail corridor is a nominal 100 m wide corridor
FTE	Full time equivalent
GP	General Practitioner
IRC	Isaac Regional Council
LGA	Local Government Area
MIW	Mackay Isaac Whitsunday
MIWRP	Mackay Isaac Whitsunday Regional Plan
NESB	Non English Speaking Background
NGBR Project	The North Galilee Basin Rail Project
OESR	Office of Economic and Statistical Research
PCYC	Police and Citizens Youth Club
PHIDU	Public Health Information Development Unit
Preliminary investigation corridor	The NGBR Project nominal 1,000 m wide corridor.
QFRS	Queensland Fire and Rescue Service
QPS	Queensland Police Service

Terms and abbreviations	Definition
RTO	registered training organisation
SA2	Statistical Area Level 2
SEID	Socio-Economic Index of Disadvantage
SEIFA	Socio-Economic Index for Areas
SIA	Social impact assessment
TAFE	Technical and Further Education
TOR	Terms of Reference
UC/L	Urban Centre/Locality
VET	Vocational education and training
WRC	Whitsunday Regional Council

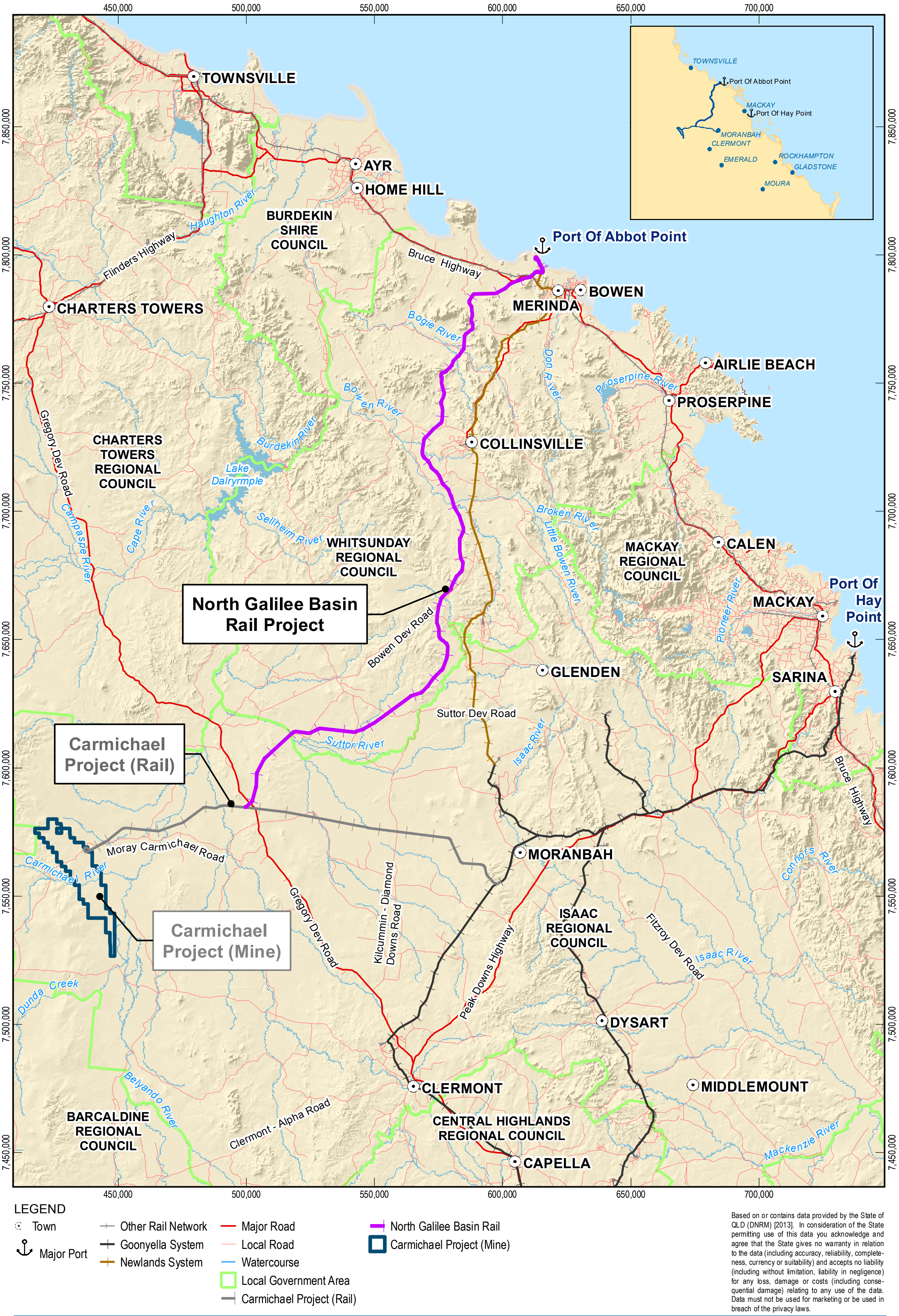
1. Introduction

1.1 Project overview

Adani Mining Pty Ltd (Adani) proposes the construction and operation of the North Galilee Basin Rail Project (the NGBR Project), a multiuser, standard gauge, greenfield rail line that will transport coal from mines in the northern Galilee Basin to the Port of Abbot Point. The NGBR Project is approximately 300 km in length and connects the proposed Carmichael Coal Mine and Rail Project's east-west rail corridor, approximately 70 km east of the proposed Carmichael Coal Mine in the vicinity of Mistake Creek, with supporting infrastructure at the Port of Abbot Point (refer Figure 1-1). The NGBR Project will have an operational capacity of up to 100 million tonnes per annum (mtpa) of coal product expected to be sourced from both Adani and third-party mines in the northern Galilee Basin. Key features of the NGBR Project include:

- Approximately 300 km of standard gauge, bi-directional rail track located within a nominal 100 m wide rail corridor (the final rail corridor)
- A rail maintenance access road running parallel to the rail track for approximately 300 km and wholly within the final rail corridor
- Seven passing loops, each 4.3 km in length
- Signalling infrastructure
- Approximately 4.5 km of fill greater than 15 m in depth (11 locations) and approximately 3.4 km of cut greater than 15 m in depth (nine locations)
- At-grade and grade-separated road, rail, stock and occupational crossings
- Bridge and culvert structures at major waterways and drainage lines, and various other longitudinal and cross drainage structures
- A rolling stock maintenance facility near the Port of Abbot Point including provisioning line, train maintenance line, wagon and locomotive service sheds, wash bay and queuing line
- Five temporary accommodation camps for construction workers
- A temporary construction depot at the southern end of NGBR Project
- Temporary construction yards, concrete batching plants, bridge and track laydown areas and heavy vehicle turning circles.

During construction, quarries and borrow pits within acceptable haulage distances will be required to provide a cost effective source of fill, gravel, aggregate and ballast. The number and location of borrow pits and quarries will be investigated further during detailed design and each may require screening and crushing plants to process material.



Based on or contains data provided by the State of QLD (DNRM) [2013]. In consideration of the State permitting use of this data you acknowledge and agree that the State gives no warranty in relation to the data (including accuracy, reliability, completeness, currency or suitability) and accepts no liability (including without limitation, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of the data. Data must not be used for marketing or be used in breach of the privacy laws.

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0 10 20 30 40 50

Kilometres

Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia (GDA)
Grid: Map Grid of Australia 1994, Zone 55

N

Adani Mining Pty Ltd
North Galilee Basin Rail Project

Job Number | 41-26457
Revision | B
Date | 29 Aug 2013

Project location

Figure 1-1

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Level 9, 145 Ann St Brisbane QLD 4000 T +61 7 3316 3000 F +61 7 3316 3333 E bnemail@ghd.com W www.ghd.com

Data Source: © Commonwealth of Australia (Geoscience Australia): Town, Railways, Watercourses (2007); DNRM: LGA, (2011), Hillshade (2009); DMR: State Roads (2008); DME: EPC1690 (2010), EPC1080 (2011); Adani: Alignment Opt9 Rev3 (2012), NGBR: Alignment Opt6 Rev 2 (2013).

1.2 Scope of report

The objective of this social baseline report is to describe the existing values and characteristics of landholders and communities relevant to the NGBR Project, including:

- Values and identity
- Land use
- Demographic characteristics
- Health and community wellbeing
- Social and community infrastructure.

This social baseline report was prepared in accordance with the Terms of Reference (TOR) for the NGBR Project. A table which cross-references this report and the TOR is included at Volume 2 Appendix A TOR cross-reference.

2. Methodology

2.1 Study area

Defining the study area helps to put geographical boundaries to the area under consideration. Several factors have been considered in defining the study area for the NGBR Project's social baseline and the social impact assessment, these include:

- Location of the NGBR Project
- Direct and indirect NGBR Project interaction with various communities and landholders
- Nature and scale of potential social issues arising from the NGBR Project
- Administrative areas such as council boundaries which influence factors such as the provision of social infrastructure and services, regional plans and policies.

Based on these considerations the study areas defined for the social baseline are outlined below:

Local study area

The local study area comprises of the 64 properties crossed by the NGBR Project (refer to Figure 2-1).

Regional study area

The regional study area comprises the local government areas (LGAs) crossed by the NGBR Project (refer to Figure 2-2). These LGAs are Whitsunday Regional Council (WRC) and Isaac Regional Council (IRC). The majority of the NGBR Project (approximately 260 km) is within WRC LGA, while the remainder (approximately 40 km) is within the IRC LGA.

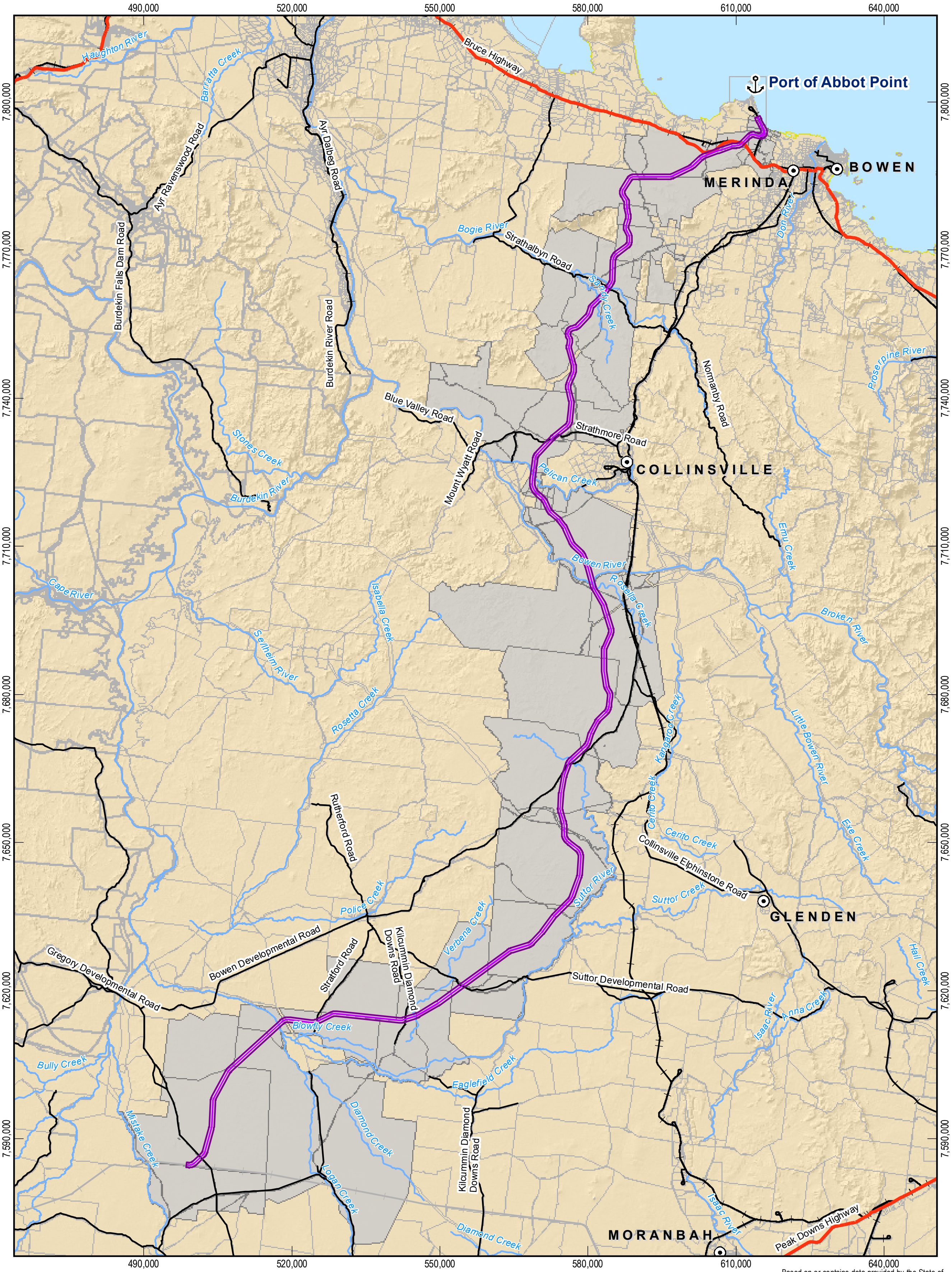
The regional study area also includes the key centres located nearest to the NGBR Project namely Bowen and Collinsville in WRC LGA and Moranbah in IRC LGA.

2.2 Data sources

This social baseline report relied on the following data sources:

- North Galilee Basin Railway Concept Design Report (Aarvee Associates 2013)
- Adani Land Access Report (Ranbury 2013)
- Consultation with landholders, Corridor to Coast Group (a regional landholder representative group), regional councils, regional service providers and community groups
- Census 2011 data from the Australian Bureau of Statistics (ABS)
- Projections and estimates from the Office of Economic Development and Statistical Research (OESR)
- WRC and IRC websites
- Land use mapping published by Department of Natural Resources and Mines (DNRM) and Department of State Development, Infrastructure and Planning (DSDIP)
- Community plans, including:

  - Mackay, Isaac and Whitsunday Regional Plan 2012
  - Whitsunday Regional Council Community Plan 2011 - 2021: Our Conversation with our community
  - Isaac Regional Council Isaac Region 2020 Vision 2009 - 2019 (Community Plan)
- State of Queensland publications, including:
  - *Shaping Tomorrow's Queensland 2010*
  - *Queensland Regionalisation Strategy 2011*
- State of Queensland publications and websites on:
  - Health
  - Housing
  - Major projects
  - Community and emergency services
- Impacts identified for similar linear projects or projects being undertaken in the region (other relevant social impact assessment reports such as Carmichael Coal Mine and Rail Project, Alpha Coal (Rail) Project, Northern Missing Link and China First Coal Project).



LEGEND

- Population Centres
- Major Port
- Highway
- Main Road
- Carmichael Project (Rail)
- Railway
- Watercourses (Major)
- Affected Properties Impacted by the Corridor
- Cadastre
- North Galilee Basin Rail 1000m Corridor
- North Galilee Basin Rail 100m Corridor

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Kilometres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

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Adani Mining Pty Ltd
North Galilee Basin Rail Project

Job Number	41-26457
Revision	A
Date	18 Sep 2013

Local Study Area

Figure 2-1

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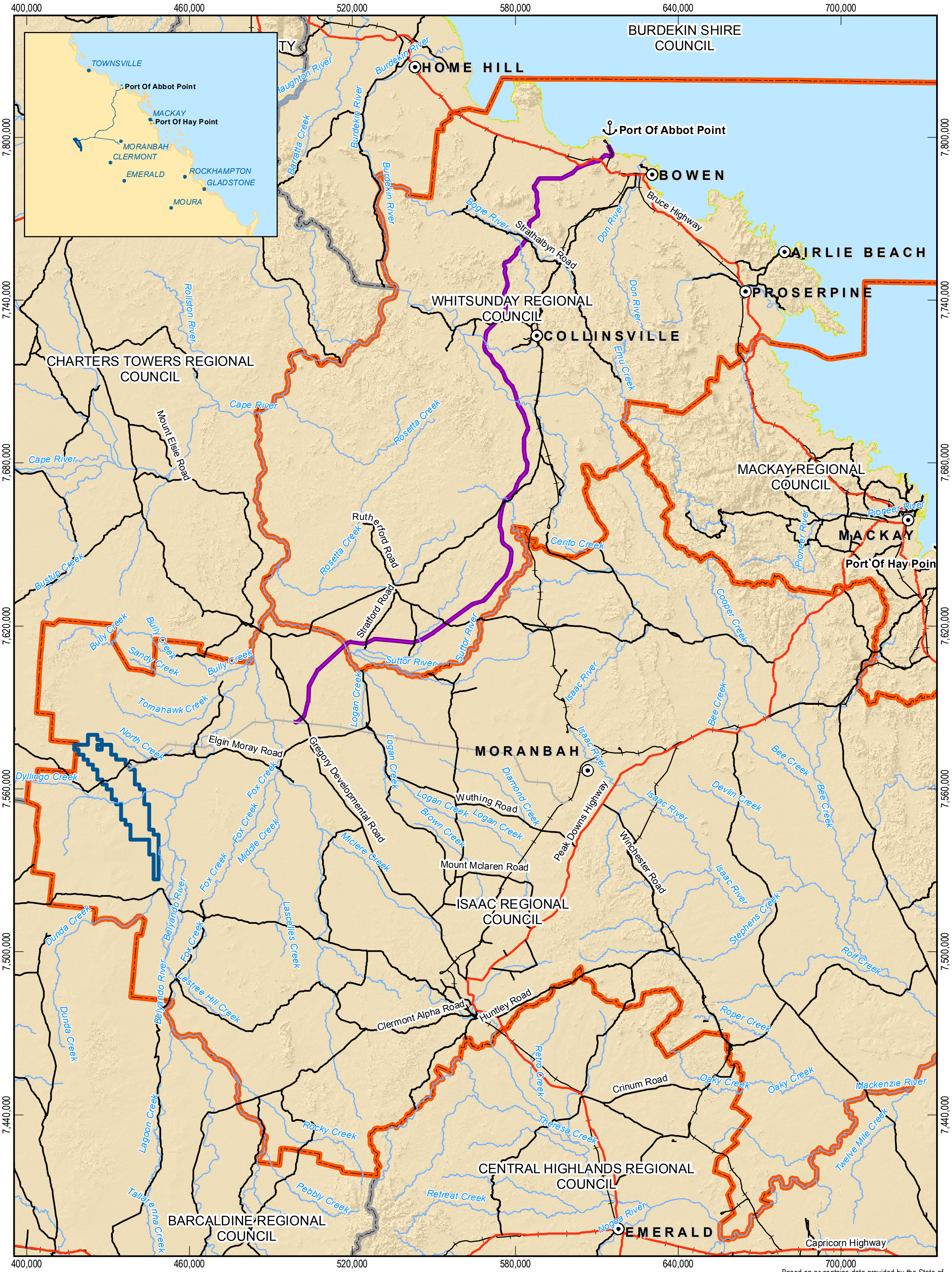
145 Ann Street Brisbane QLD 4000 Australia T 61 7 3316 3000 F 61 7 3316 3333 E bnemail@ghd.com W www.ghd.com

Data source: GA: Populated Places, Railway, Watercourse/2007; Adani: NGBR Corridor 13/05/2013 NGBR Corridor 06/06/2013, Carmichael Rail Project/2012; DNRM: Roads/2010, Cadastre/2013. Created by:MS



LEGEND

- Population Centres
- Major Port
- Highway
- Main Road
- Carmichael Project (Rail)
- Railway
- Watercourse (Major)
- Carmichael Project (Mine)
- Regional Study Area
- Local Government Area
- North Galilee Basin Rail 1000m Corridor
- North Galilee Basin Rail 100m Corridor

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0 15 30 60

Kilometres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

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GHD adani

Adani Mining Pty Ltd
North Galilee Basin Rail Project

Job Number	41-26457
Revision	A
Date	18 Sep 2013

Regional Study Area

Figure 2-2

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145 Ann Street Brisbane QLD 4000 Australia T 61 7 3316 3000 F 61 7 3316 3333 E bnemail@ghd.com W www.ghd.com

Data source: GA: Populated Places, Railway, Watercourse/2007; Adani: NGBR Corridor 13/05/2013, NGBR Corridor 06/06/2013, Carmichael Project (Rail) (2012);
DNRM: Cadastre/2012, Roads/2010 Local Government Area/2011. Created by:MS

2.3 Desktop assessment

Separate social baselines were prepared for the relevant study areas (refer to Section 2.1), resulting in a local social baseline and a regional social baseline.

A detailed state social baseline was not prepared as the application of the state study area was restricted to the identification of higher-order social infrastructure services, labour sources and business services.

Local social baseline

The local social baseline was developed from a combination of desktop data sources and consultation (refer to Section 2.2), to describe the existing properties and lifestyle of landowners. The outcomes of consultation with landowners and representative groups in the local study area was also reviewed to highlight key issues.

Regional social baseline

The regional social baseline was developed from desktop data sources (refer to Section 2.2). Regional social baseline data was compared to data from the state study area where relevant. This information was collated to describe the following:

- Community settlement patterns
- Housing availability, affordability and costs
- Community values and aspirations
- Demographic characteristics, including
  - Total population; population trends, growth and forecasts
  - Full Time Equivalent (FTE) population estimates (resident and non-resident population)
  - Age and gender profile
  - Family composition
  - Cultural and ethnic composition
  - Education profile, including school and vocational training enrolments
  - Employment and unemployment profile including industry and occupation profile
  - Income profile
  - Crime rate
  - Social health and wellbeing
  - Social and economic index of disadvantage
- Social and community infrastructure, including:
  - Housing and accommodation services and facilities
  - Health services and facilities
  - Emergency services
  - Community support services
  - Education and training facilities
  - Transport services
  - Lifestyle and recreation.

2.4 Legislation and guidelines

Legislation and guidelines relevant to this social baseline report are as follows:

- *State Development and Public Works Organisation Act 1971*
- *Environmental Protection Act 1994*
- Social Impact Assessment Guidelines 2013.

An explanation of the above legislation and how it applies to the NGBR Project is provided in Volume 1 Chapter 20 Legislation and approvals.

3. Local social baseline

3.1 Description of properties

The local study area includes a total of 64 properties of which 27 properties are leasehold lots, 36 are freehold lots and one lot of classified as unallocated state land. The majority of the local study area is used for agriculture related activities. A combination of cattle breeding, cattle grazing and horticulture are common activities in the local study area. Areas of remnant vegetation within the local study area and surrounding region have been cleared to maintain such land uses. Some properties located near Collinsville comprise of both mining and farming related activities, with the Xstrata Collinsville Mine being a dominant feature within the area.

Most farming in the local study area is undertaken by families residing on the properties in the local study area, with a small number of people employed to assist with general farming activities, while a range of contractors are engaged at different times to support with specialist activities such as:

- Crop spraying
- Mustering (including helicopter-mustering)
- Earthworks
- Harvesting.

A total of 23 homesteads were identified within approximately 6 km of the 100 m wide final rail corridor for the NGBR Project (refer to Table 3-1). The properties are predominantly occupied by the landholders themselves or members of their family. The number of homesteads compared to the number of properties reveals that the local study area is sparsely populated. The NGBR Project has also been located so as to avoid and/or minimise proximity to homesteads (for details refer to Volume 1 Chapter 2 Project description).

Table 3-1 Homesteads

Sensitive receptors	Approximate distance (m) from the nominal 100 m wide final rail corridor	Description / name	Lot on Plan
Homestead 1	2,690	Caley Valley	255HR2027
Homestead 2	1,152	Salisbury Plains	3HR1712
Homestead 3	2,198	Nevada	4SB687
Homestead 4	2,581	Glenore	25SB353
Homestead 5	4,680	Thurso	1SB279
Homestead 6	3,776	White Kangaroo	3SB514
Homestead 7	5,674	Mountain View	76SP167797
Homestead 8	3,572	Eton Vale	355K124696
Homestead 9	2,071	Glen Alpine	5047PH370
Homestead 10	2,877	Tabletop	3SB236

Sensitive receptors	Approximate distance (m) from the nominal 100 m wide final rail corridor	Description / name	Lot on Plan
Homestead 11	1,514	Bakara	86DK154
Homestead 12	6,158	Strathmore	3SP132678
Homestead 13	5,316	Myuna	14DK18
Homestead 14	3,863	Pelican Creek	4914PH1791
Homestead 15	4,263	Birralee	618PH2106
Homestead 16	3,819	Havilah	62SP195387
Homestead 17	2,772	Fig Tree	4SP171921
Homestead 18	4,120	Cerito	1510SP171920
Homestead 19	4,931	Terang	1DK244
Homestead 20	4,694	Gleneva	1943SP221555
Homestead 21	5,159	Warrigal	5088SM101
Homestead 22	1,059	Stratford	3821PH1304
Homestead 23	6,584	Disney	4SP116046

The NGBR Project final rail corridor intersects seven gazetted stock routes. Stock routes are corridors on roads, reserves, pastoral leases and unallocated state land along which stock are driven on foot. The NGBR Project final rail corridor also traverses the Bicentennial National Trail, which is a multi-use recreational trekking route of significant national tourist attraction. The trail follows local rivers from the Burdekin Falls Dam to Collinsville, and crosses the final rail corridor at approximate chainage 106.05 km, near Pelican Creek. For more information on the land use in the local study area refer to Volume 2, Appendix C Land use and tenure.

3.2 Lifestyle

Consultations with NGBR Project landholders and the Corridor to Coast Group confirmed (refer to Volume 2 Appendix B Public consultation):

- A strong connection of landholders and their families to their properties. For some landholders this connection and identity is based on generations of owning and running the farming practices on the properties and some properties were settled in the late 1800s by the current owner’s predecessors. The majority of the landholders reside on the property themselves or have extended family living on their properties
- Landholders value and appreciate the rural lifestyle associated with large scale grazing land. Landholders are proud of their properties and strongly value the effort they have made in developing and nurturing the land
- The relative seclusion of their location is seen as an advantage as it offers them privacy as well as the convenience of being located less than two hours driving distance from the nearest township (e.g. Bowen, Collinsville or Moranbah), which are accessed as supply and business centres. Generally only the elderly or medically challenged landholders relocate to regional or coastal towns

- Landholders place high importance on their social networks and working together with their families and neighbours. Much of the social networking centres around rural based activities such as country races, competition camp drafting (horse and stock) and related activities
- Most of the landholders are either related to or maintain strong networks with other landholders based in the area or who have been directly affected by other resource developments.

For further information refer Volume 2 Appendix B Public consultation.

3.3 Key issues identified by the landholders

Landholders identified a range of actual and perceived issues in relation to developments proposed by resource industry proponents on their properties:

- Potential for decrease in property values and potential non-viability of business if they have to sell parts of the properties due to severance
- Potential loss of access to parts of property
- Potential disturbances to stock routes, leading to additional time, financial and staff commitments to run properties and manage stock
- Potential damage to internal roads due to investigation activities
- Potential increase in the loss of cattle due to cutting of fences and opening of gates on properties
- Potential decrease in privacy as there is an increase in third party access to the properties
- Landholders feel that the third partys users do not respect their properties as much as the landholders do
- Potential increase in traffic on local roads potentially reducing safety of road users
- Potential increase in dust and coal dust affecting pasture
- Potential increased risk of fire from train sparks.

In the last five to eight years some landholders have been approached by proponents of various resource projects for land access and investigations. The majority of the landholders have been recently impacted on their current or other family properties by Waratah Coal, GVK-Hancock Coal, BHP Billiton and coal seam gas proponents and generally feel that this is an invasion of their properties.

4. Regional social baseline

4.1 Communities in the regional study area

As defined in the regional study area in Section 2.1 the regional baseline describes community characteristics for the WRC LGA, IRC LGA and the key urban centres identified to be closest to the NGBR Project - namely Bowen, Collinsville and Moranbah.

4.1.1 Overview of WRC LGA

The WRC LGA was formed in 2008 after the amalgamation of the Bowen and Whitsunday Shire Councils. The region covers an area of 23,871 km² with a total population of approximately 33,295 people in 2012 which is expected to increase by 22,156 people by 2031 (Queensland Government 2012; OESR 2013c; OESR 2013h). The WRC LGA is a culturally diverse region that includes Aboriginal and Torres Strait Islander populations.

The region's sense of identity is shaped by the physical landscape, built environment, population characteristics, economy, arts and cultural heritage (Queensland Government 2012). According to the Mackay, Isaac and Whitsunday Regional Plan (MIWRP) (2012) the 'natural environment provides the foundation for the regional economy and lifestyle enjoyed by the regions residents'.

The WRC LGA is the gateway to the World Heritage Listed Great Barrier Reef Marine Park and 74 tropical islands. The strategic location of the WRC LGA has driven the development of its tourism and agriculture (horticulture and sugarcane) industries, and more recently growth in mining-related activity, transport related industries, small scale manufacturing and construction industries (Queensland Government 2012).

The major activity centres in the WRC LGA are Proserpine, Bowen, Airlie Beach, and Cannonvale. District activity centres include Collinsville and the Whitsunday Islands (Queensland Government 2012). The WRC LGA offers a blend of coastal, rural, township and island living options, with extensive beaches, conservation reserves and resource rich areas. At the township level, many individual communities are characterised by their unique identities, values and aspirations.

The values, identity and aspirations of the WRC LGA community included in the study area are summarised in Table 4-1. These are outlined for the WRC LGA in the Whitsunday Regional Council Community Plan 2011-2021 (Whitsunday Regional Council 2011a).

Table 4-1 Community values, identity and aspirations in the WRC LGA

LGA/Urban centre	Values, identity and aspirations
WRC	• Is well governed and financially sustainable • Promotes sustainability and long term sustainable development • Has the infrastructure needed to meet ever changing needs both now and in the future • Promotes and preserves culture and history • Protects past, but promotes future • Is vibrant, safe and inviting

LGA/Urban centre	Values, identity and aspirations
	• Protects precious natural resources and environment • Is proactive, healthy and encourages participation in physical activity • Has the infrastructure and facilities which promote and encourage a healthy and active lifestyle • Is accessible by all and promotes inclusivity • Has access to government services and opportunities • Is proud of its identity and its people • Is built around sustainable planning principles and outcomes.
Bowen	• Has a strong sense of community with strong ties to the land and the region • Values the environment and recognises that its plays a key role in the identification to the region • Identifies Bowen as a place where the beach meets the bush • Prides itself on its agricultural produce and relaxed beach lifestyle • Wants the area to grow and develop, however not at the cost of community diversity or by displacing people who already live in the area.
Collinsville	• Has a strong sense of community and is proud of its place • Is dependent on the mining industry • Prefers project-related workforces to be located in town (not in accommodation camps) so that workers form part of the local population • Are keen for more projects to boost the economy and revitalise the community.

Source: Whitsunday Regional Council 2011a

The region is serviced by a variety of infrastructure including domestic airports, export port facilities, marinas, harbours and rail infrastructure that support the regional economy including mining and the sugarcane industries. In terms of community services, key features of the region are the Proserpine and Bowen hospitals with a focus on allied health services, entertainment centre, tourist facilities and two TAFE campuses offering vocational education and training.

There is concern in the WRC LGA community that issues such as housing availability and affordability, and issues related to the transient workforce could become exacerbated in Bowen, Proserpine and Collinsville if there is an expansion in population due to growth in certain industries (Queensland Government 2012). This concern was also raised during NGBR Project consultations (June 2013) with local service providers such as the Whitsunday Neighbourhood Centre and Whitsunday Housing Company, who highlighted that future growth in the resource industry may impact housing availability and affordability.

Some of the key issues in the WRC LGA are constrained land availability for residential development (within existing population centres), and need for upgrade and improvements in infrastructure particularly transport links. The WRC LGA also needs further skills development in order to diversify the economy are some of the key issues in the WRC LGA (Queensland Government 2012).

Bowen

Bowen was settled in the 1860s as a pastoral town and was in the Bowen Shire Council prior to its amalgamation with the Whitsunday Shire Council in 2008. Originally land was used mainly for cattle grazing and timber gathering (Queensland Places 2013a). The growth and development of Bowen was influenced by mining and improved access from the early 1900s. Today, Bowen is a commercial, business, service and administrative hub for the northern section of the WRC LGA and is the largest town in the Whitsunday region. Bowen's local economy is based on a nationally significant horticulture industry, commercial fishing, aquaculture and a major salt processing facility. (Queensland Government 2012). There are a number of emerging economic opportunities for Bowen and its surrounds due to the expansion of the Port of Abbot Point (approximately 20 kilometres from Bowen). Opportunities include export of bulk commodities, large-scale industrial development, freight and logistics (Queensland Government 2012).

The township of Bowen includes residential, commercial and industrial land use and surrounding rural areas (Whitsunday Regional Council 2013b). Bowen residents have a relaxed and healthy rural-coastal lifestyle with many community events and festivals (Tourism Bowen 2010), community initiatives such as walking groups (Whitsunday Regional Council 2011a) and a wide range of recreational social infrastructure facilities to support such a lifestyle.

There is a concern among members of the community that Bowen may eventually face the same housing availability and affordability issues as faced by mining communities in the surrounding region (Queensland Government 2012; SGS Economics and Planning 2010). It should be noted that housing availability and affordability was a key issues in mining communities in the regional study area prior to the recent down turn in the resource industry. A detailed discussion on housing is provided in Section 4.5.

The following Table 4-2 provides a snapshot of key demographic data for Bowen. Data presented for Bowen and other key centres in the regional study area is presented at Statistical Area Level 2 (SA2) as per ABS Census 2011. As defined by the ABS an SA2 is 'a general-purpose medium-sized area' which aims to 'represent a community that interacts together socially and economically'.

Table 4-2 Key population characteristics for Bowen SA2

Data type	Key statistics
Population	Estimated total population in 2011 of 9,076 persons, increasing from 8,871 persons in 2007. Projected population of 15,755 persons by 2031 – an increase of 5,816 at a growth rate of 2.3 per cent per annum (2011-2031).
Age and gender	High proportions of working age groups with 25.4 per cent aged 25-44 years and 28.3 per cent aged 45-64 years. Median age of 39.4 years.
Full time equivalent (FTE) population and % of non-resident workers	In 2011, FTE population was 13,935 of which 710 persons (5.1 per cent) were non-resident workers. The FTE population in Bowen increased in 2012 to 13,985 persons, of which 741 persons (5.3 per cent) were non-resident workers.
Indigenous	Indigenous population of 654 persons at 7.4 per cent of the total

Data type	Key statistics
population	population.
Family composition	In 2011, there were 2,186 families in the area. 'couple family with no children' are the dominant family type with 45 per cent, 38.1 per cent 'couple family with children', and 15.7 per cent 'one-parent families'.
Occupation and industry of employment	In 2011 unemployment was 8.9 per cent with 465 unemployed persons in the 5,241 person labour force. In 2011, the main industries of employment were agriculture, forestry and fishing (12.7 per cent), retail trade (10.3 per cent), and mining (5.4 per cent). The largest occupation categories were labourers (21.3 per cent) and technicians and trades workers (17.0 per cent).
Income	33.5 per cent recorded incomes of $400-$999 per week and 32.5 per cent recorded less than $400 per week.

Source: OESR 2012a and OESR 2013i data from ABS Census 2011

Collinsville

Collinsville is located about 270 km north-west of Mackay, in the former Bowen Shire area of the WRC LGA. The Collinsville area was first settled in 1860s as a grazing area with the Strathmore Station as the first grazing run in the region. Collinsville was originally known as Moongunya which is the Aboriginal name for coal (Whitsunday Regional Council 2013b). Coal mining activities have been part of early history of Collinsville; it was established in 1866 as a coal mining town spurring gradual growth in the area (Rolfe 2011). However, the population remained low until the early years of the 20th century, when modern Collinsville was developed on advice from the Town Planning Association in 1922 (Queensland Places 2013b). Today it serves as the WRC LGA's main mining centre (Whitsunday Regional Council 2011b). It services the local community and the surrounding region with commercial, administrative, health and educational facilities and services.

Collinsville residents perceive their town as a good place with a strong community spirit and resilience where the community has had a long history of mining and has seen the ups and downs of the industry (GHD 2010). The community values its healthy, active and outdoor lifestyle, which is encouraged by the region's Healthy Active Whitsunday Region campaign (Whitsunday Regional Council 2011a). Collinsville has a range of existing facilities and services to support an active lifestyle such as sporting facilities, community and recreational facilities.

There is a concern that Collinsville may eventually face the same housing availability and affordability issues as faced by mining communities in the surrounding region (Queensland Government 2012). It should be noted that housing availability and affordability was a key issues in mining communities in the regional study area prior to the recent down turn in the resource industry. A detailed discussion on housing is provided in Section 4.5.

Expansion of Collinsville is limited by adjacent mining tenures, proximity to the Newlands rail line and other constraints, such as flooding. Maximising the use of existing land within the township will be important in accommodating growth (Queensland Government 2012).

Also as inferred from the Alpha Coal Project social impact assessment (GHD 2010), the Collinsville community believes that the existing non-resident workforce makes limited contribution economically to local business and socially to the community.

The following Table 4-3 provides a snapshot of the key demographic data for Collinsville to inform the social baseline.

Table 4-3 Key population characteristics for Collinsville SA2

Data type	Key statistics
Population	Estimated total population in 2011 of 4,141 persons, decreasing from 4,299 persons in 2007. Preliminary 2012 population estimate of 4,195 persons. Projected population of 6,439 persons by 2031 – an increase of 4,717 at a growth rate of 1.6 per cent per annum (2011-2031).
Age and gender	High proportions of working age groups with 26.4 per cent aged 25-44 years and 28.3 per cent aged 45-64 years. Median age of 38.8 years.
Full time equivalent (FTE) population and % of non-resident workers	In 2011, the FTE population in Collinsville was 2,095 persons of which 555 persons (26.5 per cent) were non-resident workers. The FTE population in Collinsville increased in 2012 to 2, 145 persons of which 600 persons (28 per cent) were non-resident workers.
Indigenous population	Indigenous population of 210 persons at 5.2 per cent of the population.
Family composition	In 2011, there were 987 families in the area. 'couple family with no children' are the dominant family type with 45.5 per cent, 42.2 per cent 'couple family with children', and 11.1 per cent 'one-parent families'.
Occupation and industry of employment	In 2011 unemployment was 5.4 per cent with 131 unemployed persons in the 2,412 person labour force. In 2011, the main industries of employment were agriculture, forestry and fishing (21.9 per cent), mining (18.4 per cent), and construction (8.4 per cent). Largest occupation categories were machinery operators and drivers (20.8 per cent), labourers (18.2 per cent), manager (17.0 per cent), and technicians and trades workers (16.3 per cent).
Income	32.6 per cent recorded incomes less than $400 per week and 27.3 per cent recorded incomes of $400-$999 per week.

Source: OESR 2012a and OESR 2013i data from ABS Census 2011

4.1.2 Overview of IRC LGA

The IRC LGA was formed in 2008 with the amalgamation of Belyando, Broadsound and Nebo Shire Councils. The IRC LGA covers 58,862 km^2, with a population of approximately 23,000 people in 2011 (Queensland Government 2012). It is a fast growing region and is expected to increase significantly in the future, with a projected increase of approximately 14,000 additional people by 2031 (Queensland Government 2012).

The IRC LGA contains a substantial portion of the Bowen Basin coal reserve which has triggered intensive mining operations in the region. The region also has a strong agricultural industry particularly pastoral farming, dry land grain cropping, and more recently fruit and vegetable growing. National parks, state forest and wetlands also form part of the regional landscape.

The IRC LGA is made up of a diverse mix of coastal, agricultural and mining communities. Moranbah is its major urban centre, with other district centres being Clermont, Dysart, Middlemount, Glenden and Nebo. The council area is also characterised by the small coastal villages of St Lawrence, Carmila and Clairview which have developed around the agricultural and tourism industries.

Table 4-4 Community values, identity and aspirations in the IRC LGA community

LGA/Urban centre	Values, identity and aspirations
IRC	• Values its diverse lifestyles, environment, essential services and places importance on regional arts, cultural and heritage development • Aims to maintain their harmony and quality of life • Places a high importance on community spirit, country town living, safe and secure environments, community cohesion and friendliness • Chose to live in the IRC LGA for its community, lifestyle and liveability reasons • Understands that many people have come to the IRC LGA in search of work opportunities in the coal mining industry and the Council is now focussed on getting these people to stay in the region by offering a quality of life that surpasses other regions
Moranbah	• Places a high emphasis on the importance of outdoor community facilities that promote the area's active, healthy outdoor living • Is focused on community and environmental sustainability and aims to continue to diversify economic contributions to the region in order to maintain the region's economic sustainability • Wants workers who are working in the mining industry to move to Moranbah with their families to contribute to the quality of life of the town and reduce the proportion of non-resident workforce. This workforce currently impacts on local services and infrastructure.

Source: Isaac Regional Council 2009 and Queensland Government 2012

Some of the key challenges faced by the IRC LGA are decreased reliable water and energy supply, need for improved telecommunication services (broadband network), attracting and retaining workers and the younger generation in the region, mining focused regional economy with little diversification, pressure on existing social services and infrastructure like health services, and inadequate secondary and tertiary education opportunities (Queensland Government 2012). This was further reiterated in consultation with IRC (NGBR Project consultation June 2013), who highlighted that the non-resident workforce in the region is placing increased pressure on social services, and local businesses not associated with the mining sector have difficulty in attracting and retaining workers.

Moranbah

Moranbah is a purpose-built mining town established in the 1970s and located 191 km west of Mackay. It is the major regional activity and service centre for the Bowen Basin mining industry and according to the MIWRP (2012), Moranbah will continue to play this role. It is the town centre closest to Goonyella, Peak Downs and Riverside Mines with a railway to the Hay Point coal loading terminal near Mackay (Rolfe 2011). It provides several community facilities and services in the areas of health, education and training, shopping, information/knowledge centres, sports, recreation, places of worship, emergency services, employment services, repair mechanics and food and beverage outlets (Isaac Regional Council 2013b).

The following Table 4-5 provides a snapshot of the key demographic data for Moranbah to inform the social baseline.

Table 4-5 Key population characteristics for Moranbah SA2

Data type	Key statistics
Population	Estimated total population in 2011 of 9,223 persons, increasing from 8,029 persons in 2007. Preliminary 2012 population estimate of 9,285 persons. Projected population of 15,253 persons by 2031 – an increase of 6,404 persons at a growth rate of 2.8 per cent per annum (2011-2031).
Age and gender	High proportions of working age group with 38.4 per cent aged 25-44 years. 26.9 per cent aged 0-14 years a reflection of the high number of couple families with children. Median age of 29.7 years.
Full time equivalent (FTE) population and % of non-resident workers	In 2011, the FTE population in Moranbah was 11,680, of which 2,803 persons (24 per cent) were non-resident workers. In 2012 the FTE population in Moranbah increased to 13,575 persons, of which 4,588 persons (33.8 per cent) were non-resident workers.
Indigenous population	Indigenous population of 234 persons at 2.6 per cent of the population.
Family composition	In 2011, there were 2,122 families in the area. ‘Couple family with children’ are the dominant family type with 61 per cent, 29.5 per cent ‘couple family with no children’, and 9.1 per cent ‘one-parent families’.
Occupation and industry of employment	In 2011 unemployment was 1.3 per cent with 74 unemployed persons in the 5,590 person labour force. In 2011, the main industries of employment were mining (44.2 per cent) and construction (7 per cent). The main industries of employment were reflected in the largest occupation groups of technicians and trades workers (24.8 per cent) and machinery operators and drivers (23.1 per cent).
Income	28.6 per cent of the population recorded weekly incomes of $2,000 or more and 23.0 per cent recorded $1,000-$1,999 per week. This is indicative of higher salaries in the mining sector.

Source: OESR 2012a and OESR 2013i data from ABS Census 2011

4.1.3 Key opportunities and challenges

The following Table 4-6 identifies the existing opportunities and challenges facing the WRC and IRC LGAs, based on a review of planning and policy documents, and stakeholder feedback received during the NGBR Project consultation (June, 2013).

Table 4-6 Existing opportunities and challenges in the regional study area

LGA	Opportunities	Challenges
WRC	• High profile region • Strong economic diversity • Rich resource area • New economic, social, tourism and cultural opportunities • Industry attraction and support for growth • Common corridor from Galilee Basin to Abbot Point.	• Natural disasters • Community safety • Isolation of some communities • Ageing population • Transient and non-resident population • Shortfalls in some community facilities and services • Infrastructure development, maintenance and asset replacement • Limited capacity of community-based organisations • Managing cumulative impacts of resource projects on local communities • Consistency of employment opportunities in resource-reliant areas.
IRC	• Resource sector expansion • Employment and training opportunities, particularly for younger people • Community and residential development opportunities with the release of vacant land • Expansion of air services.	• Economic diversity to ensure long term viability beyond mining • Affordability of housing and services, particularly for those not in the resources sector • Land availability for development (Moranbah and Clermont) • Addressing traffic safety issues on the Peak Downs Highway • Securing reliable and safe water supply for communities • Managing cumulative impacts of resource projects on local communities.

4.2 Community characteristics of the regional study area

This section of the report is based upon published data from the 2011 ABS Census and, where available, more recent data from the OESR.

4.2.1 Regional population

The estimated resident population of WRC LGA in 2012 was 33,295 persons, which was an increase of 887 persons or 2.7 per cent since 2011 (OESR 2013h) (Table 4-7). IRC LGA experienced a population growth rate of 2.1 per cent which reflected an increase of 476 persons between 2011 and 2012. As illustrated in Figure 4-1, both WRC LGA and IRC LGA have experienced steady increases in population since 2001.

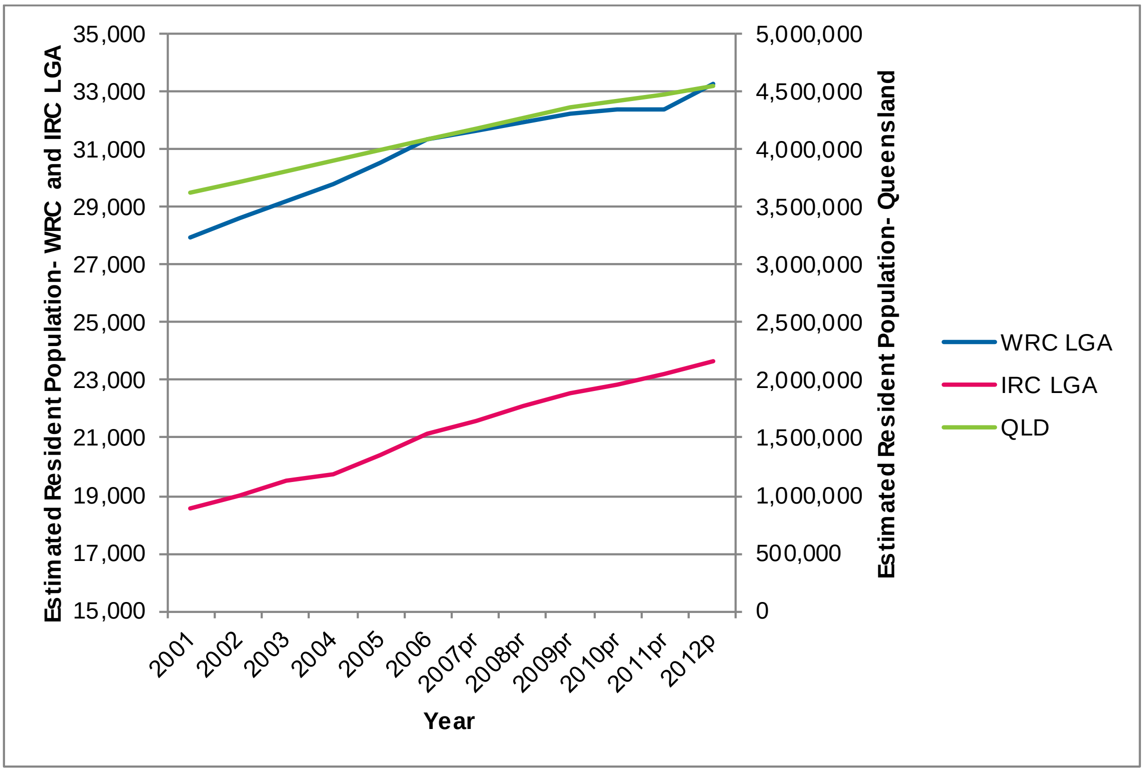
According to the MIWRP (2012), population increase is likely to be attributed to the growth in the resources sector across the MIW region.

Table 4-7 Estimated resident population in regional study area (2001-2012)

Year	LGA / State		
	WRC	IRC	Queensland
2001	27,931	18,524	3,628,946
2002	28,637	19,016	3,714,798
2003	29,214	19,533	3,809,214
2004	29,781	19,764	3,900,910
2005	30,543	20,411	3,994,858
2006	31,355	21,113	4,090,908
2007r	31,636	21,615	4,177,089
2008r	31,972	22,071	4,270,091
2009r	32,259	22,538	4,365,426
2010r	32,367	22,835	4,424,158
2011r	32,408	23,212	4,474,098
2012p	33,295	23,688	4,560,059

(r) – revised; (p) – projected
Source: OESR 2013c and OESR 2013d data from ABS Census 2011

Figure 4-1 Estimated resident population regional study area (2001-2012)



Source: OESR 2013c and OESR 2013d data from ABS Census 2011

Table 4-8 shows the estimated resident population and components of change in WRC and IRC LGAs in 2006 and as at 30 June 2011. In 2006, the annual change for WRC LGA was significantly higher at 2.7 per cent, compared with 0.1 per cent in 2011. The low annual change rate in 2011 was a result of 193 persons leaving the WRC LGA.

In 2006, the IRC LGA also experienced a much higher annual growth rate at 3.4 per cent compared with 1.6 per cent in 2011. Similar to the WRC LGA, IRC also experienced a negative migration of 5 persons in 2011; however natural increase contributed 382 persons resulting in an annual change of 377 persons or 1.6 per cent. The negative net migration in both the LGAs in 2011 could be the result of the end or slowing down of major projects in the region.

The decrease in annual change rates for both LGAs from 2006 to 2011 is reflected in the annual change rates for the state which also decreased from 2.3 per cent in 2006 to 1.1 per cent in 2011.

Table 4-8 Estimated resident population and components of change in regional study area (30 June 2011pr)

LGA	Estimated resident population	Natural increase	Assumed net migration	Total annual change	Per cent annual change
2005 - 2006					
WRC	31,355	162	650	812	2.7
IRC	21,113	302	400	702	3.4
Queensland	3,904,532	29,579	59,559	89,993	2.3

LGA	Estimated resident population	Natural increase	Assumed net migration	Total annual change	Per cent annual change
2011					
WRC	32,408	234	-193	41	0.1
IRC	23,212	382	-5	377	1.6
Queensland	4,474,098	36,433	13,507	49,940	1.1

(pr) – preliminary rebased
Source: OESR 2012b, OESR 2012b and OESR 2013g and OESR 2013h data from ABS Census 2011

4.2.2 Population of key urban centres in WRC and IRC LGAs

Table 4-9 shows the estimated resident population of the key urban centres in the regional study area, which includes Bowen and Collinsville for WRC LGA, and Moranbah for IRC LGA. Bowen experienced low levels of growth from 8,126 persons in 2002 to 9,053 persons in 2012, an increase of 927 persons or 10.2 per cent. Collinsville remained relatively constant resulting in an overall decline in population across the period. Moranbah experienced the greatest increases with 2,321 persons from 2002 to 2012, representing an increase of 25.9 per cent.

Table 4-9 Estimated resident population of the key urban localities SA2 in the regional study area (2002 – 2012)

Urban locality	2002	2003	2004	2005	2006	2007r	2008r	2009r	2010r	2011r	2012p
Bowen	8,126	8,218	8,342	8,433	8,587	8,638	8,714	8,780	8,808	8,825	9,053
Collinsville	1,707	1,721	1,744	1,749	1,772	1,712	1,701	1,596	1,571	1,539	1,547
Moranbah	6,613	6,882	7,042	7,279	7,607	7,869	8,164	8,405	8,601	8,874	8,934

(r) – revised; (p) – projected
Source: OESR 2013b data from ABS Census 2011

4.2.3 Non-resident population

This report has adopted the definition of a non-resident worker from the OESR Bowen Basin Population Report (2012), which states the term 'non-resident worker' is used to distinguish people who are not residents of the local area where they regularly work. A non-resident worker differs from other short-term or casual visitors to the area in that:

- The duration of their stay in the area is extended and regular. This usually takes the form of a period of work followed by a rest interval at their place of usual residence
- While living in the area, the worker typically stays in commercial accommodation (hotels, motels or caravan parks) or in worker accommodation facilities which are a commonly used accommodation solution, and may be located in town centres or located in close proximity to the place of work
- Non-resident workers are often categorised according to their means of travel between home and place of work, either as Fly-in-fly-out (FIFO) (from outside the region) or drive-in-drive-out (DIDO) (from within the region)(OESR 2012a).

Non-resident worker population data is not accounted for in the population estimates from ABS as they do not meet the criteria for a 'usual resident'. However, the non-resident worker population creates additional demand for goods, services and infrastructure while living in the area, which must be planned for and provided by both government and the private sector (OESR 2012a).

The OESR has collated information on non-resident workers in LGAs and key urban centres located within the geographical boundaries of the Bowen Basin, which includes the WRC LGA (Bowen only)[1] and IRC LGA.

The data presented in Table 4-10 shows that in 2012, the total FTE population for WRC LGA (Bowen only) was 13,985 people, of which 735 persons (5.3 per cent) were non-resident workers. The data presented in the table shows that Collinsville has a significantly high proportion of non-resident workers as a percentage of FTE population compared to other locations in the WRC LGA with 600 persons (28 per cent) in 2012.

IRC LGA recorded the largest non-resident worker population of 17,125 people in 2012 representing almost three-quarters (73 per cent) of the total for the regional study area. Between 2011 and 2012 the number of non-resident workers in IRC LGA increased by 3,535 (26 per cent). The increase of non-resident workers in IRC LGA can be explained by the commencement of new mining projects and the expansion of a number of existing operations (OESR 2012a).

However, in the past 12 months, the down turn in the mining industry has resulted in job cuts and project closures, which in turn has resulted in a reduction of non-resident workers in the regional study area and people having left the region in search of employment.

Table 4-10 Full time equivalent (FTE) population estimates for the regional study area (2011 and 2012)

LGA/urban centre/locality	Resident population (b)		Number of non-resident workers		FTE population estimate		Non-resident workers as % of FTE population (rounded)	
	2011	2012	2011	2012	2011	2012	2011	2012
Collinsville	1,540	1,540	555	600	2,095	2,145	26.5%	28%
Other towns (a)	9,440	9,470	125	135	9,565	9,605	1.3%	1.4%
WRC (Bowen only) (c)	13,215	13,250	715	735	13,935	13,985	5.1%	5.3%
Moranbah	8,875	8,990	2,805	4,585	11,680	13,575	24%	33.8%
IRC	23,210	23,720	13,590	17,125	36,800	40,850	36.9%	41.9%

(a) – UC/L with only one accommodation provider or fewer than 10 non-resident workers are aggregated in 'other towns'
(b) – estimated
(c) – comprises the SA2s of Bowen and Collinsville, which cover the area of former Bowen (S). Data from 2011 onwards include the UC/L of Merinda, which was not included in previous years' collections.
Source: OESR 2012a

The data in Table 4-10 confirms that, as stated in the MIWRP, the regional study area, particularly Collinsville and Moranbah, is characterised by a high rate of temporary workers as a result of seasonal and varying employment patterns in the mining, agri-horticultural and tourism industries (Queensland Government 2012) (refer to Section 4.4).

Despite the rising trend in the increased proportion of non-resident to resident workers and the increasing mining activities in the region, anecdotal information from the NGBR Project

[1] WRC LGA (Bowen only) comprises the SA2s of Bowen and Collinsville, which cover the area of former Bowen Shire.

consultations (June 2013) with regional councils and industry groups identified that the non-resident population has reduced over the past 12 months due to the closure of a number of mines and change in economic conditions (refer Volume 2 Appendix B Public consultation).

Over the last few years the high number of non-resident workers in the region resulted in increased pressures on housing availability and affordability and existing social services and infrastructure (Queensland Government 2012). However, these pressures have lessened due to the recent downturn in the resource industry this pressure has reduced (refer to Section 4.5 for detailed discussion).

To date, government funding for infrastructure and services has been dependent on the resident population, without taking into consideration the non-resident worker population. According to regional councils in regional study area (NGBR Project consultation, June 2013), this is continuing to create ongoing challenges as the number of non-resident workers increase across the regional study area and place additional demand on existing infrastructure and services (refer to Volume 2 Appendix B Public consultation).

4.2.4 Population projections

As shown in Table 4-11, both the WRC LGA and IRC LGA have experienced higher growth rates when compared to the State. The WRC LGA is expected to grow at an average annual growth rate of 2.2 per cent, resulting in an increase of approximately 19,708 persons between 2011 and 2031. According to the MIWRP, growth in the WRC LGA, particularly in the township of Bowen will largely be attributed to the development in construction and mining activities which are in turn anticipated to be a direct consequence of the infrastructure expansion and upgrades to the Port of Abbot Point (Queensland Government 2012).

The average annual growth rate in IRC LGA is expected to be 2.3 per cent resulting in an additional 13,723 persons during the period. This is reflective of the projected population growth for the area, which will result in a considerable increase in population of the IRC LGA. It is anticipated that the majority of IRC's population growth to 2031 will be accommodated in Moranbah due to the availability of employment opportunities and increasing levels of urban services and infrastructure (Queensland Government 2012).

Table 4-11 Population projections for the regional study area (medium-term series projections) (2011-2031)

LGA / State	Projected population as at 30 June 2011					Average annual growth rate %
	2011	2016	2021	2026	2031	2011 to 2031
WRC	35,743	40,618	46,008	50,928	55,451	2.2
IRC	23,277	28,266	31,418	34,270	37,000	2.3
Queensland	4,611,491	5,092,858	5,588,617	6,090,548	6,592,857	1.8

Source: OESR 2013f data from ABS Census 2011

OESR's Bowen and Galilee Basins non-resident population projections 2012-13 provides details of projected numbers of non-resident workers on-shift for LGAs in the Bowen and Galilee Basin regions to 2019. Current resource industry activities in WRC LGA (Bowen only)[2] are

[2] Whitsunday (R) Bowen only comprises the SA2s)of Bowen and Collinsville, which cover the area of former Bowen.

centred on two mining operations near Collinsville, and the Port of Abbot Point (OESR 2013a) (refer to Table 4-12).

The data in is presented for four projection series. These series projections are largely based on the status of projects in the State government's EIS process at the time of preparation in 2012:

- **Series A** is based on the number of non-resident workers on-shift in the area at June 2012, which includes all FIFO/DIDO workers engaged in existing resource operations, maintenance and associated infrastructure activities. This series takes into account all future expansions or downsizing of those workforces, as advised by resource company sources. It also includes the construction and operational workforces of projects that have reached final investment decision (FID) and had commenced construction at the time these projections were prepared. Series A forms the baseline for projecting growth in the non-resident population for the other three series
- **Series B** includes the Series A projection plus projected growth in the non-resident population arising from projects that have an EIS approved, but have yet to reach FID
- **Series C** includes the Series A and B projections plus the projected growth in the non-resident population arising from projects that have lodged an EIS, but which have yet to proceed through to final approval
- **Series D** includes the Series A, B and C projections, plus the projected growth in the non-resident population from projects that have yet to publish an EIS. It includes projects that have lodged an Initial Advice Statement (IAS) as well as projects that have yet to begin the approvals process. Users of Series D projections should note that workforce data for projects in this category are based on preliminary information, which is likely to change during the course of project planning. As such, Series D projections have a higher degree of uncertainty than the other three series (OESR 2013a).

Projection 'Series A' for the WRC LGA (Bowen only) takes into account reported reductions to the existing mine workforces of the area, as well as construction of one new mine project (Cows Coal by Bowen River Coal Pty Ltd a subsidiary of QCoal) (OESR 2013a). This series shows that the non-resident population of WRC LGA (Bowen only) will decline slightly in 2013, and then remain stable between 2014 and 2019.

Series B, C and D projections show substantial growth in the non-resident population of WRC LGA (Bowen only), due largely to the construction workforces of rail and port developments associated with Galilee Basin mining projects. Given the temporary nature of construction workforces and the relatively small operational workforces of these projects, the non-resident population impacts for these three series will be short-lived, with peaks occurring around 2015. Series D projections show that the non-resident population of WRC LGA (Bowen only) is expected to fall to around 1,000 people by 2019, following another temporary peak the previous year.

Table 4-12 Projected non-resident workers on shift, WRC LGA (Bowen only)

Projection series	Number of non-residents workers on shift at 30 June							
	Estimated	Projected						
	2012	2013	2014	2015	2016	2017	2018	2019
Series A	730	610	630	630	630	630	630	630
Series B	730	610	880	1,490	880	640	640	640
Series C	730	610	1,070	1,830	1,260	1,020	790	790
Series D	730	610	1,230	2,490	1,760	1,300	1,480	1,000

Source: OESR 2013a

Table 4-13 shows the projected non-resident workers on shift in IRC LGA. The 'Series A' projection shows that the non-resident population will decline from 2013 to 2016 where it will increase slightly to 2019. The 'Series B' projection shows an overall decrease while 'Series C' increases steadily to 2014 then decreases to a reflect a similar number in 2019 to the 2012 estimate. A number of additional coal, gas and rail projects are projected to contribute to further growth under Series D, with the potential for the non-resident population to reach 24,760 people by 2019, which is an increase of 7,630 workers across the period.

Table 4-13 Projected non-resident workers on shift, IRC LGA

Projection series	Number of non-residents workers on shift at 30 June							
	Estimated	Projected						
	2012	2013	2014	2015	2016	2017	2018	2019
Series A	17,130	17,190	15,720	15,070	14,730	14,870	14,880	14,920
Series B	17,130	17,190	16,040	16,580	15,900	15,640	15,470	15,460
Series C	17,130	17,390	17,690	19,420	19,180	18,010	17,020	17,460
Series D	17,130	17,390	18,350	19,930	21,960	22,070	23,160	24,760

Source: OESR 2013a

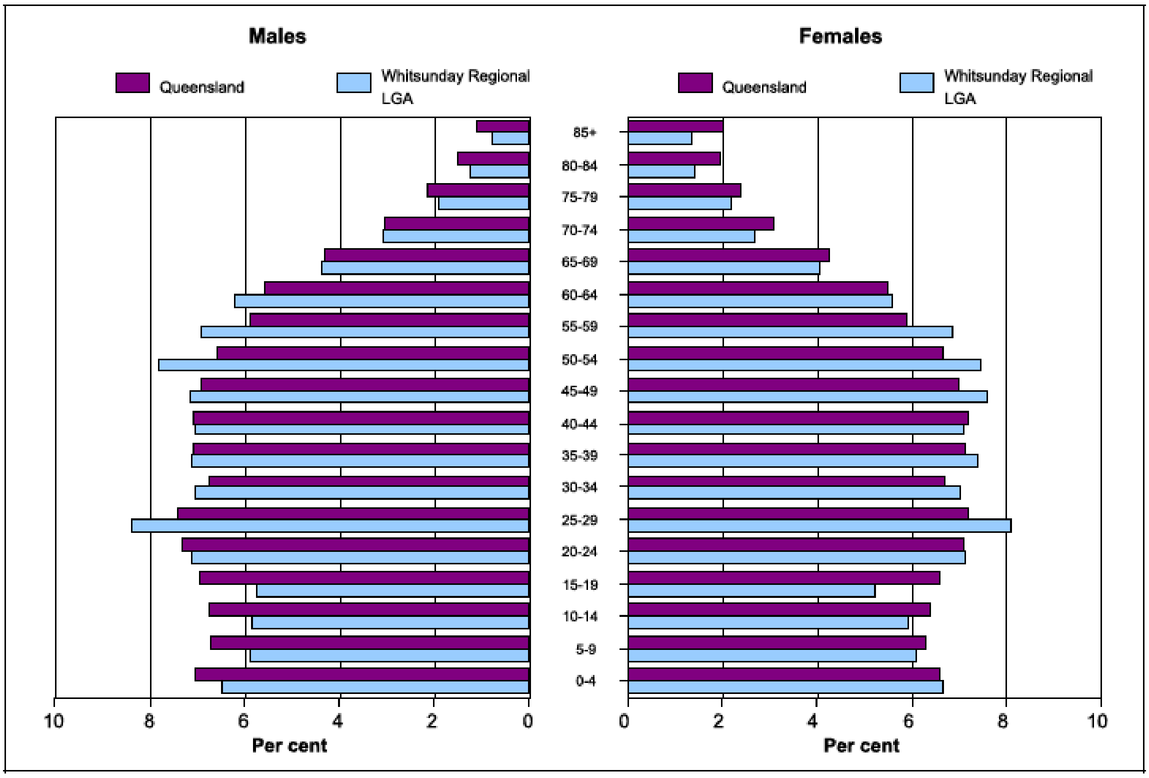
4.2.5 Age and gender

As at June 2011 (OESR 2013h), the WRC LGA's age profile was characterised by the following features (refer to Figure 4-2):

- 18.4 per cent of persons were aged 0 to 14 years, 12.6 per cent were aged 15 to 24 years, 29.6 per cent were aged 25-44 years, 27.8 per cent were between 45 and 64 years, and 11.5 per cent were 65 years and over
- The median age was 38 years
- There was a higher proportion of both males and females in the working age group (more specifically 25-64 age cohort) when compared to the Queensland state average. This could be due to the labour intensive tourism industry
- The popularity of the WRC LGA as a retirement destination is reflected in the age profile with a high proportion of males and females aged 45 and over (39.3 per cent) of the population when compared to the Queensland. This is also reflected in the family composition of the region with 'couple family with no children' the dominant family type in the WRC LGA (refer to Section 4.2.6).

As seen in Table 4-2 and Table 4-3 the age and gender profile for Bowen and Collinsville also shows a high proportion of working age groups with 25.4 and 26.4 per cent respectively in the age group of 25-44 years and 28.3 per cent in each urban locality in the age group of 45-64 years. The a median age for Bowen was noted to be slightly higher than the overall LGA at 39.4 years, while the median age for Collinsville was 38.8 years.

Figure 4-2 Population by age group and sex – WRC LGA and Queensland, June 2011r



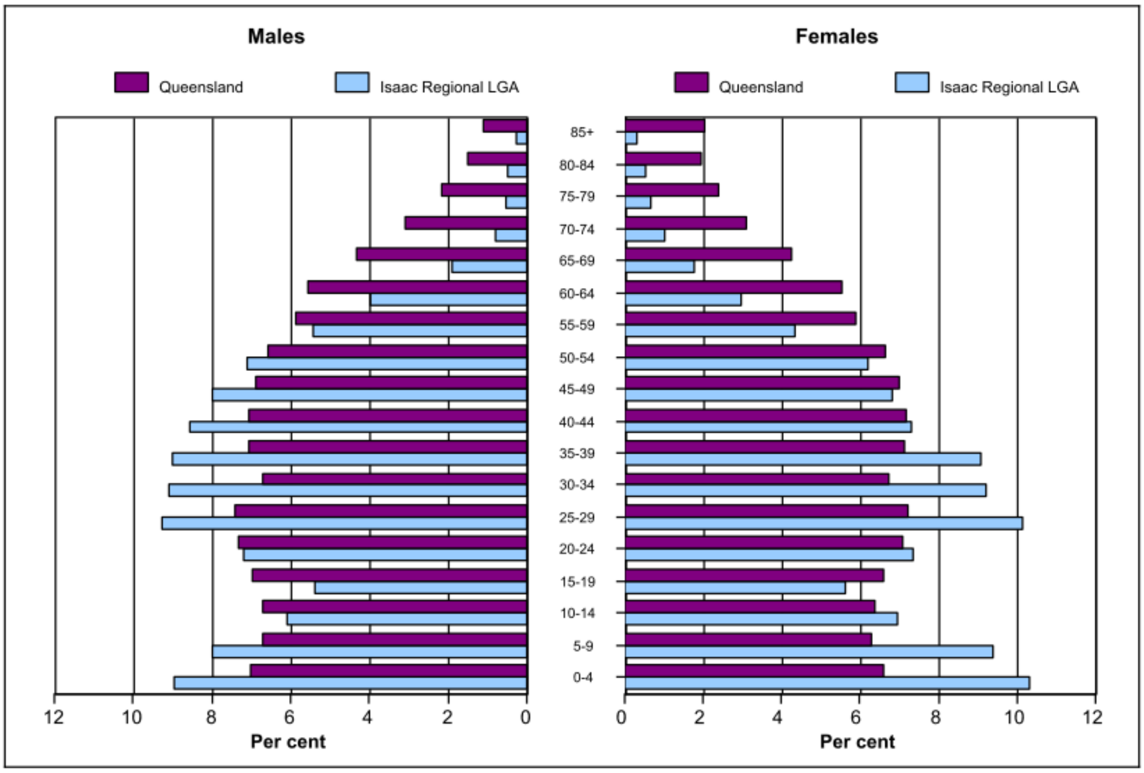
r = rebased
Source: OESR 2013h data from ABS Census 2011

As at June 2011 (OESR 2013g), the IRC LGA's age profile was characterised by the following features (refer to Figure 4-3):

- 24.6 per cent of persons were aged 0 to 14 years, 12.7 per cent were aged 15 to 24 years, 35.9 per cent were aged 25-44 years, 22.6 per cent were between 45 and 64 years, and 4.1 per cent were 65 years and over
- The median age was 31 years
- There was a higher proportion of both males and females in the working age group (more specifically 25-64 age cohort) when compared to the Queensland state average. This could be due to the mining industry.

As stated in Table 4-5 the age and gender profile for Moranbah shows a higher proportions of working age population at 38.4 per cent in the age group of 25-44 years, with a younger median age at 29.7 years as compared to the rest of the LGA.

Figure 4-3 Population by age group and sex – IRC LGA and Queensland, June 2011r



r = rebased
Source: OESR 2013g data from ABS Census 2011

4.2.6 Family composition and household structure

The family composition and household structure helps to understand the social fabric of the community.

According to the Census 2011 data, 'couple family with no children' was the dominant family type in WRC LGA with 46.4 per cent of the total 7,720 families, followed by 'couple family with children' with 38.8 per cent (refer Table 4-14). The proportion of 'one-parent family' was lowest with 13.7 per cent. The dominant family type in IRC LGA was 'couple family with children' which accounted for 38.8 per cent of the total 5,258 families. This was followed by 'couple family with no children' with 35.1 per cent and 'one-parent family' with 8.4 per cent. The high proportion of 'couple family with children' reflects the largest age groups of 0-14 years and 25-44 years in IRC LGA.

Family composition data for Bowen and Collinsville communities is representative of the overall WRC LGA with 45 per cent of the families in the category of 'couple family with no children' followed by 'couple family with children' 38.1 per cent in Bowen and 42.2 per cent in Collinsville and a smaller per cent of single parent families in each of the communities (15 per cent in Bowen and 11.1 per cent in Collinsville). Also refer to Tables Table 4-2 and Table 4-3 for detailed data for Bowen and Collinsville SA2.

Table 4-14 Family Composition in regional study area 2011

LGA	Couple family with no children (a)		Couple family with children (a)		One-parent family		Total (b)
	No.	%	No.	%	No.	%	No.
WRC	3,582	46.4	2,992	38.8	1,059	13.7	7,720
IRC	1,844	35.1	2,933	55.8	442	8.4	5,258
Queensland	453,102	39.5	491,200	42.8	184,547	16.1	1,148,179

(a) children are identified as children aged under 15 years or dependent students aged 15 to 24 years
(b) includes same-sex couples and other families
Source: OESR 2013g and OESR 2013h data from ABS Census 2011

As stated in the table above, the dominant family type in IRC LGA was ‘couple family with children’ which accounted for 38.8 per cent of the total 5,258 families. This was followed by ‘couple family with no children’ with 35.1 per cent and ‘one-parent family’ with 8.4 per cent. The high proportion of ‘couple family with children’ reflects the largest age groups of 0-14 years and 25-44 years in IRC LGA.

As stated in Table 4-5 in 2011, there were a total of 2,122 families in Moranbah of which there were 61 per cent ‘couple family with children’, 29.5 per cent ‘couple family with no children’, and 9.1 per cent ‘one-parent families’.

4.2.7 Indigenous population

Population

At the time of the 2011 census, 4.2 per cent of the WRC LGA population identified themselves as being of Aboriginal and/or Torres Strait Islander (Indigenous) origin or both, compared with 2.7 per cent in IRC LGA (Table 4-15). The WRC LGA had a higher proportion of Indigenous population when compared to Queensland.

In the WRC LGA 51.1 per cent of the Indigenous population were male and 48.9 per cent were female (ABS 2011b), compared to 52.3 per cent male and 47.7 per cent female in IRC LGA (ABS 2011a). Both IRC LGA and WRC LGA were found to have a higher percentage of males to females when compared to Queensland (49.3 per cent male and 50.7 per cent female) (ABS 2011a). The median age for the Indigenous population in IRC and WRC LGAs was 25 years and 22 years respectively, which was higher than the median age of 20 years for the State’s indigenous population (ABS 2011a, ABS 2011b). However, the median ages of the indigenous population was significantly lower than the LGAs median ages for the total population of 31 years for IRC LGA and 38 years for WRC LGA (ABS 2011a, ABS 2011b).

Table 4-15 Indigenous population in the regional study area 2011

LGA	Aboriginal	Torres Strait Islander	Both*	Total Indigenous	Indigenous proportion (%)
WRC	1,068	125	140	1,333	4.2
IRC	492	58	54	604	2.7
Queensland	122,896	20,094	12,834	155,824	3.6

**persons who are both Aboriginal and Torres Strait Islander origin*
Source: OESR 2013g and OESR 2013h data from ABS Census 2011

The total Indigenous population in the key urban localities in the regional study area were noted to be as follows at Census 2011 (also refer to Table 4-2, Table 4-3, and Table 4-5):

- Bowen - Indigenous population of 654 persons at 7.4 per cent of the total population
- Collinsville - Indigenous population of 210 persons at 5.2 per cent of the population
- Moranbah - Indigenous population of 234 persons at 2.6 per cent of the population.

Unemployment

Of the Indigenous persons in Bowen within the working age population 15 to 64 years, 38.9 per cent were engaged in full-time employment, compared to 42.6 per cent in Collinsville, and 54.8 per cent in Moranbah (OESR 2013e). The unemployment rate for Indigenous persons was 11.7 per cent in Bowen and 31 unemployed persons, 8.1 per cent in Collinsville including seven unemployed persons, and six persons totalling 5.0 per cent in Moranbah (OESR 2013e). The majority of unemployed persons in all areas were recorded in the 15-24 year age group.

Labour force by industry and occupation

OESR Indigenous Regional Profiles (OESR 2013e) contained data of industry and occupation of employment for the three SA2s within the regional study area (refer to Table 4-22).

Health care and social assistance (13.6 per cent) was the largest industry of employment in Bowen. Mining was the sixth largest industry accounting for 7.0 per cent of employment. The largest industry of Indigenous employment in Collinsville was agriculture, forestry and fishing with 28.4 per cent, followed by mining with 11.1 per cent. Mining significantly exceeded all other industries to be the largest industry of employment in Moranbah with 39.2 per cent.

In 2011, 7.0 per cent of Indigenous persons in Bowen worked in the mining sector, and 7.0 per cent in the construction sector. In Collinsville, the largest numbers of Indigenous persons were employed in the agriculture, forestry and fishing industry (28.4 per cent) and the mining industry (11.1 per cent). Similarly, mining was the largest employment industry for Indigenous persons in Moranbah at 39.2 per cent. The LGA data reflected the SA2 trends with accommodation & food services (11.7 per cent) and health care & social assistance (10.4 per cent) being the largest industries of employment for Indigenous persons in WRC LGA and mining (37.9 per cent) being the largest in IRC LGA. However, the employment data for the state differed to both the LGA and SA2 trends with health care and social assistance (14.8 per cent) and public administration and safety (12.8 per cent) the largest industries of employment for Indigenous persons.

Table 4–16 Indigenous population employment by industry, 2011

Industry	WRC (%)	Bowen (%)	Collinsville (%)	IRC (%)	Moranbah (%)	QLD (%)
Agriculture, forestry & fishing	8.0	7.8	28.4	2.7	0.0	2.4
Mining	7.8	7.0	11.1	37.9	39.2	4.0
Manufacturing	5.0	6.6	0.0	2.3	0.0	6.7
Electricity, gas, water & waste services	0.0	0.0	0.0	1.0	0.0	1.0
Construction	9.3	7.0	9.9	6.0	7.5	8.4
Wholesale trade	3.0	4.1	0.0	2.7	2.5	2.3

Industry	WRC (%)	Bowen (%)	Collinsville (%)	IRC (%)	Moranbah (%)	QLD (%)
Retail trade	8.7	6.2	8.6	6.0	4.2	8.3
Accommodation & food services	11.7	8.6	7.4	9.1	8.3	6.9
Transport, postal & warehousing	7.6	8.6	11.1	6.0	0.0	4.8
Information media & telecommunications	0.9	3.3	0.0	1.0	0.0	0.8
Financial & insurance services	1.3	2.9	0.0	0.0	0.0	1.1
Rental, hiring & real estate services	1.1	0.0	0.0	3.0	12.5	0.9
Professional, scientific & technical services	1.7	2.5	0.0	2.7	0.0	2.5
Administration & support services	4.1	4.1	8.6	4.7	7.5	3.8
Public administration & safety	5.4	4.5	0.0	3.0	4.2	12.8
Education & training	5.6	7.8	0.0	3.7	2.5	8.0
Health care & social assistance	10.4	13.6	0.0	3.4	2.5	14.8
Arts & recreation services	0.9	0.0	0.0	0.0	0.0	1.6
Other services	3.5	2.9	7.4	1.3	2.5	4.7
Inadequately described / not stated	3.9	2.5	7.4	3.4	6.7	4.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: OESR 2013e data from ABS Census 2011

The correlation between the occupation of employed persons in the three areas and the main industries of employment was apparent (refer to Table 4-23).

In Bowen, 23.1 per cent of Indigenous persons were employed as labourers, 19.8 per cent were employed in community and personal service, and 14.5 per cent as technicians and trades workers. These percentages reflected the largest industries of employment for both Indigenous males and females in Bowen. The main occupation in Collinsville was labourers with 25.6 per cent of employed persons which reflected the main industries of employment of agriculture, forestry and fishing and mining. The largest occupation groups within WRC LGA generally reflected the occupation groups in Bowen and Collinsville with 24.6 per cent of Indigenous persons employed as labourers, 14.8 per cent as community and personal service, and 14.3 per cent as technicians and trades workers.

The main industry of employment in Moranbah was mining and this was reflected in the largest occupation groups which were machinery operators and drivers (31.6 per cent) and labourers (21.4 per cent). The trends within IRC LGA reflected those experienced in Moranbah, with machinery operators and drivers being the largest occupation group (31.3 per cent) followed by labourers (20.9 per cent).

The trends for the LGAs and SA2 were also reflected in the Indigenous occupation profile for the state with labourers (20.2 per cent) and community and personal service (15.5 per cent) the largest occupation groups for Indigenous persons.

Table 4–17 Indigenous population employment by occupation, 2011

Occupation	WRC (%)	Bowen (%)	Collinsville (%)	IRC (%)	Moranbah (%)	QLD (%)
Managers	4.6	3.3	9.8	2.7	0.0	5.6
Professionals	6.3	5.0	3.7	4.4	3.4	11.4
Technicians & trades	14.3	14.5	19.5	17.5	19.7	13.1
Community & personal service	14.8	19.8	4.9	6.7	8.5	15.5
Clerical & administrative	9.3	11.6	3.7	8.4	12.0	13.0
Sales	10.7	10.7	11.0	5.4	3.4	7.5
Machinery operators & drivers	12.4	9.9	15.9	31.3	31.6	10.1
Labourers	24.6	23.1	25.6	20.9	21.4	20.2
Inadequately described / not stated	3.0	2.1	6.1	2.7	0.0	3.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: OESR 2013e data from ABS Census 2011

Income

The Indigenous Regional Profiles (OESR 2013e) presented income data for WRC and IRC LGAs and Bowen, Collinsville and Moranbah. As per Table 4–18, of the Indigenous persons aged 15 years and over in WRC LGA, 15.9 per cent had a weekly personal income of $400-$599. In IRC LGA the largest income bracket was $1,000 or more with 43.6 per cent of Indigenous persons including 130 males and 43 females falling into this bracket (OESR 2013e). In WRC LGA the largest income bracket for males was $1,000 or more which accounted for 104 Indigenous males, while 85 females were recorded in the $400-$599 income bracket (OESR 2013e).

Of the Indigenous population of Bowen aged 15 years and over, 16 per cent had a weekly personal income of $400-$599 and 16 per cent also had an income of $1,000 or more. The largest income bracket for males was $1,000 or more which accounted for 59 Indigenous males, while 43 females recorded weekly personal incomes of $600-$799 (OESR 2013e). Similarly, in Collinsville 16.2 per cent of Indigenous persons had a weekly income of $400-$599. The largest income brackets in Collinsville, were $1,000 or more for Indigenous males (16 persons), and $400-$599 for Indigenous females (13 persons) (OESR 2013e). In Moranbah, as a total, and for both male and female Indigenous persons, the largest income bracket was weekly incomes of $1,000 or more. This bracket accounted for 47 per cent of the Indigenous population and included 58 males and 12 females (OESR 2013e).

The weekly personal income for Indigenous persons across the state differed significantly from the LGA and SA2 trends, with 16.4 per cent of the Indigenous population within the $200-299 income bracket. This indicates that the Indigenous persons living in the regional study area earn a higher income compared to those living in other areas of Queensland.

Table 4–18 Indigenous population total personal income (weekly), 2011

Income	WRC	Bowen	Collinsville	IRC	Moranbah	QLD
Negative/ nil income	7.3	6.0	14.7	11.1	11.4	9.1
$1-$199	10.4	11.7	7.4	7.1	6.7	9.7
$200-$299	12.8	14.8	11.0	4.8	2.7	16.4
$300-$399	11.4	10.5	9.6	5.3	6.0	12.0
$400-$599	15.9	16.0	16.2	6.8	6.7	13.1
$600-$799	13.2	14.8	11.0	8.8	9.4	10.6
$800-$999	7.8	6.4	11.0	6.3	7.4	6.6
$1,000 or more	15.3	16.0	14.0	43.6	47.0	13.3
Individual income not stated	5.8	4.0	5.1	6.3	2.7	9.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: OESR 2013e data from ABS Census 2011

Traditionally Indigenous people have a unique connection to their ancestral country that must be maintained for the ongoing survival of Indigenous culture (Queensland Government 2012). This is further reiterated in the Whitsunday Regional Council Community Plan (2011a), which seeks opportunities to promote Indigenous cultures and advocates continuing support, engagement and facilitation of opportunities for Indigenous peoples. The MIWRP (2012) identifies the need for continued consultation with traditional owners and members of the Indigenous community, to provide avenues for their interest to be recognised in development and planning including the identification and preservation of cultural heritage sites and landscapes. Refer to Volume 2 Appendix L Cultural heritage for a description of the indigenous cultural heritage values related to the NGBR Project.

4.2.8 Cultural and ethnic composition

Table 4-19 shows the population in the WRC and IRC LGAs in 2011 from English Speaking Background (ESB) and Non-English Speaking Background (NESB). In the WRC LGA 4,438 persons or 14.1 per cent of persons were born overseas compared with 2,232 or 9.9 per cent in IRC LGA. Both LGAs are lower that the state which recorded 20.5 per cent as the total born overseas. These proportions are likely to change as the population in the region grows. As identified in the MIWRP (2012), important considerations for the growth of the region are capitalising on the unique characteristics of different parts of the region and its diverse communities, and fostering a greater appreciation and incorporation of the needs and values of all cultures.

An understanding of the cultural diversity in the population is necessary from the point of view of understanding community cohesion issues and any need for special support services for people from different backgrounds.

Table 4-19 Country of birth of population in regional study area 2011

LGA	Born in Australia		Born in ESB Countries*		Born in NESB Countries**		Total born overseas		Total persons***
	No.	%	No.	%	No.	%	No.	%	No.
WRC	23,467	74.7	2,770	8.8	1,668	5.3	4,438	14.1	31,425
IRC	18,060	80.0	1,416	6.3	816	3.6	2,232	9.9	22,588
Queensland	3,192,115	73.7	478,290	11.0	410,346	9.5	888,636	20.5	4,332,738

**ESB – English Speaking Background, including the United Kingdom, Ireland, Canada, United States of America, South Africa and New Zealand.*
***NESB – Non English Speaking Background*
****Also includes inadequately described, at sea, no elsewhere classified and no stated response*
Source: OESR 2013g and OESR 2013h data from ABS Census 2011

4.3 Education and training

This section describes the educational status of the population, and the enrolment and capacity of existing educational facilities.

Tertiary education status

In 2011, a total of 13,659 persons in the WRC LGA were recorded as aged 15 years and over with a qualification, or 53.5 per cent of the population in this age group (refer Table 4-20). This was consistent with the 54.9 per cent recorded for IRC LGA and 54.2 per cent proportion recorded for Queensland. Certificate level qualifications account for the majority of the total qualifications for the WRC and IRC LGAs. This could suggest that certificate level qualifications are more suitable for the employment opportunities available. This educational profile also correlates with the employment related data presented in Section 4.4, which illustrates that the main industries for employment in both LGAs are mining accommodation and food services, retail trade, construction, and agriculture, forestry and fishing and the main occupations are machinery operators and drivers, technicians and trades workers and labourers.

Table 4-20 Post school qualification by level of education in the regional study area 2011

LGA	Level of education			Persons with a qualification		Total
	Bachelor degree or higher	Advanced diploma or higher	Certificate	No.	%	No.
WRC	1,975	1,580	5,967	13,659	53.5	25,538
IRC	1,734	802	4,246	9,269	54.9	16,877
Queensland	548,894	260,778	686,993	1,875,323	54.2	3,456,875

Source: OESR 2013g and OESR 2013h data from ABS Census 2011

Table 4-21 shows the highest level of secondary schooling completed in the WRC and IRC LGAs based on Census 2011. Both LGAs recorded a lower percentage of persons that completed year 12 or equivalent compared with the state which corresponds with the high number of certificate level post school qualifications. For the categories of year 10 and Year 11 or equivalent, both WRC and IRC LGAs had higher percentages than the state.

Table 4-21 Highest level of Secondary schooling completed in the regional study area 2011

Grade	WRC LGA		IRC LGA		Queensland
	No.	%	No.	%	%
Year 8 or below	1,668	6.5	707	4.2	5.9
Year 9 or equivalent	1,549	6.1	897	5.3	5.3
Year 10 or equivalent	7,356	28.8	4,602	27.3	24.9
Year 11 or equivalent	2,391	9.4	1,556	9.2	8.3
Year 12 or equivalent	8,956	35.1	6,891	40.8	46.6
Did not go to school	109	0.4	35	0.2	0.4
Not stated	3,513	13.8	2,185	12.9	8.6
Total persons aged 15+	25,542	100.0	16,873	100.0	100.0

Source: Whitsunday Regional Council 2013b; Isaac Regional Council 2013b

Vocational education and training (VET) student enrolments

Table 4-22 shows the number of Vocational Education and Training (VET) student enrolments in the study area in 2011. The WRC LGA had a total of 2,882 vocational educational and training (VET) students, including. IRC LGA recorded more commencing students than continuing, contributing to a total of 1,431 VET students.

Table 4-22 VET student enrolments in the regional study area 2011

LGA	Commencing	Continuing	Total
WRC	1,715	1,159	2,882
IRC	676	728	1,431
Queensland	203,580	100,454	304,800

Source: OESR 2013g and OESR 2013h data from ABS Census 2011

Given the predicted growth in the mining sector, there could be a skills shortage for the industry; both nationally and within the region. However, consultation with Barrier Reef Institute of TAFE and Bowen Employment Services and Training (B.E.S.T) (NGBR Project consultation June 2013), indicated that they have capacity to grow to support the predicted growth in the industry.

In IRC LGA, the Coalfields Excellence Training Centre, in the grounds of the Moranbah State School, aims to address this issue by enabling students in and around Moranbah to obtain vocational trade training locally, in turn increasing the availability of appropriately skilled workers for the industry. Central Queensland TAFE delivers courses and programs from Moranbah.

The training packages have been designed in consultation with industry to equip students with a working knowledge of risk assessment, hazard management, and communication and work procedures to enable them to contribute safely to the general operations of an organisation as soon as they arrive on site.

There are also a number of employment services within WRC LGA; services in Collinsville include STEPS Employment (for people with disabilities).

There are a number of training and employment services active in Bowen, they include:

- Girudala, an indigenous community controlled organisation which offers a training and employment support program for Indigenous and multicultural workers
- B.E.S.T which is also a registered training organisation (RTO) for a range of courses relevant to construction and mining skills
- Neato Employment Services (an employment and training company that provides individual services to jobseekers and employers)
- Bowen Basin Services was set up by WIRI Community Ltd to protect the interests of the Indigenous Wiri people, advance their aims and ambitions, and ensure the long-term sustainability of the WIRI community – this includes training and employment services including career development
- The Barrier Reef Institute of TAFE (Bowen, Burdekin, Cannonvale, Townsville and Palm Island) - The Barrier Reef Institute of TAFE offers training courses in Bowen, Burdekin, Cannonvale, Townsville and Palm Island. All offer relevant training in skills and competencies required for employment in the mining industry. The TAFE offers training courses in various trades as well as areas such as hospitality that are relevant to the Project. The Bowen campus includes several trade and engineering courses including automotive trades, boiler making and fitting and turning, as well as human services and business courses. The Cannonvale campus offers hospitality and tourism courses. Both campuses have capacity for expansion. The TAFE also has an apprenticeship program.

Some courses at the Barrier Reef Institute of TAFE are available via open learning. However for most trade-related courses, some hands-on training is required and residents in Collinsville or in the WRC LGA may be required to travel as far as Townsville to attend classes.

Training for those working in rural industries in the region is provided by the Australian Agricultural College Corporation, which is owned and operated by the Department of Agriculture, Fisheries and Forestry. Main campuses are located in Ayr and Emerald (outside the region), with delivery sites in Bowen and Mackay (Queensland Government 2012).

According to the Queensland Government (2012), the region requires a diverse and skilled workforce for continued economic growth. Labour market skills and education and training need to be aligned with existing and future employment needs. With skill shortages apparent in most key industries in the region, opportunities exist to improve access and expand program availability at training facilities to assist in reducing the requirement to import labour (Queensland Government 2012). As stated above, consultation with Barrier Reef Institute of TAFE and Bowen Employment Services and Training (B.E.S.T) (NGBR Project consultation June 2013), revealed that they have capacity to grow to support the predicted growth in the industry through expansion of training programs and facilities.

Given the MIW region's strength in the mining, agriculture, tourism and marine sectors, the MIWRP (2012) identifies the opportunity for the development of an education and training hub in these disciplines, with the potential to export knowledge and training. Development of specialised training and education services for key industry sectors could focus the region as a centre for best practice (Queensland Government 2012).

In the WRC LGA there is opportunity to build further on the unique tourism assets and extensive hospitality infrastructure through the TAFE campuses and provision of high quality educational courses focusing on tourism and hospitality. This is a means of diversifying the existing economy into trade-based education and strengthening the skills base of the region.

4.4 Labour force, employment and unemployment

Unemployment

Unemployment data from OESR for March quarter 2013 shows that the unemployment rate in the WRC LGA, 6.5 per cent, is higher than the unemployment rate across Queensland, 5.8 per cent (refer Table 4-23). IRC LGA recorded a significantly lower unemployment rate of 1.2 per cent with only 175 unemployed persons of the total 14,166 labour force. Latest unemployment data for the key urban localities in the regional study area in not available and hence is not included in this section. For unemployment data for Bowen, Collinsville and Moranbah from Census 2011 refer to Table 4-2, Table 4-3 and Table 4-5.

Table 4-23 Labour Force and Unemployment in the WRC and IRC LGAs (March quarter 2013)

LGA	Unemployed (number)	Labour force (number)	Unemployment rate (%)
WRC	1,330	20,452	6.5
IRC	175	14,166	1.2
Queensland	145,183	2,488,585	5.8

Source: OESR 2013g and OESR 2013h

Labour force by industry and occupation

As shown in Figure 4-4, the main industries of employment in WRC LGA in 2011 were accommodation and food services providing 14.8 per cent (2,282 persons), retail trade providing 10.3 per cent 1,596 persons) and construction which accounted for 10.2 per cent (1,571 persons).of total employment. The high proportion of employment in accommodation and food services and retail trade is reflective of the large tourism industry in the area. Mining was the sixth largest industry with 1,106 persons employed in the industry, which represents 7.2 per cent of the total.

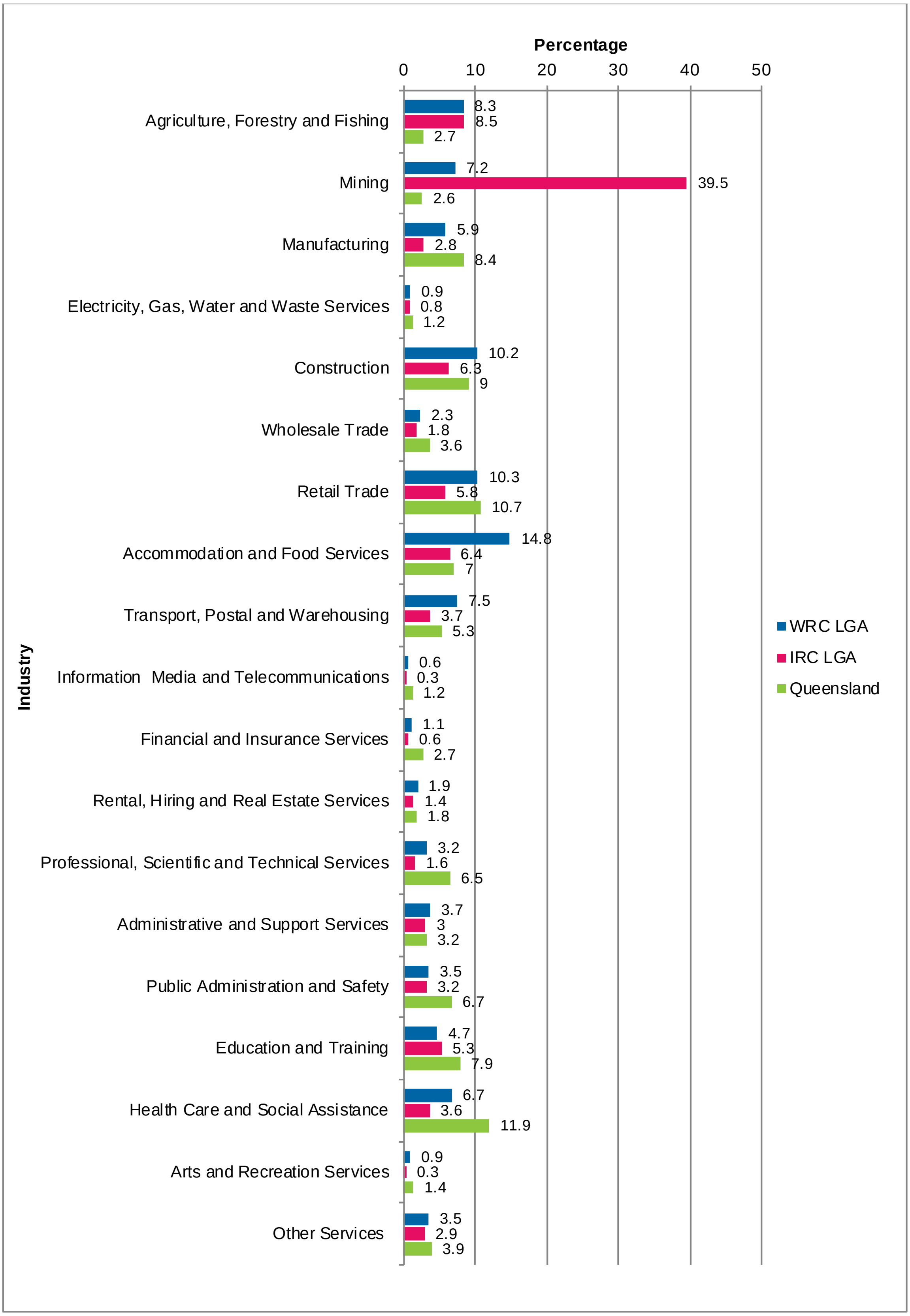
The main industry of employment in IRC LGA in 2011 was mining, which represented 39.5 per cent (4,764 persons) of all employment. The second largest industry of employment was agriculture, forestry and fishing with 8.5 per cent (1,031 persons).

Industry of employment and occupation data from Census 2011 for the key urban localities in the regional study area shows the following breakdown (also refer to Table 4-2, Table 4-3 and Table 4-5 details on the data):

- Bowen - The main industries of employment were agriculture, forestry and fishing employing 12.7 per cent, retail trade employing 10.3 per cent, and mining employing 5.4 per cent of the working population, with the dominant occupation categories being labourers (21.3 per cent) and technicians and trades workers (17.0 per cent)
- Collinsville - The main industries of employment were agriculture, forestry and fishing employing 21.9 per cent, mining employing 18.4 per cent, and construction employing 8.4 per cent of the working population. The key occupation categories were machinery operators and drivers (20.8 per cent), labourers (18.2 per cent), manager (17.0 per cent), and technicians and trades workers (16.3 per cent)

Moranbah - The main industries of employment were mining (44.2 per cent) and construction (7 per cent), with the largest occupation groups of technicians and trades workers (24.8 per cent) and machinery operators and drivers (23.1 per cent).

Figure 4-4 Proportion of employment by industry in the regional study area 2011

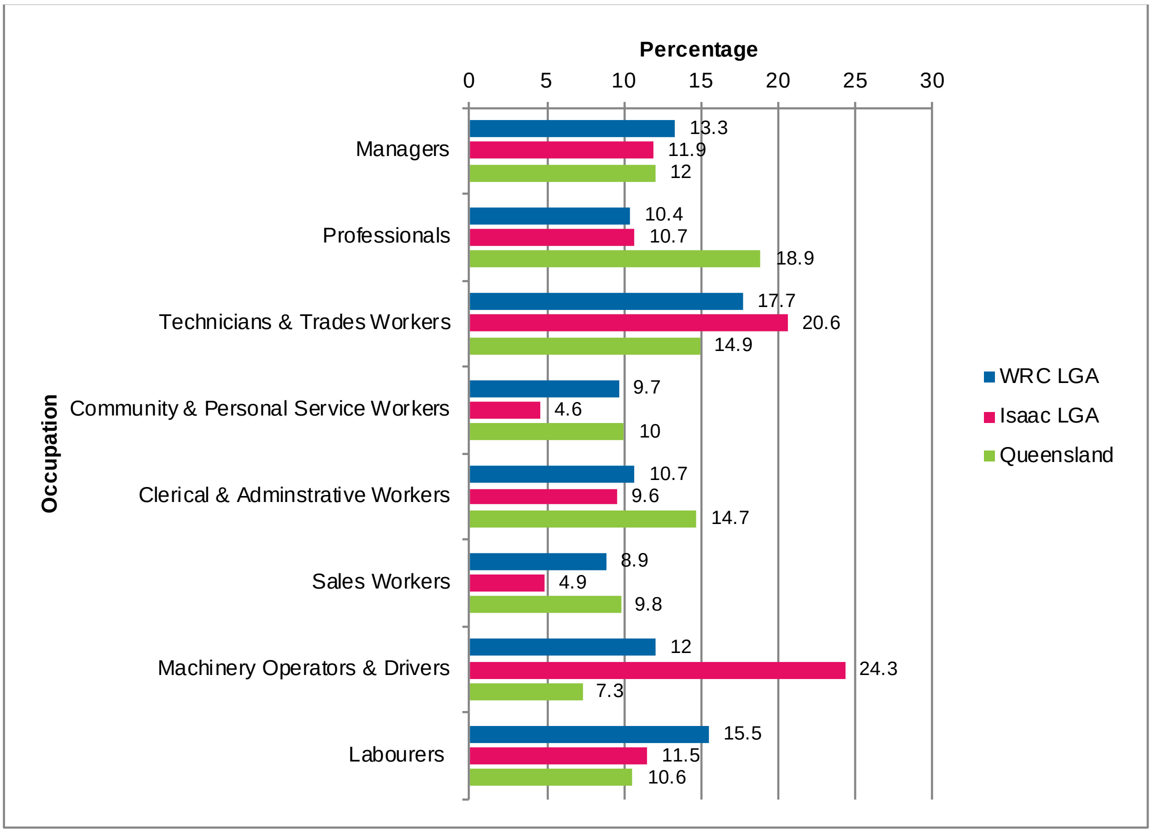


Source: OESR 2013g and OESR 2013h data from ABS Census 2011

Although accommodation and food services is the predominant industry of employment in WRC LGA, the main occupations were technicians and trades workers (17.7 per cent), labourers (15.5 per cent), managers (13.3 per cent) and machinery operators and drivers (12 per cent) (refer to Figure 4-5). The discrepancy between the industry of employment and corresponding occupations could be partly attributed to FIFO/DIDO workforce where persons are residing in WRC LGA but working as technicians or trades persons elsewhere.

The main industry of employment in IRC LGA was mining and this was reflected in the largest occupation groups which were found to be machinery operators and drivers (24.3 per cent), technicians and trades workers (20.6 per cent) and labourers (11.5 per cent).

Figure 4-5 Proportion of employment by occupation in the regional study area 2011



Source: OESR 2013g and OESR 2013h data from ABS Census 2011

Income

Table 4-24 shows the gross weekly incomes for the WRC LGA, IRC LGA and Queensland in 2011 at an individual level. The table shows that WRC LGA recorded the highest proportions of the population in the lower income brackets and reflected a similar pattern to the Queensland data. In contrast, IRC LGA had a relatively equal percentage for each income bracket with the largest percentage recorded in the $2,000 or more weekly income bracket which could be attributed to mining in the region. The median weekly household income for WRC LGA is $1,165 (Whitsunday Regional Council 2013b) compared with $2,579 for IRC LGA (Isaac Regional Council 2013b).

Table 4-24 Gross individual income (weekly) in the regional study area 2011

LGA	<$400		$400 - $999		$1,000 - $1,999		>$2,000		Total
	No.	%	No.	%	No.	%	No.	%	No.
WRC	7,355	28.8	8,922	34.9	4,355	17.0	1,400	5.4	25,537
IRC	3,882	23.0	3,153	18.7	3,580	21.2	3,895	23.1	16,878
Queensland	1,195,059	34.6	1,095,509	31.7	689,495	19.9	191,236	5.5	3,456,877

Source: OESR 2013g and OESR 2013h data fromABS Census 2011

The income profile for the key urban localities in the regional study area recorded lower income levels in Bowen and Collinsville compared to Moranbah, which is similar to the LGA profiles discussed above. Bowen and Collinsville recorded 33.5 per cent and 27.3 per cent (respectively) individuals with income of $400-$999 per week and approximately 32.5 per cent individuals in each locality with less than $400 per week.

Similar to the IRC LGA, Moranbah recorded higher income levels with 28.6 per cent of the population earning weekly income of $2,000 or more and 23.0 per cent earning $1,000-$1,999 per week. This is could be attributed to the higher salaries earned by individuals engaged in the mining sector, which is the dominant industry of employment in the LGA.

An issue relating to workforce availability and the relative low unemployment in the regional study area as identified during the NGBR Project consultations undertaken in June 2013, was that local businesses find it difficult to attract and retain staff as they cannot compete with the higher than average mining sector wages. Furthermore, local businesses struggle to put forward competitive tenders due to lack of education/skills around procurement processes. Local businesses are generally quite small in size, and while many will have the advantage of reduced costs due to proximity to the NGBR Project, some may also struggle to compete with larger business located in larger centres due to resource and workforce constraints (refer to Volume 2 Appendix B Public consultation for further details).

4.5 Housing and accommodation

The accommodation needs of people in the regional study area and those that may be attracted to the region for work, vary depending on a range of factors, including employment type, desired tenure of dwellings, household and family structure, income and accommodation preferences (SGS Economics and Planning 2010).

Housing types

Following Table 4-25 shows proportion of tenure for the WRC and IRC LGAs in 2011. The data shows that the regional study area has a higher proportion of rented properties (36.5 per cent in WRC and 60.8 per cent in IRC) when compared with the state average of 33.2 per cent. This may be an indicator of a higher proportion of transient population in the regional study area (particularly IRC), associated with the higher proportion of temporary or non-resident workforce in the region (refer to Table 4-10) resulting in people choosing to rent rather than buying a house.

Table 4-25 Dwellings by tenure type in the regional study area

LGA	Fully Owned		Being Purchased (a)		Rented (b)		Total (c)
	No.	%	No.	%	No.	%	No.
WRC	3,202	29.5	3,281	30.2	3,957	36.5	10,848
IRC	1,389	20.9	974	14.6	4,041	60.8	6,651
Queensland	448,617	29.0	533,868	34.5	513,415	33.2	1,547,303

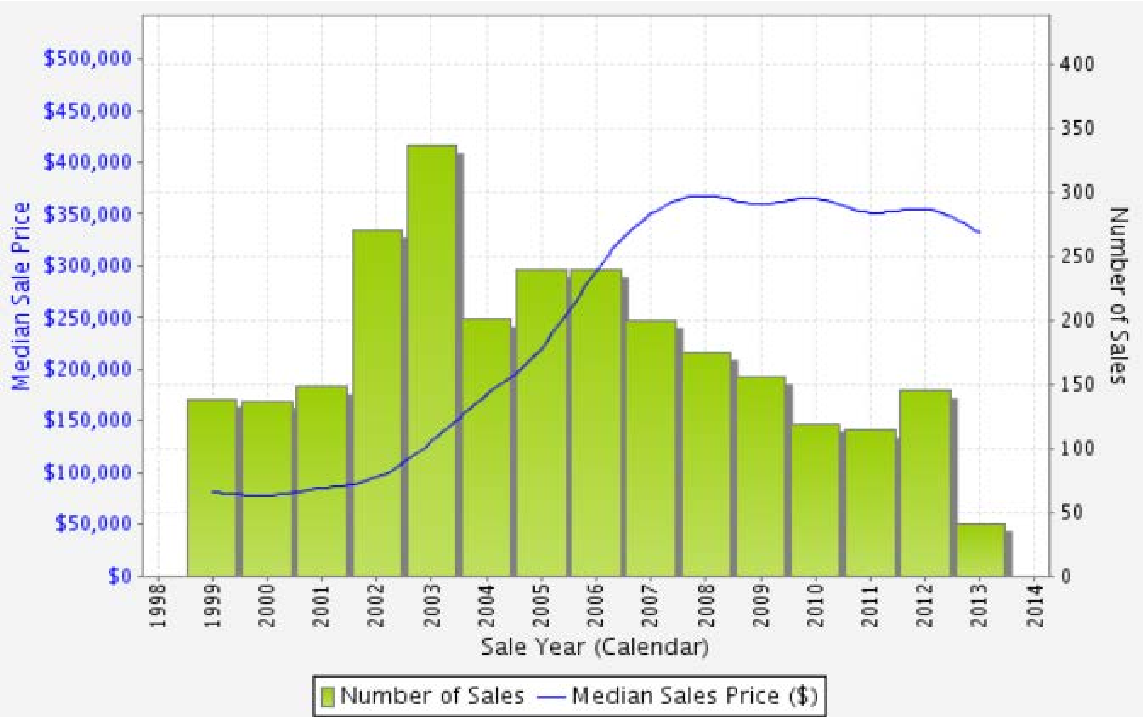
(a) includes dwellings being purchased under a rent/buy scheme
(b) includes renting from a real estate agent, state or territory housing authority, renting from a person not in the same household, renting from housing co-operative/community/church group, other landlord type and landlord type not stated
(c) includes other tenure type and tenure type not stated
Source: OESR 2013g and OESR 2013h data from ABS Census 2011

Housing and rental costs

Graphs below (Figure 4-6, Figure 4-7 and Figure 4-8) from Pricefinder (2013) present the median house prices and number of sales in Bowen, Collinsville and Moranbah from 1998 to 2013. It is acknowledged that median house prices and sales for the year 2013 are not comparable at this stage because it includes data only for the first half of the year and is therefore not analysed as part of this discussion.

Median house prices in Bowen (refer to Figure 4-6) have been relatively stable over the last six years (2007-2012) hovering close to $350,000, however the number of sales have gradually declined from 200 houses sold in 2007 to little over a hundred houses sold in 2011 rising up to 150 houses sold in 2012.

Figure 4-6 Median house sale prices in Bowen (1998 – 2013)

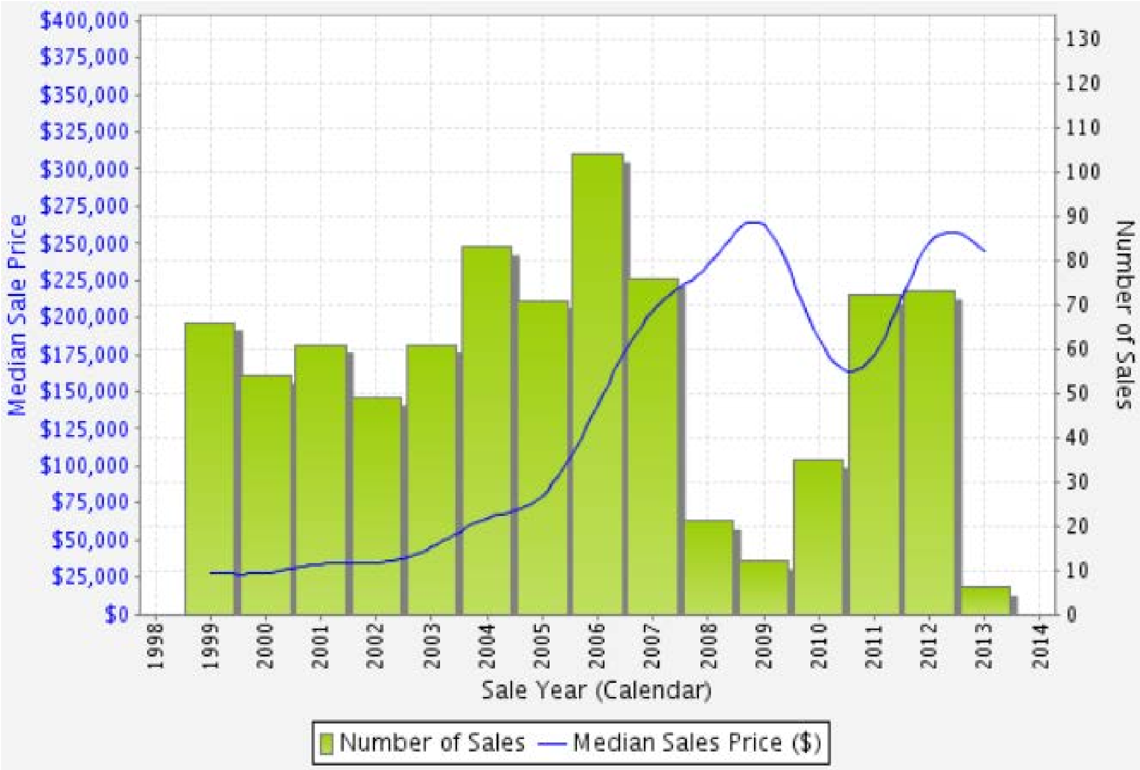


Source: Pricefinder 2013

The median house prices in Collinsville show fluctuations over the last six years (2007-2012) varying from $200,000 in 2007 to $275, 000 in 2009, sharply declining to approximately $160,000 in 2011 and then gradually rising to $230,000 in 2012. The house sales numbers have also fluctuated over the last six years, showing an inversely proportional relation with the changes in the median house prices, for example Figure 4-7 shows a sharp decline in the number of sales in 2008 and 2009 with median house prices increasing in the same period, with the sales rising in 2011 and 2012 to approximately 75 houses sold each year.

The increase in the number of sales in 2012 in Bowen and Collinsville can be potentially attributed to availability of new housing developments in the areas.

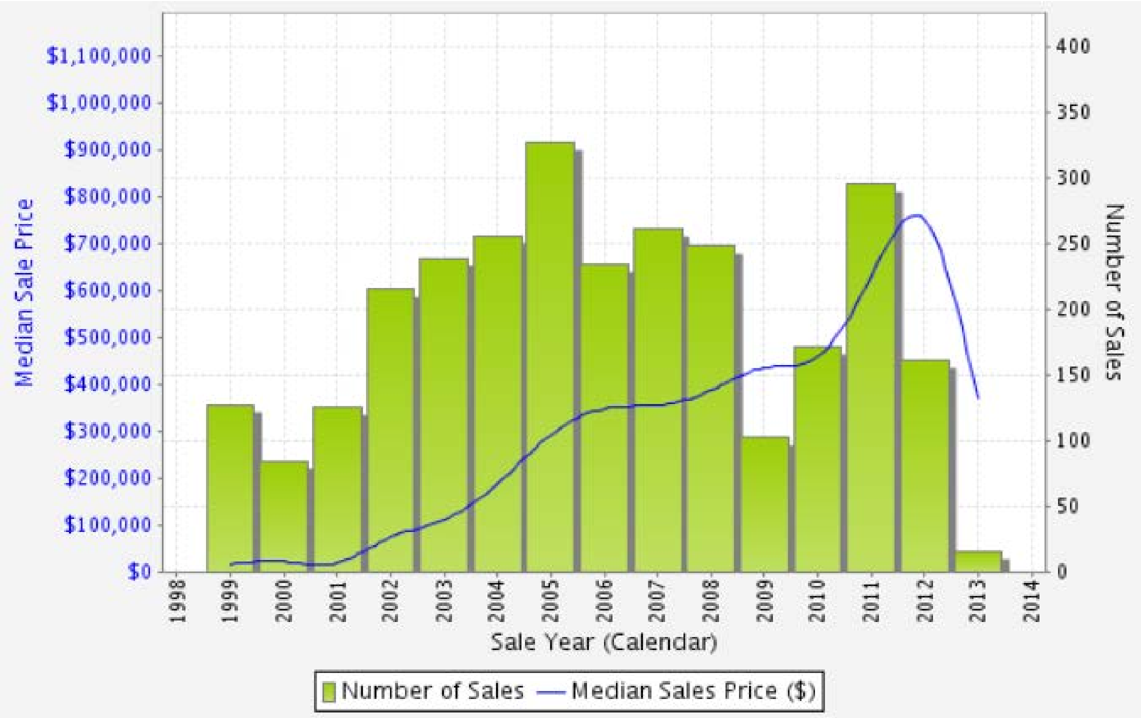
Figure 4-7 Median house sale prices in Collinsville (1998 – 2013)



Source: Pricefinder 2013

Medium housing prices in Moranbah (refer to Figure 4-8) show a steady rise from 2007 to 2010, sharply rising from 2010 from approximately $420,000 to $700,000 in 2012. House sales were around 250 properties in 2007 and 2008, declining to 100 houses in 2009. However the sales increased in 2010 and 2011 which also corresponded with increase in median prices during the same years, this could be attributed to high demand for housing from the resource projects in the area and availability of new housing developments in Moranbah. Housing sales and prices declined in 2012, which could potentially be attributed to the onset of the mining down turn in the region.

Figure 4-8 Median house sale prices in Moranbah (1998-2013)

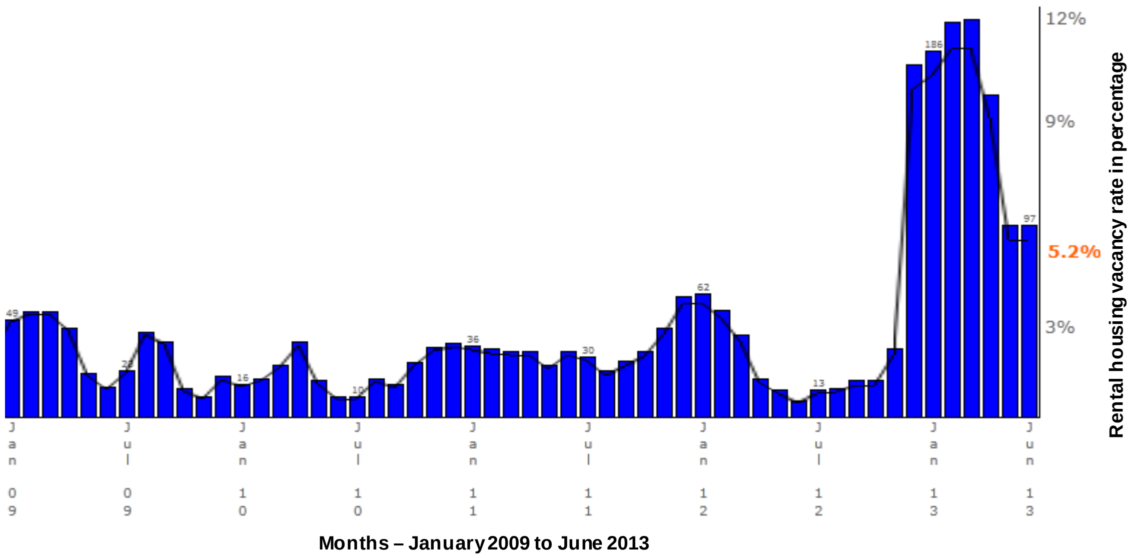


Source: Pricefinder 2013

Rental vacancy rates for Bowen, Collinsville and Moranbah between January 2009 and June 2013 are shown in Figure 4-9 to Figure 4-11. The figures show that rental vacancy rates across all localities fluctuated significantly between 2009 and 2011. However, in the last 12 - 18 months, rental vacancy rates generally increased with the exception of May 2013 and June 2013 when vacancy rates declined in both Bowen and Moranbah.

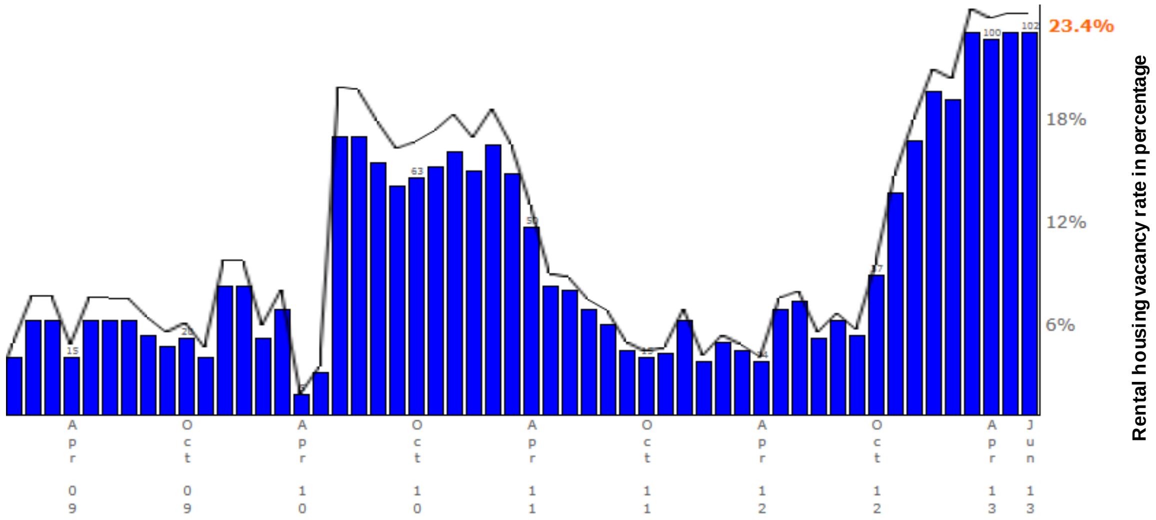
As at June 2013, Collinsville had recorded the highest vacancy rate with 23.2 per cent of properties available for rent, compared to 5.2 per cent of properties available for rent in Bowen and 5.5 per cent available for rent in Moranbah.

Figure 4-9 Rental vacancy rates for Bowen, January 2009 - June 2013



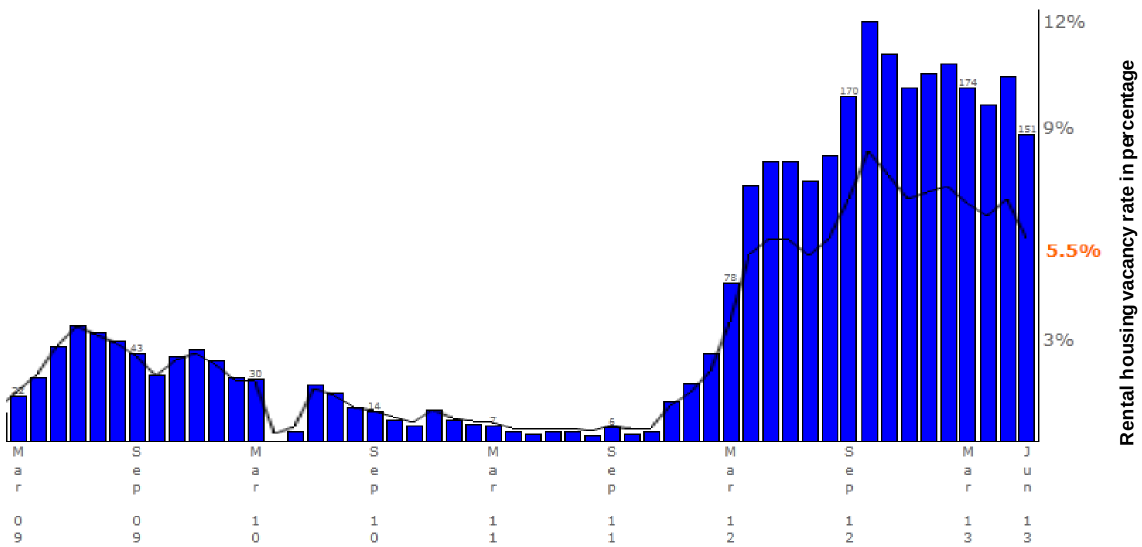
Source: SQM Research 2013

Figure 4-10 Rental vacancy rates for Collinsville, January 2009 - June 2013



Source: SQM Research 2013

Figure 4-11 Rental vacancy rates for Moranbah, March 2009 - June 2013



Source: SQM Research 2013

Recent media articles suggest that the downturn in the mining industry can most easily be seen in the fast-falling rents. Rental prices have plummeted with the onset of the downturn in coal mining in the WRC and IRC LGAs, with the Residential Tenancies Authority's comparison of rental prices in the Bowen Basin revealing a drop in every town from March 2012 to March 2013 (Daily Mercury 2013). Searches conducted from realestate.com (2013) on 1 August 2013 show that there are over 1,000 properties available for sale and over 100 properties available for rent in Bowen; over 200 properties available for sale and over 100 properties available for rent in Collinsville; and over 300 properties in total available for both sale and rent in Moranbah.

NGBR Project consultation (June 2013) with WRC, Whitsunday Marketing and Development Ltd and Mining Communities United revealed that there are currently a number of vacant rental properties available in Bowen and Collinsville due to the downturn in the mining industry which has resulted in staff cuts and/or mine closures and people having moved away to find work elsewhere and the fact that proposed large projects at the Port of Abbot Point have not yet materialised. NGBR Project consultation (June 2013) also revealed that the housing stock in Bowen in particular was old and that the house prices and rental costs were more affordable in the current times than before, however this view was contradicted by some stakeholders who felt prices were still excessively high.

Temporary accommodation

The Bowen Basin Population Report 2012 (OESR 2012a) indicates that workers accommodation facilities were the predominant type of accommodation utilised by non-resident workers across the Bowen Basin, housing 22,150 workers on-shift (or 88 per cent of the total) in June 2012 (refer Table 4-26). Hotels/motels (2,035 people, or 8 per cent) and caravan parks and other accommodation (845 people, or 3 per cent) accounted for the remainder (OESR 2012a).

As shown in Table 4-26 the WRC LGA (Bowen only) had a total of 460 non-resident workers staying in workers accommodation facilities, and a further 275 workers staying in hotels/motels in 2012. Workers accommodation facilities in IRC LGA accommodated 16,105 non-resident workers while there were 490 workers staying in hotels/motels in 2012.

Table 4-26 Non-residents workers on-shift by accommodation type, regional study area June 2012

LGA	Workers accommodation facilities	Hotels/Motels	Caravan parks/other	Total non-resident workers on shift
WRC (Bowen only)	460	275	0	735
IRC	16,105	490	535	17,125
Bowen Basin Total	22,150	2,035	845	25,035

Source: OESR 2012a

As reported in the Bowen Basin Population Report 2012 (OESR 2012a) the bed capacity in the regional study area had increased significantly from 2006 to 2012, the bed capacity in WRC LGA increased from 80 beds in 2006 to 875 in 2012, in IRC LGA it increased from 7,255 beds in 2006 to 19,515 in 2012 and overall in the Bowen Basin the bed capacity increased from 10-790 beds in 2006 to 27,565 in 2012. This increase can be attributed to the increase in the non-resident workforce in the region required to work for the mining and related projects.

Not all workers accommodation beds are occupied by non-resident workers at any given point in time, due to shift patterns and tenancy arrangements. Some workers accommodation facility operators hold rooms vacant for designated workers when off-shift, while other rooms are shared between shifts or reallocated to other occupants (often referred to as 'motelling') (OESR 2012a). As such, rooms may be vacant and not necessarily available for use by other guests. Vacant and available workers accommodation beds may be occupied by short-term visitors associated with the mining industry, and are not generally utilised by tourists or other visitors (OESR 2012a).

In June 2012, 23 per cent of workers accommodation beds in the WRC LGA and 6 per cent in IRC LGA were vacant and available for use (Table 4-27). The remaining beds were occupied by non-resident workers, occupied by short-term guests, held vacant under permanent booking arrangements, or otherwise unavailable.

Table 4-27 Vacant and available workers accommodation facility beds, regional study area June 2012

LGA	Occupied by non-resident workers	Vacant and available	Balance	Total beds in workers accommodation facilities	Vacant and available beds
WRC (Bowen only)	460	200	215	875	23
IRC	16,105	1,145	2,260	19,515	6
Bowen Basin total	22,150	1,890	3,525	27,565	7

Source: OESR (2012)

Housing challenges and opportunities

From a review of other social impact assessment's as listed in Section 2.2 and NGBR Project consultation (June, 2013) it can be inferred that in the years leading up to 2012, the regional study area particularly the communities of Moranbah and Collinsville have experienced issues related to housing availability. However, as discussed earlier in this section the recent down turn in mining activities and a halt on Port of Abbot Point developments has resulted in a reduction in the non-resident workers and a number of people leaving the area in search of employment opportunities elsewhere. This has increased housing availability both of rental and purchase in Bowen, Collinsville and Moranbah.

Future growth opportunities exist for Bowen, Collinsville and Moranbah, which may include intensification of development in parts of Bowen may be accommodated, and land to the east of Collinsville (west of Pelican Creek) will be further investigated to determine capacity to accommodate residential development (Queensland Government 2012). The NGBR Project consultation (June 2013) with WRC further confirmed the availability of land for both housing and industrial development in Collinsville, and opportunities for further housing development in Bowen.

4.6 Social infrastructure

4.6.1 Overview

Social infrastructure is defined as community facilities, services and networks which help individuals, families, groups and communities meet their social needs, maximise their potential for development, and enhance community wellbeing (Queensland Government 2007). These include:

- Universal facilities and services such as education, training, health, open space, recreation and sport, safety and emergency services, religious, arts and cultural facilities, and community meeting places
- Lifecycle-targeted facilities and services, such as those for children, young people and older people
- Targeted facilities and services for groups with special needs, such as families, people with a disability and Indigenous and culturally diverse people.

Social infrastructure is essential for community wellbeing and plays an important role in bringing people together, developing social capital[3], maintaining and improving quality of life, and developing the skills and resilience essential to strong communities. The provision of social infrastructure is based on the size of the geographical area and Census count of resident population in the area (Queensland Government, 2007).

This section provides a snapshot of the social infrastructure available in the WRC and IRC LGAs.

4.6.2 Existing social infrastructure

There is a range of social infrastructure provided in the WRC and IRC LGAs. Major facilities and services available in these locations were identified from Council plans, reports and websites and are presented in Table 4-28 for the WRC and IRC LGAs.

Table 4-28 Social Infrastructure in regional study area

Social infrastructure	WRC LGA	IRC LGA
Education facilities	• 23 early childhood education and care services comprising 2 family day care, 5 kindergartens, 9 long day care, 6 school aged care, 1 limited hours care (OESR 2013h) • 17 schools in the WRC area (OESR 2013h) • Barrier Reef Institute of TAFE campuses in Bowen and Cannonvale.	• 19 schools (OESR 2013g) • 10 early childhood education and care services (6 long day care services, 3 kindergarten services, 1 limited hours care service) (OESR 2013g) • Central Queensland TAFE- Moranbah (Queensland Government 2012) • Coalfields Excellence Training Centre- Moranbah (Queensland Government 2012).
Community, cultural and recreational facilities	• Whitsunday Regional Libraries 4 branches- Cannonvale, Bowen, Collinsville, Proserpine • Well established sport, recreation and park facilities in key population centres (includes parks, Whitsunday Botanic Gardens, beaches, lagoons, skate parks, playgrounds, outdoor gym equipment, several boat ramps, several walking tracks, Whitsunday Police and Citizens Youth Club	• Libraries (Carmila, Clermont, Dysart, Glenden, Middlemount, Moranbah, Nebo, St Lawrence) • Well established sport, recreation and park facilities in key population centres (e.g. parks, skate parks, sportsgrounds, recreation centres, court facilities, BMX track, exercise equipment) • Swimming pools and aquatic facilities (Clermont swimming pool, Dysart swimming pool, Flaggy Rock pool, Glenden

[3] Social capital refers to the institutions, relationships, and norms that shape the quality and quantity of a society's social interactions (World Bank, 2011).

Social infrastructure	WRC LGA	IRC LGA
	(PCYC), Bowen PCYC, Proserpine Entertainment Centre, Proserpine Youth Space, museum) • Proserpine- regional-level social and recreational services catering for Cannonvale and Airlie Beach. Services include a hospital, aged care, expanding education facilities, a large cultural centre and recreation facilities, e.g. motor sport track, equestrian facilities, a swimming pool and sports ovals • Swimming pools (Bowen, Proserpine, Collinsville, Cannonvale State School) and Bowen Water Park Playground • Community halls and centres in most towns • Great Barrier Reef Marine Park and 74 Islands, various national parks and state forests.	swimming pool, Middlemount swimming pool, Greg Cruickshank Aquatic Centre, Nebo swimming pool, St Lawrence swimming pool) • Community halls and centres in most towns.
Health and wellbeing facilities	• 3 hospitals in the Whitsunday area (OESR 2013h). Proserpine has the main public hospital in the subregion and provides a range of medical and allied health services to Airlie Beach, Cannonvale, and surrounding rural areas. Bowen's hospital is predominately focused on allied health services • Collinsville hospital and multipurpose health facility caters for aged care and primary health care needs, regional health services and private practice clinics	• 3 hospitals (Clermont, Moranbah, Dysart) (OESR 2013g) • 3 aged care services with a total of 71 operational places (28 community care, 43 residential aged care) (OESR 2013g).

Social infrastructure	WRC LGA	IRC LGA
	• 12 aged care service providers total of 260 places (57 community care, 203 residential care) (OESR 2013h).	
Other major facilities and services	• Government agencies • Local, district and town centre shopping • Emergency services – 5 ambulance stations, 4 police stations and 4 fire stations in the Whitsunday area (OESR 2013h) • Aviation facilities- Whitsunday Coast Airport, Bowen Aerodrome, Collinsville Aerodrome, Hamilton Island Airport, and two smaller airports for light aircraft one at Shute Harbour the other on Lindeman Island • Port facilities- Shute Harbour Transit Facility, Port of Abbot Point, Port of Airlie • Public transport services • Marinas- ferry services • Harbours.	• Government agencies • Local, district and town centre shopping • Emergency services - 8 police stations, 15 ambulance stations and 5 fire stations (OESR 2013g) • Aviation facilities – Clermont Aerodrome • Public transport services.

Source: Whitsunday Regional Council 2013a, Isaac Regional Council 2013a

WRC LGA is a principle centre in the MIW region and has a full range of community infrastructure and services

The future provision of social infrastructure will be focussed in the Bowen area with a mix of higher-order community centres, aged care facilities, community health services, libraries, fire and rescue and state emergency services, housing support and youth services planned for development (Queensland Government 2012).

Consultation with health service providers for the NGBR Project (June 2013) indicated that health services in the region are well within capacity to meet the demands of an additional project of this scale. However, some shortfalls and challenges were identified, including:

- Inadequate capacity or resources to cater for emergencies in Bowen, Collinsville and Moranbah, and in most cases emergencies cases are required to be air lifted to Mackay or Townsville
- Shortage in nursing staff, particularly when a nurse is required to escort a patient while transferring to Townsville or Mackay, this leaves the hospital short of staff

- Shortage in local GP services, particularly in Bowen where currently there are eight GPs who are not accepting new patients as they are at capacity
- Shortage of mental health services in Bowen
- Overall challenges in attracting skilled health staff such as doctors and nurses in regional areas (refer to Volume 2 Appendix B Public consultation for further details).

According to the WRC (2013a), demand on social infrastructure is high due to the portion of the population, non-resident/transient, which is unaccounted for in Census data. Collaboration with stakeholders regarding the provision of new or upgraded existing infrastructure will assist in identifying and responding to social infrastructure needs of communities as they arise.

Changing community demographics associated with the transient nature of a large proportion of the region's population remains an important aspect of social infrastructure provision, particularly in rural communities.

In addition to "hard" infrastructure, provision needs to be made for the social and community infrastructure to support population increase arising from major projects and industrial expansion. These facilities and services could be provided at a basic level to provide essential infrastructure or may be provided at a higher level to make the study area an attractive place to live and invest (SGS Economics and Planning 2010).

In particular, consultation with WRC(NGBR Project consultation June 2013) identified a shortage of cultural facilities which was perceived to detract from the liveability of the region.

The MIWRP identifies the need for a broader range of social infrastructure including health and community services, in the IRC LGA to serve the growing population and to assist in attracting new permanent residents in resource communities (Queensland Government 2012). Some social infrastructure is at capacity with further investment, particularly in health, police, and fire and rescue services, required to support population growth.

Consultation (June 2013) undertaken with these service providers revealed that:

- There is a need for additional Queensland Police Service (QPS) resources in the region to undertake traffic management and administration. However, resourcing additional staff is a challenge as the non-resident workforce is not recognised as part of the total permanent population
- There are shortfalls in the capacity of the Queensland Fire and Rescue Services (QFRS) to respond to fires as they function on a volunteer basis and therefore are not required to respond to fire incidences. Furthermore, they are ill-equipped to respond to emergencies as they are not trained for rescue operations (refer to Volume 2 Appendix B Public consultation).

As experienced in the WRC LGA, the non-resident workforce places significant pressure and demand on existing services and infrastructure in IRC LGA. For example, consultation found that both Bowen (WRC LGA) and Moranbah (IRC LGA) hospitals have experienced an increase in emergency cases which are often General Practice type cases. This affects the hospitals ability to cater to real emergencies. It was noted that, certain hospital emergencies are created because the predominantly single male workers residing at camps often neglect their health by ignoring early signs of illness and have to be brought into the hospital once the illness has advanced (NGBR Project consultation June 2013).

It was noted in the MIWRP that the provision of community services must include planning and associated investment in infrastructure and operational capacity to meet the needs and demand of the non-resident population in mining communities as well as the existing population (Queensland Government 2012).

4.6.3 Adequacy review of social infrastructure provision in the WRC and IRC LGAs

Based on the information stated in Table 4-28 and a review of the Whitsunday Regional Council Community Plan (Whitsunday Regional Council 2011a) and the MIWRP (Queensland Government 2012) the following priority areas of inadequacies in social infrastructure were identified in WRC LGA:

- Unmet demand for health and medical centres and services, childcare and kindergartens, and affordable housing[4] (particularly in mining communities)
- Inadequate lifestyle opportunities and family orientated services and facilities to attract and keep young families in the area such as affordable housing, childcare centres, child/ young person friendly public domains, and cultural facilities
- Limited education and training programs to up-skill local people for employment in emerging industries facilities
- Need for targeted facilities and services catering for a range of non-resident populations (associated with mining, industrial and infrastructure development activities, seasonal workers, and tourists)
- Targeted facilities and services for special interest groups (youth, Indigenous people)
- Need for social facilities and community services such as community centres, aged care facilities, community health services, libraries, fire and rescue and state emergency service, housing support and youth services to cater for future growth in the WRC LGA.

Based on the information stated in Table 4-29 and a review of the IRC Region 2020 Vision 2009-2020 Your Vision Our Community (Isaac Regional Council 2009) and the MIWRP (Queensland Government 2012) following social infrastructure issues were identified in IRC LGA:

- Inadequate supply of land for housing development
- Inadequate water supply - Moranbah and Glenden
- Upgrades for telecommunications infrastructure
- Skill shortages in trades
- Unmet demand for childcare and kindergarten
- Unmet demand for health and medical centres and services
- Improved fire services
- Improved police services.

4.7 Community Health and Safety

4.7.1 Health and wellbeing

Data published as part of the National Health Atlas (PHIDU 2013) provides information on self-assessed health. Key observations are outlined below, and detailed in Table 4-29.

[4] Housing that is affordable for households in lower or middle parts of the income scale (Disney, 2007).

- Fertility rate – The fertility rate in IRC LGA is higher than both the WRC LGA and Queensland averages. This is reflected in the age profile of IRC LGA, which was found to have a higher percentage of the population aged under 30 compared to the other areas (refer to Section 4.2.5)
- Poor health – slightly higher rates of self-assessed poor health were found in the WRC LGA compared to Queensland. This could be reflective of the higher population of persons aged 65 years and over in this locality. Self-assessment of poor health within the IRC LGA is lower than Queensland as a whole, the rate of those with at least one of health risk factors of smoking, harmful use of alcohol or obesity is generally comparable to Queensland as a whole
- Psychological distress –the WRC LGA recorded higher levels of psychological distress when compared to IRC LGA at 12.0 and 9.2 respectively. However, the rate for WRC LGA was comparable to the rate recorded for the state at 11.9
- Health risk factors – the WRC LGA had higher rate of those with at least one health risk of smoking, harmful use of alcohol or obesity when compared to both IRC LGA and Queensland.

Table 4-29 Selected health and wellbeing indicators for regional study area 2011

Selected indicator (2007-08)	WRC LGA	IRC LGA	Queensland
Total fertility rate (a)	1.79	2.49	1.91
Fair or poor self-assessed health (estimated) persons aged 15 years (b). Rate per 100	17.0	11.9	15.5
High or very high psychological distress levels persons aged 18 years and over (estimated) (c). Rate per 100	12.0	9.2	11.9
Persons 18 years and over with at least one of four of the following health risk factors – smoking, harmful use of alcohol, physical inactivity, obesity (estimated) (d). Rate per 100	66.3	59.7	58.3

(a) Total fertility rate represents the average number of children that a woman could expect to bear during her reproductive lifetime. It is calculated from the age of the female population, the number of births and the age of the mother at birth. (b) Respondents in the 2004-2005 National Health Survey were asked to rate their health on a scale from 'excellent', through 'very good', 'good' and 'fair' to 'poor' health. (c) The data was derived from the Kessler Psychological Distress Scale (K-10) – which is a scale of non-specific psychological distress based on 20 questions asked of respondents about negative emotional states in the 4 weeks prior to interview. 'High' and 'Very High' distress are the two highest levels of distress categories (or a total of four categories). (d) This is based on self-reported data, reported to interviewers including respondents who reported that they had at least one of the following health risk factors – smoking, harmful use of alcohol, physical inactivity, and obesity.
Source: PHIDU 2013

4.7.2 Disability prevalence – need for assistance

Table 4-30 shows the number and percentage of persons in need of assistance in the regional study area in 2011. 'In need of assistance' includes people with a profound disability or severe disability who needed help or assistance in one or more of the three core activity areas of self-care, mobility and communication because of a disability (lasting six months or more), long-term health condition (6 months or more), or old age(OESR 2013g).

Both the WRC and IRC LGAs had lower proportions of people needing assistance (1.4 per cent and 3.8 per cent respectively) when compared to Queensland (4.4 per cent).

Table 4-30 Persons in need of assistance in regional study area 2011

LGA	Need for assistance		No need for assistance	Total (c)
	Number	%	Number	Number
WRC	1,207	3.8	26,778	31,426
IRC	316	1.4	19,987	22,589
Queensland	192,019	4.4	3,880,396	4,332,738

Based on place of usual residence; Includes core activity need of assistance note stated.
Source: *OESR 2013g and OESR 2013h data from ABS Census 2011*

4.7.3 Socio-economic index of disadvantage

The Socio-Economic Indexes for Areas (SEIFA) is a summary measure of the social and economic conditions of geographic areas across Australia (OESR 2013h). SEIFA comprises a number of indexes, which are generated at the time of the ABS Census.

In 2011, a Socio-Economic Index of Disadvantage (SEID) was produced, ranking geographical regions to reflect disadvantage of social and economic conditions. The index focuses on low-income earners, relatively lower education attainment, high unemployment and dwellings without motor vehicles. Low index values represent areas of most disadvantage and high values represent areas of least disadvantage (OESR 2013h).

Table 4-31 shows the percentage of the population in each quintile according to the SEID for the regional study area. Quintile 1 represents the most disadvantaged groups of persons, while quintile 5 represents the least disadvantaged group of persons. By definition Queensland has 20 per cent of the population in each quintile.

In the regional study area, a high proportion of population in the IRC LGA was in quintile 5 (least disadvantaged). The higher income rates in IRC LGA are likely attributed to the population being identified as less disadvantaged than the Queensland average. The WRC LGA registered the highest proportion of persons in quintile 1 (most disadvantaged) compared to both IRC LGA and Queensland. This could be attributed to the WRC LGAs lower income rates and higher unemployment rate (refer Section 4.4).

The MIWRP acknowledges that unemployment and socioeconomic disadvantaged varies across the MIW region and between different sections of the community (Queensland Government 2012) hence the contrast in socioeconomic disadvantage within the regional study area. This was also highlighted during consultation with the Whitsunday Housing Company and Whitsunday Neighbourhood Centre (NGBR Project consultation June 2013) who indicated that that there is a higher proportion of disadvantaged persons living in the WRC LGA as a result of lower income rates and limited affordable housing.

Table 4-31 Social and economic index of disadvantage in regional study area 2011

LGA	Quintile 1 (most disadvantaged)	Quintile 2	Quintile 3	Quintile 4	Quintile 5 (least disadvantaged)
	- Percentage of population -				
WRC	26.9	32.6	20.0	16.7	3.8
IRC	1.8	12.5	22.7	34.2	28.9
Queensland	20.0	20.0	20.0	20.0	20.0

Source: OESR 2013g and OESR 2013h data fromABS Census 2011

4.7.4 Crime rate

Crime data obtained from the QPS for WRC LGA and IRC LGA is presented in Table 4-32 below. Table 4-33 then presents the data for the SA2s of Bowen, Collinsville and Moranbah. Queensland data is not presented as the number of offences recorded for the State is presented as per 100,000 person rate and comparable data is not available at the LGA and SA2 level. The number of offences in the LGAs and SA2s is shown for 2010, 2011, and 2012 to indicate trends within the areas.

For both WRC LGA and IRC LGA the total number of reported offences and the most commonly occurring crimes from 2010 to 2012 remained relatively consistent. The most commonly occurring crimes in WRC LGA were other theft (excluding unlawful entry), good order offences, and traffic and related offences. In IRC LGA the most common offences across the three years were other theft (excluding unlawful entry) and traffic and related offences. Both IRC and WRC LGA the highest number of offences were reported for lesser offences (Unlawful Entry, Unlawful Use of Motor Vehicle, Other Theft, Drug offences and Traffic and Related Offences) while the serious offences, such as homicide, recorded very low numbers, generally indicating safe communities in the region.

Table 4-32 Crime data for regional study area 2010-2012 (number of offences)

Reported offences	WRC LGA			IRC LGA		
	2010	2011	2012	2010	2011	2012
Homicide (Murder)	1	0	1	0	1	0
Assault	163	188	201	60	45	51
Robbery	2	9	7	2	1	1
Other Offences Against the Person	16	24	19	10	10	7
Unlawful Entry	288	247	266	91	87	113
Arson	6	11	12	1	4	4
Other Property Damage	233	221	265	104	113	128
Unlawful Use of Motor Vehicle	29	36	52	10	29	38
Other Theft (excl. Unlawful	551	654	715	231	311	308

Reported offences	WRC LGA			IRC LGA		
	2010	2011	2012	2010	2011	2012
Entry)						
Fraud	127	66	90	177	28	55
Handling Stolen Goods	25	12	13	8	19	5
Drug Offences	436	477	441	136	108	132
Liquor (excl. Drunkenness)	40	76	35	38	42	21
Weapons Act Offences	34	50	25	12	11	7
Good Order Offences	489	700	543	91	143	114
Traffic and Related Offences	586	525	477	291	260	297
Miscellaneous Offences	55	38	39	24	23	17
Total	3,081	3,334	3,201	1,286	1,235	1,298

Source: QPS 2013

The crime data for Bowen, Collinsville and Moranbah is presented at SA2 level. As Table 4-33 below indicates, Bowen and Collinsville both experienced increasing numbers of reported offences from 2010 to 2012, while Moranbah has experienced an overall decline. Collinsville data shows a considerably lower total number of offences when compared with Bowen and Moranbah. The most occurring offences in all areas were other theft (excl. unlawful entry) and traffic and related offences. This directly corresponds with the occurrence numbers for WRC and IRC LGAs.

Table 4-33 Crime data for SA2 2010-2012 (number of offences)

Reported Offences	Bowen			Collinsville			Moranbah		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
Homicide (Murder)	1	0	0	0	0	0	0	0	0
Assault	35	45	53	7	14	8	30	26	29
Robbery	0	5	3	0	0	0	1	0	0
Other Offences Against the Person	1	8	5	0	0	1	3	1	3
Unlawful Entry	100	84	93	12	18	28	30	28	48
Arson	0	2	6	0	2	3	0	0	1
Other Property Damage	60	46	81	13	16	14	38	40	54
Unlawful Use of Motor Vehicle	10	4	13	2	8	4	5	12	16
Other Theft (excl. Unlawful Entry)	102	138	159	16	34	27	66	96	100
Fraud	4	13	12	0	0	3	150	5	33
Handling Stolen Goods	10	6	3	0	0	0	6	9	4

Reported Offences	Bowen			Collinsville			Moranbah		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
Drug Offences	101	141	128	8	7	26	64	46	70
Liquor (excl. Drunkenness)	4	10	6	3	5	2	23	11	5
Weapons Act Offences	4	7	6	0	1	0	6	3	4
Good Order Offences	88	135	121	8	9	8	51	87	65
Traffic and Related Offences	181	133	136	34	40	28	122	102	86
Miscellaneous Offences	4	6	13	10	1	4	3	8	11
TOTAL	705	783	838	113	155	156	598	474	529

Source: QPS 2013

Available crime data does not describe any characteristics of the offender and therefore no correlation between the offenders and the non-resident population or workers engaged in resource industry activities can be made. Consultation with QPS staff in Bowen, Collinsville and Moranbah (NGBR Project consultation June 2013) found that workers camps and the non-resident workers living in workers camps in the region are not a concern from a crime and community safety point of view, and QPS rarely needs to attend to issues with camps or non-resident workers. It was acknowledged that in recent times, the camps are operated in such a way that the workers have minimum interaction with communities and any offence by the workers is met with serious consequences by their employers (NGBR Project consultation June 2013). Refer to Volume 2 Appendix B Public consultation for further details on consultation.

5. Key findings

The key findings of this social baseline report are as follows:

Local baseline

- The local study area includes 27 leasehold lots, 36 freehold lots and one lot of classified as unallocated state land. A total of 23 homesteads were identified within approximately 6 km of the 100 m final rail corridor for the NGBR Project
- Cattle breeding, cattle grazing and horticulture are the predominant land uses in the local study area
- The majority of properties are either occupied by the landholder or family members
- Landholders and the families affected by the NGBR Project final rail corridor have a strong connection to their properties. For some landholders, this connection and identity is based on generations of owning and running the farming practices on the properties
- Landholders in the local study area value the lifestyle associated with large scale grazing land.

Regional baseline

Interpretation of the demographic characteristics of the regional study area revealed the following key findings:

- Both the WRC LGA and IRC LGA have experienced higher growth rates when compared to the State of Queensland in recent years and this growth is expected to continue. Population projections indicate that growth in the WRC LGA, particularly in the township of Bowen will largely be attributed to development in mining and infrastructure activities such as upgrades to the Port of Abbot Point
- The regional study area has a high proportion of non-resident workers. Collinsville has a significantly high proportion of non-resident workers as a percentage of FTE population compared to other locations in the WRC LGA (previous Bowen Shire only) with 28 per cent (600 persons) in 2012. IRC LGA recorded the largest non-resident worker population in the Bowen Basin representing two-thirds (68 per cent) of the Bowen Basin's total
- There was a higher proportion of both males and females in the working age group living in the regional study area (more specifically 25-64 age cohort) when compared to the Queensland state average. This could be due to the labour intensive mining and tourism industries
- Anecdotally, the down turn in the mining industry has resulted in job cuts and project closures, which in turn has resulted in a reduction of non-resident workers in the regional study area and people having left the region in search of employment
- NGBR Project consultation (June 2013) indicated that non-resident workers and other members of the community have left the region in search of employment which has resulted in increased housing availability and a reduction in rent/house prices
- IRC LGA is considered a healthier community when compared to WRC and Queensland due to lower rates of reported poor health and high a fertility rate. This is reflective of the

age profile of the IRC LGA which comprises of a large proportion of young children and families compared to WRCLGA and Queensland.

The current regional social baseline highlights the following key findings regarding social infrastructure provisions:

- The high proportion of non-resident workforce in the regional study area is placing pressure and demand on existing social services and infrastructure such as health services, QPS and QFRS particularly in IRC LGA
- There is an urgent need to upgrade existing hard infrastructure such as water and sewerage treatment plants to cater for future growth in the regional study area, particularly in Bowen and Moranbah
- There is a current need for additional police resources in the region to undertake traffic management, administration and attend to calls in remote locations. However, resourcing additional staff is a challenge, because police staffing is related to the total population in the given region, and as the non-resident workforce is not recognised as part of the total permanent population, QPS is often faced with resource shortfalls
- There are existing capacity issues with QFRS in the region in terms of equipment and personnel, full time staff and volunteers, and the inability of volunteers to respond to rescue situations
- Inadequate capacity or resources of health services to cater for medical emergencies in the regional study area. There is a current shortage in local GP services, particularly in Bowen, where several GPs are not accepting new patients due to capacity issues
- There has been a significant increase in rental vacancy rates in the regional study area over the past 12 months as a result of people moving away to find work elsewhere after job losses in the mining sector (NGBR Project consultation June 2013). This has increased the number of houses available for rent/sale in the region, particularly in Bowen and Collinsville. Housing affordability has also improved as a result of the increased availability of housing
- There is vacant land available in Collinsville for housing and industrial development to cater for future growth in the area
- NGBR Project consultations (June 2013) revealed challenges in attracting and retaining skilled workforce to the regional study area to work in sectors other than mining including health workers, police and other small business due to higher living costs in the region and drain of existing workforce into the higher paying mining jobs.

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