



THE UNIVERSITY
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Social Baseline Report: Hawker/Quorn



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1. Introduction

The disposal of radioactive waste is a critical challenge in Australia as in other countries in the world. The challenge is to find solutions that are scientifically sound, as well as politically and publicly acceptable. Thus, the process of siting the proposed National Radioactive Waste Management Facility (NRWMF or ‘the facility’) is not just a technical issue, but is embedded in social and cultural contexts at different spatial scales. This complex social dimension gives rise to many different views, concerns and questions about the facility. Such questions cannot be answered by scientific facts alone as they are rooted within and reflect personal and societal value-judgements about what is acceptable or unacceptable.

The Australian Government, Department of Industry, Innovation and Science (the Department) is responsible for the process of siting the proposed NRWMF. The Department has stated it will not impose a facility on an unwilling community and has initiated a process of site identification that relies on voluntary site nomination and community engagement with a view to gaining “broad support across the community” (DIIS 2016, p.2).

The University of Queensland has been commissioned by the Department to conduct independent social science research in the communities where the NRWMF has been proposed. The purpose of this research is to:

- provide social and economic information about the town to identify current trends;
- identify existing local community strengths and values and how these can be protected or enhanced;
- identify preferred and socially acceptable strategies to harness expected opportunities or to avoid and mitigate negative impacts;
- establish a social and economic monitoring framework (identify locally meaningful indicators) to enable the tracking of changes over time.

The method used is a tailored adaptation of a participatory, multi-stakeholder, community-based impact assessment and community development framework developed by researchers at the University of Queensland in relation to earlier controversial coal seam gas development (<https://boomtown-toolkit.org>). This report is structured in a way that reflects the method used. We first present the social and economic statistics gathered for Hawker/Quorn along with local peoples’ perceptions and comments on these statistics. We then present the findings from interviews held in Hawker and Quorn, telephone interviews and emailed submissions and comments.

We would like to thank members of the Hawker and Quorn communities for their cooperation and the time they gave to this research.

2. Literature Review

The siting of a radioactive waste management facility (RWMF) is as much a political and social issue as a technical and scientific issue. Changes created by such projects are never likely to be "all good or all bad" (Freudenburg and Gramling 1994). As such, the social and economic factors to consider are multiple and complex.

Radioactive waste storage presents both risks and opportunities for local communities and these should be identified and understood in order to be managed appropriately. This section reports on a review of literature and case studies from around the world to assist in the identification and understanding of possible risks and opportunities associated with hosting a RWMF for the communities of Hawker/Quorn.

While there are many low to intermediate level radioactive waste storage facilities long-established and operating throughout the world (including UK, Spain, France, Sweden, Finland, Russia, South Korea, Japan and USA), there are few studies that have documented the actual and long term impacts and benefits of hosting such a facility for local communities. Some comparisons can be made with other large infrastructure or resource development projects, but radioactive waste storage is different, in that it is generally perceived as a 'risky', or 'unwanted' type of infrastructure (Kasperson 1986; Vari et al. 1994; Farber 1996; Slovic et al. 1991).

Risks are mostly around exposure to radiation, either directly from the waste in handling, or through potential contamination of the environment, with subsequent human and environmental health outcomes. Much is understood about these types of risks however, and they must be comprehensively analysed and accounted for in the location and design of the RWMF. Additionally, the handling and transport of any radioactive material is subject to strict regulations and standards, informed by national and international codes and guidelines (e.g. the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) Code for the Safe Transport of Radioactive Material (2014); Code for Disposal Facilities for Solid Radioactive Waste (2018); and a suite of Codes of Conduct, conventions and safety standards required by the International Atomic Energy Agency (IAEA)).

In a case study from the Czech Republic, Ocelik et al (2017) identified a different set of perceived risks in relation to a RWMF, including decreased property values (due to the stigmatization of the locality) and construction-related impacts such as increased traffic, noise, air pollution and others. In an older article from the US, Farber (1998) summarised the findings of empirical studies of the effects of *hazardous waste facilities more broadly* and found that hazardous waste facilities can result in reduced property values in the immediate vicinity, particularly in low density rural communities. It must be noted however that Farber (1998) did not consider RWMFs specifically, but studies of other types of hazardous waste facilities. The distinction is important to make as numerous reports focused on RWMFs (Kasperson 1986; Slovic et al. 1991; National Research Council 1996; Wolsink 2006; Radioactive Waste Management (RMA) 2016) have highlighted the problems with extrapolating impacts from other large-scale industrial projects and applying them to RWMF projects. To illustrate, a recent UK study (RMA 2016) modelled potential economic impacts and found no decrease in property values associated with hosting a RWMF.

Particularly in rural areas, concerns about impacts on the value of local agricultural produce are often voiced. Few studies have quantified effects of a RWMF on agricultural products. The UK report

cites a case study from Switzerland, where the output of agricultural produce was limited during construction activities, and from the Netherlands, where farmers were offered compensation for any losses in the value of their products – and since 1992, none have claimed.

Kasperson (1986), Devine-Wright (2009), Ocelik (2017) and others have identified other risks in relation to heightened concern about the environment, social conflict and division, and in relation to place attachment and social identity. These authors also noted how such risks (and their effects for communities) are, as Kasperson (1986) described, “extremely resistant to quantification”. Particularly for smaller communities, the proposition of new developments is known to cause division (e.g. Jacquet and Stedman 2013; Morrone et al. 2015; Colvin et al. 2016; Mason-Renton et al. 2017; Grubert and Skinner 2017).

High levels of concern about project risks have been found to be strongly correlated with opposition (Kraft and Clary 1991; Slovic et al. 1991; Sjöberg 2006; Wolsink 2006, Devine-Wright 2009; Jenkins-Smith et al. 2011; Ocelik et al. 2017). However, perceptions of risks have also been shown to change over time. Surveys on public attitudes to RWMFs conducted in two towns in Sweden showed a decrease in nuclear-related risk perceptions from the original survey in 2001 to the next in 2005 (Sjöberg 2006). In the intermittent years, further scientific investigations of the site had taken place and the findings had been widely communicated within the communities.

Venables et al (2012) also found that while opposition to a new nuclear facility was strongest among local residents, support for established facilities was highest among local residents. These authors argue how public risk perceptions are mediated over time (if not moderated) by an enduring sense of place. That is, as people come to view the potential risks as a characteristic of life living at that locality.

Similarly, Jenkins-Smith et al. (2011) studied the process of decision-making leading to a radioactive waste facility currently operating in New Mexico, U.S. They found that while trust in the process was initially low, it grew over time as relationships between key actors formed and integrity was proven, science and safety was demonstrated, perceived risks were allayed with meaningful information (despite media involvement portraying negative effects) and as the steps of progress were taken tentatively without ‘mishaps’ (Jenkins-Smith et al. 2011).

Earlier studies (e.g. Kasperson 1986; English 1992) suggest that public concerns about risk are based largely on lack of trust in the institutions responsible for risk management. In response to perceptions of risks, and to build trust in institutions, there is an increasing emphasis on “stepwise decision making” in relation to RWMFs, where the public, and especially the local public, are meaningfully involved in the planning and review of facilities (NEA 2004). In a stepwise approach, discrete, easily evaluated steps facilitate the transparency and accountability of decisions, allow for feedback from stakeholders, and promote public and political confidence in the outcomes. A stepwise approach is designed to provide reassurance to local communities that decisions can be halted (and reversed where practicable) if experience shows them to have adverse or unwanted effects (NEA 2004).

Notwithstanding risks, and the importance of managing the full range of technical, social and environmental risks, case studies have demonstrated significant opportunities and benefits for local communities. Like risks, these can arise directly from the facility (such as jobs), or through indirect

pathways (such as additional teachers because school enrolments increase). There is a clear lack of documentation of the actual social and economic effects of hosting a RWMF, perhaps because these differ for each location depending on local social and economic circumstances, as well with as the impact mitigation and enhancement strategies in place.

Monitoring of RWMFs in France shows significant economic benefits to local and district communities. These arise mostly through compensatory Community Benefits Packages which were distributed to local and regional public institutions (ANDRA 2017), but also through local hiring and purchasing agreements. For those towns hosting the facilities, long term population trends of decline were stabilised or reversed (ANDRA 2017). Other studies confirm that the most significant and long lasting benefits to local communities arise through negotiated compensation and incentives packages. The process of negotiation is important and sensitive. Albrecht et al. (1996) highlighted how consensus about what are potential benefits (and costs) is never likely to be complete. Thus what is perceived to be a benefit for one individual or group may not be seen as such by others. In addition, Kunreuther and Easterling (1996) found that accepting compensation in return for hosting a facility, can provoke very strong negative reactions by some community members who may view the arrangement as morally wrong.

Recent studies and literature emphasise the importance of tailoring Community Benefits Packages to suit local community development needs and aspirations. This requires a thorough understanding of baseline social and economic conditions and capabilities as well as participatory processes for collectively articulating values and aspirations. Gilmour (1996) found that communities that had engaged in such a process and had an agreed development plan could better gauge the 'fit' between the vision the community has for itself and the risks and opportunities presented by a RWMF project. More recently, Dukes (2004) and Mason-Renton et al. (2016) argue that such processes should identify both the opportunities and the concerns arising from the project, should it proceed, as well as exploring a range of alternatives, should it not.

Bergmans (2010) reviewed the benefits packages of RWMF projects throughout Europe, Japan, Canada and US to produce the "International Benchmarking of Community Benefits Related to Facilities for Radioactive Waste Management Report". The report showed that employment and procurement benefits alone are not generally viewed as being sufficient, when considering the potential risks and essential service that the community is providing to the nation. Bergmans (2010) argues that potential and existing host communities "have the right to added-value measures to develop their social and economic wellbeing". As such, a broader set of social and economic factors should be considered - beyond any obvious and immediate effects on housing, employment and regional economic growth - to include more general wellbeing indicators and measures.

In a case study from the Czech Republic, Ocelik et al. (2017) found that some sectors of the community saw benefits in relation to fulfilling a 'duty' towards the 'public good' of solving RWM problems that resulted in a heightened sense of community pride and solidarity.

Tourism can be both positively and negatively affected. The French case study shows additional local tourism through visits to the facility with little perceived impact on regional tourism (ANDRA 2017). The UK study separated 'business tourism' and 'leisure tourism', finding likely increases in business tourism but harder to predict and possible decreases in leisure tourism (RMA 2016). However, negative effects on tourism were consistently identified as a risk in relation to siting a RWMF and

studies of other hazardous waste facilities have shown negative impacts on recreational tourism. The UK study identified “a great deal of opportunity” to minimise potential adverse effects on tourism (and property values) through good planning and communication.

The UK study showed that while site selection is likely to result in the perception that property values will decline, residents can be reassured that evidence suggests the opposite. Monitoring the long term effects of low to intermediate level RWMFs in France shows that property values in the vicinities remain higher than the national median (ANDRA 2017). Strategies include preparing and implementing a Property Value Protection Plan that would compensate for losses associated with any decrease in property values, rental income or associated mortgages.

The UK study also identified benefits through increased availability of services, particular those services such as medical, emergency and training, that would be ‘shared’ between the facility and the local community (RMA 2016).

In summary, the siting of a radioactive waste facility is a complex and sensitive process. There are very few studies that have documented the realised social and economic effects of hosting a RWMF for local and regional communities. Clear economic benefits have accrued directly from employment and local purchasing, which may attract new people to the area, thus boosting population and influencing property values positively. Lasting and significant social and economic benefits can be seen arising from negotiated Community Benefits Packages. To maximise these benefits, communities should have engaged in participatory community planning exercises to articulate values, needs and aspirations. There should also be attention to social wellbeing as the siting process is known to cause division and disruption in communities, particularly in smaller, rural and ‘close-knit’ communities, and the short and long-term effects of this should be addressed.

3. Methodology

A desktop review was conducted to identify accessible, reliable and timely data for key socio-economic indicators. These statistics were then used to build a community baseline profile for the Hawker and Quorn communities. A variety of sources were consulted to obtain as much publicly available information for the initial research phase of the analysis¹. The intention of the analysis was to create a baseline database for towns of Hawker and Quorn dating back to between 5 – 10 years for each indicator, where ever possible. As far as possible, the data collected are at the town level (and immediate surrounds). Regional data can be found in the economic analysis report by Cadence Economics (Cadence 2018).

Two researchers subsequently travelled to Hawker and Quorn to engage with community members in a series of face to face interviews. The opportunity to participate in interviews was open to everyone and participants were notified of the research through the formal community working groups initiated as part of the NRWMF community consultation program. The aim was to gain a deeper understanding of social and economic circumstances and trends, to listen to and understand the range of views about

¹ Sources consulted through the desktop review: Australian Bureau of Statistics (ABS) Census, Australian Tax Office (ATO), SA Police Database, Australian Bureau of Meteorology (BOM), Location South Australia Database (Traffic), South Australian Department of Primary Industries and Regions, Australian Government Department of Agriculture and Water Resources (ABARES), My School Database via Australian Curriculum Assessment and Reporting Authority.

possible impacts of the proposed NRWMF and to gauge the accuracy of (or 'ground-truth') the baseline data. Key areas of focus for the interviews included to:

- understand the long term trends and current trajectories (in relation to statistical information on social and economic indicators);
- document community values, concerns and aspirations regarding these trajectories;
- identify potential opportunities and impacts arising from hosting the NRWMF
- define locally (and culturally) acceptable strategies for protecting values, addressing concerns and harnessing opportunities;
- confirm which are the most meaningful indicators that should be included in an ongoing social and economic monitoring framework.

While in Hawker and Quorn the researchers conducted 13 interviews with individuals, pairs or small groups of community members. Another 3 interviews have been conducted by telephone following the visit to the town with 2 others sending emailed responses. The interviews captured the views of both those in favour and those opposed to the NRWMF, with slightly more representation from the opposed view. Those who were neutral or undecided were not represented.

The number of interviews completed was influenced by short notice given to community members of the researchers' visit. The short notice was not ideal, a window of opportunity presented itself to visit the communities at a time that did not coincide with formal consultation events as part of the nomination process. The UQ researchers sought to provide a safe and neutral space for interviewees to participate in this research, with follow-up and alternative opportunities for those who could not attend in person. We sincerely thank those who made the effort to come forward and speak to us while we were there, or to contact us following the visit.

All interviews were audio recorded (if permission was granted) and these were subsequently transcribed. The transcripts were manually coded to identify the key themes emerging from the interviews. The project adheres to national research ethics guidelines (University of Queensland Project No: 2018001211).

The following sections describe the social and economic profiles and trajectories for each of the communities, with insights and explanation of the observed changes provided in the interviews.

4. Quorn Community Profile

4.1 Population

2018 Summary

Since 2016, Quorn's population has remained relatively constant over the past decade, down 2% overall (from 1258 residents in 2006 to 1230 in 2016). This occurred at a time where the wider Flinders Range population fell by 5% while the overall state population grew by 13%. The gender balance in Quorn identifies females slightly outnumbering males 51:49. 42% of Quorn's population (523 persons) are within the adult working age group (25-60 years of age) while 33% of residents (420 persons) are over the age of 60. At present, 25% of Quorn's population are under the age of 15 however, this figure has reduced by 5% in the past 5 years (from 358 to 296).

Trends reflected in the data

The population of Quorn experienced a significant increase of 27% between 2001 and 2006 while the wider Flinders region fell 6% over the same timeframe. Since 2006, Quorn's population has been relatively stable.

Like many rural towns, Quorn is showing signs of an ageing population. The percentage of the population in the 'working age' group (25-59 years) has remained relatively constant since 2006, however the percentage of people aged above 60 (retirees and elderly people) has increased, from 27% in 2006 to 33% in 2016.

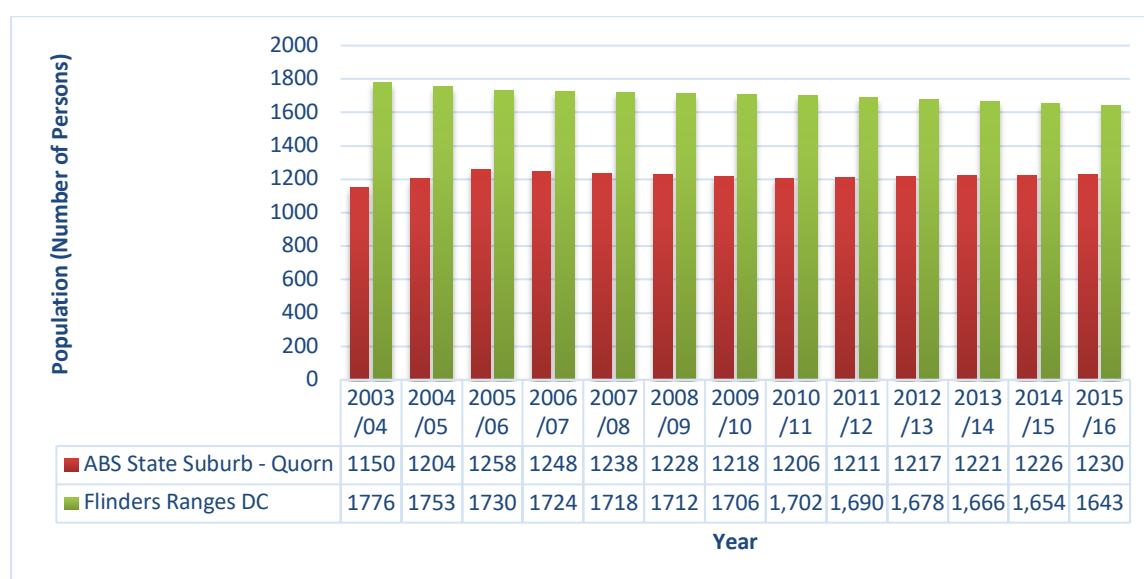
There is also a trend of youth deficit. At present, only 1-2% of the total population fall within the 20-24 age range.

Community insights and perceptions

Those interviewed reported seeing some population growth in the area, with working people moving from Port Augusta to Quorn to take advantage of more affordable housing.

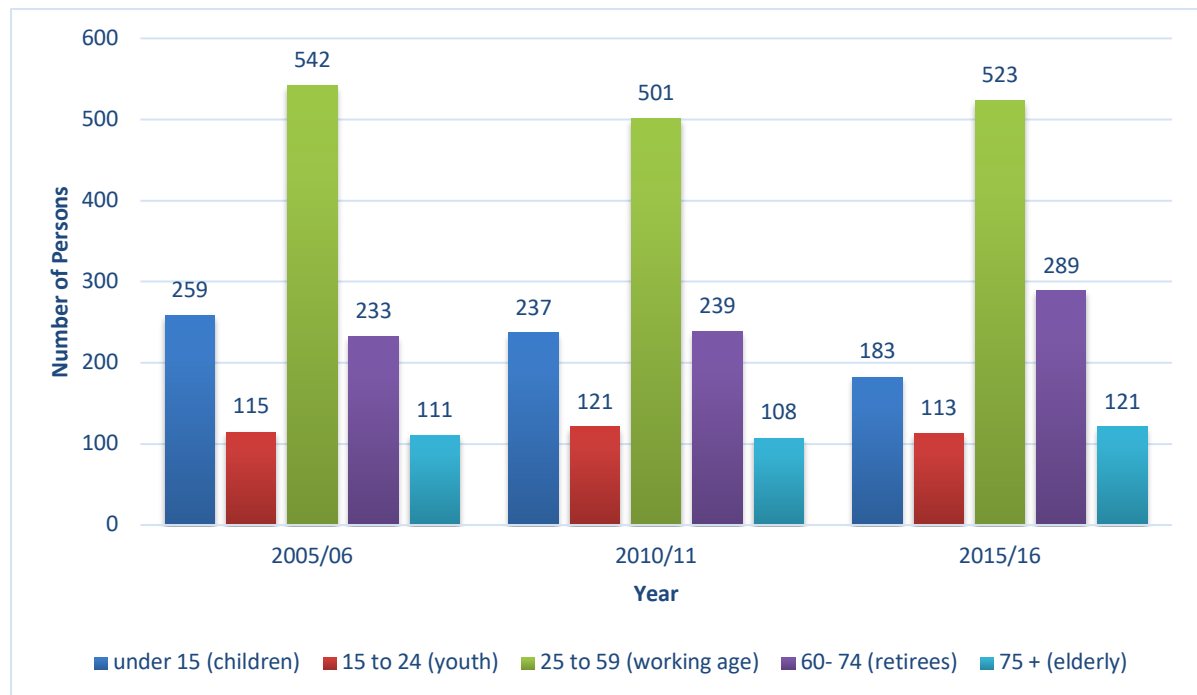
Most agreed about the ageing population and youth deficit. Young people were said to move away for higher education and job opportunities.

Figure 1 – Quorn and Flinders Ranges Population Trends by year²



² Source: Population data for Quorn (SSC40610) and Flinders Ranges DC (LGA41830) obtained through ABS and Census data. Approximations for non-census years is utilised to illustrate average trends between census years.

Figure 2 - Quorn Age Group Population Numbers, by year



4.2 Employment

2018 Summary

The unemployment rate in Quorn (currently 7.2%) is sitting above the rate for the whole of South Australia (around 6%) however, the unemployment rate has increased 1.4% over the past 5 years. Since 2011, a reduction in the number of people in full-time roles has been balanced with an increased proportion of people employed on a part time basis.

Trends reflected in the data

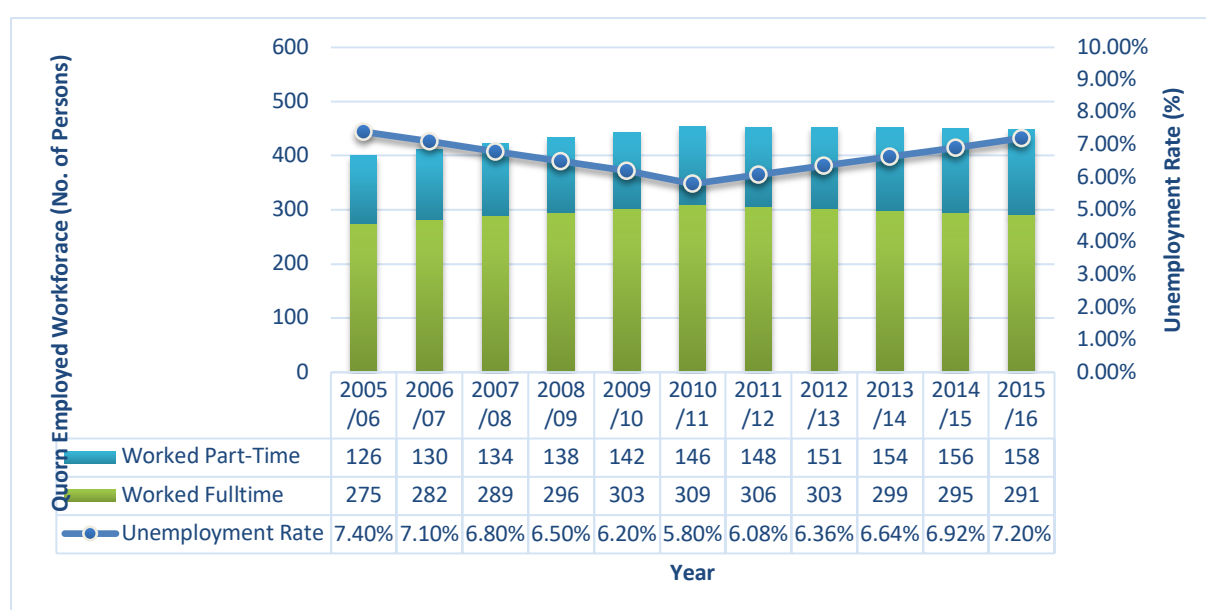
Historical trend: The unemployment rate has remained relatively constant since 2006. The number of people seeking employment fell between 2006 and 2011 (29 people) reaching a low at 5.8% in 2011. Since then, unemployment has been increasing.

Mirroring decreasing unemployment rates, the size of Quorn's workforce grew from 2006 to 2011 and has remained fairly constant over the past 5 years. Between 2011 and 2016, a reduction of 6% in full time roles (309 to 291) has occurred although the impact has partially been mitigated by an 8% increase in part time roles (146 to 158), maintaining the size of the overall workforce (527 in 2016).

Community insights and perceptions

Interviewees thought employment was mainly in agriculture and government services. There was also an observed trend that there were more people living in Quorn and commuting to work in nearby mines or in Port Augusta.

Figure 3 - Quorn Employment Figures, by year³



4.3 Income & Business

2018 Summary

Personal income has experienced steady growth in recent years, with the Quorn average income higher than the state average. Total business income has also experienced considerable growth over the past four years, up 70% overall while the number of businesses has increased by 9%. Healthcare and Social Assistance is the lead industry providing employment in Quorn. The top 5 industries providing employment has remained the same since 2006, currently contributing to a 57% share of the labour market.

Trends reflected in the data

Historical trend: The average annual personal income has experienced consistent growth of 7% since 2012/13, with a current average of \$52,838 pa. Over the same period, the South Australian average also increased however Quorn has continued to rank higher than the state average year on year. In 2015/16, Quorn's income level registered 5.3% higher than the state average.

The 5 main industries contributing to employment within the community has remained the same since 2006, however the contribution share provided has increased overall. Agriculture, Forestry and Fishing; Retail Trade; Public Administration; Health; and Education contribute to 57% of all roles within the community, up from 48% in 2006. The largest contribution is provided by Health and Social Assistance at 16% followed by education and training at 12%.

Total business income has also increased in recent years, with significant growth of 48% experienced in 2014/15. In the same year, the number of businesses also grew from 53 to 60 (13%).

³ Employment numbers and unemployment rate for Quorn (SSC40610) obtained through ABS for census years 2006, 2011 and 2016. Approximations for non-census years is utilised to illustrate average trends between census years.

Community insights and perceptions

Some were surprised that Quorn's average personal income was higher than the state average although this was thought to result from well-paid jobs in mining in the region and in Port Augusta. Interviewees also explained how income from agriculture was seasonal and how this can influence other business incomes.

Figure 4 - Quorn and South Australian Average Taxable Income, by year⁴

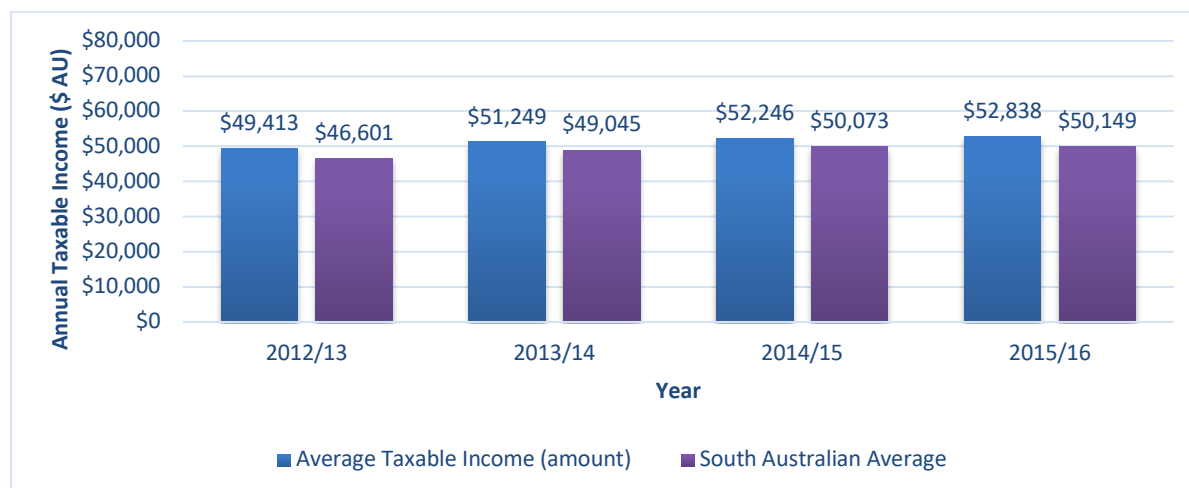


Table 1 - Quorn Industry Employment distribution, by ABS census year

Industry	2005/06	%	2011/12	%	2015/16	%
Agriculture, Forestry and Fishing	28	6%	23	5%	43	9%
Mining	29	7%	26	5%	22	4%
Manufacturing	12	3%	19	4%	12	2%
Electricity, Gas, Water and Waste Services	19	4%	15	3%	8	2%
Construction	27	6%	27	5%	29	6%
Wholesale Trade	12	3%	9	2%	7	1%
Retail Trade	33	7%	41	8%	51	10%
Accommodation and Food Services	38	9%	52	10%	36	7%
Transport, Postal and Warehousing	34	8%	37	7%	28	6%
Information Media and Telecommunications	0	0%	6	1%	0	0%
Financial and Insurance Services	6	1%	4	1%	0	0%
Rental, Hiring and Real Estate Services	3	1%	7	1%	6	1%
Professional, Scientific and Technical Services	9	2%	12	2%	17	3%
Administrative and Support Services	9	2%	16	3%	17	3%
Public Administration and Safety	31	7%	44	9%	50	10%
Education and Training	42	10%	60	12%	58	12%

⁴ Source: ATO. Average taxable income for postcode 5433 (Quorn) and South Australia Industry statistics for Quorn (SSC40610) obtained through ABS for census years 2006, 2011 and 2016. No data available through ABS on individual agriculture industries or Tourism sector. As per ABS Census information, all persons working Employment figures include all persons aged over 15 years currently working, including self-employed persons.

Industry	2005/06	%	2011/12	%	2015/16	%
Health Care and Social Assistance	78	18%	69	14%	77	16%
Arts and Recreation Services	5	1%	7	1%	0	0%
Other Services	14	3%	8	2%	13	3%
Inadequately described/Not stated	12	3%	17	3%	20	4%
Total	441		499		495	

Figure 5 - Quorn Annual Rainfall, by year⁵

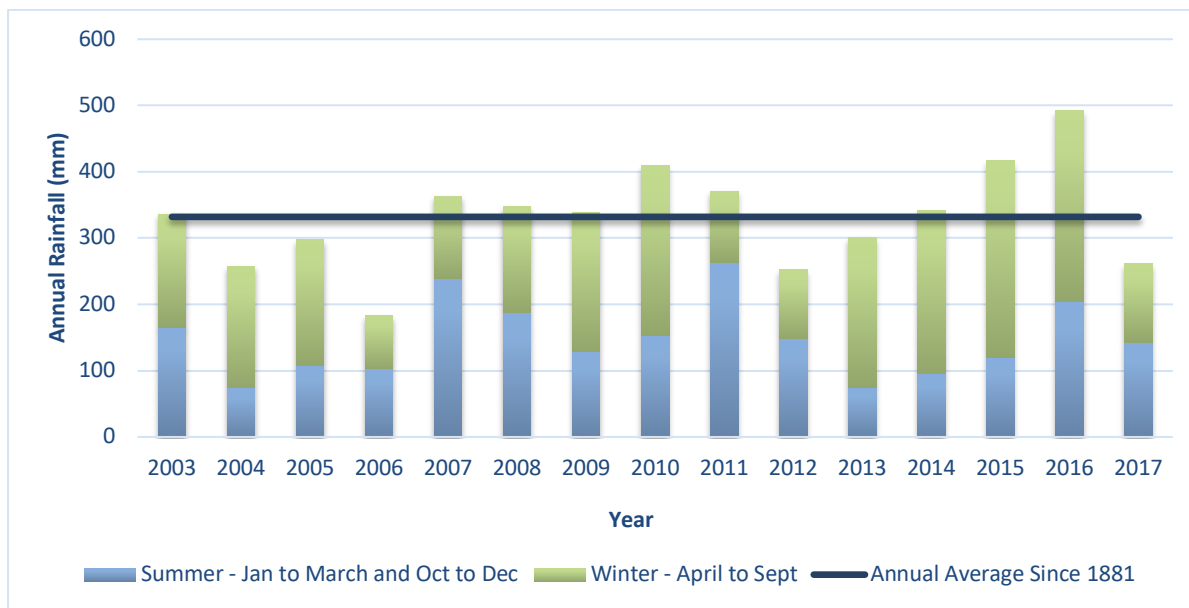
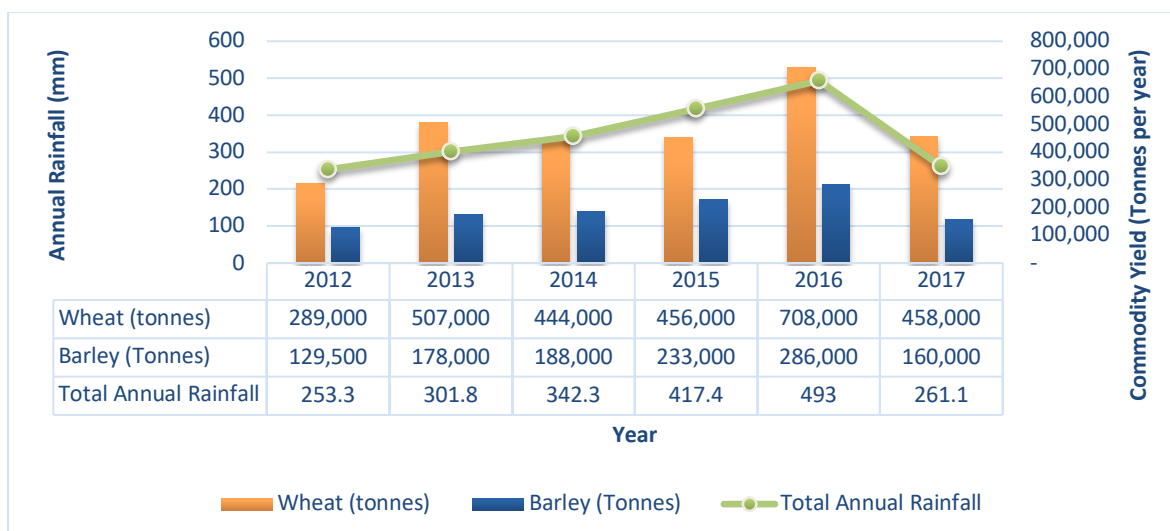


Figure 6 – Upper North Region (Quorn/Hawker) Barley and Wheat Crop Harvest vs Annual Rainfall, per year⁶



⁵ Source: Bureau of Meteorology Climate Data online, <http://www.bom.gov.au/climate/data/> Rainfall observations reported for Quorn no. 019038. Annual rainfall average 332mm.

⁶ Wheat and Barley production figures for Upper North region used to locate Quorn specific data from South Australian Department of Primary Industries.

Figure 7 - Upper North Region (Quorn/Hawker Area) Percentage of Barley and Wheat yield of Total Harvest, by year

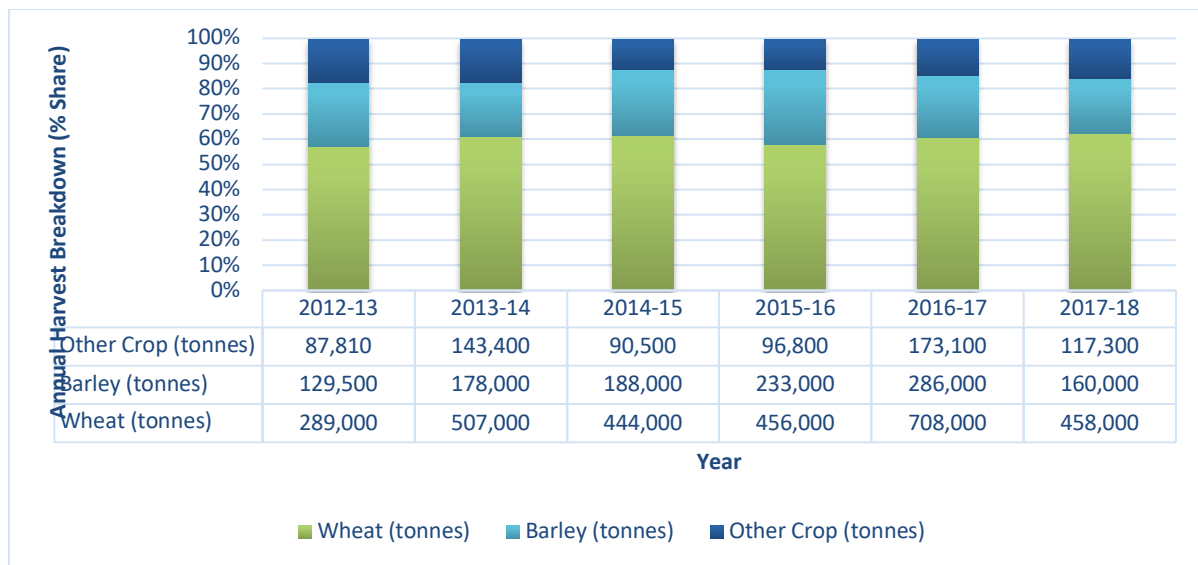
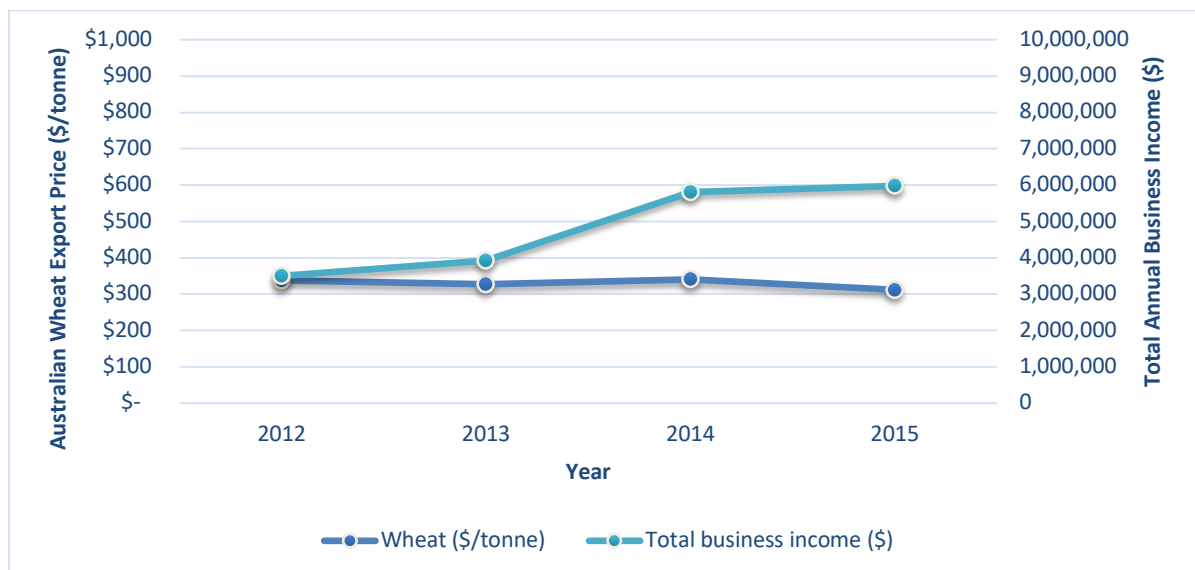


Figure 8 - Historical Price of Australian Wheat Exports against Quorn Total Annual business income, by year⁷



⁷ Source: ATO for total annual business income. Values of commodity exports obtained from historical ABARES data.

Figure 9 - Historical Price of Australian Barley Exports against Quorn Total Annual business income, by year

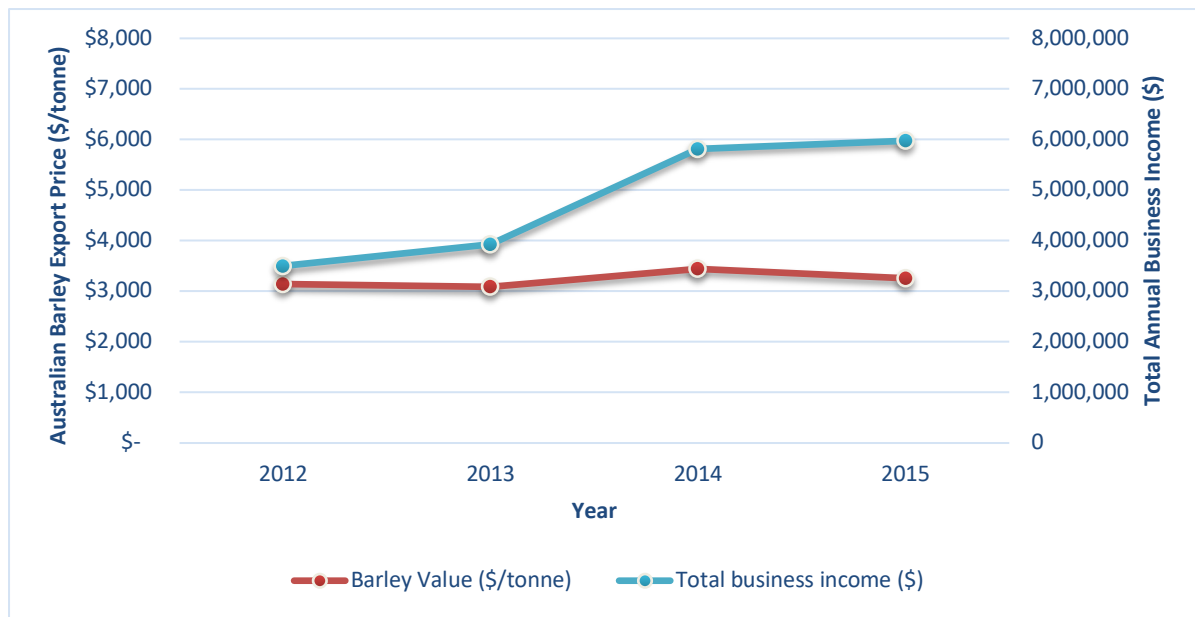
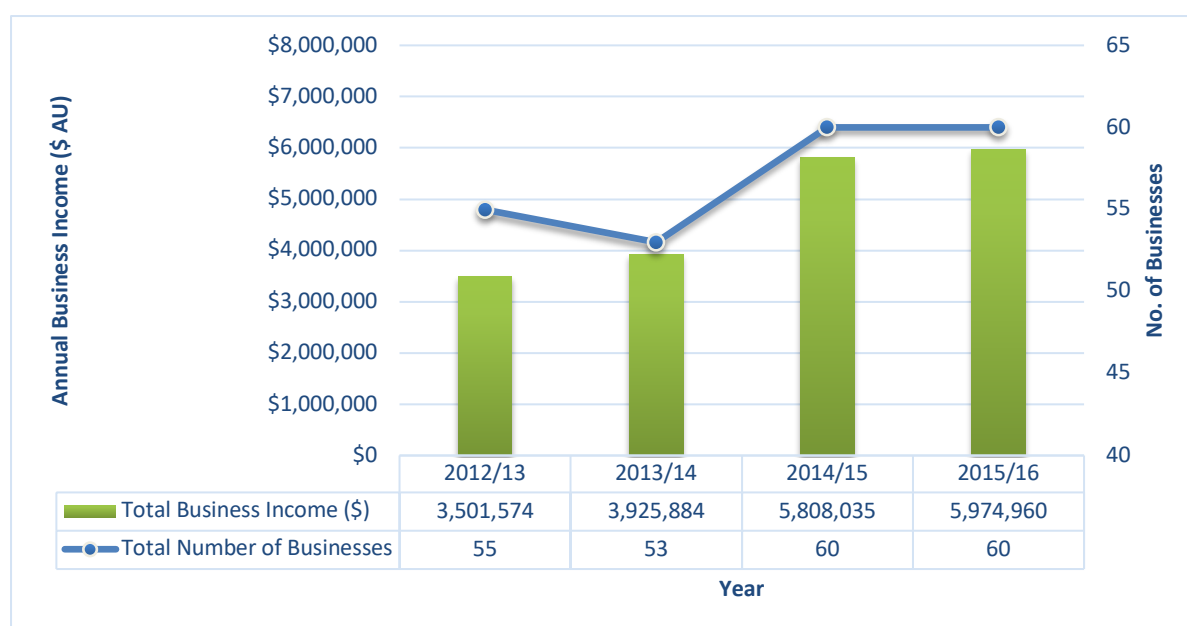


Figure 10 - Historical Price of Australian Clean Wool Exports against Quorn Total Annual business income, by year



Figure 11 - Quorn total business income and number of registered businesses, by year⁸



4.4 Education

2018 Summary

The number of residents who have completed post high school qualifications has increased significantly since 2006. At present, 14% of the population have a Diploma, Bachelor degree or Postgraduate qualification, 17% of residents in Quorn have completed a Certificate III or IV through formal education programs. Sixty nine percent (69%) of residents in Quorn have no formal education level beyond high school. The number of children in the local school has almost halved since 2008.

Trends reflected in the data

Historical trend: While the population of Quorn rose between 2006 and 2016, the number of residents who completed post high school qualifications also increased.

The percentage of residents who have completed Diploma, Bachelor or Postgraduate qualification has increased year on year, up from 8% in 2006 to 14% in 2016. Over the same period, the percentage share of residents who completed a Certificate III or IV also increased from 12% to 17%. Furthermore, the percentage of persons without formal education or training beyond high school also fell, improving from 80% in 2006 to 69% in 2016.

Between 2006 and 2011, a large increase in the number of residents who completed Bachelor and Diploma level studies occurred (74 to 123), while in the 2011 to 2016 period, the number of residents with a Certificate III or IV grew from 162 to 212.

According to the My Schools Database there has been a significant decline in the number of students and full time equivalent (FTE) teachers at the local school. As shown in Figure 14

⁸ Source: Australian Tax Office (ATO), research and statistics, <https://www.ato.gov.au/>. Total business income for postcode 5433 (Quorn). Original data – no discounting applied.

source not found., in 2008 there were 265 total students and 33 FTE staff (22 teachers and 11 non-teaching) while in 2017 there were only 138 total students and 19 FTE staff (13 teachers and 6 non-teaching).

Community insights and perceptions

Flexible delivery and online courses may be enabling more people in remote areas to complete tertiary education. Locals also felt that this may be reflected in more women completing studies and gaining qualifications, as well as those who moved into the region and working in the mines or in Port Augusta having increased qualifications.

Figure 12 - Quorn Education and Qualification Levels - Share of the population, by year⁹

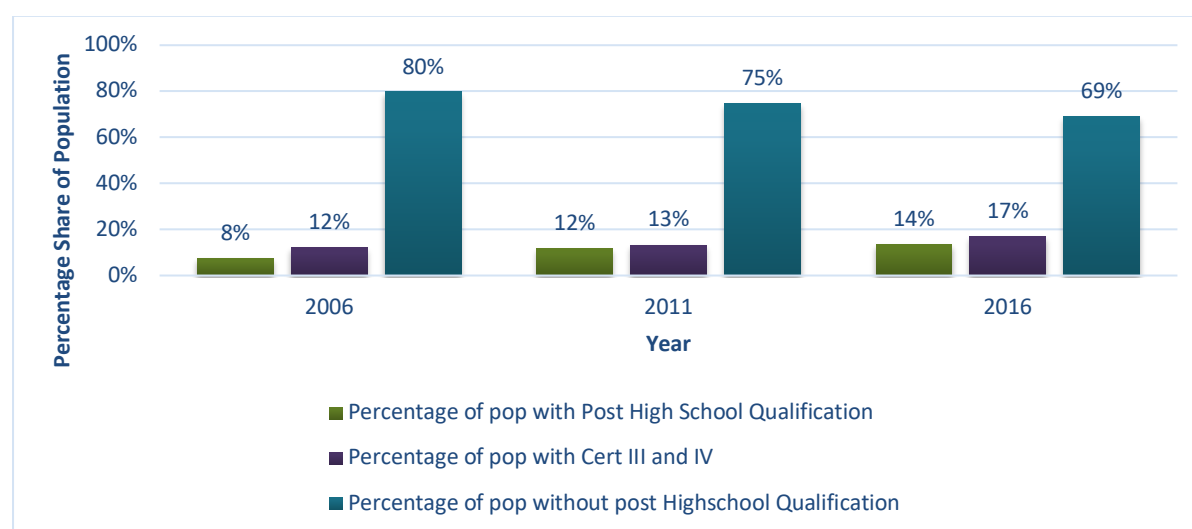
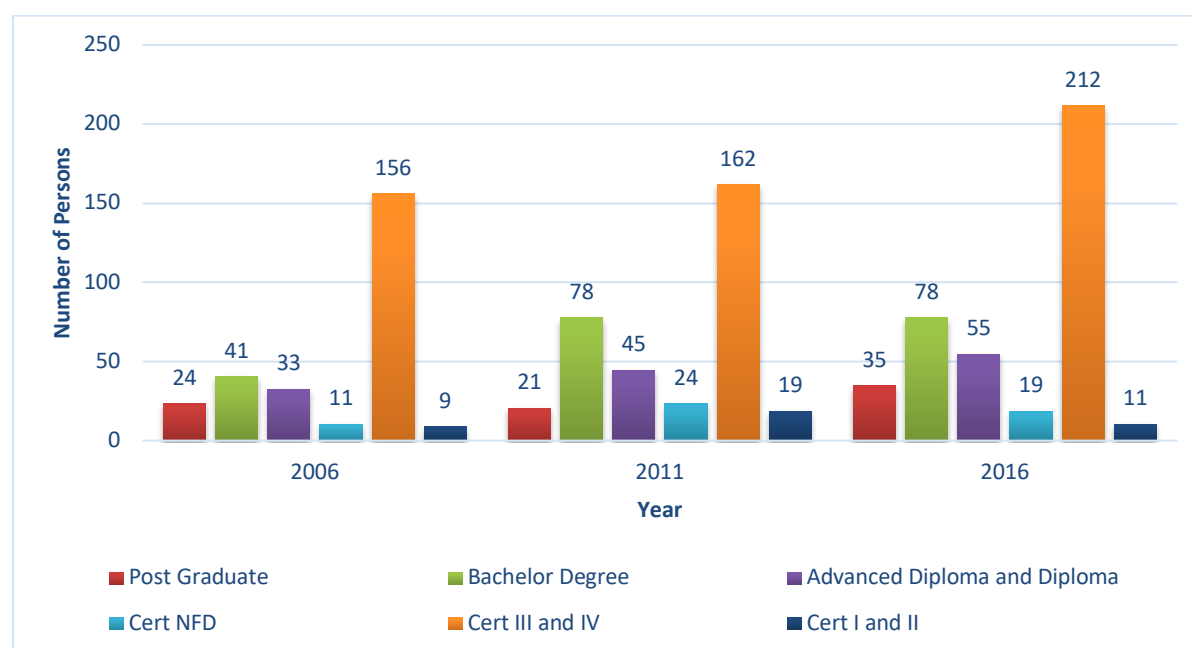
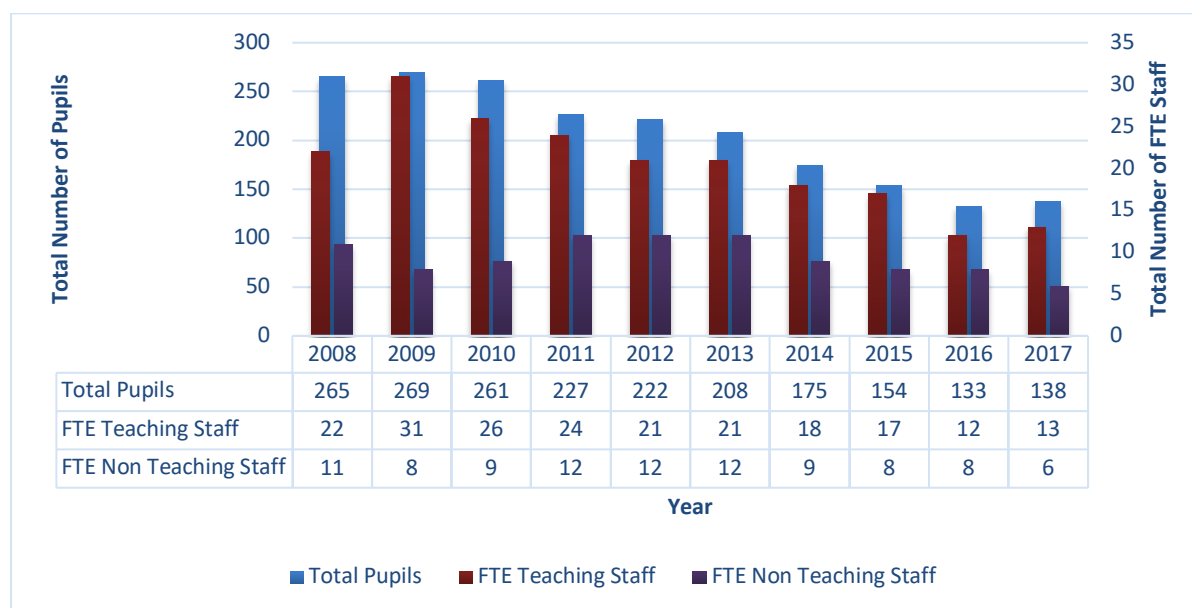


Figure 13 - Quorn Education level of qualification - Number of persons, by year



⁹ Qualification and Education data for Quorn (SSC40610) obtained through ABS for census years 2006, 2011 and 2016. Certificate III and IV – considered higher than year 12. Certificate I and II are considered lower than year 10 but higher than year 9. Certificate NFD – Not further defined. ABS collection of data categorised in own group.

Figure 14 - Quorn Area School Pupil and Staffing Numbers, by year¹⁰



4.5 Safety & Wellbeing

2018 Summary

Quorn has experienced a gradual increase in the total number of reported offences over the past five years. In the current period (Q1-3 in 2017/18), 30 total offences have been recorded which continues the increasing trend. At present, assaults contribute to 25% of all reported offences.

A snapshot of local traffic volumes for Quorn indicate high volume passing through town along the Flinders Ranges Highway, with only 12% of traffic considered as commercial transportation.

Trends reflected in the data

Historical trend: The total number of reported crimes have increased by 67% over the past 5 years. A significant increase of 135% was recorded in 2016/17, with theft and assaults up 150% and 43% respectively. The number of reported assaults has seen a steady increase each year while the total number of offences thus far recorded for 2017/18 year is on track to meet the growth trend experienced in previous years.

Records of traffic flows through Quorn provide insight into the high volume of traffic passing through town along the Flinders Ranges Highway. Statistics indicate the majority of traffic through town is attributed to passenger vehicles, contributing approximately 88% of all traffic through town.

Community insights and perceptions

Despite increases, crime rate per capita is still thought to be quite low. A lack of police presence in town may explain the low numbers of offences and it was thought that these may not reflect the actual rate of crime.

¹⁰ Source: Quorn Area School from My Schools Database

Figure 15 - Quorn Total Police Reported Offences, by year¹¹

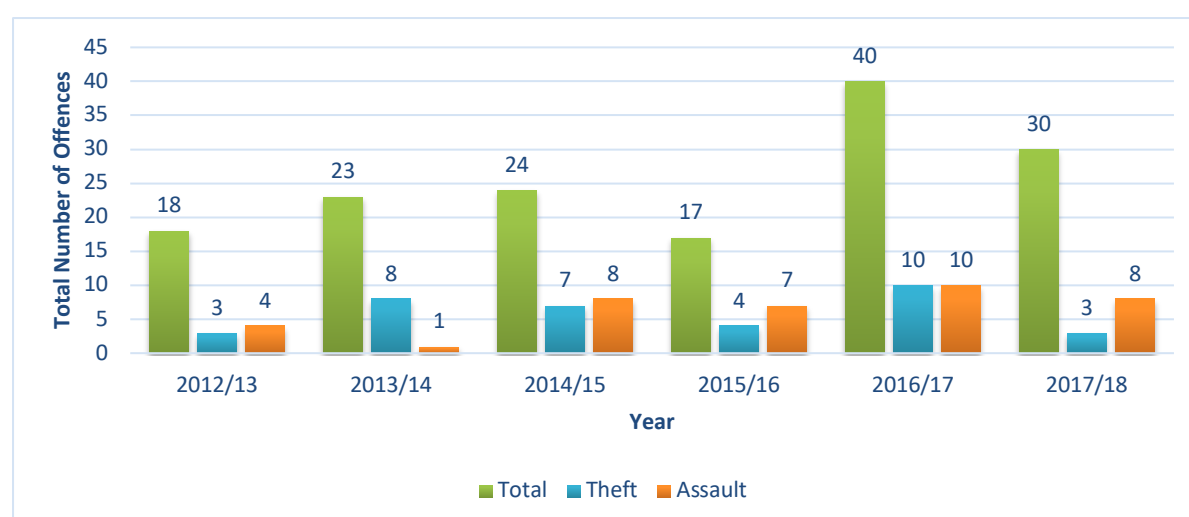


Table 2 - Quorn Traffic Volume by main access road or highway¹²

Roadway	Total Traffic	Daily	No. of CV	% of CV	Year Recorded
In town					
Main Road North/Sixth St	240		32	13%	2018
Flinders Ranges Highway (South-west)	1800		200	11%	2016
Flinders Ranges Highway (North-east)	1400		170	12%	2016
Out of town					
Horrocks Highway	200		27	14%	2018
Flinders Ranges Highway (South-west)	1100		120	11%	2018
Flinders Ranges Highway (North-east)	340		42	12%	2016
RM Williams Way (Connecting into Flinders Highway)	210		42	20%	2015

4.6 Housing

2018 Summary

The median rent in Quorn is \$172 per week in 2016, significantly less than the state median (\$260 per week). Similarly, the median mortgage repayment of \$231 per week is also significantly less than the

¹¹ Source: South Australian Police (SAPOL) <https://www.police.sa.gov.au/> for Quorn postcode 5433. Displayed categories Captured number of incidents based on “crimes against property” and “crimes against a person”. Drug and traffic offences were not reported in the publically available data.

¹² Source: Location SA Map and Traffic data <http://location.sa.gov.au> CV = Commercial Vehicles. Most recent traffic volume data illustrated however in some instances several years old.

state median of (\$344 per week). The total number of dwellings in Quorn currently sits at 649, with an 18% vacancy rate.

Trends reflected in the data¹³

The median weekly rent has maintained steady growth between 2006 and 2016, increasing from \$100 to \$172 per week.

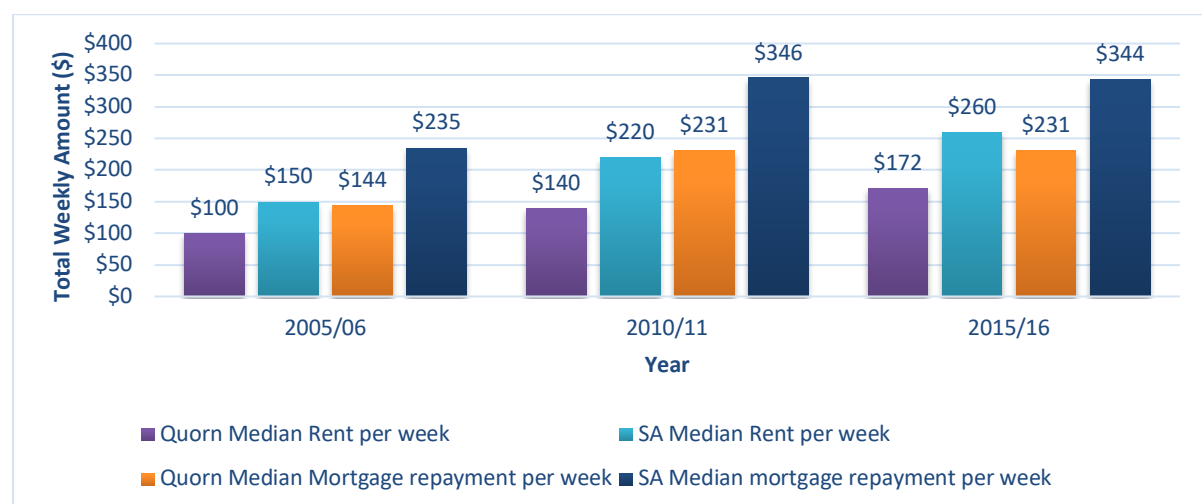
The median weekly mortgage repayment saw a significant jump between 2006 and 2011- up 60% over that period - however the amount remained unchanged from 2011 to 2016, sitting at \$231 per week.

The steady increase in weekly rent mirrors a similar trend in the increased number of dwellings in Quorn between 2006 and 2016. As unoccupied data was not available for 2006 statistics, it is difficult to determine the extent of vacancy levels over time. However, the current vacancy level has maintained a steady rate of between 17-15% between 2011 and 2016.

Community insights and perceptions

One interviewee reported people from outside the area, who are opposed to the facility, are actively seeking rental accommodation in Quorn so they would become eligible to vote in the upcoming community vote on the NRWMF.

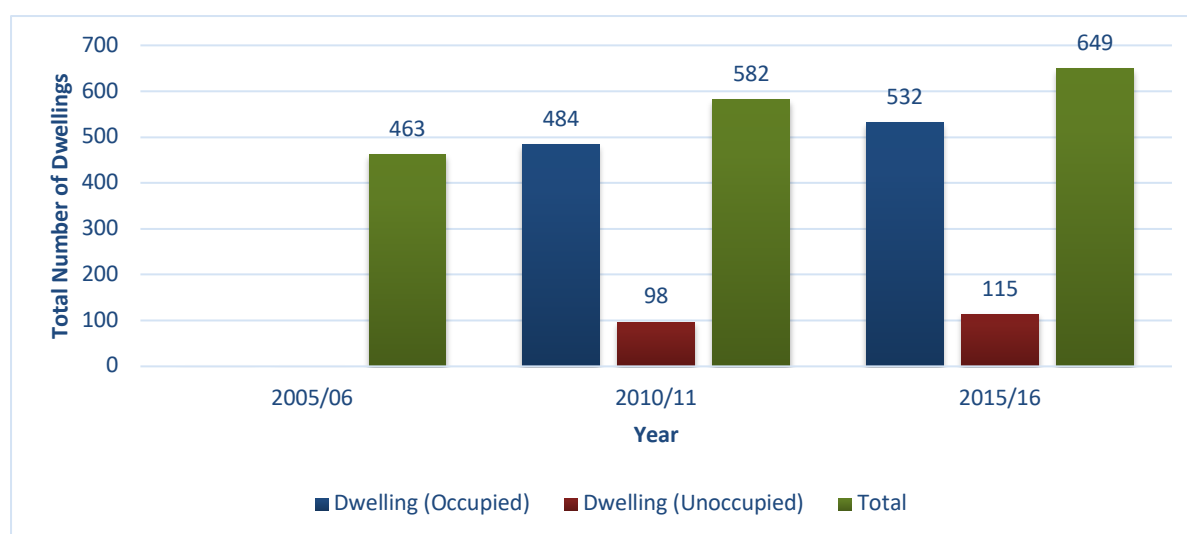
Figure 16 - Quorn and South Australian Weekly Median Rent and Mortgage Repayment levels, by year¹⁴



¹³ RP Data did not provide detailed statistics of sales or rental data for Kimba and therefore ABS census data was utilised.

¹⁴ Source: Quorn weekly rent and mortgage repayment statistics (area SSC40610) obtained through ABS and Census data. Minimal statistics available from RP Data and was not included in results.

Figure 17 - Quorn Total number of Dwellings (Occupied and Unoccupied)- by year¹⁵



5. Hawker Community Profile

5.1 Population

2018 Summary

Hawker's population has declined 31% over the past 5 years, while the wider Flinders region fell by only 3%. At present, the ratio of males to females is evenly split, despite males having traditionally outnumbered females over the previous decade. Thirty eight percent (38%) of Hawker's population is within the adult working age group (25-60) with 29% of residents over the age of 60. Persons aged 15-19 make up only 2% of the total population.

Context

The statistical boundary area for Hawker in each census year changed between 2006 and 2016. The changes in boundaries may explain some of the fluctuations in population figures. Data obtained on Hawker urban centre for the three census years indicate the "in town" population remained relatively constant over the past decade (229 in 2006 to 246 in 2011 and to 237 in 2016).¹⁶

Trends reflected in the data

Historical trend: The population of Hawker has experienced significant fluctuations since 2001, where the population grew by 24% to 2006, 35% to 2011, followed by a reduction of 31% to 2016. The overall population is down 6% compared to 2006 levels, matching the same population percentage decrease of 6% experienced in the wider Finders region.

The gender balance in Hawker has traditionally been dominated by males, however a reversal of this trend has occurred in recent years. In 2006, the ratio of males to females was 53:47 which improved

¹⁵ Source: Quorn dwelling statistics (area SSC40610) obtained through ABS and Census data. 2005/06 reporting year did not report the number of non-occupied dwellings.

¹⁶ Population boundaries for Hawker Urban Centre (UCL409200 in 2006 and UCL422023 in 2011 and 2016).

to 52:48 by 2011. An increase in the female population has brought greater balance across the population resulting in an even 50:50 ratio by 2016.

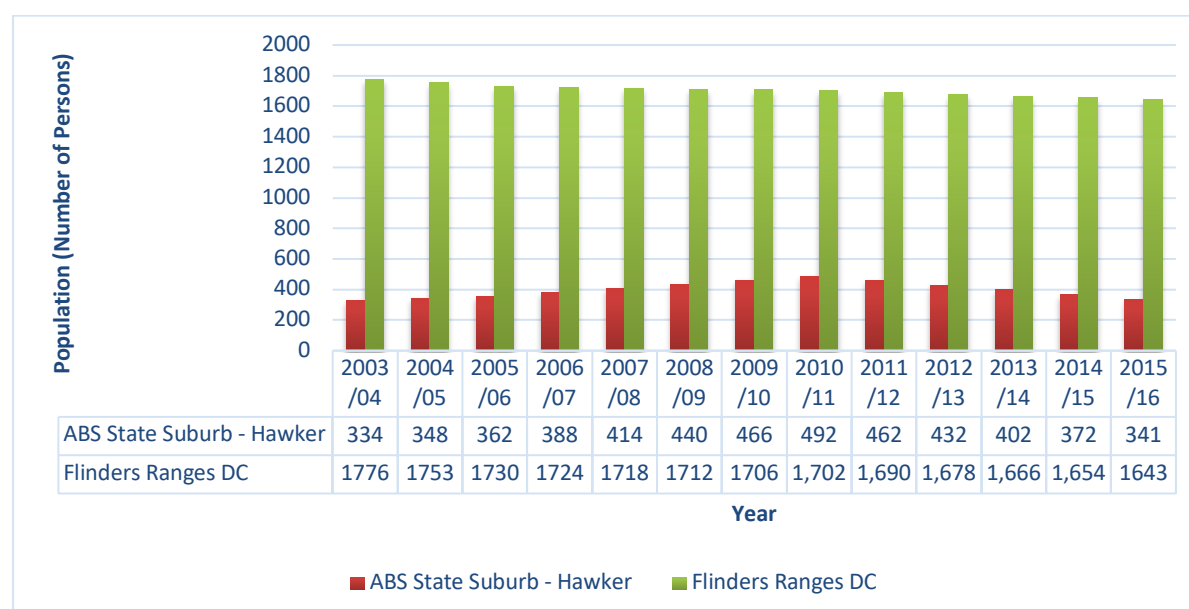
The percentage of persons within the workforce has experienced a gradual reduction from 53% in 2006 to 38% in 2016. The percentage of persons aged above 60 (retirees and elderly people) has increased, from 25% in 2006 to nearly 30% in 2016.

Community insights and perceptions

**When the initial data was presented to residents during community engagement sessions in July 2018, concerns were raised regarding the reported population figures. It was noted that the ABS census area's had changed in the region and the report has used the ABS state suburb data for consistency.*

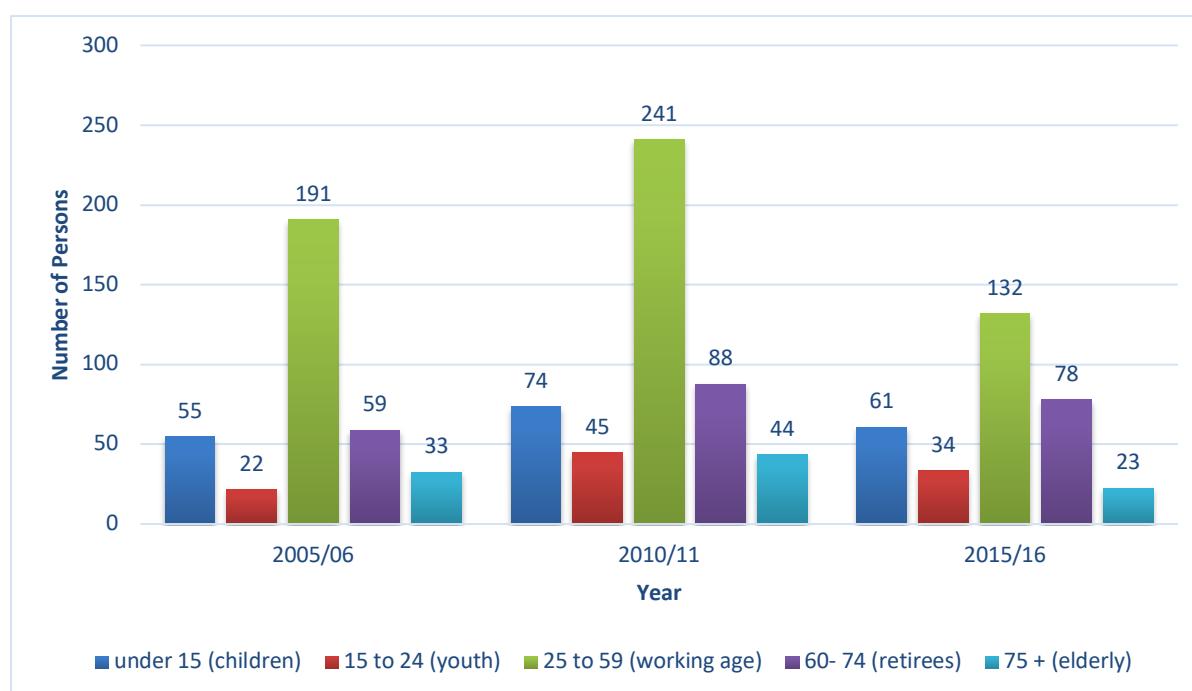
Interviewees agreed there was an ageing population in Hawker and that the population had decreased in more recent years.

Figure 18 - Hawker and Flinders Ranges Population trends, by year¹⁷



¹⁷ Source: Population boundaries for Hawker SSC have changed with each census year. Data used for Hawker (SSC43746 in 2006, SSC40277 in 2011 and SSC40566 in 2016) and Flinders Ranges DC (LGA41830) obtained through ABS and Census data. Approximations for non-census years is utilised to illustrate average trends between census years.

Figure 19 - Hawker Age Group Population Numbers, by year



5.2 Employment

2018 Summary

The level of unemployment in Hawker has increased significantly in the past 5 years, up from 2% in 2011 to 6% in 2016. The size of the labour force has also reduced significantly over the same period, down 44% from 2011 levels to 152 people in 2016. These trends have affected the number of people employed, with a larger portion of full time jobs lost compared to part time positions (down 47% and 42% respectively from 5 years earlier).

Trends reflected in the data

While the rate of unemployment remained relatively constant between 2001 and 2006 (between 1.7% and 2%) a significant spike saw it reach 6.4% in 2016. With a current active workforce of 137 people, the number of people seeking works has increased to 10. This is a substantial increase from a decade earlier when Hawker's workforce of 175 had only 1 person registered as seeking employment.

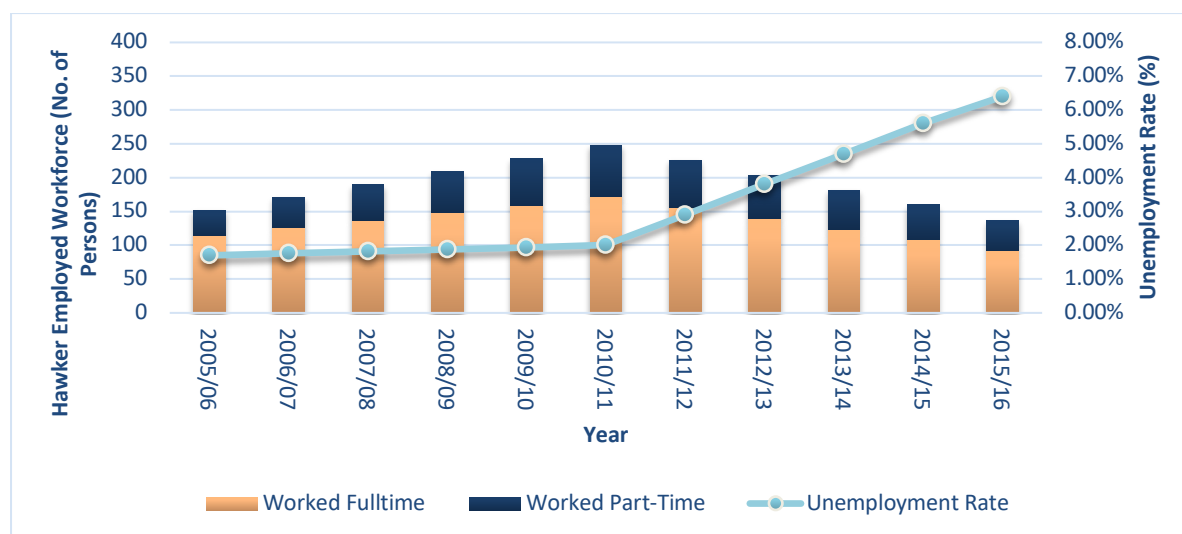
The size of Hawker's active workforce grew significantly by 62% between 2006 and 2011 (from 153 to 249 persons) however a downturn or closure of local businesses between 2011 and 2016 led to a significant reduction in total jobs, with the total active workforce sitting at 137 people by 2016. This trend was also experienced across full time and part time roles, both down 47% and 42% respectively between 2011 and 2016.

Community insights and perceptions

Interviewees thought the increasing unemployment rate could be related to the closure of Leigh Creek coal mine, and to unemployed people moving into the region. They agreed that full-time jobs are becoming scarcer with agriculture and essential services employing less people (as the population

declines). Despite rising unemployment figures, interviewees believed that those people in town who had skills and wanted to work could find work, even if not full-time work.

Figure 20 - Hawker Employment Figures, by year¹⁸



5.3 Income & Business

2018 Summary

Personal income has experienced steady growth in recent years, sitting at \$47,448 in 2016. The average income in Hawker ranks slightly lower than the stage average (\$50,149). Total business income has varied year on year since 2012 but has increased overall, up 11% over the past four years. Agriculture, Forestry and Fishing is the lead industry providing employment in Hawker, contributing 20% of all employment roles in the community. The top 5 industries in providing employment to the town has remained the same since 2006, currently contributing a 67% share of jobs across the labour market.

Trends reflected in the data

The level of average annual income has experienced growth of 11% since 2012/13. A slight reduction of average income occurred in 2013/14 however the following year rebounded to maintain the short term positive growth trend. Hawker has remained below the state average year on year, sitting 5% lower at \$47,448 in 2016.

The 5 main industries contributing to employment across the community has remained the same since 2006 however the contribution share has increased overall. Agriculture, Forestry and Fishing; Construction; Accommodation and Food Services; Health; and Education contribute 67% of all roles within Hawker, up marginally from 64% in 2006. Construction and Education/Training industries have experienced the greatest growth since 2006, where they each contribute 12% of the total workforce while Hawker's largest industry, Agriculture, Forestry and Fishing has reduced marginally, down from 22% in 2011 to 20% today.

¹⁸ Employment numbers and unemployment rate for Hawker (SSC40566) obtained through ABS for census years 2006, 2011 and 2016. Approximations for non-census years utilised to illustrate average trends between census years.

Total business incomes have also varied year on year however the number of businesses operating in Hawker took a significant hit between the 2014/15 and 2015/16 reporting years, with 5 closures during this period.

Community insights and perceptions

Interviewees were pleased to see average incomes increasing in Hawker. They felt it could be due to some local people gaining work in mining operations in the region, or because agricultural commodity prices have been quite good in recent years. The drop in business numbers was thought to be associated with the mine closure at Leigh Creek.

Figure 21 - Hawker and South Australian Average Taxable Income, by year¹⁹

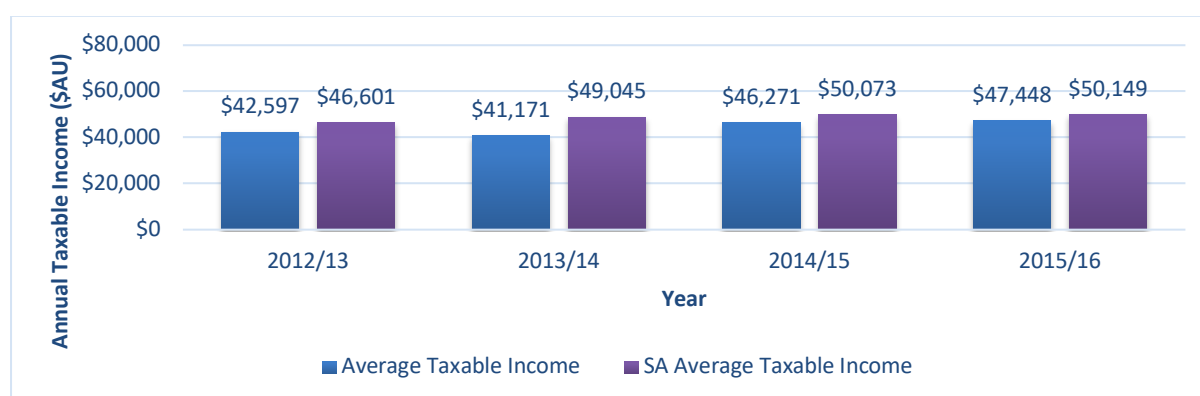


Table 3 - Hawker Industry Employment distribution, by census year

Industry	2005/06	%	2010/11	%	2015/16	%
Agriculture, Forestry and Fishing	39	22%	58	22%	27	20%
Mining	4	2%	6	2%	3	2%
Manufacturing	14	8%	12	5%	0	0%
Electricity, Gas, Water and Waste Services	0	0%	8	3%	0	0%
Construction	14	8%	24	9%	16	12%
Wholesale Trade	0	0%	3	1%	0	0%
Retail Trade	15	9%	17	6%	10	7%
Accommodation and Food Services	26	15%	33	13%	19	14%
Transport, Postal and Warehousing	6	3%	7	3%	3	2%
Information Media and Telecommunications	0	0%	3	1%	0	0%
Financial and Insurance Services	5	3%	4	2%	0	0%
Rental, Hiring and Real Estate Services	0	0%	0	0%	0	0%
Professional, Scientific and Technical Services	3	2%	9	3%	0	0%

¹⁹ ATO. Average taxable income for postcode 5434 (Hawker) and South Australia. Industry statistics for Hawker township (SSC40566) obtained through ABS for census years 2006, 2011 and 2016. No data available through ABS on individual agriculture industries or Tourism sector. As per ABS Census information, all persons working Employment figures include all persons aged over 15 years currently working, including self-employed persons.

Administrative and Support Services	5	3%	3	1%	8	6%
Public Administration and Safety	10	6%	15	6%	4	3%
Education and Training	14	8%	21	8%	17	12%
Health Care and Social Assistance	19	11%	27	10%	13	9%
Arts and Recreation Services	0	0%	0	0%	6	4%
Other Services	0	0%	13	5%	9	7%
Inadequately described/Not stated	0	0%	0	0%	3	2%
Total	174		263		138	

Figure 22 - Hawker Annual Rainfall, per year²⁰

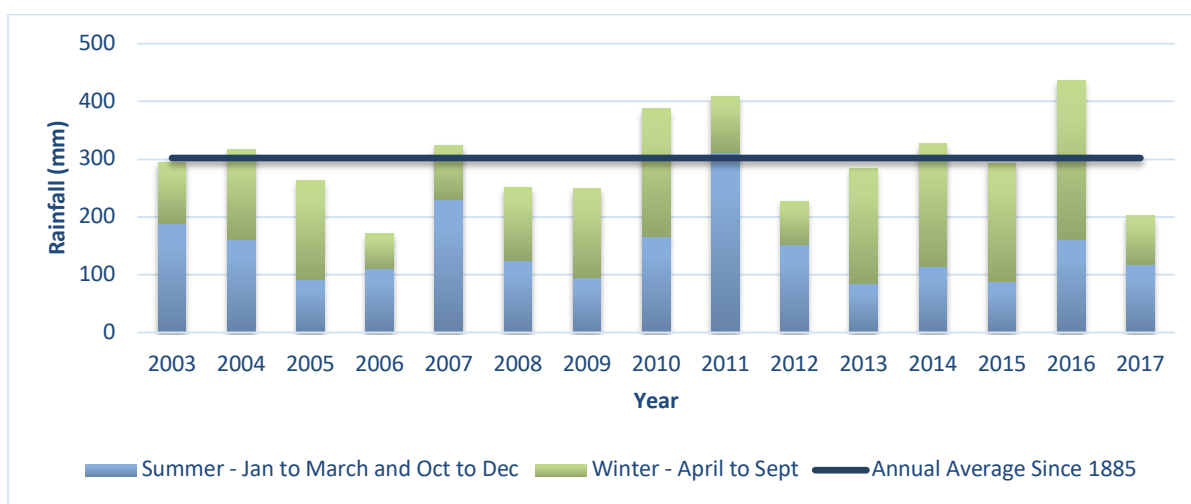
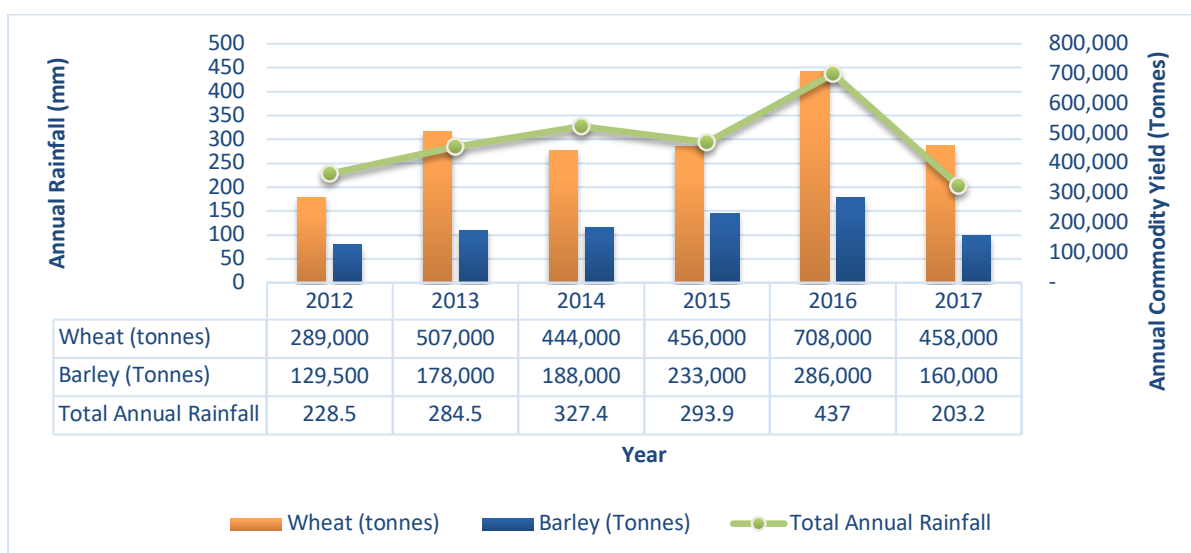


Figure 23 - Hawker Barley and Wheat Yield vs Annual Rainfall, per year²¹



²⁰ Source: Bureau of Meteorology Climate Data online, <http://www.bom.gov.au/climate/data/> Rainfall observations reported for Hawker (Wilson) no. 19050. Annual rainfall average 302mm. Wheat and Barley production figures for Upper North region used for Hawker from South Australian Department of Primary Industries.

²¹ Wheat and Barley production figures for Upper North region used to locate Hawker specific data from South Australian Department of Primary Industries.

Figure 24 - Upper North Region (Quorn/Hawker Area) Percentage of Barley and Wheat yield of Total Harvest, by year

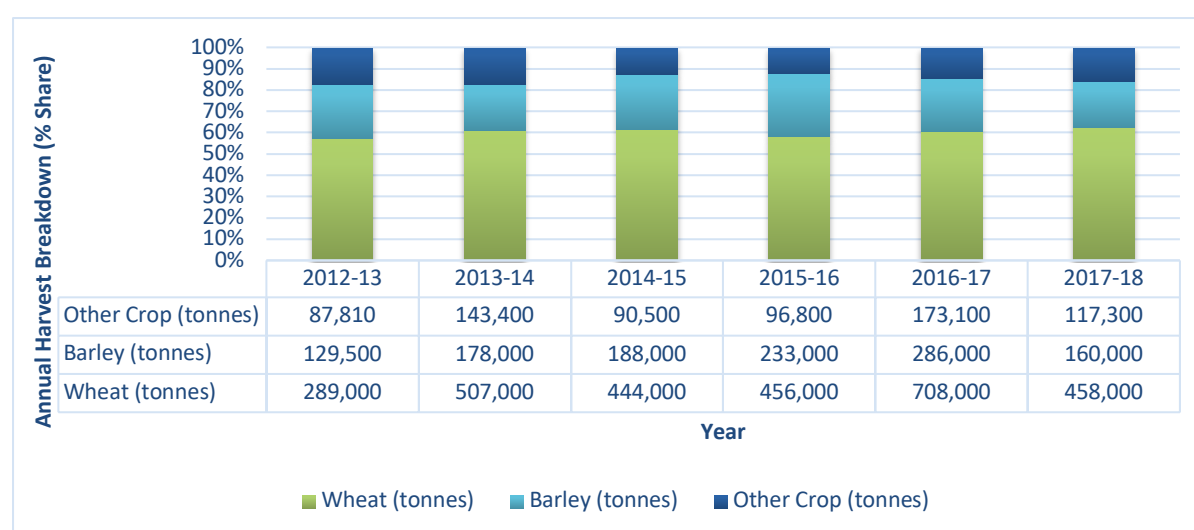


Figure 25 - Historical Price of Australian Wheat Exports against Hawker Total Annual business income, by year²²

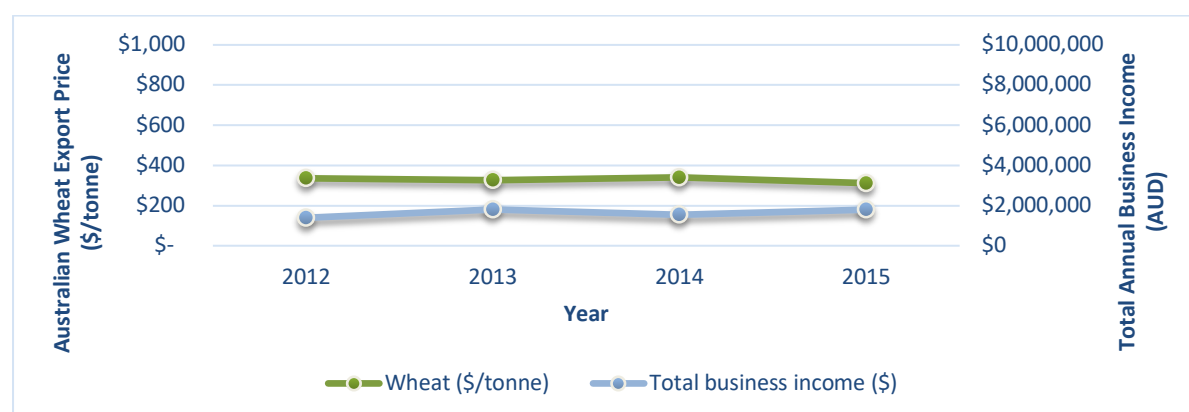
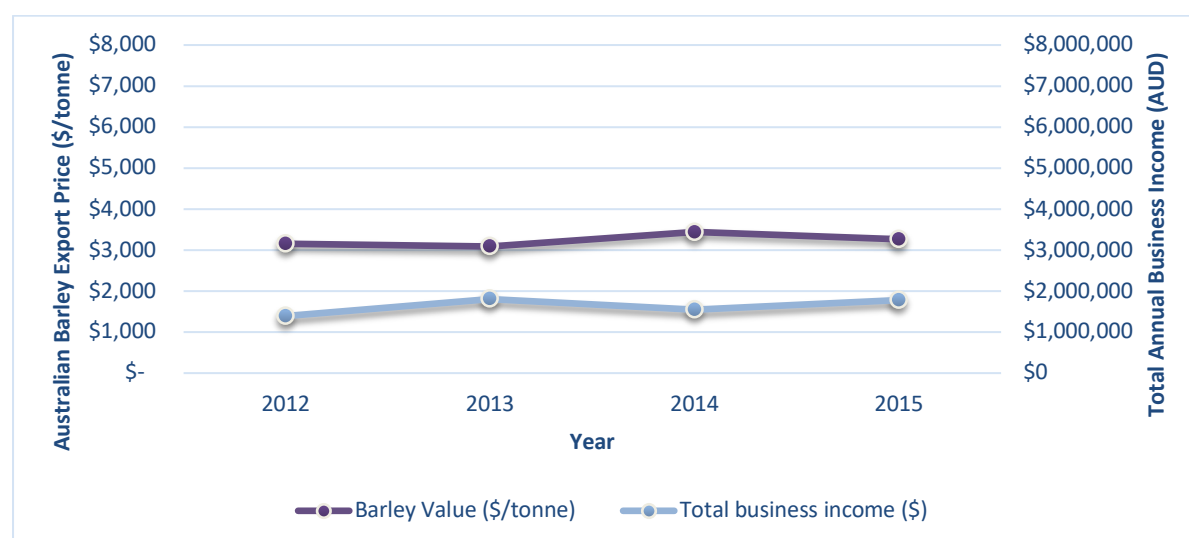


Figure 26 - Historical Price of Australian Barley Exports against Hawker Total Annual business income, by year



²² Source: ATO for total annual business income. Values of commodity exports obtained from historical ABARES data.

Figure 27 - Historical Price of Australian Clean Wool Exports against Hawker Total Annual business income, by year

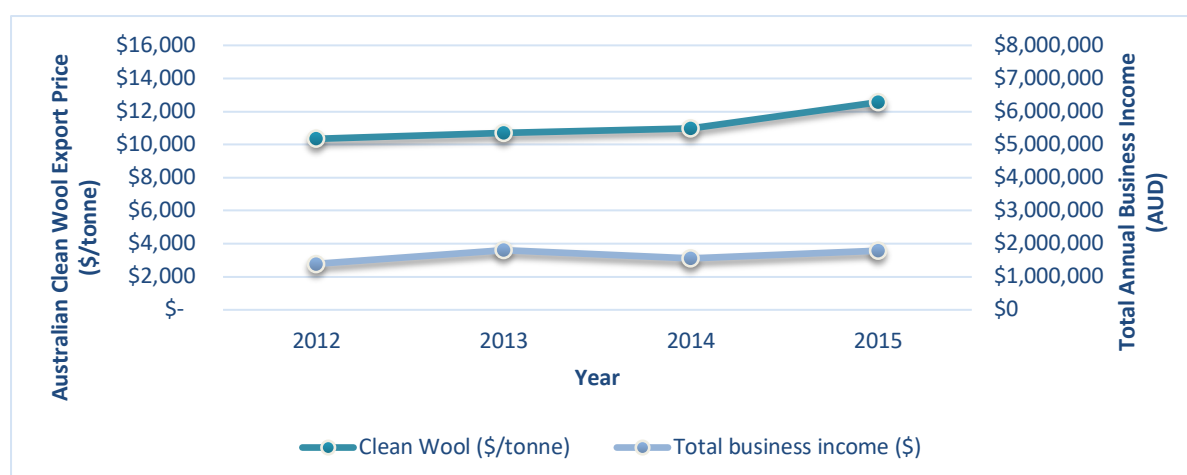
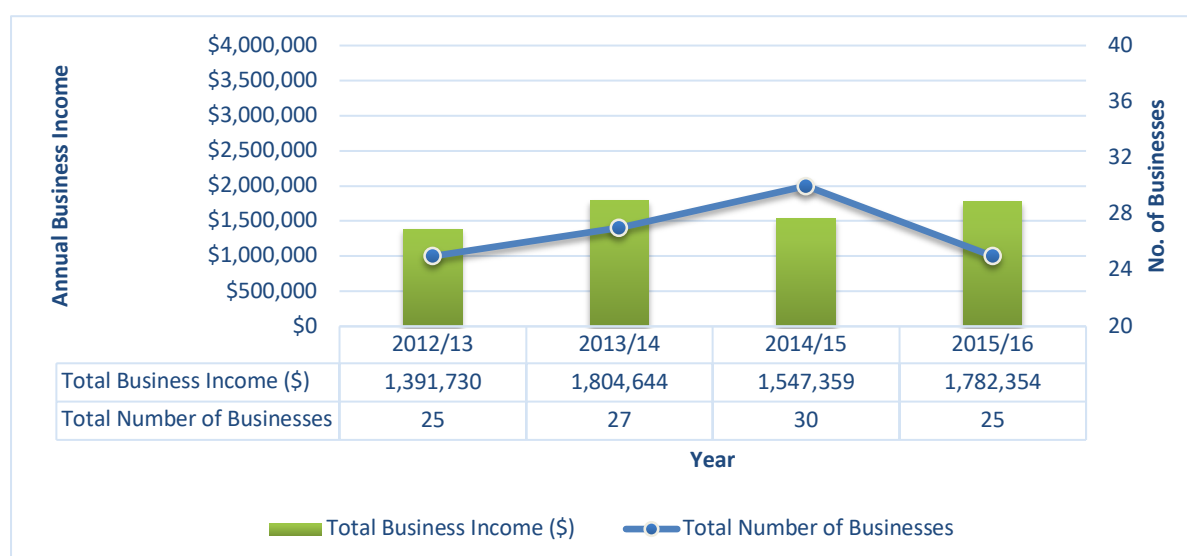


Figure 28 - Hawker Business Income and Number of Business, by year²³



5.4 Education

2018 Summary

The majority of Hawker's population (79%) do not have a formal education level higher than that obtained at high school. At present, 10% of the population have a Diploma, Bachelor degree or Postgraduate level qualification and 11% of residents in Hawker have completed a Certificate III or IV through formal education programs.

Trends reflected in the data

While the population of Hawker changed drastically between 2006 and 2016 (a sharp rise to 2011 followed by an equal fall to 2016), the fluctuations in population levels follow similar trends in the number of persons with and without qualifications beyond high school.

²³ Source: Australian Tax Office (ATO), research and statistics, <https://www.ato.gov.au/>. Total business income for postcode 5434 (Hawker). Original data – no discounting applied.

From 2006 to 2011, a rise in the number of persons with a Diploma, Bachelor or Postgraduate (from 10% to 15%) and Certificate III and IV (13% to 16%) qualification occurred. Conversely, the reduction in Hawker population between 2011 and 2016 impacted these levels throughout the community. In 2016 the impact was so significant, the percentage share of each category retracted to levels previously experienced a decade earlier. In this period, the number of residents with post high school education (both University and TAFE qualification) halved.

The Hawker school numbers have remained relatively low across each year reported.

Community Insights and perceptions

With most job opportunities in agriculture, post-school qualifications have not been needed. However, interviewees expected that the number of people with post-school qualifications would increase if the facility was to go ahead in Hawker.

Figure 29 - Hawker Education and Qualification Levels - Share of the population, by year²⁴

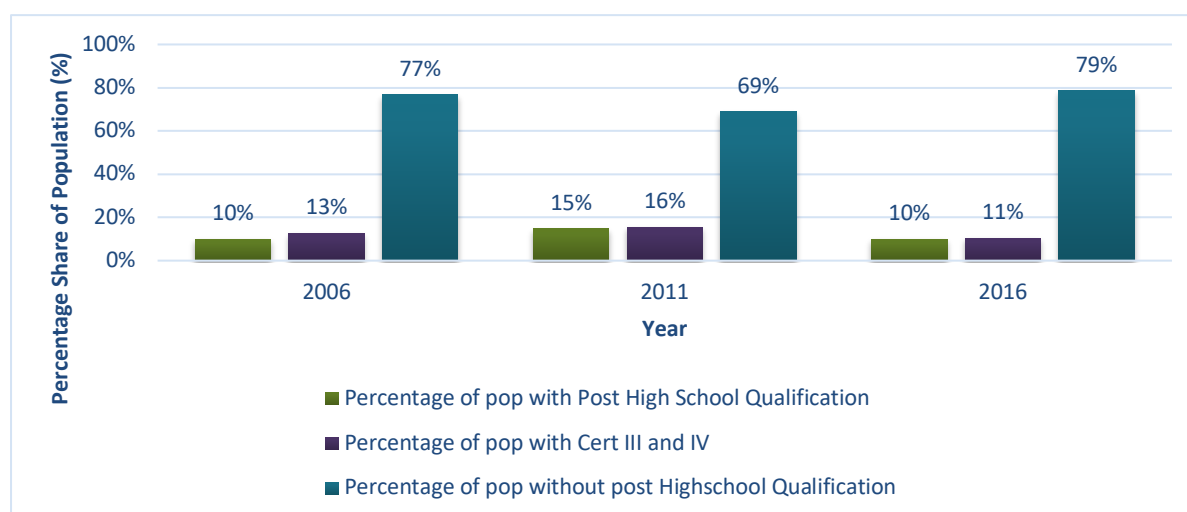
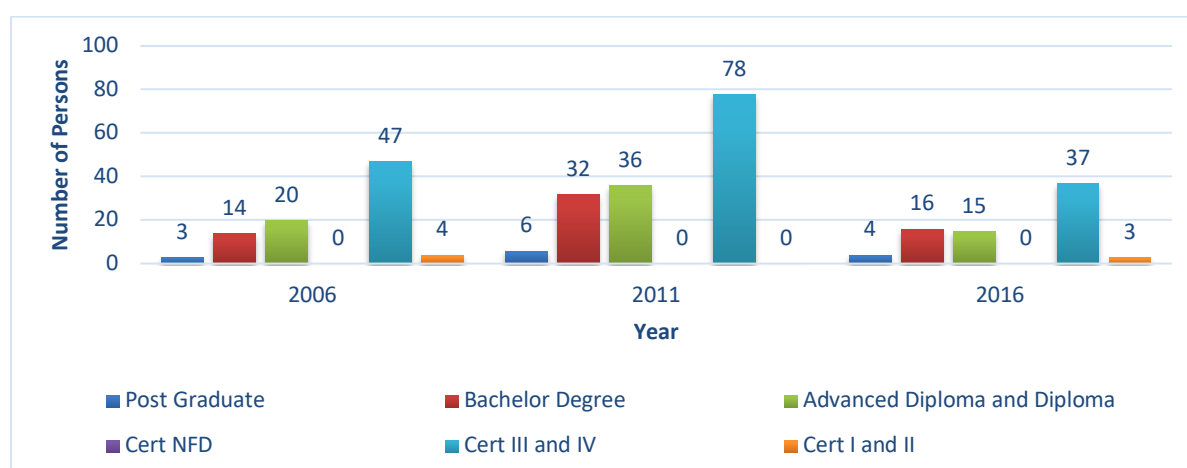
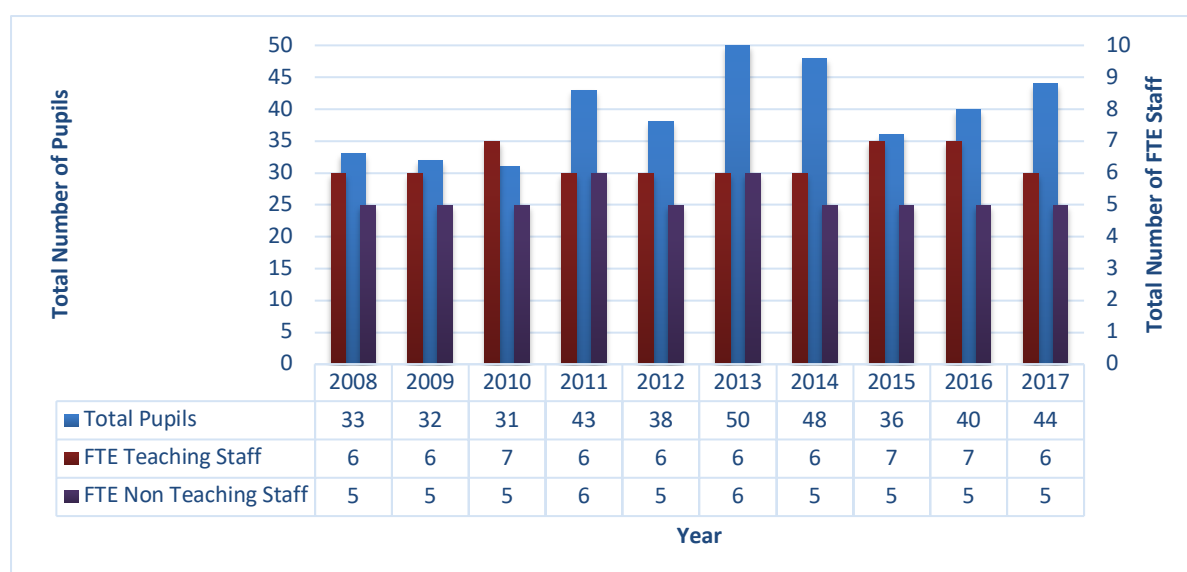


Figure 30 - Hawker Education level of qualification - Number of persons, by year



²⁴ Source: Qualification and Education data for Hawker (SSC40566) obtained through ABS for census years 2006, 2011 and 2016. Certificate III and IV – considered higher than year 12. Certificate I and II are considered lower than year 10 but higher than year 9. Certificate NFD – Not further defined. ABS collection of data categorised in own group.

Figure 31 - Hawker Area School Pupil and Staffing Numbers, by year²⁵



5.5 Safety & Wellbeing

2018 Summary

Hawker has experienced a gradual decrease in the total number of reported offences since 2013/14. In the current period (Q1-3 in 2017/18), 6 total assault offences have been recorded, up 200% on the previous year.

A snapshot of local traffic volumes for Hawker indicate a moderate volume of vehicles pass through town, with only 14% of traffic relegated to commercial activity.

Trends reflected in the data

2012/13 was a relatively low year for reported crime activity however significant growth of 500% was experienced the following year. Since 2013/14, the total number of crimes has reduced each year, down 38% overall to 2017/18. Reported theft has ranked higher compared to assaults every year since 2012/13 however 2017/18 has seen a significant increase in the number of recorded assaults, up 200% on the previous year.

Records of traffic flows through Hawker provide insight into the volume of traffic passing through town along the Flinders Ranges and Outback Highways. Statistics indicate the majority of activity through town is attributed to passenger vehicles, making up approximately 86% of in town traffic.

Community insights and perceptions

Hawker is thought to be a very safe town with children allowed to play unsupervised.

²⁵ Source: My Schools Database for Hawker Area School.

Figure 32 - Hawker Total Police Reported Offences, by year²⁶

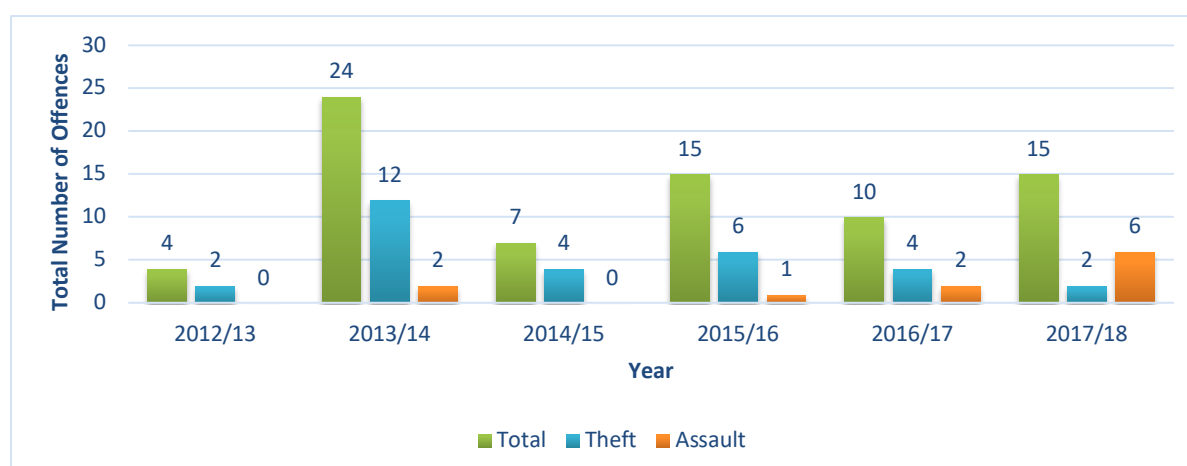


Table 4 - Hawker Traffic Volume by main access road or highway²⁷

Roadway	Total Daily Traffic	No. of CV	% of CV	Year Recorded
In town				
Flinders Ranges Highway	600	85	14%	2015
Out of town				
Outback Highway (North-west of main intersection)	290	65	23%	2015
Flinders Ranges Highway (North-east of main intersection)	250	39	16%	2015
Flinders Ranges Highway (South West of main intersection)	500	70	14%	2015
Flinders Ranges Highway (South West towards Quorn)	340	42	13%	2017
RM Williams Way (Connecting into Flinders Highway)	210	42	20%	2015

5.6 Housing

2018 Summary

The median rent in Hawker is \$123 per week, less than half of the state median (\$260 per week). The median mortgage repayment of \$160 per week is also significantly less than the state median (\$344 per week). The total number of dwellings in Hawker currently sits at 184, with a 34% vacancy rate.

Trends reflected in the data

The median weekly rent amount has maintained consistent growth between 2006 and 2016, up on average 3% a year over the decade.

A different trend occurred for residents with mortgage obligations, where the median weekly repayment increased by 82% to \$250 in 2011. However, across the next 5 years, it fell by 36% to be \$160 in 2016.

²⁶ Source: South Australian Police (SAPOL) <https://www.police.sa.gov.au/> for Hawker postcode 5434. Displayed categories Captured number of incidents based on "crimes against property" and "crimes against a person". Drug and traffic offences were not reported in the publically available data.

²⁷ Source: Location SA Map and Traffic data <http://location.sa.gov.au>. CV – Commercial Vehicles. Most recent traffic volume data illustrated however in some instances several years old.

The rise and fall experienced in mortgage repayments mirrored the number of dwellings occupied over the same period. A sharp rise in dwellings between 2006 and 2011 (150 to 272) was followed by a large reduction in 2016 (272 to 184). The decrease in supply was also met with a high vacancy rate, which was 34% in 2016.

Community insights and perceptions

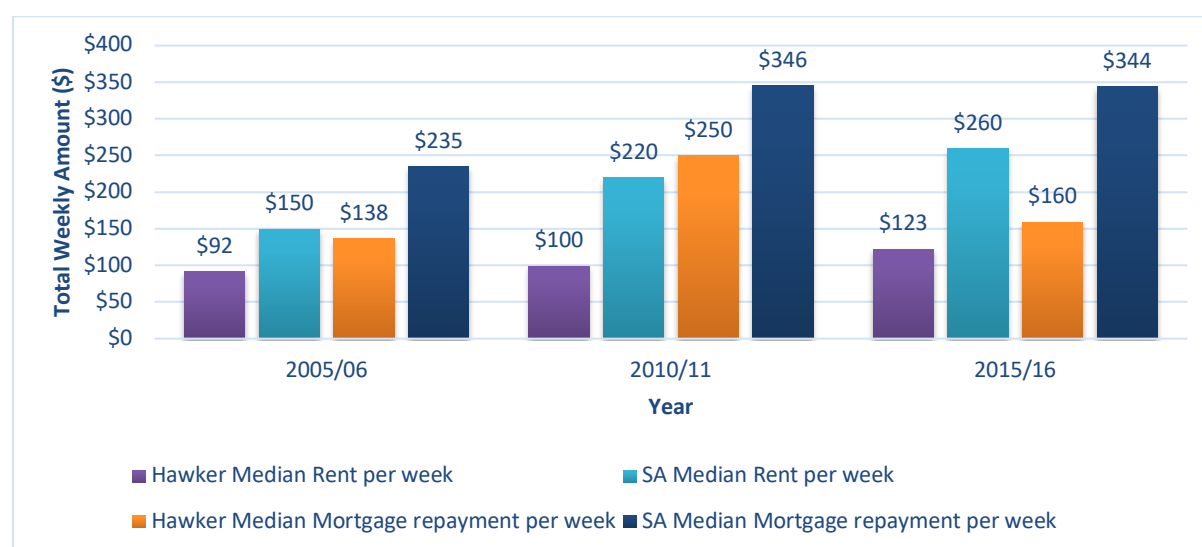
Housing data can be skewed easily because of small numbers involved. The data is for all types of housing, regardless of size and condition. If one larger house sells it can change the statistics for that year.

Low property values were a concern to some residents, particularly elderly residents who may need to move to centres with better aged care facilities. They were concerned that there is little demand for housing in Hawker, and the sale price would not be enough to buy a new home, or cover the deposit needed to secure a place in aged care.

The banks require a higher deposit than in urban areas which can make it difficult to buy and sell.

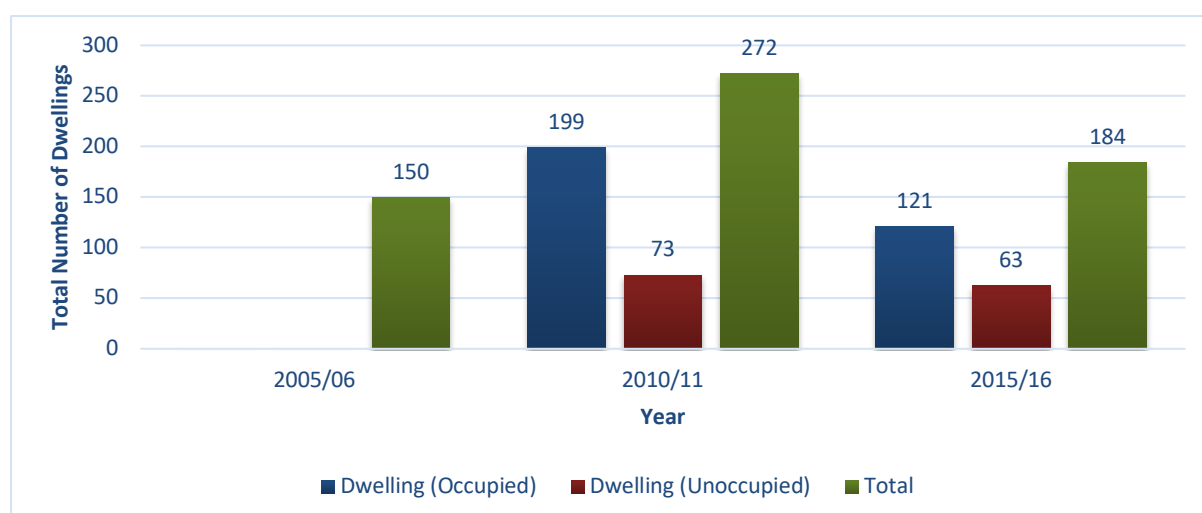
For others, the affordable living enabled them to save money to travel, or meant that they did not need to work full time and were able to participate more in community activities.

Figure 33 - Hawker and South Australia Weekly Median Rent and Mortgage Repayment levels, by year²⁸



²⁸ Hawker weekly rent and mortgage repayment statistics (area SSC40566) obtained through ABS and Census data. Minimal statistics available from RP Data and was not included in results.

Figure 34 - Hawker Total number of Dwellings (Occupied and Unoccupied)- by year²⁹



6. Results from Interviews

Only a small number of interviews (13 interviews and then 3 telephone and 2 email responses) were conducted in Hawker and Quorn. This was attributed to short notice of the confirmed dates for the researchers' visit (see Methodology section 3 for more detail). Limited notice meant that many individuals were unaware, unable or not interested in attending an interview session with a researcher. Some individuals chose to follow up with a telephone call at a later stage. The findings from the interviews – both face to face and telephone – and emails are presented in the following sections. To avoid duplication, as there were many similarities in responses from those interviewed in either Hawker or Quorn the responses from both towns are presented together. Where there are differences, the town is identified.

6.1 Community Values

Participants were asked to identify what they valued about living in the town and how they would describe it to others. Several values were identified by residents who expressed a strong sense of pride in their community - something that everyone felt has been evident in both Hawker and Quorn, and the wider Flinders Ranges region for generations.

A strong community spirit, where “everyone knows each other and will help each other” was identified as the main core value of both towns. This was consistently raised during the interviews, irrespective of an individual's personal stance on the proposed NRWFMF. Many of the subsequent values identified revolved around this central theme.

Community “support” and “sticking together”, particularly in adversity or if threatened from the outside, were common phrases used that highlight a strong sense of cohesiveness and shared local identity in the region. People from the region were described as possessing strong character,

²⁹ Source: Hawker dwelling statistics (area SSC40566) obtained through ABS and Census data. 2005/06 reporting year did not report the number of non-occupied dwellings.

independence, resourcefulness and “resilience” during difficult times. This strength of character was said to stem in part from living in climatic conditions at the edge of human comfort (e.g. extreme heat in summer, cold in winter, drought, severe wind storms and floods).

Perhaps relatedly, participants in both towns expressed a high degree of connection with and respect for the local environment. Living in a remote and relatively “natural” area with “wilderness” landscapes was highly valued by local people. Natural and scenic amenity and proximity to the “iconic” Flinders Ranges was often mentioned as a key value of the Hawker community. For some, this value was a priority and something they were unwilling to see compromised in the future.

“Safe” was another word that was often used to describe what individuals valued about living in the region. This element of safety is reinforced by the low crime rates evidenced in the statistics presented in the previous section. Interviewees suggested that the majority of crimes would occur from people passing through on the highway rather than any specific local issues.

Volunteering was seen as a strength in Hawker, particularly. Key services in the small town depend on volunteering and despite a small population these are maintained. Having a resident doctor was also valued by many of the interviewees in Hawker. Although the population size does not qualify for a full-time doctor on service needs calculations, interviewees mostly thought Hawker was “lucky” in that a doctor chooses to live there and operate a medical practice.

For Aboriginal participants, being with family ‘on Country’ was a value of the utmost importance. Maintaining those connections with people, place and culture is said to be critical, although there were differences in how people envisaged that happening (both with and without the NRWMF).

6.2 Changes over time

Many people stated that community values of friendliness and support had been compromised in recent years. The process of siting the NRWMF and extensive community engagement that has occurred over the past three years was said to have placed significant strain on friendships and both business and social relationships within the communities. Several participants acknowledged that division had emerged within the communities – either overt or hidden – with several believing it was the nomination process and the ongoing consultation that has caused much of the stress expressed throughout the interviews.

In Quorn, community members expressed concern about impacts on community and personal wellbeing. Participants also expressed concerned about the town’s future in terms of economic and social sustainability. This was a concern raised by both those in favour, and those against the proposed facility.

In Hawker, similar concerns were raised about the mental health of some members of the community. Particularly at a time where a reduction of services in the community was evident which was partially attributed to overall improvements to technological and communication channels.

In Hawker, older and longer term residents reflected on the community as it was in previous decades- with a higher population, sports teams, and more shops and services. While they offered that there are many contributing factors to the town’s trend of population and services decline, they hoped to see a resurgence in social and economic vibrancy. For some, this means hosting the NRWMF and for others, this would come through attracting and developing tourism opportunities. An increase in

tourism generally in recent years was seen as a positive change, yet it was noted that tourism is highly seasonal and dependent on external economic factors.

6.3 Perceived concerns with the facility

Various concerns were raised about the proposed facility, mostly from those who were in opposition. A prevalent theme was that regardless of the outcome, the process of nomination and determining “broad scale community acceptance” for the NRWMF has created significant division and distress to some individuals within the community. The range of concerns mentioned in interviews are described in the following sections.

6.3.1 Environmental risks

While those opposed to the NRWMF expressed concerns about the possible contamination of the surrounding environment, these concerns were largely absent from those in favour. Many who supported the facility were convinced the structure was sound - either from visiting the ANSTO facility at Lucas Heights or through talking to someone who had, or through information supplied by DIIS in the community consultations. This difference in perceptions of environmental risks echoes studies cited in the literature review of international experiences with siting a radioactive waste facility, where higher risk perceptions and lower trust in government decision making were associated with opposition, and higher trust and lower risk perceptions were associated with acceptance.

There were also concerns expressed about the placement of access roads to the facility creating more impact on local hydrology and cultural heritage. It was felt that watering points for stock (and wildlife) may be cut off by access roads with implications for both local agriculture and biodiversity. Similarly, high water use at the facility was thought to place additional strain on essential groundwater supplies, with the additional risk of contamination of groundwater from the facility into the future.

6.3.2 Stigma and reputational damage

One opponent in Quorn admitted to a degree of “NIMBY-ism”³⁰, and was concerned about the “stigma” that could arise from being known as a “nuclear dump” site. Others in both Hawker and Quorn mentioned concern about the possibility of “stigma” and reputational damage. This was particularly related to the potential impacts on demand for agricultural products from the region, local tourism and local property values. In Hawker, the proximity of the proposed site to (rarer) farming and grazing land was suggested to have financial implications for local agriculture - the major concerns being potential impacts on the quality of agricultural products and stock health if the facility emitted or leaked contaminants.

Interviewees in both towns mentioned a regional reputation for being “clean and green” that may also be damaged purely by the existence of such a facility- regardless of integrity issues.

6.3.3 Cultural heritage

Both Aboriginal and non-Aboriginal interviewees expressed concern about possible impacts the NRWMF may have on Aboriginal cultural heritage. There were others (both Aboriginal and non-Aboriginal) who were excited by the opportunities that may arise for raising awareness of and preserving local Aboriginal culture. For one Aboriginal interviewee being “excluded” from traditional

³⁰³⁰ NIMBY-ism is a term used that refers to Not-In-My-Back-Yard (NIMBY) syndrome, where those opposing a development are thought to act in self-interest alone.

lands and the lessons and stories they convey was expressed as being disrespectful to Aboriginal traditional law, and the knowledge and culture of the local Aboriginal families. Concerns were also raised about “breaking” the continuity of “story lines” and the ancestral and spiritual links they symbolise. One Aboriginal participant conveyed special stories of the connection between local indigenous people and the land so we would understand this significance and in the hope that both land and stories would be protected from the proposed development.

6.3.4 Effects on tourism and other amenity-driven industries

There was a concern that the facility would significantly and negatively impact on tourism and visitor numbers.

“If people have a choice between going to the Flinders Ranges or the Kimberley because they are similar experiences, and we have a nuclear dump, I know which one they are going to choose” (Quorn 002).

There were also concerns raised in both Hawker and Quorn that having the NRWMF would compromise a current bid to have the Flinders Ranges World Heritage listed.

For Quorn, scenic amenity is an economic as well as social value. There have been a number of film productions using the town and surrounding scenery as part of its film setting, and there were concerns about the impact the proposed facility might have on future plans for expanding this type of activity.

6.3.5 Concerns about the process

Unfairness and mistrust in the site selection and community consultation process were highlighted as significant concerns for those opposed to the facility. Many opponents expressed the feeling that their concerns are not being listened to or “seriously considered” by government decision-makers. Others discussed that they felt the public consultation process has been “one-sided”. However, those comfortable or supportive of hosting a NRWMF were inclined to think that the public consultation process had been successful in providing relevant and adequate information, opportunities to ask questions as well as have questions addressed. Visits to ANSTO facilities were seen to be particularly informative by those in support of the facility.

Views about the timeframe of the consultation process also differed. The three year process to date was described as “drawn-out”, and “prolonged” by some, with others referring to expert advice that best practice on such projects should take from 10 to 15 years. One group of interviewees in Quorn, were concerned that this study was regarded only as a “box ticking exercise” to “push through with the proposed dump”.

In this same interview, concerns were also raised about the suitability of the proposed site itself. These included references to the suitability of the geology, the site’s proximity to Lake Torrens, that it lies within a flood-prone area, and is a place of Aboriginal cultural heritage significance. Several interviewees opposing the NRWMF questioned why it could not go in other “more suitable” or “already contaminated” sites such as Woomera or an old uranium mine.

6.3.6 Social division

Cases were relayed where those voicing their position (both for and against the NRWMF) have been harassed and insulted, or more often, deliberately avoided by others with a differing view. Others

have withdrawn from the debate and community activities and prefer to keep their opinions private for fear of losing friends or business. Businesses where the owners have strong views have been boycotted, which is in direct opposition to the voiced community values of “sticking together” in adversity. A majority of interviewees expressed sadness about the temporary loss of this community value and they are not sure how it can be repaired going forward.

6.3.7 Questions about possible benefits

Concerns were raised that the economic benefits of the facility will not flow onto the local community and there was confusion over the likely scale of anticipated economic benefits. We were told how an initial estimate of 8 permanent jobs had been revised to 15 and then again to 45 at the time of this report, with residents expressing frustration and scepticism over the revised figures. Uncertainty over the allocation of roles to the local community were raised, with those in both Hawker and Quorn raising concern that the workforce will be sourced from outside the town with those associated economic benefits missed.

“Costs outweigh benefits, it’s not big enough of a benefit to risk our pristine area” (Quorn 001)

It was thought the economic benefits would be mostly during the construction period, with fewer longer term benefits.

There are also concerns about how the government plans on addressing the shortage of required skills in Hawker and Quorn, with speculation about the government potentially promising jobs to specific groups within the community.

6.4 Perceived opportunities with the facility

Those who support the NRWMF saw a range of economic and social benefits, while those who opposed the facility questioned whether these benefits would manifest as predicted.

6.4.1 Employment and skills

The most frequently mentioned opportunities were in relation to the additional jobs the facility would create. While it was generally acknowledged that some skills would most likely need to be imported, opportunities were seen for local people to gain employment in various roles at the facility. Even if the jobs were not filled locally, the opportunity of “new people” coming to town was seen as a benefit—more so in Hawker, where population has been steadily decreasing and community and sporting groups struggle to maintain numbers and perform key functions.

It was thought that the “flow-on effects” of additional people in the town would create new job opportunities in other sectors. For example, the school may need an extra teacher, they might need additional retail, health and aged care workers.

The opportunity for local people (and particularly Aboriginal people) to build skills and/or acquire new skills in order to increase employment opportunities was also frequently mentioned. In Hawker, potential employment opportunities for young Aboriginal people was identified as “a great opportunity”, and even “a blessing” not only by providing training pathways in the Aboriginal community, but through opportunities to enhance relationships between the Adnyamathanha people and local residents and businesses.

Opportunities were seen for school children to better engage in STEM (Science, Technology, Engineering and Mathematics) subjects at school with the incentive of gaining a “good job” at the NRWMF locally, or at another facility “anywhere in the world”. Speciality science programs relevant to either the nuclear (or hazardous waste) industry were seen to enable a range of new future opportunities for local children.

6.4.2 Connectivity

Increased connectivity was mentioned as an opportunity in Hawker. That could be through improved telecommunications (Internet) and roads but also through building ‘sister city’ type connection with ANSTO in Sydney and other communities globally that have a NRWMF. The shared learnings and sense of “worldliness” was felt to “put Hawker on the map”.

Improvements to local roads was seen as a potential (and welcome) opportunity in both towns.

6.4.3 Stability

In Hawker, the proposed NRWMF was said to provide a stabilising “third leg” to the local economy. This was in addition to existing agriculture and tourism industries, both of which are highly seasonal. The prospect of a “continuous income stream”, not reliant on weather or seasons was thought to have a stabilising influence on the local economy, and “prop up” local businesses when other industries were quiet.

6.4.4 Social benefits

The injection of new people into the town was seen as presenting a range of social opportunities. This was mentioned in both towns but was more prevalent in Hawker where population is declining. Most interviewees (both for and against the NRWMF) welcomed the prospect of new people in town. However, it is expected that new residents would actively participate in community life by volunteering (in a range of community groups and services such as the fire brigade and SES), and being involved in sporting and social groups. Families with children would be especially welcomed as currently, children in Hawker must travel to participate in regional sports because there are not enough children locally.

In Quorn, the formation of “new friendships” between long term residents and local Adnyamathanha people was described as a single positive that has come from the NRWMF discussions. While “working in unison” with the local community (Hawker 005) was important to Aboriginal people as well, there was some scepticism among Aboriginal people about the motives for the new friendships.

The opportunity to increase social services in town was another benefit mentioned. In Quorn, the introduction of a full time police officer was raised and presents an opportunity for consideration. Concerns were raised that some incidents are going unreported due to the lack of presence in town where the reported number of offences may not accurately represent current levels of crime in town. For Hawker, a “sustainable” childcare facility is another service needed for the town where previous attempts to establish this service encountered obstacles in obtaining the correct accreditation, training and support.

6.4.5 Economic benefits

Direct economic benefits were anticipated, through employment, and the provision of local goods and services (particularly in the construction phase) such as worker accommodation, food and laundry services, trades, earthworks, truck driving.

Some thought that the NRWMF would increase opportunities to further develop the region's tourism sector. In Hawker, an information and cultural heritage centre close to the site is expected to attract significant additional tourism to the area (note that others in both Hawker and Quorn thought this would be a deterrent for visitors rather than an attraction). The collation and promotion of Aboriginal culture and heritage, science education and tour operations in the region are outlined as seen as key opportunities arising from the NRWMF.

6.4.6 Cultural heritage benefits (that may soften impacts)

While potential impacts on Aboriginal cultural heritage and the need for respect for Traditional ownership were extremely important to the majority of interviewees (both Aboriginal and non-Aboriginal), some could also see benefits to Aboriginal people arising from the NRWMF that could lead to the preservation and enhancement of local cultural heritage.

These included funds from the Community Benefits Package that could be used on initiatives to teach the local language to young Aboriginal people, thus preserving it. Also, initiatives that would capture and re-tell the stories of the old people, so they can be continued.

Others see benefits in raising wider public awareness of the local cultural heritage, including stories, art and craft (with and through the local Aboriginal people themselves) with the belief that sharing those stories, could generate greater respect for Aboriginal culture and the connection to Country more generally.

7. Pathways

Within this section we identify a number of potential strategies to address key areas that emerged from the interviews and desk top review. This process helps to confirm the likely indicators that could be used to continue monitoring how each community is tracking after the results are announced.

7.1 Next steps

As the literature shows, benefits can be maximised with relevant negotiated strategies. Ideally this would involve identifying strategies to maximise benefits if the nomination is successful, and then strategies for supporting the community if not. As identified, additional community investment can serve as a valuable supplement to the direct benefits accrued through employment and local purchasing. Attention should be paid to possible effects on recreational tourism and property values, where there is plenty of scope for effective mitigating strategies. Impacts on Aboriginal cultural heritage must also be given special attention as any strategies would need participation and leadership from relevant representatives. Attention should also be given to general community wellbeing, including mitigating the tangible effects on social cohesion.

A review of community investment schemes shows common benefits in the way of job skills and training programmes, affordable housing, community infrastructure, recreational facilities, environmental remediation, community initiatives, events and programmes (RWM 2016).

Interviewees were asked about their thoughts on strategies going forward in relation to either outcome. While both those in favour and those against saw varying degrees of benefits in hosting the NRWFMF, people were largely unsure of the strategies that would be needed to take full advantage of the benefits. Similarly, there were few strategies offered for going forward as a community without the facility. Fortunately, there are examples of other communities that have been in similar situations around the siting of new infrastructure projects – equally supported by some and opposed by others - that can help to inform these strategies.

The following strategies were provided in interviews and relate to the concerns and opportunities mentioned.

Table 5 - Strategies for addressing concerns

Concerns identified	Strategies suggested in interviews
Environmental risks	<ul style="list-style-type: none"> • Visits to ANSTO helped • More detailed information needed • More “independent” studies of risks needed
Stigma/reputation	<ul style="list-style-type: none"> • “Comes with the word “nuclear” so nothing much can be done” • Instil a sense of pride that “we would be doing something good” (for medicine, patients, etc.)
Tourism/Amenity	<ul style="list-style-type: none"> • Try and assess tourist sentiment about the NRWFMF and possible impacts – would people choose to avoid the area?
Cultural Heritage	<ul style="list-style-type: none"> • “cultural heritage is important, but you can’t live off it”- make this point clear • Improve understanding of potential benefits and how cultural heritage can be preserved • Promote the “mutual benefits” between cultural heritage and the NRWFMF
The process	<ul style="list-style-type: none"> • Stop the process (and start again). • Not allow nominations from individuals but nominations from local governments, following a majority vote of constituents. • More “balanced” public debate about risks and benefits • Provide consistent and accurate information • Payments to representative group members were seen as “bribery” to some – who questioned if the process would have been “fairer” without payments
Social division	<ul style="list-style-type: none"> • “some sort of reconciliation” is needed • Mental health support will be needed regardless of outcome • Social division could be a barrier to future collaborations (needed to maximise local benefits) • Open disclosure of criteria and eligibility to win contracts to ensure a “level playing field”
Benefits questioned	<ul style="list-style-type: none"> • More detailed information needed • Skilled jobs would need University training (a 3-5 year investment) • Many currently unemployed people have police records and a police clearance is a requirement for employment. This would be a barrier to local employment. Is there another test that can be taken? • Make sure the benefits are distributed equitably (particularly between Aboriginal groups)

Table 6 - Strategies for harnessing benefits

Opportunity	Strategies mentioned in interviews
Skills/employment	<ul style="list-style-type: none"> • Communicate the skills required early so there is lead time • Subsidise or provide training (intensive courses, face-to-face, locally preferred)
Connectivity	<ul style="list-style-type: none"> • Opportunities for start-up internet-based businesses - facilitate support for these • Strategic planning of new roads and roads upgrades so they have local benefits
Stability	<ul style="list-style-type: none"> • None provided
Social benefits	<ul style="list-style-type: none"> • Encourage (or require) newcomers (NRWMF employees) to participate in social and sports activities • Encourage (or require) newcomers (NRWMF employees) to volunteer in local services and groups
Economic benefits	<ul style="list-style-type: none"> • Small businesses need help in how to coordinate and collaborate • “make sure we are prepared” • Early information about what is required • Child care services will be needed for women to participate in the workforce fully • Case studies from other towns will help inform strategies
Cultural heritage	<ul style="list-style-type: none"> • Assistance for Aboriginal groups with becoming “more business-like” in approach • Support to establish Aboriginal businesses • General business skills needed to capture benefits, not just the “manual skills” • Aboriginal groups and businesses need to “work together” with local businesses

7.2 Strategies from literature and resources development experience

This section outlines some lessons taken from the literature and particularly experiences with coal seam (CSG) development in Queensland and are more general in nature.

- Some smaller towns can struggle to capture benefits. Local businesses may be too small to provide the required goods and services at a suitable scale, or incoming workers and businesses may choose to locate themselves in a larger town close by. Expectations of benefits should be managed carefully in these circumstances;
- Clearly define the ‘local’ in local content. Expectations around what is meant by ‘local’ in local procurement policies caused avoidable angst in relation to CSG (Gas Fields Commission Queensland 2017);
- Clearly define the procurement and recruiting processes;
- Clearly define the timeframes for work/goods/services needed (e.g. for 2-3 years in the construction phase, then afterwards);
- Help local businesses produce a ‘capability statement’ about the type and amount of goods and services they can provide. There should also be mechanisms that encourage local businesses to collaborate to reach the required demand, rather than individual businesses upscaling with capital outlays. Business capability statements can be shared with others

(through local Chamber of Commerce or local business network) to facilitate coordination and collaboration.

- Cooperative approaches can work, but the frameworks and agreements need to be in place so businesses are “ready to jump” when the demand begins.
- Small businesses are most likely to capture benefits if they have some ‘slack’ - either in capital, equipment or staff. Those businesses stretched already to supply existing demand find it hard to stretch any further (Ford et al. 2016)
- Small businesses should not purchase expensive equipment (such as earthmoving equipment, trucks) to meet the short-term needs (contracts) of the construction phase but lease in the first instance. This avoids over-capitalising and the equipment can be returned if the demand stops suddenly. If a longer-term contract is feasible, or where there are alternative opportunities for business development (such as maintaining roads, dams, etc.) then purchasing may be preferable;
- If service providers need accreditation and special additional training (such as first aid, safety) this should be communicated early so they can be prepared;
- If local tradespeople gain contracts to work with the NRWMF, (particularly during the construction phase) then this can create a deficit (and associated increased prices) for people needing those services in the community;
- Twelve hour shifts can make it difficult for women to participate in the workforce;
- Local community groups can benefit from grant writing skills training, especially where they are required to apply for funds through competitive grants;
- Develop and implement an ongoing social and economic monitoring framework to track changes and emergent issues/concerns (e.g. The UQ Boomtown Toolkit);
- Do not provide permanent housing for a temporary workforce, unless town planning has identified a future need. Workforce housing decisions should consider local context and involve local residents;
- Build trust and capacity in local government decision making. Local government may need to make planning decisions quickly;
- Ensure there is a community plan in place so that funds distributed through the Community Benefits Scheme can be leveraged for strategic and long term aspirations;
- Build police capacity to manage traffic and perhaps increases in opportunistic theft and Good Order offences during the shorter term disruption of the construction phases.

From these lessons, it is clear that for the communities of Hawker and Quorn there are a number of strategies and services needed in order to both minimise negative impacts and maximise potential benefits. The Cadence Economics Report (2018) suggested that around 34 of the 45 FTE jobs created by the facility would be sourced locally. In Hawker, the working age population has declined, as have the numbers of school children and youth to feed into the future working age population. There are only a few residents with post-school qualifications and while the unemployment rate is increasing, interviewees thought that “everyone who wants a job, has one”. It appears that it will be difficult to source specialised skills in the immediate Hawker community in the short term, but there should be a focus on developing the required skills locally. Quorn can offer a larger workforce and higher skills levels and also has a large pool of unemployed persons. It is feasible that 34 jobs could be sourced from the Hawker/Quorn wider area.

Lessons from coal seam gas development in Queensland show that at the local level, skilled persons were drawn to the gas industry from other areas of employment, particularly local government, trades and community services and the agricultural sector. This creates skills gaps in these sectors that can be difficult to fill, particularly if the costs of living increase substantially. As local people seek to fill positions, these can create gaps in the less skilled (and less highly paid) jobs such as cleaning, waiting tables, shelf fillers, labourers, etc. The implications for Hawker and Quorn are that while people may be attracted to come to the region for a highly paid job, they may be less willing to relocate for an unskilled position.

The Hawker community recognises these limitations and would welcome newcomers to their community, although preferably with families to boost school numbers and sports teams. There is existing housing available for a number of new families, and other home-owners willing to sell. Based on the community profile and lessons learned from case studies and literature, the main benefits for Hawker are more likely to come from the flow-on effects of increased business activity (particularly during the construction period) and potentially increased visitor numbers to the NRWMF than from direct employment, at least in the short-term. Longer-term strategies would include training competent and willing young local people into the required jobs.

The social division in all nominated towns will need to be overcome to enable the necessary cooperative approaches to successfully capture widespread benefits.

Quorn is perhaps better placed to capture economic and social benefits from hosting a NRWMF than Hawker with a larger, more highly educated workforce and more services and retail outlets. The interviews in Quorn however, while not attempting to be representative of the whole community, reflected strong opposition to the NRWMF, particularly in relation to environmental and amenity-related risks.

7.3 Pathways for Aboriginal youth

The NRWMF was seen to present a “once in a lifetime” opportunity for young Aboriginal people to find employment and independence, or “learn to look after themselves” (Hawker 005). Having opportunities for employment was said to be a step towards improved lives and lifestyles for many young people. The requirement to have a clear police record may be an obstacle for some, however and it was proposed that alternative, culturally relevant measures of reliability and trust may need to be negotiated with Aboriginal leaders, or jobs be categorised according to the type of work (responsibility and skills) where some need a police check and others do not (for landscaping, roads maintenance work as examples).

Although skills exist, further training and skills development will be essential for the Aboriginal population, particularly youth, to participate fully in economic opportunities. Aboriginal leaders are already facilitating training and accreditation opportunities for younger people to increase their general employment opportunities. While opportunities exist to undertake training and accreditation, it can be difficult for Aboriginal youth to gain experience in their chosen field if they cannot find employment. In some cases, training is completed but there are no opportunities to use or build the skills learned. It was suggested that if there could be Aboriginal owned businesses they would be more prepared to give work (even casual or temporary) or offer apprenticeships to young people to build their skills.

8. Conclusions

Like many other proposals for new infrastructure be they for wind, unconventional gas, pipelines and so forth the communities of Hawker and Quorn remain divided as to the best pathways forward. Regardless of their opinions towards the facility, it was clear that all those interviewed have the best interests of their community and environment at heart. While there are risks associated with hosting a RWM facility that can and need to be managed, there is also a range of opportunities for local communities. Benefits can be maximised through a negotiated community benefits package that focuses on community wellbeing and sustainable community development as well as direct economic benefits. Communities may need a facilitated process to reconnect and rebuild once the vote has been undertaken, firmly based on common values.

As there has been a high emotional investment across the towns in either supporting, opposing or remaining neutral it is also recommended that some investment be made into providing independent mental health support. This means ensuring that trained counsellors (ideally from outside the region to ensure privacy and anonymity to those seeking assistance and independence from the voting process), are available for individuals to access if they felt the inclination. If there was an opportunity for these counselling services to be made available at the time of the announcement this may help as part of the rebuilding strategy above.

Overwhelmingly, those who participated in the interviews welcomed the opportunity to share their views about the process, how they felt their town was going in relation to social and economic indicators and their visions for the future of their towns, with multiple possible futures and not just in relation to the facility. If Hawker/Quorn community does not go through to the next stage, there would be some benefit in facilitating a community visioning and collaborative planning exercise to identify alternative pathways for desired levels of economic growth and linking strategies with relevant government agencies and possible funding institutions. Being able to track the socio-economic impacts and changes in people's wellbeing in the Hawker/Quorn local area was seen to be helpful to monitor progress and it is recommended that this continues regardless of whether the project will go ahead or not.

9. References

- ANDRA 2017. ANDRA and its Disposal Facilities: General Presentation, Visit of French delegation to Australia, February 2017.
<https://radioactivewaste.gov.au/sites/prod.radioactivewaste/files/files/ANDRAsGeneralPresentation.pdf>
- Australian Bureau of Statistics (ABS) 2016. <http://www.abs.gov.au> accessed June, 2018
- Australian Tax Office (ATO) 2018. Research and statistics, <https://www.ato.gov.au/> accessed June, 2018.
- Bergmans, A. 2010. International Benchmarking of Community Benefits Related to Facilities for Radioactive Waste Management Report commissioned by EDRAM.
- Cadence Economics 2018. Economic Impact Assessment of the NRWMF.
<https://radioactivewaste.gov.au/site-selection-process/key-documents-and-faq> accessed 10 December, 2018.
- Colvin, R., Witt, G.B. Lacey, J. 2018. Using a Community Vote for Wind Energy Development Decision-Making in King Island, Tasmania. Case Studies in the Environment,
<http://cse.ucpress.edu/content/early/2018/04/24/cse.2017.000927>
- Devine-Wright, P. 2009. Rethinking NIMBYism: The role of place attachment and place identity in explaining place-protective action. Journal of Community & Applied Social Psychology, 19(6), 426-441.
- Devine-Wright, P., & Howes, Y. 2010. Disruption to place attachment and the protection of restorative environments: A wind energy case study. Journal of Environmental Psychology, 30(3), 271-280.
- Dukes, E. F. 2004. What we know about environmental conflict resolution: An analysis based on research. Conflict Resolution Quarterly, 22: 191-220.
- Elam, M & Sundquist, G. 2006. Stakeholder Involvement in Swedish Nuclear Waste Management, International Atomic Energy Agency,
http://www.iaea.org/inis/collection/NCLCollectionStore/_Public/37/101/37101586.pdf
- English, M. R. Siting Low-Level Radioactive Waste Disposal Facilities: The Public Policy Dilemma. New York: Quorum Books. 1992
- Farber, S. (1998). Undesirable facilities and property values: a summary of empirical studies, 24, 1–14.
- Gilmour, D. P. (1996). Community-Based Economic Impact Planning for a Low-Level Radioactive Waste Disposal Facility Community-Based Economic Impact Planning for a. University of Rhode Island. Retrieved from <http://digitalcommons.uri.edu/theses/711>
- National Research Council. (1984). Social and economic aspects of radioactive waste disposal: considerations for institutional management.

National Research Council. (1996). Review of New York State low-level radioactive waste siting process. <https://www.nap.edu/catalog/5325/review-of-new-york-state-low-level-radioactive-waste-siting-process>

Ford, J., Vereynne, M-L, & J. Steen (2016) Measuring economic trends and benefits of CSG developments on local businesses: Small and Medium Enterprises Study - Trends and Benefits. Centre for Coal Seam Gas: University of Queensland.

Freudenburg, W.R. and Gramling R. 1994. Oil in Troubled Waters: Perceptions, Politics, and the Battle Over Offshore Drilling. State University of New York Press, Albany.

Grubert, E. and Skinner, W. 2017. "A town divided: Community values and attitudes towards coal seam gas development in Gloucester, Australia." Energy Research & Social Science 30: 43-52.

Jacquet, J & Stedman, R. C. 2013. The risk of social-psychological disruption as an impact of energy development and environmental change. Journal of Environmental Planning and Management, 57(9): 1285-1304.

Jenkins-Smith, H. C., C. L. Silva, M. C. Nowlin, and G. deLozier. 2011. Reversing Nuclear Opposition: Evolving Public Acceptance of a Permanent Nuclear Waste Disposal Facility. Risk Analysis 31(4): 629-644.

Kasperson, R. E. 1986. Hazardous Waste Facility Siting: Community, Firm, and Governmental Perspectives, in National Academy of Engineering (US) Hazards: Technology and Fairness, National Academic Press. <https://www.ncbi.nlm.nih.gov/books/NBK217573/>

Kraft, M. E, Clary, B. B. 1991. 'Citizen Participation and the Nimby Syndrome: Public Response to Radioactive Waste Disposal', The Western Political Quarterly, 44(2): 299-328.

Mason-Renton, S. A., Luginaah, I., & Baxter, J. 2016. The community divide is more detrimental than the plant itself: Confrontational stigma and community responses to rural facility siting. The Journal of Rural and Community Development, 11(2), 22-44.

National Research Council. 1984. Social and economic aspects of radioactive waste disposal: considerations for institutional management.

National Research Council. 1996. Review of New York State low-level radioactive waste siting process. <https://www.nap.edu/read/5325/chapter/1>

Nuclear Energy Agency 2004. 'Learning and Adapting to Societal Requirements for Radioactive Waste Management. Key findings and experience of the Forum on Stakeholder Confidence, OECD/NEA: Paris. <https://www.oecd-neo.org/rwm/reports/2004/nea5296-societal.pdf>

Morrone, M., A. E. Chadwick, and N. Kruse. 2015. A Community Divided: Hydraulic Fracturing in Rural Appalachia. Journal of Appalachian Studies 21(2):207-228.

Ocelík, P., Osicka, J., Zapletalová, V., Cernoch, F., & Dancak, B. (2017). Local opposition and acceptance of a deep geological repository of radioactive waste in the Czech Republic: A frame analysis. Energy Policy, 105, 458.

Port Hope Area Initiative. 2017. *Layman's Guide to the Property Value Protection Program* available online at http://www.phai.ca/site/media/phai/PVP%20Guide_Layman.pdf

Radioactive Waste management (UK) 2016. Geological Disposal: Generic Socio-economic Assessment. <https://rwm.nda.gov.uk/publication/geological-disposal-generic-socio-economic-assessment-report/>

Slovic P, Flynn J, Layman M. 1991. Perceived risk, trust, and the politics of nuclear waste. *Science*, 254(5038): 1603–1607.

South Australian Police (SAPOL) (2018) accessed from <https://www.police.sa.gov.au/> for Kimba postcode 5641.

Sjöberg, L. 2006. Nuclear waste risk perceptions and attitudes in siting a final repository for spent nuclear fuel. In K. Andersson (Ed.), VALDOR 2006. Proceedings (pp. 452–460). Stockholm . Available at <http://www.congrex.com/valdor2006/>

Vari A, Reagan-Cirincione P, Mumpower JL 1994. LLRW Disposal Facility Siting: Successes and Failures in Six Countries, Vol 8, in J Mumpower & O. Renn (eds), *Technology, Risk, and Society; An International Series in Risk Analysis*, Springer, Dordrecht.

Venables, D., N. F. Pidgeon, K. A. Parkhill, K. L. Henwood, and P. Simmons. 2012. Living with nuclear power: Sense of place, proximity, and risk perceptions in local host communities. *Journal of Environmental Psychology* 32(4):371-383.

Wolsink, M. 2006. Invalid theory impedes our understanding: A critique on the persistence of the language of NIMBY. *Transactions of the Institute of British Geographers*, 31(1), 85-91.

Appendix A: Quorn/Hawker Round 1 - Community Benefit Funding³¹

Project title	Organisation	Project summary	Grant request
Refurbishment of the Hawker Institute	The Flinders Ranges Council	Significant refurbishment of the Hawker Institute. Activities include: roof to be replaced or repaired; floor of the hall to be repaired; new floor in the kitchen and bar area; new stage curtains and tracks to be fitted; air conditioning to be installed to the whole of the building complex; and two stoves and two fridges purchased and installed.	\$75,000

³¹ Department of Industry, Innovation and Science – Community Benefit Program
<https://www.business.gov.au/assistance/national-radioactive-waste-management-facility-community-benefit-program/successful-applications#barndioota1>

Equipment for Hawker District Movie Events	Hawker Community Development Board Inc	Purchase of projection and sound equipment to allow the local community to hold regular movie nights within the town of Hawker.	\$6,000
Building of new disabled ablution block at Hawker racetrack	Hawker Racing Club Inc	Build and install new separate male and female toilets with showers and disabled access at the Hawker racetrack.	\$76,844
Camel Treks Australia Pty Ltd Tourism Expansion Project	Camel Treks Australia Pty Ltd	Development of a unique visitor attraction involving a boutique camel dairy and afghan themed café with a gallery. Activities include: erecting the infrastructure and equipment for the dairy and café; setting up the gallery; and constructing a car park.	\$315,000
Colebrook Aquaponics Expansion	Yartawarli Aboriginal Corporation Resource Agency	Provision of a dedicated undercover fish growing facility, expanded outside plant growing area and undercover processing facility. Activities involve: site preparation; laying the slab; shed construction; installing fish infrastructure and constructing the plant growing area.	\$149,600
SMART board for Hawker Childhood Services Centre	Hawker Community Development Board Inc	Purchase and installation of a SMART IFP 4065 Interactive Flat Panel at the Hawker Childhood Services Centre.	\$11,468
Hawker Pool	The Flinders Ranges Council	Purchase and installation of transportable buildings to create male and female changing rooms at the existing Hawker Pool.	\$40,000
All weather access to Heysen & Mawson Trails near Mayo Hut	Friends of the Heysen Trail & Other Walking Trails Inc	Upgrade a portion of the current tracks that form the Heysen Trail. This will involve the trail via Wonoka Station. This trail leads to Mayo Hut and Mawson Trail.	\$5,800
Hawker General Store Renovation and Development	Journeystone Pty Ltd	Renovation and redevelopment of both the interior and exterior of the Hawker General Store including: upgrade to garden dining area; upgrade to toilets; sandblasting of period building stonework and re-pointing; and kitchen upgrade including new hot water system, new flooring, enclosure of cold room, plumbing and electrics.	\$296,357
Independent living accommodation in Hawker	Wirreanda Cottages Inc	Purchase, delivery and installation of two purpose-built aged care independent living units adjacent to the existing four cottages at the Wirreanda Cottages site, together with the establishment of the site.	\$515,950
Viliwarinha Yura Housing Upgrade	Viliwarinha Yura Aboriginal Corporation	Upgrade existing housing on Yappala Station including: utilities and structural safety repair; improvements to kitchen; air conditioning installation; improvements to security and privacy; installation of renewable energy system; and external improvements.	\$502,797

Appendix B: Quorn/Hawker Round 2 - Community Benefit Funding

Project Title	Organisation	Project Summary	Funding
Hawker Community Sports Centre facility upgrade	Hawker Community Sports Centre Inc	Building of an extension to the current kitchen, installing new equipment for catering and food preparation and creating an indoor BBQ area. Activities include: site preparation and building the extension, plumbing and electrical work, purchasing and fitting appliances, installing new air conditioning, tiling, painting and new flooring.	\$190,000
Community Mobile Kitchen	Hawker Community Development Board Incorporated	Purchase of a mobile kitchen and ancillary equipment to support its operation. The mobile kitchen will be made available for hire at local events throughout the community. Activities will include: the construction of a new mobile kitchen by a professional trailer manufacturer, purchasing a generator(s) to power the kitchen and other	\$76,625

		items to support the kitchen's operation, such as power leads.	
Workshop and Facilities Upgrade	Quorn Men's Shed	Improvements to the Quorn Men's Shed facility in two phases. The installation of two large rainwater tanks, as well as a pump to plumb the rainwater to the kitchen and hot water service in phase one. The purchase of dust extractors and tools for the workshop in phase two. Activities will include: preparing of tank site, installation of rainwater tanks and electric pump, purchasing and installing two dust extractors, and purchasing workshop tools and equipment.	\$12,500
Telstra mobile phone coverage upgrade - Wonoka Hill - Stage 1	Hawker Community Development Board Incorporated	Two-stage project to upgrade existing mobile phone transmission systems between Hawker and Leigh Creek, with the installation of new high capacity 5 hop radio system. It would also see the construction of 4 new mobile base stations to expand mobile coverage and capacity (3G + 4GX) along the vast majority of The Outback Highway between Hawker and Leigh Creek. Stage one is the installation of mobile and transmission infrastructure on Wonoka Hill, which is the first hop of the two stage solution. Grant amount funds half of project costs, with balance contributed by Telstra.	\$500,000
Upgrade to Community Room and Nurses Quarters at Hawker Memorial Hospital	Hawker Hospital Auxiliary	Major renovation of the Hawker Memorial Hospital nurses' quarters and community room, to improve safety, health and amenity for nursing staff, and hospital and community users. Activities include: interior building work including tiling, ceiling, cladding, and fitting doors and painting, upgrading the bathroom and laundry, plumbing and electrical work, and installation of fixtures, fittings and furniture, including safety railing and aged care seating.	\$180,474
Cradock Hotel Community Playground, Family Dining Area and Toilets	DCHA Holdings Pty Ltd	New facilities at the Cradock Hotel, to improve safety, health and amenity for community and visitor users. Activities include: site preparation, construction of an all-weather meeting and family dining area extension to existing building, construction of a community adventure playground and toilet block, and paving and landscaping.	\$252,031
Cradock Heritage Project	The Flinders Ranges Council	Working with the Cradock Heritage Group to engage a local historian to assist in creation and design of various history related materials and infrastructure. In addition there will be construction of a stone wall at the Cradock War Memorial site to include the list of war veterans and a shelter at the Cradock cemetery. Activities include: creating and designing fact sheets, brochures and booklets, constructing signs and shelter at Cradock cemetery, creating a historic walking trail, and constructing a stone wall at the Cradock War Memorial site to include names of war veterans.	\$28,986
Installation and Purchase of Portable and Fixed Cool Rooms	Quorn Community Sporting Association Inc	The purchase and installation of one fixed and one portable cool room. The fixed cool room will be situated at the Quorn Community Hall for use by all members of the community when hiring the oval precinct. The portable cool room will be available to community groups throughout the region for use at events.	\$28,500
Combined Churches of Hawker Renovation Project	Hawker Uniting Church	Significant renovation of both the Uniting Church and Catholic Church, to improve safety, health and amenity for worshippers and visitors, including for community events. Activities at the Uniting Church include: replacing the roof, construction of a new kitchen and supper room, construction of a portico veranda, and interior renovation. Activities at the Catholic Church include: replacing the roof, repairing the interior (including flooring and painting) and	\$329,277

		installation of air-conditioning and a new public address system.	
Flinders Ranges Regional Skate Park	The Flinders Ranges Council	Construction of regional skate park facility for multi-sport use (skateboards, rollerblades, scooters and bicycles), to increase youth participation in action sports and encourage physical education. Activities include: site preparation, earthworks and draining installation, skate park construction, and furnishing and landscaping.	\$175,000
Stage 1 - Hawker Gymnasium and Pool Administration Centre	The Flinders Ranges Council	Construction of a new building adjacent the Hawker Gymnasium and Pool, to provide improved sport, fitness and recreation facilities for the community and visitors. Facilities include: gymnasium, aerobics room, administration centre and toilets.	\$227,272
Hawker Aerodrome Refuelling Facility	The Flinders Ranges Council	Purchase and upgrade of the Hawker Aerodrome Refuelling Facility, including installation of credit card payment facilities, to provide 24-hour user access and expanded tourism charter activity.	\$99,335