



APPENDIX 11

Social Impact Assessment



LENDELL
OPEN CUT
—
LENCORE

**LENDELL CONTINUED
OPERATIONS PROJECT**

Social Impact Assessment

FINAL

November 2019



GLENDELL CONTINUED OPERATIONS PROJECT

Social Impact Assessment

FINAL

Prepared by
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on behalf of
Glendell Tenements Pty Ltd

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Appendices

Appendix A	Supporting Curriculum Vitae
Appendix B	Signed Declaration
Appendix C	SIA Guideline Review Questions
Appendix D	Media Review
Appendix E	Capitals Analysis (Supporting Data)

Abbreviations

Term	Definition
CCC	Community Consultative Committee
CHPP	Coal Handling and Preparation Plant
DP&E	Department of Planning and Environment (Now DPIE)
DPIE	Department of Planning, Industry and Environment
Glencore	Glencore Coal Assets Australia Pty Limited
Glendell Tenements	The Proponent, an entity owned by of Glencore
GRAWTS	Greater Ravensworth Area Water and Tailings System
EIS	Environmental Impact Statement
EPA	Environmental Protection Authority
EP&A Act	Environmental Planning and Assessment Act 1979
km	Kilometres
LEP	Local Environmental Plan
LGA	Local Government Area
M	Million
ML	Mining Lease
Mt	Million tonnes
Mtpa	Million tonnes per annum
NSW	New South Wales
OEH	Office of Environment and Heritage
PA	Project Approval
PEA	Preliminary Environmental Assessment
PHIDU	Social Health Atlas of Australia, NSW
The Project	Glendell Continued Operations Project
RHAC	Ravensworth Homestead Advisory Committee
RMS	Roads and Maritime Services
ROM	Run-of-Mine
SEARs	Secretary's Environmental Assessment Requirements
SEIFA	Socio-Economic Indexes for Areas
SIA Guidelines	Social Impact Assessment: Guidelines for State Significant Mining Petroleum Production and Extractive Industry Development
SES	State Emergency Service
SIA	Social Impact Assessment
SIOA	Social Impact and Opportunities Assessment
SSC	State Suburb Code
SSD	State Significant Development
TRC	Township Resource Cluster Analysis
Umwelt	Umwelt (Australia) Pty Limited

1.0 Introduction

The Glendell Mine forms part of the Mount Owen Complex located within the Hunter Coalfields in the Upper Hunter Valley of New South Wales (NSW), approximately 20 kilometres (km) north-west of Singleton, 24 km south-east of Muswellbrook and approximately 1.5 km to the north of Camberwell (refer to **Figure 1.1**). The Mount Owen Complex open cut operations are located in the north-eastern part of the Upper Hunter Valley which has been heavily dominated by coal mining and power station operations for many decades; rural and rural residential land are located to the north, north-east, east and south-east of the Mount Owen Complex (refer to **Figure 1.1**).

In addition to the Glendell Mine, the Mount Owen Complex comprises mining operations at Mount Owen Mine (North Pit) and Ravensworth East Mine (Bayswater North Pit). The Mount Owen Complex also includes a coal handling and preparation plant (CHPP) and coal handling and transport infrastructure.

The Mount Owen Complex is owned by subsidiaries of Glencore Coal Pty Limited (Glencore). Mt Owen Pty Limited operates the Bayswater North Pit, CHPP and Glendell mining operations at the Mount Owen Complex. Thiess Pty Ltd operates the North Pit pursuant to a contractual arrangement with Mt Owen Pty Limited.

The Mount Owen Complex is adjacent to the Integra Underground, Liddell Coal Operations and Ravensworth Operations, which are also owned and operated by subsidiaries of Glencore and its joint venture (JV) partners.

The proponent is proposing to extend the life of operations at the Glendell Mine and optimise the use of infrastructure at the Mount Owen Complex by extending mining in the existing Glendell Pit to the north (the Project).

The key community impacts that have been raised historically through previous engagement on projects such as the Mount Owen Continued Operations Project include concerns regarding air quality, noise impacts, blasting, water, visual amenity, roads and infrastructure, land management and sense of community. Positive impacts such as sustained local employment, business generation and community investment were also mentioned.

Over the years of operation at Mount Owen Complex, and recent years of planning for the Project, Glencore has worked to put in place a range of strategies, management and mitigation measures to address these key issues. These considerations are fundamental to the overall design of the mine with mine planning considering dust, noise, visual, biodiversity, water and other impacts as key design parameters in seeking to minimise the impact of the mine on the environment and community.

Commissioning of the Social Impact Assessment (SIA) early in the Project, and regular interactions with the community and the project team throughout the assessment program, has provided opportunities to effectively align assessment outcomes with the broader EIS process, and to inform pre-emptive project planning and mine plan design.

In September 2017, the NSW Department of Planning and Environment (then DPE, now DPIE) released the *Social Impact Assessment Guideline for State Significant mining, petroleum production and extractive industry development* (DPE, 2017) (SIA Guideline). The SIA Guideline is also consistent with the *International Guidelines for Social Impact Assessment* (2015). This assessment has been prepared to meet the requirements of the SIA Guideline.

The SIA program has been designed to identify, assess and manage potential social impacts on local and neighbouring communities. Details of the SIA methods, findings, evaluation and monitoring frameworks are outlined in detail in this document.

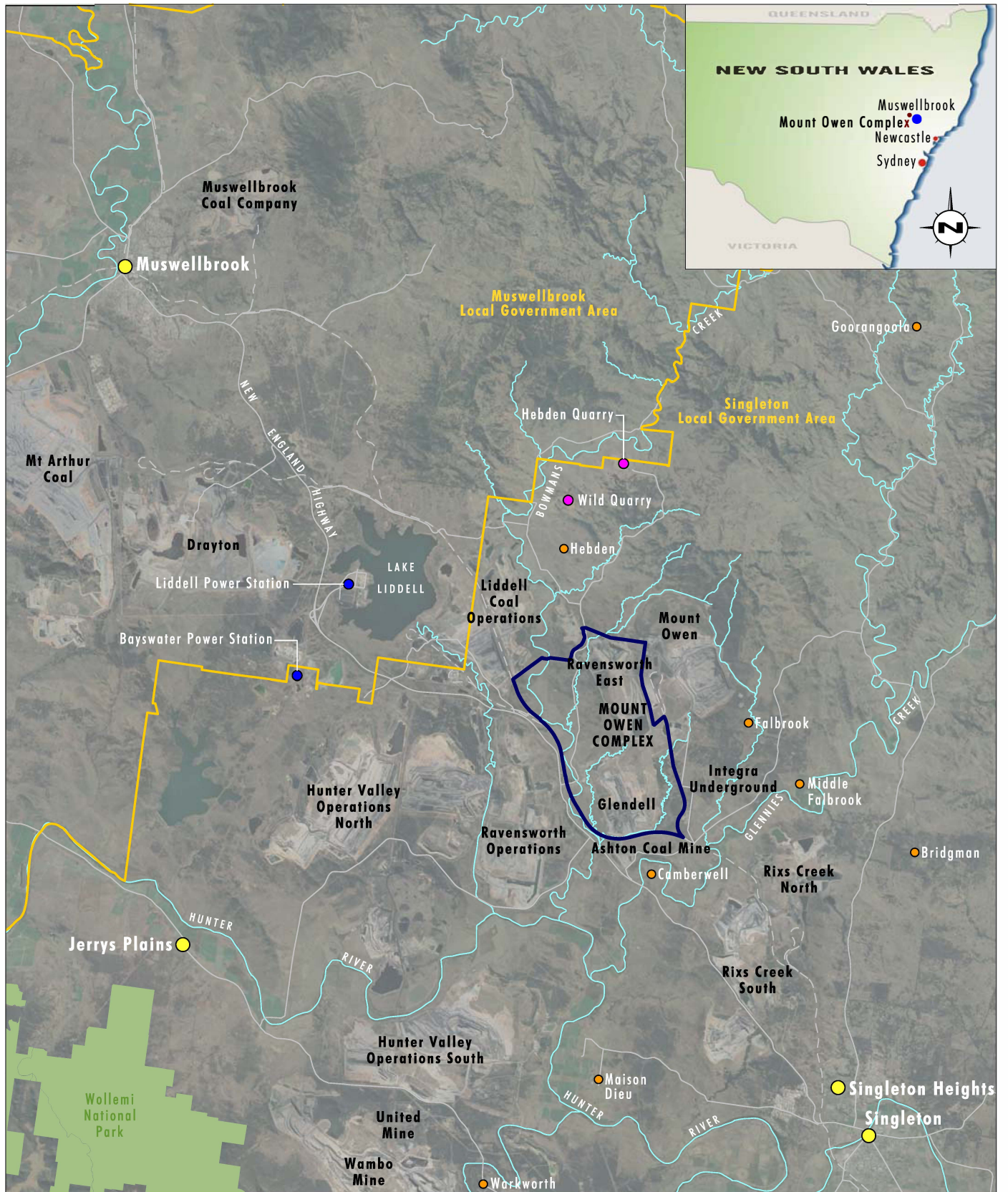


Image Source: Google Earth (2018)
Data Source: Glencore (2019), OEH (2018)

Legend

- Project Area
- Local Government Area Boundary
- National Park
- Road
- Railway
- Drainage Line
- Towns
- Village/Localities
- Power Stations
- Quarry

FIGURE 1.1

Regional Locality Plan

1.1 Secretary's Environmental Assessment Requirements (SEARs)

The DPIE *Secretary's Environmental Assessment Requirements* (SEARs) for the Project (SSD 9349) were issued by Department of Planning Industry and Environment (DPIE) on 7 June 2018 and reissued on 11 July 2018 and 12 August 2019.

The relevant general requirements from the SEARs relating to this SIA and where these requirements are addressed within this SIA are outlined in **Table 1.1**.

Table 1.1 SEARs – Relevant general requirements (DPE, 2018)

General Requirements		
Social	<p>Detailed assessment of the potential social impacts of the development that builds on the findings of the Social Impact Assessment Scoping Report, in accordance with the <i>Social impact assessment guideline for State significant mining, petroleum production and extractive industry development</i>, paying consideration to:</p> <ul style="list-style-type: none"> • how the development might affect people's way of life, community, access to and use of infrastructure, services and facilities, culture, health and wellbeing, surroundings, personal and property rights, decision-making systems, and fears and aspirations • the principles in Section 1.3 of the guideline • the review questions in Appendix C of the guideline, and • the recommendations made in Attachment 3; 	Sections 6.0 and 7.0 of this SIA
Consultation		
	<p>During the preparation of the EIS, you must consult with relevant local, State and Commonwealth Government authorities, service providers, Aboriginal stakeholders, community groups and affected landowners.</p> <p>In particular, you must consult with:</p> <ul style="list-style-type: none"> • affected landowners • local community groups • Singleton Council • Office of Environment and Heritage (OEH) (including the Heritage Division) • Environment Protection Authority (EPA) • Division of Resources and Geoscience within the Department • Resources Regulator within the Department • Department of Primary Industries (including NSW Forestry, Agriculture and Fisheries) (DPI) • Department of Industry (including the Crown Lands and Water Division) • Singleton Local Land Services (SLLS) • Dams Safety Committee (DSC) • Roads and Maritime Services (RMS) • Mount Owen Complex Community Consultative Committee (CCC). <p>The EIS must:</p> <ul style="list-style-type: none"> • describe the consultation process used and demonstrate that effective consultation has occurred • describe the issues raised • identify where the design of the development has been amended and/or mitigation proposed to address issues raised, and • otherwise demonstrate that issues raised have been appropriately addressed in the assessment. 	Section 4.2 of the EIS and Sections 3.0 and 6.0 of this SIA

1.2 Report structure

This SIA has been prepared by Umwelt as part of the EIS for the Project, in accordance with the SIA Guideline (DPE, 2017).

To address the SIA Guideline and SEARs, the assessment report has been structured according to a number of key sections as detailed below:

Section 1.0 introduces the Assessment, its objectives and the Project requirements (SEARs).

Section 2.0 outlines the details of the Project being assessed.

Section 3.0 outlines the methodological approach adopted for the assessment for each of the SIA phases, including the data and information sourced to develop the social baseline profile.

Section 4.0 provides the operational context to the study regarding Glendell Mine and the Mount Owen Complex and its socio-economic connections/associations with local and regional communities.

Section 5.0 provides the social profile for the relevant study communities, including governance, historical change and assessment of key community capital areas. This section also identifies regional issues and aspirations as identified through local media review and local and regional strategic plans and other relevant EIS/SIA studies.

Section 6.0 provides an overview of the perceived positive and negative social impacts associated with the Project, as identified through engagement activities with key stakeholders and the wider community.

Section 7.0 assesses and predicts the likely social impacts that may result due to the Project.

Section 8.0 defines strategies to manage negative impacts and enhance positive impacts and considers a framework for ongoing monitoring and evaluation of social impacts should the Project be approved and proceed.

2.0 Project overview

The Project is the extension of open cut mining operations to extract the coal reserves in the mining authorities to the north of the current Glendell Mine. This proposed extension of the current Glendell Mine would extract an additional 135 Mt, approximately, of ROM coal. This proposed extension of the Glendell Pit is referred to as the Glendell Pit Extension. The mining of the Glendell Pit Extension will involve the extraction of reserves down to and including the Hebden seam. Assuming approval in 2021, the Project would extend the life of mining operations at Glendell to approximately 2044 and provide ongoing employment opportunities. The Glendell Pit Extension mining area represents one of the last remaining un-mined and easily accessible resources in the greater Ravensworth Area.

As a continuation of the existing mining operations, the Project can utilise existing infrastructure at the Mount Owen Complex currently used for mining at Glendell. ROM coal sourced from the extended Glendell Mine will continue to be processed through the Mount Owen CHPP, including ongoing coal stockpiling and train loading at Mount Owen Complex for the life of the Project. This will extend the life of the CHPP for approximately an additional 8 years beyond that currently approved by the Mount Owen Consent (i.e. to 2045) and includes an allowance for the processing of coal mined in the latter stages of 2044 in the 2045 calendar year. The Project will necessitate some changes to the location of existing Mount Owen Complex infrastructure and associated services which will also be sought through the modification of the Mount Owen Consent. The Project will also link with the Mount Owen Complex Water Management System (WMS). Through the linkage with the Mount Owen Complex WMS, the Project will be connected with the Greater Ravensworth Area Water and Tailings Scheme (GRAWTS) which enables the transfer of water between the mining operations linked to the GRAWTS. At present, the Mount Owen Complex, Integra Underground, Liddell Coal Operations and Ravensworth Coal Operations are all linked via this scheme. The GRAWTS also includes pipeline infrastructure which enables the transfer of tailings material between operations to enable tailings facilities to be managed more efficiently.

The Project will require the removal of the existing Glendell Mine Infrastructure Area (MIA) and the construction of a new MIA. In order to access the pit from the proposed MIA and allow for the maintenance of mobile mining fleet, a Heavy Vehicle Access Road is also required. The Project will necessitate the realignment of a section of Hebden Road, realignment of part of Yorks Creek and the relocation of Ravensworth Homestead. The key features of the Project are shown conceptually in **Figure 2.1**.

The extension of open cut mining to the north of the current Glendell Mine and associated infrastructure, plus the extended life of the Mount Owen CHPP and infrastructure, are collectively referred to as the Project throughout this EIS.

A detailed Project Description is provided in Section 3.0 of the EIS.

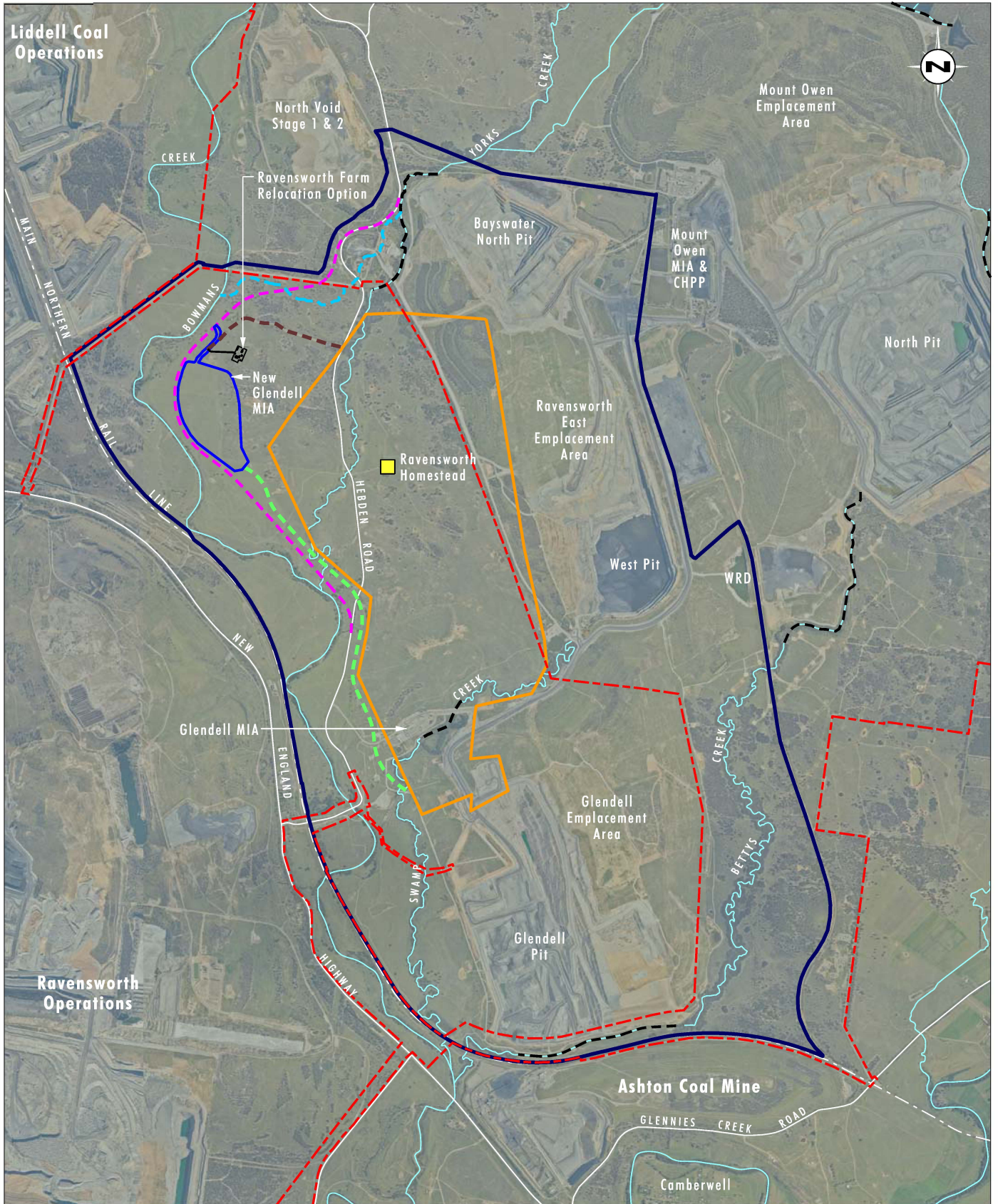


Image Source: Glencore (Dec 2018)

Data Source: Glencore (2019)

Notes: Ravensworth Homestead to be relocated, Mount Owen Consent Boundary assumes Narama Pipeline Modification is approved

Legend

- | | |
|--|--|
| — Project Area | — Project Features: |
| — Glendell Pit Extension | — New Glendell MIA |
| - - - Mount Owen Consent Boundary | - - - Heavy Vehicle Access Road |
| Ravensworth Homestead | - - - Yorks Creek Realignment |
| - - - Existing Creek Diversion | - - - Hedden Road Realignment |
| - - - Construction Access Road | |

FIGURE 2.1

Glendell Continued Operations Project
Key Project Features

Table 2.1 Summary of key project details

Project Component	Summary of The Project
Mining Method	Truck and excavator supported by ancillary equipment such as drills, dozers, front-end-loaders, etc.
Resource	All seams down to and including the Hebden Seam.
Disturbance Area	An additional disturbance area will be associated with Glendell Pit Extension and associated infrastructure, Hebden Road realignment, Yorks Creek Realignment and MIA facilities (Additional Disturbance Area- up to approximately 750 ha). Mining down to and including the Hebden Seam.
Annual Production	Glendell Mine (Glendell Pit Extension) - up to 4.5 Mtpa increasing to 10 Mtpa ROM coal as production rates in BNP and North Pit decline. Approved mining production rates at BNP and North Pit would remain the same.
Mine Life	Glendell Mine – to 2044 (Glendell Pit currently approved to 2024).
Total Resource Recovered	Additional approximately 140 Mt ROM coal from Glendell Pit Extension.
Coal Processing and Transport	Extension of operating life of Mount Owen CHPP and associated coal handling infrastructure to 2045 ¹ . Current export coal transportation via rail will remain the same. Current CHPP throughput of 17 Mtpa ROM coal will remain the same.
Management of Overburden (Glendell Pit Extension)	Emplacement of overburden in-pit and on existing emplacement areas at Glendell Mine and areas disturbed as part of the Ravensworth East Mine. Areas of out-of-pit emplacement to assist in final landform.
Mount Owen CHPP Rejects (coarse and fine)	Fine tailings emplacement within Mount Owen Complex including West Pit, Bayswater North Pit and at other tailings facilities approved at neighbouring mining operations as part of the Greater Ravensworth Area Water and Tailings System (GRAWTS). Coarse rejects co-disposed with overburden at Mount Owen Complex (including overburden associated with the proposed Glendell Pit Extension).
General Mine Infrastructure	Demolition of Glendell MIA. Construction and operation of new MIA. Heavy vehicle access road to be established for new MIA. Continued use of the Mount Owen CHPP and associated coal transport infrastructure. Additional water management infrastructure such as sediment dams, clean and dirty water diversion drains, pipelines and use of voids for water storage.
Final Landform	Final landform at Glendell and Ravensworth East to 200 mAHD (approximately 40 m higher than existing approved operations at Glendell). No increase in number of voids relative to approved operations.
Water Management	Full integration with Mount Owen WMS, including ongoing integration with GRAWTs. Use of TP2 Void and North Pit Voids as water storages. Construction and use of diversion drains, sediment dams and other controls to manage run-off from disturbed areas.
Other Infrastructure Changes	Realignment of an approximately 5 km section of Hebden Road. Relocation of local telecommunications and electricity infrastructure.

¹ Coal extracted to the end of 2044 will require an extended approval timeframe for coal processing facilities.

Project Component	Summary of The Project
Other Major Associated Works	<p>Realignment of Yorks Creek.</p> <p>Upper reaches of former Swamp Creek catchment (currently within Mount Owen Complex disturbance area) to be diverted to Bettys Creek as part of final landform development.</p> <p>Relocation of Ravensworth Homestead.</p>
Operational Workforce	<p>Overall workforce at the Mount Owen Complex will remain similar to current workforce numbers of approximately 1220 Full-Time Equivalent (FTE) positions during concurrent operations. This will reduce following cessation of mining operations at Mount Owen Mine (circa 2036-7).</p> <p>Glendell workforce numbers will progressively increase over the duration of the Project from approximately 300 FTE to approximately 600 FTE positions in the latter stages of the Project. The increasing workforce at Glendell coincides with a reduced workforce at the Mount Owen and Ravensworth East Mines as production declines and then stops.</p>
Hours of Operation	No change – 24 hours per day, 7 days per week.

3.0 SIA approach and methodology

SIA is an approach to predicting and assessing the likely consequences of a proposed action in social terms and developing options and opportunities to improve social outcomes. Best practice SIA is participatory and involves understanding impacts from the perspectives of those involved in a personal, community, social or cultural sense, to provide a complete picture of potential impacts, their context and meaning.

Given that the Mount Owen Complex is a well-established operation, and relationships with the community have been developed over time, the SIA engagement approach adopted for the current assessment builds on existing relationships and activities. The engagement program commenced during the planning phases of the Project and has continued in an iterative manner throughout the design and assessment phases of the Project. The following sections provide further details on the types of engagement mechanisms/methods undertaken so that stakeholder views have been adequately identified and addressed.

3.1 SIA principles and ethical conduct

The generally agreed international principles relating to SIA (Vanclay, 2003) identify social impacts as the matters affecting, directly or indirectly:

- people's **way of life**, that is: how they live, work, play and interact with one another on a day to day basis
- the **community**, that is: its cohesion, stability, character, services and facilities
- **access to and use of infrastructure, services and facilities**, whether provided by local, state, or federal governments, or by for-profit or not-for-profit organisations or volunteer groups
- their **culture**, that is: their shared beliefs, customs, values and language or dialect
- their **health and wellbeing**: health is a state of complete physical, mental, social and spiritual wellbeing and not merely the absence of disease or infirmity
- their **surroundings**, such as: the quality of the air and water people use, the availability and quality of the food they eat, the level of hazard or risk, dust and noise they are exposed to, the adequacy of sanitation, their physical safety, and their access to and control over resources
- their **personal and property rights**, particularly whether people are economically affected or experience personal disadvantage which may include a violation of their civil liberties
- their **political and decision-making system**, such as the extent to which people are able to participate in decisions that affect their lives, the level of democratisation that is taking place, and the resources provided for this purpose
- their **fears and aspirations**, that is: their perceptions about their safety, their fears about the future of their community, and their aspirations for their future and the future of their children.

As is the case with any type of change, some individuals or groups within the community may benefit, while others may experience negative impacts. If negative impacts are predicted, it is the role of the SIA to determine how such impacts may be addressed effectively to reduce the degree of social disruption to those affected. If positive impacts are predicted, the aim of the SIA is to maximise these opportunities and identify how they might be further enhanced. Monitoring and evaluation are also key components of an SIA process to identify any unanticipated impacts that may arise in the future as a result of a project.

Consideration has been made of ethical considerations that apply to research involving humans, with particular focus on the Principles identified in the SIA Guidelines (refer to **Table 3.1** below).

Table 3.1 Principles identified in SIA Guidelines

Principles	Description	How this SIA has considered each Principle
Action-oriented	Delivers outcomes that are practical, achievable and effective.	Potential mitigation and management measures identified.
Adaptive	Establishes systems to actively respond to new or different circumstances and information and support continuous improvement.	SIA methodology that is adaptive to changing circumstances. Engagement undertaken across two rounds to identify community perceptions of the Project at key phases. Mitigation and management measures identified to support continuous improvement.
Distributive equity	Considers how social impacts are distributed within the current generation (particularly across vulnerable and under-represented groups) and between current and future generations.	Social Baseline Profile that considers vulnerabilities and resilience of individuals and communities and their ability to respond to change.
Impartial	Is undertaken in a fair, unbiased manner and follows relevant ethical standards.	Independent assessment that respects the confidentiality of participants and which outlines the ways in which participants can be involved in the SIA/EIS process and the Project assessment more broadly. Community perceptions of impact documented and reported.
Inclusive	Seeks to hear, understand and respect the perspectives of the full diversity of potentially affected groups of people. It is also informed by respectful, meaningful and effective engagement that is tailored to suit the needs of those being engaged (for example, culturally sensitive, accessible).	Multiple mechanisms and tools used to engage key stakeholders.
Integrated	Uses and references relevant information and analysis from other assessments to avoid duplication and double counting of impacts in the EIS. It also supports effective integration of social, economic and environmental considerations in decision-making.	Full overview of research methodology including information sources utilised and referenced throughout the document. Commissioning of the SIA early in the Project and regular meetings with the Project team throughout the assessment program has provided opportunities to effectively align assessment outcomes with the broader EIS process, undertaken by Umwelt, and inform project planning and mine plan design.
Life cycle focus	Seeks to understand potential impacts (including cumulative impacts) at all project stages, from pre-construction to post closure.	Consideration of all social impact categories as defined in the guideline, including cumulative impacts.

Principles	Description	How this SIA has considered each Principle
Material	Identifies which potential social impacts matter the most, and/or pose the greatest risk to those expected to be affected.	Risking/ranking of impacts from the perspectives of those potentially affected and through relevant social analyses.
Precautionary	If there is a threat of serious or irreversible damage to the environment, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental (including social) degradation.	Potential impacts have been assessed and ranked utilizing the approach recommended in the SIA Guideline, and potential mitigation and enhancement strategies identified.
Proportionate	Scope and scale should correspond to the potential social impacts.	Impacts have been assessed according to impact characteristics outlined in the DPIE guideline.
Rigorous	Uses appropriate, accepted social science methods and robust evidence from authoritative sources.	The research methodology adopted for the assessment is detailed and information sources noted throughout the document.
Transparent	Information, methods and assumptions are explained, justified and accessible; and people can see how their input has been considered.	<p>Process of recording outlined to interview participants, with copies of interview transcripts provided on request.</p> <p>Summary of engagement findings provided in information sheet format to ensure that issues have been appropriately summarised and documented.</p> <p>Voluntary participation in the assessment and engagement program, with no coercion.</p> <p>Outline of the Project and the SIA process with a right to withdraw involvement at any stage of the process.</p> <p>Confidentiality of personal matters with engagement outcomes expressed collectively, no individual identification.</p> <p>Data coding and protection.</p>

The SIA has been prepared in accordance with the SIA Guideline (DPE, 2017) by a suitably qualified and experienced lead author and social team. The Technical Director is Dr Sheridan Coakes, Practice Lead – Social Impact Assessment and Community Engagement at Umwelt, and Technical Manager Angela Peace, Principal Consultant – Social Impact Assessment and Community Engagement at Umwelt. Supporting *Curriculum Vitae's* are provided at **Appendix A**. A signed declaration certifying that the SIA does not contain false or misleading information is provided at **Appendix B**, and **Appendix C** outlines the Review Requirements from the NSW SIA Guideline and references responses to requirements within this SIA.

3.2 SIA approach

A best practice approach to SIA has been adopted for the Project, that integrates international and NSW social guideline requirements. In line with best practice, the SIA has involved a number of key phases of work that includes:

- Preparatory Planning: undertaking appropriate planning for the Project, based on outputs of previous Mount Owen Complex EIS/SIA studies and the development of a Stakeholder Engagement Strategy to guide project engagement
- Profiling: to define the baseline social context in which the Project is based
- Scoping: to identify key social impacts/issues relevant to the Project
- Assessment and Prediction of Impacts: to evaluate and predict the positive and negative social impacts based on key impact characteristics (extent, duration, vulnerability/sensitivity, severity)
- Strategy Development: to identify strategies to minimise negative impacts and enhance positive impacts associated with the Project
- Monitoring and Evaluation: development of a framework that outlines how social impacts should be monitored and evaluated should the Project proceed.

A comprehensive stakeholder engagement program has been implemented as part of the Project. This strategy considers the International Association of Public Participation (IAP2) engagement spectrum in selecting engagement mechanisms to involve key stakeholders and the community in project planning and assessment. The Strategy articulates the level of participation afforded to community members by mechanism e.g. inform, consult, involve, collaborate and empower.

Engagement with the community has been a key component of the SIA program at key phases of the assessment, to afford a participatory approach to assessment, and has involved near neighbours and local and regional stakeholders in the scoping of Project issues and identification of strategies to address negative impacts and enhance the positive project impacts.

As aforementioned, the engagement program builds on the existing relationships and activities the Mount Owen Complex has established overtime and commenced during the planning phases of the Project and has continued in an iterative manner throughout the design and assessment phases of the Project. The following sections provide further details on the types of engagement mechanisms/methods undertaken so that stakeholder views have been adequately identified and addressed.

Commissioning of the SIA early in the Project and regular meetings with the project team throughout the assessment program has also provided opportunities to effectively align assessment outcomes with the broader EIS process, undertaken by Umwelt, to inform project planning and mine plan design (refer to **Figure 3.1**).

Environmental Impact Assessment/Social Impact Assessment Program Phases

PROJECT DEFINITION: *Definition of project parameters - Development of clear SIA program objectives*

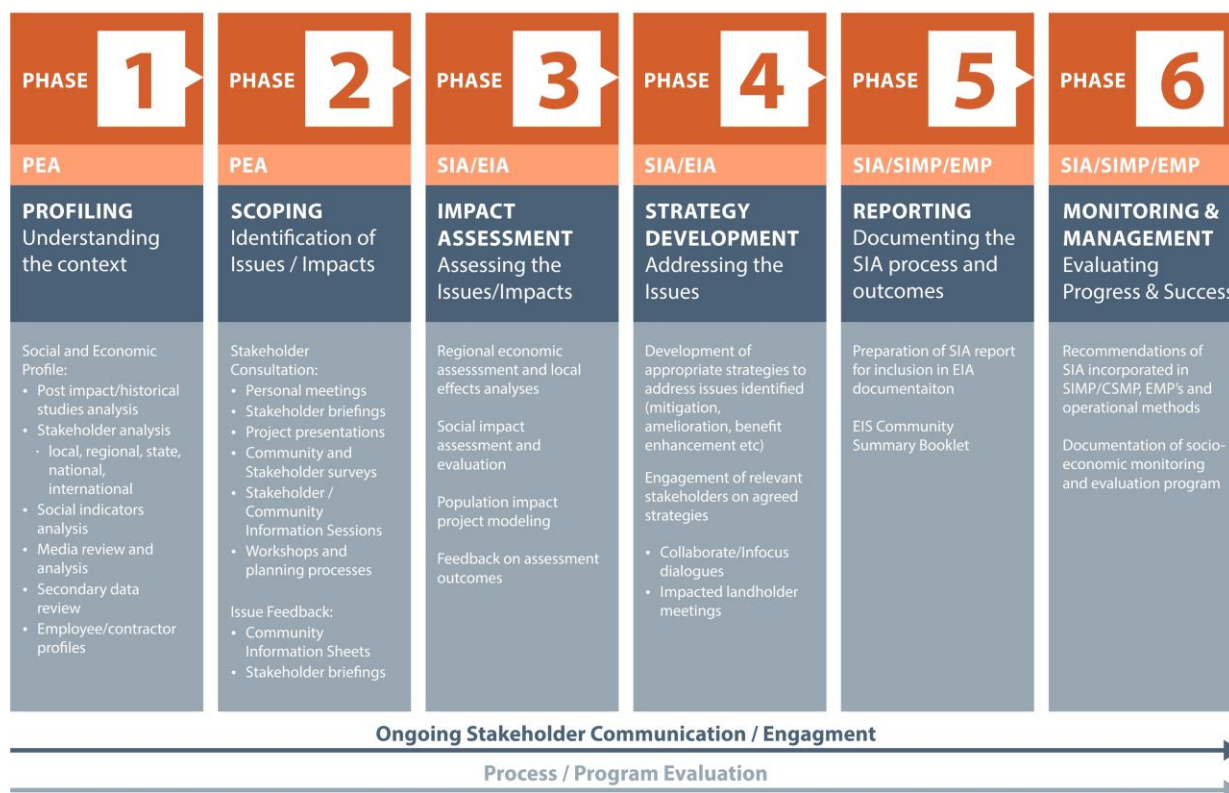


Figure 3.1 Phases of the SIA Program

Source: Umwelt 2017

3.3 Participants/stakeholders in the SIA

SIA involves the cooperation and coordination of several 'social partners' or 'stakeholders'.

A comprehensive stakeholder identification process was undertaken prior to commencement of the Project. As Burdge (2004) outlines, stakeholders may be affected groups or individuals that:

- live nearby the resource/project
- have an interest in the proposed action or change
- use or value a resource
- are interested in its use
- may be forced to relocate as a result of the Project.

Stakeholders have been identified through a review of:

- the Glendell Continued Operations Stakeholder Engagement Strategy and Plan (September 2017)
- the Ravensworth Homestead Stakeholder Engagement Strategy and Plan (Mount Owen, 2017)
- stakeholders identified and consulted during the scoping phase and identified in the Preliminary Environmental Assessment (2018)
- previous assessment processes, relevant stakeholder databases and through workshop discussion.

Engagement with key stakeholders has been undertaken to inform both the SIA and EIS program for the Project. A comprehensive overview of the engagement undertaken as part of the EIS and SIA for the Project is summarised in Section 6.0 of the EIS main text. As part of the SIA project for the Project, a wide range of stakeholders have been identified and involved in targeted engagement for the SIA. The stakeholders involved in the SIA are shown in **Figure 3.2** and further defined in **Table 3.2**. It should be noted that the targeted stakeholders have been refined since the initial scoping phase as a result of the natural progression of the Project life and associated potential positive and negative impacts of the Project.

Table 3.2 also provides an overview of the number of stakeholders consulted across each stakeholder group category during the preparation of the SIA. Over two rounds of engagement during the scoping and impact assessment phase of the Project, a total of **599** stakeholders participated in the SIA specific engagement program, however it should be noted given the various opportunities for involvement, a number of participants may have participated in a number of different forums (i.e structured interview and information session). Quantitative and qualitative information collected through the engagement process has been analysed to inform the SIA as outlined in Section 6.0 of the EIS.



Figure 3.2 Stakeholder Groups involved in the SIA

Table 3.2 Stakeholder participation in SIA Program

Stakeholder	Description	No. participants (Round 1)	No. participants (Round 2)
Key Stakeholders			
Near Neighbours	Landholders including residents and businesses residing in proximity to the current mining operation including the localities of Camberwell, Middle Falbrook, Falbrook, Glennies Creek and Hebden	37 structured interviews (including 5 local businesses)	37 structured interviews 26 attendees across two local community information sessions
Aboriginal stakeholders	Aboriginal Groups and service providers (note that this refers specifically to those Aboriginal stakeholders consulted as part of the SIA regarding social issues, not to all of those consulted as part of the Aboriginal cultural heritage assessment discussed in the EIS). Participants included representatives from: <ul style="list-style-type: none"> • Wanaruah Local Aboriginal Land Council (WLALC) • Wonnarua Nation Aboriginal Corporation (WNAC) • Ungooroo 	4 structured interviews	15 structured interviews with service providers 3 structured interviews
Community and heritage stakeholders and group representatives	Including community groups and individuals associated with the area with a specific interest in heritage aspects of the project, emergency services and service providers. Participants included: <ul style="list-style-type: none"> • Members of the Ravensworth Homestead Advisory Committee (RHAC) • Individuals with a specific interest in heritage • Singleton Historical Society and Museum • Singleton Heritage Advisory Committee • Past owners of the Ravensworth Homestead • Emergency services, local bus company and local halls (Hebden Hall and Mount Olive) 	13 structured interviews Focus Group Sessions with 6 members of the RHAC	12 structured interviews

Stakeholder	Description	No. participants (Round 1)	No. participants (Round 2)
Wider Singleton LGA Community			
Wider community	Singleton Local Government Area (LGA) residential and business community.	7 members of the Singleton Business Chamber	<p>Random sample of residents in the Singleton LGA contacted via a random telephone survey (n=251 from the Singleton Local Government Area and n=22 from the Broke and surrounds community, with a total of n=273).</p> <p>34 attendees across the three wider community information sessions (CIS) held at the Singleton Youth Venue on 18 and 21 September (n=2 attendees), and Broke Hall on 19 September (n=32).</p>
Employees and Suppliers	Those currently employed and/or who supply services to the Glendell Mine.	NA	<p>132 suppliers completed a structured survey.</p> <p>Existing employee data was provided by the Glendell Mine.</p>
Total		67	532

3.4 Social assessment and engagement mechanisms

Table 3.3 provides a summary of the assessment methods that have been utilised during each phase of the SIA program. This consultation has been further complimented by engagement undertaken by the broader team with state government agencies and other key stakeholders in the course of other operational and assessment activities. Further detail of the extent of consultation undertaken for the Project is summarised in Section 6.0 of the EIS main text.

Table 3.3 Summary of social assessment and community methods

Assessment Method	Description
Phase 1 – Program Planning	Review of previous SIA studies and development of a tailored Stakeholder Engagement Strategy for the Project. This strategy was informed by previous consultation activities, including the engagement and analysis undertaken for the previous SIAs completed for Mount Owen Complex and the Preliminary Social Impact and Opportunities Assessment for the Project's Preliminary Environmental Assessment (PEA) (Umwelt, 2018).
Phase 2 - Community Profiling	<p>Township Resource Cluster (TRC) analysis Documentation of social and economic linkages/associations between the Glendell Mine and communities within the region through analysis of employee and supplier data and community investment data.</p> <p>Community Capitals Analysis: Assessment and analysis of census data and other relevant social and community indicators to develop a detailed social profile of the communities of interest. Areas of existing community resilience and vulnerability have been identified through application of a community capitals analysis.</p> <p>Post impact studies analysis: Review and analysis of secondary data (including local histories, local government strategic plans and assessment studies, local media, previous EIS/SIA studies, operational complaints) and primary data collected through stakeholder interviews, to understand historical, existing and emerging issues and opportunities within the community.</p> <p>Indigenous profile and issues analysis: Socio-economic statistics relevant to the Aboriginal community incorporated in the profile section (refer to Section 4.0).</p> <p>Personal and telephone interviews undertaken with RAPs and Indigenous groups and service providers in the Singleton LGA. This consultation is in addition to the consultation undertaken as part of the Aboriginal cultural heritage assessment discussed in the EIS.</p>
Phase 3 – Scoping of Issues and Opportunities	<p>Review and analysis of historical stakeholder consultation outcomes and complaints data for Glendell Mine to obtain an understanding of perceived issues and opportunities.</p> <p>Primary data collection through key stakeholder interviews, focus groups and local landholder gatherings, to understand historical, existing and emerging issues and opportunities within the community, followed by ranking of perceived issues and opportunities relative to their frequency.</p> <p>Provision of Community Information Sheets outlining the Project (No.1) and the Homestead relocation investigations and process (No.2).</p>

Assessment Method	Description
Phase 4 – Assessment of Impacts and Opportunities	<p>Prediction of unmitigated and mitigated social risks/impacts associated with the Project through review of relevant social and environmental consequence and likelihood ratings.</p> <p>Primary data collected through a further round of personal and telephone interviews with near neighbours of the Project, local landholder information sessions and community information sessions to identify perceived issues and opportunities relating to the Project, in light of the outcomes of the technical assessments.</p> <p>Targeted briefings with key stakeholder groups (external and internal) to provide feedback on the outcomes of key assessment studies.</p> <p>Provision of a dedicated Community Information Sheet (No.3) summarising the key outcomes of the assessment studies and proposed mitigations and enhancements.</p>
Phase 5 – Prediction of Impact and Strategy Development	<p>Social risk ranking and categorisation of impacts by social impact category and theme, followed by identification and development of appropriate strategies to address predicted Project impacts. Minimisation of high and moderate social impacts through commitment to relevant management strategies and enhancement of positive impacts associated with the project.</p>
Consultation Mechanisms	Description
Community information sheets	<p>Development and distribution of a series of Community Information Sheets to near neighbours and key stakeholders at key stages including:</p> <ul style="list-style-type: none"> • Project Scoping – to describe the Project and the EIS/SIA process (No.1). • Project and Process Overview - to describe the Ravensworth Homestead Process (No.2). • EIS Impacts and Assessment Summary (No.3) - summary of the key outcomes of the environmental and social impact specialist studies undertaken as part of the assessment program and proposed management approaches. <p>Each information sheet also provided project and consultant contact details for further information and/or to request a personal project interview or briefing.</p>
Community Consultative Committee (CCC)	<p>Project overview presented to the Mount Owen Complex and Integra Underground Mine CCC</p>
Email and phone correspondence	<p>Phone calls and emails relating to the SIA process to landholders, as required, to organise meetings, provide information and/or respond to questions relating to the SIA process.</p>
Feedback forms	<p>Forms included as part of the Community Information Sessions to gain information on the engagement and ascertain additional concerns and preferences.</p>
Focus group meetings	<p>Group meetings held as part of the scoping phase to discuss the Project and collate feedback about issues concerns and aspirations with heritage groups.</p>
Government Briefings	<p>Meetings with relevant local, state and Commonwealth government agencies to provide an overview of the project and project parameters, to discuss the assessment process and other relevant matters.</p>

Assessment Method	Description
Information Sessions	<p>Local Landholder Information sessions at Hebden and Falbrook areas to allow input from near neighbours on the impacts and opportunities relating to the Project.</p> <p>Three advertised Community Information Sessions to allow input from the broader community on the impacts and opportunities relating to the Project. Sessions were advertised in local newspapers and posted on Glencore's Facebook.</p>
Personal interviews	Individual meetings held in person or via phone, utilising a semi-structured interview guide/questionnaire. Stakeholders contacted proactively via contact numbers.
RHAC Meetings	Regular meetings of the RHAC to explore potential options for the relocation of the Ravensworth Homestead. The Committee is independently chaired. The committee comprises eight representatives from the local area, former owners of the Ravensworth Homestead, CCC member, heritage groups/organisations, business groups and Glencore.
Site open days and Hebden BBQ	Hosted events on site that include provision of information materials, two-way communications and potential tours. A site open day was hosted in December 2017 and a BBQ for Hebden residents in November 2018.
Social media	The use of Glencore's Facebook page and the Broke Notice Board Facebook page to advertise wider community information sessions and increase participation and reach in the EIS and SIA engagement.
Survey	<p>An online survey was carried out with the Singleton Business Chamber in May 2018 to identify potential project issues and impacts of the Project for businesses.</p> <p>A survey of suppliers for the purpose of TRC analysis was carried out in July 2019.</p> <p>A random phone survey of the Singleton LGA and the Broke community was undertaken to capture broader community sentiment on the Project and the potential relocation of the Ravensworth Homestead.</p>

Table 3.4 provides a concise summary of the stakeholder engagement mechanisms undertaken specifically for the SIA.

Table 3.4 SIA community engagement - mechanism summary

Engagement Mechanism	IAP2 Spectrum Goal/Objective	Targeted Stakeholder Group	Description
Personal and Group Meetings/Interviews (face to face and phone/email)	Collaborate	Near neighbours Infrastructure and Service Providers Community, cultural and heritage groups	<p>Personal meetings including structured interviews with near neighbours during to provide information on the Project and to identify community issues in relation to the Project.</p> <p>Personal meetings occurred towards the end of 2017, early 2018 as part of the scoping phase of the project, and again in September 2019 to communicate outcomes of the environmental and social studies, and discuss management strategies; with the aim of consolidating proposed management strategies through stakeholder feedback and endorsement.</p>
	Involve	Aboriginal groups (including community groups, businesses and service providers)	Interviews undertaken with Aboriginal stakeholders (representatives of local Aboriginal groups and services providers in the Singleton LGA) to further identify the impact of the Project, cumulative impacts of mining in the region and information on service provision within the area.
Community Information Session	Involve	Near neighbours	<p>Landholder Information Sessions held at Hebden Hall on 11 September 2019 and Integra Underground Mine on 12 September 2019 to share information about the Project, to provide information on the Project, the EIS/SIA process and to provide a forum for feedback. All near neighbours were invited to attend with a series of posters relating to the project developed and on display.</p> <p>The objective of the community information sessions was to present the outcomes of the environmental and social studies, discuss management strategies and provide a mechanism for community feedback.</p> <p>The sessions provided an opportunity for community members to ask questions of the Project team and specialists working on the environmental and social impact assessment studies. Stakeholders were encouraged to view both static and interactive displays including posters summarising assessment findings; individual demonstrations of comparative examples of noise levels; and visual representations of drone footage depicting current and proposed landforms and rehabilitation.</p> <p>Invitations to the event were provided via letterbox drop, email and verbal communication.</p>

Engagement Mechanism	IAP2 Spectrum Goal/Objective	Targeted Stakeholder Group	Description
Community information Sessions	Consult	The broader community within the Singleton LGA	Two sessions at Singleton Youth Centre that provided a more casual forum for the community to provide feedback. Invitations to the event were provided via project newsletters, verbal communication and advertisements published through the Singleton Argus, Hunter Valley News and social media (broader Singleton LGA Facebook ad).
		The broader community within Broke	One session at Broke Hall provided an opportunity for the Broke and surrounding communities to drop in and ask questions and read information on the Project. This session was primarily to get feedback on the potential relocation of the Ravensworth Homestead and the relocation option to Broke. Invitations to the event were provided via project newsletters, verbal communication and advertisements published through the Singleton Argus, Hunter Valley News and social media (broader Singleton LGA Facebook ad and targeted post on Broke community Facebook page.)
Newsletters	Inform	All stakeholders	Three Project focussed newsletters issued to the local community in: <ul style="list-style-type: none"> November 2017 – providing an introduction to the Project. July 2018 – providing an overview of Ravensworth Homestead and the heritage studies being undertaken to gain a better understanding of the Homestead and inviting interested community members to submit their ideas on potential future options and or/sites for the potential relocation of the Homestead. September 2019 – providing an update on the status of the Project and providing the outcomes of the environmental and social impact studies. The newsletters have also been distributed to other stakeholders as relevant. Project updates were also included in the last four of the regular Glencore Greater Ravensworth newsletters that included Project updates that were issued and posted on the Project website, in addition to the three newsletters outlined above.
Mount Owen Complex Website	Inform	All stakeholders - http://www.mtowencomplex.com.au	Provision of information relating to the Project including information sheets, newsletters, posters used at community information sessions.
*Random Survey of wider Singleton LGA	Involve	Wider Singleton LGA Community	A random phone survey of the Singleton LGA and the Broke community was undertaken to capture broader community sentiment on the Project and the potential relocation of the Ravensworth Homestead.

Engagement Mechanism	IAP2 Spectrum Goal/Objective	Targeted Stakeholder Group	Description
Site open days and Hebden BBQ	Involve	Near neighbours and Hebden residents	Hosted events on site that include provision of information materials, two-way communications and potential tours. A site open day was hosted in December 2017 and a BBQ for Hebden residents in November 2018.
Survey	Involve	Local Businesses – Singleton LGA Glendell Mine Suppliers	An online survey was undertaken with the Singleton Business Chamber in May 2018 to identify potential project issues and impacts of the Project for local businesses within the Singleton LGA. A survey of suppliers as part of the Town Resource Cluster (TRC) analysis was undertaken in July 2019.
Social Media (Facebook)	Inform	Wider community	Used to increase participation in the EIS and SIA engagement. The post received: 235 likes, 46 comments, 28 shares
Ravensworth Heritage Advisory Committee	Collaborate	Heritage stakeholders	Regular meetings of the RHAC to explore potential options for the relocation of the Ravensworth Homestead. The committee is independently chaired and comprises eight representatives from the local area, former owners of the homestead, CCC member, heritage groups, business groups and Glencore. A focus group meeting was held and attended by the SIA team to understand heritage values as part of the scoping phase.

*The methodology of the random survey is further explained in **Section 3.4.1**

3.4.1 Random survey of the wider Singleton LGA

A random community survey of households in the Singleton LGA was undertaken from 8 to 16 October 2019 by Jetty Research on behalf of Umwelt. The purpose of the survey was to ascertain the perspectives of the broader Singleton LGA community, through the application of appropriate random sampling to afford generalizations to the broader population within the assessment area. Given the random nature of the sample, every member of the larger population had an equal chance of being selected.

The survey was designed to identify and assess:

- Areas of community value and need/challenges within the region
- Community knowledge of Glendell Coal
- Level of community support for the Project
- Community perceptions of impacts of the Project (both positive and negative)
- Community sentiment towards the proposed relocation of the Ravensworth Homestead, including preferences around relocation options
- Preferences for communication and engagement - preferred methods of future contact and desired information requirements
- Awareness of Glendell Coal's social investment initiatives and community contributions.

The survey involved the administration of a range of short responses, rating scales, attitude statements, options selection and open-ended questions. Respondents from Broke were administered a streamlined version involving 14 questions in total, while all other respondents from the Singleton LGA were asked to respond to a full survey of 27 questions. Surveys typically took between 10 to 20 minutes to administer.

3.4.1.1 Sampling approach

The sampling process was randomised using publicly listed telephone numbers and mobile phone numbers. A total of 273 interviews were undertaken, with 693 refusals and terminations, yielding a response rate of 28.5%.

Table 3.5 Contact attempt details

Contact Type	Frequency	Overall Proportion (%)
Completed interviews	276	7.5
Refusals	693	18.9
Terminated interviews	0	0.0
Call backs	30	0.8
Answering machine	1319	36.1
No answer	942	25.8
Disconnected	130	3.6
Did not qualify	189	5.1
Other (fax, language, busy etc.)	79	2.2
Total	3658	100

3.4.1.2 Respondent profile

Table 3.6 provides a profile of survey respondents. Of the 273 people interviewed, 51% were female and 49% were male; with over two thirds of the sample (41%) aged between 35-54 years, 12% aged 18-34 years, 20% aged 55-64 years and 28% aged 65 years or over.

It is important to note, in comparison to the broader Singleton LGA population (ABS 2016), there is an underrepresentation of individuals in the 18-34 age bracket and an over representation of those aged 65 years or over. The proportion of those in the age brackets of 35-54 years and 55-64 years are reflective of the proportions in the broader population.

Respondents had, on average, lived at their current address for 13.3 years, suggesting low population mobility.

Table 3.6 Respondent profile by geographic area (sample comparison with the broader population)

	Broke	Singleton LGA (exc. Broke)	Total	
Sample Size	Sample	Sample	Sample	Population
Sample Size	22	251	273	17,150
Age			Sample Proportion	Population Proportion
18-34 years	9%	12%	12%	30%
35-54 years	36%	41%	41%	37%
55-64 years	14%	20%	20%	16%
65+ years	41%	27%	28%	17%
Declined to answer			1.09%	
Gender			Sample Proportion	Population Proportion
Male	32%	51%	49%	51%
Female	68%	49%	51%	49%
Proportion of respondents that work or have worked for Glendell or its contractors				
Yes, work/have worked for Glendell	0%	6%	6%	
Yes, work/have worked as a contractor to Glendell	9%	9%	9%	
No, neither	91%	85%	85%	
Proportion of respondents that work or have worked in the mining industry or as a contractor				
Yes, work/have worked in the mining industry	36%	39%	39%	
No	64%	61%	61%	
Proportion of respondents with family that works in the mining industry or as a contractor				
Yes, work/have worked in the mining industry	41%	54%	53%	
No, neither	59%	46%	47%	
Average number of years lived at current residence				
Years lived at current residence	15.6	13.2	13.3	
Indigenous Status			Sample Proportion	Population Proportion
Aboriginal and/ or Torres Strait Islander	5%	6.4%	6.2%	5.7%

Source: Umwelt 2019, ABS 2016

3.5 Existing company engagement

The Mount Owen Complex has an ongoing community engagement program which involves a range of information provision and engagement mechanisms that include personal meetings and telephone liaison; CCC meetings; newsletters, key stakeholder meetings and briefings with community groups, local and State government representatives; a community complaints line; and company website.

The objectives of the broader stakeholder engagement strategy for the Mount Owen Complex are to build and maintain effective relationships with stakeholders, engage with near neighbours and communities, invest in local communities, meet the requirements of the Glencore Stakeholder Engagement Protocol and assist to maintain the company's social licence to operate.

Glencore has established relationships with stakeholders and has implemented a program for ongoing engagement regarding its existing mining operations. As shown in **Table 3.7**, the program has included regular consultation with both individuals and groups from the local community, via a range of mechanisms including:

- personal meetings with individuals and/or groups (as required/requested), including meetings in response to specific complaints
- regular meetings (three per year) with the Mount Owen Complex CCC. The Mount Owen Complex CCC is made up of community representatives, a Singleton Council representative, Mount Owen representatives, Integra representative, Thiess representative, state government agency representative/s
- biannual newsletters to update the community on the existing operations and Mount Owen Complex initiatives, which is incorporated into the Greater Ravensworth Newsletter
- key stakeholder meetings and briefings e.g. community groups, local and state government
- a community complaints line and maintenance of an ongoing complaints register to record all community complaints, investigations and outcomes
- ongoing email and telephone correspondence with stakeholders
- a company website.

Through implementation of this program, Glencore has developed a good understanding of key community issues in relation to their mining activities which were considered in planning for the Project. Outputs of the previous consultation activities have therefore been used to inform planning and the development of the specific stakeholder and community engagement program for the Project and the SIA program. **Table 3.7** provides a concise summary of all stakeholder engagement currently undertaken at the Mount Owen Complex.

3.5.1 Glencore perception survey

Glencore undertakes a community perception survey, every three years, across the mining regions in which it operates, in NSW and Queensland. Telephone interviews/surveys and online surveys are undertaken with near neighbours and key stakeholders; with random telephone surveys also undertaken within the localities in which Glencore is based, to identify and track community attitudes and perceptions in relation to their operations. The most recent of these surveys was undertaken by Umwelt in July to August 2018, to build upon previous surveys implemented since 2010.

The survey affords the tracking of a number of key indicators relating to the company's social and environmental performance and provides evaluation of the approach's operations have adopted in relation to stakeholder engagement and consultation. In the most recent survey administration, a sample of 51 near neighbours and opinion leaders (community groups, local business, Indigenous groups, state and local government representatives) were surveyed; with 196 local community members residing in the Singleton LGA also randomly sampled.

Although not conducted specifically as a part of the engagement program for the Project, the survey has identified community perceptions of Glencore operations in the wider Singleton community (and the Hunter Valley more broadly) and has involved near neighbours and key stakeholders relevant to the Mount Owen Complex operations. A summary of outcomes of the survey relevant to the current assessment is provided in **Section 4.4.1**.

Table 3.7 Mount Owen Complex stakeholder engagement initiatives

Consultation Target	Engagement Method/Strategy	Description	IAP2 Spectrum Goal/Objective
Personal/ Property Specific	Personal Meetings	Meetings with stakeholders at their residence (or common meeting area), providing personalised opportunities for engagement and provision of detailed information specific to private landholders.	Consult Involve
	Letter Box Drops	Information delivered by the Mount Owen Complex so that specific information reaches intended recipients.	Inform
	Contact Phone Numbers	All stakeholders provided with a direct line to project team members for any queries or information requests.	Consult
	Newsletter	A biannual newsletter (the Greater Ravensworth Newsletter) has been delivered to key stakeholders and is also made available on the company website, outlining project planning updates community investment initiatives, rehabilitation measures and community events. As a result of community feedback, the newsletter will begin to be published quarterly to keep the community informed more frequently.	Inform
	Mount Owen Complex Website	Website material updated regularly providing information pertaining to the Mount Owen Complex operations, including project planning updates, community investment, environmental monitoring results, newsletters and contact information.	Inform
	Consultation Database	Consultation Manager database used to capture issues and consultation interactions between the Mount Owen Complex personnel and stakeholders.	Consult
	Aboriginal Cultural Heritage Working Group	Aboriginal Cultural Heritage Working Group meetings held biannually involving key local Indigenous stakeholders.	Collaborate

Consultation Target	Engagement Method/Strategy	Description	IAP2 Spectrum Goal/Objective
Broader Community	Glencore Coal Assets Australia's (GCAA) Perception Survey	Community survey undertaken every 3 years in neighbouring and regional communities proximal to Glencore's operations in NSW and QLD, with the purpose of providing GCAA with a greater understanding of stakeholder issues and needs relating to company activities, past and present; and to assist in driving business improvement in the areas of environmental performance, stakeholder engagement and community development. Survey undertaken by Umwelt, on behalf of GCAA, in July and August 2018.	Involve
	Community Consultative Committee (CCC)	The CCC provides a means for open discussion between Mount Owen Complex representatives, the community, Singleton Council and other stakeholders. The CCC meet at least biannually to review ongoing mining operations, discuss community concerns and work together towards equally beneficial outcomes for the local community and the company.	Collaborate
	Blasting Notification Register	Registered stakeholders are sent notifications of impending blasts. Stakeholders are required to call Mount Owen Complex directly to be added to the register.	Inform
	Community Response Line and Blasting Hotline 1800 014 339	24 Hour Community Hotline that provides information regarding upcoming blasting schedules and road closures.	Inform
	Site Tours	Glencore encourage community members and local schools to participate in site tours of the Mount Owen Complex. Tours are offered and advertised in the community newsletter and are not subject to minimum numbers. A 4WD coach is used to take participants around the site, under the instruction of engagement team personnel.	Involve
Community Investment	Community Investment Initiatives	Glencore supports a range of initiatives at a local community level. Such initiatives include: <ul style="list-style-type: none"> • Rural Fire Service Support • Mt Pleasant School Education Support Program • Mt Pleasant School Enhancement • Mt Pleasant School based program with environmental/biodiversity values • Samaritans Singleton Christmas lunch • Fundraising event for Maitland Community Preschool 	Collaborate

Consultation Target	Engagement Method/Strategy	Description	IAP2 Spectrum Goal/Objective
		<ul style="list-style-type: none"> Sponsorship for Team McInerney's participation in the Cancer Council's Annual Relay for Life Fundraiser Singleton Annual Rugby League Charity Game for the Westpac Helicopter Service Soft Cogs Charity Bike Ride for Multiple Sclerosis Australia. 	
Specific Engagement Relating to Environmental Management	Landholder Mitigation	Mitigation afforded to impacted landholders within a 4 km radius, including water tank filtering and cleaning	Involve
	GIS	Identifies stakeholders spatially and affords monitoring of land ownership and mitigation management criteria.	Inform - internal

4.0 Glendell Mine: Operational context and analysis

4.1 Town resource cluster analysis

This section provides an overview of the existing Glendell Mine operations to provide an operational context for the SIA. Information has been sourced directly from Glendell Mine's employee, supplier/vendor and investment datasets to identify linkages and associations with communities both within and outside the region.

Using a technique known as Town Resource Cluster Analysis (TRC Analysis) (Fenton, Coakes and Marshall, 2003), it is possible to determine the socio-economic linkages between the existing Glendell Mine operation and the communities and regions in which they are located, and to estimate the direct and indirect contribution of the operations to local communities and the broader region.

To inform this analysis, secondary data relating to employee residential location and household expenditure has been assessed where available. Supplier data has also been sourced, through survey methods, that focuses on business location and contract amount to ascertain an estimate of supplier expenditure in the region.

Specifically, the TRC Analysis includes:

- consideration of the residential location of the workforce
- analysis of the existing workforces' income and expenditure
- analysis of business locations of suppliers and their expenditure
- comparative analysis of current outcomes with outcomes of a similar survey undertaken in 2013 for the Mount Owen Complex (Coakes Consulting, 2013) as part of the Mount Owen Continued Operations Projects; and outcomes of the NSW Minerals Council's Annual Jobs and Expenditure Survey for 2017/2018 for the Hunter Valley more broadly.

4.2 Method

Calculations for employee expenditure are based on workforce income data provided by Glencore and aligned with expenditure scales developed from the ABS *Household income and expenditure survey 2015 - 2016* (utilising income quantities and proportions spent on goods and services).

Estimated expenditure amounts per employee have been aggregated by assessment location and rounded to the nearest thousand (\$) in order to determine the approximate employee expenditure within each township. All values are reported in Australian Dollars (AUD).

Estimates of supplier goods and services expenditure has been based on data provided by Glencore (pertaining to the dollar value of Glendell contracts) and aligned with supplier responses, obtained through a dedicated supplier survey, relating to business spend across specific communities. Industry benchmark data released by the Australian Tax Office (ATO, 2019) for non-capital purchases, as a proportion of total business sales across different industry sectors, has also been used as a benchmark for comparison. The figures obtained are estimates provided by businesses that supply goods and services to the Glendell Mine.

The townships and locations that have been identified in **Figure 4.1** and **Table 4.3**, are based on the reported employee and supplier locality data collected.

The following assumptions should be noted in the review of TRC Analysis outcomes, namely that:

- inputs relating to employees are based on data provided by Glencore, which have not been externally validated, and are *exclusive* of subcontractors
- no data has been obtained that relates to the specific location of workforce expenditure, so it is assumed that all expenditure occurs within the employee town of residence
- data in relation to supplier contract amounts were provided by Glencore, and span from the period of January 2017 to June 2019
- estimates of proportion of total business expenditure, by location, has been sourced directly from suppliers as part of the 2019 Supplier Survey
- data obtained through the ATO has been primarily used for comparative analysis as it should be noted that the ATO benchmarks relate to small businesses and are provided for the purpose of supplying business with their taxable income calculations
- characteristics of the sample (e.g. suppliers that responded) have been extrapolated to the broader supplier population (e.g. all suppliers)
- the sample of suppliers obtained (n=132) represents approximately 30% of the overall population of suppliers that have held contracts with Glencore over a two-year term (January 2017 to June 2019), resulting in a confidence interval of 7.16% (this interval informs us that in the true population, the results obtained may be within a range of + or - 7.16%)
- given that this method has the potential to produce approximate figures for the 'true' populations of interest, where response rates to particular items have differed e.g. only 92 suppliers responded to the survey item relating to business expenditure, error rates have been adjusted accordingly as outlined in **Table 4.1** below.

Table 4.1 TRC supplier sample characteristics

	Sample	Supplier Population (actual Number)	Sample Representation	Error level (95% confidence interval)
Suppliers	132	445	30%	7.16%
Suppliers that responded to the Expenditure survey item	92	445	21%	9.11%

Note: Figures for Supplier population size are based on information provided by Glencore

4.3 Glendell Mine employees and subcontractors

Glencore utilises two different forms of employment within their workforce. Direct employment is where a person is directly employed by Glencore and for the purpose of this report such a person will be referred to as an 'employee'. The other type of employment is through a third-party company, with the individual fulfilling a role as if they were a direct employee. For the purpose of this report, such a person is referred to as a 'contractor'.

Table 4.2 summarises the workforce demographics of the employees of Glendell Mine with **Table 4.3** providing an overview of income and expenditure locations. Key characteristics of the Glendell Mine workforce, suppliers and partners to the operations are also further described below.

4.3.1 Employee profile

Existing workforce data provided by Glencore outlines that there is a total of 199 workers currently employed in the workforce at the Glendell Mine, 195 of which are full time (as at March 2019). The gender balance in the workforce is heavily skewed, with over 9 in every 10 workers being male. This follows a more subtle trend in the overall Singleton LGA workforce, 57% of which were male at the time of the 2016 ABS Census.

The average age of employees at the Glendell Mine is 39 years, slightly higher than the median age of the total population in the Singleton LGA of 36 years (refer to **Section 5.5.5**); but is consistent with median age of the Singleton LGA workforce (refer to **Table 4.2**).

The Glendell mine workforce were seen to work on average approximately 42 hours per week, with an average length of service of approximately 7 years.

Table 4.2 Workforce demographics – Glendell Mine and Singleton LGA labour force

Indicator	Glendell Mine Workforce	Local Labour Force
Total Persons	199	11,525
Proportion Male:Female	Males – 92% Females – 8%	Males – 57% Females – 43%
Proportion Aboriginal/Torres Strait Islander	>1%	5%
Proportion Permanent/Fixed term-full time	98%	60%
Proportion Permanent part-time	1%	29%
Proportion Casual	1%	14%
Average Years of Service	6.9 Years	-
Average Hours Worked	42.1	-
Average Age	39 Years	40 Years (Median)

Source: Glencore, 2019; ABS Census, 2016.

Note: numbers and proportions do not include contractors – they relate only to full time, part time and casual employees of the Glendell Mine.

Approximately 32% of employees working at the Glendell Mine reside within the Singleton LGA, with an additional 40% living in the surrounding LGAs of Maitland, Cessnock and Muswellbrook. Overall, nearly 95% of the workforce resides within the broader Hunter Region, including 13% that live in Newcastle and Lake Macquarie.

In 2017-18, the average annual salary of employees was almost double the average annual salary in NSW of \$83,517 (ABS 2018 seasonally adjusted figures). This translates to a total spend of \$25,754,235 on full time employee salaries over the year, with an estimated \$12.4 M of this amount directed to employees in the Hunter Region, Newcastle and Lake Macquarie.

Glendell Mine employees spend an estimated \$13.2 M annually, excluding spend on housing, utilities and telecommunications (based on workforce income data provided by Glencore and aligned with expenditure scales developed from the ABS Household income and expenditure survey 2015/2016, as described within **Section 4.2** (refer to **Table 4.3** and **Figure 4.1**).

Of this annual employee expenditure, approximately \$4.3 M is spent within the Singleton LGA (based on the assumption that an employee's expenditure on goods and services occurs largely within their local communities). A further approximate \$8.2 M is spent elsewhere within the Hunter Region, Newcastle and Lake Macquarie (refer to **Table 4.3**).

Similarly, the survey of the Mount Owen Complex workforce that was undertaken in 2013 (Coakes Consulting, 2013) highlighted equivalent key residential and expenditure locations for employees and contractors associated with the Mount Owen Complex, including the Glendell Mine operation. In summary, the report indicated that:

- As with the current analysis, Singleton (33%), Maitland (22%), Muswellbrook (10%) and Cessnock (7%) were all key locations in which employees and contractors lived.
- Mount Owen Complex workers directly contribute around \$60 M to various local economies annually (63% of which is largely spent in Singleton and Maitland).
- Singleton and Maitland benefitted most from the Mount Owen Complex workforce contribution to local communities, through the highest household expenditure, use of local suppliers and greatest participation in community groups and services.
- Singleton and Maitland hosted the highest usage of health services and education institutions by Mount Owen Complex workers and other family and household members.

It should be noted that whilst it has been assumed that employees spend their income in the local area, this is not always the case – factors such as the availability of services in small communities will impact on whether a person will purchase locally or commute elsewhere. However, based on this assumption and the similarities identified between the current analysis and the outcomes of the analysis undertaken for the Mount Owen Continued Operations Project (Coakes Consulting, 2013), it appears that the majority of employees reside in the Singleton and Maitland LGAs, and contribute a significant proportion of their income to the local economy.

Table 4.3 Glendell Mine Workforce - Area of residence and annual household expenditure

Employee Location	No. Employees	Proportion of Employees (%)	Estimated Employee Expenditure
Hunter Valley (exc. Newcastle)	159	81.5%	\$10,746,000
<i>Singleton LGA</i>	63	32.3%	\$4,258,000
<i>Maitland LGA</i>	40	20.5%	\$2,703,000
<i>Cessnock LGA</i>	28	14.4%	\$1,892,000
<i>Muswellbrook LGA</i>	10	5.1%	\$676,000
<i>Upper Hunter LGA</i>	9	4.6%	\$608,000
<i>Port Stephens LGA</i>	6	3.1%	\$406,000
<i>Dungog LGA</i>	3	1.5%	\$203,000
Newcastle and Lake Macquarie	25	12.8%	\$1,690,000
Central Coast	7	3.6%	\$473,000
Central West	2	12.8%	\$135,000
Mid North Coast	1	1.0%	\$68,000
New England and North West	1	0.5%	\$68,000
Total	195		\$13,179,000

Source: Glencore 2018, 2019

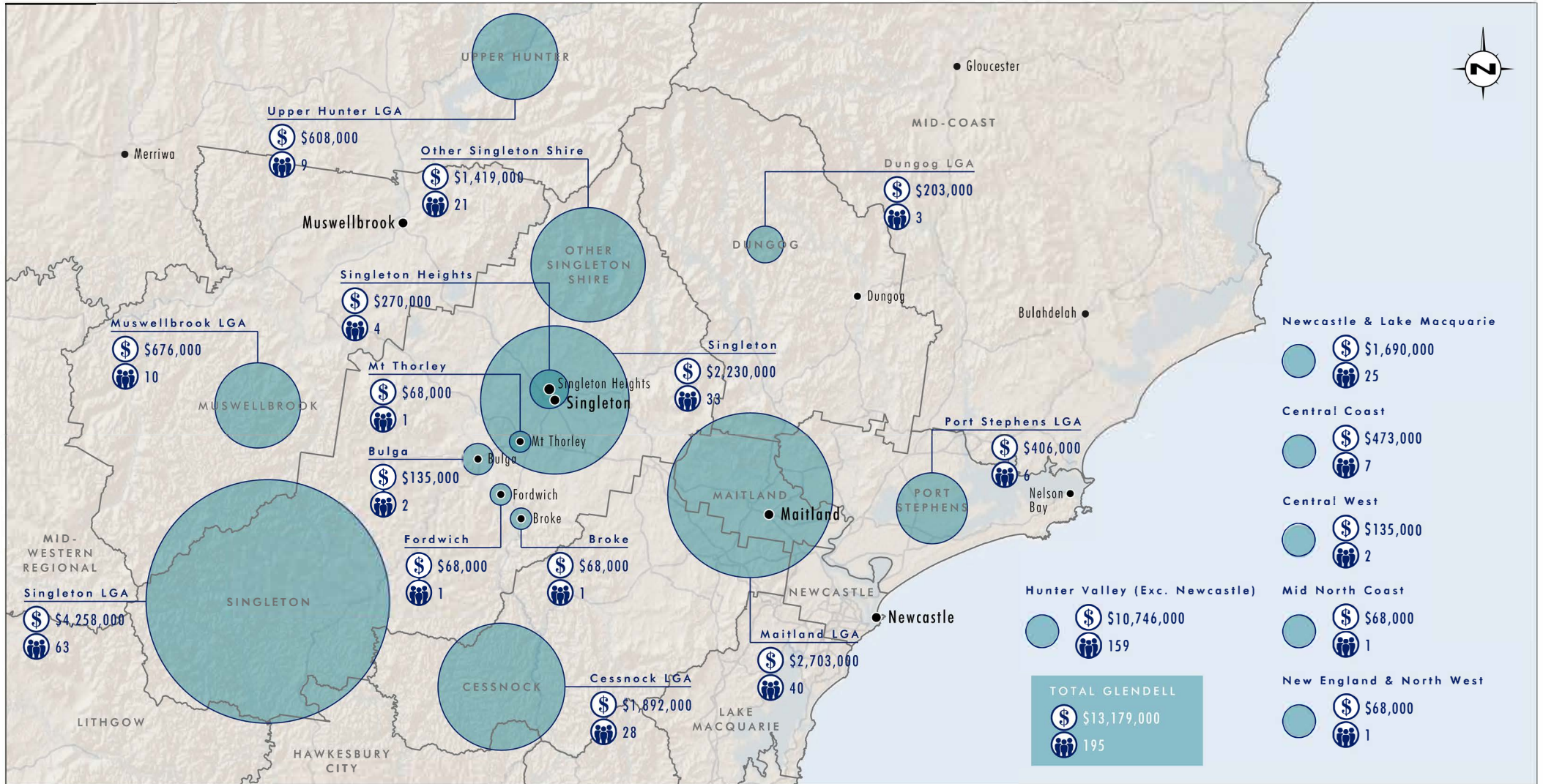


Image Source:
Data Source:

0 10 25 50 km

- Legend**
- Local Government Area
 - Location
 - Employee Expenditure (AUD)
 - Number of Employees

FIGURE 4.1

Glendell Workforce Area of Residence

4.3.2 Suppliers to the Glendell Mine

The supplier data presented below is based on a survey distributed to suppliers of the Glendell Mine in July 2019. The survey was emailed to 445 suppliers that had contracts with Glendell Mine from the time period from January 2017 to June 2019. A total of 132 suppliers (30%) completed the survey. Of those suppliers that responded to the survey, 46% were considered small businesses, as defined by the ABS (2016) having fewer than 20 people employed, followed by 42% medium businesses (20 to 199 employees) and 5% were considered large businesses (200+ employees) (refer to **Table 4.4**). Further details on supplier employees provided in **Section 4.3.2.2**.

Suppliers responding to the survey worked in fields such as engineering services, land surveying, pest control, maintenance, training, communications, consulting and skilled labouring. The average length of time each business had been in operation was 23.4 years.

Table 4.4 Supplier business size

Size of supplier business (ABS)	Number of employees	Count of Suppliers (sample)	Proportion
Small	1 to 19 employees	61	46%
Medium	20 to 199 employees	56	42%
Large	200+ employees	7	5%
	Did not provide number of employees	8	6%

Note: Supplier business sizes are based on definitions provided by the ABS, 2016

The monetary value of contracts with Glendell Mine varied greatly, ranging from \$10,000 for parts, equipment or reports, up to \$81 M for construction, maintenance and large equipment (refer to **Table 4.5**).

Of the suppliers that were surveyed, the largest proportion of suppliers had 'small' contracts valued between \$10,000 and \$99,999 (45%), followed by contracts valued between \$100,000 and \$999,999 (37%). There was also a much smaller proportion of suppliers that had contracts valued above \$1 M, with 15% suppliers having contracts valued at \$1 to 5 M, and 3% with contracts above \$5 M.

It is important to note in the analysis that follows, that the contract values for suppliers that were surveyed are reflective of the contract values of the total 445 suppliers.

Table 4.5 Glendell Mine contract value

Contract Size	Contract Value (\$)	Count (Sample)	Supplier Sample Proportion (n=132)	Supplier Population Proportion (n=445)
Small	10,000 – 99,999	59	45%	51%
Medium	100,000 – 999,999	49	37%	36%
Large	1-5M	20	15%	10%
Very Large	> 5M	4	3%	3%

As part of the survey, suppliers were asked to provide information on business location, employee town of residence; and this data, combined with data provided by Glencore pertaining to the contract amount, was used to ascertain an estimate of supplier expenditure across the region.

In addition, suppliers were also asked the following:

- length of time their business had been operating
- type of service provided
- number of employees by employment type (casual, part-time, full-time)
- percentage of the business dependent on the mining industry for the 2018/2019 Financial Year
- percentage of the business dependent on Glendell Mine for the 2018/2019 Financial Year
- their capacity to take on additional work and whether they could foresee any further opportunities to work with the Glendell Mine.

This information is further discussed throughout this section.

4.3.2.1 Supplier office location

Suppliers were asked to indicate the town in which their business' main office was located. As shown in **Table 4.6**, the most common locations included Singleton, followed by Newcastle, Maitland, with other suppliers having their main offices in Queensland. It should be noted that the corporate office for Glencore's operations in both Queensland and NSW are based in the Hunter Region. Therefore, of the 130 suppliers that responded to this survey question, 65% were specifically based in the Hunter Valley region, with a further 16% in NSW more generally.

Table 4.6 Location of Glendell Mine suppliers' main offices

Locality of Main Office/s	Count of suppliers' offices (Sample)	Percentage of suppliers (sample)
NSW TOTAL	122	81%
<i>Hunter Valley Region</i>	98	65%
Singleton LGA	38	25%
Singleton	27	18%
Mount Thorley	4	3%
Branxton	4	3%
Glendon Brook	1	
McDougalls Hill	1	1%
Ravensthorpe	1	1%
Newcastle LGA	22	15%
Maitland LGA	15	10%
Muswellbrook LGA	10	7%
Cessnock LGA	5	3%
Lake Macquarie LGA	4	3%
Port Stephens LGA	4	3%
<i>Southern Highlands Region</i>	1	1%
<i>Sydney Region</i>	18	12%
<i>North Coast</i>	2	1%
<i>Central West</i>	2	1%

Locality of Main Office/s	Count of suppliers' offices (Sample)	Percentage of suppliers (sample)
<i>North West Slopes</i>	1	1%
QLD	15	10%
WA	7	5%
VIC	3	2%
SA	2	1%
ACT	1	1%

Note: Multiple responses permitted, n = 130

4.3.2.2 Residential location of suppliers' employees

The supplier workforce is predominantly comprised of full-time employees (79%), followed by part-time (11%) and casual employees (10%). The average number of employees per supplier (including full time, part time, and casual employees) was 68 employees, with a median of 17 employees. The median has been utilised as a more reliable estimate of the typical number of employees, as the sample distribution was positively skewed (a small number of very large employers with a large number of employees, e.g. maximum of 2281 employees).

Suppliers were asked to indicate the towns in which their employees live, including the approximate number of employees living in each town (refer to **Table 4.7**). As the table indicates, approximately 19% of employees of suppliers resided in the Newcastle LGA, followed by 11% in the Singleton LGA, 9% in the Maitland LGA and 6% in the Muswellbrook LGA. Around 57% of employees of suppliers were seen to reside in the Hunter Valley region.

Table 4.7 Suppliers' employee location (town of residence)

Location	Number of Employees	Percentage of Total
NSW	3212	87%
<i>Hunter Valley Region</i>	2121	57%
Singleton LGA	421	11%
Singleton	389	11%
Greta/Branxton	8	<1%
Singleton (other)	6	<1%
Glendon Brook	6	<1%
Jerry's Plains	6	<1%
Milbrodale	4	<1%
Camberwell	1	<1%
Howes Valley	1	<1%
Muswellbrook LGA	214	6%
Muswellbrook	172	5%
Denman	40	1%
Sandy Hollow	2	<1%
Newcastle LGA	696	19%
Maitland LGA	350	9%
Cessnock LGA	194	5%
Lake Macquarie LGA	60	2%

Location	Number of Employees	Percentage of Total
<i>Upper Hunter LGA</i>	54	1%
<i>Port Stephens LGA</i>	21	1%
<i>Dungog LGA</i>	10	<1%
<i>Hunter Valley Region (Other)</i>	101	3%
<i>Sydney</i>	715	19%
<i>North Coast</i>	200	5%
<i>Central West Region</i>	78	2%
<i>Central Coast Region</i>	52	1%
<i>North West Slopes</i>	26	1%
<i>Central Tablelands</i>	2	<1%
<i>Southern Highlands Region</i>	2	<1%
<i>Northern Tablelands</i>	1	<1%
<i>Mid-Coast</i>	1	<1%
<i>Illawarra Region</i>	1	<1%
<i>Capital Region</i>	1	<1%
<i>Southern Tablelands</i>	1	<1%
<i>NSW (Other)</i>	11	<1%
<i>QLD</i>	192	5%
<i>WA</i>	172	5%
<i>VIC</i>	81	2%
<i>SA</i>	20	1%
<i>ACT</i>	13	<1%
<i>TAS</i>	2	<1%
TOTAL	3692	100%

Note: the analysis above is based on 113 respondents that responded to the question relating to employee town of residence

4.3.2.3 Suppliers' business dependency on mining and Glendell Mine contracts

Suppliers were also asked to comment on the proportion of their business income that was (a) dependent on the mining industry, and (b) dependent on the Glendell Mine operation specifically.

On average, suppliers (n=120 respondents) indicated that 71% of their income was dependent on the mining industry (median of 80%). Of those with current contracts with Glendell (n=106 respondents), these suppliers indicated that around 12% of their income was dependent on the Glendell Mine specifically (median of 5%).

4.3.2.4 Business income and expenditure

Business expenditure directly reliant on the Glendell Mine operation was estimated using the total amount of a suppliers contract with Glendell (for those suppliers that had contracts with Glendell from January 2017 to June 2019), and the average annual percentage of business income spent on goods and services (excluding wages) as identified in the supplier survey. The responses to the estimate of annual business income spent on goods and services varied widely across businesses sampled from 5% through to 95%. Due to this high variability, an average annual expenditure of 44% was applied across all suppliers.

To further validate this figure, a review of the industry benchmarks for non-capital purchases, as a proportion of total business sales across businesses with varying degrees of annual turnover and across different industry sectors (ATO, 2019), was also undertaken. A calculated average business expenditure of 62% was obtained through this analysis. It should be noted that the ATO benchmarks utilised relate to small businesses and are provided for the purpose of supplying business with their taxable income calculations. As 63 of the 124 suppliers that reported their number of employees, were medium (20-199 employees) to large businesses (200+ employees), as defined by the ABS (2016), the highest annual turnover bracket was used for each industry. Therefore, potential business expenditure has been calculated using a range of 44% (average annual business expenditure obtained from the supplier survey data) and 62% (average obtained from the ATO benchmarks).

Survey respondents were also asked to provide an indication of the proportion of spend by town/locality. Therefore, estimated business spend that is reliant on income from Glendell Mine contracts has also been estimated for all suppliers that responded to the survey (refer to **Table 4.8**).

As shown in **Table 4.8**, the majority of business spend by suppliers largely occurs in Singleton, Newcastle, Port Stephens, Maitland, Muswellbrook, Sydney, and Victoria. It should be noted that this business spending relates to business expenditure directly associated with the Glendell Mine operation.

Table 4.8 Estimates of suppliers' business expenditure directly reliant on the Glendell Mine (Supplier Sample Only)

Location	Business Expenditure (\$) ATO -62% average	Business Expenditure (\$) Supplier Survey - 44% average
NSW	\$34,151,947	\$24,236,866
<i>Hunter Region</i>	\$28,732,858	\$20,391,060
Singleton LGA	\$9,222,988	\$6,545,347
Singleton	\$8,917,013	\$6,328,203
Mount Thorley	\$265,172	\$188,186
Branxton	\$25,988	\$18,443
Singleton LGA (Other)	\$14,816	\$10,514
Muswellbrook LGA	\$3,721,103	\$2,640,783
Newcastle LGA	\$8,469,929	\$6,010,917
Port Stephens LGA	\$3,740,634	\$2,654,644
Maitland LGA	\$2,612,800	\$1,854,245
Hunter Valley Region (Other)	\$770,848	\$547,053
Lake Macquarie LGA	\$141,093	\$100,130
Cessnock LGA	\$40,055	\$28,426
Upper Hunter LGA	\$13,407	\$9,515
Sydney	\$2,070,245	\$1,469,206
North Coast	\$844,911	\$599,614
Illawarra Region	\$736,022	\$522,338
NSW (Other)	\$659,038	\$467,704
North West Slopes	\$533,000	\$378,258
Mid North Coast	\$361,698	\$256,689
Albury LGA	\$80,000	\$56,774
Central Coast Region	\$35,716	\$25,347

Location	Business Expenditure (\$) ATO -62% average	Business Expenditure (\$) Supplier Survey - 44% average
Central West Region	\$30,928	\$21,949
Central Tablelands	\$30,050	\$21,326
South Coast	\$23,404	\$16,609
Liverpool Plains	\$14,077	\$9,990
VIC	\$1,149,509	\$815,780
QLD	\$997,633	\$707,998
WA	\$315,777	\$224,100
ACT	\$12,210	\$8,665
Australia (Other)	\$1,653,539	\$1,173,480
Australia TOTAL	\$38,280,615	\$27,166,888
International	\$854,316	\$606,289
TOTAL	\$39,134,931	\$27,773,177

Note: Figures are based on responses from 92 suppliers and for the time period extending from January 2017 to June 2019.

The estimates of suppliers' business expenditure, as presented in **Table 4.9**, were then used to estimate business spending for all of Glendell Mine's suppliers (including those that did not respond to the survey). To achieve this, suppliers that did not respond to the survey (79%) were assumed to have identical spending patterns to those that did respond (21% of suppliers).

The results of this analysis presented in **Table 4.9** indicate that Singleton (between \$6.5 and \$9.2 M), Newcastle (between \$6 and \$8.5 M), Muswellbrook (between \$2.6 and \$3.7 M), Port Stephens (between \$2.7 and \$3.7 M), Maitland (between \$1.9 and \$2.6 M) and Sydney (between \$1.5 and \$2 M) were the main locations of suppliers' business expenditure for contracts awarded to the full population of suppliers of the Glendell Mine for the period of January 2017 to June 2019. Overall, estimates show that there was approximately between \$20 and \$28.7 M in total being spent in the Hunter Valley region for that period.

Some major areas such as Sydney also appear relatively high on the list of supplier's related business expenditure, despite their distance from the Project. This is explained by the fact that some of Glendell Mine's suppliers (that responded to the survey) have a significant presence in some of Australia's capital cities and therefore undertake expenditure in those locations to support their activities related to the Glendell Mine.

Table 4.9 Estimates of suppliers' business expenditure directly reliant on Glendell Mine (Sample and Population)

Location	Sample only (92 suppliers)		Population (estimated for 445 suppliers)	
	Business Expenditure (\$) ATO 62% Average	Business Expenditure (\$) Supplier Survey 44% Average	Business Expenditure (\$) ATO 62% Average	Business Expenditure (\$) Supplier Survey 44% Average
NSW TOTAL	\$34,151,947	\$24,236,866	\$165,191,485	\$117,232,667
Hunter Valley Region	\$28,732,858	\$20,391,060	\$138,979,585	\$98,630,673
Singleton LGA	\$9,222,988	\$6,545,347	\$44,611,193	\$31,659,556
Singleton	\$8,917,013	\$6,328,203	\$43,131,207	\$30,609,243
Mount Thorley	\$265,172	\$188,186	\$1,282,624	\$910,249
Branxton	\$25,988	\$18,443	\$125,701	\$89,207
Singleton LGA (Other)	\$14,816	\$10,514	\$71,662	\$50,857

Location	Sample only (92 suppliers)		Population (estimated for 445 suppliers)	
	Business Expenditure (\$) ATO 62% Average	Business Expenditure (\$) Supplier Survey 44% Average	Business Expenditure (\$) ATO 62% Average	Business Expenditure (\$) Supplier Survey 44% Average
Muswellbrook LGA	\$3,721,103	\$2,640,783	\$17,998,813	\$12,773,351
Newcastle LGA	\$8,469,929	\$6,010,917	\$40,968,678	\$29,074,546
Port Stephens LGA	\$3,740,634	\$2,654,644	\$18,093,286	\$12,840,397
Maitland LGA	\$2,612,800	\$1,854,245	\$12,638,000	\$8,968,903
Hunter Valley Region (Other)	\$770,848	\$547,053	\$3,728,558	\$2,646,073
Lake Macquarie LGA	\$141,093	\$100,130	\$682,459	\$484,326
Cessnock LGA	\$40,055	\$28,426	\$193,746	\$137,497
Upper Hunter LGA	\$13,407	\$9,515	\$64,851	\$46,023
Sydney	\$2,070,245	\$1,469,206	\$10,013,683	\$7,106,485
North Coast	\$844,911	\$599,614	\$4,086,799	\$2,900,309
Illawarra Region	\$736,022	\$522,338	\$3,560,106	\$2,526,527
NSW (Other)	\$659,038	\$467,704	\$3,187,739	\$2,262,266
North West Slopes	\$533,000	\$378,258	\$2,578,099	\$1,829,618
Mid North Coast	\$361,698	\$256,689	\$1,749,517	\$1,241,593
Albury LGA	\$80,000	\$56,774	\$386,958	\$274,615
Central Coast Region	\$35,716	\$25,347	\$172,757	\$122,602
Central West Region	\$30,928	\$21,949	\$149,598	\$106,166
Central Tablelands	\$30,050	\$21,326	\$145,353	\$103,154
South Coast	\$23,404	\$16,609	\$113,203	\$80,338
Liverpool Plains	\$14,077	\$9,990	\$68,089	\$48,322
VIC	\$1,149,509	\$815,780	\$5,560,124	\$3,945,894
QLD	\$997,633	\$707,998	\$4,825,507	\$3,424,553
WA	\$315,777	\$224,100	\$1,527,400	\$1,083,961
ACT	\$12,210	\$8,665	\$59,058	\$41,912
Australia (Other)	\$1,653,539	\$1,173,480	\$7,998,099	\$5,676,070
Australia TOTAL	\$38,280,615	\$27,166,888	\$185,161,672	\$131,405,057
International	\$854,316	\$606,289	\$4,132,289	\$2,932,592
TOTAL	\$39,134,931	\$27,773,177	\$189,293,960	\$134,337,649

Note: Figures provided in final columns ("population") are estimated based on a multiplier of 4.8369565 (which assumes data for the missing 79% is the same as the 21% that responded to the survey question).

4.3.3 Glendell Mine – Community investment

Table 4.10 summarises the social investments made by Glencore between 2017 and 2019 (including projected spend for the remainder of the year). At a community level, Glencore contributed \$130,644 in social investments from 2017 to 2019; comprising \$46,770 in 2017, \$55,374 in 2018 and \$28,500 (including projected spend) in 2019. Social investments targeted various local community groups, events and services across the region.

Table 4.10 **Glencore social investment**

Community Partner/Organisation	Focus Area	Financial commitment (AUD)	Year
Samaritans Foundation Singleton - Christmas Lunch	Community Service	\$2,000	2019
Rural Fire Service - Darlington Rural Fire Brigade Support	Community Service	\$1,500	2019
Samaritans Foundation Singleton - Christmas Lunch	Community Service	\$2,000	2019
Rural Fire Service - Glennies Creek Support	Community Service	\$1,000	2019
Mount Pleasant School – Enhancement	Education	\$5,000	2019
Maitland Community Pre-School - Platinum Jubilee 71 st Anniversary Fundraising event	Education	\$1,500	2019
Mount Pleasant School - Sports Program	Education	\$3,000	2019
Mount Pleasant School - Education Support Program	Education	\$5,000	2019
Mount Pleasant School - Environmental Program	Education	\$2,000	2019
Multiple Sclerosis Australia - Soft Clogs Charity Bike Ride	Health	\$2,000	2019
Westpac Helicopter Service - Annual Singleton Charity Rugby Match	Health	\$1,500	2019
Cancer Council NSW - sponsorship of Team McInerney in Relay for Life	Health	\$2,000	2019
Total 2019		\$28,500	2019
Salvation Army - Bus to pick up children	Community Infrastructure	\$663	2018
Men's Education Health Rural Van	Community Infrastructure	\$500	2018
Rural Fire Service - Glennie's Ck Group 2	Community Infrastructure	\$2,000	2018
Northern NSW Helicopter Service - Ski Marathon Lake Chaffey	Community Service	\$500	2018
Rotary Club Singleton - Lake St Clair Charity Bike Ride	Community Service	\$4,000	2018
Oxfam	Community Service	\$1,000	2018
Glendell Team - Westpac Rugby League Fundraiser	Community Service	\$1,500	2018
Rotary Club Singleton - Lake St Clair Charity Bike Ride	Community Service	\$4,000	2018
Rotary Club Singleton - Lake St Clair Charity Bike Ride	Community Service	\$5,000	2018
Rotary Club Singleton - Lake St Clair Charity Bike Ride	Community Service	\$7,000	2018
Singleton Family Support - Community Support Group	Community Service	\$1,000	2018
Hunter Valley Comms Brigade - RFS communication system	Community Service	\$2,000	2018

Community Partner/Organisation	Focus Area	Financial commitment (AUD)	Year
Samaritans Foundation Singleton - Christmas Lunch	Community Service	\$2,000	2018
Singleton Fire Brigade Social Club - Annual Singleton Lolly Run	Community Event	\$2,000	2018
Mt Olive Community Hall - Country Charm Fundraiser	Community Event	\$1,000	2018
Singleton Swim Club - Event Support	Community Event	\$120	2018
Maitland Community Preschool - Platinum Jubilee	Education	\$1,250	2018
Mount Pleasant Public School - Representative Sports Uniforms	Education	\$4,235	2018
Mount Pleasant Public School - Macqlit Educational Program	Education	\$5,000	2018
Wildlife Aid - Food and medical supplies injured animals	Environment	\$3,000	2018
Mount Pleasant Public School - Stream Health and Water Bugs	Education	\$2,000	2018
Cancer Council - Local Head Shave Event	Health	\$500	2018
Bears of Hope - Gresford Billy Cart Event	Health	\$500	2018
Cancer Council NSW - sponsorship of Team McInerney in Relay for Life	Health	\$2,000	2018
Hunter Medical Research Institute -Brain Cancer Research	Health	\$1,000	2018
Redbull Flugtag - Men's Mental Health (Team Glendell)	Health	\$500	2018
Movember	Health	\$100	2018
PCYC - Light Box program	Sport and Recreation	\$506	2018
Rosebuds Youth Player - Development Sponsorship	Sport and Recreation	\$500	2018
Total 2018		\$55,374	2018
Mount Olive Community Hall - Upgrade	Community Infrastructure	\$1,500	2017
Rotary Club Singleton - Lake St Clair Charity Bike Ride	Community Service	\$7,000	2017
Glendell Team - Westpac Rugby League Fundraiser	Community Service	\$1,500	2017
Rotary Club Singleton - Lake St Clair Charity Bike Ride	Community Service	\$8,000	2017
Rotary Club Singleton - Lake St Clair Charity Bike Ride	Community Service	\$5,000	2017
Newcastle and Hunter Combined Schools - ANZAC Day Commemorative Event	Community Event	\$1,000	2017
Singleton Lions Club - BBQ	Community Event	\$350	2017

Community Partner/Organisation	Focus Area	Financial commitment (AUD)	Year
Mount Olive Community Hall - Country Charm Fundraiser	Community Event	\$500	2017
Singleton Fire Brigade Social Club - Annual Singleton Lolly Run	Community Event	\$3,000	2017
Newcastle and Hunter Combined Schools - ANZAC Day Commemorative Event	Community Event	\$500	2017
Hunter Coal Festival - Mail Run Charity Bike Ride	Community Event	\$525	2017
Future Achievement Australia - Cessnock Max Potential Program	Education	\$2,195	2017
FAA Foundation - Singleton Max Potential Program	Education	\$2,200	2017
Cancer Council NSW - sponsorship of Team McInerney in Relay for Life	Health	\$2,000	2017
Singleton Gym and Swim Swim-a-thon for swimmers with a disability	Health	\$1,000	2017
Mount Pleasant School - Horse Sports Day	Sport and Recreation	\$10,000	2017
Hunter Valley Ranch Sorting Event	Sport and Recreation	\$500	2017
Total 2017		\$46,770	2017

Source: Glencore, 2019

Over the last three years (2017 to 2019), the majority of Glencore community investment contributions have focused on supporting community services (43%), education (22%), and health programs (10%), followed by Sport and recreation (9%) and community events (7%) (refer to **Figure 4.2**).

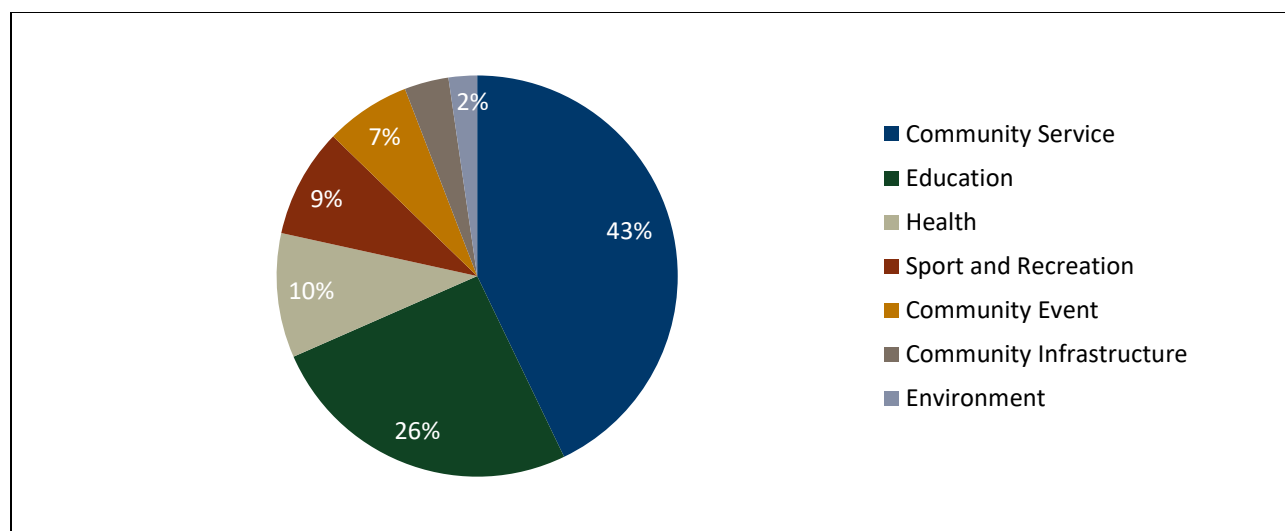


Figure 4.2 Focus areas of investment - Proportion of funding for Years 2017-19

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Figure 4.3 provides a breakdown of community investment spending proportions for each year. Based on current projections for the 2019 calendar year, most of the currently allocated community investment will be directed towards education (51%), with around \$10,000 directed at the local Mount Pleasant School. A further 23% will go towards community services and 19% towards health programs.

The majority of community investment in 2018 was allocated to community services (51%) followed by education (19%) and health programs (8%). In 2017, the most significant proportion of community investment was directed towards community services (46%) followed by sport and recreation (22%) and community fundraising events (13%).

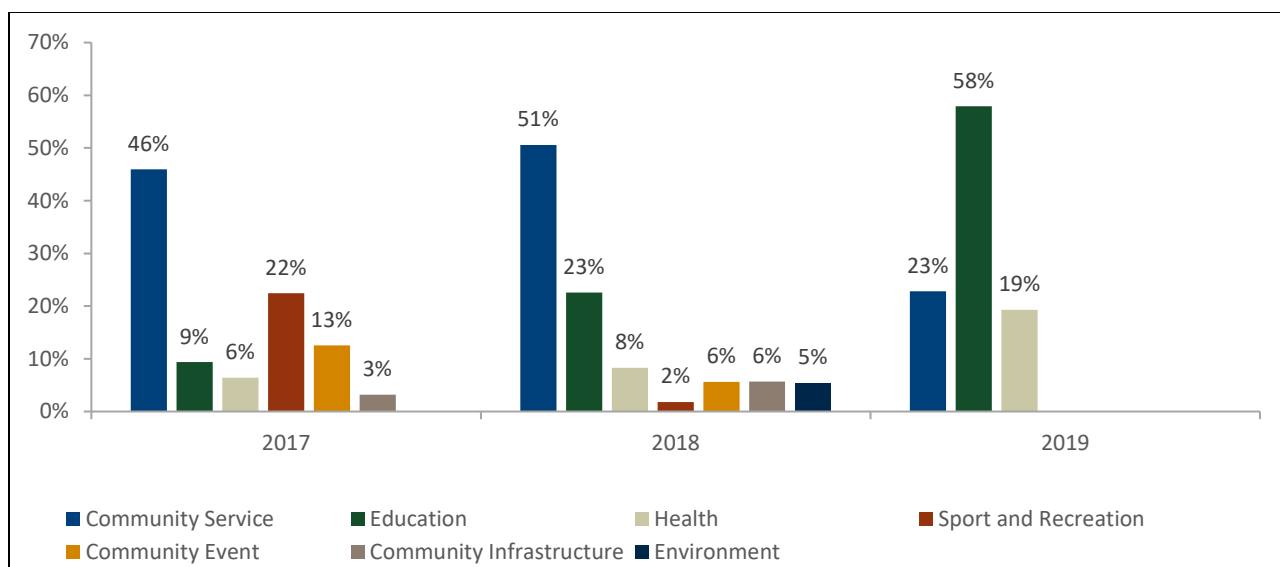


Figure 4.3 Focus areas of investment - Projected funding for 2019

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4.3.4 Summary of Findings

Major resource projects can make significant social and economic contributions to communities that extend far beyond the location in which an operation is based. For instance, the presence of an operation can provide economic and social contributions to communities through indirect impacts such as employee household expenditure; with employees (and their families) also contributing to communities through their participation in community groups and activities, or through their use of health, education and other community services. Likewise, indirect benefits may be experienced in communities where suppliers' head offices are located, where their employees reside or where suppliers' business expenditure is undertaken.

This section has provided an indication of the direct and indirect economic contributions of Glendell Mine through analysis of Glendell Mine employees' location of residence and employee annual household expenditure. Further analysis of the expenditure of suppliers by locality describes the direct and indirect contributions of Glendell Mine to the region more generally.

Overall, it is estimated that approximately \$25.8 M was spent by Glendell Mine on employee salaries during 2018, with \$18.6 M going to employees within the local government areas of Singleton, Cessnock, Maitland and Muswellbrook, and a total of \$24.3 M in the Hunter Region broadly. Additionally, from January to December 2018, an additional \$55,374 was spent on local community contributions, with spending predicted to continue in 2019.

A supplier survey was also conducted for the Glendell Mine indicating that across the period from January 2017 to June 2019, between approximately \$134 and \$189 M was spent on goods and services by suppliers with contracts with the Glendell Mine; of which between \$6.5 and \$9.2 M was spent in the Singleton LGA, between \$2.6 and \$3.7 M in the Muswellbrook LGA, and between \$6 and \$8.5 M in the Newcastle LGA. Across the Hunter Valley region more broadly, between \$20 and \$28.7 M was spent on goods and services by suppliers. Again, it is important to note these estimates provided are for the time period from January 2017 to June 2019 only.

If approved, the Glendell Continued Operations Project would prolong the life of the mine for an additional 21 years, beyond that currently approved, sustaining the direct and indirect social and economic contributions of the operation for this additional period. The economic benefits of the Project have been assessed and are further discussed in the Economic Impact Assessment (Ernst & Young, 2019) and in Section 7.17 of the EIS.

4.4 Perceptions of the Mount Owen Complex

This section analyses existing data to provide an overview of community perceptions of the Mount Owen Complex, specifically, Glendell Mine. The data sources utilised include:

- 2018 Glencore Community Perception Survey
- engagement undertaken with proximal landholders in 2018, as part of the Scoping Phase of the SIA for the Project
- Glendell Mine complaints register (January 2017 – June 2019).

4.4.1 Community perception survey

As previously noted every three years, Glencore conducts a community perception survey of stakeholders and community residents relevant to their NSW and QLD operations. This survey is designed to obtain a greater understanding of stakeholder issues and needs relating to company activities, past and present; and to assist in driving business improvement in the areas of environmental performance, stakeholder engagement and community development across neighbouring and regional communities.

To inform this section, data from the 2018 perception survey relating to Glencore, involving landholders, local businesses, community groups, Indigenous groups, local and state government and NGOs and residents residing in the wider Hunter Valley, has been reviewed and incorporated as relevant. Glencore operations within the Hunter Valley include the Mount Owen Complex, Mangoola Coal Mine, Bulga, HVO Joint Venture, United, Ravensworth, Liddell and Integra.

In relation to stakeholder perceptions of Glencore's operations in the Hunter Valley the survey results indicated the following:

Care for the community

When asked if: Glencore cares about local communities in the region with a sample size of landholders (n=126), opinion leaders (n=43), broader community (n=199). 65% of broader community respondents, 62% of opinion leaders and 77% of landholders either agreed or strongly agreed with this statement.

Opportunity to present stakeholder views

When asked if: I feel that I have ample opportunity to present my views about Glencore's activities in the area with a sample size of landholders (n=120), opinion leaders (n=41), broader community (n=190). 63% of broader community, 71% of opinion leaders and 65% of landholders either agreed or strongly agreed with this statement.

Contribution to the community

When asked if: Glencore makes an important contribution to the local economy in the region with a sample size of landholders (n=121), opinion leaders (n=42), broader community (n=199) 82% community, 86% of opinion leaders and 81% of landholders either agreed or strongly agreed with this statement.

Environmental performance

When asked: In my opinion Glencore's environmental performance is an example of good practice with a sample size of landholders (n=118), opinion leaders (n=40), broader community (n=189). 53% of community, 66% of opinion leaders and 60% of landholders either agreed or strongly agreed to this statement.

When asked: I think Glencore is taking measures to address environmental issues with a sample size of landholders (n=122), opinion leaders (n=41), broader community (n=193). 64% of community, 80% of opinion leaders and 66% of landholders either agreed or strongly agreed to this statement.

4.4.2 Perceived existing operational concerns of proximal landholders

As part of the scoping phase of the SIA for the Project, proximal landholders were asked about whether they had any issues or concerns in relation to the existing Glendell Mine. **Figure 4.4** outlines the issues that were raised.

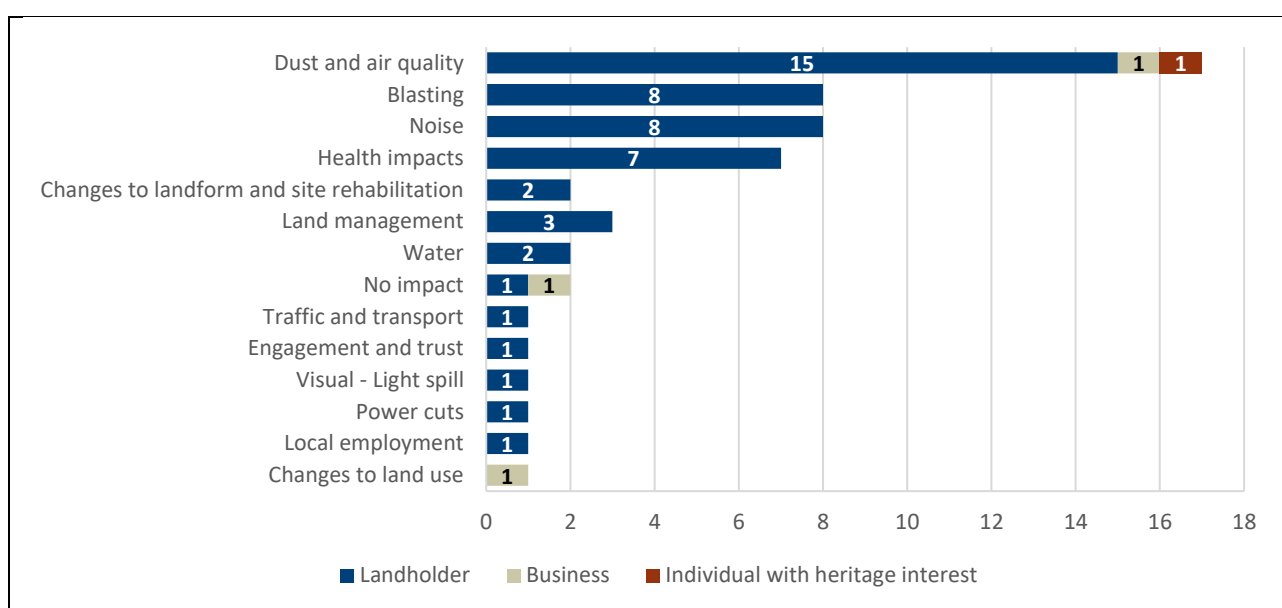


Figure 4.4 Existing operational concerns (Phase 1 Consultation)

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Note: multiple responses allowed, n=24 where n is the number of interviews conducted (Landholders=20, Business owner=3, Individual with heritage interest =1)

As illustrated in **Figure 4.4**, at the onset of the Project (prior to PEA Submission), the most common operational concerns related dust and air quality, with 29% of landholders (15) identifying it as their primary issue. This was followed by blasting (16%), noise (16%) and health impacts (14%).

4.4.3 Complaints analysis

Glencore maintains an ongoing Complaints Register to record all community complaints, investigations and outcomes. The Complaints Register is available to the public via the Mount Owen Complex website at <http://www.mtowencomplex.com.au/en/community/Pages/community-complaints-register.aspx>. A review of the Complaints Register from January 2017 to August 2019 has been undertaken to provide some operational context to issues identified by landholders during the SIA consultation.

It is important to note that Glencore records all relevant contact with the community even if an investigation concludes that the mine's activities remain in compliance with project approval conditions (and other regulatory) limits; or the reported instance is not able to be attributed to the mine (e.g. a contact regarding a blast is recorded as a complaint even if the investigations finds that no blast from the mine occurred at the time reported).

4.4.3.1 Number and nature of complaints – Glendell Mine

Glendell Mine received, investigated and recorded a total of 100 complaints within the two and a half year period between January 2017 and June 2019, with the highest number of complaints in 2017, when 40 were received (refer to **Figure 4.5**).

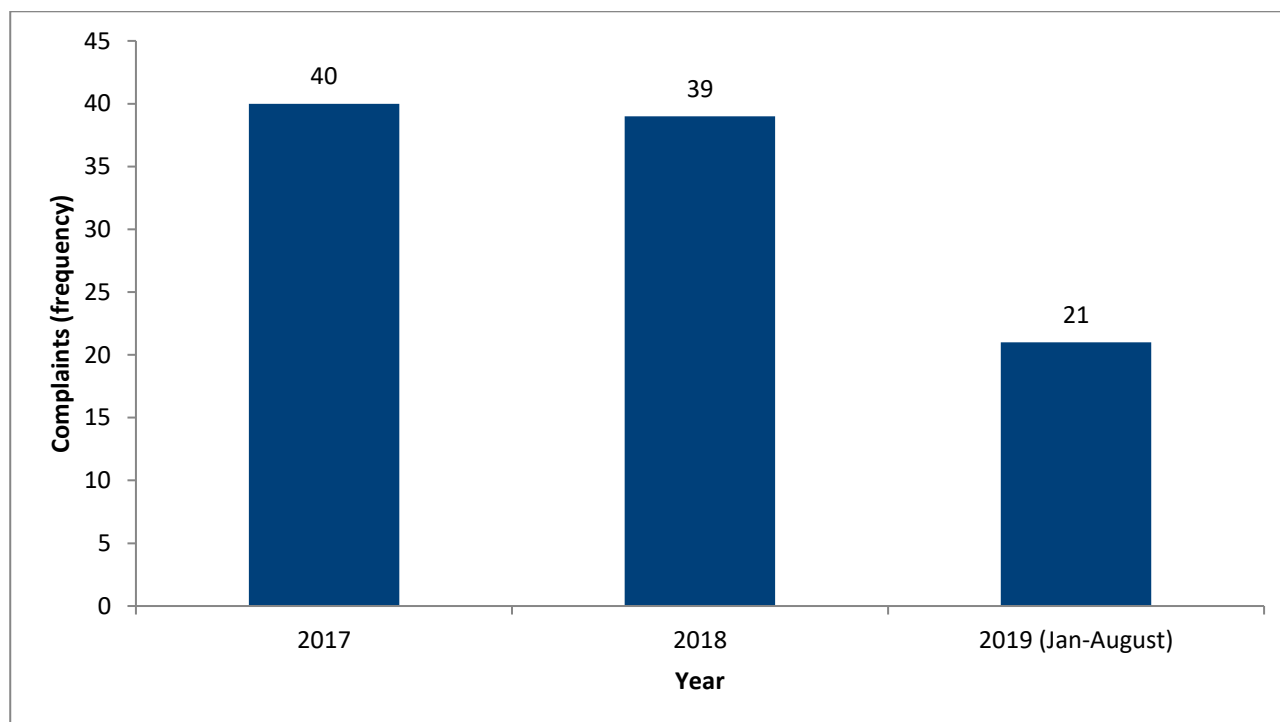


Figure 4.5 Complaints received by Glendell January 2017 to August 2019 (n = 100)

Source: Glendell Mine Complaints database (2017, 2018, 2019)

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Figure 4.6 shows the themes of the complaints. The most common issue for complaint was noise, accounting for 75% of all complaints received during this period. Note that the counts used to calculate these proportions include six single complaints about two separate issues which have been double counted in 2019, four in 2018, and two in 2017. As such, the total number of complaints with these impacts separated out is 112.

Noise complaints included general operational noise and noise from site machinery, typically reported in the early morning, or during night-time activities.

Blasting complaints accounted for 9% of complaints received and mainly focused on larger blasts and associated vibrations and fumes, with a further 15% of complaints relating to the dust created from blasting and other mine activities.

One complaint was received regarding light spill from the operations occurring at night.

All complaints were investigated by the relevant Glendell Mine personnel and/or senior management. Management measures typically involved contacting the complainant to discuss details of operations conducted during the complaint period, or to provide a written report of the investigation if requested. Where required, additional management measures were put in place, such as arranging for an independent engineer to inspect a property for damage caused by blasting.

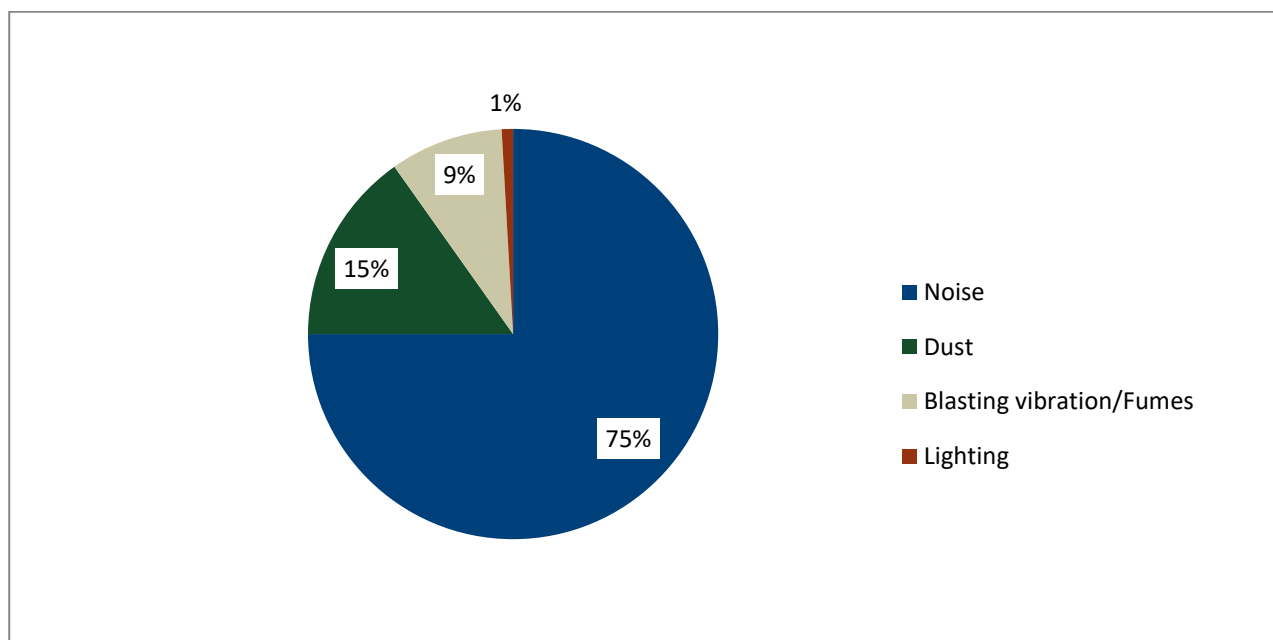


Figure 4.6 Complaint themes for Glendell January 2017 and August 2019 (n=112)

Source: Glendell Mine Complaints database (2017, 2018, 2019)

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5.0 Social profile

A baseline social profile gathers knowledge from both primary and secondary data sources to increase understanding of the existing social environment in which a project is proposed. According to the International Association for Impact Assessment (IAIA) *SIA Guidelines* (2015), a baseline social profile should provide: documentation and analysis of the local historical setting; relevant data to enable the evaluation and audit of social impacts and associated management strategies; and afford a complete picture of the local cultural context; as well as a greater understanding of local values.

The new SIA Guideline (DPE, 2017) also outlines what a social baseline study should include, namely:

- a description of the project's area of social influence
- quantitative indicators and qualitative descriptions relevant to each potential social impact, building on any relevant indicators identified during scoping, and sourced through a combination of desktop research and primary data collection (including from other specialist studies undertaken for the EIS).

The SIA guideline emphasises that the social baseline should be tailored to the specific project context and include meaningful data to inform the SIA. The baseline should also include analysis of any relevant data trends and provide a benchmark from which potential impacts can be assessed, and any change monitored.

Profiling provides a comprehensive summary of the key characteristics of the people of a community or project area and is concerned with developing a detailed understanding of the social and economic context of potentially affected communities. For the purpose of this assessment, the following components have been considered in the development of the social baseline profile for the Project, namely:

- **Geographic scope** – identification of the communities of interest relevant to the current assessment.
- **Governance** – outline of relevant structures of governance at local, state and federal levels.
- **Historical context** – review of the history of local communities, including their culture and values.
- **Development context and response to change** – assessment of development issues within the communities of interest and the response of local landholders and community residents to this change.
- **Community capitals/assets** – assessment of areas of vulnerability and resilience across the communities of interest.
- **Key community values, issues and concerns** – documentation of current community issues in the Singleton LGA, Muswellbrook LGA and Upper Hunter Region, as identified in key planning documents, regional studies and the local media.

Data sources utilised in the preparation of this profile section, relevant to the Project area, include:

- ABS Census (ABS, 2011, 2016); Social Health Atlas (PHIDU, 2018) and other social indicator datasets
- local and state government reports
- existing Environmental Assessment/Social Impact Assessments (relevant to the area)
- research reports and publications (e.g. Mining Dialogue 2018)

- review of local and regional media
- consultation with key stakeholders and service providers in the Upper Hunter Region.

The social profile is a necessary component of the SIA and provides a foundation from which social impacts associated with the proposed Project development may be assessed and predicted.

5.1 Geographic context

Glendell Mine is in Singleton LGA, within the Upper Hunter Region (or State Electoral District). The Upper Hunter Region includes the LGAs of Singleton, Muswellbrook and the Upper Hunter. The existing Glendell Mine is located approximately 22 km north-east of Singleton and 29 km south-east of Muswellbrook. Newcastle is the main coastal metropolitan centre in the adjacent Lower Hunter Region; south-east of the Glendell Mine.

Glendell Mine is one of approximately 35 separate mines operated by 11 different coal producers across the Hunter region (HVCCC, 2019). In 2017, these mines, which represent the Hunter Valley Coal Chain, contributed collectively over 159 Mt of coal exports from the Newcastle Port (Port of Newcastle, 2017). The closest mines to Glendell Mine are Ashton Coal Mine, Integra Underground Mine, Ravensworth Mine, Mount Owen and Liddell Coal Mine as shown in **Table 5.1** and **Figure 5.1**.

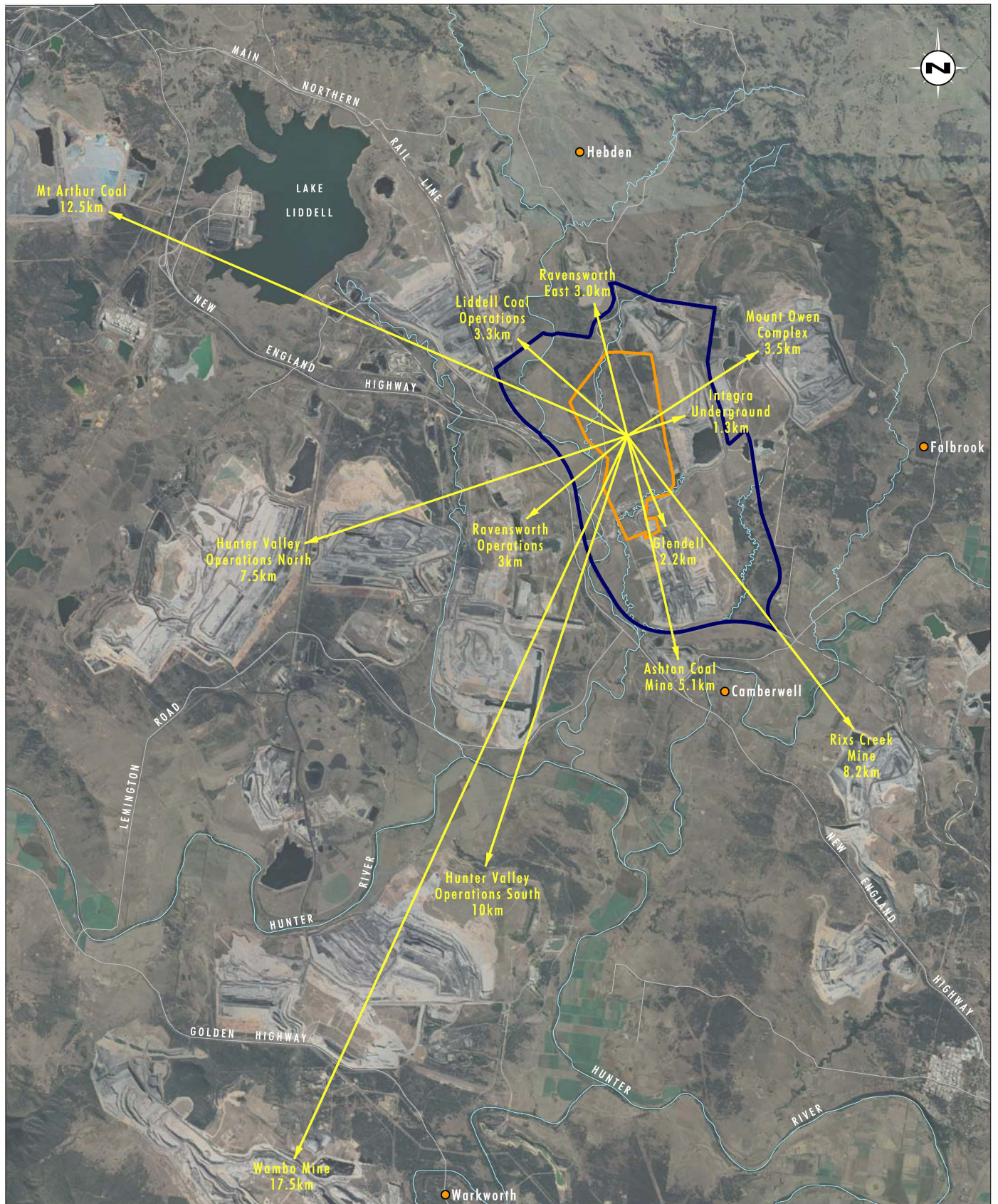


Image Source: Google Earth (Aug 2018)
Data Source: Glencore (2019)

0 2.0 4.0 6.0 km

Legend

- ▬ Project Area
- ▬ Glendell Pit Extension
- Proximal Location
- Locality

FIGURE 5.1

Proximal Mines to
Glendell Mine

Table 5.1 Proximal mines to Glendell Mine

Mine	Approximate Distance from Project Centre	Consent	Current Consent Expiry
Ashton Coal Project	5.1 km south	DA 309-11-2001-i	Expires 2024
Integra Underground Mine	1.3 km east	PA 08_0101	Expires 2035
Ravensworth Underground	3 km south-west	DA 104/96	Expires 2024
Mount Owen and Ravensworth East	3.5 km north-east	SSD 5850	Expires 2031
Glendell Mine	2.2 km south	DA 80/952	Expires 2024
Liddell Coal	3.3 km north-west	DA 305-11-01	Expires 2028
Rix's Creek South	8.2 km south-east	08_0102 Mod 6 SSD 6300	Expires 2035
HVO (North, South)	7.5/10 km south-west	DA 450-10-2003 (North and West) PA 06-0261 (South)	North - Expires 2025 South - Expires 2030
Wambo Mine	17.5 km south-west	DA 305-7-2003-i	Expires 2039
Mount Thorley Warkworth Mine	19.3 km south	EPBC 2002/629	Expires 2039

In this SIA, the primary social area of influence has been defined as the localities and communities proximal to Glendell Mine, the Singleton and Muswellbrook LGA, the Upper Hunter Region and the state of NSW, for comparative assessment. These relevant ABS areas of interest are listed below.

Singleton is an important nearby economic and service hub for the above communities with a population of almost 5,000 people and the LGA made up of 23,000. Although, some residences near the Project sit within the Muswellbrook LGA, Singleton is the main retail and service centre for the area. Residents also access services, employment and resources in Muswellbrook, Maitland, and Newcastle. For the purpose of this SIA, Muswellbrook has primarily been used for comparative assessment purposes.

5.2 Governance

5.2.1 Local government

Singleton LGA is governed by Singleton Council. Singleton LGA elects its Councillors (10 in total) from a single ward on a proportional basis, with the Mayor elected by the Council. The most recent election in September 2016 resulted in the reappointment of Sue Moore as Mayor for her second term. The Singleton Council upholds five values as core requirements of their organisation that include: integrity, respect, excellence, innovation and enjoyment. Services provided by Singleton Council include development planning and building, support and regulatory services to local business and industry, childcare, library, youth programs and events, roads, waste and recycling, water and other residential services.

Table 5.2 Singleton Council Members

Role	Councillors
Mayor	Sue Moore
Deputy Mayor	Godfrey Adamthwaite
Councillors	John Martin Sarah Lukeman Hollee Jenkins Sue George Tony McNamara Tony Jarrett Val Scott Danny Thompson

Source: Singleton Council (2019)

The Project Area sits within the Singleton LGA, which covers an area of 4,893 km² and has a population of approximately 23,000 people. As previously noted, some of the key localities associated with the Project, particularly Hebden, either sit close to or share borders with the Muswellbrook Shire Council.

Adopted in 2017 the Singleton Community Strategic Plan 2017–2027 is the blueprint for the future of Singleton in the coming years, setting the course for a vibrant, progressive, sustainable, connected and resilient community. The plan outlines the Council's focus to improve, manage and promote growth within the region, across five key focus areas of pillars - People, Places, Environment, Economy, and Leadership.

Within these five categories there is a clear focus on meeting the needs of the community by:

- providing more educational services
- improving established services
- maintaining and improving facilities and infrastructure
- implementing more strategies around water and land management
- developing the region's tourism industry
- providing support and funding for local business
- attracting new investment to increase the diversity and resilience of Singleton's economy
- providing improved communication and connectivity with community.

These values illustrate a desire to ensure a vibrant, cohesive and resilient community, while also encouraging growth, improvement and opportunity.

5.2.2 State government

Glendell Mine is located within the boundaries of the Upper Hunter State Electorate, which extends from Spring Ridge in the north to Yengo National Park in the south; and from the Talbragar River in the west to Bundook in the east.

The Upper Hunter State Electorate is represented by National Party Member Michael Johnsen. Mr Johnsen, as the Member for the Upper Hunter, is also a Member of the NSW Legislative Assembly, Chair of the Committee on Investment, Industry and Regional Development, Deputy Chair of the Standing Committee on Parliamentary Privilege and Ethics, Member of the Legislative Review Committee and Member of the Committee for Children and Young People, within a Liberal-National Party Coalition Government.

Key NSW State Government policies of relevance to the region and the proposed Project include:

- Strategic Regional Land Use Plan: Upper Hunter (2012)
- Upper Hunter Economic Diversification Project (2017)
- Lower Hunter Regional Strategy (2006-2031)
- Hunter Regional Plan 2036 (2016).

5.2.3 Federal government

The Singleton LGA is represented by the Hon. Joel Fitzgibbon (Australian Labor Party) who holds the Federal seat of Hunter. The Australian Labor Party is currently in minority government with the support of key independent members and the Australian Greens.

5.2.4 Native Title, Local Aboriginal Land Councils and Traditional Owner groups

In NSW there are two key mechanisms by which Aboriginal people can have their rights in land formally recognised – Land Rights and Native Title. The two systems operate under different laws and differ in the rights they can provide.

Land rights for Aboriginal and Torres Strait Islander peoples refers to the ongoing struggle to gain legal and moral recognition of ownership of lands and waters they called home, prior to colonisation of Australia in 1788.

Native Title rights and interests are those rights in relation to land or waters that are held by Aboriginal or Torres Strait Islander people under their traditional laws and customs and recognised by the common law.

The NSW Aboriginal Land Council (NSWALC) is the state's peak representative body in Aboriginal Affairs and is constituted by Part 7 of the *Aboriginal Land Rights Act 1983 No 42*. NSWALC are empowered to administer the Mining Royalties Account and to approve or reject the terms and conditions of agreements proposed by Local Aboriginal Land Councils to allow mining or mineral exploration on Aboriginal land.

Every four years, voting members of Local Aboriginal Land Councils vote for a Councillor to represent their region. Currently the Chairperson of the NSW Aboriginal Land Council is held by Cr Anne Dennis, a Gamilaraay woman born on Namoi Reserve and has live most of her life in Walgett. Cr Dennis was first elected in 2011 and was previously the Deputy Chairperson of NSWALC.

Cr Ah-See oversees the North West Region, which includes the following Local Aboriginal Land Councils: Baradine, Brewarrina, Collarenebri, Coonamble, Goodooga, Lightning Ridge, Moree, Mungindi, Murrawari, Narrabri, Nulla Nulla, Pilliga, Toomelah, Walgett, Wee Waa and Weilmoringle.

Table 5.3 NSW Aboriginal Land Council

Role	Councillors
Chairperson	Anne Dennis – North West Region
Deputy Chair Person	Charles Lynch – Northern Region
Councillors	Theresa Malone – Sydney/Newcastle Region Craig Cromelin – Wiradjuri Region Stephen Ryan – Central Region Danny Chapman – South Coast Region Peter Smith – Mid North Coast Region William Murray – Western Region Tina Williams – North Coast Region

Source NSWALC (2019)

The Project area is located within the traditional homelands of the Wonnarua (sometimes spelt Wanaruah) people, whose history extends from the present day back many thousands of years. The Project is also within the modern day Wanaruah Local Aboriginal Land Council (WLALC) boundary and within the boundaries of Native Title claims originally submitted in 2011 by the Wonnarua People (PCWP).

5.3 Historical context

5.3.1 Aboriginal history

The Hunter Region has a great wealth of Aboriginal history which precedes the arrival and settlement of the area by European immigrants.

The Traditional Owners of the land in the Upper Hunter Region are the Wonnarua (also known as Wanaruah and Wonnaruah) who have lived in the Upper Hunter region for at least 30,000 years. James Miller (1985) provides an account of pre-European Wonnarua life in his paper 'About the Wonnarua', an extract from his book *Koori: A Will to Win*. Miller describes a hunter gatherer lifestyle guided by spirituality and defined gender roles. Miller also describes the Wonnarua as heavily connected to spirits born of the dreaming that heavily influenced all facets of Wonnarua life including birth, death, marriage and everyday understandings of the world around them (refer to Coakes Consulting, 2013).

The Wonnarua people currently have a number of active native title applications that resides largely within the Singleton LGA, one of which spans over 9,494 km². This particular claim, tribunal file number NC2013/006 was filed in 2013 and registered in 2015; no determinations have been made for this claim to date. The claim encompasses the Hunter Valley, west of Newcastle, extending generally north-westerly to the Upper Hunter and the Liverpool Ranges to Murrurundi, and southerly to the Hunter Range past Cessnock.

Most recently, the Plains Clan of the Wonnarua People, lodged an application under section 9 and 10 of the *Commonwealth Aboriginal and Torres Strait Islander Heritage Protection Act 1984* relating to the Ravensworth Homestead and surrounding area. This claim was withdrawn in early September 2019.

5.3.2 Regional and local European history

The Upper Hunter Region also has an extensive European history; with the first free European immigrants leaving Newcastle to explore the Upper Hunter Region in 1793, with the aim of creating further settlements.

The Central Lowlands of the Hunter Valley is the traditional country of the Wonnarua people, one of the approximately 600 different clan groups or 'nations' present in Australia at the time of European contact. Although early records on traditional tribal boundaries are limited, it is understood that the country of the Wonnarua was centred on the Upper Hunter Valley. With the arrival of European settlers in the 19th century, traditional patterns of Aboriginal life were quickly and dramatically altered, with the spread of disease and rapid influx of new technologies and materials.

The Patterson's Plains area had been opened to early settlers from 1813 onwards, including the first free settler John Tucker who settled with his family in 1814. The earliest recorded journey that reached the Singleton area occurred during October and November in 1817. The expedition included William Parr and Benjamin Singleton. Benjamin Singleton returned to the area on another expedition in 1818. Two trips were made into the area in October 1819 and March 1820 by John Howe (Chief Constable of Windsor from 1813 to 1825) looking for a line of road for an overland route between Sydney and Newcastle. John Howe, Benjamin Singleton and the others who took part in these two expeditions, reached the Hunter River in the vicinity of Whittingham after 10 days in March 1820.

In 1821, Henry Dangar was commissioned to undertake a survey of the Hunter Valley to assess its suitability for settlement and farming, with the survey of the lower Hunter Valley and Upper Hunter Valley completed in 1822 and 1826 respectively. Settlement in the region followed closely behind Dangar's 1821 survey party, with settlers occupying land as far north as Singleton by October 1821. Early reports describing the suitability of the land for pastoral pursuits resulted in the establishment of large-scale pastoral holdings.

Wool production, dairy farming and wheat growing were the predominant industries at this time. Horse breeding also became a thriving industry as early as 1822. Wheat production went into decline in the mid-1800s owing to the disease rust which struck severely in 1857. The late 19th century saw the decline of cropping along river flats as they were converted to dairying on pastures improved by pump irrigation. The pastoral and dairy industries continued to dominate into the 20th century.

Coal was known to exist in Singleton and its surrounding areas since early exploration. The development of coal resources comprises an important part of the region's history of coal mining and began on a limited scale in the early 1900s, prior to a rapid expansion in the 1950s, with the establishment of large open-cut mines.

Coal mining and electricity generation have become major industries in the Singleton area since the 1950s with the first wave of collieries built to meet export demand at Liddell, Foybrook and Liddell State. Since the mid-20th century, coal mining operations expanded from the Cessnock/Maitland area to the triangle bounded by Singleton, Muswellbrook and Denman using highly mechanised, open cut surface mining techniques.

5.3.3 History of mining in the region

Coal was known to exist in Singleton and its surrounding areas since early exploration. The development of coal resources comprises an important part of the region's history of coal mining and began on a limited scale in the early 1900s, prior to a rapid expansion in the 1950s, with the establishment of large open-cut mines.

Early mining practices lacked the safety and infrastructure of modern mines, underground mine explosions killed 47 people in the early 1900s. There is a history of mine strikes requesting better working conditions, including the protest of pay-cuts that lasted eight months in the 1930s and a strike in 1949 requesting 35-hour working weeks, a pay rise and long-service leave that resulted in the military being sent in to break up the strike, this was the first time in Australian history the military were used in trade union demonstrations.

Coal mining and electricity generation have become major industries in the Singleton area since the 1950s with the first wave of collieries built to meet export demand at Liddell, Foybrook and Liddell State. Since the mid-20th century, coal mining operations expanded from the Cessnock/Maitland area to the triangle bounded by Singleton, Muswellbrook and Denman using highly mechanised, open cut surface mining techniques.

Today, the Upper Hunter Region is comprised of a mosaic of different industries that include coal mining, agriculture (particularly dairy and beef cattle and pasture production) and associated service industries, horse breeding, electricity production, tourism, viticulture and wine making. However, while there is some diversification in industry, the Singleton Council Community Strategic Plan 2017-2027 outlines that 58% of the Singleton Economy is mining.

5.4 Regional development context and community response to change

This section utilises a number of data sources to build a picture of the development context of the assessment area and develop an understanding of the process of social change and communities' response to this change. Specifically, this section considers:

- community events and/or developments that have had a significant impact on the region including drought and infrastructure development
- the ongoing presence and development of mining
- case studies on the response of communities to change
- data utilised in this section has been sourced from:
 - local, regional and state media (refer to **Appendix D**)
 - SIAs and EIAs undertaken for other comparative projects in the region
 - Upper Hunter Economic Diversification Project Action Plan for Significant Community Events and Developments.

5.4.1 Significant events and development in the region

There have been a number of significant community events in the locality in the five-year period between 2014 and January 2019. Drought has been a constant and inevitable feature of the NSW landscape. As at 11 November 2019, 8.3% of the Hunter region is drought affected with 91.7% in drought or intense drought (NSW DPI, 2019). A one-in-20-year rainfall deficiency in the summer of 2018 has resulted in farmers being forced to offload thousands of head of livestock. In response to these critical conditions, Councils have responded by introducing drought relief hubs to provide farmers with initial information on the assistance that is available to them, such as the 'Buy a Bale' campaign, which has already resulted in the distribution of hundreds of bales of hay to Hunter farmers (refer to **Appendix D**). The current drought conditions prompted the EPA to launch Operation Dust Patrol, which targets the Hunter Valley Coal industry with the aim of creating a greater vigilance on dust control to reduce impacts on surrounding communities.

The Hunter Region also had a flood in 2015, with townships such as Dungog in the Lower Hunter particularly impacted, and Singleton which bore the brunt of the flood with road closures on the Hunter Expressway and the New England Highway - both important transit routes for the population in the area. Heavy rainfalls in early January 2016 saw some environmental concerns, with two sediment dams overflowing at the Bengalla Coal Mine (22.6 km south-west of Glendell) (refer to **Appendix D**).

There have been a number of significant infrastructure developments that have also changed the operating landscape of the Hunter Valley, including the opening of the Hunter Expressway in March 2014. The Expressway is a 40 km dual carriageway linking Newcastle to the Upper Hunter, decreasing travel time between Branxton and the M1 Newcastle Interchange by 25 minutes. A 40% reduction in heavy vehicle traffic through towns such as Greta and Branxton were also seen to make a substantive difference to the safety of residents in villages and towns in the region.

The proposed Singleton Bypass, which is currently in a planning phase, is predicted to have the same effect – improving safety in the Singleton town centre through the removal of heavy vehicles, as well as improving travel times and traffic flow.

Funding has also been secured for the New England Highway upgrade from the ‘Saving Lives on Country Roads Program’ in August 2018, and which will also include a Bypass for Muswellbrook, which has been commended by locals in the media.

Aside from the two proposed bypasses, there are several other projects being considered in the area that are in proximity to the existing Glendell Mine and have the potential to result in cumulative social impacts, depending upon their timing, including the Hermitage Road upgrade opened in 2017 and the Singleton Town Centre upgrade that has just received funding for the second stage of the Project from the NSW Government.

5.4.2 Mining developments

The main industry in the Upper Hunter is the coal mining industry. As mentioned in **Section 5.1**, Glendell Mine is one of approximately 35 separate mines operated by 11 different coal producers across the region. The closest mines to Glendell include Ashton Coal Mine, Integra Underground, Ravensworth Mine and Mount Owen Mine (refer to **Figure 5.1**).

Despite a downturn in the mining industry in the Hunter Valley as a result of the global financial crisis (GFC), as of December 2017, there were over 20,000 coal production jobs in NSW, an increase of approximately 2000 jobs since early 2016. The NSW Minerals Council suggests that nine new mining projects would bring an additional \$1.5 billion in revenue to the region in 2019, including through the employment of an additional 3,500 people (NSW Mining, 2018).

The response to mining industry fluctuations has resulted in the development of key strategies by local councils and businesses to reduce dependence on one sector and further diversify local economies, in line with the NSW Government’s Upper Hunter Economic Diversification Project (NSW Government, 2017). Further discussion around strategic planning for the area can be found in **Section 5.6.1**.

In addition to the economic impacts experienced, there are also a number of social and environmental issues evident through a review of local media articles and EIA and SIA’s undertaken for new mining projects and extensions. Most projects in the area come with similar associated impacts on the community, such as impacts on amenity and social cohesion with many residents concerned about the cumulative impacts from the large number of projects in close proximity to one another.

Proximity to major town centres such as Singleton and smaller rural towns such as Camberwell also cause residents to worry about the operational noise, increase in traffic and the dust caused by mining. These issues have been identified through community consultation for mines for example:

- Ashton Coal, whose recent South East Open Cut (SEOC) modification (approved June 2016) had community concerns, particularly those who reside in Camberwell, of cumulative impacts of noise and dust in regard to the SEOC project and neighbouring mines. Air quality modelling identified several properties that would require acquisition due to PM₁₀ criteria exceedances.
- United Wambo Open Cut Coal Mine Project (approved August 2019) where seven private residents are predicted to be significantly impacted by noise and another 18 residences moderately impacted.
- Mount Thorley Warkworth, whose extension (approved November 2015) (EMM, 2014) has seen the purchase of Wallaby Scrub Road from the Council, with media reports suggesting that an additional 10 minutes travel time for the estimated 1100 vehicles movements that occur on the road each day will be incurred (Newcastle Herald, 2018).
- The Mount Owen Continued Operations Modification 2 (Modification 2) was most recently approved on 4 September 2019 and will extend the life of the Mount Owen Mine by an additional 6 years and provide an additional approximately 35 Mt of ROM coal. The Rix Creek South Continuation Project was approved on 14 October 2019. The development consents for these Projects provides acquisition rights to 8 additional properties in the Middle Falbrook Camberwell area due to cumulative air quality impacts.

Along with these negative issues, many of which were reported in the media, there are a number of positive aspects associated with the presence of the mining industry. As previously noted, there is a large economic benefit of mining, with local operations providing employment and flow-on benefits to local communities. For example, in their respective EIS/SIA's Ashton Coal predicted the continuation of 160 employees following the SEOC modification (EIS, 2016). United Wambo project is set to provide continued employment for approximately 250 people and create an additional 250 positions at peak production. United Wambo's peak construction phase employment of approximately 120 employees, combined with the economic benefits flowing from the expenditure of approximately \$380 M capital required to implement the Project (EIS, 2016).

Therefore, in summary, a review of local media and relevant assessment studies highlight a number of predicted and perceived social impacts (both positive and negative) on local communities as a result of mining development. The following section focuses on four main case studies which have been particularly controversial, resulting in a high degree of community outrage, opposition and in a number of the cases, project development rejected by government and the Land and Environment Court.

5.4.3 Community response to change – relevant case studies

In this regard, the SIA Guideline (DPE, 2017) outlines that the SIA should consider the history of the proposed project and how communities near the project site, and within the surrounding region, have experienced the project and others like it to date. Such data is to be sourced from other resource projects in the surrounding region (or similar regions in NSW); project extension proposals and modification applications; information gathered for the originally approved project and results from monitoring post approval; and published research on social impacts that have been caused by comparable resource projects.

5.4.3.1 Mount Owen Complex Changes

As discussed in **Section 2.0**, the Glendell Mine is part of the Mount Owen Complex that comprises mining operations at the Mount Owen Mine (North Pit), the Ravensworth East Mine (Bayswater North Pit (BNP) and Glendell Mine, a coal handling and preparation plant (CHPP) and coal handling and transport infrastructure. A brief history of the Complex is summarised below.

Mining operations at the Ravensworth East Mine (previously known as Swamp Creek Mine), date back to the early 1960's. Ravensworth East Mine was acquired in 1997 by Peabody Resources Ltd (Peabody) after an extended period of care and maintenance. In 2002, Xstrata Coal Pty Limited (Xstrata), (formerly Enx Resources and now Glencore) purchased Ravensworth Operations Pty Limited (Ravensworth Operations), which included Narama Mine (now part of Ravensworth Surface Operations) and Ravensworth East Mine.

Mining operations within the Mount Owen Mine commenced in 1993 under the management of Hunter Valley Coal Corporation Pty Limited (HVCC). The Glendell Mine was originally approved in 1983 but did not commence operations until 2008. Glencore (formerly Xstrata) has managed Mount Owen Mine, Ravensworth East and Glendell Mines as the Mount Owen Complex since 2004.

Since 2004, a number of modifications and extensions to the mining leases at the Complex have been undertaken. The development consent for the Glendell Mine was modified in 2008 to include the integration of Glendell operations with the Mount Owen Complex. In 2015, Glencore sought development consent for the Mount Owen Continued Operations Project (MOCO) which proposed additional extraction in the North Pit until 2030, the MOCO Project was approved by the Department of Planning and Environment (DPE, now DPIE) in late 2016. Subsequently, in 2018, a development application for a modification to the MOCO Project was submitted to the DPE to allow access to coal reserves from the mining tenements obtained by Glencore through its acquisition of the Integra Underground Mine in late 2015. As mentioned earlier, this development application was recently approved by the DPIE in September 2019. Other project developments in the region

In relation to other project developments within the region, there have been a number of mining projects and modifications proposed more recently in the Upper Hunter (refer to **Table 5.4**), which, given their high profile nature, have been reviewed to identify key social impacts, and where relevant, to document how relevant stakeholders and communities have responded to the proposed developments.

Table 5.4 Mining Projects and modifications proposed in Upper Hunter or nearby localities

Project	Company	Date proposed	Date determined
Drayton South	Anglo American	4 March 2011 (first application)	22 February 2017 (refused) (final application)
Wilpinjong Coal Mine	Peabody Energy	1 August 2016	24 April 2017 (approved)
Bylong Coal	Kepco	22 July 2015	18 September 2019 (refused)
Rocky Hill	Gloucester Resources Limited	2013	8 February 2019 (refused)

In their determination of the Drayton South Project the NSW Planning Assessment Commission outlined that the refusal for development was a result of the impact on air quality and noise from blasting on neighbouring horse studs, and the impact on the international reputation of the Darley and Coolmore thoroughbred studs.

The Wilpinjong Coal Mine proposal by Peabody Energy has also been a controversial project in the Wollar area. The community raised perceived issues in relation to impacts on the social fabric and sense of community of Wollar through property acquisition. The Wilpinjong project was also the first project to be conditioned to develop a Social Impact Management Plan (SIMP) associated with its operations. A reduction in private dwellings in the community has been experienced within the community from 175 in 2011 to 25 in 2015. In the most recent SIA for the operations modification (Elliot Whiteing, 2015), community members consulted reported a significant strain on those left within the community to keep the village alive, due to the loss of population, community relationships and services. From a community perspective, residents of Wollar described the acquisition process as ‘destabilising’ and ‘divisive’.

A further project is the application for the Bylong Coal Project by Kepco. Kepco has purchased a number of properties to enable development of the mine; and according to the Response to Submissions prepared following the EIS exhibition, 336 of 364 residents were opposed to the mine development, due to the concern about the cumulative impact of property acquisitions in the Bylong Valley by Kepco and other mining companies. The NSW Planning Assessment Commission in its report on the Project stated that “the Department of Planning appear to ‘accept a degree of inevitability,’ when it comes to the loss of community around Hunter Valley mining projects.” DPE have also been criticised in the media for taking the view that acquisitions occurred under open market conditions, instead of citing the apparent forced acceptance of offers on property (Newcastle Herald, 2018).

The SIA for the Bylong Coal Project (Hansen Bailey, 2015) reports that the main cause of negative socioeconomic impacts stem from the change from agriculture to mining; and that associated property acquisition is causing stress and family tension due to uncertainty and the subsequent social divide and loss of community cohesion. However, some local residents have been supportive of the proposed development, outlining that it will increase population and provide greater support for local businesses. In this vein, Kepco has reported that there will be 645 jobs created in the construction phase and 450 jobs in the operational phase. However, the IPC ruling in September 2019 states that the SIA for the Project addressed historical social impacts and the mitigation measures proposed could not be attributed to future social impacts on the community. The IPC noted a significant population decline in the area that brought about a loss of social cohesion and loss of connections in the local community. The original PAC (Planning Assessment Commission replaced by the IPC) Review considered the worker accommodation facility as being further detrimental to the local community, something that was not addressed in Kepco’s amended application. One comment from the public meeting held by the IPC stated:

‘Repopulating the valley with mineworkers cannot replace a rural community.’

The IPC stated that positive social impacts of the Project, particularly economic and employment impacts, resulted in support for the Project in the broader region, mainly in larger regional towns. A submission from a member of the public raised the issue of distribution equity of resources such as water and the IPC also addressed concerns from the community relating to loss of heritage and scenic values that contribute to sense of place and the impact of people’s health and wellbeing due to noise and air quality. Ultimately, these negative impacts contributed to the IPC’s decision to reject the development application for the Project.

A further project that has attracted much attention at a community level, is the Rocky Hill Coal Mine Project proposed near Gloucester, NSW. DPIE recommended the project not be approved, with the NSW IPC making the decision to accept DPIE's recommendation and not approve the Project. This decision was challenged by the proponent and on 8 February 2019, Chief Judge Brian Preston of the NSW Land and Environment Court handed down a judgement that the proposed new open-cut coal mine should not proceed. The reasons cited for refusing the development application included the predicted impact on climate change, planning, visual and social impacts (NSW Land and Environment Court Judicial Newsletter, Volume 11, Issue 1, February 2019). There have been a number of controversial mining projects and modifications proposed in the Upper Hunter or nearby localities (refer to **Table 5.4**), which have been reviewed to identify how relevant stakeholders and communities have responded to the proposed developments.

5.4.4 Summary of mining and community response to change

Through exploration of past and current mining proposals, it can be seen that the social impacts of mining are a key area of interest at a community level. While mining projects can result in significant positive economic benefits, they can also have the potential to impact the social amenity of proximal landholders and communities as a result of environmental impacts such as dust, noise and blasting impacts. Additional impacts experienced may be experienced include a reduction in sense of community, community participation, cohesion and service delivery due to property acquisition and population change over time. This may result in people feeling displaced and detached from their networks and community structures/associations.

Conversely, mining development has the potential to generate population change, attracting a new and younger population to an area, and providing benefits for existing and new businesses in servicing both local and regional populations. The significant economic benefits also provide broader benefits to the region surrounding the mine in terms of increased employment and flow-on economic benefits, with some of this benefit experienced well outside the area of negative impacts due to proximity to the mine.

Therefore, one key factor in assessing the negative and positive impacts of mining development, from a social perspective, is the extent and degree of change that may be experienced by local communities in proximity to mining operations; and the resilience and capacity of local communities to respond and adapt to this change.

5.5 Community capitals

The study has utilised the sustainable livelihoods approach (Department for International Development (DFID) DfID, 1999) to provide a comprehensive understanding of the relevant communities proximate to the Project and to evaluate their resilience and sensitivity to change².

Preparation of the study has involved collection, collation and analysis of secondary data. Preparation of the study has involved collection, collation and analysis of secondary data, with relevant primary data, collected through personal stakeholder interviews, used to supplement secondary data where relevant.

² Coakes, S., Sadler, A., 2011. Utilising a sustainable livelihoods approach to inform social impact assessment practice, in: *New Directions in Social Impact Assessment*. Edward Elgar Publishing, Cheltenham, pp. 3–20.

5.5.1 Sustainable livelihoods approach

As highlighted above, the study has utilised aspects of the sustainable livelihoods approach (DfID, 1999), to provide a comprehensive understanding of the relevant communities proximal to the Project.³

The DFID approach draws on broad categories of community capitals as a fundamental basis to identifying and further enhancing community capacity and resilience. According to DFID⁴, a livelihood includes the capabilities, assets (including both material and social resources) and activities required for people to meet their basic needs and support their well-being.

A livelihood is considered sustainable “...when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base”.

This study has involved profiling communities according to five ‘community capitals’ or ‘capital assets’ – economic, physical, social, human and natural capital, and has involved the selection and collation of indicators for each capital.

For example, **human capital** refers to the health and welfare of human beings, their knowledge and skills, as well as their overall capacities to contribute to ongoing community sustainability. A community that is heavily dependent on a particular industry, but which exhibits low levels of human capital, is likely to face greater challenges in embracing socioeconomic change as a result of disruption.

Social capital relates to how individuals, groups, organisations and institutions within a community interact and cooperate; and can be broadly defined as a multifaceted concept that can broadly be defined as the dynamics and strength of relationships and/or interactions within a given community; this includes the degree of social cohesion and interconnectedness between community members.

Economic capital is defined as the extent of financial or economic resources within a town or community, including access to credit. For instance, a town lacking in economic capital, but predominantly reliant on a specific industry sector such as mining, is likely to be more vulnerable to change and consequently more likely to experience greater difficulties in adapting to change given this dependence, particularly once an industry declines or as a result of industry closure.

Physical capital is broadly defined as a town or community’s built infrastructure and services, including hospitals, schools as well as social service provision e.g. health care, aged care, child care. For example, a highly remote community that lacks access to basic facilities and social services may lack the capacity to enhance its local human skills base and is likely to be more disadvantaged in capitalising on opportunities for further industry development and economic capital growth.

Lastly, **Natural capital** is defined as the stock of natural resources e.g. minerals, oil and gas, agricultural lands, oceans, forests etc. that provide natural beauty, generate sustainable economic and commercial activities and which provide ecosystem services.

Elements of each capital area are further outlined in **Figure 5.2**.

³ Coakes, S., Sadler, A., 2011. Utilising a sustainable livelihoods approach to inform social impact assessment practice, in: New Directions in Social Impact Assessment. Edward Elgar Publishing, Cheltenham, pp. 3–20.

⁴ Department for International Development, 1999. Sustainable Livelihoods Guidance Sheets.

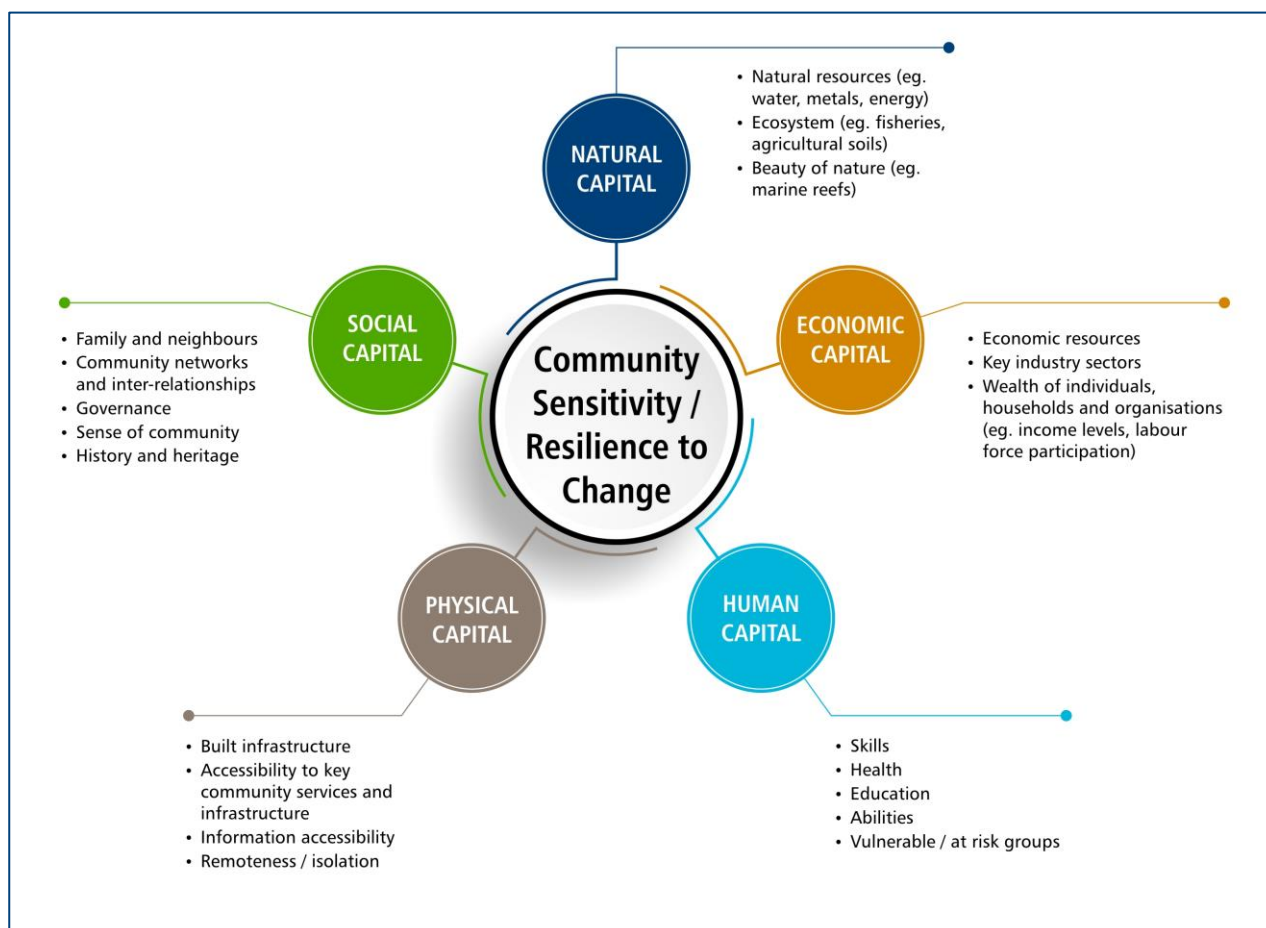


Figure 5.2 Capital framework

Source: Adapted from Coakes and Sadler (2011)

For the purpose of this study a qualitative assessment of community resilience or adaptive capacity has been utilised based on review and analysis of relevant indicators and other primary and secondary data sources.

5.5.2 Data collection and analysis

A key component in the development of the social baseline profile for the assessment has been the collation and interpretation/analysis of demographic data.

Analyses undertaken relate to:

- **Indicator** identification and selection to afford appropriate assessment of social impact relating to the Project.
- **Comparative analysis** across the different communities identified as being relevant to the Project including Muswellbrook LGA, Upper Hunter State Electoral District (SED) and NSW State.
- **Longitudinal/Time-series analysis** of population data.

Socio-economic characteristics of the relevant communities are largely based on State Suburb and LGA levels of analysis and informed by data available from the latest 2016 Census and other data sources as relevant. The primary communities of interest for the purposes of this study, as outlined in **Figure 5.3**, therefore include:

- State Suburbs of:
 - Camberwell
 - Falbrook
 - Glennies Creek
 - Hebden
 - Middle Falbrook
 - Ravensworth.
- Singleton LGA
- Muswellbrook LGA (for the purpose of comparative analysis)
- Upper Hunter SED
- NSW State.

These state suburbs are considered most reflective of the proximal community and local residents/landholders that immediately surround the Project Area.

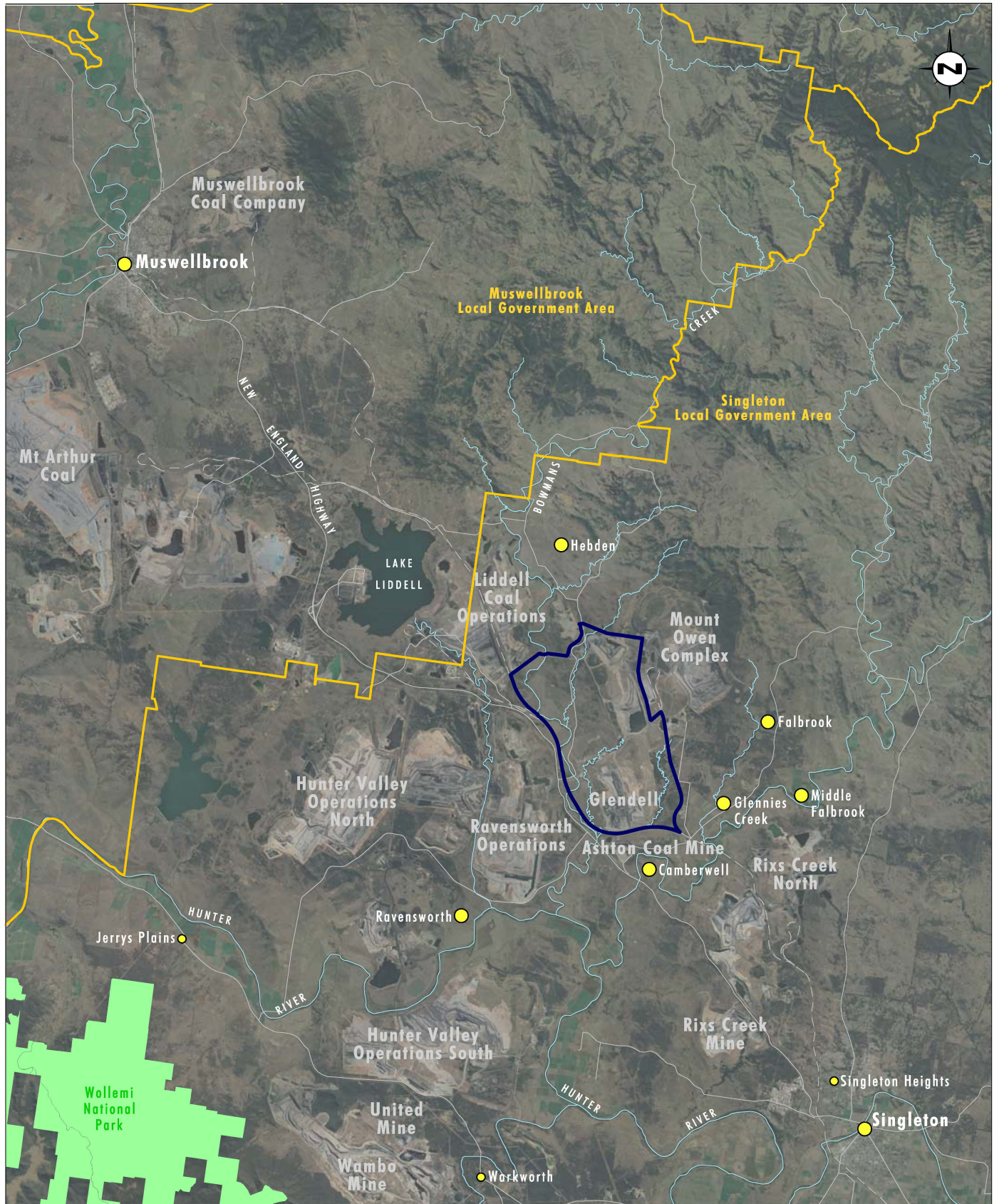


Image Source: Google Earth (Sept 2018)
Data Source: Glencore (2019), OEH (2013)

0 2,5 5,0 10km

Legend

- Project Area
- Local Government Area
- National Park
- Road
- Railway
- Drainage Line
- Localities

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20191031 13.41

FIGURE 5.3

Surrounding Localities

5.5.2.1 Demographic data

The state suburbs of Camberwell, Falbrook, Glennies Creek Hebden and Middle Falbrook are considered most reflective of the proximal community and local residents/landholders that immediately surround the Project Area. It should be noted that given these localities have small population sizes, each person greatly impacts the area's data making it more difficult to undertake comparisons. The ABS quotes that '*small random adjustments have been made to all cell values to protect the confidentiality of data, which may cause the sum of rows or columns to differ by small amounts from the table totals*'. This may result in proportions not adding to 100%. Additionally, data pertaining to the population of each locality is sourced from the ABS 2016 data sets and therefore may not reflect current population sizes for 2019. For example, Ravensworth currently in 2019 has no private residential landholders, and therefore when reviewing the following data this should be kept in mind.

Furthermore, due to the Australian Bureau of Statistics (ABS) (2016) recent update of the Australian Statistical Geography Standard (ASGS), the statistical boundaries of a number of relevant communities have been changed. Refer to **Table 5.5** for details of these changes.

To account for these boundary changes and instances where sample sizes are too small the ABS statistical area level 1 (SA1) has been used. Data was collected for SA1 boundary codes 1111308 and 1111309. These SA1 level boundaries are synonymous with the boundaries of Camberwell (2011) and Bridgman (2011): allowing for direct comparisons to be made between 2011 to 2016 ABS data (refer to **Figure 5.4**). The corresponding suburbs included in these SA1's are listed below:

- 1111308: Hebden, Ravensworth, Glennies Creek, Liddell, Camberwell, Lemington and Howick
- 1111309: Goorangoola, Greenlands, Falbrook, Bridgman and Middle Falbrook.

Any further reference to these SA1's will be using labels: **Camberwell Area** for SA1 1111308 and **Bridgman Area** for SA1 1111309.

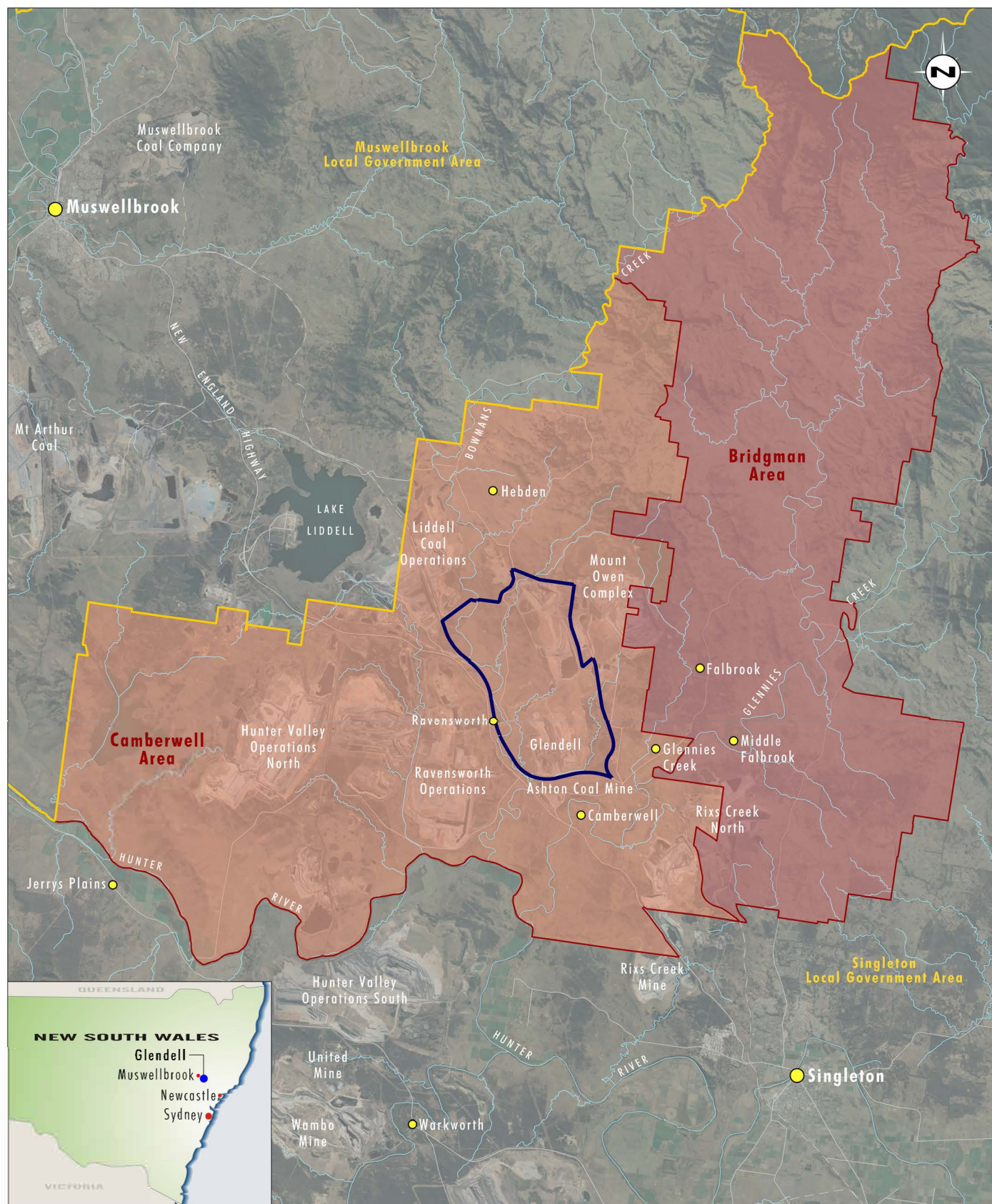


Image Source: Google Earth (Sep 2018)

Data Source: Glencore (2019), OEH (2013), Australian Bureau of Statistics (2016)

0 2.5 5.0 10km

Legend

- Project Area
- Local Government Area Boundary
- 2016 Statistical Area Level 1
- Road
- Railway
- Drainage Line
- Localities

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20191121 11.10

FIGURE 5.4

Australian Bureau of Statistics
2016 Statistical Area
Level 1

Table 5.5 Changes to ABS Boundaries from 2011 to 2016

SA1 Code	State Suburb (2011)	State Suburb (2016)
Camberwell Area (1111398)	Camberwell	Camberwell Glennies Creek Hebden Howick Lemington Liddell Ravensworth
Bridgman Area (1111309)	Bridgman	Bridgman Falbrook Goorangoola Greenlands Middle Falbrook

Data sources utilised in the capitals analysis are outlined in **Table 5.6** below.

Table 5.6 Data sources

Source	Content
Australian Bureau of Statistics (ABS)	<p>2016 General Community, Time Series and Indigenous Profile data for:</p> <ul style="list-style-type: none"> State Suburbs (SSCs) of: <ul style="list-style-type: none"> Camberwell Falbrook Glennies Creek Middle Falbrook Ravensworth ABS statistical area level 1 (SA1) for area codes: <ul style="list-style-type: none"> Camberwell Area (1111308): Hebden, Ravensworth, Glennies Creek, Liddell, Camberwell, Lemington, Howick Bridgman Area (1111309): Goorangoola, Greenlands, Falbrook, Bridgman, Middle Falbrook LGA of Muswellbrook and Singleton SED of Upper Hunter State of New South Wales (STE) <p>2016 Socioeconomic Indices for Areas (SEIFA) for Socioeconomic disadvantage, education and occupation, and access to economic resources.</p>
The Public Health Information Development Unit (PHIDU), Torrens University Australia	<p>2018 releases of public health data through the Social Health Atlas (New South Wales) and Aboriginal and Torres Strait Islander Social Health Atlas. Data within the Social Health Atlas is collated from a range of sources.</p> <p>http://phidu.torrens.edu.au/social-health-atlases</p>
NSW Government Department of Planning and Environment (DPIE)	<p>2016 release of population projections by NSW State and Local Government Area Population and Household Projections – based on data sourced from the 2016 Census.</p> <p>https://www.planning.nsw.gov.au/Research-and-Demography/Demography/Population-projections</p>

5.5.3 Approach to indicator analysis

Indicators have been identified according to each capital area, as described above, and data collated for analysis. **Appendix E** provides further information in regard to indicators that have been selected for use in the development of the baseline profiles and their respective source. This data has been collected at the LGA unit of analysis for all areas and compared against state level data.

5.5.4 Natural capital

Natural capital refers to the natural assets and resources that contribute to community strength and sustainability. Natural capital can include resources such as minerals, productive agricultural soil, presence of oil and gas and forests which provide commercial and practical benefit to the community. Natural capital can also include other environmental assets that generate tourism or provide other social, cultural, and recreational value, such as waterways or lakes. In the Upper Hunter Region, natural capital is abundant. The key natural features of the region are summarised below.

The Singleton LGA comprises a range of natural assets, including mineable resources – particularly coal, agricultural lands including alluvial flats on Hunter River and larger tributaries, as well as natural assets such as Lake St. Clair, Mt Royal, Yengo National Park and Wollemi National Park.

Wollemi National Park is NSW's largest wilderness area covers a total of 5,017 km² and features deep canyons, rocky cliffs and undisturbed forest, including temperate rainforests. Wildlife abounds in this national park with a rich variety of diverse species including eastern grey kangaroos, brush tailed wallabies, wombats, echidnas, gliders, geckos, wedge-tailed eagles and a variety of snakes including the rare broad headed snake (Upper Hunter Country, 2018). Other significant natural areas include the Mount Royal to the north, and Putty State Forest and Yengo National Park to the south of the LGA.

Singleton has a rich abundance of minerals, particularly coal, with currently 20 coal mines in the Singleton region, with five large mining operations within 10 km of Glendell Mine: Ashton, Integra Underground mine, Ravensworth Mine, Mount Owen Mine and Liddell. Coal mining plays an important role in the economy and employment with approximately 2800 people working in the industry (Singleton Council, 2018).

In the Singleton LGA there are numerous wine tours and cellar doors, mostly located in the Broke Fordwich wine subregion of the Hunter Valley, Australia's oldest wine region.

In the northern section of the Singleton LGA, approximately 30 minutes from Singleton, is Lake St. Clair. The lake facilitates recreational activities such as camping, fishing, kayaking, sailing and water skiing. Lake St Clair has been stocked with Bass, Golden and Silver Perch and Catfish. The restocking of fish into the lake by the NSW State Fisheries and local fishing clubs is ongoing.

During scoping phase of the SIA, participants attested to the rich natural capital of the area and described natural features as key factors in their decisions to live and work in the area. Key natural capital identified by participants included:

- Water ways, such as Glennies Creek, were considered essential for agriculture and also in enhancing quality of life for residents. In this regard, Aboriginal groups consulted also reported that community members had strong intergenerational connections to the land, and that waterways were particularly important assets for these connections.
- Agricultural land, particularly farming land that had been developed and managed over a number of family generations.

"It's the farmland - the richness of soil and our generational property." – Landowner

- Wildlife in the area.

“Sound of the wind in the trees, pretty spot to be, love of land, trees, creek, wildlife – beautiful birds, lizards, squirrel gliders, possums, echidnas, quolls – along the ridge would make a good conservation area.” – Landowner

One of the emerging issues that came out of consultation from a neighbouring project, Glencore’s Mount Owen Continued Operations Project, was in regard to land management (Umwelt, ‘*Mount Owen Continued Operations Project*’, 2018). Those consulted as part of that project were concerned with the pest and weed management within buffer lands and residential properties around the mining operations. While the Mount Owen Complex had existing wild dog baiting programs, stakeholders raised that they would like to see greater coordination between the Mount Owen Complex, neighbouring mining operations and the Hunter Local Land Services.

Strategic plans at the local and state government level similarly highlight the challenges of competing land uses within the Upper Hunter. These plans state that a key challenge for the region is to balance the protection and enhancement of agricultural land and the protection of the natural environment whilst continuing to develop the mining industry and provide adequate infrastructure and services for the population (refer to **Section 5.6.1**).

5.5.5 Human capital

Table 5.7 provides a summary of the key human capital indicators for the study communities relevant to the Project. This data is compared to NSW, where relevant, with further discussion regarding these indicators and key issues of significance provided in the subsequent sections.

Table 5.7 Summary of key human capital indicators

Indicator	Camberwell SSC	Falbrook SSC	Glennies Creek SSC	Hebden SSC	Middle Falbrook SSC	Ravensworth SSC	Singleton LGA	Muswellbrook LGA	Upper Hunter SED	NSW
Population	78	32	35	41	96	7	22,989	16,080	75,531	7,480,231
% Indigenous	20	0	11	0	9	0	6	8	7	3
% Males	50	56	46	49	49	43	51	51	50	49
Median Age (years)	37	32	48	39	36	25	36	35	40	38
Proportion born overseas (%)	4	0	9	9	3	0	9	9	8	30
Year 12 or equivalent (%)	24	33	24	29	31	0	39	34	37	59
Equivalent Post-Secondary Education ⁵ (%)	29	0	17	38	54	0	45	38	41	49
Bachelor degree level (%)	0	0	33	16	10	-	14	11	14	26

⁵ Includes Cert III & IV, Diploma and Bachelor. Community Profile Census data (GCP). Cert Level I & II are excluded as both the SEIFA Index and Census define these levels as being equivalent to Years 11 and 12.

Indicator	Camberwell SSC	Falbrook SSC	Glennies Creek SSC	Hebden SSC	Middle Falbrook SSC	Ravensworth SSC	Singleton LGA	Muswellbrook LGA	Upper Hunter SED	NSW
People aged 18 years and over with one of four risk factors ⁶ (rate per 100)	-	-	-	-	-	-	82.3	85.9	-	78.2
Earning or learning ⁷ (%)	-	-	-	-	-	-	83.6	74.6	-	85
Children developmentally vulnerable in one or more domains (2015) (%)	-	-	-	-	-	-	20.9	23.8	-	20.2

Source: ABS community profiles – 2016, PHIDU 2018

5.5.5.1 Key population characteristics and trends

According to the ABS (2016), the Singleton LGA broadly has a population of around 23,000. The key study area of Middle Falbrook has a population of approximately 96, followed by Camberwell SSC with 78. Hebden, Glennies Creek Falbrook and Ravensworth are all smaller in size ranging from 41 to 7 respectively. At the SA1 level, the Camberwell Area and the Bridgman Area have populations of 158 and 469 respectively.

Population numbers in the Camberwell Area have declined by 13% between 2011 and 2016, compared to an increase of 18% in the Bridgman Area, a 1% increase in Singleton and a 4% increase in the Upper Hunter SED (refer to **Table 5.8**). In the Camberwell Area there have been decreases to population numbers across most age brackets with the most substantial decrease being in the 35-44 age bracket from 32 people down to 9. There have been minimal increases to population numbers for the age brackets of 5-14, 25-34 and 55-64 years. In contrast, the Bridgman Area has seen increases in the older age brackets 45+ and decreases in ages between 15-44 years (refer to **Figure 5.9** and **Figure 5.10**).

Of the study communities, the proportion of Indigenous population is largest within the suburbs of Camberwell, Glennies Creek and Middle Falbrook, with these communities all above the proportions within the Upper Hunter and NSW (refer to **Figure 5.5**). The main Indigenous nation in the area is the Wonnarua people, who traditionally occupied much of the Hunter Valley around Singleton. Other historically local groups in the area include the Awabakal people to the South East in Newcastle, the Kamilaroi to the North on the Hunter River, and the Worimi people to the East in the Port Stephens area.

⁶ Risk factors include: smoking, harmful use of alcohol, physical inactivity, and/or obesity

⁷ Learning or Earning at ages 15 to 24

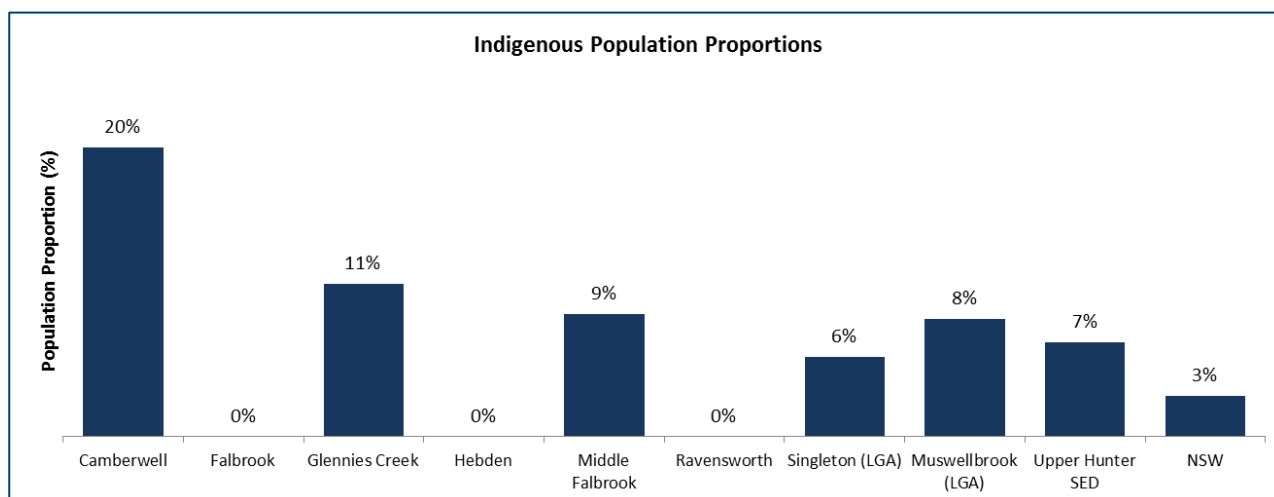


Figure 5.5 Indigenous population proportion 2016

Source: ABS Census (2016) – Community Profiles

Overall, the Singleton and Muswellbrook LGA have a proportionally high Indigenous population which appears to have increased steadily over the last decade (refer to **Figure 5.6**). An increase can also be seen in the Camberwell Area where Indigenous population proportions are significantly higher than the NSW average and other study areas. However, it is important to note that while there were increases to the number of Indigenous population, as a proportion this increase is felt more strongly due to low overall population numbers for the area (refer to **Table 5.7**).

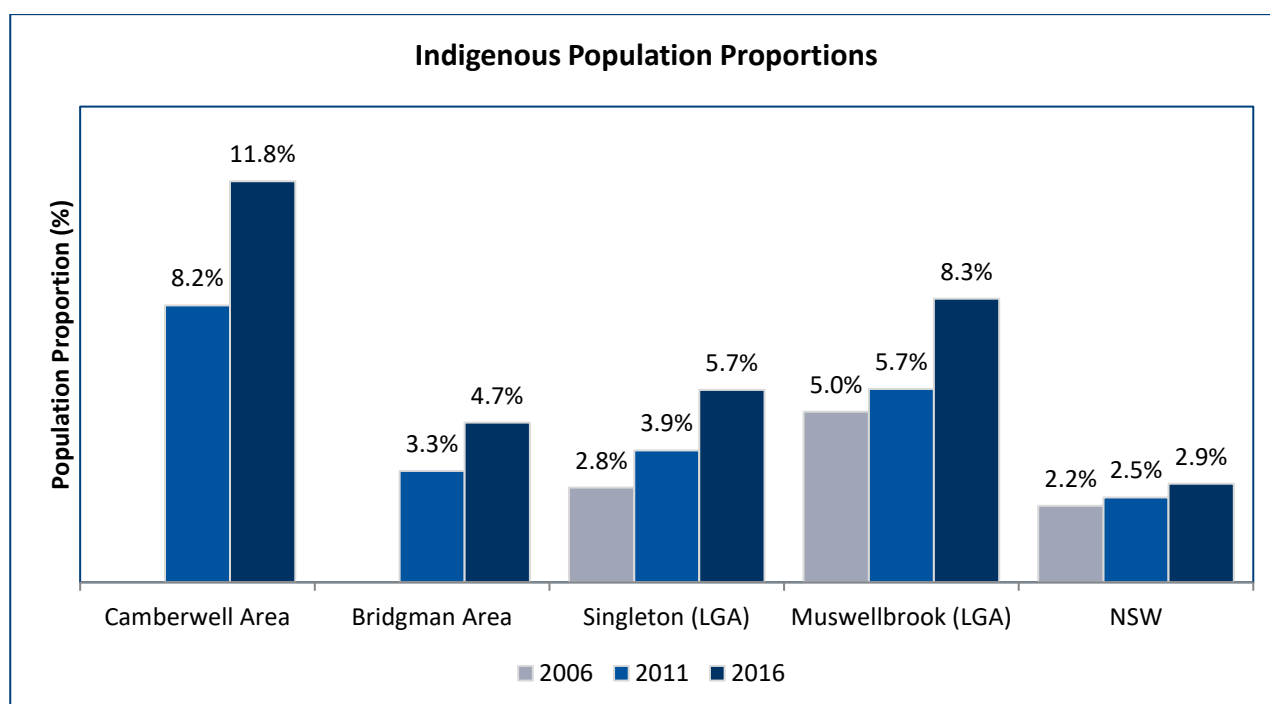


Figure 5.6 Indigenous population proportion 2011- 2016

Source: ABS Census (2016) – Community Profiles

5.5.5.2 Age structure

Compared to the NSW average, the populations across six of the communities of interest, including the Singleton LGA and Muswellbrook LGA, are younger with median ages ranging from 25-37 years compared to 38 years across broader NSW.

The Upper Hunter SED and the townships of Hebden and Glennies Creek are older with median ages of 40, 39 and 48 years respectively (refer to **Figure 5.7**).

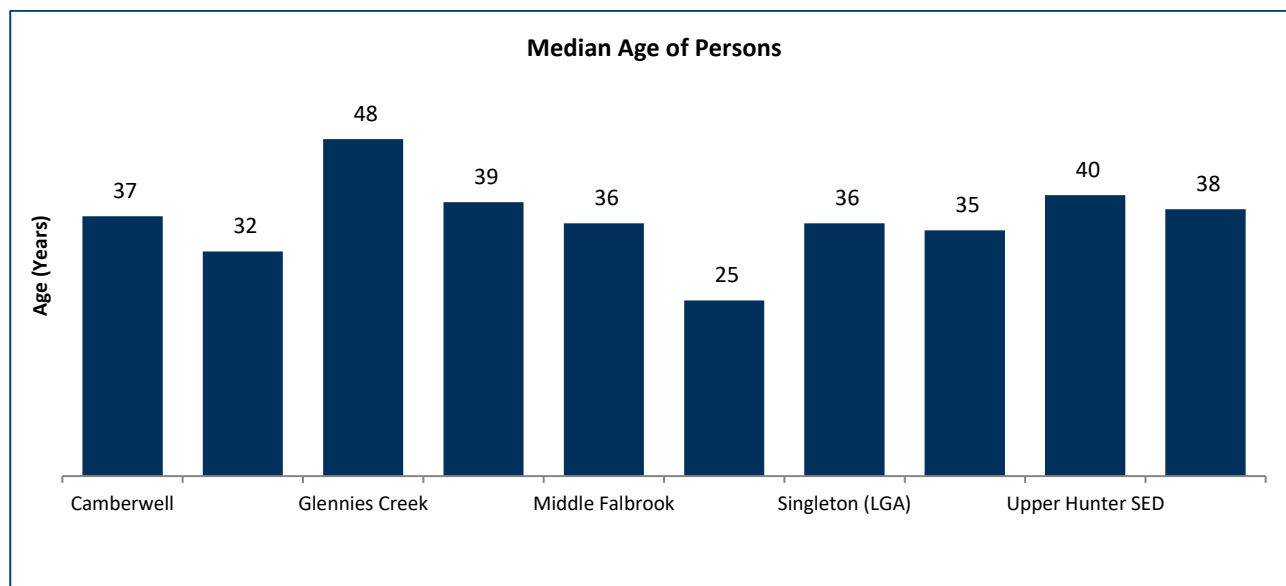


Figure 5.7 Median age – Years

Source: ABS Census (2016) – Community Profiles

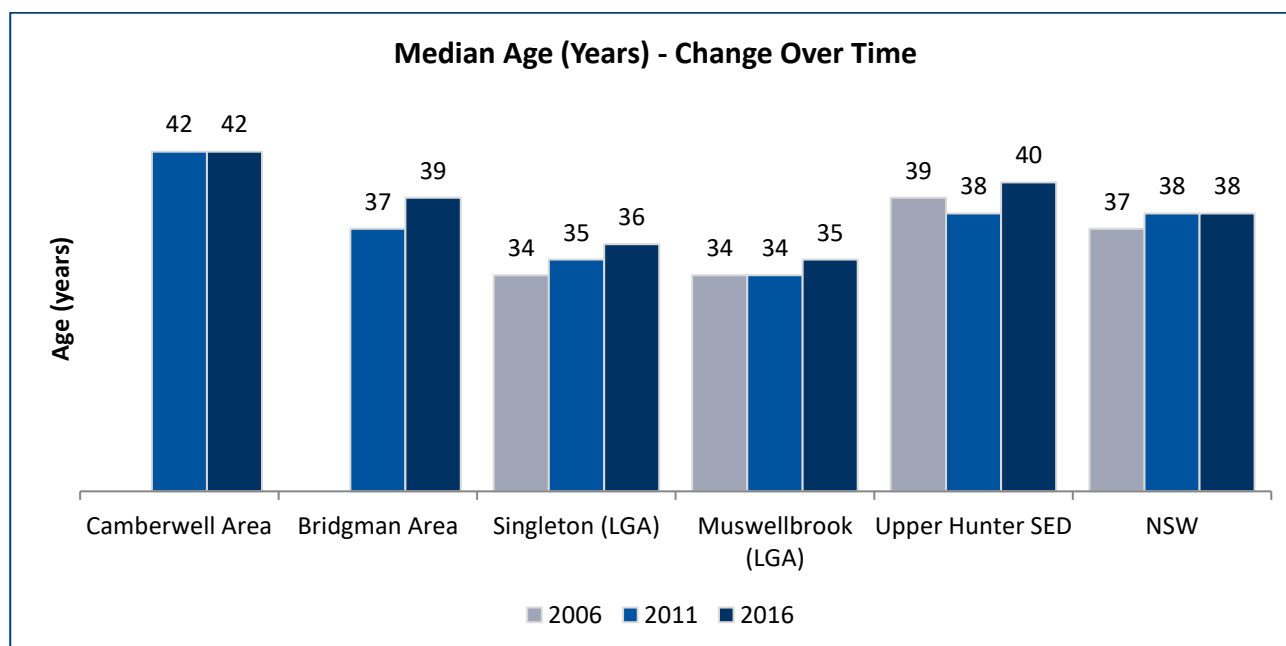


Figure 5.8 Median age – Years (Change over time)

Source: ABS Census (2016) – Community Profiles

Age structure was not broken down to the state suburb level as sample sizes were too small. **Figure 5.9** to **Figure 5.12** show age structure over time with charts for Singleton and Muswellbrook LGA further broken down by gender - these figures indicate that:

- The majority of the population within the Bridgman Area, Singleton LGA and Muswellbrook LGA have had substantial increases in the proportion of population aged 55 years and over.
- As mention further below in **Section 5.5.5.3** the Camberwell Area has had a reduction in its population with declines experienced between 2011 and 2016 resulting in the population skewed towards those in the older working age bracket of those aged 45-64.
- A large proportion of the population in the study areas of the Camberwell Area and Bridgman Area, Singleton LGA and Muswellbrook LGA fall within the older working age categories of 45 years and above.
- There are currently increasing numbers of those in the population entering retirement age brackets in the Bridgman Area and the LGAs of Singleton and Muswellbrook. This is also evident from the population projections presented in **Section 5.5.5.3**.

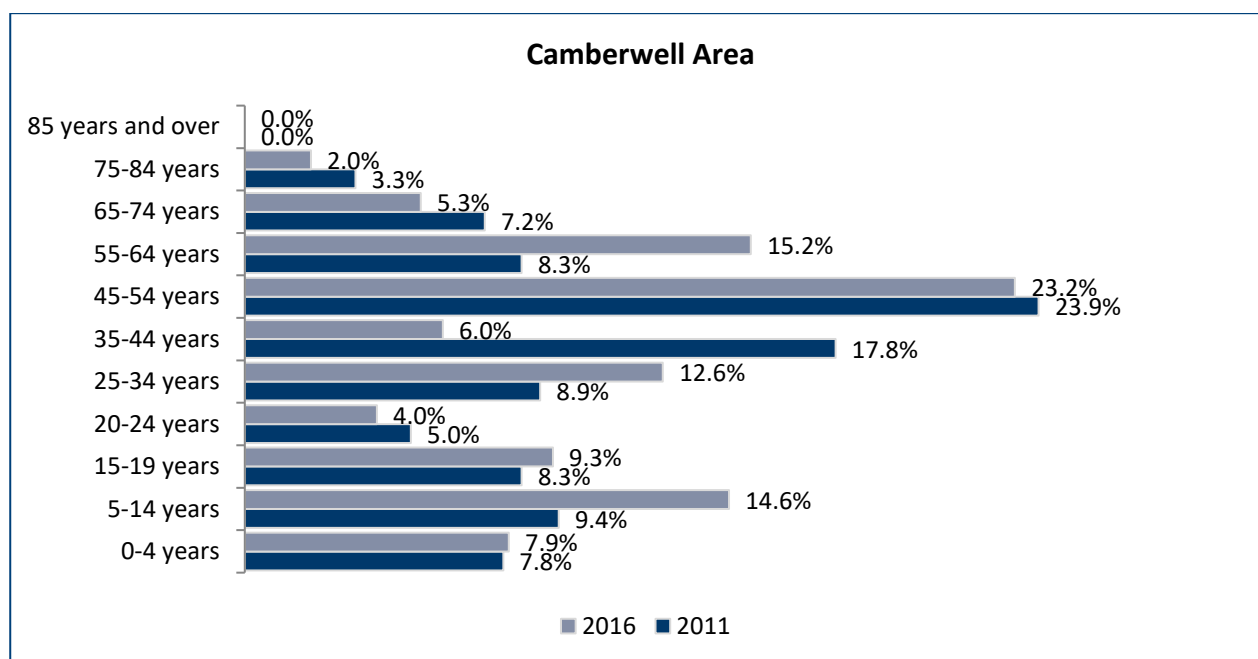


Figure 5.9 SA1 - Camberwell Area population age structure (2011, 2016)

Source: ABS Census (2016) – Community Profiles

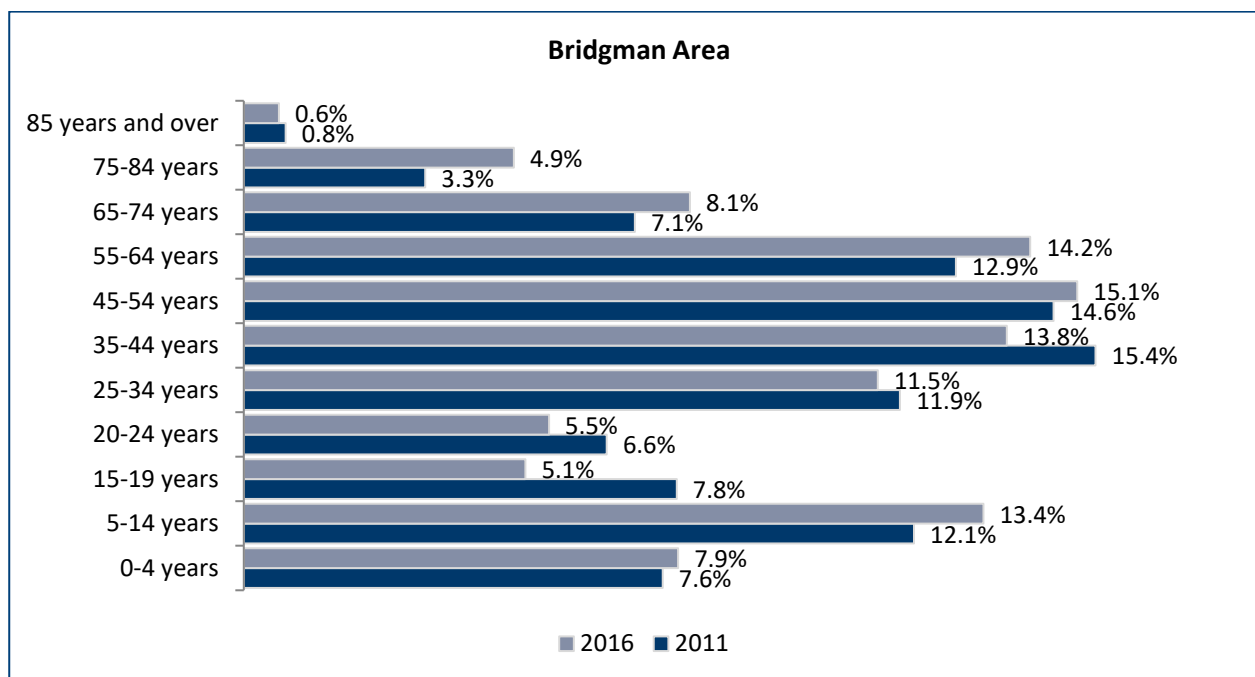


Figure 5.10 SA1 - Bridgman Area population age structure (2011, 2016)

Source: ABS Census (2016) – Community Profiles

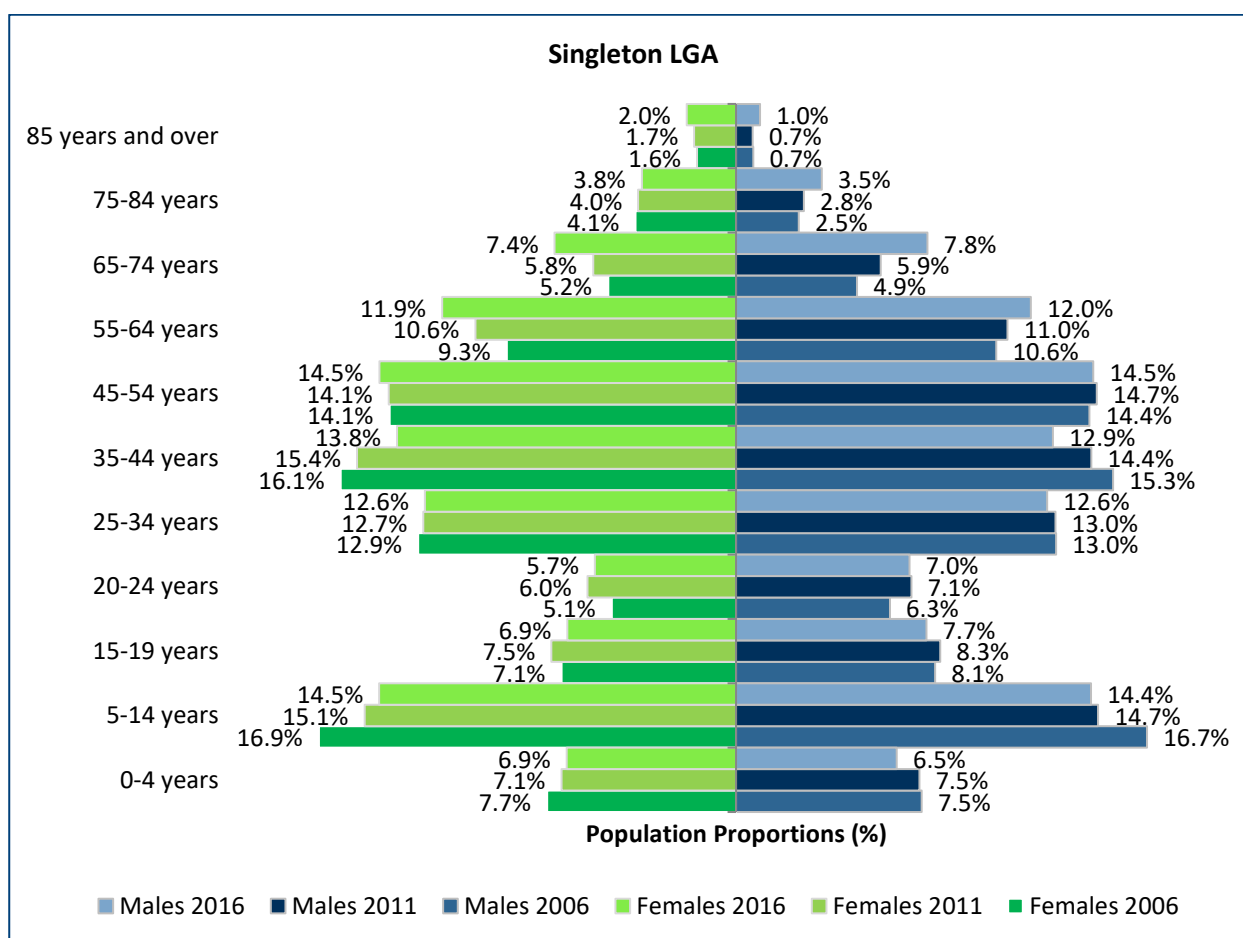


Figure 5.11 Singleton LGA - Population age structure by gender (2006, 2011, 2016)

Source: ABS Census (2016) – Community Profiles

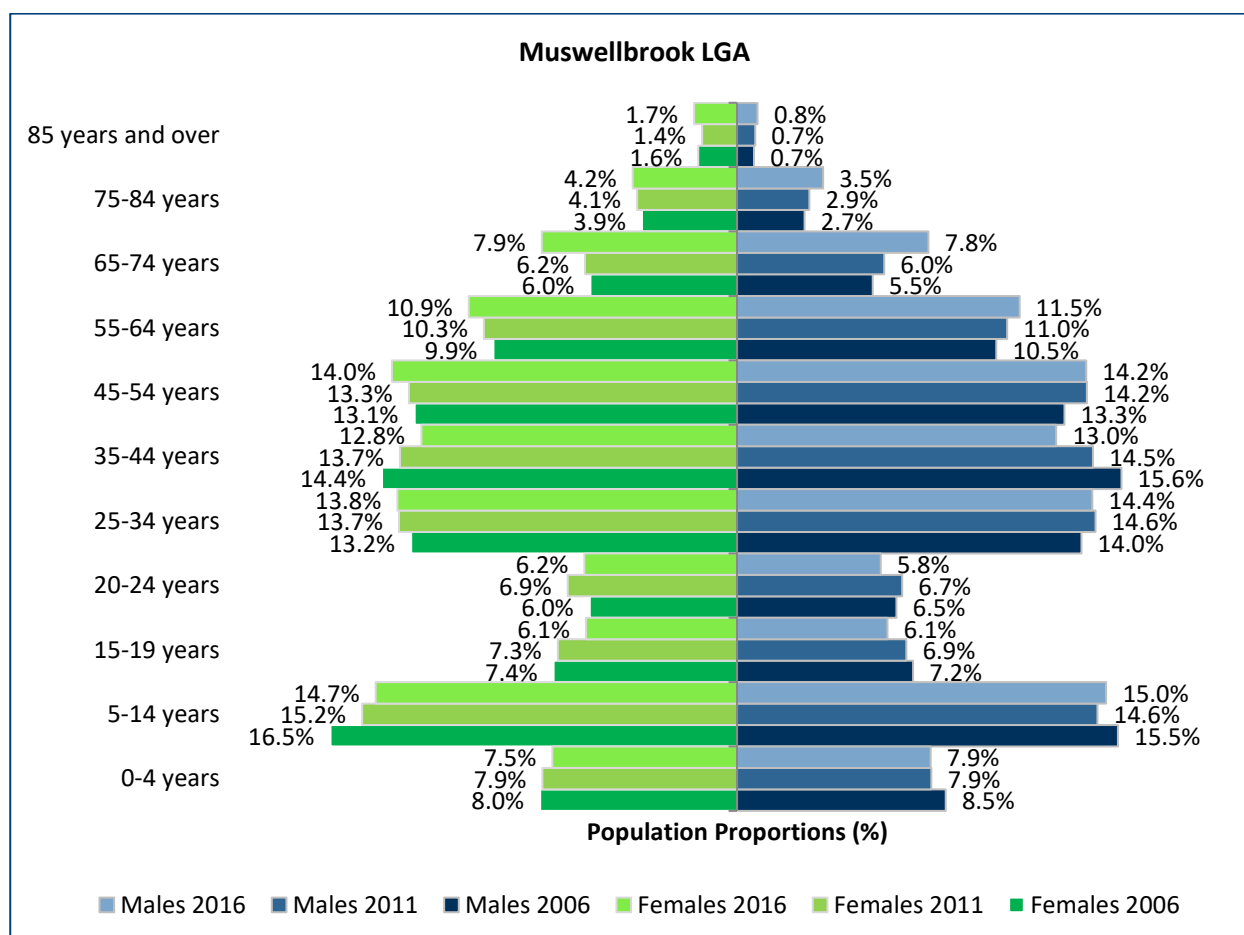


Figure 5.12 Muswellbrook LGA - Population age structure by gender (2006, 2011, 2016)

Source: ABS Census (2016) – Community Profiles

5.5.5.3 Population growth

As shown in **Table 5.8** below, population numbers for the Camberwell Area have declined since the 2011 Census. Conversely, there have been increases to total populations in the Bridgman Area, Singleton LGA, Muswellbrook LGA and the Upper Hunter SED. The most notable increase is that in the Bridgman Area with population growing by 18%. Comparisons of populations for SA1's were not undertaken between 2006 and 2011 given significant changes to the ABS boundaries.

Table 5.8 Changes in population over time

Change in Population	2006	2011	2016	Change (2011 - 2016)
Camberwell Area	-	181	158	↓ 13%
Bridgman Area	-	396	469	↑ 18%
Singleton LGA	21,937	22,694	22,989	↑ 1%
Muswellbrook LGA	15,236	15,788	16,080	↑ 2%
Upper Hunter SED	61,642	72,463	75,531	↑ 4%
NSW	6,549,177	6,917,658	7,480,231	↑ 8%

The population projections for Singleton LGA as provided by the 'NSW State and Local Government Area Population and Household Projections' (2016) reaffirms the notion of an aging population in both LGAs.

Singleton's LGA projected annual population growth rate from 2011 to 2036 is 0.9%. Singleton's largest proportion of the population will remain within the 30-44 years age bracket. Between 2016 and 2036 the LGA is expected to increase by 16% to a total population of 28,650 by 2036.

These projections show that from 2016 to 2036 there will be decreases in proportions of the population that fall between the ages of 0 and 64 years. Proportions in the 65+ year age group will rise; with those in the 75-84 age brackets increasing by up to 2.9% (refer to **Figure 5.13** and **Figure 5.14**).

Singleton LGA is projected to see a slight decrease in age groups 20-29 and 55-59 years. Conversely, the total population in the 70+ age category is projected to increase by 116% from 2016-2036.

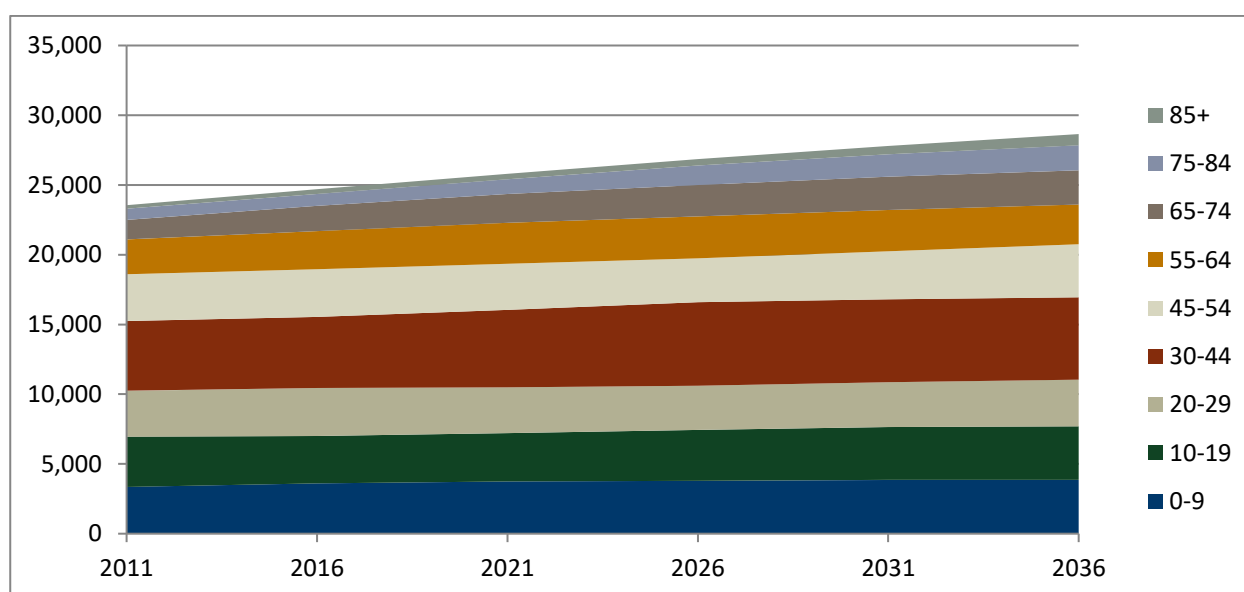


Figure 5.13 Population projections – Singleton LGA

Source: NSW State and Local Government Area Population and Household Projections

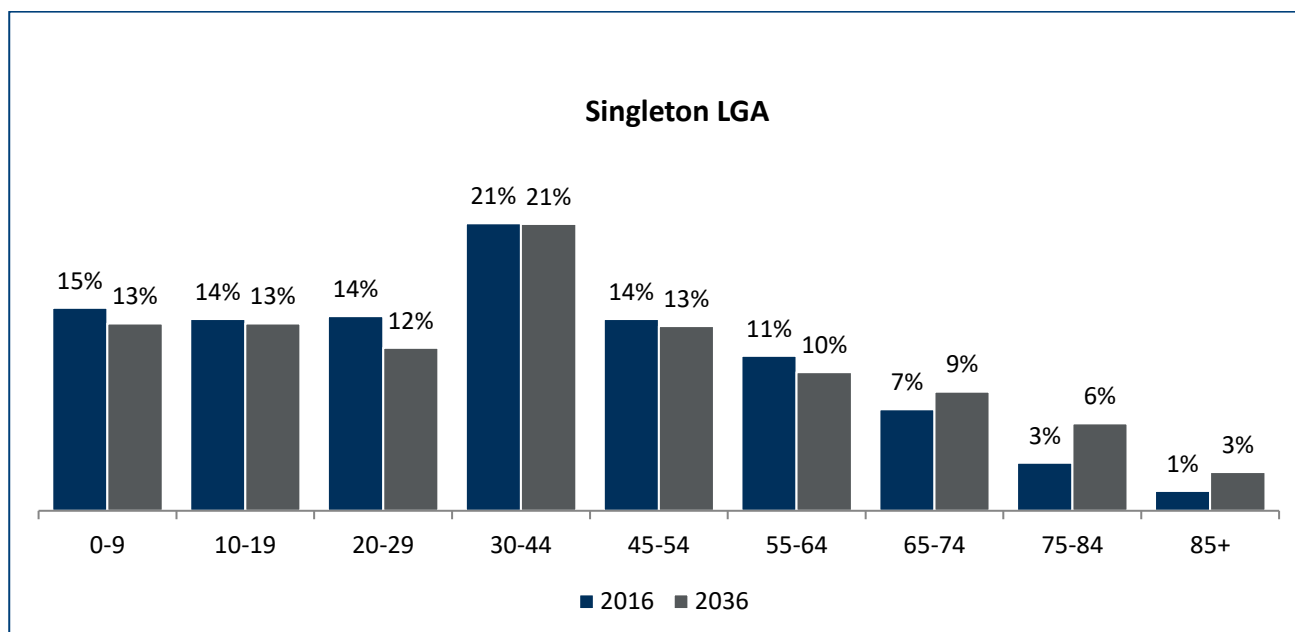


Figure 5.14 Population proportion projections by age category – Singleton LGA

Source: NSW State and Local Government Area Population and Household Projections

Similarly, Muswellbrook LGA's projected annual population growth rate from 2011 to 2036 is 1%. Muswellbrook's largest proportion of the population will also remain within the 30-44 years age bracket. Between 2016 and 2036 the LGA is expected to increase by 19% to a total population of 20,350 by 2036.

These projections show that from 2016 to 2036 there will be decreases in proportions of the population that fall between the ages of 0 and 64 years. Proportions in the 65+ year age group will rise; with those in the 75-84 age brackets increasing by up to 2.2% (refer to **Figure 5.15** and **Figure 5.16**).

Muswellbrook LGAs total population in the 65+ age category is projected to increase by 65% from 2016-2036.

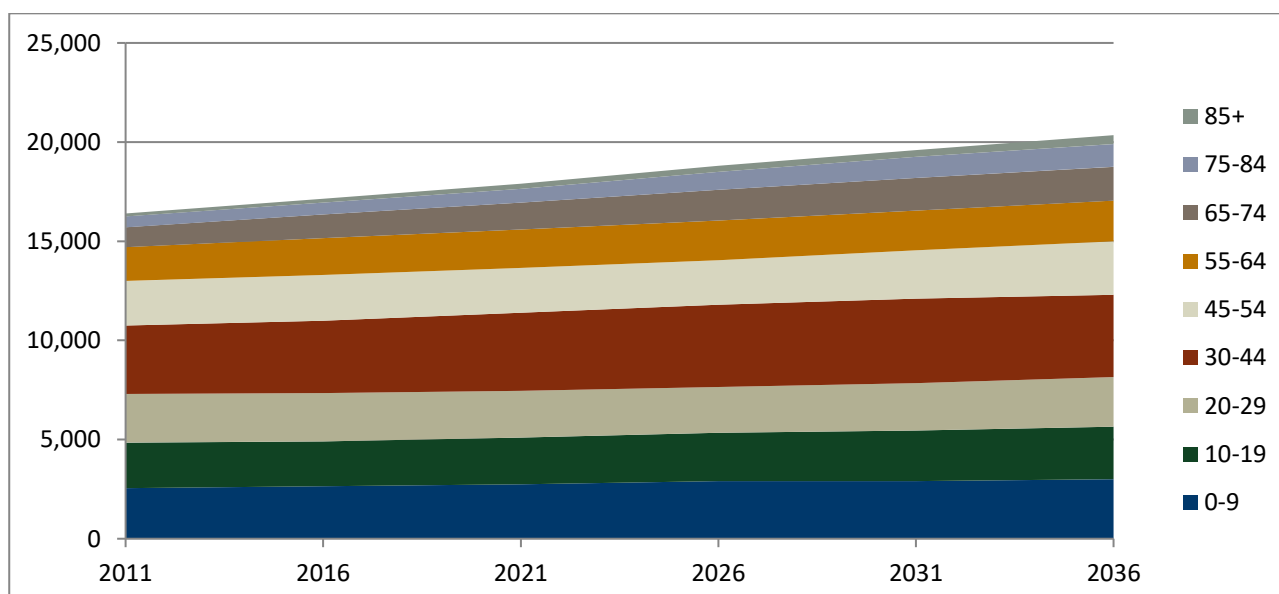


Figure 5.15 Population projects – Muswellbrook LGA

Source: NSW State and Local Government Area Population and Household Projections

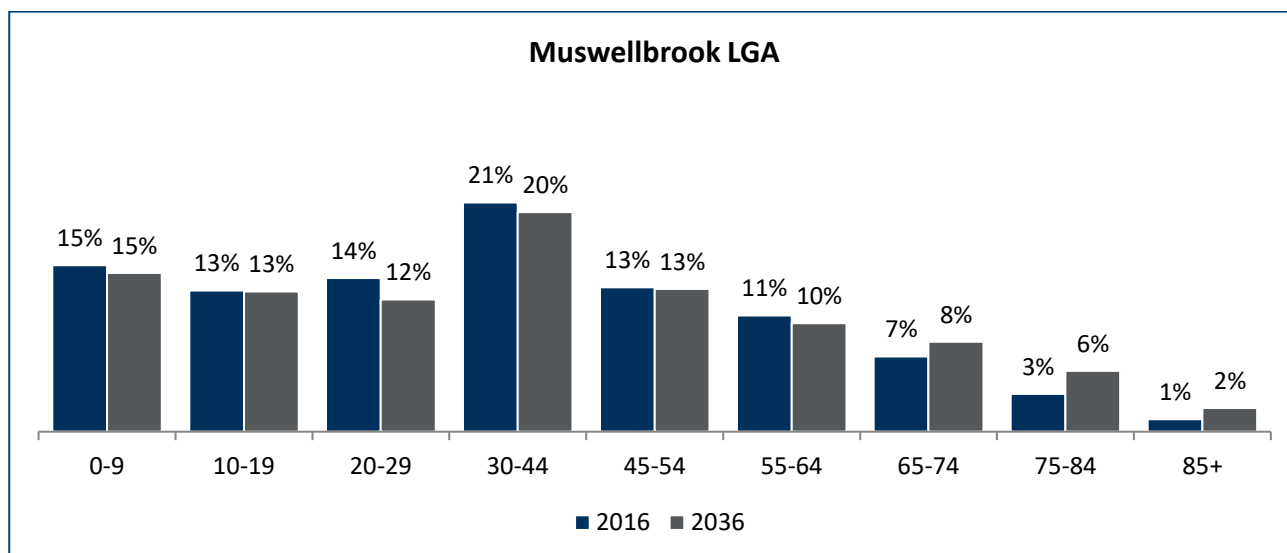


Figure 5.16 Population proportion projections by age category – Muswellbrook LGA

Source: NSW State and Local Government Area Population and Household Projections

5.5.5.4 Skills, education and training

5.5.5.5 Primary and secondary

In Singleton LGA the largest portion of students left school at the end of Year 10 - Indigenous (42%) and non-Indigenous (38%). This is higher than the respective state averages of 34% for Indigenous and 23% for non-Indigenous.

Due to the higher proportions of students leaving school before Year 12, there are significantly less students completing Year 12 in both the Singleton and Muswellbrook LGAs than the state average - 40% and 35% respectively compared to a state average of 60%. This is also the case for the Indigenous population, where only 27% and 23% have completed Year 12 in the Singleton and Muswellbrook LGAs respectively, compared to 33% in NSW. Ravensworth has the smallest proportion of people who completing Year 12 (0%) followed by Camberwell SSC (24%) and Glennies Creek (24%). Camberwell SSC, Glennies Creek and Hebden also have high proportions of the population only having completed year 8 or equivalent level of education (refer to **Table 5.9**).

Table 5.9 Highest level of schooling attained⁸

Highest Year of School Completed:	Camberwell SSC	Falbrook SSC	Glennies Creek SSC	Hebden SSC	Middle Falbrook SSC	Ravensworth SSC	Singleton (LGA)	Muswellbrook (LGA)	Upper Hunter SED	NSW
Year 12 or equivalent (%) (non-Indigenous/Indigenous)	24	33	24	29	31	0	40/27	35/23	37	60/33
Year 11 or equivalent (%) (non-Indigenous/Indigenous)	16	0	0	19	8	0	9/8	9/10	8	5/10
Year 10 or equivalent (%) (non-Indigenous/Indigenous)	40	33	55	38	51	100	38/42	39/39	38	23/34
Year 9 or equivalent (%) (non-Indigenous/Indigenous)	11	33	9	0	10	0	9/13	10/19	10	6/14
Year 8 or equivalent (%) (non-Indigenous/Indigenous)	9	0	12	14	0	0	5/9	6/8	6	5/9
Did not go to school (%) (non-Indigenous/Indigenous)	0	0	0	0	0	0	0/1	0/1	0	1/1

Source: ABS Census, 2016

Note: Excludes Highest year of school completed 'Not Stated'.

⁸ 'Highest year of school 'not stated' were excluded

Educational primary and secondary facilities available in the study communities are summarised in **Appendix E**. This includes available information from schools via the MySchools website that relate to:

- proportion of students that are either Indigenous and/or from non-English speaking backgrounds
- attendance rates
- school positioning on the Index of Community Socio-Education Advantage⁹ (ICSEA) scale. This scale represents levels of educational advantage.

It should be noted that the data only includes primary and secondary schools located within the study communities, however it is likely that some students within the communities would travel to other schools within the LGA.

According to the MySchools government website, a large proportion of students attending schools in the Singleton and Muswellbrook local government area fall in the bottom quarter of educational advantage.

A number of schools and educational centres in the region have planned improvements, including Singleton Heights Pre-school and the Singleton TAFE campus. A State Government initiative has benefitted 12 schools in the Upper Hunter with over \$100,000 being invested in community pre-schools to improve the grounds and create way for specialised educational programs for children (refer to **Appendix D**).

5.5.5.6 Non-school qualifications and fields of study

Within the Singleton LGA there are limited facilities for tertiary education. Currently there is a TAFE NSW campus and a community college. As outlined in the Singleton Community Strategic Plan 2017-2027, Singleton Council is in pursuit of a university campus to service Singleton and the Upper Hunter.

Aside from Certificate level education, Singleton and Muswellbrook LGA and the Upper Hunter SED have much lower population proportions having completed post-secondary education than NSW overall. Singleton and Muswellbrook LGA has a considerably larger proportion of 50% with certificate level qualifications, as opposed to 30% reported in NSW. Across all the study areas, Glennies Creek displayed the highest proportion of certificate level qualifications (78%), followed by Middle Falbrook (56%), and Falbrook (45%).

When considering all of the study communities:

- Middle Falbrook has the highest proportion of people who have completed post-secondary education (54%); equivalent to the NSW average (49%).
- Glennies Creek displays a higher proportion of people who have completed a bachelor's degree level qualification than NSW.
- Camberwell SSC, Hebden and Middle Falbrook have a larger proportion of the population having completed an advanced diploma or diploma level of education.

⁹ Research shows that there is a strong relationship between the educational advantage a student has, as measured by the parents' occupation and level of education completed, and their educational achievement. The Index of Community Socio-Educational Advantage (ICSEA) is a scale that represents levels of educational advantage. A value on the scale assigned to a school is the averaged level for all students in the particular school. (http://docs.acara.edu.au/resources/Guide_to_understanding_ICSEA.pdf)

Table 5.10 Non-school qualifications

Level of Qualification	Camberwell SSC	Falbrook SSC	Glennies Creek SSC	Hebden SSC	Middle Falbrook SSC	Singleton LGA	Muswellbrook LGA	Upper Hunter SED	NSW
Equivalent Post-Secondary Education ¹⁰ (%)	29	0	17	38	54	45	38	41	49
Postgraduate Degree Level (%)	0	0	0	0	0	3	2	2	9
Graduate Diploma and Graduate Certificate Level (%)	0	0	0	0	0	2	1	2	3
Bachelor Degree Level (%)	0	0	33	16	10	14	11	14	26
Advanced Diploma and Diploma Level (%)	20	0	0	20	22	13	11	13	15
Certificates (%)	44	45	78	12	56	50	50	47	30

Source: ABS 2016

Note: No data available for Ravensworth

Engineering is the dominant field of tertiary education in Camberwell SSC, Hebden, Singleton LGA, Muswellbrook LGA and the Upper Hunter SED. Consistent with the trend across NSW, Middle Falbrook's most dominant field of tertiary studies is Management and Commerce, closely followed by Engineering. While the proportion of people studying Engineering is quite high in NSW (17%), proportions in each of the aforementioned study areas are much higher - reflective of the strong presence of mining in the region.

¹⁰ Includes certificate level III & IV, Bachelors and Diploma

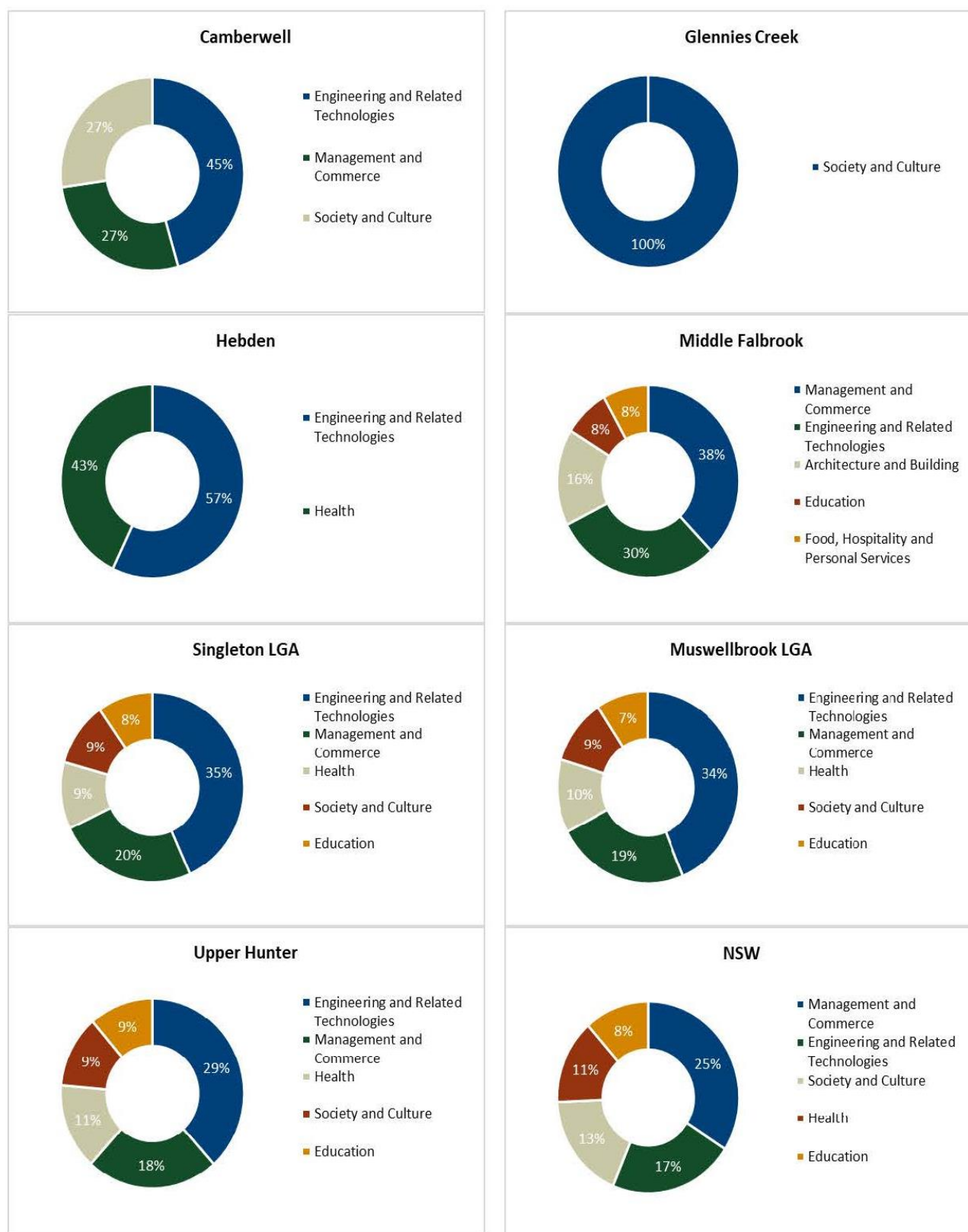


Figure 5.17 Top five fields of tertiary study

Source: 2016 ABS Community Profile

5.5.5.7 Health characteristics

The study communities fall within the Hunter New England Local Health District (LHD). The district covers 131,785 km² and spans over 25 LGAs encompassing major metropolitan centres, regional communities and remote communities.

Population estimates for the region are approximately 920,370 with Aboriginal and Torres Strait Islander people making up approximately 5.9% of the population (NSW Gov. Health, 2019).

Key health status characteristics of the broader Hunter New England LHD and Singleton LGA include:

- In 2011, rates of respiratory system disease were higher in the Singleton LGA (31.9 per 100 people) than the rates in NSW of (27.4). However, the latest data from 2014-15 indicates that the age standardised rate of respiratory disease has reduced slightly in the Singleton LGA to 30.1 persons per 100, while rates have increased across NSW to equivalent levels (ASR of 30.2 per 100) (PHIDU, 2019).
- The number of admissions to all hospitals in 2016-17 for asthma in Singleton was 1,995.4 per 100,000 population, comparable to NSW which had 1,994 per 100,000. However, this data pertains to hospitalisations. Rates of Asthma per 100 population recorded in 2014-15 showed Singleton to be higher than NSW, 11.9 and 9.6 respectively.
- The number of admissions to all hospitals in 2016-17 for cancer and kidney disease was much higher in Singleton than in NSW (refer to **Table 5.11**).
- In the Singleton LGA, for every 100 people over the age of 18 years, there are approximately 82.3 that have one in four risk factors (Smoking, harmful use of alcohol, physical inactivity, or obesity). Higher than the NSW average (78.2/100).
- In comparison, estimates of people aged 18 years and over with one of four risk factors were even higher in the neighbouring LGA of Muswellbrook with 85.9 as a rate per 100 people compared to NSW which has a rate of 78.2.

In the HNE-LHD annual report for 2015-16 it was reported that the district has the highest levels of obesity and cardiovascular illness in NSW. This is followed up by the 2017-18 annual report which identified circulatory disease, cancer, and kidney disease as some of the main health issues that face the district.

As outlined by NSW Health, obesity, smoking and alcohol consumption all have health implications with causal links to cardiovascular disease, respiratory disease, cancers, and psychological distress, and so they have also been collected.

Additional information on available health infrastructure and services is provided in the Physical Capital section at **Section 5.5.8**.

The Upper Hunter Strategic Land Use Policy (2012) acknowledges that within the community there is a perceived decrease in health and wellbeing as a result of the mining industry. This report states, air, noise and visual pollution can cause cumulative impacts on communities with each new source of pollution adding to the overall impact on the region (further discussion provided in **Section 5.6**).

In relation to the impact of air quality on health, media articles on the impact of mining in the region state that 2018 was the worst year for air-quality measurements since measuring began in 2012. This is said to be due to an increase in coarse particulate matter. The heightened measurements include a 2-week period in June where 4-6 monitors recorded higher than national standard dust levels 6 times overnight in the Upper Hunter. Further articles suggest that local residents are concerned about their health and wellbeing,

with an article reporting a 28.6% rise in Singleton hospital admissions coinciding with a decrease in air quality from September 2016 until September 2017 (refer to **Appendix D**). This is notwithstanding that the locality is in the grip of a significant drought and that there have been elevated dust levels during this time across the entire state, attributed to the constant and inevitable drought conditions.

The impact of air quality in relation to dust have been raised as an impact by community members for the current operation. These issues were discussed in cumulative terms, and not specifically attributed to the Approved Operations, with residents reporting difficulties in fully distinguishing issues and impacts associated with individual sites, given their proximity to neighbouring mining operations. When asked about concerns regarding the Mount Owen Continued Operations Project (Umwelt, '*Mount Owen Continued Operations Project*', 2015), stakeholders identified the potential increase of dust impacts on health and dust present in water tanks affecting drinking water quality as a primary concern. These concerns have also been reflected in the current stakeholder engagement activities conducted for the Project (refer to **Section 6.0**).

A summary of health characteristics collected from the Social Health Atlas of Australia, NSW (PHIDU) (2019) are outlined below in **Table 5.11**. This table compares Singleton and Muswellbrook LGAs with country NSW, urban NSW and the state as a whole. Country NSW, as we have labelled based on data collected from PHIDU (2019), refers to data that excludes the major urban centres that make up 'Urban NSW' of Greater Sydney, Illawarra, Newcastle and Lake Macquarie.

When interpreting this data, it is important to note that no tests of statistical significance have been conducted, nor has any analysis been conducted to assess the causes of potential elevations in specific health issues on which data is provided. Whilst it is assumed that health indicators are impacted by a range of factors, including elements of all Social Capital areas (e.g. socio-economic status, access to services), these impacts have not been assessed using a statistical model. The data presented is intended to provide an overview of general levels of health within the Singleton LGA and greater Hunter New England Health District, and should not be used to infer impacts of mining or other factors on health.

What is interesting to note is the difference in health indicators between country and urban NSW. As indicated in **Table 5.11**, country NSW is at a disadvantage for almost every indicator and this is echoed in the data for Singleton LGA. Key indicators where Singleton LGA is of particular disadvantage relative to NSW are shaded grey in **Table 5.11**.

Table 5.11 Summary of select health indicators

Health Indicators	Year	Singleton LGA	Muswellbrook LGA	Country NSW ¹¹	Urban NSW ¹²	NSW
People aged 18 years and over with one of four risk factors ¹³ (ASR per 100)	2014-15	82.3	85.9	83	76.5	78.2
Smoking during pregnancy (%)	2012-14	12.8	20.8	19.7	7.1	9.8
Alcohol (ASR per 100)	2014-15	23.9	23.8	21	15.2	16.7
Obesity (ASR per 100)	2014-15	36.6	38.8	36.3	25.2	28.2
Rates of respiratory disease ¹⁴ (ASR per 100)	2014-15	30.1	31.6	33.6	29.1	30.2
Asthma (ASR per 100)	2014-15	11.5	11.8	12.7	9.5	10.3
Admissions to all hospitals - Asthma (ASR per 100,000)	2016-17	1995.4	2496.6	2278.5	1877	1994
Circulatory disease (ASR per 100)	2014-15	21.4	20.7	19.9	18.0	18.6
Admissions to all hospitals - kidney disease (ASR per 100,000)	2016-17	721.6	-	225.9	218.1	220.3
Admissions to all hospitals - cancer (ASR per 100,000)	2016-17	3007	2584.1	2527.5	2314.6	2381.6
Fair or poor self-assessed health (ASR per 100)	2014-15	14.6	16	16.1	13.5	14.3
Psychological Stress ¹⁵ (ASR per 100)	2014-15	11	13.7	11.7	10.8	11
Earning or Learning at ages 15-24 (%)	2016	83.6	74.6	79.7	86.7	85
Children developmentally vulnerable in one or more domains ¹⁶ (%)	2015	20.9	23.8	21.6	19.7	20.2

Source: ABS Social Health Atlas (2019), Health Stats NSW (2019)

¹¹ Country NSW: Excludes Greater Sydney, Illawarra, Newcastle and Lake Macquarie

¹² Urban NSW: Greater Sydney, Illawarra, and Newcastle and Lake Macquarie

¹³ Risk Factors: Smoking, harmful use of alcohol, physical inactivity, obesity

¹⁴ Includes asthma and chronic obstructive pulmonary disease

¹⁵ Estimated number of people aged 18 years and over with high or very high psychological distress, based on the Kessler 10 Scale (K10) (modelled estimates)

¹⁶ Five Domains outlined by AEDC: Physical health and wellbeing, social competence, emotional maturity, language and cognitive skills, communication skills and general knowledge.

Health data for the Hunter New England LHD similarly shows an increase in hospitalisations for respiratory diseases (which include influenza and pneumonia, other acute respiratory infections, asthma, chronic obstructive pulmonary disease, lung cancer, 'remaining respiratory disease'). Rates of hospitalisations for respiratory diseases per 100,000 persons have increased from 1493.2 in 2001-02 to 1714.2 in 2017-18 (refer to **Figure 5.18**). **Figure 5.19** shows the breakdown of respiratory diseases by type. From this it is evident that the accumulation of 'remaining respiratory diseases' accounts for the most hospitalisations. Further to note the number of hospitalisations from 2015-18 for respiratory disease types influenza and pneumonia and 'remaining respiratory disease' have increased, with their highest recorded number of hospitalisations as of 2018 (5,006 per and 5,558 per 100,000 population respectively). While lung cancer has been steadily declining, respiratory diseases such as chronic obstructive pulmonary disease, asthma and other acute respiratory infections have seen a decrease from 2016-17 to 2017-18.

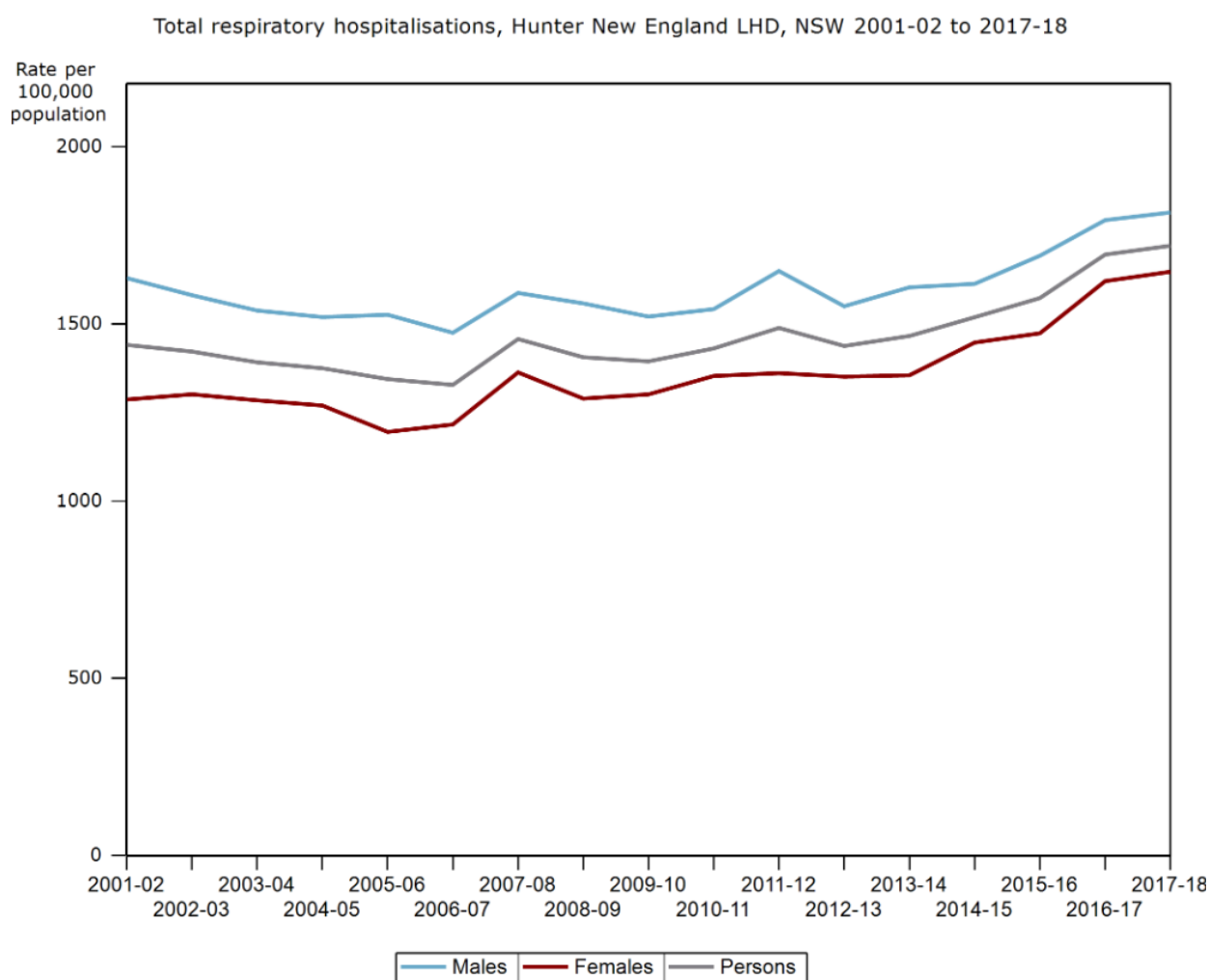


Figure 5.18 Total respiratory hospitalisation for Hunter New England Health (2001-02 to 2017-18)

Source: HealthStats NSW (2018), <http://www.healthstats.nsw.gov.au/>

Respiratory diseases hospitalisations by disease type,
Persons, Hunter New England LHD, NSW 2001-02 to 2017-18

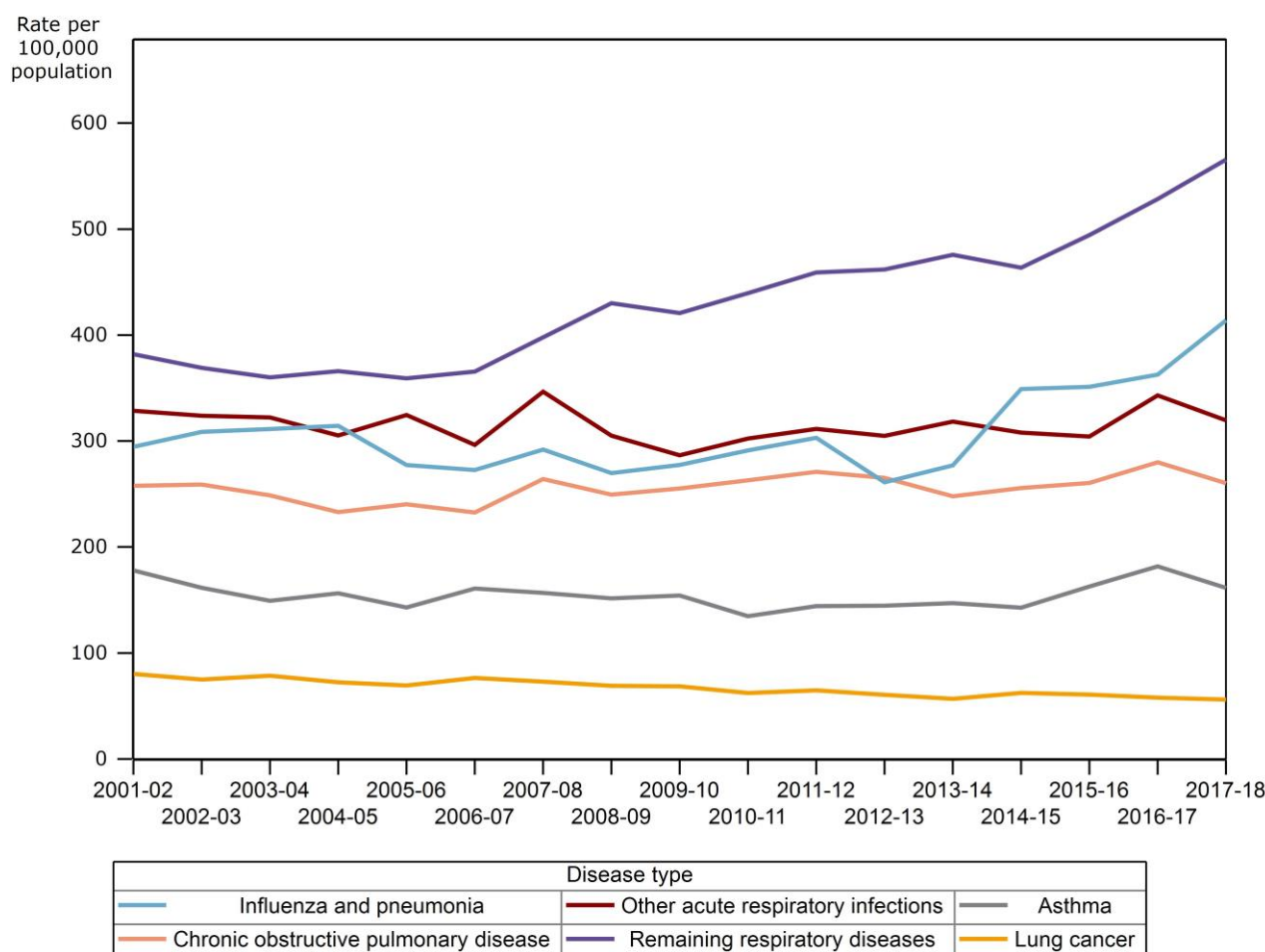


Figure 5.19 Respiratory diseases hospitalisations by disease type for Hunter New England Health (2001-02 to 2017-18)

Source: HealthStats NSW (2018), <http://www.healthstats.nsw.gov.au/>

Considering the rates per 100,000 persons across the LHD, Hunter New England LHD (18,259 hospitalisations, 1720.9 rate per 100,000) is lower than other regions within the state including for example, Murrumbidgee (2544.9), Western NSW (2262.1), Far West (1980.1) and Central Coast (1811.1). While the Hunter New England Health district is comparable to the average rate across all New South Wales LHD's, 1714.2 per 100,000 (refer to **Figure 5.20**) it is important to note the steady increase the district has seen over the years (refer to **Figure 5.18**) (HealthStats NSW, 2018).

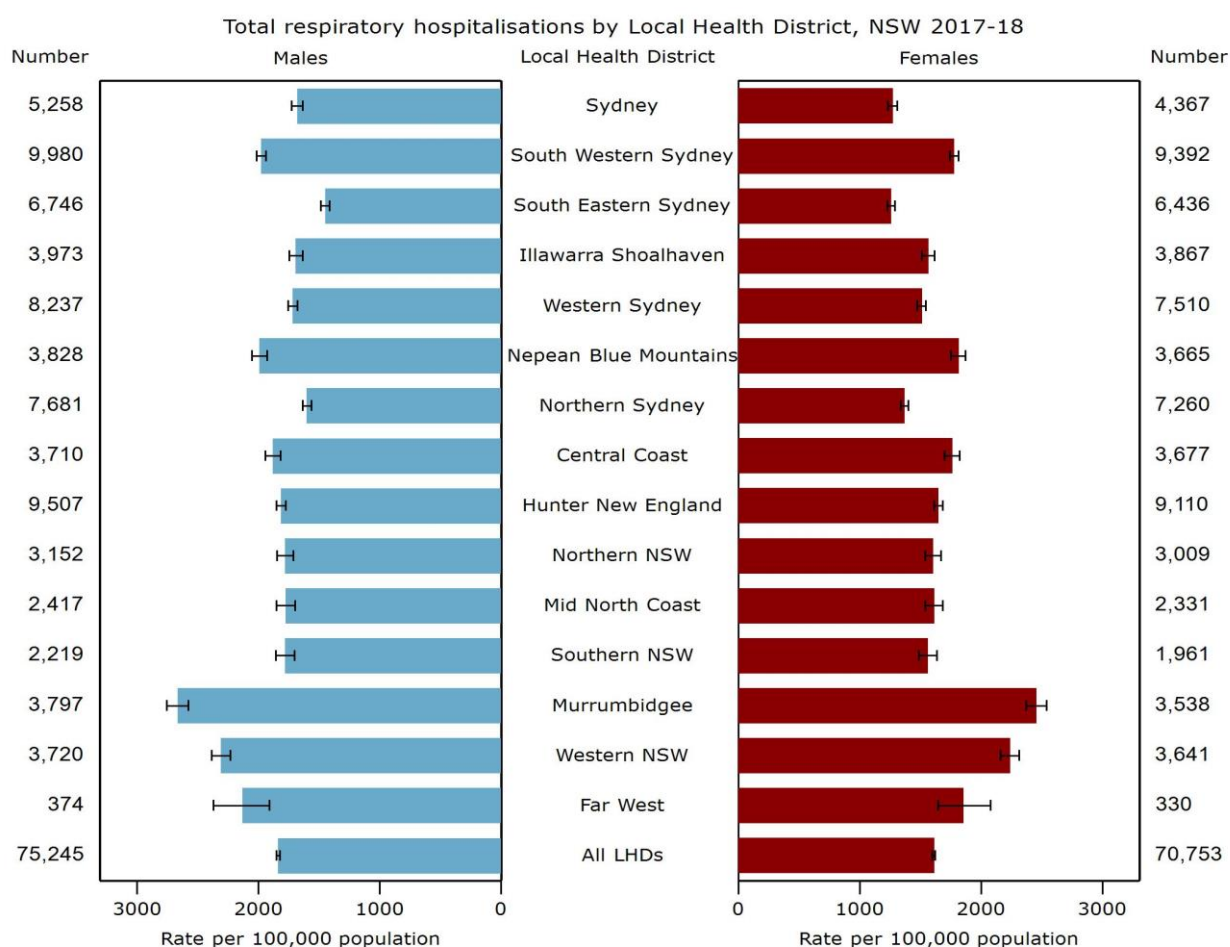


Figure 5.20 Total respiratory hospitalisations by LHD (2017-18)

Source: HealthStats NSW (2018), <http://www.healthstats.nsw.gov.au/>

Data from PHIDU (2019) shows that rates of respiratory system disease increased in Singleton LGA from 24.5 in 2008 to 31.9 per 100 people in 2011. At that time, the rate was much higher than the rates in NSW of 27.4 (2011). However, the latest data from 2014-15 indicates that the age standardised rate of respiratory disease has reduced slightly in the Singleton LGA to 30.1 persons per 100, while rates have increased across NSW to equivalent levels (ASR of 30.2 per 100) (PHIDU, 2019) (refer to **Figure 5.22**).

Figure 5.21 presents the data relating to asthma hospitalisations (NSW Health Stats, 2018), which indicate that rates of hospitalisation in the Singleton LGA are presently above the NSW average, having increased from 107.1 (per 100,000) in 2012-14 to 167 (per 100,000) 2016-18, as rates across NSW remain relatively stable (146.1 per 100,000 in 2018). As can be seen in **Figure 5.21**, hospitalisation rates for asthma in the Singleton LGA have varied considerably over the past 18 years, fluctuating above and below the NSW average.

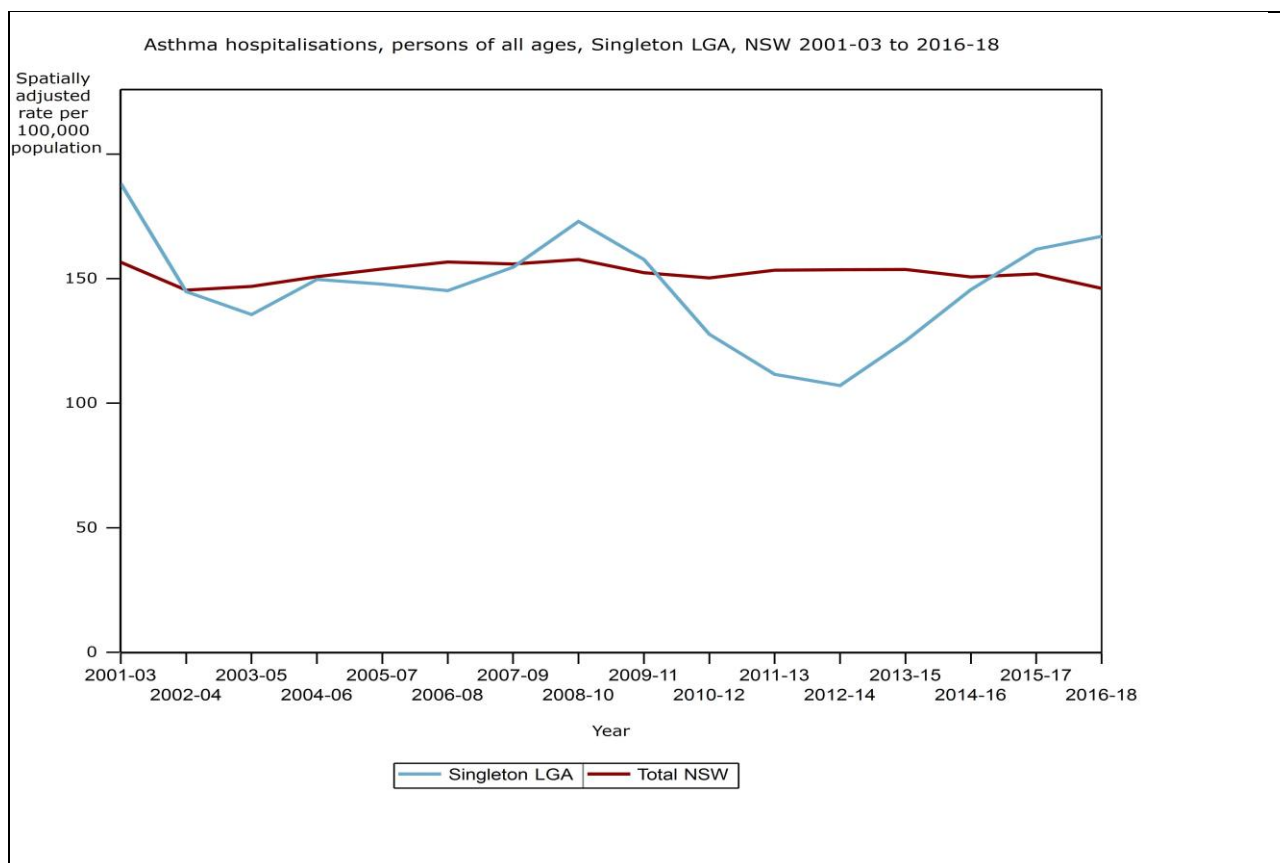


Figure 5.21 Asthma hospitalisations for persons of all ages, Singleton LGA (2001-17)

Source: NSW Health Stats, 2019

5.5.5.8 Human capital summary

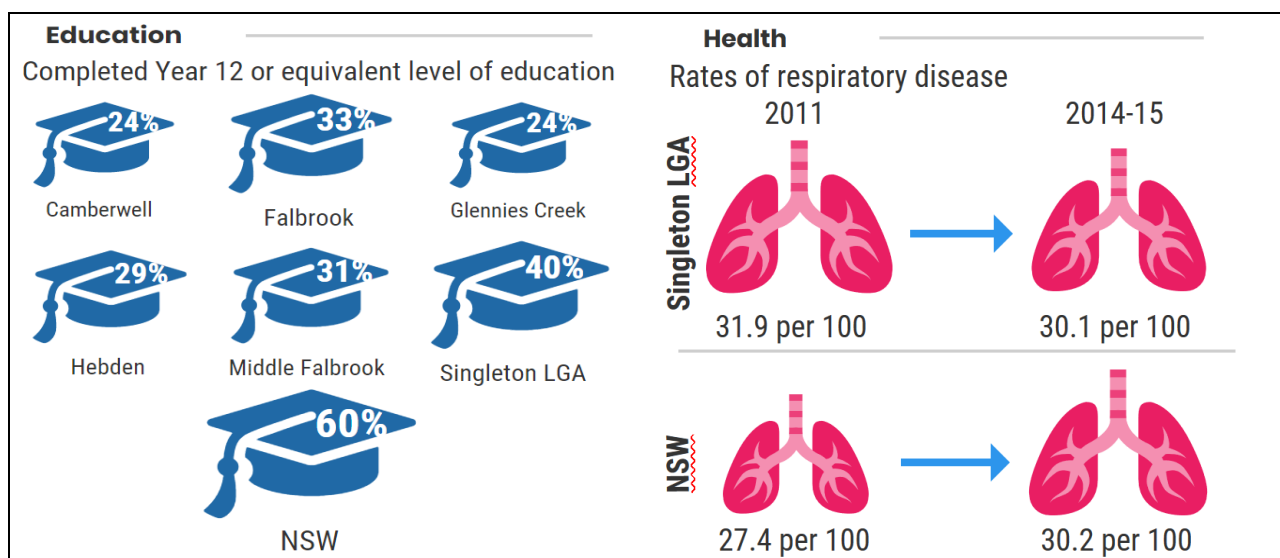


Figure 5.22 Human capital summary

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Overall, the populations of the Upper Hunter region, Singleton LGA and Muswellbrook LGA have experienced moderate population increases when compared to NSW state. The median age of the Upper Hunter SED (40) is older than that of NSW (38), whilst the Singleton and Muswellbrook LGA's (36 and 35 respectively) median age is younger. However, within the Singleton LGA the median ages of the Glennies Creek (48) is considerably older, while the median age of 25 years in Ravensworth is notably young.

Almost all studied communities have experienced an increasing number of people approaching retirement age over the last 10 years, mirroring a state-wide trend.

The Upper Hunter SED, Singleton LGA and Muswellbrook LGA areas have a high proportion of Indigenous community members and a lower proportion of individuals who were born overseas, when compared to the state average. Camberwell SSC, Glennies Creek and Middle Falbrook display the highest proportions of Indigenous community members, whereas Falbrook, Ravensworth and Camberwell SSC had the lowest proportion of people born overseas.

Singleton LGA is home to four primary schools and only one secondary school, with two other blended non-government schools that teach from kindergarten and up to year 10 and year 12. Levels of educational attainment in the Singleton and Muswellbrook LGA's and Upper Hunter SED are generally low, with less community members having completed Year 12, and less Post-secondary qualifications or Bachelor's degree level qualifications for all areas in comparison to the state. However, the amount of people holding certificates is considerably higher in Glennies Creek (78%), Middle Falbrook (56%), Falbrook (45%), and Camberwell SSC (44%) than in NSW (30%). Engineering and related technologies are the most popular field of tertiary study across most of the study communities, namely Camberwell SSC, Hebden, Singleton LGA and Muswellbrook LGA, and the Upper Hunter SED.

Health statistics from HealthStats NSW show that for the Hunter New England LHD hospitalisation rates for respiratory disease have been increasing from 2001 to 2018. While hospitalisation rates in the Hunter New England LHD are currently comparable to the NSW average, the steady increase the district has seen a steady increase in this time period.

The SEIFA Index of Education and Occupation (IEO), prepared by the ABS, reflects the general level of education and occupation-related skills of people within an area. Interestingly, the IEO SEIFA Index for each of the study communities is indicative of relative disadvantage, compared to other areas in NSW (refer to **Figure 5.23**). Muswellbrook LGA falls within the 1st decile and is ranked 4th out of all the LGAs in NSW, whereas Singleton LGA is ranked 17th, falling within the 2nd decile.

It should be noted that the Index must be interpreted with caution for the smaller populations, such as Ravensworth, Falbrook, Glennies Creek, Hebden, and Middle Falbrook, given that each person greatly impacts the area's SEIFA score making it more difficult to undertake comparisons.

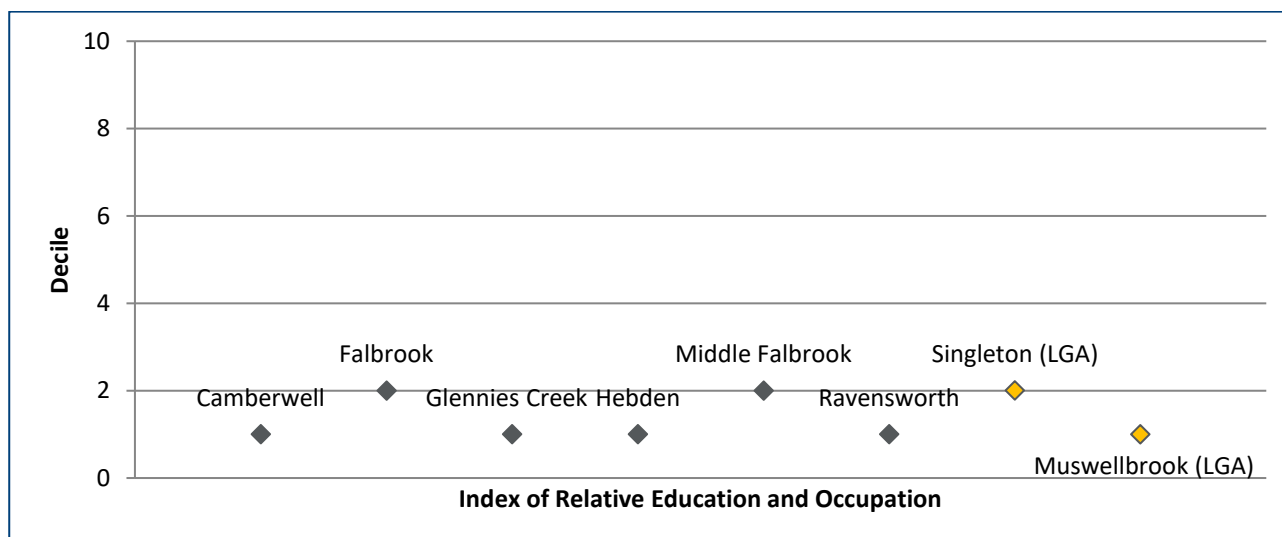


Figure 5.23 Index of education and occupation (IEO)

Source: ABS, SEIFA Indexes 2016

5.5.6 Social capital

Table 5.12 provides a summary of the key social capital indicators for the study communities relevant to the Project and compared to the broader state of NSW and the Upper Hunter SED region, with further discussion regarding these indicators provided in the subsequent sections.

Table 5.12 Summary of key social capital indicators

Indicator	Camberwell SSC	Falbrook SSC	Glennies Creek SSC	Hebden SSC	Middle Falbrook SSC	Ravensworth SSC	Singleton LGA	Muswellbrook LGA	Upper Hunter SED	NSW
Married (%)	40	29	47	52	57	38	51	45	50	49
Families with children (%)	52	100	38	33	47	-	48	43	42	46
Families with no children (%)	17	0	62	67	44	-	36	37	41	37
Single parent family (%)	30	0	0	0	9	-	15	19	16	16
Lone person Households (%)	25	27	29	33	14	-	22	27	26	24
Proportion living at a different address 1 year ago (population mobility) (%)	12	15	11	0	16	0	14	15	13	14

Indicator	Camberwell SSC	Falbrook SSC	Glennies Creek SSC	Hebden SSC	Middle Falbrook SSC	Ravensworth SSC	Singleton LGA	Muswellbrook LGA	Upper Hunter SED	NSW
Proportion living at a different address 5 years ago (population mobility) (%)	46	56	37	18	37	36	37	41	35	39
Volunteered through an organisation or group (last 12 months) (%)	11	13	8	19	17	0	21	18	22	18
Proportion of the population over 65 years receiving a pension (%)	-	-	-	-	-	-	60.2	68.6	-	67.6
Poor proficiency in English (%)	-	-	-	-	-	-	0.2	0.2	-	3.8
Proportion of people receiving an unemployment benefit long-term (longer than 6months) (%)	-	-	-	-	-	-	4.6	7.3	-	3.8

Source: ABS 2016, PHIDU 2019

5.5.6.1 Mobility and community networks

The levels of mobility over a one-year period greatly fluctuated amongst the study communities, with Camberwell SSC, Glennies Creek, Hebden and Ravensworth all falling below the NSW average of 14% of the population who lived at a different address one year ago.

The townships of Camberwell SSC and Falbrook, and the Shire of Muswellbrook (LGA) all had higher proportions of those living at a different address five years ago (46%, 56% and 41% respectively) than NSW (39%). This indicates a more transient population, a typical feature of regions where mining plays a significant role in the economy and workforce (refer to **Section 5.5.7**). Furthermore, the lack of tertiary education options in the Singleton LGA is likely to lead more people to relocate to other areas such as Newcastle that facilitate more educational support.

There are similar proportions of the population 15 years and above, who have undertaken 'voluntary work for a group or organisation in the last 12 months', in Hebden, Middle Falbrook and Muswellbrook LGA (18%) as there were in NSW (18%). The LGA of Singleton has a higher proportion of those involved in volunteering activities (21%).

While there was a perception amongst participants in consultation activities that the nature of communities and especially the villages of Hebden, Camberwell SSC and Ravensworth, had changed irreversibly, there was a feeling that people who lived in the wider area were committed to the area and willing to support their community, with strengths such as a strong commitment to volunteerism noted.

"Community has been destroyed by mining." – Landowner

"Singleton as a whole is a great community. There are so many people who do volunteer work and people are friendly." – Landowner.

Singleton is also host to an abundance of buildings and infrastructure which are historically significant. Singleton's rich history is put on display through tours of its restored colonial buildings, and Singleton Historical Museum located in Burdekin Park. The Australian Army Infantry Museum also provides an intimate look into Australia's colonial armies, Gallipoli, Passchendaele, Kokoda, Long Tan and Afghanistan. With heritage being so integral to Singleton, Singleton Council has stated they intend to increase the number of heritage actions completed against the Heritage Management Plan (Singleton Council, 2019).

5.5.6.2 Family and household composition

As shown in **Figure 5.24**, there is a high proportion of one parent families with children in the Camberwell Area. The Bridgman Area has a small proportion of one parent families and has the highest proportion of families without children which is the majority of all family types in this location.

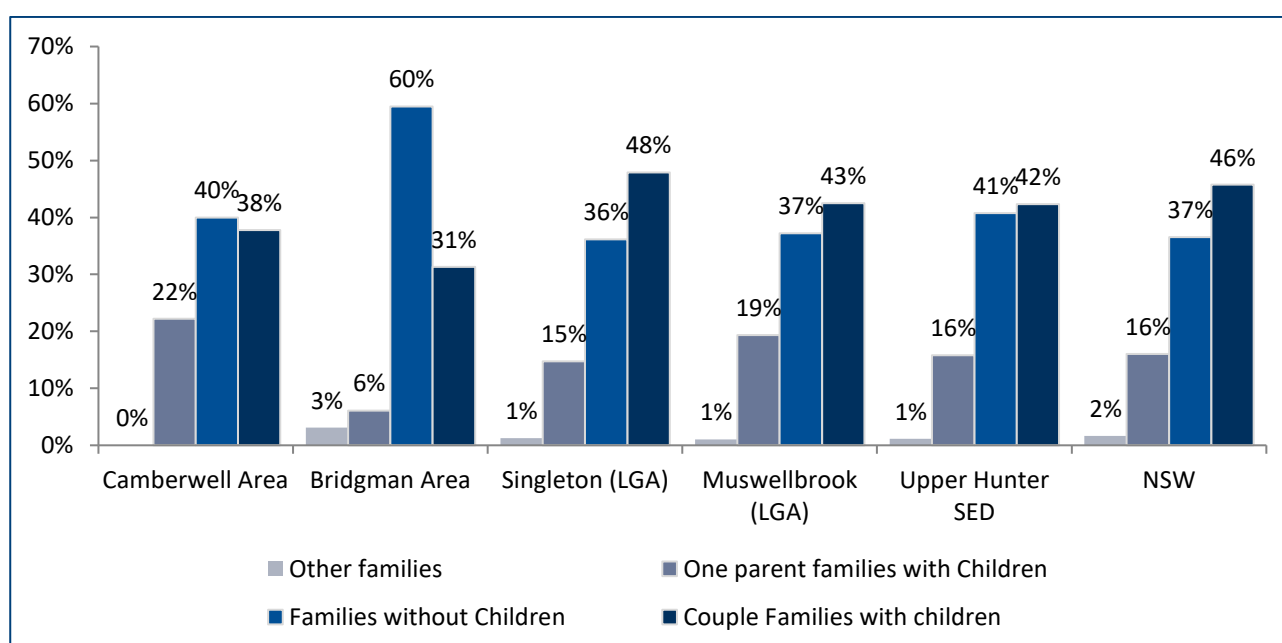


Figure 5.24 Family composition

Source: 2016 ABS Community Profile

The most notable proportional difference across the study communities in relation to household composition is the higher proportion of lone person households in the Camberwell Area (32%) and Muswellbrook LGA (27%) when compared to NSW (24%) although this difference is still not substantial. Conversely, the Bridgman Area only has 17% lone person households, with a vast majority of households (81%) being family households. All other study areas ranged from 68% to 76% (consistent with the NSW average).

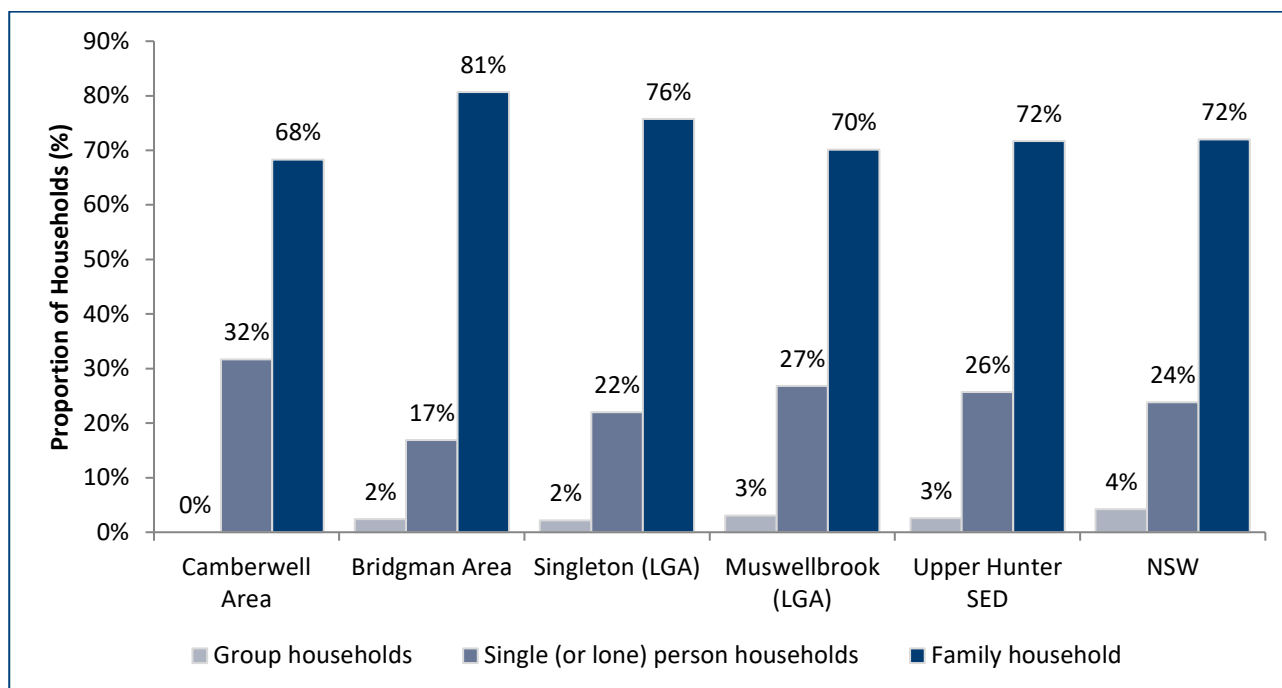


Figure 5.25 Household composition

Source: 2016 ABS Community Profile

5.5.6.3 Justice and crime

The NSW Bureau of Crime Statistics and Research provides a ranking system for LGAs based on the number of incidents and rates per 100,000 population. This affords comparison with other LGAs in NSW for different categories of crime.

Table 5.13 presents the rankings from 2013 to 2017 for selected top offences with the closer the rank is to 1, the more incidents of crime and the higher the rates per 100,000 people in comparison to other LGAs within NSW.

In general, across selected offences, Singleton ranks worse than more than half the LGAs in NSW, i.e. has a higher level of crime. The offences where Singleton notably ranked poorly in 2017, includes motor vehicle theft (24/119), thefts from retail stores (38/117), break and enter non-dwelling (38/119), sexual offences (42/119) and assault – domestic violence (45/119).

These ranks have fluctuated over the years, with the arrows in Table 5.13 the increase or decrease in rank over the past three years. Rates of a number of offences have increased in Singleton LGA over this time period - including assault – non-domestic violence, assault – domestic-violence and sexual offences. Drugs and alcohol related offences have also increased.

Table 5.13 Singleton LGA crimes and crime rankings

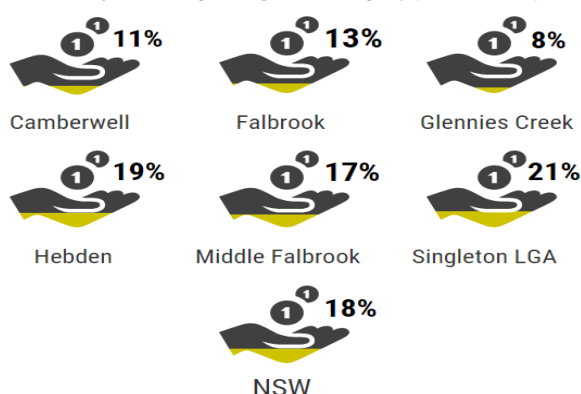
Singleton LGA Crimes and Crime Rankings	2013	2014	2015	2016	2017	Change in rank over 3 years
	Rank	Rank	Rank	Rank	Rank	
Assault - Domestic Violence	76	85	67	66	45	↑
highest rank	120	120	119	119	119	
Assault - Non-Domestic violence	59	78	78	82	48	↑
highest rank	120	120	119	119	119	
Break and Enter Dwelling	54	25	32	48	49	↓
highest rank	120	120	119	119	119	
Sexual Offences	91	30	88	80	42	↑
highest rank	120	120	119	119	119	
Break and Enter Non-Dwelling	41	57	24	32	38	↓
highest rank	120	120	119	119	119	
Steal from a Motor Vehicle	43	12	21	58	53	↓
highest rank	120	119	119	119	119	
Steal from a Retail Store	82	35	43	45	38	↑
highest rank	117	118	116	116	117	
Steal from a Dwelling	30	26	41	42	50	↓
highest rank	120	120	119	119	119	
Liquor Offenses	86	72	100	90	81	↑
highest rank	120	120	119	118	118	
Malicious damage to property	66	64	73	70	75	↓
highest rank	120	120	119	119	119	
Motor vehicle theft	7	12	13	10	24	↓
highest rank	120	119	118	118	119	
Drug offences - cannabis	32	59	64	79	51	↑
highest rank	118	120	119	119	119	

Source: BOSCAR (2019)

5.5.6.4 Social capital summary

Volunteering

Did voluntary work through an organisation or group (last 12 months)



Population Mobility

Living at a different address five years ago

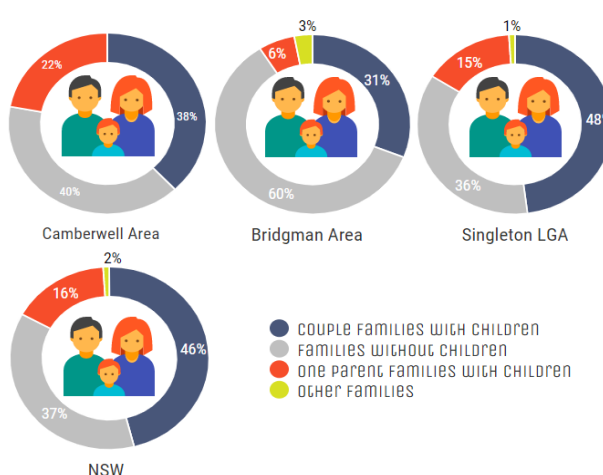
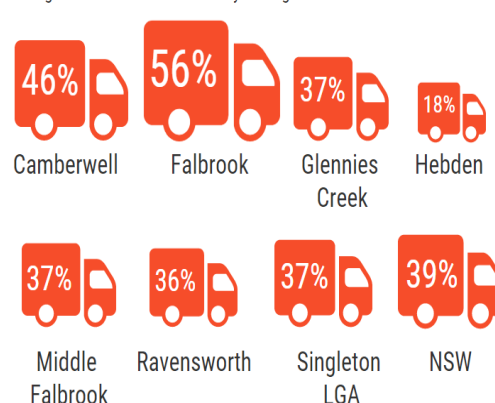


Figure 5.26 Social capital summary

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Singleton LGA shows signs of relatively good social capital in some areas, as indicated by lower than average rates of mobility and volunteering. However, there are higher proportions of people receiving an unemployment benefit long-term in Singleton LGA and higher rates of certain violent and non-violent crimes when compared to other LGAs in NSW.

Some of the smaller communities within the LGA showed poor social capital based on the indicators assessed. For example, levels of mobility within some of the communities of the Singleton LGA are heightened compared to the NSW state average, evident in the suburbs of Camberwell SSC and Falbrook. Given the increased presence of, and reliance on, mining in these areas (refer to **Table 5.16** and **Table 5.18**), this may be a reflection of the transient workforce associated with employment in the mining industry or the lack of tertiary education options.

Amongst the study areas, the smaller localities of Hebden and Middle Falbrook exhibited high levels of volunteering, indicative of higher overall levels of community participation. While participants reported a strong, close-knit and resilient community, they also identified that this was being impacted by the mining industry which has caused people to relocate away from the area. The *Strategic Regional Land Use Plan for the Upper Hunter* (DEP, 2012) states that the “region’s most valuable asset is its people and the strong communities they form”.

Crime rankings are poor across Singleton LGA, with notable high rates (resulting in a poor ranking position) in motor vehicle theft, stealing from retail stores, break and enters (non-dwelling), sexual offences and domestic violence assaults. Rates of violent crimes such as non-domestic and domestic assaults, and sexual offences have also seen an increase in recent years.

Figure 5.27 provides the overall socio-economic status and level of disadvantage within each community, as determined by the Index of Relative Socio-economic Disadvantage (IRSD) - a SEIFA score prepared by the ABS which ranks areas in Australia according to relative socio-economic disadvantage. A low score indicates a greater degree of disadvantage, with the lowest 10% of areas receiving a decile of one, and the highest, a ten. It should be noted that no comparison can be made between LGA's and state suburbs on ranking, as rankings are only comparative within each geographic classification. Based on this index, the data indicates that:

- Compared to Muswellbrook and other LGAs within NSW, Singleton LGA exhibits considerably lower levels of socio-economic disadvantage, falling within the eighth decile.
- Some of the study areas exhibit similar levels of disadvantaged, also falling within the eighth decile is Falbrook and Middle Falbrook. Smaller communities that are more disadvantaged are Camberwell SSC, Glennies Creek and Ravensworth, scoring within the first decile.

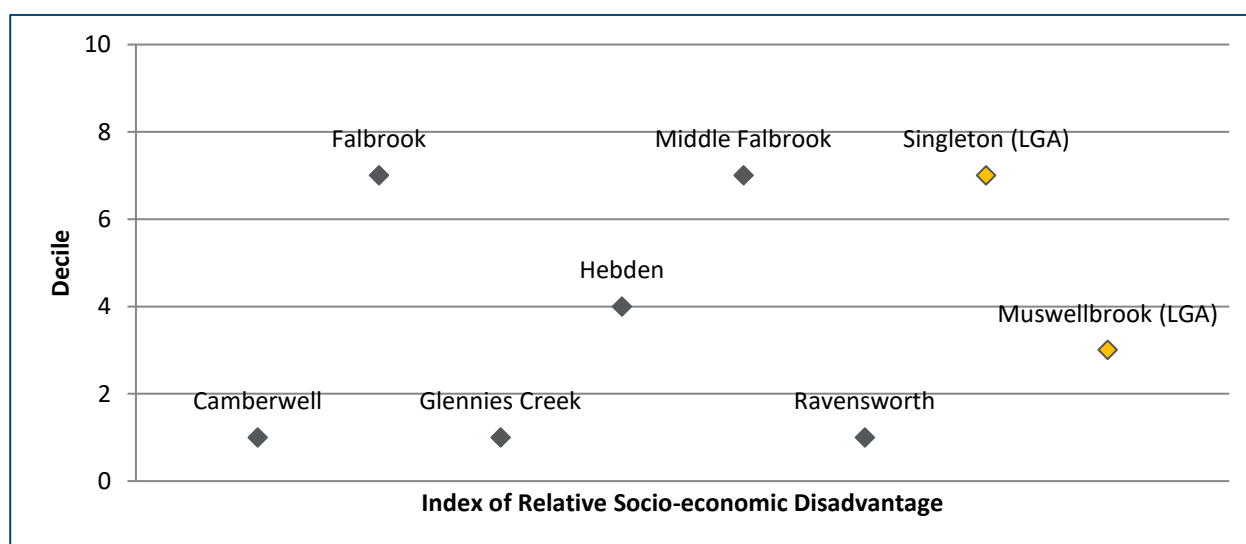


Figure 5.27 Index of relative socio-economic disadvantage (IRSD)

Source: ABS, SEIFA Indexes 2016

5.5.7 Economic capital

Table 5.14 provides a summary of the key economic capital indicators for the relevant communities with further discussion regarding these indicators provided in the subsequent sections.

Data shows that the labour force status is consistent across Singleton and the local area, with rates comparable to the national average. Average annual income suggests high proportions of people within the lower income brackets of nil income and \$20,800 to \$25,999; and, the higher income bracket of \$104,000 to \$155,999 per annum.

Mining is the primary industry of employment within Singleton and the local area and reflects the central role of mining to the economy within the social area of influence for the Project.

The development of a new mining project has the potential to generate lots of new jobs and growth for a community. In some instances, this can mean an influx of new people into an area for work. The construction workforce for the Project has been estimated to be 360 employees and is expected to last 24 months. Given the nature of the work being completed for the Project and the timeframe of the construction phase, it is not expected that any proportion of the workforce coming in from outside the region will choose to permanently reside in the region, and therefore will have minimal impact on services.

In regard to Glencore's operations, the Mount Owen Complex workforce will remain similar to current workforce numbers of approximately 1220 FTE positions during concurrent operations. This will reduce following cessation of mining operations at Mount Owen Mine (circa 2036-7).

Glendell Mine's workforce numbers will progressively increase over the duration of the Project from approximately 300 FTE to approximately 690 FTE positions at maximum production level. The increasing workforce at Glendell Mine coincides with a reduced workforce at the Mount Owen and Ravensworth East Mines as production declines.

The presence of a construction workforce can often have different impacts on a community than a permanent, operational workforce. Usually a construction workforce is temporary and transient in nature, residing in a location due to its proximity to a particular project (i.e. Singleton LGA), before moving on to the next project. Because of the temporary, transient nature of construction work, families often do not accompany the worker, preferring to live in one permanent location while the worker travels away.

As noted in **Section 5.1**, a survey undertaken of the Mount Owen Complex workforce in 2013 (Coakes Consulting, 2013) highlighted key residential and expenditure locations for employees and contractors associated with the Mount Owen Complex, including the Glendell Mine operation. In summary, Singleton, Muswellbrook and Cessnock were key locations in which employees and contractors resided. Singleton and Maitland benefit most from the Mount Owen Complex workforce contribution to local communities, through the highest household expenditure, use of local suppliers, greatest participation in community groups and highest usage of health service and education institutions by workers and other family and household members. In **Section 4.1**, the previous findings were largely reaffirmed, with Singleton, Maitland, Cessnock and Muswellbrook having strong ties with the Glendell Mine in terms of employee and supplier presence and their associated expenditure.

However, during stakeholder engagement, some participants noted the heavy reliance on mining in the area and indicated resentment at their area being referred to as a "mining community" given that a number of participants had no connections to the mine or the mining industry. For others, Singleton LGA was considered a "prosperous shire", this being considered an incentive to live in the area and important to sustaining local businesses.

Table 5.14 Summary of key economic capital indicators

Indicator	Camberwell SSC	Falbrook SSC	Glennies Creek SSC	Hebden SSC	Middle Falbrook SSC	Ravensthorpe SSC	Singleton LGA	Muswellbrook LGA	Upper Hunter SED	NSW
Median total personal income (\$/ weekly)	591	612	634	1,437	762	687	684	640	613	664
Median total household income (\$/ weekly)	1,375	1,375	1,291	2,374	1,875	0	1,682	1,346	1,302	1,486
Median mortgage repayment (\$/monthly)	0	0	0	1,950	2,251	0	1,950	1,733	1,733	1,986
Median rent (\$/weekly)	200	320	250	0	310	0	280	250	250	380
Labour force participation (15-85 years) (%)	49.2	33.3	66.7	71.0	76.4	37.5	63.6	58.9	58.6	59.2
Unemployment (%)	9.7	0.0	0.0	0.0	5.5	0.0	6.1	8.2	6.4	6.3
Financial stress from mortgage or rent ¹⁷ (%)	-	-	-	-	-	-	24.9	30.9	-	29.3
Employment in mining (%)	25.0	50.0	21.1	45.5	31.9	0.0	23.4	21.9	15.4	0.9

Source: ABS (2016), PHIDU

¹⁷ Low income households (households in bottom 40% of income distribution) under financial stress from mortgage or rent

5.5.7.1 Industry and employment

Employment and labour participation

Census data indicates an increase in the proportion of the population that is unemployed across all study areas. The Camberwell Area, Bridgman Area and both LGAs have seen significant increases in unemployment from 2011 to 2016. While unemployment in the townships within the Camberwell Area is under the NSW average (6.3%), it is important to note that it has increased from approximately 0% to 4.3%

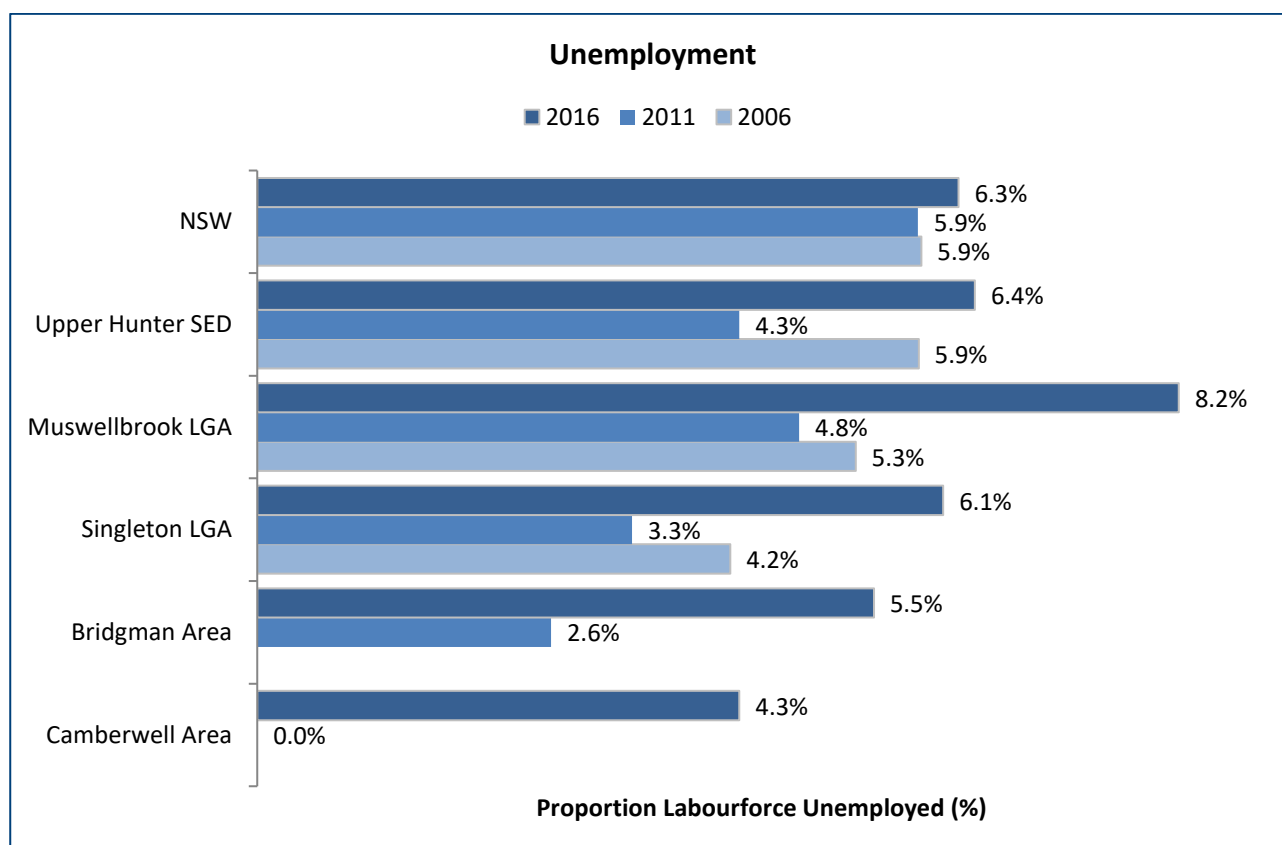


Figure 5.28 Proportion of population unemployed (2016)

Source: ABS Census (2016) – Community Profiles

In the Singleton and Muswellbrook LGAs there have been large variations in the unemployment rates, with June 2014 marking the beginning of a sharp increase in unemployment rates in the area (refer to **Figure 5.29** and **Figure 5.30**). Unemployment rates peaked in December 2015 at 7.2% in Singleton LGA and 13% in Muswellbrook LGA. This has since dropped and appears to be stabilising around 4% in Singleton LGA and 6% in Muswellbrook LGA. Prior to the sharp increase Singleton and Muswellbrook's unemployment rate was around 2.5% and 3.5% respectively.

As reflected in **Figure 5.29** and **Figure 5.30**, considering the unemployment rate coupled with the work force participation numbers and unemployment numbers, we can see that the sharp unemployment rate increase occurred as a result of a decrease in the labour force, and an increase in the numbers of unemployed. In late 2017 to June 2018 there is an increase evident in both labour force participation and unemployed persons.

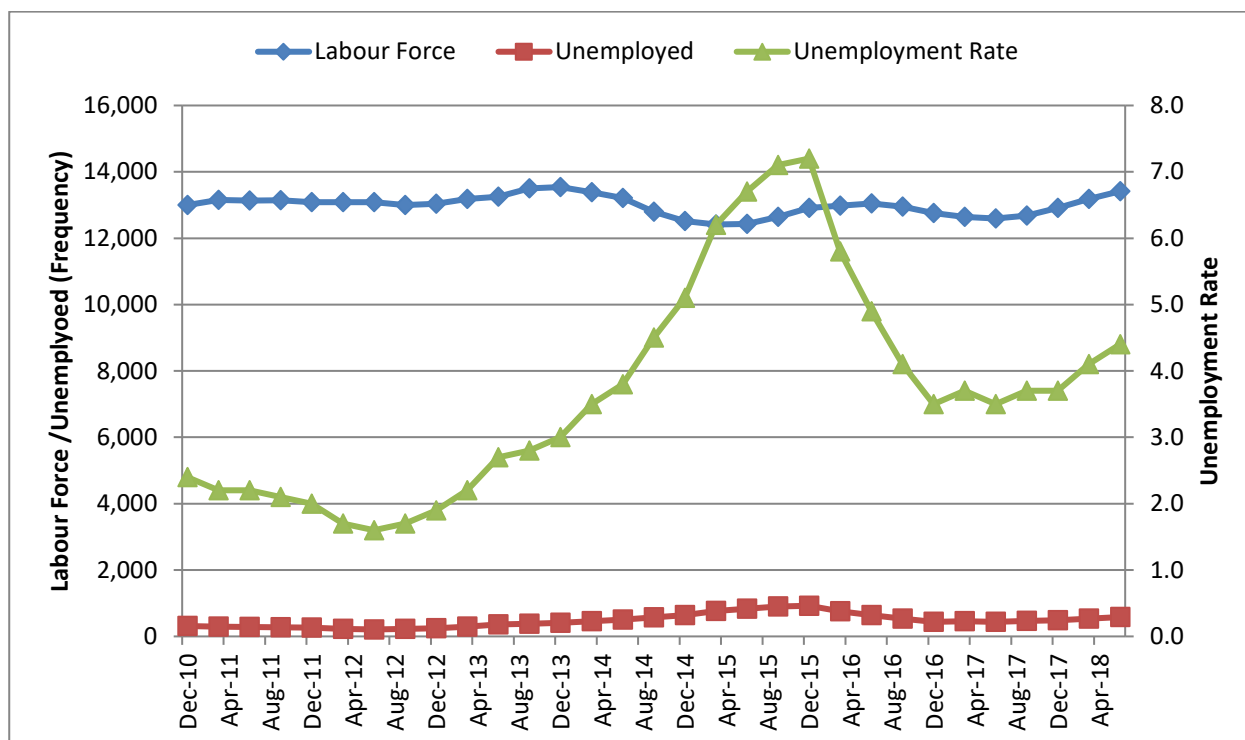


Figure 5.29 Singleton LGA Unemployment rate December 2010 through to June 2018

Source: Small Area Labour Markets, Department of Jobs and Small Business, Australian Government (2018)

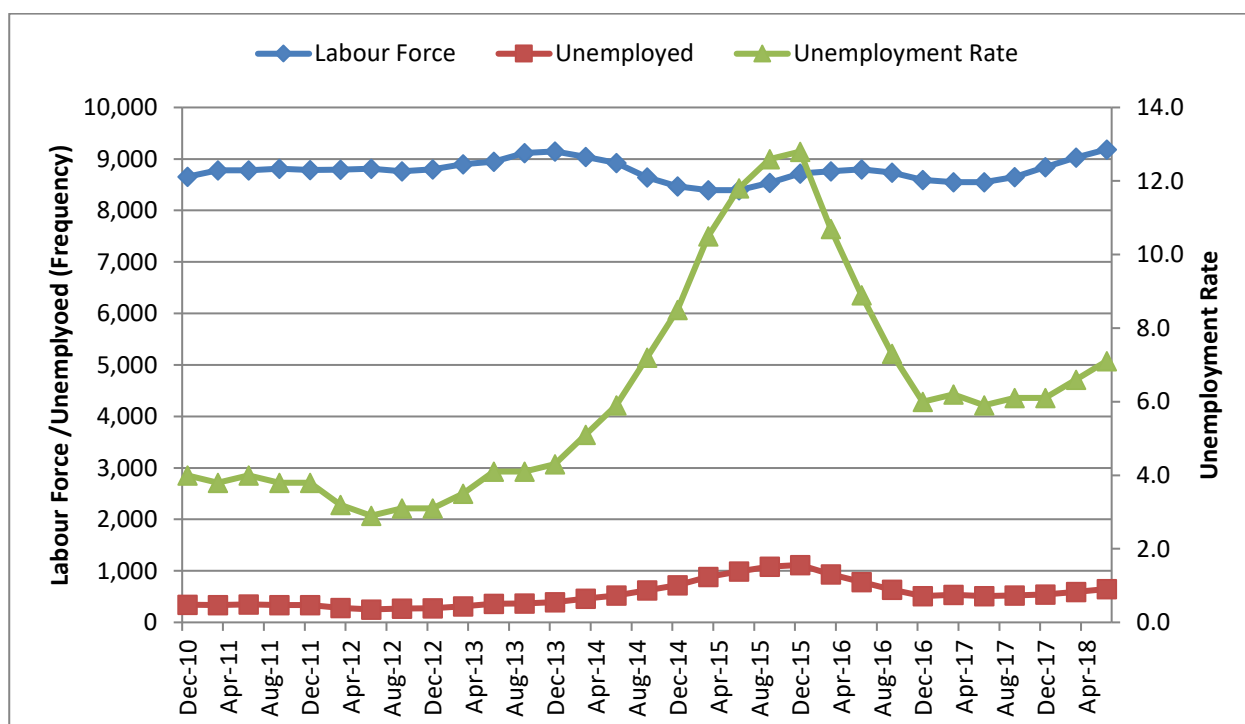


Figure 5.30 Muswellbrook LGA Unemployment rate December 2010 through to June 2018

Source: Small Area Labour Markets, Department of Jobs and Small Business, Australian Government (2018)

Economic diversity - key industries and occupations

Mining is the most prominent industry in the Singleton LGA is by a significant margin making up 22% of the workforce. As mentioned in **Section 5.3.3**, coal mining has been a major industry in the area since the 1950s. According to the Singleton Community Strategic Plan 2017-2027, there are around 20 coal mines operating in the Singleton LGA which produce approximately 57 Mt of coal annually.

Some of the key directions outlined in the Strategic Plan were the communities' desire to transition from a mining-based economy, and to have a diverse range of local jobs.

Due to the presence of the viticulture in Singleton LGA, state of the art vineyards and wineries are a major tourist attraction to the area. The next largest industries, the retail industry and accommodation and food services, help support the tourism in the area.

Singleton's next largest industry is the health care and social assistance. Further discussion on the numerous health facilities in the Singleton LGA are outlined in **Section 5.5.8**.

The Herfindahl index is a measure of homogeneity/diversity and is used to measure economic diversity. It is calculated as the sum of squares of proportional employment within detailed industry sectors, using ABS INDP4 data (with an index closer to 1 indicating less economic diversity). The Herfindahl index for the Singleton LGA is 0.061, indicating lower levels of economic diversity than the Muswellbrook LGA (0.054), Upper Hunter SED (0.031) and NSW (0.0092) as the score is closer to 1.

All study areas have considerably less industry diversification than the Upper Hunter SED and NSW with Hebden, Camberwell SSC, Glennies Creek and Middle Falbrook exhibiting much lower economic diversification (0.556, 0.352, 0.337 and 0.285 respectively). All these study areas have a higher proportion of industry invested in coal mining compared to NSW.

Table 5.15 Herfindahl index of industrial diversity

	Camberwell SSC	Glennies Creek SSC	Hebden SSC	Middle Falbrook SSC	Singleton LGA	Muswellbrook LGA	Upper Hunter	NSW
Herfindahl Index	0.337	0.352	0.556	0.285	0.061	0.054	0.031	0.009

Note: Falbrook and Ravensworth displayed no industries of employment and were therefor excluded.

However, index scores for Camberwell SSC, Glennies Creek, Hebden and Middle Falbrook should be interpreted with caution; given they are small communities and only have a small number of different industries of employment. Given these small sample sizes, counts for each industry have been randomly adjusted by the ABS for confidentiality. Herfindahl scores can be more robustly interpreted at an LGA level.

Mining was the top industry of employment across all study areas, LGA's and the Upper Hunter SED. In comparison to NSW, it is evident that the mining industry is a dominant force across all of the study communities and the Upper Hunter as a whole. Falbrook has the largest proportion of employment in mining (50%), followed by Hebden (45.5%) and Middle Falbrook (31.9%). This is also reflected at the SA1 level where coal mining was the largest industry of employment for both areas, the Camberwell Area (41%) and the Bridgman Area (29.4%).

As will be discussed further in **Section 5.6**, increasing economic diversity in the Upper Hunter and the Singleton LGA is a key challenge faced by the NSW Government and the Singleton Council. The Strategic Regional Land Use Plan Upper Hunter (2012) suggests that the dominance of the mining industry (including related industries) places pressure on other industries including the thoroughbred and viticulture industries which have to compete for land, labour and wages. It should be noted that at the time of release Council's Strategic Regional Land Use Plan Upper Hunter (p.22, 2012) stated that of the Upper Hunter region "13.9% of the region comprises an available coal resource overlain by strategic agricultural land (4.4% open cut; 9.5% underground) while 16.5% of the region comprises a coal seam gas resource overlain by strategic agricultural land", suggesting that mining doesn't necessarily compete for land, as much as it does for labour and wages.

Table 5.16 Top industry of employment (2016)

	Camberwell SSC	Falbrook SSC	Glennies Creek SSC	Hebden SSC	Middle Falbrook SSC	Singleton LGA	Muswellbrook LGA	Upper Hunter SED	NSW
Top industry of employment	Mining (25%)	Mining (50%)	Mining (21.1%)	Mining (45%)	Mining (31.9%)	Mining (23.4%)	Mining (21.9%)	Mining (15.4%)	Health Care and Social Assistance (12.5%)

Source: ABS Census Community Profiles - 2016

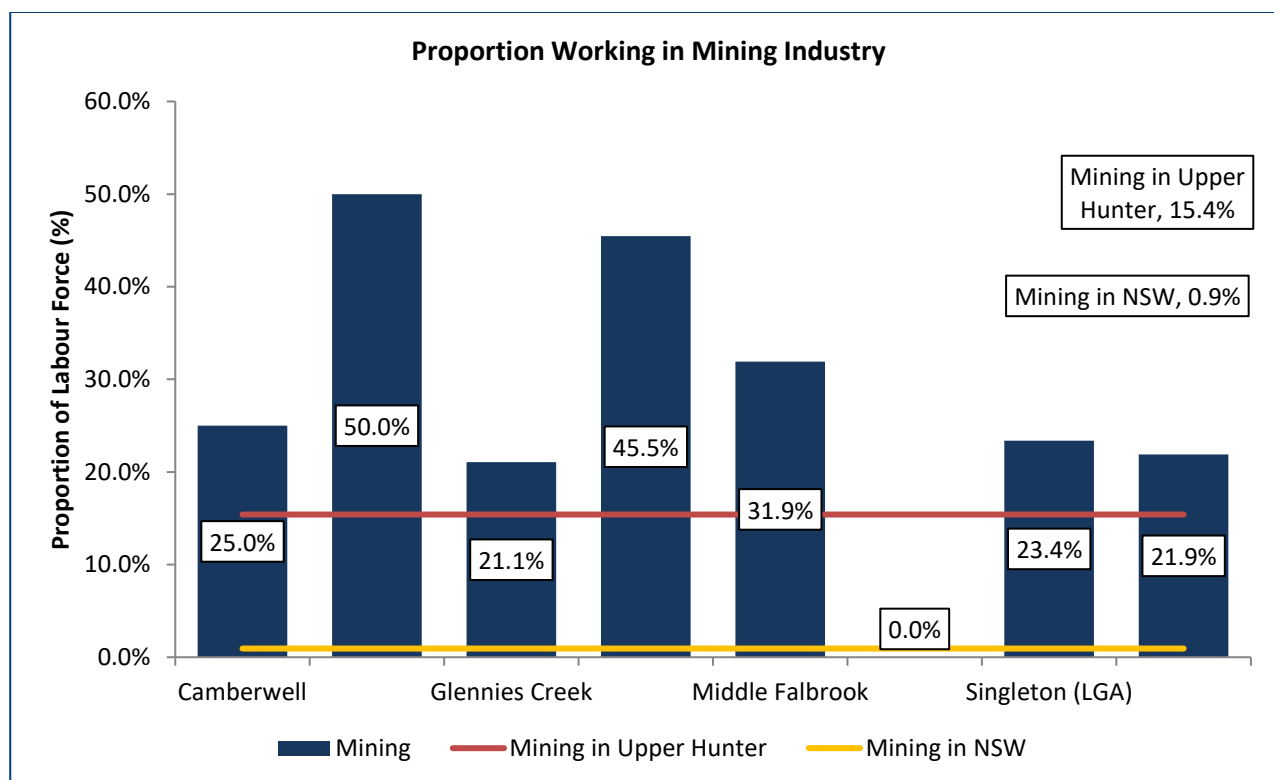


Figure 5.31 Proportion of workforce employed in mining

Source: ABS Census (2016) – Community Profiles

The top occupations for the Upper Hunter SED, Singleton LGA and Muswellbrook LGA particularly centre on both technicians and trades workers, and machinery operators and drivers. For study communities Camberwell SSC, Falbrook, Glennies Creek and Middle Falbrook most people work as machinery operators and drivers. Ravensworth and Glennies Creek also had a significant portion of its population working as labourers (refer to **Table 5.17**).

The emphasis on the occupations of machinery operators and drivers, technicians and trades workers, and labourers is also accentuated at the SA1 level. Both the Camberwell Area and the Bridgman Area have machinery operators and drivers (26% and 22%) as one of their top occupations. The Camberwell Area also has a high proportion of labourers (31%), whereas technicians and trades workers (21%) are prominent in the Bridgman Area.

The data from the ABS shows that the industry where the majority of the technicians and trades workers, machinery operators and drivers are working in the within the Singleton LGA is in mining. A large proportion of labourers and managers are also employed in the accommodation and food services, and agriculture, forestry and fishing industry respectively (refer to **Table 5.18**).

Table 5.17 Top three occupations (2016)

	Camberwell SSC	Falbrook SSC	Glennies Creek SSC	Hebden SSC	Middle Falbrook SSC	SA1 - Camberwell Area	SA1 - Bridgman Area	Singleton LGA	Muswellbrook LGA	Upper Hunter SED	NSW
Top 3 Occupations	Machinery Operators and Drivers (46%)	Machinery Operators and Drivers (38%)	Machinery Operators and Drivers (37%)	Managers (27%)	Machinery Operators and Drivers (28%)	Labourers (31%)	Machinery Operators and Drivers (22%)	Technicians and Trades Workers (18%)	Technicians and Trades Workers (20%)	Technicians and Trades Workers (18%)	Professionals (24%)
	Labourers (25%)	-	Labourers (37%)	Technicians and Trades Workers (23%)	Managers (19%)	Machinery Operators and Drivers (26%)	Technicians and Trades Workers (21%)	Machinery Operators and Drivers (17%)	Machinery Operators and Drivers (18%)	Machinery Operators and Drivers (15%)	Clerical and Administrative Workers (14%)
	Technicians and Trades Workers (14%)	-	Professionals (16%)	Machinery Operators and Drivers (18%)	Technicians and Trades Workers (17%)	Managers/Community and Personal Service Workers (9.8%)	Managers (17%)	Professionals (12%)	Labourers (13%)	Managers (14%)	Managers (14%)

Source: ABS Census, Community Profiles

Table 5.18 Singleton LGA occupations by industry of employment (2016)

Occupation by Industry of Employment (%)	Occupation (%)								
	Managers	Professionals	Technicians and trades workers	Community and personal service workers	Clerical and administrative workers	Sales workers	Machinery operators and drivers	Labourers	Total
Agriculture, Forestry and Fishing	21%	1%	1%	0%	2%	0%	1%	8%	4%
Mining	15%	21%	33%	1%	12%	1%	64%	4%	23%
Manufacturing	6%	3%	6%	0%	4%	5%	4%	8%	5%
Electricity, Gas, Water and Waste Services	2%	3%	7%	0%	3%	0%	2%	1%	3%
Construction	6%	1%	13%	0%	7%	1%	6%	12%	6%
Wholesale Trade	2%	1%	4%	0%	3%	5%	2%	1%	2%
Retail Trade	9%	1%	3%	1%	3%	55%	1%	9%	7%
Accommodation and Food Services	9%	1%	4%	20%	3%	16%	1%	18%	8%
Transport, Postal and Warehousing	3%	1%	1%	0%	7%	1%	8%	2%	3%
Information Media and Telecommunications	0%	1%	1%	0%	0%	1%	0%	0%	0%
Financial and Insurance Services	1%	2%	0%	0%	6%	1%	0%	0%	1%
Rental, Hiring and Real Estate Services	1%	0%	1%	0%	3%	8%	1%	1%	1%
Professional, Scientific and Technical Services	3%	8%	3%	0%	7%	1%	0%	2%	3%
Administrative and Support Services	2%	2%	1%	2%	6%	1%	5%	17%	4%
Public Administration and Safety	7%	7%	1%	30%	8%	0%	1%	2%	7%
Education and Training	3%	26%	1%	12%	6%	0%	1%	1%	6%
Health Care and Social Assistance	3%	20%	1%	26%	10%	1%	0%	3%	8%
Arts and Recreation Services	1%	1%	0%	3%	1%	0%	0%	1%	1%
Other Services	2%	1%	14%	3%	5%	1%	1%	4%	4%
Inadequately described/Not stated	4%	1%	4%	1%	5%	3%	2%	4%	4%

Source: ABS Census, Community Profiles

5.5.7.2 Income, spending and cost of living

Housing stress in Singleton LGA is low when compared to both Muswellbrook and NSW, with only 24.9% of low-income households¹⁸ in Singleton LGA reporting to be under financial stress, as opposed to 30.9% in Muswellbrook and 29.3% in NSW (ABS, 2016) (refer to **Table 5.14**).

Government assistance in the form the pension (PHIDU, 2017) and unemployment benefits (PHIDU, 2017) is being accessed by a larger proportion of people in Muswellbrook LGA (7.3%) than in NSW (3.8%). The proportion of people receiving an unemployment benefit long-term (longer than 6 months) is also higher in Singleton LGA than NSW (4.8% and 3.8% respectively).

Across the study communities, median weekly household incomes in 2016 are highest in Hebden (\$2,374 per week) followed by Middle Falbrook (\$1,875 per week). All the remaining study suburbs fall below the NSW median of \$1,486. Glennies Creek is relatively low at \$1,291, which is reflected in the Camberwell Area where median household income sits as \$1,286 per week. The Camberwell Area has seen a significant decrease between 2011 to 2016 from \$1,718 to \$1,286 respectively.

Conversely, median household income has increased in the Bridgman Area from \$1,362 in 2011 to \$1,792 in 2016. This has contributed to the overall effect of a slight increase across the Singleton LGA, rising from \$1,663 in 2011 to \$1,682 in 2016 – higher than the NSW average in both instances.

Figure 5.34 and **Figure 5.35** indicate that median rent in all study communities is below the NSW figure of \$380 per week, with the highest reported in Falbrook at \$320, followed by \$310 in Middle Falbrook. Lowest median rents are within Camberwell at \$200 per week.

Median rent in Singleton LGA has increased at a similar rate to Muswellbrook LGA and the Upper Hunter SED with median rent prices in Singleton LGA increasing from \$150 to \$280 in the 10 years between Census periods (2006-2016). The NSW average rent has seen more significant increases in the same time period, trending upwards from \$210 in 2006 to \$380 in 2016. While the Camberwell Area has a significantly lower cost of rent (\$200) than all other study areas, SA1 Bridgman Area has the highest (\$315) – almost comparable with the NSW average (\$380). Camberwell is a community surrounded by mines with a lack of access to town water and other services, this may attribute to the lower cost of rent.

According to PropertyValue.com (2019), based on the last 12 months median rent in Singleton LGA is \$355 per week. Furthermore, NSW Government data (presented using the online analytics application Tableau Public, 2019), reported median rent for the September 2018 quarter was \$360, showing an increase in median rent from \$280 in 2016 (ABS 2016) to approximately \$360 in 2018. However, as these prices are from different sources it is difficult to determine the parameters used or methods of data collection are comparable.

As illustrated in **Figure 5.37**, median monthly mortgage repayments greatly increased across all study areas between 2006 to 2011 and then remained stable from 2011 to 2016.

The highest mortgage repayments for 2016 were in Middle Falbrook (\$2,251 per month which is above the NSW average of \$1,986. Again, this is representative of SA1 Bridgman Area where median mortgage repayments were at \$2,167 in 2016 – increased from \$1,854 in 2011.

In contrast, the Camberwell Area had very high repayments in 2011 (\$2,400), well above the NSW average. However, this decreased significantly to \$1,733 per month in 2016.

¹⁸ As defined by the ABS: Households in bottom 40% of income distribution.

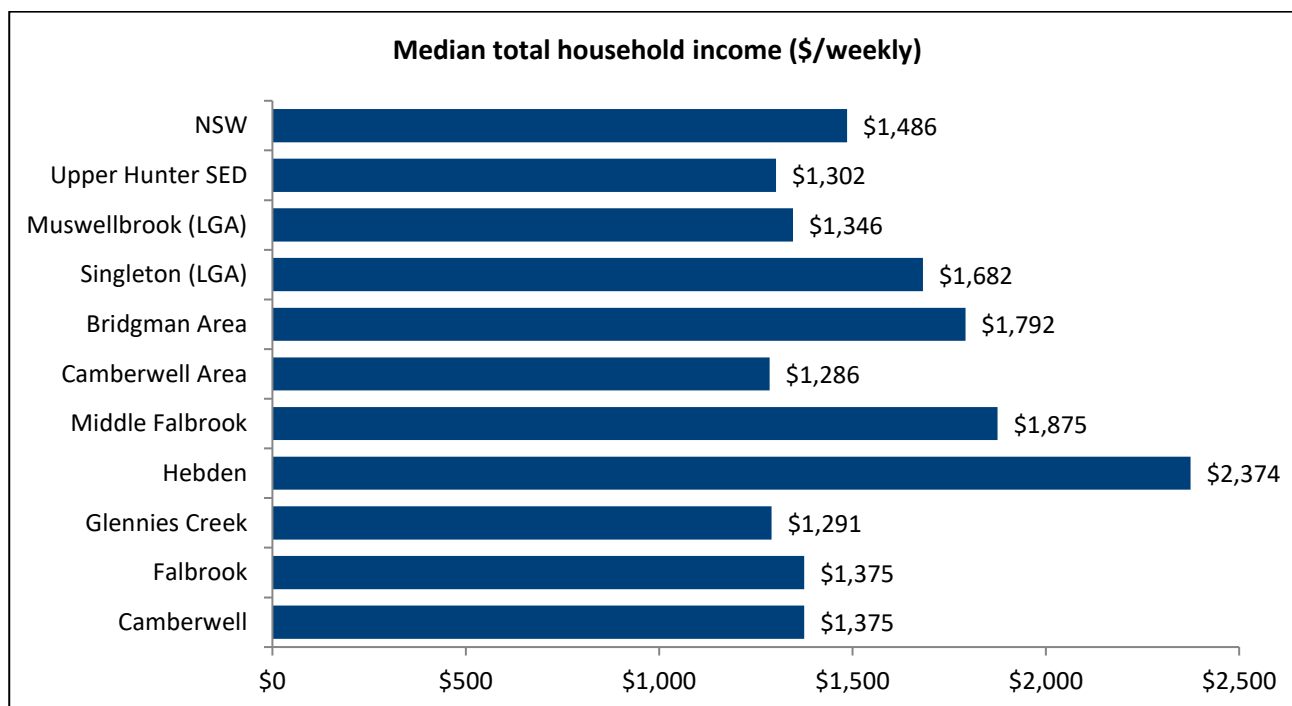


Figure 5.32 Median total household income (2016)

Source: ABS Census (2016) – Community Profiles

Note: Data for Ravensworth was removed as it was poorly reflective due to extremely low samples sizes.

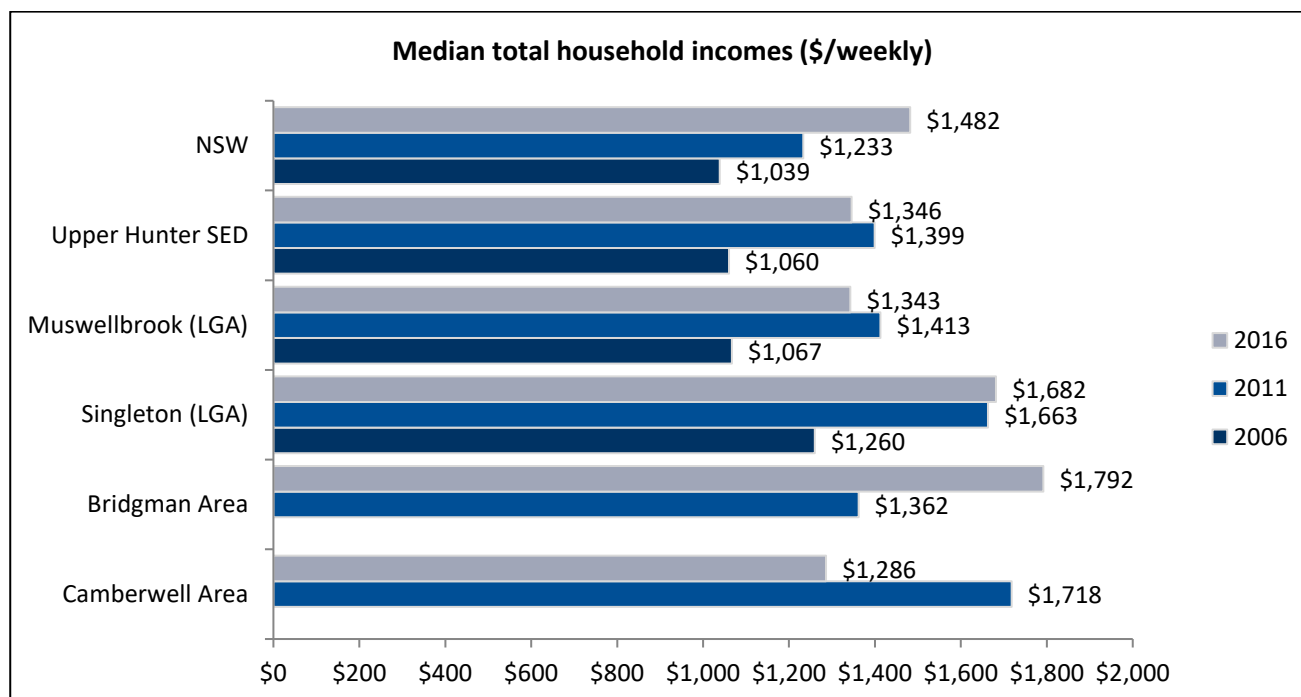


Figure 5.33 Median total household income (2006, 2011, 2016)

Source: ABS Census (2016) – Community Profiles

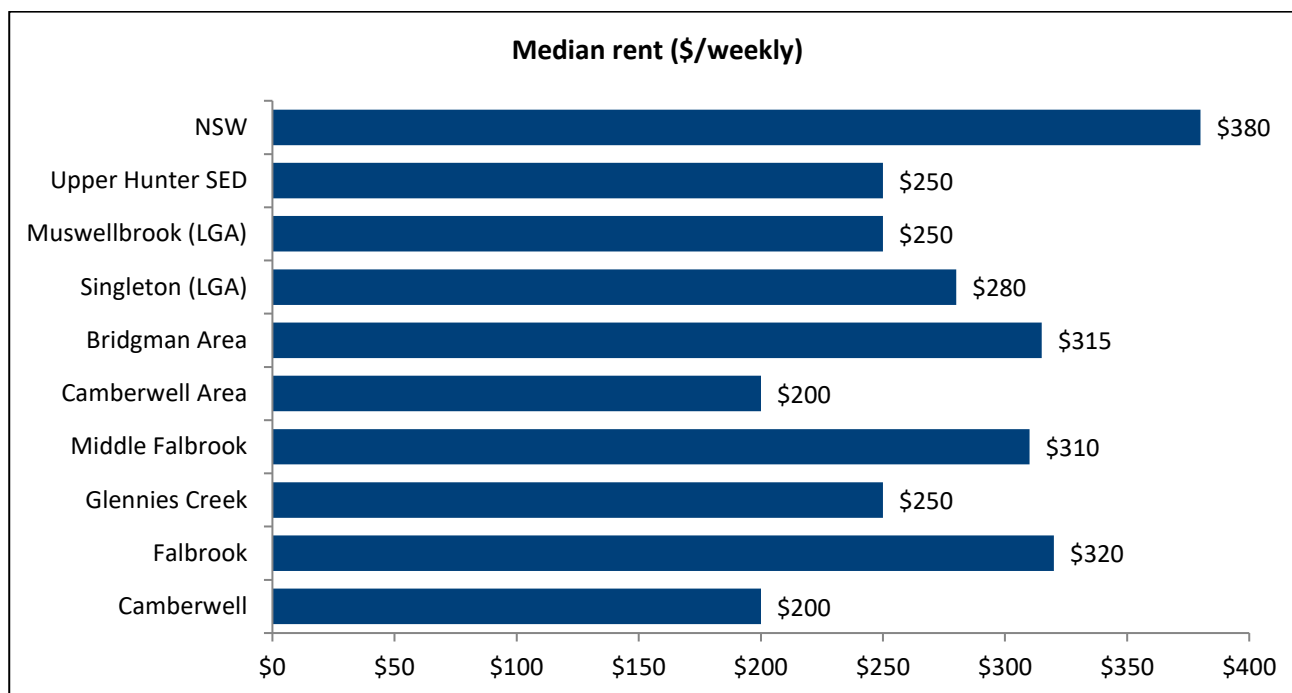


Figure 5.34 Median weekly rent (2016)

Source: ABS Census (2016) – Community Profiles

Note: Data for Hebden and Ravensworth were removed as it was poorly reflective due to extremely low samples sizes.

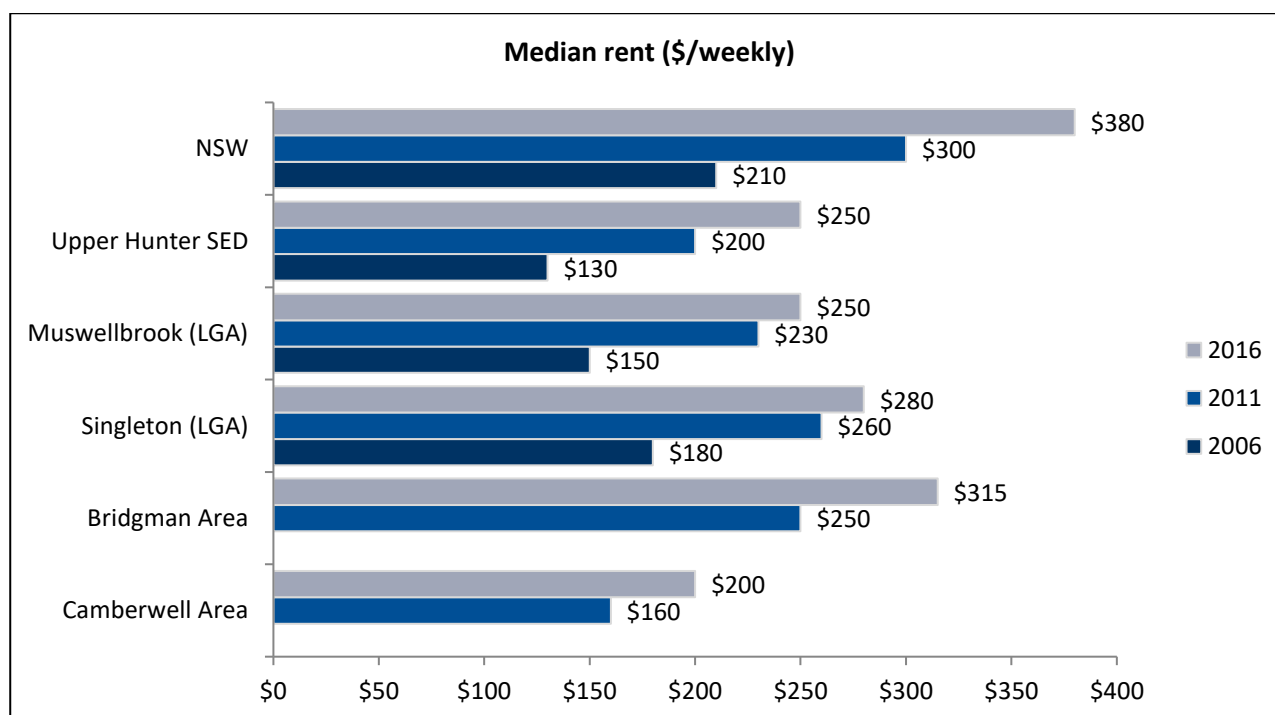


Figure 5.35 Median weekly rent (2006, 2011, 2016)

Source: ABS Census (2016) – Community Profiles

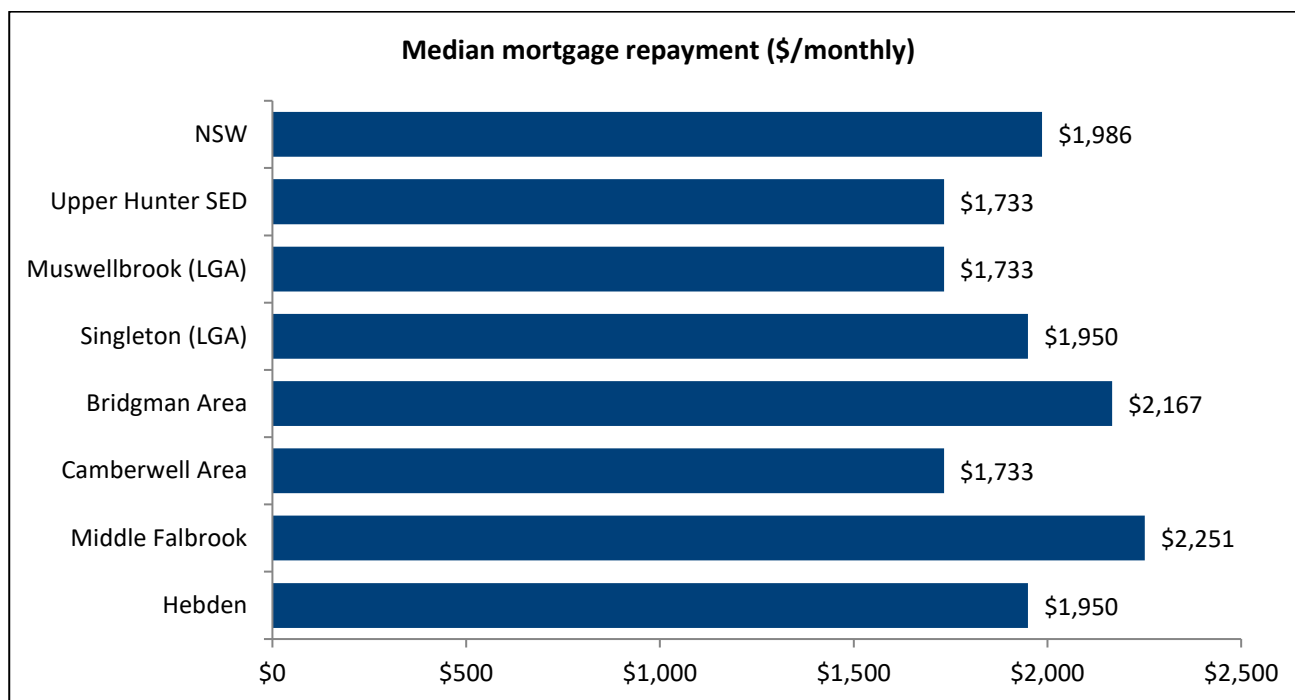


Figure 5.36 Median mortgage repayment (2016)

Source: ABS Census (2016) – Community Profiles

Note: Data for Camberwell SSC, Falbrook, Glennies Creek and Ravensworth were removed as it was poorly reflective due to extremely low samples sizes.

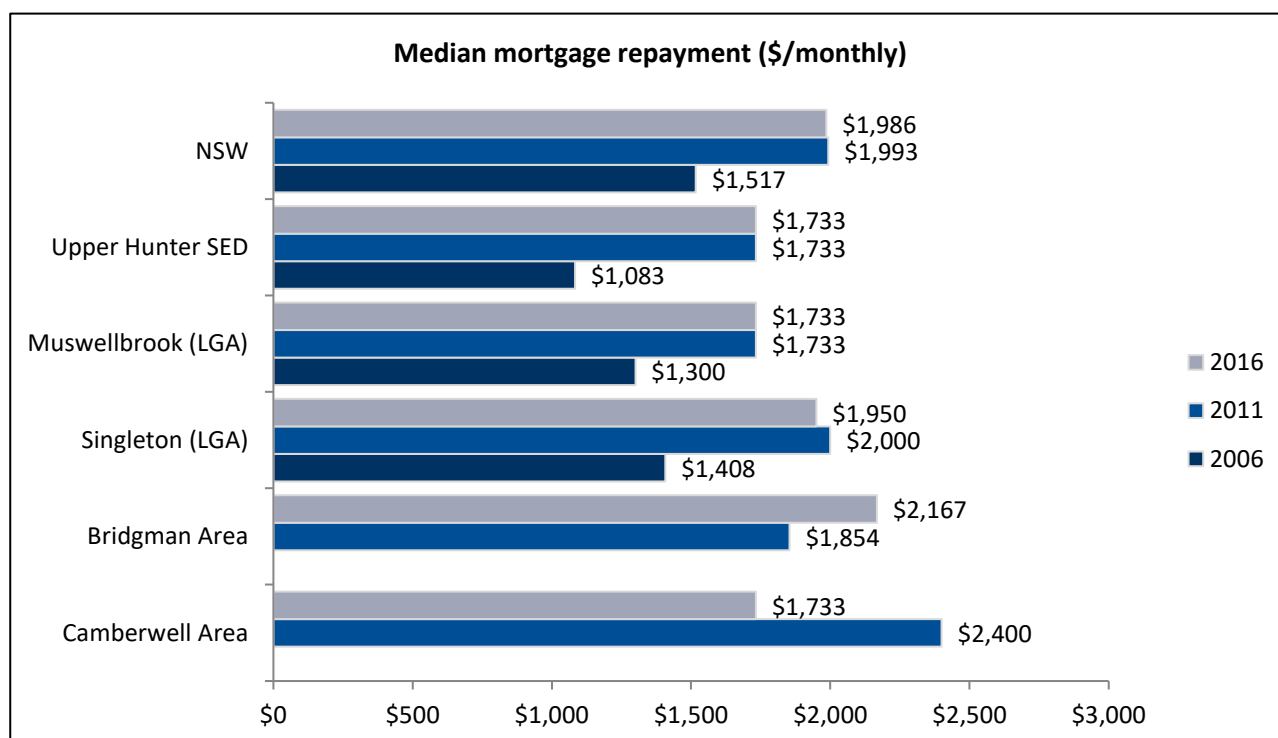


Figure 5.37 Median mortgage repayment (2006, 2011, 2016)

Source: ABS Census (2016) – Community Profiles

5.5.7.3 Local business profile

Analysis of local businesses present in the Singleton LGA highlights that as of June 2017:

- The largest numbers of businesses were agriculture, forestry and fishing industry related followed by construction (refer to **Table 5.19**).
- Most businesses in the LGA are non-employing (have no employees), followed by businesses with 1-4 employees (refer to **Figure 5.39**).
- Most businesses had a turnover of \$50,000 to less than \$200,000 annually (34%) or \$200,000 to less than \$2 M annually (31%).

Only 13 out of the total 1979 businesses in the Singleton LGA were engaged in mining, despite the industry contributing to over half, or approximately \$5.637 billion to the Singleton region in gross revenue (refer to **Figure 5.38**). This is followed by the construction industry at \$570.897 M (REMPAN, 2019).

Table 5.19 Number of businesses by industry in Singleton LGA

Industry	Count
Agriculture, Forestry and Fishing	523
Construction	247
Rental, Hiring, & Real Estate Services	171
Other services	145
Professional Scientific & Technical Services	143
Transport, Postal and Warehousing	112
Financial and insurance services	107
Retail trade	99
Manufacturing	92
Accommodation and food services	80
Administrative and support services	72
Health care and social assistance	56
Wholesale trade	42
Education and training	29
Currently unknown	18
Arts and recreation services	14
Mining	13
Information media and telecommunications	6
Electricity, Gas, Water & Waste Services	3
Public administration and safety	3
Number of Businesses by Industry - Total	1979

Source: ABS 2018, 8165.0 - Counts of Australian Businesses, including Entries and Exits, Jun 2013 to Jun 2017;

Available <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/8165.0Jun+2013+to+Jun+2017>

Industry	Output
Mining	\$5,637.247 M
Manufacturing	\$570.897 M
Construction	\$491.306 M
Rental, Hiring & Real Estate Services	\$406.202 M
Public Administration & Safety	\$398.463 M
Administrative & Support Services	\$239.495 M
Wholesale Trade	\$150.760 M
Agriculture, Forestry & Fishing	\$141.351 M
Accommodation & Food Services	\$136.557 M
Electricity, Gas, Water & Waste Services	\$130.609 M
Other Services	\$111.304 M
Retail Trade	\$111.278 M
Health Care & Social Assistance	\$105.243 M
Transport, Postal & Warehousing	\$102.901 M
Education & Training	\$99.319 M
Professional, Scientific & Technical Services	\$94.849 M
Financial & Insurance Services	\$90.338 M
Information Media & Telecommunications	\$28.380 M
Arts & Recreation Services	\$12.348 M
Total	\$9,058.848 M

Figure 5.38 Singleton LGA gross revenue (output) by industry

Source: Singleton Council REMPLAN 2019, ABS 2016;

Available at: <https://www.economyprofile.com.au/singleton/industries/output>

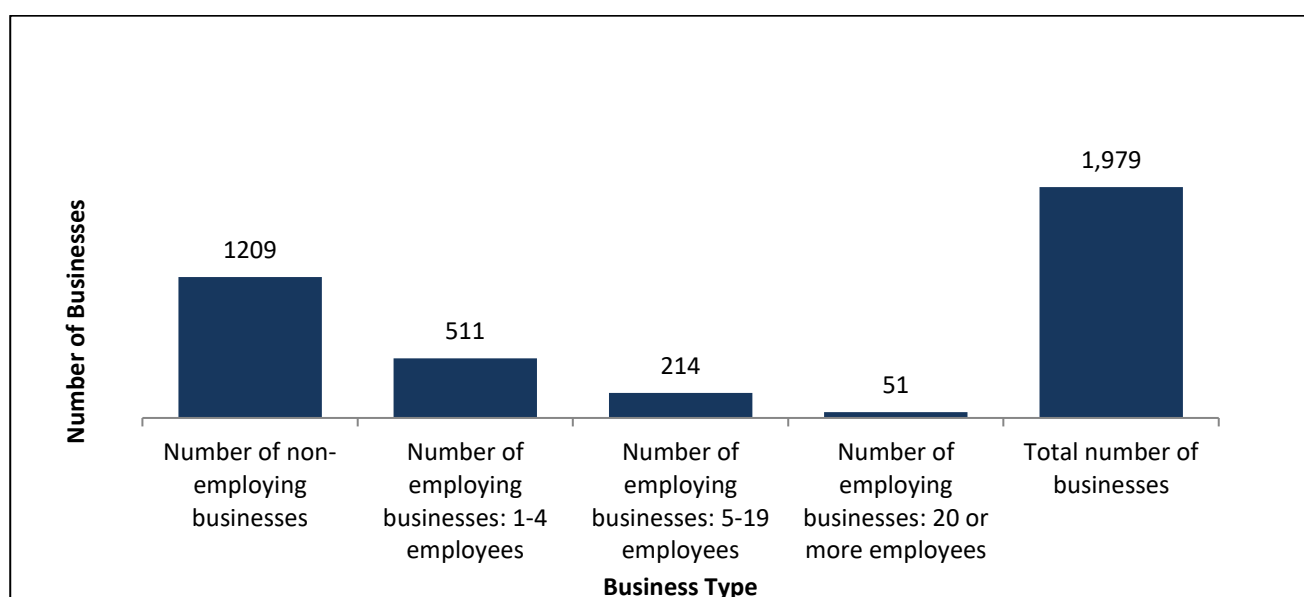


Figure 5.39 Singleton LGA business employment types

Source: ABS Census (2016) – Local Community Profiles

5.5.7.4 Economic capital summary

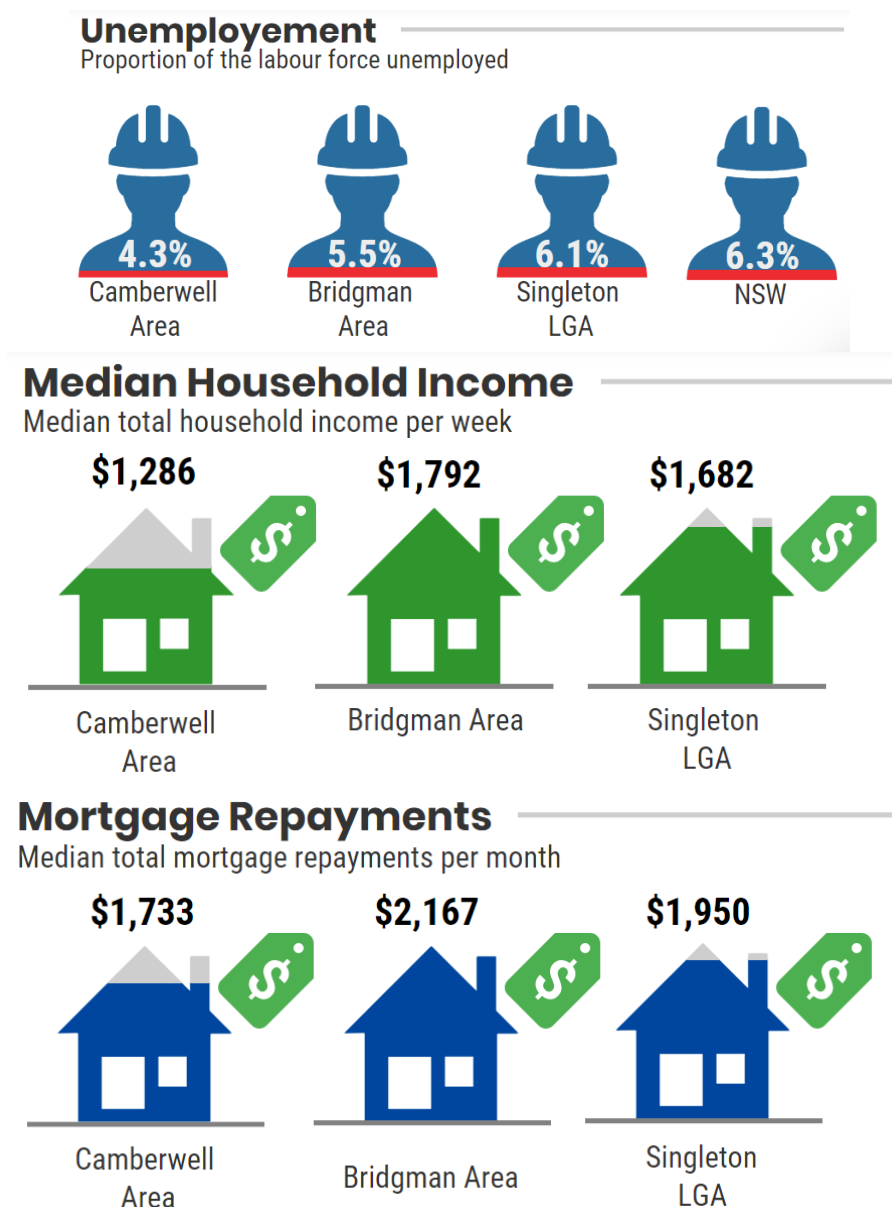


Figure 5.40 Economic capital summary

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Unemployment rates varied across the communities with both the Camberwell Area and Bridgman Area, and Singleton and Muswellbrook LGA's experiencing large increases in unemployment from 2011 to 2016. However, Muswellbrook LGA is the only area to have higher unemployment rates than the NSW average.

Economic diversification is a key strategy for the Singleton Council and for the NSW State Government. Currently, the Singleton LGA is reliant on a number of key industries, with most of the labour force employed in mining, primarily as technicians and tradespersons, machinery operators and managers (refer to **Section 5.5.7.1**).

Mining is the largest industry of employment for the Singleton region, followed by health care and social assistance. All of the study communities have significantly higher proportions of the workforce employed in mining than the state average. When compared to other industries, mining contributes the greatest revenue for Singleton LGA by a significant margin (REMPPLAN, 2019), highlighting the high economic dependence of the region on the industry.

Average incomes, mortgage and rental payments vary across the study communities with Middle Falbrook and Hebden having higher incomes and living expenses. The Camberwell Area has seen decreases to living expenses from 2011 to 2016, now falling below the NSW average. The cause for this change is not clear, however there is the potential that property acquisition as a result of mining in the area has had an impact on this. In contrast, there have been increases to living expenses in the Bridgman Area. These changes both correspond with decreases to household income in the Camberwell Area and increases for the Bridgman Area. The wider Singleton LGA has higher household incomes and mortgage than the stage average, although median weekly rent costs are lower.

The SEIFA Index Economic Resources (IER) reflects the economic resources of households within an area and includes variables such as household income, housing expenditure (e.g. rent) and wealth (e.g. home ownership). A low score indicates a relative lack of access to economic resources in general, while a high score indicates greater access to economic resources.

Based on this index, and given that the lowest scoring 10% of areas are given a decile of 1, and the highest a 10, the data indicates that:

- Singleton LGA has very high access to economic resources, falling in the 9th decile relative to all LGAs within NSW.
- This trend is reflected in the study communities of Middle Falbrook, Falbrook and Hebden which fall within the 8th, 8th and 7th deciles respectively. Conversely, Ravensworth, Camberwell SSC and Glennies Creek all fall within the 2nd decile, the lowest amongst the study areas.
- Comparatively, Muswellbrook LGA scored in the 3rd decile, indicative of a lower level of access to economic resources.

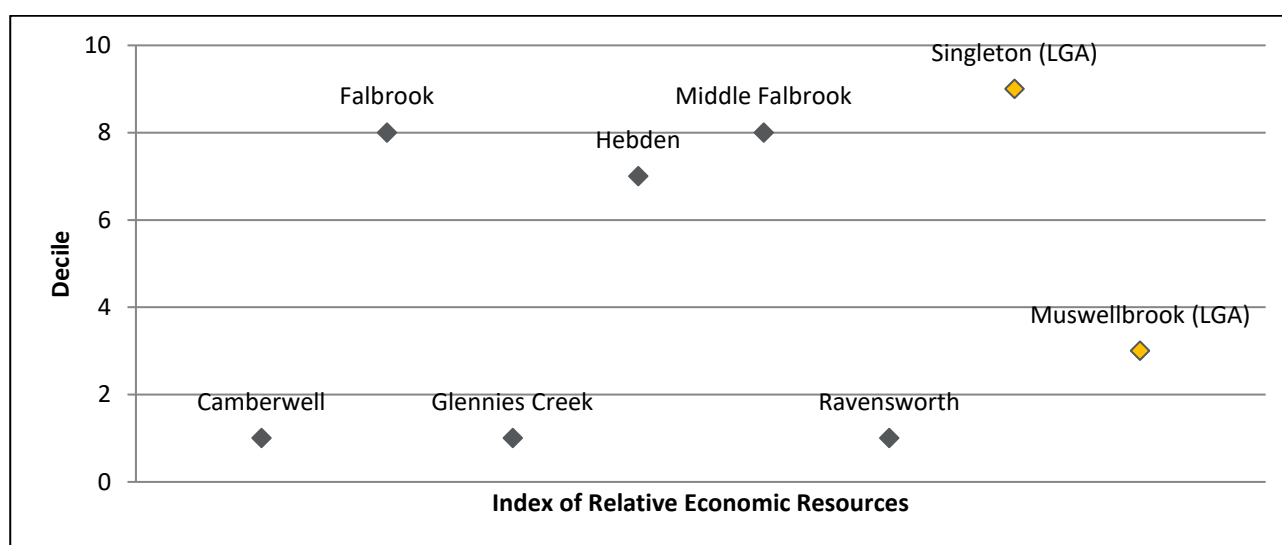


Figure 5.41 Index of relative economic resources

Source: ABS, SEIFA Indexes 2016

5.5.8 Physical capital

Within the Singleton LGA physical community assets include eight public schools, two private schools, a TAFE NSW campus, and a community college. The Singleton township also has a range of sporting amenities, retail centre, health facilities, childcare providers and a range of service clubs. Singleton Council also provides most of the public utilities, including water supply, town sewerage services, domestic general waste and recycling collection services while energy for the Singleton LGA is provided by Ausgrid (Singleton Council, 2013).

Within the local area, facilities include one school – Mount Pleasant Public School, two community halls (Glennies Creek and Hebden Halls), and two Rural Fire Service sites (Hebden and Glennies Creek). Hebden Hall was relocated and renovated with support from Glencore and is currently used for a regular play library session, as well as some functions and community activities. Glennies Creek Community Hall is currently not utilised. As one landowner noted:

“Neighbours have been bought out. There used to be functions at Glennies Creek Hall, but no longer.” - Landowner

Residents in the affected area generally access retail, health, secondary school and social services in Singleton, only travelling to Maitland or Newcastle to access specialist health services or to purchase other specialised equipment and services. ABS (2016) data that considers types of tenure indicate high rates of renting within the local areas of Camberwell SSC, Falbrook and Ravensworth (refer to **Section 5.5.7.2**), most likely due to the fact that many of the properties within the area are now owned by mining companies and then rented to residents.

Interview participants indicated that they enjoy living in the area because it is out of town and provides them with space, while being easily accessible to the township of Singleton and with good access to larger regional centres such as Maitland and Newcastle.

“It's all close here.” – Landowner

“I grew up on the land. It's important to have space around us.”

Table 5.20 provides a summary of the key physical capital indicators for Glendell with further discussion regarding these indicators provided in the subsequent sections.

Table 5.20 Summary of key physical capital indicators for surrounding state suburbs, Muswellbrook LGA, Upper Hunter SED and NSW

Indicator	Camberwell SSC	Falbrook SSC	Glennies Creek SSC	Hebden SSC	Middle Falbrook SSC	Ravensworth SSC	Singleton LGA	Muswellbrook LGA	Upper Hunter SED	NSW
Total Occupied Dwellings	28	12	20	9	34	3	7,741	5,764	26,906	2,590,230
Total Private Dwellings	28	12	22	13	36	4	8,706	6,831	31,688	2,889,057
Separate houses ¹⁹ (%)	100	100	100	100	100	100	88	88	91	66

¹⁹ As a proportion of total dwellings.

Indicator	Camberwell SSC	Falbrook SSC	Glennies Creek SSC	Hebden SSC	Middle Falbrook SSC	Ravensworth SSC	Singleton LGA	Muswellbrook LGA	Upper Hunter SED	NSW
Owned outright (%)	11	0	42	0	38	0	31	26	35	32
Owned with a Mortgage (%)	11	0	0	70	25	0	38	31	33	32
Rented (%)	67	100	58	30	38	100	28	39	29	32
Other Tenure Type (%)	0	0	0	0	0	0	1	1	1	1
Average People per Household	2.5	1.5	1.9	2.3	2.7	0	2.7	2.5	2.5	2.6
Number of people per bedroom (number)	0.6	0.7	0.5	0.7	0.8	0	0.8	0.8	0.8	0.9
Internet accessed from dwelling (%)	85	75	69	100	76	100	83	79	79	85
Travel to Work as a Driver (Car) (%)	82	100	58	45	77	0	70	72	68	58
Average number of motor vehicles per dwelling	1.8	1.3	1.6	3.2	2.0	1.0	1.9	1.7	1.8	1.6
Rent assistance from the Australian Government (2016) (%)	-	-	-	-	-	-	12.8	28.7	-	17.4
Overcrowding ²⁰	-	-	-	-	-	-	2.2	1.8	-	5

Source: ABS, PHIDU

5.5.8.1 Infrastructure and services

Physical or built capital includes provision of infrastructure and services to the community. Within this capital area, it is important to consider the type, quality and degree of access to public, built and community infrastructure (including amenities, services and utilities) and housing and accommodation.

Primary elements of physical capital have been assessed in relation to the Singleton LGA and include public amenities and utilities as well as built and transport infrastructure, each of which are summarised below in **Table 5.21**. It is important to note this is not an exhaustive list of all the services in the area.

²⁰ % Dwellings with one or more extra bedrooms needed (no.)

Table 5.21 Summary of services and infrastructure

Current Service Infrastructure	Singleton LGA
Community	<p>Colleen Gale Children's Service – long day care</p> <p>Mobile Preschool</p> <p>OOSH – Singleton</p> <p>Tillys play and development centre</p> <p>Skallywags Preschool</p> <p>Broke Community Hall</p> <p>Mount Olive Public Hall</p> <p>Civic Centre</p> <p>Singleton Visitors Information and Enterprise Centre</p> <p>Sacred Spaces Singleton</p> <p>Singleton Diggers</p> <p>Singleton Public Library</p> <p>Range of Churches (including St Luke's Anglican Church, United Church, All Saints Church in the Singleton area)</p>
Arts, Culture and History	<p>Singleton Historical Society & Museum Inc</p> <p>Australian Army Infantry Museum</p> <p>Infantry Museum – lone pine barracks</p> <p>Neotsfield</p> <p>St Clair Mission</p> <p>Baiaame Cave</p> <p>Monkey Place Creek</p> <p>Singleton Sundial</p>
Heritage Significance	<p>Numerous restored colonial buildings</p> <p>Homesteads: Ravensworth and Dulwich</p> <p>Hebden heritage buildings including Cedarvale (built in the 1900s) and the Old Owensfield homestead (circa 1860) which was used as the old school house</p> <p>Former Chain of Ponds Inn</p> <p>Ravensworth Public School</p>
Education	Refer to Section 5.5.5.5
Emergency Services/Policing	<p>Police Station (2)</p> <p>NSW Rural Fire Service</p> <p>Hunter Valley Fire Control Centre</p> <p>Fire and Rescue NSW Singleton Fire Station</p>
Local Businesses and Service Other Facilities	<p>Home to 3 shopping centres, retail and hospitality, big banks, building societies and health services</p> <p>Singleton Town Square</p> <p>Singleton Plaza</p> <p>Singleton Local Court</p> <p>Australia Post</p> <p>Lallybroch Galloway Stud – Westbrook Park</p> <p>Glenrae Thoroughbreds</p>

Current Service Infrastructure	Singleton LGA
Accommodation and Tourism	<p> Lake St Clair Campgrounds Singleton Rose Cottage Ascella Organic Wine Carr's Macadamia Farm Pty Ltd Milbrodale Lodge Elysium Vineyard & Cottage Serenity Grove Green Gables Lodge Whispering Brook Winery & Country House, Broke Starlin Alpacas Pemberly Grange Broke Estate Monkey Place Country House Maranda Country House Hunter Valley Luxury Accommodation Tinonee Vineyard Estate Rose Cottage Winmark Wines Rosamund and Rosa self-contained holiday houses Glen Eden cottages Cants Cottage Treefolly Olive Cottage Wyland Caravan Park Singleton Charbonnier Hotel Singleton Francis Phillip Motor Inn Country Motor Inn Singleton Royal Hotel-Motel Club House Hotel Imperial Hotel Caledonian Hotel Benjamin Singleton Motel Quest Singleton Singleton Caracourt Caravan Park Country Acres Caravan Park The Wattle Lodge </p>
Transport	Singleton Train Station

Current Service Infrastructure	Singleton LGA
Recreational Facilities/ Services	Eaglemont Country Retreat Mitchells Flat Recreational Club Singleton Gym and Swim Albion Park Allan Reserve Alroy Oval Broke Recreational Ground Civic Park Cook/Rose Point Park Howe Park Tennis Club Singleton Gold Club Jerrys Plains Pony Club Jim Johnstone Park Victoria Square YMCA Singleton Heights Sports Centre

Source: Umwelt, 2019

As highlighted in **Table 5.21**, Singleton has numerous sporting amenities, shopping centres and modern public amenities. It boasts good health facilities, a variety of church and religious presences and many active service clubs along with an abundance of facilities in which to pursue leisure and fitness activities. There are 32 established and maintained parks and reserves throughout Singleton and 20 playgrounds including an 'All Abilities Playground'. Lake St Clair provides an attractive setting for water-based activities, day tripping and camping and is located just north of Singleton (Singleton Council, 2019).

The Singleton Community strategic plan for 2017-2027 outlines some of the council's commitments to improve the physical amenities of the region. In particular, the desire to establish a university campus to service Singleton and the Upper Hunter, improvements to the connectivity and access to public transport, and upgrades and improvements to Singleton Hospital to cater for an aging community as well as a focus on attraction and retention of specialist health care.

Health

The Singleton LGA is serviced by one public hospital, multiple medical centres and GPs. Singleton Hospital is located in the heart of Singleton and provides access to medical specialists through their outreach program. Singleton Council aims to attract and retain more specialist health care to the region in order to provide better access for those with specialist needs.

All smaller health services are located in the Singleton Heights or Singleton area.

Locals from the study localities proximal to the mine interviewed during engagement activities stated that they access their health services predominantly in Singleton. Others accessed health services in Singleton Heights, and Muswellbrook, with almost a third of (5) people responding that they travel as far as Maitland or Newcastle for specialist care. Table 5.22 and Table 5.23 below outline the current health services and aged care facilities available in the region.

Table 5.22 Primary health and medical facilities

Location	Facility	Services
Singleton LGA	Singleton Hospital (Public)	Less than 50 bed allocations.
	Coal Services Health	Provides workplace health, includes: Medical practitioners, nurses, radiographers, exercise physiologists, occupational therapists, physiotherapists.
	Singleton Medical Centre & Skin Clinic	A general medical practitioner specialising in skin cancer treatments, excisions, vasectomies, circumcision, immunizations, medicals and work cover.
	Ungooroo	Mobile health service providing access to health services and GPs 3-4 days a week.
	Singleton Heights Medical Practice	Offers a range of services including general medicine, children's health, skin cancer checks, obstetric care, as well as health assessments.
	Dangar Medical Practice	General Practice care.
	Burdekin Park Medical Centre	General Practice care, offers minor surgical procedures, palliative care, anaesthetics, paediatrics etc.
	General Practitioners	32 GPs in the Singleton Area (ABS, 2016).
Muswellbrook LGA	Muswellbrook District Hospital (Public)	Between 50 and 99 beds. Units: Domiciliary care, emergency department, Hospice care, maintenance renal dialysis, obstetrics services, oncology.
	Denman Hospital (Public)	Less than 50 bed allocations. Units: Emergency department, Hospice care, Nursing home care.
	Brook Medical Centre	General Practice care, emergency treatment, obstetric care, surgical services.
	Denman Medical Centre	General Practice.

Source: MyHospitals, Umwelt (2019)

There are five aged care facilities located in Muswellbrook. These facilities provide services involving home care, transitional care for those coming out of hospital, respite care, and residential aged care. Mercy Aged Care Service has 44 beds, Calvary Cooinda Retirement Community has a 34 resident capacity offering single bedrooms and All Saints' Court Retirement Community has 24 two-bedroom villas and 6 one-bedroom villas.

Table 5.23 Aged care services

Location	Facility	Services
Singleton LGA	Mercy Aged Care Services	44 beds. Offers permanent residential accommodation, respite care, palliative care
	Ourcare Services Ltd.	Provides home care, centre-based day care, social support
	Calvary Cooinda Retirement Community	34 residents. Single rooms. Offers residential aged care and respite care for up to two weeks.
	Uniting Elizabeth Gates Singleton	Aged care home
	All Saints' Court Retirement Community	Twenty-four 2-bedroom villas and six 1-bedroom villas

Source: Umwelt, 2019

In 2016 Singleton LGA has an established aged care industry with 92.5 residential care places per 1,000 population aged 70 years and over (PHIDU, 2019). This is quite high when compared to Muswellbrook LGA (50 per 1,000) and NSW overall (83.4 per 1,000). However, as stated above, the improvement to the capacity of aged care remains a primary focus for Singleton Council given an aging population.

Table 5.24 Residential care places

Aged Care Facilities	Singleton LGA	Muswellbrook LGA	NSW
Residential care places per 1,000 population aged 70 years and over (2016)	92.5	50.0	83.4

Source: PHIDU, 2019

Public utilities and services

Services and utilities available to the public are of a good standard in Singleton, with some rural areas requiring additional initiatives to provide better access. Singleton Council has outlined a plan to deliver a potable water supply scheme for Bulga and Camberwell, and a number of actions and strategies to deal with waste such as a new kerbside waste management contract.

Housing

Reflective of the rural location, the majority of dwelling types are separate houses, particularly across the suburbs of interest (refer to **Figure 5.42**). As Singleton has grown, the proportion of free-standing separate houses has remained stable. The Strategic Regional Land Use Plan Upper Hunter (2012) also states that there is a need for more diverse housing options in the region particularly as there is a decreasing number of persons per household and a lack of private rentals to accommodate the mining workforce.

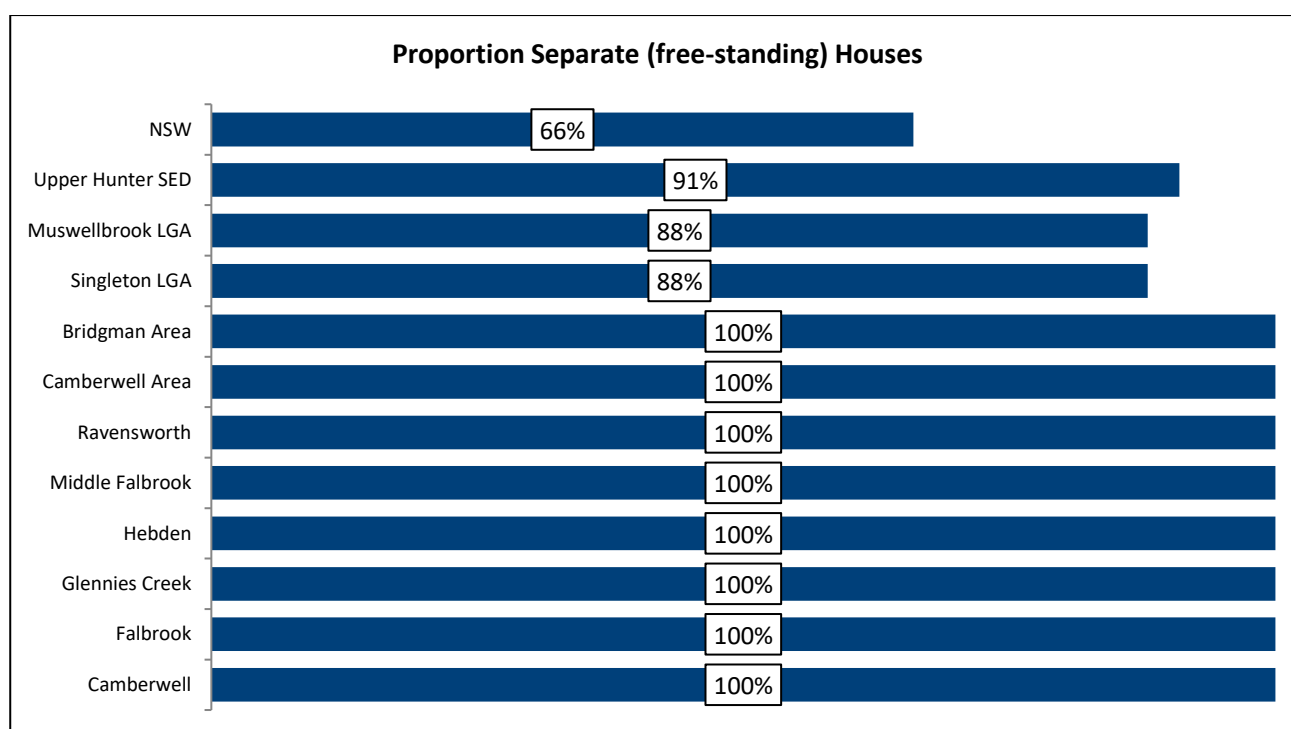


Figure 5.42 Separate houses as a proportion of dwelling type

Source: ABS Census (2016) – Community Profiles

Table 5.25 **Separate houses as a proportion of dwelling type**

Proportion of Occupied Private Dwellings That Are Separate (Free-Standing) Houses	2006	2011	2016
Camberwell	-	-	100
Falbrook	-	-	100
Glennies Creek	-	-	100
Hebden	-	-	100
Middle Falbrook	-	-	100
Ravensworth	-	-	100
Camberwell Area	-	100	100
Bridgman Area	-	100	100
Singleton LGA	88	89	88
Muswellbrook LGA	87	89	88
Upper Hunter SED	90	92	91
NSW	70	70	66

Source: ABS Census – community profiles (2006, 2011, 2016)

Property ownership types fluctuate dramatically across each of the study areas (refer to **Figure 5.43**). While Muswellbrook LGA proportionally has more occupied private dwellings that are rented, Singleton LGA's largest proportion is with dwellings that are owned with a mortgage.

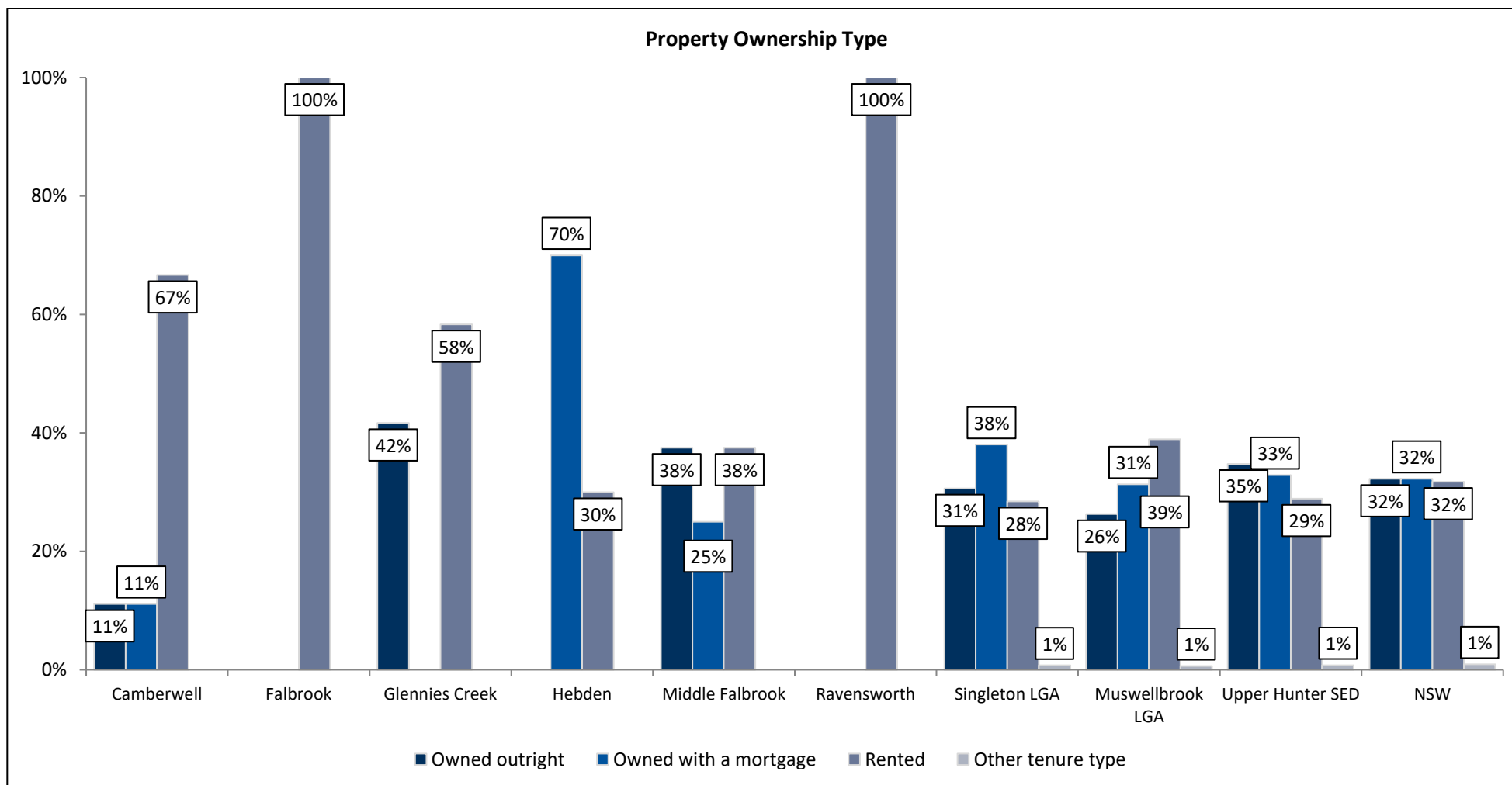


Figure 5.43 Property ownership types

Source: ABS Census (2016) – Community Profiles

A high proportion of rental properties are also found in Camberwell SSC, Falbrook, Glennies Creek, Middle Falbrook and Ravensworth. The suburb of Hebden has a substantial proportion of properties owned with a mortgage. It is important to note these may be subject to error due to low sample sizes.

Figure 5.44 compares the proportions of properties that were owned outright at the 2011 Census compared to 2016. Data at the SA1 level was used due to significant boundary changes at the suburb level making comparisons across Census periods unviable. The data indicates that while the proportion of properties owned outright in Singleton LGA remains comparable to the NSW average, there are vast differences between SA1's. From 2011 to 2016, the Camberwell Area saw a decrease in the already considerably low proportion of private dwellings owned outright. This differs from the Bridgman Area where the proportions have remained stable above the NSW average.

Proportions of properties owned with a mortgage have also seen a decrease across each of the study communities. Data for the Camberwell Area showed that there were considerably fewer private dwellings owned with a mortgage, with only 11% across both 2011 and 2016. Overall Singleton LGA saw a proportional decrease of approximately 2% from 2011 to 2016, and yet remained much higher than the NSW average (refer to **Figure 5.45**).

With the exception of the Bridgman area, all study areas had a proportional increase of private dwellings being rented. The largest proportional increase and the largest proportion of dwellings being rented were in the Camberwell Area, where there was an increase from 61% in 2011 to 64% in 2016. Although the increase is quite small, the proportion of dwellings being rented is well above the other study areas and the state average of 32% in 2016 (refer to **Figure 5.46**).

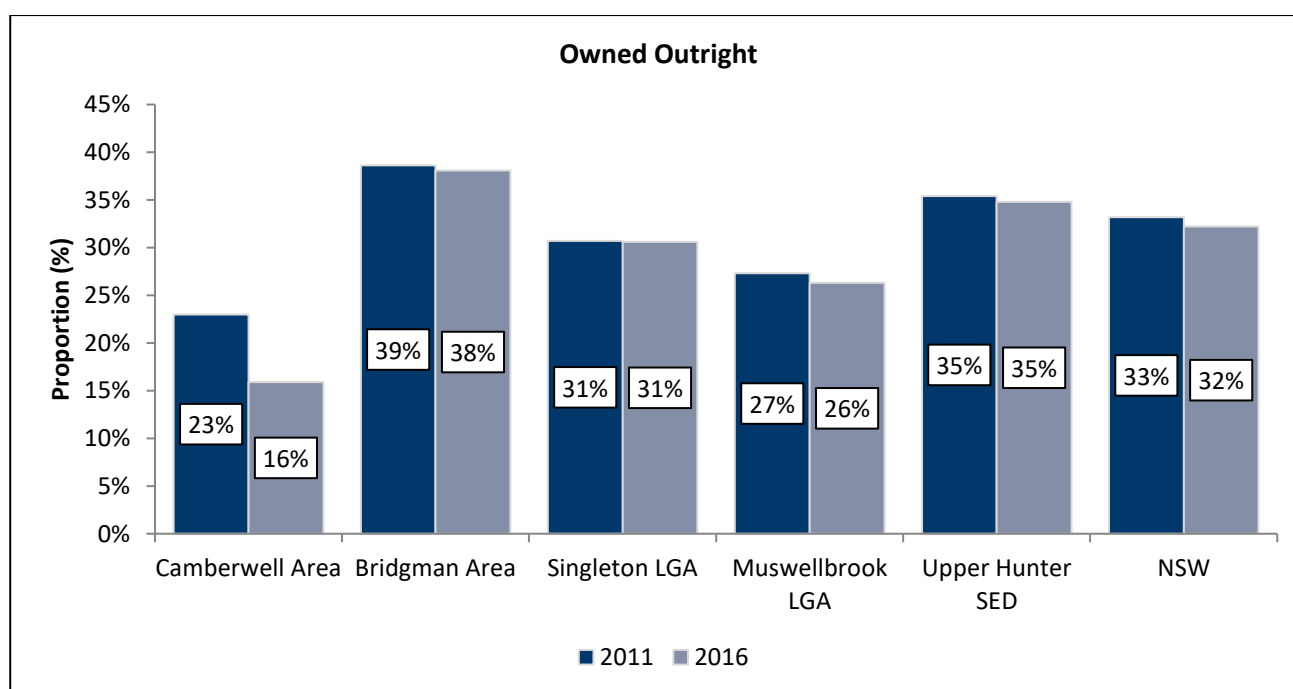


Figure 5.44 Properties owned outright (2011, 2016)

Source: ABS Census (2016) – Community Profiles

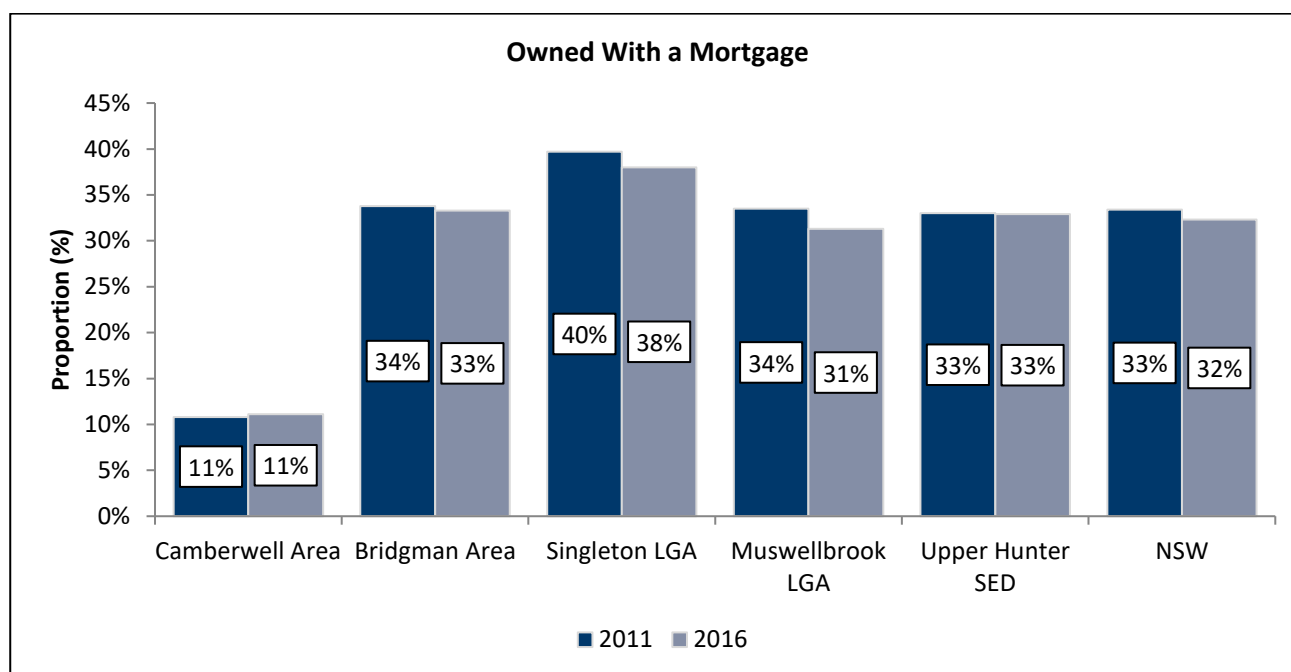


Figure 5.45 Properties owned with a mortgage (2011, 2016)

Source: ABS Census (2016) – Community Profiles

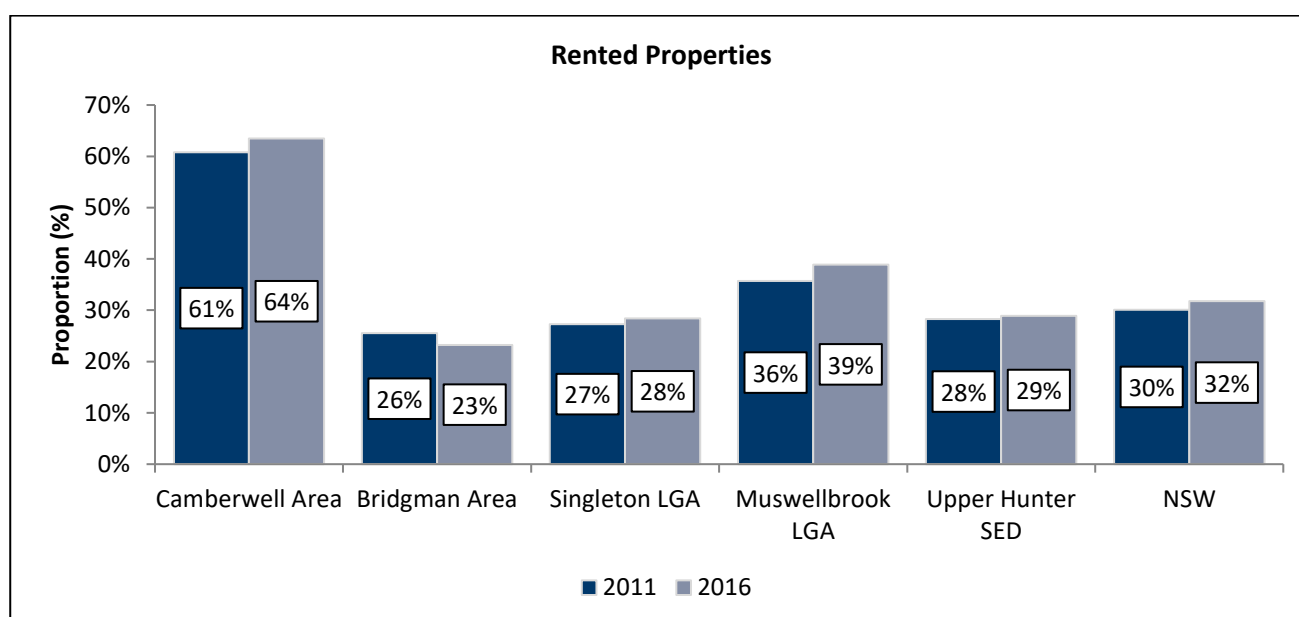


Figure 5.46 Rented properties (2011, 2016)

Source: ABS Census (2016) – Community Profiles

For most study areas, the average household size is lower than the NSW state average of 2.6 persons, with Falbrook and Glennies Creek being notably smaller at 1.5 and 1.9 respectively. Based on the age demographics in Glennies Creek the smaller household size could be attributed to an older demographic with kids that have left home. Due to low population sample size in Falbrook it is difficult to ascertain the reasoning behind the low household size. The community of Middle Falbrook displayed an exception to this trend, averaging 2.7 persons per household. This was also reflected at the LGA level with Singleton LGA also having an average of 2.7 persons per household.

In terms of overcrowding, Singleton LGA has considerably less households that require one or more bedrooms based on the number of people living there, with 2.2% of households reporting overcrowding compared to 5% reported in NSW (PHIDU, 2017).

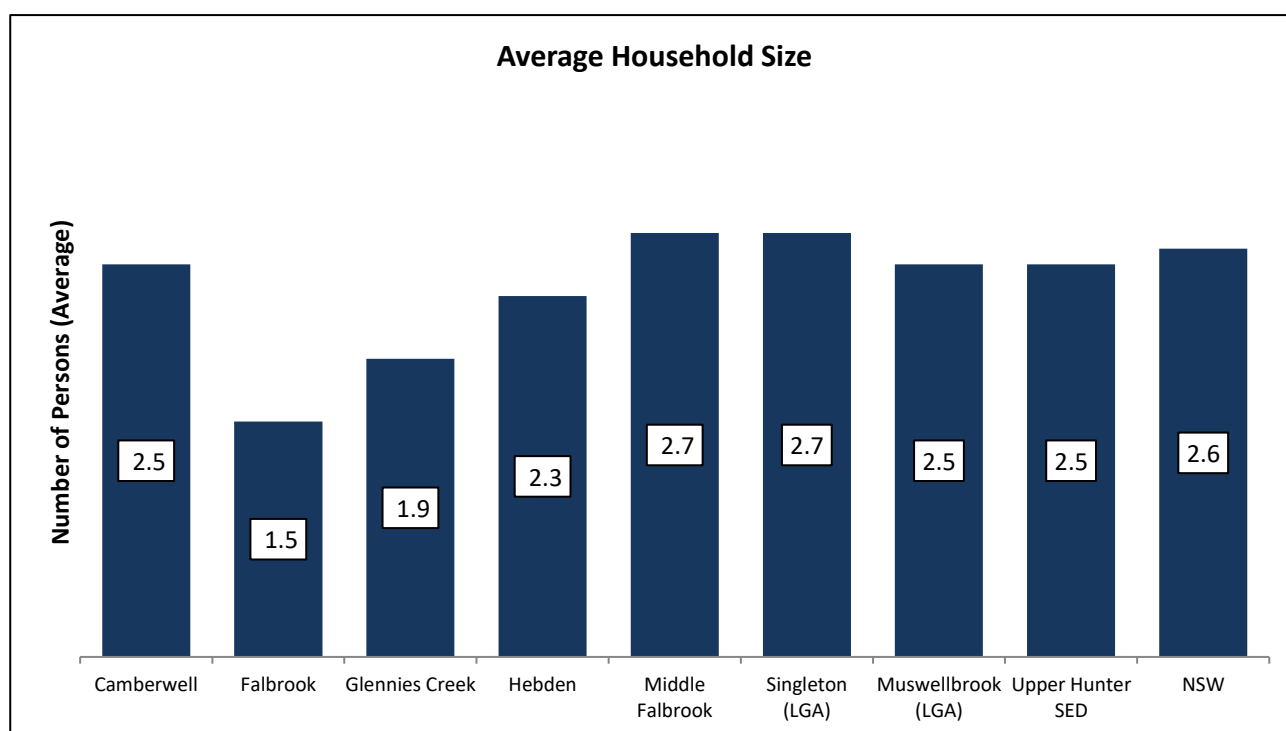


Figure 5.47 Average household size

Source: ABS Census (2016) – Community Profiles

In 2019, TEW Property Consultants undertook a comprehensive analysis of sales evidence of rural lifestyle properties and independent rural living units within Muswellbrook and Singleton LGAs and other localities which are proximate to coal mining operations. The report states:

- The rural/residential lifestyle properties of up to 5.0 ha (50,000m²) have generally followed the movement in value as represented for residential properties (land size up to 1,500m²) for Singleton, Muswellbrook and the Upper Hunter LGAs.
- The majority of assets increased in value over the 13 years in the range 25% - 50% over that market value as was evidenced in 2005 (TEW, 2019).
- The most significant impacts in respect to changes in Market Value coincide with the decline in the coal industry from late 2012, represented by land values adduced at July 2013. Conversely, there is a marked increase in both volume of sales and median values cited for 2016-17, which coincide with improved confidence in the coal sector notwithstanding that the locality (as at 2017-18) was (and remains to be) in the grip of a significant drought. As at 30 April 2019, median prices have fallen significantly, however these changes mirror a decrease in median prices across the state.

Table 5.26 and **Table 5.27** indicate the median house prices and number of sales from 2006 to 2019 and the percentage increase or decrease in prices for Singleton and Singleton Heights.

For the suburb of Singleton, the most significant annual increase since the 14.61% increase seen from 2005 to 2006 (refer to **Table 5.26**) appears to have occurred in the period 2011-2012 where there was a 10.37% increase in median house prices from \$350,500 to \$387,000. Median prices continued to increase into 2013, reaching \$391,500 (increase of 1.13%). Following a modest drop in 2014 (-3.38%), this was followed by a large drop in median house prices of 10.01% in 2015, followed by another drop of 5.8% in 2016. The median house price for the suburb of Muswellbrook reached a low of \$320,500 in 2016, before bouncing back to a new high of \$393,800 in 2018. However, as of April 2019, median prices have fallen by nearly 20%, dropping the median price below the low of 2016 (currently \$316,209).

Table 5.26 Median house prices and sales: 2006 – 2018 in Singleton SSC

Suburb	LGA	Year	No. of Sales	Median House Prices	% Increase /Decrease
Singleton	Singleton	2006	126	\$ 300,000	14.61
		2007	114	\$ 311,000	4.26
		2008	95	\$ 308,000	-1.04
		2009	106	\$ 326,500	6.16
		2010	104	\$ 341,500	4.48
		2011	97	\$ 350,500	2.74
		2012	112	\$ 387,000	10.37
		2013	88	\$ 391,500	1.13
		2014	62	\$ 378,000	-3.48
		2015	48	\$ 340,000	-10.01
		2016	74	\$ 320,500	-5.80
		2017	105	\$ 359,204	12.08
		2018	127	\$ 393,800	9.63
		2019	146	\$ 316,209	-19.70

Source: TEW Property Consultants (2019)

Singleton Heights has seen similar changes in median house prices (refer to **Table 5.27**). Significant increases in median house prices from \$289,500 in 2006 to \$396,500 in 2012 were followed by a decrease from 2013 to 2016 where prices fell from \$389,500 to \$330,000. Unsurprisingly, changes to the suburb of Singleton (refer to **Table 5.26**) following this price drop were mirrored in Singleton Heights, with a peak in median prices in 2018 followed by a subsequent median price decrease in 2019 (to date).

Table 5.27 Median house prices and sales: 2006 – 2018 in Singleton Heights SSC

Suburb	LGA	Year	Number of Sales	Median House Prices	% Increases /Decrease
Singleton Heights	Singleton	2006	117	\$ 289,500	9.67
		2007	117	\$ 307,500	7.50
		2008	98	\$ 321,000	4.51
		2009	112	\$ 316,000	-1.54
		2010	95	\$ 348,000	10.12
		2011	99	\$ 362,500	4.12
		2012	116	\$ 396,500	9.39
		2013	71	\$ 389,500	-1.78

Suburb	LGA	Year	Number of Sales	Median House Prices	% Increases /Decrease
		2014	59	\$ 361,500	-7.24
		2015	44	\$ 330,000	-8.71
		2016	64	\$ 330,000	0.21
		2017	109	\$ 352,532	4.78
		2018	121	\$ 392,476	11.74
		2019	119	\$ 345,446	-11.98

Source: TEW Property Consultants (2019)

Conclusions reported by TEW (2019) indicate that the most significant impacts in respect to changes in market value coincide with the decline in the coal industry as occurred from late 2012 which is represented by land values adduced as at July 2013. Conversely, there is a marked increase in both volume of sales and median values evident for 2016-17 which coincides with improved confidence in the coal sector. It was also noted that the recent drop in prices in Singleton and Singleton Heights (refer to **Table 5.26** and Table 5.27) aligns with a broader decrease in housing prices in the Hunter and across the state (TEW, 2019).

5.5.8.2 Transport

The region relies heavily on private road transport with just over 75% of employed persons who reside in the Singleton LGA travelling to work by car (approximately 70% as the driver and 4% as a passenger) (ABS, 2016). According to the 2016 Census only 0.6% of the population in the Singleton LGA travel to work using public transport.

The New England Highway, on which the town of Singleton and Camberwell are situated, is the primary inland route linking Brisbane and Sydney. Jerrys Plains and Warkworth are situated on the Golden Highway, which is developing as a major freight route between the Central West and the Port of Newcastle. The New England Highway and Golden Highway converge south-east of Singleton within the LGA. Putty Road provides access through National Park lands of Wollemi and Yengo, connecting Richmond with the Singleton area.

Singleton has good road connections to the north-east (New England Highway and Golden Highway), south-west (Putty Road) and southwest (New England Highway and Golden Highway) making it a regional focus in the Upper Hunter.

There are two passenger rail lines in the Hunter: The Central Coast and Newcastle Line and the Hunter Line. The Hunter Valley Line provides a limited number of services (four) throughout the day, with Singleton station being the only stop within the LGA. The consecutive adjacent stops are Muswellbrook and Branxton. The need for an increase in the number of trains to major centres including Newcastle and Sydney has been addressed in the Singleton Community Strategic Plan for 2017-2027. In the strategic plan, it was also raised that there is a need for improved connectivity and access to public transport in the region. Media reports also identify plans to increase the number of passenger trains between the Upper Hunter and Maitland.

The general freight in the region is mainly transported via road along the New England Highway from Muswellbrook to the power stations, and onto the coal loader at the Port of Newcastle which is Australia's largest coal export port (Transport for NSW, Ports and Freight Strategy, 2018).

Singleton is serviced by Hunter Valley Buses, operating on fixed routes and stop at designated bus stops. Similar to the trains, there are only four buses running throughout the day that both start and terminate in Singleton.

Transport to access health services has been an issue for some, with one resident surveyed stating that “transportation was a big barrier to health...” for them. Ungooroo Aboriginal Corporation have allowed for ease of access to health services and GPs for those who live rurally and have partnered with schools to tackle children’s health.

Ourcare Services program provides assistance to those people who reside in Singleton, who experience some difficulty with the normal task of daily living. The Home Support Program is managed by a Community based organisation and is designed to offer a range of support services to the frail aged, people living with disabilities and their carers.

5.5.8.3 Tourism and accommodation

As part of the Hunter Valley wine region the Singleton area is host to a large amount of tourism through its wine tours and cellar doors. The Hunter Valley has been home to winemaking for nearly 200 years and is Australia’s oldest wine region. Specifically, in the Singleton LGA, the areas of Broke Fordwich in the foothills of the Brokenback Range and Hermitage in the north-western corner of Pokolbin, where their wine and cellar doors are a popular tourist attraction.

Singleton’s rich history is put on display through tours of its restored colonial buildings, and Singleton Historical Museum located in Burdekin Park. The Australian Army Infantry Museum also provides an intimate look into Australia’s colonial armies, Gallipoli, Passchendaele, Kokoda, Long Tan and Afghanistan. With heritage being so integral to Singleton, Singleton Council has stated they intend to increase the number of heritage actions completed against the Heritage Management Plan (SC, 2019).

According to the Singleton Community Strategic Plan 2017-2027, tourism brings 1.399 million visitors to the region annually. In the Singleton region there are an abundance of vineyards, homestays, cottages and lodges, hotels, and motels for accommodation. Singleton Council has invested \$11 M into the Town Centre Revitalisation project, which was completed in 2015, as part of their goal to increase tourism visitation.

According to the ABS Tourist Accommodation 2015-16 report, based on accommodation with 15 or more rooms, room occupancy rates in Singleton are much lower than the NSW average. Across the September 2015, December 2015, and June 2016 quarters room occupancy rates in Singleton were at 44.7%, 45.4%, and 49.1%. This is compared to NSW where room occupancy rates were at 67.2% (September 2015 Quarter), 69.8% (December 2015 Quarter), and 66.3% (June 2016 Quarter) (refer to **Table 5.28**). It is important to note that this data only factor in accommodation with 15 or more rooms and that Singleton has a large amount of homestay, cottages and lodges that may not be included.

Table 5.28 Accommodation earning and occupancy

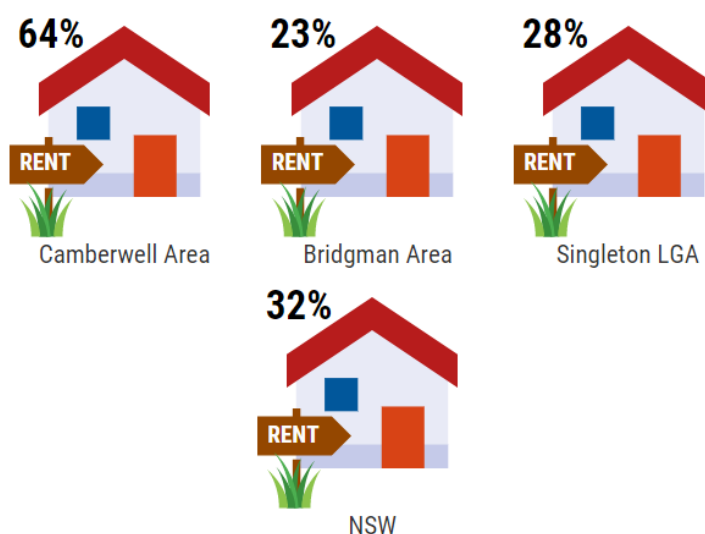
Region	Quarters	Takings from Accommodation (\$)	Room Occupancy Rate (%)	Establishments with 15 or more rooms
Singleton LGA	September Quarter 2015	1,869,206	44.7	7
	December Quarter 2015	1,923,362	45.4	7
	March Quarter 2016	-	-	-
	June Quarter 2016	1,938,224	49.1	7
Muswellbrook LGA	September Quarter 2015	1,115,818	41.4	7
	December Quarter 2015	1,218,037	43.5	7
	March Quarter 2016	1,020,425	38	7
	June Quarter 2016	1,001,700	39.5	7

Region	Quarters	Takings from Accommodation (\$)	Room Occupancy Rate (%)	Establishments with 15 or more rooms
NSW	September Quarter 2015	818,213,203	67.2	1,423
	December Quarter 2015	945,495,269	69.8	1,424
	March Quarter 2016	933,916,196	69.6	1,424
	June Quarter 2016	801,440,042	66.3	1,424

Source: ABS Tourist Accommodation, Australia, 2015-16

5.5.8.4 Physical capital summary

Private Dwellings Rented



Overcrowding

Houses needing one or more bedrooms



Figure 5.48 Physical capital summary

© Umwelt, 2019; PHIDU, 2017

Physical Capital within the Singleton LGA has progressed substantially over recent years and is continuing to make improvements.

While primary and secondary level education is provided by one high school, two private schools and numerous primary schools, there are a lack of facilities for tertiary level education. Currently there is a TAFE NSW campus and a community college. As outlined in the Singleton Community Strategic Plan, Singleton Council is in pursuit of a university campus to service Singleton and the Upper Hunter.

As part of the Hunter Valley the Singleton area is host to a large amount of tourism through its abundance of vineyards, homestays, cottages and lodges.

While Singleton LGA is has a hospital and numerous medical centres, Singleton Council has put emphasis on the plan to attract and retain more specialists.

The market analysis study on median house prices conducted by TEW Property Consultants (2018) concluded that the most significant impacts in respect to changes in Market Value coincide with declines and booms in the coal industry. Whereby increases in both volume of sales and median values coincided with increased confidence in the coal market.

Transport and housing remain key issues for the area, along with the need to increase capacity of aged care residences and services.

Specific areas of improvement include:

- increasing options for tertiary education
- more affordable housing
- increasing aged care capacity and service availability
- public transportation services.

5.6 Regional and local issues and aspirations

This section utilises a number of data sources to build a picture of community issues, values and aspirations at the regional level, the Singleton LGA level and at a local state suburb level. Data used in this section has been sourced from:

- NSW State Government and Singleton Council strategic plans
- local, regional and state media (refer to **Appendix D**)
- outcomes of the Community Capitals Analysis (as detailed in **Section 5.5**).

5.6.1 Regional issues and opportunities

This section summarises the outcomes of a review of relevant Regional strategic plans and documents to highlight some central challenges and opportunities for the Upper Hunter Region and the Singleton LGA for the future.

Relevant strategic planning documents that have been sourced for this review at a Council level include:

- *Hunter Regional Plan 2036*, NSW Government DPE (October 2016)
- *The Upper Hunter Economic Diversification Project: Action Plan* (2017)
- *Upper Hunter Mining Dialogue* (2018).

The Hunter Regional Plan 2036: *The Hunter Regional Plan 2036* is a 20-year blueprint for the future of the Hunter Region which is intended to guide the NSW Government's land use planning priorities and decisions from 2016 to 2036. The vision for the Plan is:

The leading regional economy in Australia with a vibrant new metropolitan city at its heart

The Singleton LGA forms part of the transition between the Upper and Lower Hunter. There are a number of important interchanges between State and regional roads, including the Hunter Expressway, New England Highway, Golden Highway and Putty Road, all of which intersect in the LGA. Natural areas, such as Lake St Claire and parts of the Greater Blue Mountains and Gondwana Rainforest World Heritage areas, provide significant conservation and tourism opportunities. The future of Singleton lies in growing and diversifying its industry base (including primary industries), improving its housing product mix and minimising land use conflict. The mainstays of the economy are coal mining, agriculture (with growth in viticulture and related tourism), manufacturing and retail.

Some of the key issues for the region and LGA outlined in this Plan include:

- Support tourism and agriculture by conducting a land use assessment across the Viticulture Critical Industry Cluster to align planning controls that balance scenic amenity with ongoing growth in tourism.
- Conduct and assessment of land use compatibility.
- Protect and revitalise items of heritage significance.
- Improve connectivity to major transport corridors.
- Manage productive landscapes that sustain important agricultural sectors.
- Support the visitor economy by enhancing viticultural and nature-based tourism and associated infrastructure.
- Maintain its role providing administrative, retail, commercial, education, and health services.

Upper Hunter Economic Diversification Project: *The Upper Hunter Economic Diversification Project: Action Plan* (2017) works within the implementation framework established by the Department of Planning and Environment for the Hunter Regional Plan 2036 and delivers on the government commitment in that plan to diversify the economy in the Upper Hunter.

The *Upper Hunter Economic Diversification Project Action Plan* was prepared by the NSW Government's Hunter Regional Leadership Executive in 2017 and sets renewed priorities for encouraging new business and employment opportunities and sustainable regional transition for the region over the next 20-25 years. This renewed economic diversification initiative for the Upper Hunter is shifting the debate from land use conflict towards regional economic priorities based on comparative and competitive advantages, leading to opportunities to strengthen industry investment.

Key directions for economic development and industry transition outlined in the Hunter Regional Plan 2036 that this plan has drawn from include:

- enhance connections to Asia-Pacific through global gateways
- transform the productivity of the Hunter
- protect and enhance agricultural productivity
- manage the ongoing use of natural resources

- diversify and grow the energy sector
- plan for greater land use compatibility.

Upper Hunter Mining Dialogue: The *Upper Hunter Mining Dialogue* was established in 2011 by the region's miners in response to community concerns about infrastructure and services, mine rehabilitation, water and quality (NSW Minerals Council 2018).

Many communities in the Hunter Valley have been built around the economic activity generated by mining, which continues to comprise a significant part of the Hunter's economy, injecting \$6 billion in wages and payments to local businesses each year. The Dialogue recognises that the growth of mining in the Upper Hunter results in economic growth but also brings with it some challenges and impacts for the local community.

The Dialogue brings together local miners, community and business leaders, environment groups, residents, regulators and other industries to better understand and address these challenges together. The Dialogue is a collaborative effort addressing local community priorities by understanding its concerns and then working together to develop and implement solutions.

5.6.2 Summary of issues and opportunities – Upper Hunter

A summary of the issues and opportunities presented in these three key documents is provided in **Table 5.29**. The issues and opportunities have been categorised according to each of the community capitals. Many of the issues identified under these themes align with indicators of strength and vulnerability highlighted in the community capitals profile.

Table 5.29 Summary of issues and opportunities – Upper Hunter Region

	Issues	Opportunities
Natural Capital	<ul style="list-style-type: none"> • Competing land uses - agriculture, mining and residential and the need to balance the development of these with the protection of the natural environment and sustainability of this for future generations. • Mining and coal seam gas extraction have the potential to impact on water quality in aquifers and surface water resources through their operations and treatment and disposal of their wastewater with possible flow on effects for environmental and human health. • Retaining resource base for mining, agricultural and energy industries to allow for ongoing opportunities for economic, and hence social, development. • Maintaining or enhancing opportunities for environmentally responsible mining and coal seam gas development to deliver reliable energy supplies to the state that reduce energy costs and carbon emissions and that generate economic wealth to the state. • The natural environment in the region is under ongoing pressure from development including an increase in mining and coal seam gas development hence potentially impacting ecological values that are appreciated by the community and visitors. • Residential and commercial development in a number of towns and villages in the region is already constrained by flood zones reducing ability to increase housing stock. 	<ul style="list-style-type: none"> • Region has significant natural resources including coal and coal seam gas and productive agricultural land. • The Upper Hunter region comprises just 2% of the area used for grazing and cropping in NSW but provides a much greater contribution to the NSW production of many agricultural commodities, particularly equine, viticulture, milk and beef cattle. • Geologically, much of the region is underlain by the Hunter coalfield, a world class coal deposit with approximately 60 coal seams containing predominantly high quality thermal coals and lesser quantities of soft coking (steel making) coals. • The coal seam gas industry in the Upper Hunter Region is in its infancy, with no commercial production at this stage. However, the region contains large reserves of coal seam gas and is highly prospective for conventional gas. • The region contains other mineral deposits as well as numerous extractive resource operations (e.g. hard rock, gravel). • The region includes a significant portion of the Hunter-Central Rivers Catchment Management area, and a smaller proportion of both the Hawkesbury Nepean and Macquarie River catchments. • The Upper Hunter region retains substantial natural heritage with nearly 60% of the area blanketed with native bushland.
Physical Capital	<ul style="list-style-type: none"> • Growth of the mining sector will require infrastructure provision and upgrades (in particular, rail, roads, pipelines and ports). • Need for more diverse housing options due to decreasing persons per household and population growth. • Increased activity and population growth will impact on infrastructure provision in local communities. • Regional cumulative impacts on infrastructure due to the growth of mining and related industries in the region also possibly resulting in impacts on the provision of services and infrastructure. 	<ul style="list-style-type: none"> • Resources for Regions: a \$160 M program aimed at assisting communities to address local infrastructure issues and the local impact on mining affected communities.

	Issues	Opportunities
	<ul style="list-style-type: none"> • Demand for social infrastructure, including health, community and social services, education and emergency facilities is likely to increase as a result of population and economic growth and any existing deficiencies are likely to be compounded. • At times, the lack of private rental accommodation in areas such as Singleton and Muswellbrook has forced miners and mining companies to occupy hotels, motels and other forms of short term accommodation resulting in potential shortages for general tourism. 	
Economic capital	<ul style="list-style-type: none"> • Further replacement of jobs through robotics and automated production is predicted with possible implications for employment. • The planned closure of Liddell and Bayswater power stations in 2022 and 2035 respectively will have long term implications for land, water and jobs – one quarter of region's licensed water, 10,000 ha of strategic land and infrastructure. • Open cut mining operations are fragmenting highly productive industries and lands and reducing the potential to further develop these industries to create diversity of employment. • Land use uncertainty is impacting on investment in diversified industries. • Uneven economic growth and distribution of economic resources (including wages) due to the mining industry. 	<ul style="list-style-type: none"> • Upper Hunter is dominated economically by coal mining and agriculture which contributes strongly to the regional, state and national economy. • Coal is NSW's most significant commodity export - worth over \$14 billion in 2010/11. Approximately 60% of this coal is mined in the Upper Hunter region. • The Upper Hunter region is one of the State's most fertile and productive agricultural areas. The agricultural industry is worth around \$5.9 billion annually to the regional economy, with dairy, horse breeding, viticulture and beef cattle industries being major contributors. • Tourism is an important industry for the region. • There is also significant employment in the region in service industries such as health care, education, retail and local administration. • Benefits of the mining industry include lower unemployment, higher average incomes and increased business investment. • Working with existing sectors to encourage further investment and growth.

	Issues	Opportunities
Social Capital	<ul style="list-style-type: none"> Urban, regional and mining growth has the potential to further impact on known and yet to be identified cultural heritage. 	<ul style="list-style-type: none"> Upper Hunter region is rich in both Aboriginal and historic cultural heritage. Many communities are set within and around the Hunter's natural features and open space, which are among the region's best assets. The quality of these areas and the ability to access them gives residents an array of unique experiences and the opportunity for a healthy lifestyle. Strong sense of regional identity and community.
Human Capital	<ul style="list-style-type: none"> A perceived decrease in human health and wellbeing (physical and psychological) is one of the key issues raised by some community members regarding the perceived impacts from coal mining in the Upper Hunter region. Greater volumes of coal production mean an increase in potential air, noise and water pollution. Aging population: 25% of the region's population will be over 65 years by 2036. 	<ul style="list-style-type: none"> The Government is further developing a cumulative impact assessment methodology to address the challenges of cumulative impacts of the mining industry on community health and wellbeing (e.g. dust, noise and visual amenity) (Hunter Regional Plan 2036).

5.6.3 Local issues and opportunities – Singleton LGA

This section summarises the outcomes of a review of relevant Council strategic plans and documents to highlight the challenges and opportunities relevant to the Singleton LGA. It should be noted that at the time of writing, Singleton Council is preparing the DRAFT Singleton Local Strategic Planning Statement 2036 (SLSPS 2036) in accordance with the Direction issued by the NSW Department of Planning and Environment, that regional council's must have their Local Strategic Planning Statement (LSPS) in place by 1 July 2020. It is understood that the SLSPS 2036 will be a 20 year plan, which sets the scene for how the Singleton Local Government Area (LGA) will grow and develop over time. It will guide updates and amendments to the Council's Local Environmental Plan(s), Development Control Plan(s) and Local Contributions Plan(s). It will also assist in the prioritisation of strategic planning projects of Council (Singleton Council. 2019). The plan is not currently publically available and as such, was not use as a source of information for this report.

Relevant strategic planning documents that have been sourced for this review at a Singleton Council level include:

- *Singleton Community Strategic Plan 2017–2027*
- *Singleton Place Making Strategy 2016*
- *Singleton Council Annual Report 2016/2017*
- *Singleton Council Delivery Program 2017-2021*
- *Workforce Plan Our People Strategy 2017-2021.*

This review of secondary data identified the following needs, issues and aspirations of the community:

- job growth and economic diversification (including creative economy, small business, tourism, agriculture, retail, health services, etc.)
- access to education
- development of Singleton as a regional centre
- affordable and social housing
- social and community service provision
- infrastructure development
- aged care and childcare provisions
- access to quality health services
- conservation of heritage and environment.

Singleton Community Strategic Plan 2017–2027: Singleton Council released their long-term community plan in 2017. The Plan focuses on five key pillars: people, places, environment, economy and leadership to deliver a range of visions. The current plan is a review of the existing Strategic Plan adopted in 2012, given the significant changes that have occurred in the Singleton LGA. The Plan states:

“Reviewing the Strategy has given Council a fresh line of sight between our community’s needs and aspirations, and the opportunities available for us to work together as a community to build a robust and sustainable place to live, work and play.”

In the development of the plan, consultation was undertaken with over 2000 people across the LGA through mechanisms such as:

- engagement booths at local events and public spaces
- provision of Community information
- local school workshops
- customer satisfaction surveys, focus groups and phone surveys
- an online engagement hub
- social media competitions and surveys.

Community engagement identified a number of ideas and suggestions for strategic focus including:

- improved connectivity to the river
- diverse range of local jobs
- more creative use of mining voids
- more sporting events
- development of a performing arts centre
- more diverse night time economy
- a planned transition from a mining-based economy.

As noted, the Plan outlines that Singleton is heavily dependent on mining, with 57.9% of the economy generated from the mining industry. In comparison, the Hunter Region as a whole has greater economic diversity (with only 9% of its economy in mining). There are currently around 20 coal mines within the Singleton LGA which collectively produce approximately 57 Mt of coal per year. Mining employs around 36% of the local population and contributes \$5.1 billion in regional outputs annually (Singleton Community Strategic Plan 2017-2027).

Singleton Place Making Strategy (2016): The purpose of the Singleton Villages Place Making Strategy is to provide a strategic framework that will guide place making activities in the villages within the Singleton LGA. The Strategy will assist in integrating place making into the organisation, and drive the management, enhancement and activation of the villages.

Singleton Council has been actively involved in place making in the villages since pilot projects were undertaken in 2012. Place making in the Singleton LGA is concerned with long term place management that will benefit the villages. Many villages in the Singleton LGA are currently facing challenges that are common in rural localities, including lack of sense of place, community disconnection, physical isolation, disengaged youth and limited assets and resources. Council have been using place making approaches as a way to address some of these issues. The Villages Place Making Strategy is the formalisation of the place making approach that has begun to develop in Singleton and will guide delivery of projects.

It was noted in the document (Singleton Council, 2016b), that in Camberwell the mining industry has had huge negative impacts on the village, including pollution, expansions and a decline in the population. Since 2004, 40 families have left Camberwell. A further 30 homes are currently owned by Ashton Mines.

A summary of issues and opportunities drawn from the community plan and council consultation with the community is provided in **Table 5.30**. These issues and opportunities have been categorised by Community Capital area.

Table 5.30 Summary of issues and opportunities - Singleton LGA

Theme	Issues	Opportunities
Social Capital	<ul style="list-style-type: none"> No dedicated heritage conservation plan. Need for more diverse community events, sporting activities and activities for youth. Need for a stronger sense of community identity. Inability to attract and retain key staff with suitable skills, knowledges and behaviours to the Council. Aging population and changing retirement patterns. Loss of community and sense of place. Lack of active community. 	<ul style="list-style-type: none"> In 2016, surveys indicated that 83% of residents were at least “somewhat satisfied” with the Council’s performance. Range of community events held annually in the Singleton LGA. Finalist in Local Government Week Awards - “Best small Council with the most outstanding Youth Week Program 2016”. A focus to build on strong community and pride in place. Utilisation of Singleton hall to bring community together and form better sense of community.
Natural Capital	<ul style="list-style-type: none"> Community would like natural attractions enhanced through improved access to and integration of the environment, including the river, national parks, urban parks and gardens. Community would like enhancements to watercourses including improvements to Lake Sinclair and more water-based recreation spaces in parks. Social and Environmental impacts of future mining. Susceptibility of flooding in Falbrook. 	<ul style="list-style-type: none"> Singleton LGA has 74 parks and reserves for community use. Singleton has 486 ha of open spaces. Singleton Council maintains 230 ha of this open space. Community Education for Sustainability Plan has been developed and implemented. The emission monitoring program was completed in September 2016 and shows no greenhouse gas emissions in excess air quality guidelines.
Economic Capital	<ul style="list-style-type: none"> High dependence on mining (equating to 57.9% of the economy). Need for better business collaborations and business events. Aging workforce. 	<ul style="list-style-type: none"> Higher per capita gross regional product than the Hunter Region. Mining provides jobs to 36% of the population. Mining and the royalties from mining contribute strongly to the economy of the LGA directly and through flow on effects. Large tourism industry with 1.399 M visitors to the region annually. The region is host to over 40 vineyards, wineries and cellar doors locally. Use of the visitor’s information centre is increasing.

Theme	Issues	Opportunities
		<ul style="list-style-type: none"> Working in partnership with the Hunter Valley Alliance - Cessnock Council and Hunter Valley Wine and Tourism Association the Hunter Valley Map is complete and in the market.
Human Capital	<ul style="list-style-type: none"> Singleton is the most disadvantaged LGA in the Hunter (as indicated by its high SEIFA scores). Need for quality cost effective early education facilities and after school care. Decreasing Population of smaller villages such as Camberwell. 	<ul style="list-style-type: none"> Slightly higher levels of full-time employment and lower levels of people who are unemployed and looking for work (compared to the NSW average). Strategic plan directed towards decreasing disadvantage and crime rates and increasing safety.
Physical Capital	<ul style="list-style-type: none"> Growing community putting strain on facilities including hospital, housing, roads. Lack of public transport services. Road safety on New England Highway. Animals and garbage issues the top CRMs in 2013. 	<ul style="list-style-type: none"> Coal rich area. Upgrades to parks including Allen Bull Reserve, Townhead Park and Cook Park. Town centre undergoing revitalisation. Water quality in Singleton LGA complies with local water authority testing. Singleton has 15 km of cycleways, with cycleway upgrades currently being undertaken. Council allocated \$100 M for the maintenance and improvement of community assets between 2017 and 2021. The 2016-17 Sewer relining program was completed with 4,684 m of sewer main relined and 257 junctions renewed. Potable water scheme being delivered for villages.

Source: Singleton Community Strategic Plan 2017-2027; Singleton Council Annual Report 2016/2017; Singleton Council Delivery Program 2017-2021; Workforce Plan Our People Strategy 2017-2021; Singleton Place Making Strategy 2016.

5.7 Social profile summary

Inherent within the SIA process is the need to identify and empower vulnerable groups. The World Health Organisation (WHO) defines vulnerability as:

“the degree to which a population, individual or organization is unable to anticipate, cope with, resist and recover from the impacts of disasters (significant change)” (WHO, 2002)

Both the WHO and more recently, Vanclay (2015) has outlined characteristics of vulnerable individuals/groups as:

“Children, pregnant women, elderly people, malnourished people, and people who are ill or immunocompromised, that are particularly vulnerable when a disaster strikes, and take a relatively high share of the disease burden associated with emergencies” (WHO, 2002)

and

"Although vulnerability is context- dependent and can include a very wide range of groups, typically the concept includes: Indigenous peoples, ethnic minorities, migrants, disabled people, the homeless, the poor, those struggling with substance abuse, and isolated elderly people" (Vanclay, April 2015).

From the Social Profile analysis undertaken above, it is possible to assess key areas of community resilience and risk in the Singleton LGA and the study areas proximal to the Project (Camberwell, Glennies Creek, Falbrook, Middle Falbrook, Hebden, and Ravensworth). These key findings are summarised below in **Table 5.31** and **Table 5.32**.

Table 5.31 Community capitals assessment summary - Singleton LGA

Strengths	Vulnerabilities	Potential Implications for Vulnerable Groups
Abundant and diverse natural capital, including diversity of natural resources, abundance of coal resources, heritage items, prime agricultural lands, and national parks and reserves.	Competing land uses in the region, i.e. mining/industry and the agriculture, viticulture and equine industries. A perception that there is a lack of coordination between mining operations to manage pests and weeds on mine buffer lands.	Ongoing potential for conflict between different industries utilising the natural capital of the area. Potential impacts of weeds and pests within buffer areas on surrounding properties.
Significant population growth (Upper Hunter region only).	Aging population.	Relevant aged cohorts in the population and potential vulnerabilities in relation to access to relevant services.
	Below average rates of completion of Year 12 with high numbers only completing Year 10.	Those with low education qualifications employed in the mining industry have reduced resilience to changes in demand for work in mines, due to limited or specialised training. As such, future workforce training may need to include focus on diversification of skills to increase workforce capacity to adapt.
Large proportion of working age demographic.	Current lack of Tertiary education options.	
Predominantly family households and less lone person households.	Below average levels of post-school education (except for Certificate level qualifications).	
Below average single parent families.	Poor ranking below average score on the SEIFA Index for Relative Education and Occupation compared to other LGAs in NSW.	Potential to exacerbate existing and perceived health issues if impacts from project development not appropriately managed.
Higher rates of volunteering.	Community perceptions of (and some inconsistent public health evidence for) poorer health indicators and outcomes, and limited access to health services.	
Above average scores on the SEIFA Indexes for relative socio-economic disadvantage and relative Economic Resources – experience less disadvantage and have better access to economic resources compared to other LGAs in NSW.	Low cultural diversity.	Potential loss of cultural heritage.

Strengths	Vulnerabilities	Potential Implications for Vulnerable Groups
Housing costs – lower than NSW.	Singleton ranks poorly compared to other NSW LGAs in Motor vehicle theft, steal from retail store, and break and enter – non-dwelling.	Increased crime due to reduced employment in the Singleton LGA (no development scenario).
Dominance of mining industry employment and associated occupations.	Less industry diversity due to dominance of mining industry employment and associated occupations.	Decreased resilience of the local economy to react to changes in resources industry. Change in population as a result of job losses (no development scenario).
Higher median income compared to NSW.	Lack of economic diversity in the region.	
Higher labour force participation and lower unemployment than the NSW average.	Transport options are limited.	Possible further restrictions on access to services and infrastructure for vulnerable groups such as the aged or those with poor health.
Housing stress comparable to NSW.	Higher proportion of dwellings that are owned with a mortgage.	Homeowners with a mortgage may be particularly vulnerable to economic strain from mortgage repayments.

Table 5.32 Community capitals assessment summary (Proximal Communities: Camberwell, Glennies Creek, Falbrook, Middle Falbrook, Hebden and Ravensworth)

Strengths	Vulnerabilities	Potential Implications for Vulnerable Groups
High proportion of people in working age bracket.	Rural population decline for the areas of Hebden, Ravensworth, Glennies Creek and Camberwell – as part of the Camberwell Area.	Loss of rural population and potential reductions in sense of place and community.
Higher proportions of Married couples in Hebden and Middle Falbrook.	Aging populations.	Relevant aged cohorts in the population and potential vulnerabilities in relation to access to relevant services.
	Large proportion of population in older age brackets.	
Low mobility in the last 5 years (Glennies Creek, Hebden, Ravensworth and Middle Falbrook).	Lower rates of volunteering in Camberwell, Falbrook and Glennies Creek.	Potential vulnerability to demographic changes as a result of population change or internal migration; loss of sense of community and social networks, Potential loss of cultural heritage.
	Low cultural diversity.	
	High levels of mobility in past 5 years (Camberwell and Falbrook).	
Equivalent proportion completed post-secondary education as NSW (Middle Falbrook only).	Below average rates of completion of Year 12 with high numbers only completing Year 10.	Those with low education qualifications employed in the mining industry have reduced

Strengths	Vulnerabilities	Potential Implications for Vulnerable Groups
High proportion of post-school education in Middle Falbrook.	Below average levels of post-school education (in Camberwell, Falbrook, Glennies Creek and Hebden).	resilience to changes in demand for work in mines, due to limited or specialised training. As such, future workforce training may need to include focus on diversification of skills to increase workforce capacity to adapt.
High score on the SEIFA Index of Relative Socio-economic Disadvantage in Falbrook and Middle Falbrook compared to other SSCs in NSW.	Less industry diversity due to dominance of mining industry employment and associated occupations.	
High score on the SEIFA Index of Relative Economic Resources in Falbrook, Hebden and Middle Falbrook compared to other SSCs in NSW.		
Lower proportion of Single parent families (not including Camberwell).	High proportion of single parent families in Camberwell.	Potential for single parent families to be more susceptible to changes in the local economy i.e. house prices, unemployment, poor health, access to services etc.
Higher household incomes (Hebden and Middle Falbrook).	High proportion of lone person households in Hebden.	
Median rent well below NSW average.	Transport options are limited.	Possible further restrictions on access to services and infrastructure for vulnerable groups such as the aged or those with poor health.
Housing costs – lower than NSW.	Services are located in the regional centre of Singleton, with minimal public infrastructure in the communities proximal to the proposed project (e.g. public hall).	Decreased utilisation of public infrastructure due to reduction in sense of community from acquisitions.
Low levels of unemployment in all areas excluding Camberwell.	Unemployment rates are high (Camberwell only).	Lower resilience in the local workforce to adapt to changes in resources industry. Change in population or levels of socio-economic advantage as a result of job losses (no development scenario).
Higher median incomes for Hebden and Middle Falbrook.		
More dwellings owned outright (Middle Falbrook only).	Low proportions of dwellings owned outright (excluding Middle Falbrook).	Non homeowners may be particularly vulnerable to further changes in rental markets/rental prices (however, these statistics are likely to be the result of high levels of mine ownership and leasing of properties in these communities).
	Large proportion of dwellings rented (Camberwell, Falbrook and Ravensworth).	

Data collected from a variety of different primary and secondary data sources e.g. ABS statistics and review of other relevant social indicators, regional reports, government strategic plans, media reporting and consultation with key stakeholders, has provided a solid foundation and understanding of the social context in which the Project is located. This data presents some of the issues of concern and challenges facing communities in the locality and has been used as a basis, where possible, to assess the social impacts of the Project on the neighbouring communities of Camberwell, Glennies Creek, Falbrook, Middle Falbrook, Hebden, Ravensworth and the broader Singleton LGA (refer to **Section 6.0**).

From this review, it is possible to identify a number of key issues and opportunities for the Singleton area, as listed below:

- Balancing the impacts and economic benefits of mining for the region in the long-term.
- Protection of strategic land uses e.g. viticulture, thoroughbred industry and rural residential settlements.
- Infrastructure, housing and service provision and improved planning for a growing region (e.g. roads/transport; housing accessibility, affordability and mix; health services).
- Developing more and diverse employment, education and training services/opportunities for local people.
- Development of diverse housing options.
- Addressing mining-related health concerns (e.g. air quality and dust, health research and assessments) and impacts on sense of community (e.g. mobility, property acquisition, mining workforce, social amenity).
- Protecting key community values including local communities; rural lifestyle; social/community and recreation facilities and events; traditional community and family values.
- Job growth and economic diversification (including creative economy, small business, tourism, agriculture, retail, health services, etc.).
- Access to education.
- Affordable and social housing.
- Social and community service provision.
- Infrastructure development.
- Access to quality health services.
- Conservation of heritage and environment.

As has been highlighted above, the issues identified within the Singleton LGA span the breadth of community capitals – natural, social, human, physical and economic – with development in certain capital areas e.g. physical capital, providing the opportunity to further build and develop other capital assets e.g. economic, social, human. Consequently, discussions regarding investment and community development within the LGA should be focused on those strategies that produce the greatest return across the community's collective capital assets, while enhancing local community values and aspirations.

At a local level, community residents have articulated a desire to see their community, their rural and social amenity protected, and physical capital developed to allow better access to health, education and retail services. These communities have strong social capital and a strong sense of community, but also perceive that this is being impacted by the presence of mining and property acquisitions which have reduced and fragmented the community.

At a regional level, issues relating to physical capital development appeared more salient e.g. addressing stress on existing infrastructure and services, addressing safety and capacity of transport/road networks, improving access to health care, developing more education and training services/opportunities, addressing a diversity of housing issues – affordability, availability and diversity.

Given perceptions of dependency on the mining sector, there was also a desire for greater economic diversification, through the development and attraction of other industry and business sectors (as stated in regional and local strategic plans), and the need to address land use conflicts and cumulative impacts e.g. workforce mix, community participation, workforce competition associated with the presence of a prominent industry sectors (e.g. mining, thoroughbred and viticulture) within the locality.

However, as the TRC analysis, summarised in **Section 4.1**, clearly indicates, the presence of the mining industry in the locality does afford a range of local economic benefits to key communities across the region and more broadly, with such workforces also contributing to the human and social capitals within these various localities. The contribution from Glendell Mine alone totals around \$10.7 M annual in employee household expenditure in the Hunter region, much of which is expended within the Singleton, Maitland and Cessnock LGAs. This is in addition to the direct and indirect economic benefits associated with the Project itself and continuation of the operations for a further approximate 21 year period.

As part of the NSW planning process, DPIE utilises the Voluntary Planning Agreement (VPA) mechanism to ensure that benefits of industry activity are shared and impacts of development are identified and appropriately managed at local and more regional levels. Through targeted social investment, administered through such agreements, impact management and further community enhancement can be undertaken to facilitate development across a community's key capital areas, whether that is at a localised level or at the broader LGA level.

The profile section has highlighted issues of relevance across the locality through a review of a range of sources, including consultation with key stakeholders at local and more regional levels. In order to address the impacts and needs identified, the following dot points list those areas considered to be the most salient:

- Maintaining Singleton's role as a regional centre.
- Economic development and diversification strategies.
- Further development of community events, sport/recreational and cultural facilities.
- Continual support for local community facilities, heritage buildings and programs including the Ravensworth Homestead.
- Planning to improve road, infrastructure and transport systems.
- Regional housing needs assessment and facilitation of sustainable and mixed housing development.
- Coordination and facilitation of engagement and collaboration forums and programs between government, mining companies, and community, particularly in relation to cumulative mining impacts, social investment and land use conflict.
- Improved access to health services.
- Provision of aged care facilities.

6.0 Perceived positive and negative social impacts

A key component of the SIA is the process of understanding, from a community perspective, community issues, values and uses associated with the Project Area, and specifically the perceived impacts and opportunities associated with the Project.

In the context of this assessment, the word perceived has been interpreted as “noticing or becoming aware of something” or “to understand or think of somebody/something in a particular way” (Oxford Dictionary). Therefore, this section discusses how the community understands and interprets the social impacts (potential effects or influences of the Project) and their associated risk (exposure to danger, harm or loss). These impacts are then further assessed to predict the social impacts in relation to the Project that may require mitigation or enhancement (refer to **Sections 8.0** and **9.0**). The aim of this section is to provide a more complete description of community perceptions of the Project from the perspectives of those involved, in a personal, community, social and cultural sense.

Mining operations at the Glendell Mine were approved in 1983 and were integrated with the Mount Owen Complex in 2008. As part of the assessment process, and throughout the operational period of the Mount Owen Complex over this time, key stakeholders have been actively engaged through a range of different mechanisms. Over this period, their key concerns and issues have been considered and addressed as practicable, through operational changes, implementation of targeted mitigation and enhancement strategies and during the planning, design and approval phases of the current Project and other recent projects relating to the Mount Owen Complex. Most recently, this has included the Mount Owen Continued Operations Project assessment and subsequent modifications i.e. Glendell Mine modifications.

The long period of active mining and extensive community engagement associated with the Mount Owen Complex over time has resulted in a generally good understanding of mining and its associated impacts in the local community, and acknowledgement of the management practices adopted by Glencore to minimise disruption, as well as the mechanisms utilised to keep the community informed. Further, the Project Area is in a location that is surrounded by existing mining operations, where residences have active or previous mining located between their properties and the proposed Glendell Pit Extension.

The key community issues that have been raised historically through previous engagement on projects, such as the Mount Owen Continued Operations Project, include concerns regarding air quality, noise impacts, blasting, cultural heritage, visual amenity, traffic and transport, biodiversity, final voids and rehabilitation. Many of these impacts have also been identified in the current assessment and are further described in the following sections.

6.1 Identification of perceived positive and negative social impacts

As noted above, an important phase in the SIA is to understand the potential impacts (both positive and negative) of a project on key stakeholders. The key stakeholders have been identified in **Section 3.3** and the purpose of this section is to clearly outline/articulate stakeholder views of the perceived impacts of the Project and to document the level of concern associated with these impacts. In identifying issues and concerns, stakeholders will often also identify strategies to address the issues raised, with these suggestions also noted as relevant.

Key stakeholders were identified through a review of existing stakeholder databases, local community service directories, a review of local and regional media, snowball sampling (i.e. contacts made from initial sources providing contact details of additional stakeholders to be engaged) and random sampling. Throughout this report, the term ‘Key Stakeholders’ has been used to collectively define those stakeholders outlined in Table 6.1 below (excluding the Wider Singleton LGA).

As noted in **Section 3.0**, engagement in the scoping phase of the Project (Round 1) took place between late 2017 and early 2018 and targeted stakeholders most proximal to the Project. This included 37 near neighbours (including five local businesses), 13 community and heritage stakeholders and group representatives, six members of the RHAC, four Aboriginal groups, and seven members of the Singleton Business Chamber. Interviews were also undertaken with 15 Aboriginal stakeholders (representatives of local Aboriginal groups and Aboriginal services providers in the Singleton LGA) to further identify the impacts of the Project, to obtain information on service provision within the area and identify community needs.

The most frequently cited concerns raised by stakeholders in this scoping phase was consistent with issues raised in previous engagement relating to the MOCO and MOCO Modification No.2 SIAs. This included dust and air quality, particularly the cumulative effects of this impact across the Hunter Region. Changes to landform and the importance of appropriate site rehabilitation were the next most commonly raised concerns about the Project. These were followed by concerns relating to the potential impacts on ground and surface water, including concerns about the potential diversion of a section of Yorks Creek, the potential pollution of local water ways and impacts on drinking water; noise; the potential relocation of the Ravensworth Homestead and loss of heritage values; and road access and traffic issues given the proposed relocation of Hebden Road.

Since the development of the SIA Scoping Report in May 2018 there has been continued engagement and communication by the Project team and Glendell Environment and Community team, which has included personal meetings and telephone liaison; a series of CCC meetings; key stakeholder meetings and focus groups; community information sessions and BBQs; briefings with community groups, and local and State government representatives; monitoring and responses to community complaints; provision of biannual newsletter and community information sheets; and updates on the company website.

The impact assessment phase (Round 2) for the Project was primarily undertaken between July and October 2019 and has included a total of 52 structured interviews that have included near neighbours (37), community, and heritage stakeholders and group representatives (12) and Aboriginal stakeholders (3). An additional 18 stakeholders declined to take part in the structured interview process, of which 12 indicated that they had no concerns or did not wish to participate in the process, two were relocating or no longer resident at their respective properties, one due to health reasons, three were too busy and/or preferred to wait for EIS finalisation to comment in the submissions phase.

Two local community information sessions were also held in this engagement phase, which provided an opportunity for community members to ask questions of the Project team and specialists working on the environmental and social impact assessment studies. Stakeholders were encouraged to view both static and interactive displays that included over 24 posters summarising assessment findings; individual demonstrations of comparative examples of noise levels; and visual representations of drone footage depicting current and proposed landforms and land rehabilitation. These sessions were attended by 26 stakeholders in the local community.

Similarly, three wider community information sessions have been facilitated, two at the Singleton Youth Venue and one at the Broke Hall, that provided the same opportunity for information provision relating to assessment outcomes. These sessions were advertised in the local media and through Facebook advertising and attracted 34 attendees.

The wider community has also had the opportunity to provide input to the project through a random community survey of households. This was completed by 273 residents residing within the Singleton LGA. A further summary of participation in the SIA is provided in **Table 6.1**.

As part of the wider EIS community engagement, representatives from the Project have also met with local government representatives, state and Commonwealth Government agencies, local business and industry, community, cultural and heritage groups (associated with the area) and infrastructure and service providers. Key outcomes from this consultation have also been considered as part of the SIA.

Table 6.1 Participants the SIA engagement program - Rounds 1 and 2

Stakeholder	Description	No. participants (Round 1)	No. participants (Round 2)
	Key Stakeholders		
Near Neighbours	Landholders including residents and businesses residing in proximity to the current mining operation including the localities of Camberwell, Middle Falbrook, Falbrook, Glennies Creek and Hebden	37 structured interviews (including 5 local businesses)	37 structured interviews 26 attendees across two local community information sessions
Aboriginal stakeholders	Aboriginal groups and service providers (note that this refers specifically to those Aboriginal stakeholders consulted as part of the SIA regarding social issues, not to all of those consulted as part of the Aboriginal cultural heritage assessment discussed in the EIS). Participants included <ul style="list-style-type: none"> • Wanaruah Local Aboriginal Land Council (WLALC) • Wonnarua Nation Aboriginal Corporation (WNAC) • Ungaroo 	4 structured interviews	15 structured interviews with service providers 3 structured interviews
Community and heritage stakeholders and group representatives	Including community groups and individuals associated with the area with a specific interest in heritage aspects of the project, emergency services and service providers. Participants included: <ul style="list-style-type: none"> • Members of the Ravensworth Homestead Advisory Committee (RHAC) • Individuals with a specific interest in heritage • Singleton Historical Society and Museum • Singleton Heritage Advisory Committee • Past owners of the Ravensworth Homestead • Emergency services, local bus company and local halls (Hebden Hall and Mount Olive) 	13 structured interviews Focus Group with 6 members of the RHAC	12 structured interviews

Stakeholder	Description	No. participants (Round 1)	No. participants (Round 2)
	Wider Singleton LGA Community		
Wider community	Singleton Local Government Area (LGA) residential and business community.	7 members of the Singleton Business Chamber	Random sample of residents in the Singleton LGA contacted via a random telephone survey (n=251 from the Singleton Local Government Area and n=22 from the Broke & surrounds community, with a total of n=273). 34 attendees across the three wider community information sessions (CIS) held at the Singleton Youth Venue on 18 and 21 September (n=2 attendees), and Broke Hall on 19 September (n=32).
Employees and Suppliers	Those currently employed and/or who supply services to the Glendell Mine.	NA	132 suppliers completed a structured survey. Existing employee data was provided by the Glendell Mine.
Total		67	532

A number of perceived impacts, both positive and negative, have been identified that relate to the existing mine operations and the Project. Outcomes of the assessment are presented in the following sections and have been categorised according to a number of social impact themes as defined in **Table 6.2**.

Information has been collected through the administration of structured interview guides which have addressed a range of topics relating to community values, project issues and opportunities, engagement approach, management strategies and potential enhancement and investment opportunities. Where possible, comparisons are made to previous stakeholder engagement undertaken, to identify any changes in issues raised; and qualitative quotes, obtained through the engagement process, are used to highlight stakeholder sentiment and provide further context to the impacts noted.

The stakeholders involved in the structured interviews (n=112) and in the wider community survey (n=273), provided multiple responses in relation to perceived positive or negative impacts of the Project. Frequencies or counts obtained refer to the total sample size, with counts for each perceived impact identified and recorded (only once per respondent). The results of both rounds of consultation are reported in **Figure 6.1**. Overall, similar impact themes were raised across the two rounds of engagement, with economic contribution, employment and partnership emerging as a more prominent social impact theme in Round 2.

Figure 6.2 and **Figure 6.3** show the perceived stakeholder impacts for both the structured interviews and the wider community survey, respectively. Near neighbours most frequently cited social amenity, sense of community and Intergeneration equity as perceived impacts of most concern. While Aboriginal groups raised the need for improved opportunities in relation to employment and training as a key impact. Community groups often raised the cumulative impacts on social amenity and health and wellbeing, local businesses and service providers (including the local bus company) were equally concerned about access to the local road network and the potential for delays as a result of the proposed Hebden road relocation.

It should be noted that when asked to identify issues in relation to a proposed change, stakeholders will naturally tend to focus on negative issues/impacts associated with a project; such issues are important to understand, to confirm that salient social issues/impacts and perceived risks are fully addressed and integrated in project assessment, planning and design.

Through the engagement process, stakeholders have also identified a range of mitigation and enhancement strategies that they believe would serve to ameliorate and/or enhance project impacts, these are summarised at the end of this section, with these strategies further detailed in **Section 8.0**. Such strategies are in addition to strategies developed by the proponent, through their operational practice and ongoing mine planning and project design.

Table 6.2 Definitions of social impact themes

Social Impact Themes	Definition
Social Amenity	Social amenity concerns primarily relate to the impacts on way of life and rural lifestyle and include the impacts experienced as a result of dust/air quality, operational noise, blasting (vibration and plumes), visual impact and potential odour.
Sense of Community and Culture	Changes to the cohesion and character of the community, including impacts on cultural heritage. This encompasses impacts associated with the Ravensworth Homestead, sense of community and population change.

Social Impact Themes	Definition
Economic Contribution and community investment	Contribution to the regional economy and community investment efforts. Opportunities for employment, training and partnerships, particularly for near neighbours, the Aboriginal community and emergency services.
Intergenerational Equity	Intergenerational equity refers to addressing the needs of the present generation without compromising the ability of future generations to meet their own needs (IAIA, 2003). The Intergenerational equity theme includes impacts relating to future land use, land management (including the management of pests such as wild dogs) and climate change.
Access to and use of Infrastructure and Services	Potential disruption on the local road network due to operational activities e.g. blasting and cumulative effects of mine traffic. Inability to access particular services and facilities in the area, e.g. provision of telecommunications, housing/accommodation.
Health and Wellbeing	Health impacts as a result of dust impacts, including respiratory issues and psychosocial affects relating to the cumulative presence of mining.
Water access and use	Access to and use of water, including impacts on both ground and surface water, and the proposed diversion of York's Creek.
Engagement and Decision-Making	Existing engagement mechanisms and the ongoing potential to have a voice in the assessment process - provide input and feedback to decision making.
Personal and Property Rights	Impacts of the project on private property values and the ability to sell/move out of the area.

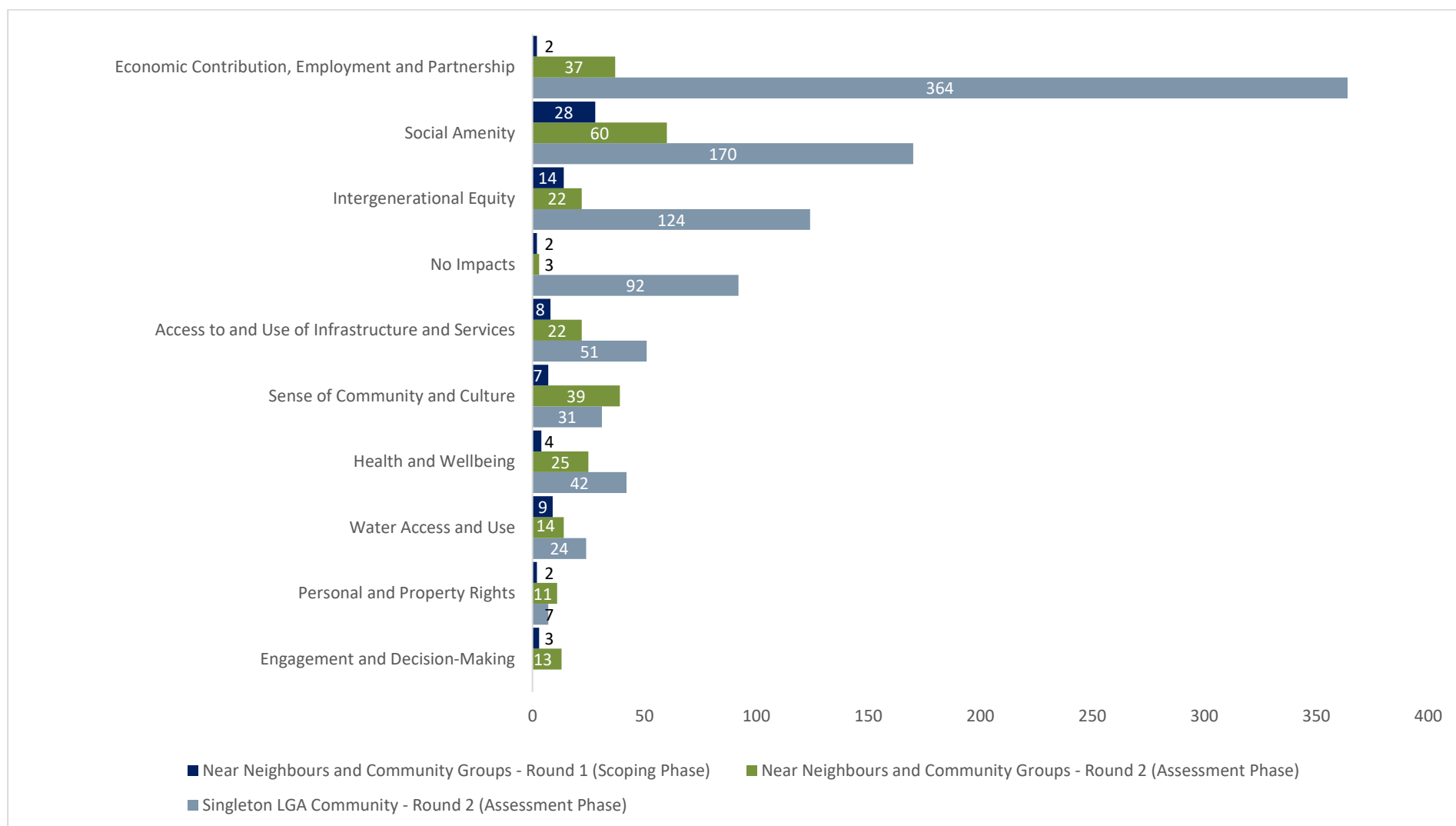


Figure 6.1 Perceived stakeholder impacts themes (engagement Rounds 1 and 2)

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Note: Multiple responses allowed; Round 1 included interviews with 60 stakeholders; Round 2 involved interviews with 52 stakeholders, 29 of whom had been previously consulted in Round 1. Excludes Aboriginal services providers and Singleton Business Chamber.

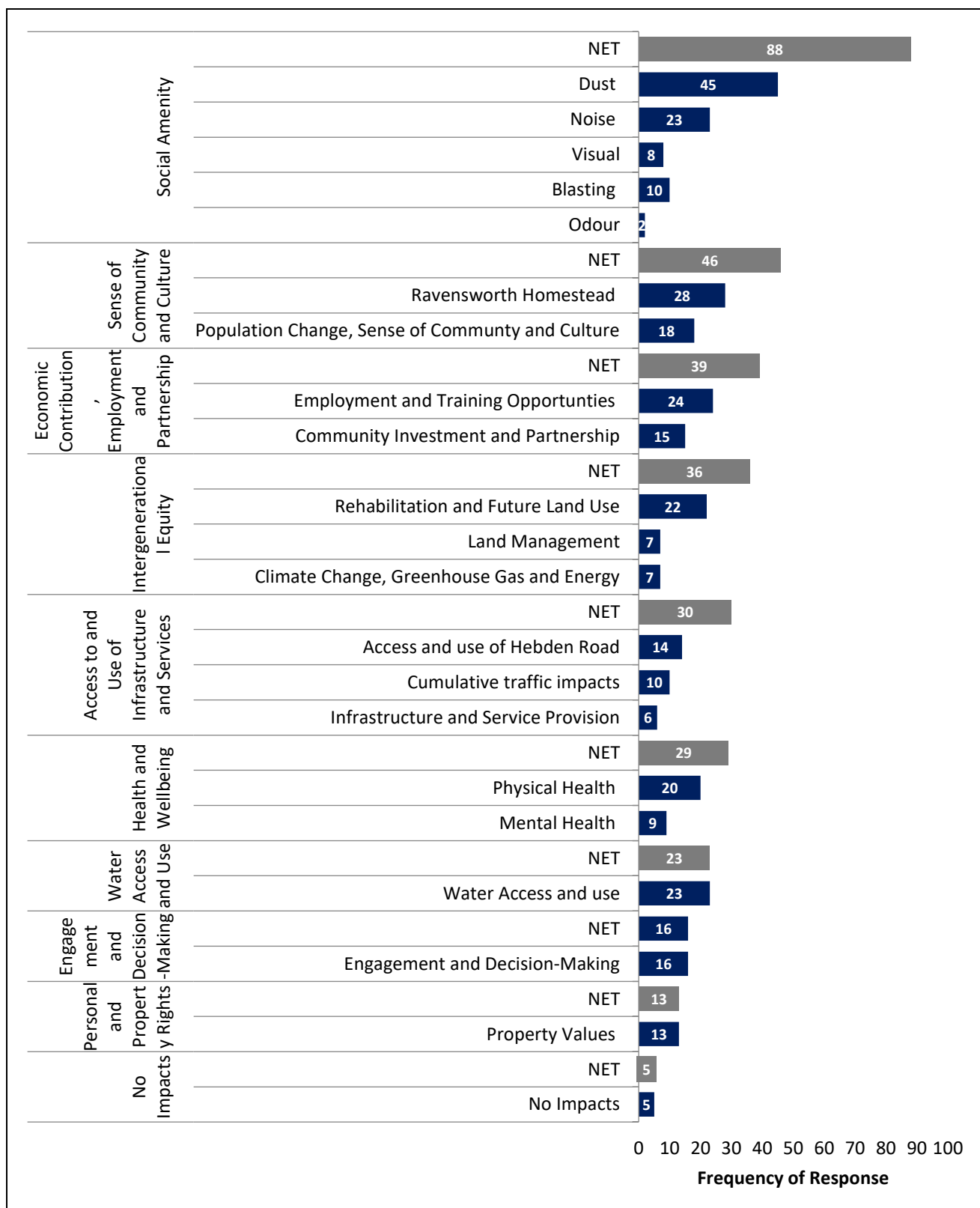


Figure 6.2 Perceived stakeholder impacts (key stakeholders)

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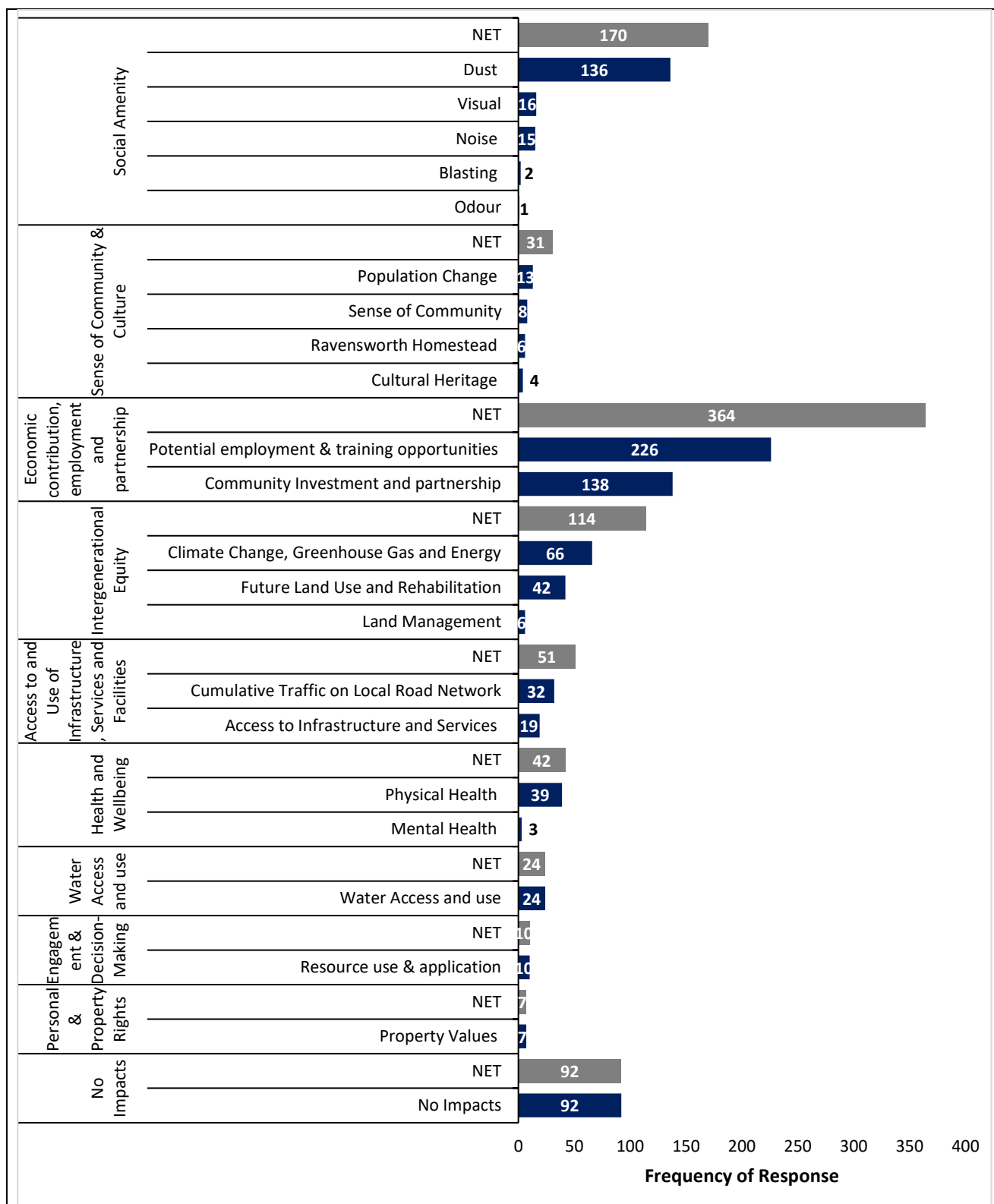


Figure 6.3 Perceived stakeholder impacts (Singleton LGA Community)

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Perceived impacts identified by participants cover a range of social impact categories, as defined in the SIA Guideline (DPE, 2017) and reflect the fears and aspirations of the stakeholders consulted. Perceived social impacts relating to way of life were the most prominent social impact category identified and may include impacts on how people live, work, play and interact with one another on a daily basis (DPIE, 2017). Other impacts frequently raised included those relating to surroundings, community and culture, personal and property rights, health and well-being and access to and use of infrastructure, services and facilities.

Figure 6.4 defines the social impact themes that fall within each of the social impact categories and demonstrates the interrelationships that exist between the social impacts raised. As is illustrated in the matrix, the social impacts identified are relevant to more than one social impact category, given that social impacts are not mutually exclusive and are often highly interrelated. For example, potential impacts to air quality as a result of the Project, are perceived by stakeholders to impact on their way of life, their health and well-being, and their access to and use of their surroundings.

THEME		Positive and Negative Impacts	Way of Life	Community	Access to & use of Infrastructure, services & facilities	Culture	Health and Wellbeing	Surroundings	Personal and Property Rights	Decision-Making Systems	Fears and Aspirations
Social Amenity											
	Blasting						●			●	
	Noise	●					●			●	
	Dust	●	●			●	●	●		●	
	Odour						●			●	
	Visual						●			●	
Sense of Community and Culture											
	Ravensworth Homestead	●	●		●					●	
	Population Change, Sense of Community & Culture	●	●		●		●			●	
Economic Contribution, Employment and Partnership											
	Community Investment and Partnership	●	●				●			●	
	Potential Employment & Training Opportunities	●						●		●	
Intergenerational Equity											
	Rehabilitation and Future Land Use	●	●	●		●				●	
	Land Management						●	●		●	
	Climate Change, Greenhouse Gas and Energy	●					●			●	
Health and Wellbeing											
	Physical Health	●				●	●			●	
	Mental Health	●				●				●	
Water Access and Use											
	Water Use and Access						●			●	
Engagement and Decision-Making											
	Engagement and Decision-Making								●	●	
Personal and Property Rights											
	Personal and Property Rights	●						●		●	
Access to and Use of Infrastructure, Services and Facilities											
	Access and Use of Hebden Road	●		●			●			●	
	Cumulative Traffic Impacts	●		●			●			●	
	Infrastructure and Service Provision	●	●	●						●	

Figure 6.4 Social impact categories matrix

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6.2 Perceived positive and negative social impact themes

This section provides further detail on each of the social impact themes identified by community stakeholders in relation to the Project.

6.2.1 Social amenity

As shown previously in Figure 6.1, social amenity concerns were the most frequently raised social impacts identified by near neighbours (88) across both rounds of engagement. The majority of concerns in this regard, related to impacts on air quality (45), way of life and rural lifestyle and amenity. Health impacts including the potential for respiratory illness and ingestion and/or inhalation of fine particles were frequently raised, with particularly vulnerable groups noted such as children and the elderly. Health impacts are discussed in further detail in **Section 6.2.5**.

The presence of multiple mines in the area, was highlighted as the source of cumulative dust and air quality concerns. Operational noise was also raised, followed by visual amenity, blasting and potential odour (refer to **Figure 6.5**).

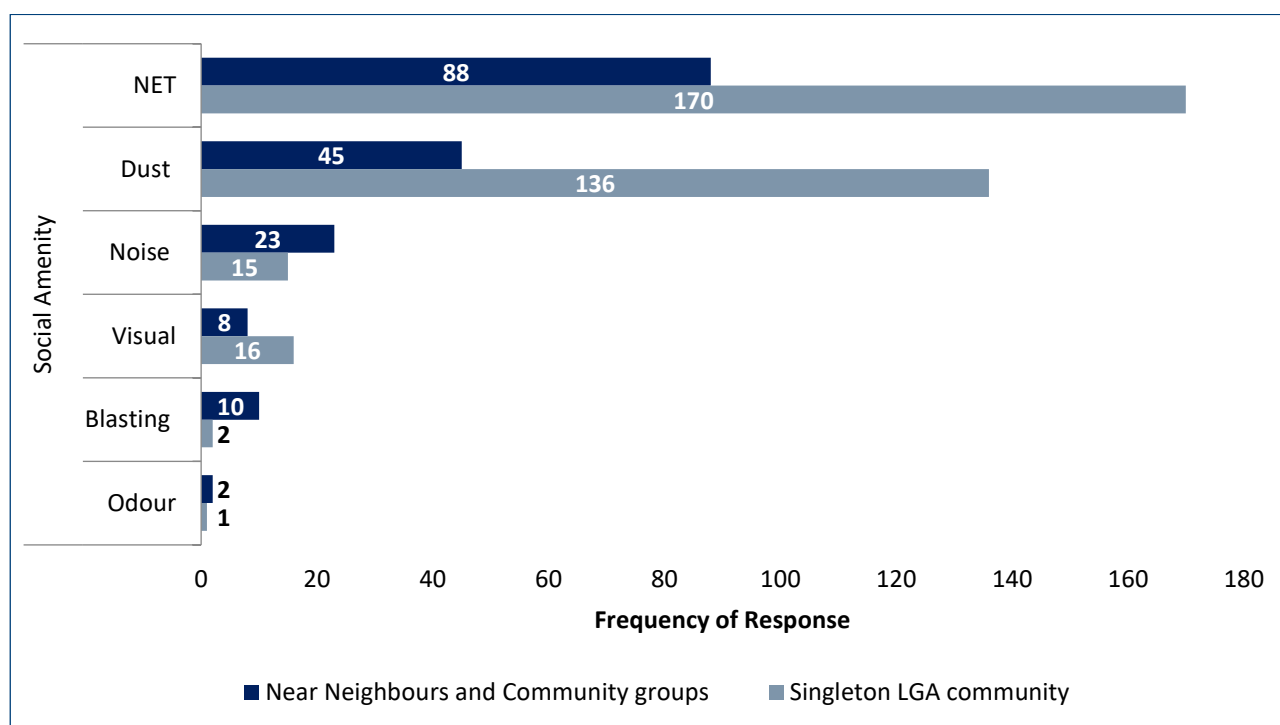


Figure 6.5 Perceived impacts on social amenity

n=370; multiple responses allowed

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6.2.1.1 Dust

Dust impacts on air quality were raised as an impact in relation to the Project by a number of stakeholder groups, with concerns not only related to additional dust resulting from the Project, but particularly the cumulative impacts of dust from the Glendell Mine and other mining operations in proximity, and within the broader Hunter Valley region. This issue was particularly noted during engagement in Round 2 with concerns around dust increasing in frequency from 27% (n=17) in Round 1 to 56% (n=28) in Round 2 (45 in total across round 1 and 2, refer to **Figure 6.5**).

Stakeholders also associated the cumulative dust impacts with the use of household wood fires, surrounding power stations and weather conditions, such as temperature inversions, contributing at certain times to a perceived 'blanketing of dust' across the Valley. Nearby quarries were also highlighted as a contributing source.

Near neighbours, Aboriginal and community groups were particularly concerned with the cumulative dust/air quality impacts of the Project. Near neighbours also acknowledged that the impacts of dust on air quality was particularly noticeable during periods of drought.

It is dry and dusty anyway, but there is a lot of coal dust - Near Neighbour (Round 1)

The drought doesn't help, the dust is always heavier and we're not able to suppress it - Near Neighbour (Round 2)

We're in an area where there is a lot of open cut coal mining, cumulative impacts of dust, it hasn't helped with the drought – Community and heritage stakeholder (Round 2)

I know mining has got to keep happening but when you live with 5 mines on the western side (Mt Owen is the closest), you get a lot of dust – Near Neighbour (Round 2)

As they move away it is improving, but we're sitting in a whole heap of mines, aren't we? - Near Neighbour (Round 2)

For myself – the air. The dust. When you fly, you look down there is a distinct ring around the valley. You can't say it's from anything else. It's from the pits – Aboriginal Service Provider

The worst thing is it is moving closer to Singleton. The cumulative impacts of air quality, traffic, use of diesel. We have put up with enough. Dust is everywhere. The mines don't do what they say they do. Nothing has ever been knocked back. We are not a mining town, we are a rural community – Community and heritage stakeholder (Round 2)

We don't get much dust from coal here, but we do get a lot from the Gravel Quarry pit – Near Neighbour (Round 2)

It was considered by near neighbours, located to the South of the Project, that the impact on their properties, from the Glendell Mine, would be expected to decrease, as a result of the pit moving North. However, the effects of westerly winds blowing cumulative dust from surrounding mine sites and stockpiles was still noted.

The overall sentiment expressed by near neighbours was a sense of frustration and exhaustion, with the prospect of having to contend with a further continuation of mining in the region. Near neighbours frequently discussed having to make changes to their way of life in order to address social amenity concerns associated with the impact of dust, including hanging washing indoors, keeping windows and doors shut and frequent domestic cleaning of the inside and outdoor areas of their properties. There was a view that dust from mining operations resulted in neighbours having to confine themselves in their houses, resulting in a loss of the amenity associated with living in a rural location. Long term near neighbours that have resided in Hebden (average of 28.6 years), Camberwell (average of 29 years) and Middle Falbrook (average of 25.6 years), expressed concern that the Project would result in the continuation of dust impacts.

You get so sick to death of cleaning the inside and the outside - Near Neighbour (Round 2)

You get sick of seeing your trees and plants covered in dust but what can you do and what can they do about it? It got me very depressed when they all started up because you're living a very peaceful life down here and you get well and truly sick of it - Near Neighbour (Round 2)

It just gets to the point that you can't open your house, even in a light breeze - Near Neighbour (Round 2)

We've got a creamy white tile inside and even if you have the windows open for a few days in a light breeze you can see the footprints of the children walking through it - Near Neighbour (Round 2)

I can see the dust coming down the highway and it acts like a funnel. The mines and the power stations are drawn down and seems to go straight down into the village. Glencore has enough. We don't deserve that. This small extension is not needed, they have coal from other places. People in Camberwell have had enough. Camberwell is one of the oldest villages in the Hunter Valley – Near Neighbour (Round 2)

I thought they might offer to help out with the pool or something, but no – Near Neighbour (Round 2)

Round 2 consultations with near neighbours saw an increase in responses related to the time, effort and cost involved in the cleaning and maintenance of solar panels, swimming pools and other household duties e.g. washing, cleaning. Of those consulted, many have previously been offered dust mitigation from neighbouring mining operations, such as air conditioning and solar panel fitment; however ongoing cleaning and maintenance is not offered to alleviate/relieve dust impacts. One stakeholder admitted refusing air conditioning as a mitigation strategy, on the grounds that their social amenity would be further impacted by confinement indoors.

I have to wash my solar panels every month, which uses water that we don't have – Near Neighbour (Round 2)

We just can't afford it all the time; the filter cartridges are \$50-100 and you have to change that 2-3 times depending on the amount of dust – Near Neighbour (Round 2)

My pool is a nightmare to keep clean, and I can't afford to clean it because we're on tank water – Near Neighbour (Round 2)

I'm sick of the dust. I can't even put my clothes on the line, and I have to fit the bill of using the water to clean it all off – Near Neighbour (Round 2)

I have to pressure clean my house every two months. I think Glencore should send us away to get away from it all – Near Neighbour (Round 2)

We've used our dryer constantly and have a line set up inside – Near Neighbour (Round 2)

I don't want to sit in my house in the air con. You don't move out of town to live in a box– Near Neighbour (Round 2)

No matter what they say you can't do anything about the noise or the dust. Once you dig that hole in the ground you have dust. You can't ever put enough water on it. You can't really stop the dust. They need a plastic sheet from the ground to the sky – Near Neighbour (Round 2)

Health impacts associated with air quality and dust were also raised in relation to the Project and are further discussed in **Section 6.2.5**.

The cumulative impacts of dust were also raised by stakeholders. Camberwell residents in particular expressed a desire for cumulative impacts of dust to cease, reporting multiple developments and extensions in the locality have contributed to increased social amenity and health concerns.

The dust is just terrible. The cumulative impact we have in spades but nobody seems to be able to make it go away. It's gone over the balance. I'm not against mining, I'm against another mine. It means more dust. They get these extensions and then a new mine starts and there's more dust. They keep extending and then there's more dust - Near Neighbour (Round 2)

The dust is just ridiculous from Glendell and Ravensworth. Westerly winds, mostly from Ravensworth. I can see mt Owen, we're on top of a hill at Camberwell. I can see Glendell. Every day is dust cleaning - Near Neighbour (Round 2)

The cumulative impacts of dust on the wider region was reiterated by the wider community in the Singleton LGA in relation to the impact of dust on social amenity and health. Social amenity concerns largely related to dust accumulating on cars, houses and general nuisance dust; with health concerns centred around potential respiratory illnesses or contamination to drinking water (refer to **Section 6.2.5**).

Very dusty all over the house – Wider Community (Round 2)

Constantly getting black dust over everything – Wider Community (Round 2)

Dust generation, [there's] always dust about in your home – Wider Community (Round 2)

Dust, area will become dustier especially on windy days – Wider Community (Round 2)

Dust, it's black dust, it's dirty, it goes everywhere – Wider Community (Round 2)

Although the Project is not anticipated to increase the number of annual train movements, cumulative air quality concerns were raised by the wider community regarding the transportation of coal resources via rail. Stakeholder concerns were centred on the effects of uncovered train loads carrying coal and the effects of fine dust dispersion throughout the Singleton LGA and broader region.

Coal trains bringing dust and noise to urban areas – Wider Community (Round 2)

Coal trains which come every 7 minutes are not covered – Wider Community (Round 2)

Trains drive through without covers over the load as a result of the mines, this also causes dust – Wider Community (Round 2)

6.2.1.2 Noise

Noise was identified primarily by near neighbours as an area of concern in relation to the Project (23), with this issue noted by 12% (n=8) of near neighbours consulted in Round 1, compared to 29% (n=15) in Round 2. Some near neighbours outlined further issues with operational noise, particularly the loading of trucks; with noise identified as being worse at night, during different weather conditions and on the weekends.

Noise, especially from trucks loading – Near Neighbour (Round 2)

Clack-clack of dozers going backwards – Near Neighbour (Round 2)

It is worse in the winter when the cold air comes down and it holds a layer of dust and noise in - inversions I think it's called? Sometimes I used to look out the front because I thought there was a truck on my front doorstep, but it is the cold air that won't let it go up – Near Neighbour (Round 2)

We hear the noise from Glendell now, especially at night-time. Going into summer we will want to have the windows open but can't due to the noise and dust coming in the windows – Near Neighbour (Round 2)

Similarly, to the issues noted in relation to dust, cumulative noise was also considered a key issue, particularly for residents in the Camberwell and Glennies Creek localities; with a view expressed that it was “very hard to tell where it (the noise) is coming from”, given the presence of a number of mining operations in the vicinity.

As the Project moves north, some near neighbours were concerned that noise will increase as a result of the Project, whilst others reported possible improvements as mining activities would be located further away. For instance, Hebden residents tend to fear that noise impacts may increase as the Project moves closer, whereas Camberwell residents reported that noise would likely improve as the mine moved away.

Noise from Glencore will be moving away – Near Neighbours (Round 1)

It does bother me that they say that it won't bother Camberwell, as it's moving further away, which is towards me – Near Neighbour (Round 2)

Progressively the noise will increase as they get closer. If I want to settle there, I'm going to have to put up with all that dust and noise – Near Neighbour (Round 2)

Wouldn't worry me, I can hear machinery at night-time now, but it's not a noise that would worry a person, it's not interruptive, it's just in the background – Near Neighbour (Round 2)

Noise levels associated with the Project were also discussed by a small proportion of wider community respondents, most often by those living in close proximity to the site or by those who had experienced noise impacts associated with other mining operations in the past.

White noise, noise in the background, you are always hearing it when living close to a mine – Wider Community (Round 2)

Noise is also a problem as I live very close – Wider Community (Round 2)

More noise in the area – Wider Community (Round 2)

6.2.1.3 Blasting, visual and odour

Blasting concerns were most often raised by near neighbours, in regard to the dust generated, or the vibration effects on property, the latter primarily relating to the potential for property values to decline. Blasting was raised by 4% of near neighbours in round 1 (n=3) and 13% in round 2 (n=7). One near neighbour, who receives blasting notifications, expressed that this communication was important, as it “helps to know which mine is blasting and when”.

When they let a shot off, sometimes the dust is quite heavy, it ends up here at the house – Near Neighbour (Round 2)

The blasting noise upsets the dog. We probably hear it about once or twice per week – Near Neighbour (Round 2)

We get the vibration, dust clouds and the noise from blasting and I worry that it will affect my property values – Near Neighbour (Round 2)

I hope they will come and straighten out the house one day – Near Neighbour (Round 2)

Vibration shaking the windows and rattling the windows day and night. We're about to replace all our windows, as an attempt to get some sleep – Near Neighbour (Round 2)

During engagement Round 2, near neighbours also outlined potential visual impacts of the Project (15% of total responses (n=8), including lighting spill at night and overall visual amenity during the day. These impacts were not identified during Round 1.

I get a fair bit of lighting from Glennies Creek and I could get more lighting – Near Neighbour (Round 2)

I can see the lighting at night – Near Neighbour (Round 2)

The outlook from the railway and the New England Highway is awful – Community and heritage stakeholder (Round 2)

Potential visual impacts (16) expressed by the wider community were notably in relation to the visual amenity of the local area and the negative changes on the landscape as a result of mining.

They look ugly, visually – Wider Community (Round 2)

Ugliness of [the] mine. [They] don't clean up after themselves. Leave earth layers exposed, but I would rather see a tree – Wider Community (Round 2)

It has a negative impact on the aesthetics of the countryside, it looks like a moonscape – Wider Community (Round 2)

Beautiful countryside look is now gone because of the destruction of our land from mining moonscape – Wider Community (Round 2)

During Round 2, two near neighbours (2% of total responses across both rounds) stated concerns that the Project would omit offensive odours during operations. These concerns were largely raised, in part, to current experiences on Scrumlo Road, with the impact perceived to be enhanced as a result of westerly winds.

The smell of overburden fires and burning coal used to sweep up past our place, it's not nice – Near neighbour (Round 2)

Currently experiencing impacts on Scrumlo Road. There is a coal stench that gets worse the closer you get to Ravensworth. Maybe it's coming from the Westerly winds?

6.2.2 Sense of community and culture

The second most identified social impact identified by near neighbours, community and Aboriginal groups related to impacts on sense of community, culture and identity (n=46), with 61% (n=28) of the impacts relating to the Ravensworth Homestead.

Stakeholders reported that community identity in the study area has changed significantly over the last 20 years – partly due to the cumulative influence of mining and partly in line with changes to small rural localities regionally and nationally e.g. population loss, decline in other sectors etc. These issues are further described below.

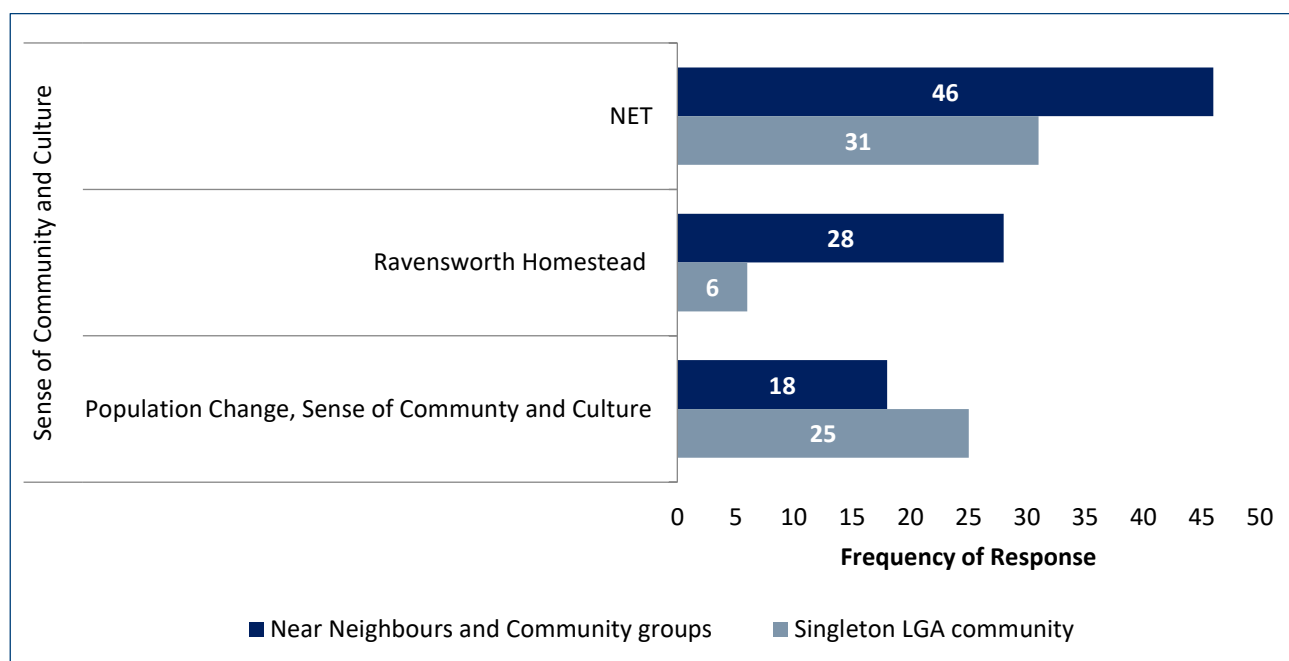


Figure 6.6 Perceived impacts on sense of community

n=370; Multiple responses allowed

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6.2.2.1 Population change, sense of community and culture

Participants reported that while the community had previously comprised largely long-term landowners, there are now higher proportions of residents who rent in the area, particularly as a result of the purchase of properties by Glencore and other mining companies. Near neighbours perceive the changes to their community being due, in part, to the exit of long-term homeowners and the influx of a more transient rental community, leasing mine owned properties with such tenants perceived to have less personal investment in the local community. Camberwell residents, in particular, vocalised their disapproval, stating that the acquisition processes of surrounding mines over the past 20 years of operations had destroyed their community. One stakeholder suggested that the onus lies with government in allowing too many mines to operate throughout the Hunter Valley,

Community has been destroyed by mining – Near Neighbour (Round 1)

More people are renting now, and most don't get involved in the community – Near Neighbour (Round 2)

The big impact is sense of community because people move away. Quickly at first then they left gradually – Community and heritage stakeholder (Round 2)

The fabric of Camberwell changed due to Ashton acquiring them. They we're just sick of the dust and all the mines. It's just changed so much – Near neighbour (Round 2)

Near neighbours expressed concern that those renting within the community appear less attached to the area and therefore interact less with local residents and within the community. A wider community member echoed this sentiment and held concerns that population changes associated with the Project have the potential to increase community discontent due to differing values and community connection.

We've lost a lot of our community; some houses have been done away with. More people are renting now, and most don't get involved in the community - Near Neighbour Near Neighbour (Round 2)

They are a bit freer to do as they please, because no one monitors them – Near Neighbour (Round 2)

Brings strangers to town, encourages [those] who don't have love for the town [and] crime – Wider Community (Round 2)

Such concerns were also raised by some near neighbours in relation to the influx of construction workers into the area:

One thing that does happen in a little rural area like Hebden is during the 2 years or so that they are doing the construction, they bring in a lot of workers into a little rural area that is not used to traffic, these people look around and they trespass, shoot and leave gates open – Near Neighbour (Round 2)

In contrast, population changes were noted as a positive impact of the Project by a number of wider community residents (13), who acknowledged the growth and subsequent economic stability afforded to the Singleton LGA when mining personnel and their families enter the area for employment. This is further discussed in **Section 6.2.3**.

Additionally, it was noted that the acquisition process had enabled mining corporations to purchase land as offset areas and properties, and that this removal of available land in turn has stagnated opportunities to entice new long term residents to the area or for local residents to extend their farms.

It [the acquisition processes] has turned the community into a transient rental area. The community is not what it used to be – Near Neighbour (Round 2)

It's bloody xxxx to be honest. It's not a community anymore, you knew people, we had street things at Christmas, but they're all mine owned homes now - Near Neighbour (Round 2)

There is no 'Ravensworth community' anymore since the mines started – Community and heritage stakeholder (Round 2)

However, greater transience of community members, was also seen to be a benefit, in that younger families were now living in the area and 'invigorating the community':

We are getting more people coming here – it's a nice area, we have two new people coming into the area. There are more coming than going – Near Neighbour (Round 2)

Overall, a number of near neighbours reported strong family connections to the area, and some uncertainty regarding the future.

Born and raised here, have been living in this house my whole life. Remember having no water, but now because of Glennies Creek Dam there is water and irrigation. Have family buried at the local church - Near Neighbour (Round 1)

Our family has been here for so many generations. I have a deep love of this land - Near Neighbour (Round 1)

We all could sell up and move away but this is our home. I am a 5th generation "Singletonarian" – Near Neighbour (Round 2)

While there was a perception that the nature of communities, and especially the villages of Hebden, Camberwell and Ravensworth, had changed irreversibly; there was a feeling that people who lived in the wider area were committed to the area and willing to support their community, for example through a strong commitment to volunteerism and community participation.

Singleton as a whole is a great community. There are so many people who do volunteer work and people are friendly – Near Neighbour (Round 1)

One near neighbour consulted also suggested Aboriginal cultural heritage may be impacted by the Project. Their concerns were raised in reference to surrounding operations that have been seen to previously destroy Aboriginal artefacts. This issue was also raised by a regional aboriginal stakeholder, who outlined that if better engagement had been undertaken with Aboriginal communities in relation to their cultural heritage, cultural impacts may have been reduced.

Aboriginal artefacts destroyed for Mt Owen: a meeting circle and another one was a camp, but it's just gone now, and we didn't realise until after the fact. Are there any Aboriginal sites where they want to mine? – Near Neighbour (Round 2)

Mining has completely impacted the area. It has brought cultural devastation in the area. There are so many people coming to the area and the mining companies still haven't got engagement with Aboriginal people right – Aboriginal Service Provider

6.2.2.2 Ravensworth Homestead – Heritage values and associations

This section identifies the heritage values and issues of importance relating to the Project, as identified by key stakeholders through the engagement process, including near neighbours residing in proximity to the Project, individuals and groups with a strong interest in heritage, Aboriginal stakeholders and the wider Singleton community.

With Glencore looking to extend their operations and utilise the land in which the Ravensworth Homestead is situated; stakeholders were consulted to identify their perceptions and values associated with the locality and specifically the Ravensworth Homestead and its associated buildings (e.g. barn, stables and remnants (footings) of old buildings).

Further to engagement with local landholders and community stakeholders, an advisory committee has also been established - the Ravensworth Homestead Advisory Committee (RHAC) - with members including local landowners, a representative of the Mount Owen Complex and Integra CCC, a representative from the Singleton business sector, historical and heritage experts and the former owners of the Homestead. The RHAC has been facilitated by an independent chair; and additional advisors have been brought in to discuss key issues with the RHAC as required, including technical, heritage and Aboriginal experts. The group was formed in December 2017 and has held regular meetings to discuss values associated with the Ravensworth Homestead and to explore potential relocation options and their viability. These options are further outlined and discussed in **Section 7.3.3**, with wider community perspectives of Singleton and Broke residents also canvassed on the potential relocation options.

6.2.2.3 Key stakeholder perspectives

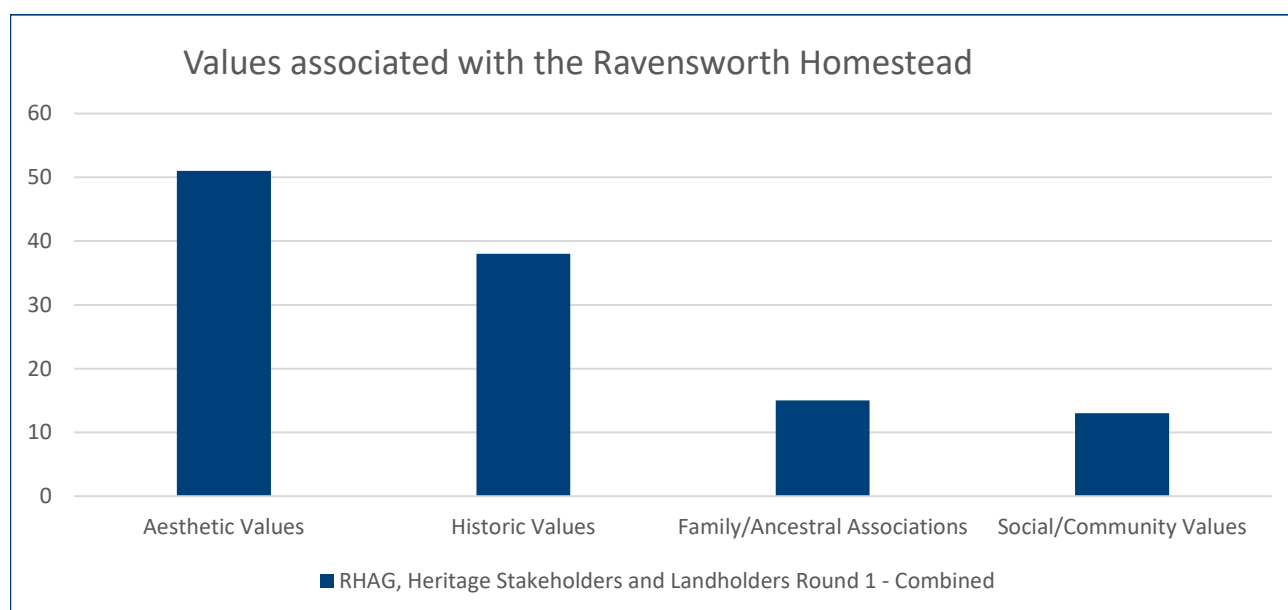
Overall, all key stakeholders consulted expressed that they had a strong interest in the history of their area (84%); with strong agreement across all key stakeholders consulted that the Ravensworth Homestead was an important part of the heritage of the Singleton Shire (91% of those consulted) and its local history (93%). There was also a strong agreement across key stakeholders that buildings of heritage value should be preserved (94%), with the majority of key stakeholders (69%) concerned that if not relocated, the homestead may deteriorate like other buildings in the area. As a result, there was a desire to see a sustainable future for the building(s). As outlined in **Section 3.3**, some of these stakeholders were specifically interviewed due to their interest in heritage values or engagement in local heritage groups and the RHAC process (13 structured interviews with groups and interested/relevant parties, and a Focus Group with 6 members of the RHAC in round 1; and 12 structured interviews in round 2).

While personal attachment to the homestead varied across key stakeholder groups, community respondents with an active interest in heritage noted a greater sense of personal attachment to the homestead.

The majority of stakeholders also expressed that it was important for the homestead to be available for community use and access (73%), outlining that they would be interested in visiting the homestead, if public/community access was available (68%) and in understanding more about the homestead and its history (75%).

During the engagement process to inform the SIA, stakeholders were also asked to reflect on the values they associated with their locality - including their impressions, interactions and experiences with the Ravensworth Homestead. As outlined in **Figure 6.7**, for the key stakeholders consulted, the homestead was valued for its unique aesthetics, namely the design and style of the homestead, its craftsmanship and technology of construction; and for its historical values as a significant building at a local and state level; a prominent working agricultural complex within the region, providing an insight into the early colonial way of life in the Ravensworth locality.

Those that had lived at the homestead and those who visited held many fond memories of times spent with family and friends; with several notable connections to key pioneering families identified e.g. Bowman, Russell, Marshall. For the Aboriginal community, the memories were less positive, with the homestead signifying the conflicts of the time between Aboriginal people and early settlers.



Note: Multiple responses allowed

Figure 6.7 Values associated with the Ravensworth Homestead (Round 1 - Scoping phase) as identified by local landholders, heritage stakeholders and RHAC members

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At a local community level, while the personal connection to the homestead was stronger for those that had an active interest in heritage and Aboriginal stakeholders, compared to local landholders or the wider community; the homestead was still perceived to be one of the remaining buildings that represented a once prospering Ravensworth locality.

The values and issues identified in relation to the Ravensworth Homestead during the engagement process are further outlined in the following sections.

Family/Ancestral Associations

It was perceived by key stakeholders that the homestead holds many memories for community residents in the area, those that have lived at the homestead or visited the homestead over the years.

Ravensworth Estate and its establishment can be traced back to 1824 when the first huts were built to accommodate overseers and a convict workforce. The Ravensworth Homestead Complex that exists today was built c1832. The Homestead complex also includes a large barn, stable and stone remnants of a large building presumed to be potential convict quarters (oral history).

The homestead was originally built and owned by Dr James Bowman, who was married to Mary Macarthur (daughter of John Macarthur) and was operated principally as a sheep station, also running some cattle. The Estate totalled 12,160 acres, encompassing Bowmans Creek and York's Creek and was later expanded to include frontage to the Hunter River. By 1828 over 40 convicts and overseers worked on the property as shepherds, labourers, carpenters, sawyers, blacksmiths and stone masons.

The connection of the homestead with notable families of the time e.g. Bowman, Macarthur and Russell were also raised by key stakeholders.

"There are many familial connections within the region of which Ravensworth is a part – it has links back to the Bowman and Macarthur Family and is one of the oldest buildings of its kind in our region."

"The people and the connection to Ravensworth doesn't just stay here. It is far reaching. Captain William Russel brought back sheep to improve the breed at Ravensworth. It's not just about the homestead; it's about all the changes that happen from its first development. It's all that"

For example, it was suggested that an association existed between the original Dulwich estate and Ravensworth Homestead, which were connected by a bridle path in the time of James Bowman and James Glennie. The Dulwich Homestead is located to the east of the project area and was built by free settler James Glennie who arrived in the area in 1824 to take up an original grant of 2080 acres at Falbrook (renamed Glennies Creek in his honour). The current Dulwich Homestead, circa 1870, was constructed by Thomas Ware Smartin Victorian style, single storey brick on sandstone foundations with a slate roof, bull nose verandahs and ornate cast iron supports and French windows and shutters.

Following the First World War, the Commonwealth and State Governments cooperated to initiate programs to enable returned soldiers to settle on their own farms to secure their own homes. The property was eventually subdivided and sold to a range of owners, before part of the original estate was gazetted to the Marshall family in the 1920's, under the soldier settlement scheme after the return of Augustine Marshall from the First World War. The Homestead remained in the Marshall family for approximately 70 years, until purchased by Glendell Tenements Pty Ltd in 1997.

After world war 1 the property subdivided into many repatriation farming blocks for the returned servicemen. Campbell Marshall acquired the Homestead blocks in 1920. House was derelict, had not been occupied for about 7 years. He and his father the Rev James a retired Presbyterian Minister worked hard to restore the house to a liveable building to enable the women ie: Agnes Marshall (mother and wife) and sister, daughter Hazel to come to live.

Exert from Ruth Campbell Thompson's writings on Ravensworth

The Ravensworth homestead has held significant value as a family home, initially for James Bowman and Mary McArthur, and more recently from the 1920s for the Marshall family (Enid and Augustine) and their children Ruth, Jane and Geoff. For Enid and Augustine Marshall, and their subsequent children, grandchildren and great grandchildren, the homestead has been a special family home, remembered sentimentally as a gathering place for all the family at holiday times; with their grandparents; with the house itself, warmly referred to as “*the heart of Ravensworth*”.

“Ravensworth was our families gathering place as we spent every childhood holiday together and beyond. It gave us a strong bond to our family and to today, we all feel that Ravensworth is within our blood. It seems that anyone who stayed there feels this bond” (Anne Blackstone, grandchild of Enid and Augustine 2018).

“We would mostly play outside – playing in our cubby house at the back of the tennis court in an area hollowed out in a large shrub with yellow flowers; we later would play tennis and croquet on the tennis court. Near the court at the front of the house there were date palms, we would pick up the fallen dates; we loved to sit on the stone seats in the garden and get into the convict stone troughs” (Anne Blackstone, 2018 – grandchild of Enid and Augustine)

During the warmer months we children were often taken to Bowman's creek (down the flat) to play and paddle in the running water. Mum sometimes packed sandwiches made of cold lamb and bottles of home made cordial eg: ginger beer and cakes to have a picnic tea. Happy gastronomic memories of picnics by the creek. This was a favourite pastime if we had cousins or friends from Sydney. Dad often joined us after he had completed a day's work with the draught horses, then he'd drive them home in the half light and we'd follow either on our horses or with mum driving Brownie in the sulky.

Exert from Ruth Campbell Thompson's writings on Ravensworth

A number of stakeholders consulted, also had personal stories that had been handed down from their respective families, about people's lives and events held at the homestead. Such memories included:

- travellers passing through
- reports of loss of family members, including the daughter of a former caretaker (James White) reported to have drowned, a former manager and potentially Dr James Bowman himself (though no evidence of James Bowman being buried on Ravensworth Estate has been found as part of the detailed investigations completed for this EIS)
- working on the homestead, helping with shearing, crutching and general farm work
- a mother's story of the time she was a teacher to the children living at the homestead
- playing tennis on the grassed area
- spending school holidays as a child and building cubbies in the barn
- visits to the homestead during open events
- attending weddings and parties

In relation to earlier times of settlement, the Homestead site also had significance to members of the Aboriginal community; with the community associating the area with hostile encounters with early settlers describing it as a site of conflict, violence and massacre of local Aboriginal people.

"It's history as a brutal site of violence and massacre is important to acknowledge"

"The homestead is important for its historical connection. It was a place of a number of clashes with Aboriginal people, where some of the [homestead] servants were speared"

Mark Dunn's 2019 historical report 'Contact History at Ravensworth Estate' explores the events that occurred between 1825 and 1827 between Aboriginal people and European colonisers across the Hunter Valley area including Ravensworth Estate and surrounding areas (refer Appendix 22 of the EIS).

Familial connections to the locality, more generally, were also expressed by other near neighbours consulted, many of whom had grown up in the area.

"I was born and raised here, have been living in this house my whole life. Have family buried at the local church"

"Our family has been here for so many generations. I have a deep love of this land."

"Properties have stayed this size for a long time and have been in families for years."

"I have a strong attachment to the homestead – my Great Uncle worked for the Bowmans"

"I have childhood memories of playing at the homestead and we knew the family that used to live there"



Plate 6.1 The Ravensworth Homestead

Aesthetic Values

As illustrated in the values map (refer to **Figure 6.8**), many of the values identified related to the aesthetic values associated with the homestead, namely the design and style of the homestead, its craftsmanship and technology of construction.

“Being stone, it’s beautifully crafted (hand-hewn stone) and built”

Of notable aesthetic value are the windows in the original cottage (kitchen wing) and main house, which have 12 panes, with thin cedar casings and hand poured glass. Most of the windows also have cedar shutters. The stone arches also highlight the technology of construction used during the 1800s (refer to **Plate 6.1**).

“The arches in the stable are unique and important”

There is also an interesting sandstone ablutions block, set apart from the house, with a four-seat dunny - two small seats and two large seats.

“We would play in what we called the ‘convict 4-seater toilet’ in the sandstone outhouse”

The layout also shows ways in which the homestead was adapted over the years, with the main house extended in 1906; and other buildings such as the stables, which has been used for different purposes over the years.

Just prior to World War II, Dad converted a stone shed once stables. into a shearing shed – shed near stone tank. He built 3 or 4 wool bins a circular wool table for classing the fleece. Two stand shed. The engine used was the same one used for the milking machines in shed next to the barn (once convict quarters) The engine was transported from place to place on the trolley and connected up with this n that, pulleys etc – often went wrong, all men gathered to use their bush mechanical knowledge.

Exert from Ruth Campbell Thompson’s writings on Ravensworth

The below images (refer to **Plate 6.2**) also highlight upgrades to the homestead over time. For example, the two photographs taken of the same section of the main house show the wooden columns replaced with iron columns that still remain.



Plate 6.2 The Ravensworth Homestead

The following **Figure 6.8** and Table 6.3 also illustrate some of the values identified by stakeholders in relation to the homestead complex during consultation.



Image Source: NearMaps (Nov 2016)

0 10 25 50m

Legend

- (20) Social Values (Refer to Table 6.3 for full description)

FIGURE 6.8

Values Associated with the Ravensworth Homestead

Table 6.3 Values associated with the Ravensworth Homestead

Social Values	Description	Map Reference
Historic Values	Potential convict quarters - interplay between convicts and homestead	1
	Agricultural history and equipment used e.g. wool bins and round wool table	6
	Early Australian - pantry/storeroom and meat safe characteristic of early Australian life	10
	Changing land use - from sheep to cattle, with Lucerne hay production	11
	Two palms and Moreton Bay Fig	15
	Stranger's room - for passing travellers. Stories important e.g. strangers' room where anyone could stay there.	21
	Stables, shearing, dairy in one building.	22
	Foundations of potential convict quarters	24
	Underground brick tank	25
	Old hand pump (no longer there)	28
	Surveyors mark	43
Aesthetic Values	Front façade	2
	Natural stone architecture and detail (western side)	3
	Arches - design (three arches)	4
	Built form - hand hewn stone and stone lintels above windows and door	5
	Stables and shearing shed - important arch entrance	7
	Original features in cottage e.g. fireplace	8
	Unique ablutions block. Four-seater dunny with two smaller seats and two larger seats.	9
	Stages of building - main house 1840	12
	Stage of building - original cottage (kitchen wing) 1832	13
	Stages of building - additional cottage circa. 1906-1930	14
	Millstone seat (made of rounded stone) used for setting steel wheels	16
	Stone wall around house – majority in good condition made from stone	17
	Barn – used to store hay – 1966.	18
	Idea of long-term confidence 1820s-40s era - stone outbuildings	23
	Dummy windows on western side of main house and Outbuilding No. 2 - reflective of window tax.	31, 38
	Wooden beams in Outbuilding No. 1	32
	Original driveway which was originally around the Fig tree	33
	Original gate to garden	35
	Ventilation peaks on main house – may have been installed around 1906	36
	Trees and garden within the direct compound clean boundary - unique clearly defined compound/complex	37

Social Values	Description	Map Reference
Family/Ancestral Associations	Perception that the homestead was designed by Bowman and Macarthur who were thought to have brought the design with them from the UK. The Stapleton report (refer Appendix 23a of EIS) however indicates that the complex was most likely designed by a gentleman architect, most likely the Scott brothers, Helenius and Robert, who were operating in the Hunter Region in the 1820s from their Glendon property, and had a documented association with Dr James Bowman and the Macarthur family (Lucas, Stapleton & Partners, 2019). Unusual compound for Australian homesteads.	20
	Family grave - thought to be the grave of the homestead manager James White's daughter. Potential for other graves, including James Bowman? (though detailed investigations completed as part of the EIS have found no evidence of Bowman being buried on Ravensworth Estate)	27
Additional Features	Potential quarters for convict managers	19
	Chook shed	26
	Outdoor spa remains where grassed depression and old piping is located (Marshall family)	29
	Catching pen	30
	Cattle yards and slaughter shed	39
	Sheep yards with approx. 20 stands - pulled down during WWI	40
	Open water tank	41
	Tennis court	42
	Lemon tree (now gone)	44
	Windmill used to pump water from the water tank	45
	Water tank (replaced)	46
	Shearing shed	47

Historic Values

In relation to historic values, there was a strong view among the stakeholders interviewed that the homestead complex is historically important, that it provides insight into the early colonial way of life in the Ravensworth locality and that its heritage was important to preserve.

"It's the history of Australia"

"Enough history is lost; we need to save these things."

"It's an important part of Singleton's history"

"The homestead links to the colonial history of the State"

"Property harks back to 1824 which provides insights into early colonial way of life in the region"

"Old houses still here, can see sites where families lived, it's family history and Australia's history"

"History isn't just about looking backwards; it's about looking forward and what's the next chapter"

"How do you move it? Ravensworth is part of Singleton's culture. It isn't something that you can see and touch. It is probably the one site that both the Aboriginal community and the European community – one site that it comes together. It's valued by both communities because of the issues that happened out there. It's something that is very in the minds of the aboriginal community members. It loses its connection to place – which is its cultural value. I value Singletons heritage and culture"

The comparative value of the homestead and its complex, and its standing in relation to other local, regional and state homesteads of its kind, was also noted as important to assess and document.

"We go all over Australian and visit these types of places and here we have something really valuable in our own backyard"

"This is one of the only places with the strong connection for both aboriginals and Europeans"

Those stakeholders with an active interest in heritage, also particularly highlighted that the location of the homestead is what provided its meaning; with the relationship between the buildings in the complex (the interplay between the shearing sheds, stables, cottage, main house, kitchen wing) seen to tell a story of past activities in the region i.e. the use of convict labour through to changes in agricultural production.

"Campbell began a diary farm, consisting of Jersey cows – the monthly income from milk and cream brought in funds for day to day living. He introduced a small flock of Merino breeding ewes – not really the best sheep country. The sheep were taken to a shearing shed on the Piervis property (not part of Ravensworth) along the Hebden Road, a short distance to be shorn each year"

"Many months of dry meant extra work and driving mobs of sheep to water at Bowman's Creek, hand pumping water for the milking cow, the diary cows were fed in stalls that Dad built behind the big barn with the stored hay"

(Exert from Ruth Thompsons writings on Ravensworth)

In this regard the homestead complex appears unique with its elaborate homestead building and the ornate stable block and old barn. The complex also has remnants of stones from a potential convict quarters (no longer standing) which would have enclosed the farmstead courtyard. Consequently, the buildings were considered more than just a place of residence, but a working estate located within a much broader local and regional community.

"The homestead's heritage value is broader than just its buildings; it provides a link to the establishment of community within the region."

"It paints a picture and tells a story of the time"

While the original Ravensworth hut was first thought to have been established on the other side of Yorks Creek, the development of the existing Ravensworth Homestead Complex some years later in c1832 respectively, marked the development of a significant property within the community and district; with memories and stories associated with those that resided within its walls or those working on the property.

"Mum taught me correspondence lessons for a couple of years before attending Hebden, the public school 2 ½ miles away....Mr P.J. Horn was our old fashioned strict teacher, four students in my class...Mum harnessed old Brownie every morning at 8.30 and away we'd go at a trot. Brownie had to be shod to the rough stony road. We usually walked home, sometimes catching a lift in the tilt cart with Joe Dunn (from Camberwell) the butcher who delivered meat up the Hebden road twice weekly..."

“From my earliest memory there were many house guests – lots of cooking and domestic preparation as the date of arrival drew close....Ravensworth house had so many comings and goings and Mum catered for everything – all cooked on a fuel stove....Many neighbours from the Singleton District came for meals and afternoon tea – such preparation!

“Employed help were the Barnardo Boys or the like – 15 to 16 years old – who helped with all the dairy chores, milking, slushing out, separating the cream, taking the milk cans to road on a trolley to be picked up by the daily milk lorry – owned and driven by Arthur Sattler of Hebden – delivered at the milk and butter factory in Singleton”

“My father farmed the flats on Bowmans Creek (sowed Lucerne with antique Lucerne fiddle, taking a packed lunch each day – sandwiches, cold tea in a glass bottle. Hay making was a time when all the family were involved with pitch forks to rake the hay to dry cut, before loading on the old military wagon pulled by two draught horses (sometimes 3) to stack into the stone barn near the house...we loved bringing the hay in as it meant a ride on top of the load – packed so well I never slipped”.

(Exerts from Ruth Thompson’s writings on Ravensworth)

“Under the tree was the old wagon that we would love to play on. The wagon was bought in 1925 by Pa from Army disposals and later was restored by the electrical and chemical engineer group in Singleton and was donated to the Australian War Memorial in Canberra in 1977” (Enid and Augustine’s grandchildren)

Pictures of the Wagon in use, and later on display at the Australian War Memorial are shown in **Plate 6.3** through to **Plate 6.6**.



Plate 6.3 Family in Wagon under Peppercorn Tree



Plate 6.4 Donation of Wagon, Enid and 'Cam' Marshall, 1977



Plate 6.5 The Wagon at The Australian War Memorial



Plate 6.6 A.C. Marshall (Pa) moving hay on the wagon

Many of the original features from the 1820s remain that provide an insight to life on the property (refer to **Plate 6.7**).

“The homestead represents adaption over the years, changes in lifestyle”

“No electricity, no running water, no inside toilet, drip cool safe on back verandah, kerosene lamps, fuel stove in kitchen, a four-seater convict toilet out the back. To wash clothes, you had to boil a wood copper in an old flagstone floor laundry, to have a drink you went to the water bag hanging on the back verandah” (Exert from Ruth Thompson’s writings on Ravensworth)

“The drip safe, a square tin pan approximately 2 to 3 feet filled with water was placed on top of a gauzed cupboard in the same size – another square pan the same size as the top was placed under the cupboard. Hesian and fabric was attached to the top of the pan trailing down sides into the lower pan. Thus, the moisture kept the contents of the gauzed safe cool. Water had to be replaced weekly in hot weather” (Exert from Ruth Thompson’s writings on Ravensworth)

“There was a ‘stranger’s room’, off the verandah, it was a place where a number of settlers stayed as they passed through the area” (Landholder)



Plate 6.7 Many of the original features from the 1830s homestead remain

Social/Community Values

At the community level, the homestead also holds strong social values for the neighbouring community, evidenced by the contribution that the building has made to the wellbeing of its community in a social and economic, spiritual and symbolic sense.

"I have a strong sentimental attachment"

"It's the magical nature of the place"

"It has a nostalgic feeling"

"Homestead has a symbolic value as a number of other heritage buildings have been lost in the Singleton LGA"

"you can feel the history/home of the place, the sense of belonging"

From a near neighbour perspective, stakeholders interviewed reflected that many of the buildings, and the services, associated with Ravensworth had been lost over time. Stakeholders recalled that there had been a number of homes in the area, a school, shop, post office, a wine shop; and that at one time, the community had been active and connected.

The small village of Ravensworth, on land originally part of James Bowman's Ravensworth Estate, grew around the needs of workers on the railway and the Ravensworth Estate. The railway station opened on 1 June 1869, and in 1876, a half-time school was constructed in a slab building located close to Ravensworth Station. In 1880, the extant Ravensworth Public School at the corner of Hebden Road and the New England Highway opened, this building was subsequently lost to fire in May 2019.

"Ravensworth Village - 12 miles north of Singleton on the New England Highway – a railway centre, station master, three assistants, fettlers who maintained the Northern Line, trucking yards – stock (cattle and sheep) by train to Flemington or Waratah livestock markets. Coal trains from nearby underground pits. Most passenger trains stopped – passing lines. One teacher school and the master lived in the attached residence. A General Store, post office, wine shop (SP Betting), Public Hall, Tennis courts. Housing for railway employees – tents for itinerant railway workers. Railway gates on Hebden Road manned by a gate keeper 24 hours a day (Mrs Garland). Press button on gate or blow horn! Trains – the Brisbane Mail, Tamworth Mail and North West Mail, once daily trains – later reduced services" (Exert from Ruth Thompson's, writings on Ravensworth)

"We would all attend dances, the barn dance, at the Ravensworth Hall at the railway station, now gone" (Landholder)

Other areas of value noted by local landholders and community stakeholders in the area included the Hebden Public School, the old Owensfield homestead (circa 1860), which was said to be used as the old schoolhouse, the Cedarvale homestead (built in the 1900s) and the Hebden Church of England, located adjacent to the school.

Post Offices were attached to the telephone offices. The mail delivery functioned from there – just in my memory Mrs Taylor from Hebden drove a horse and cart daily to Ravensworth Post Office to collect the mail which came from the main track to the railway station.

Our bread and newspapers were delivered by the Hebden milk lorry, first owned by Arthur Sattler then Alf George and later the Clydesdale brothers. The lorry collected milk and cream in cans from the dairy farmers along the Hebden Road to deliver to the Singleton milk and butter factory. On return journeys, delivering parcels and abovementioned bread and newspapers and in summer blocks of ice for the home ice chests. As children we had to wait for the lorry on the day – run quickly to the roadside, take a trolley to collect the ice before it began to melt. (ice was wrapped in hessian bags).

The lorry also acted as a form of transport for shoppers from Singleton, especially during the war years when petrol rationing reduced the use of cars. On occasions the lorry had so many people that some had to sit in the back on the milk cans. The lorry was always covered to restrict the sun on the milk and cream.

At the outbreak of WWII we children were sent to the gate at the roadside to collect the daily Sydney Morning Herald for our parents to read the latest on the war movements. We did not have a radio in 1939.

Exert from Ruth Campbell Thompson's writings on Ravensworth

"Hebden school was 2 ½ miles away – a small weatherboard building with an entrance porch where we left our lunch bags – sometimes the ants invaded! An all-weather shed with rough wooden seats where we sat in rainy weather. Each year the School picnic was held (about February or March) the day consisted of novelty races, food, drink etc, everyone who had school children plus others came for the day's outing – most driving in lorries, cars, horse drawn vehicles, riding horses, pushing bikes. At the end of the day we assembled by a window of the school building waiting to receive our presents – girls, dolls etc, boys toy cars! There was always a large spread of homemade cooking brought by each family and pooled on a long trestle table" (Exert from Ruth Thompson's, writings on Ravensworth)

"We all attended Hebden School at some stage in our earlier years, small multi-aged class"

Today, it was expressed that there was little left by which to remember the Ravensworth locality and village, except for the Homestead.

"There's so little left at Ravensworth. There used to be a shop, school and people living in Ravensworth."

"The homestead holds many memories for the community"

"It has always been there – we admire it every day. It is part of our history"

"a lot of emotional contact, because it's such a significant building in the area. would have to be undertaken in an empathetic manner and in consultation with the local community".

Future of the Ravensworth Homestead

Stakeholders were also asked to provide their feedback regarding the future of the homestead, and to share ideas regarding possibilities for relocation. It should be noted that in considering proposed options for relocation of the homestead complex (to Ravensworth Farm, to Broke or to remain in place); the responses received from near neighbours in the localities surrounding Glendell Mine, community groups and those with an interest in heritage indicated a high degree of complexity, with option preferences not clearly decided or settled.

As previously noted, Glencore has also established the RHAC in order to advise on options for the potential relocation of the homestead complex. In investigating relocation options for the homestead, the committee identified a range of factors for consideration in selecting potential relocation options, many of which were also raised in the broader engagement process, and include:

- geographic location - within the Singleton LGA
- retention of heritage fabric
- sustainability and commercial viability
- accessibility
- site verisimilitude (authenticity of the recipient site) – replication of the key physical attributes of the current homestead site in terms of slope, visual catchment/outlook, proximity to a watercourse and dam, and vehicular approach
- ownership model (for the long-term)
- community benefit. A detailed heritage assessment of each relocation option is provided in the Heritage Impact Statement (Appendix 23d of GCO Project EIS), with further information regarding the RHAC process outlined in Appendix 23f.

A number of stakeholders with a strong interest in heritage, felt that the homestead should stay 'in-situ', in the place in which it has connection to the context. To relocate it, was seen to detach it from its heritage and meaning.

"Surely you can just work around it and leave it in place where it belongs and has meaning"

"The Homestead should stay because that is where it has always been. That is where the original builder decided to build it. Although it isn't the same now, the homestead was where the community used to be, where the school was, where the community was. People grew up in the area"

"Stay where it is. It was built there back in the day because it was probably the best parcel of land that it could be placed on, but if you pick it up and move it, then its not the Ravensworth Homestead anymore"

"It is part of the historical fabric of the area – it belongs to this area and it should stay in this area"

"should relocation occur in relation to the Homestead, this would set a precedent for other processes regarding heritage buildings and matters"

"it's not just about bricks and mortar, but about the location and the connection".

"it would be a preference if it was to remain insitu and preferable for people to be able to look at it. This doesn't mean it has to be accessible – but open it up at times for visitors to look at the property, people take the chance / opportunity. They could have open days/it doesn't have to be open all of the time"

"If we were in Europe no-one would be able to touch it. Even though we only have 230 years of history in Australia, it's still our history and we need to maintain it. A lot of the original people of the area have left and I think they would have stood up and said that it has to stay here, but there's a lot of new people to the area and they might not care as much about the history?"

For some of these stakeholders, just the thought of relocation was a serious concern:

"the homestead which is so significant - just the mere thought of it being moved causes stress"

"I can't even fathom the thought that it is going to be moved"

"The fact that keeping it insitu is not given equal weighting isn't right. The first choice would be stay insitu – then second choice would be to only be moved if it is still on their land in similar countryside and in view of its original location and for the community. The idea of broke having a lovely centre square, it just seems bizarre"

Some were concerned whether it would even be possible to relocate the building without causing substantial damage (refer to Appendix 23f and 23g of the EIS for further details on the intact move methodology).

"What we want to know is how can the homestead be relocated? What does this actually look like? I am not an engineer, but the structure is double stone walls and filled with rubble. How can you move that?"

"How can they possibly move it? How would that even happen?"

"Ravensworth Homestead is an important part of our history. Being a stone house, all the lining inside will break off when they try to move it"

The majority of key stakeholders consulted, however, expressed that given the current circumstances of the homestead - located within a mining lease, unoccupied, unable to be accessed by the public - that if relocation was undertaken in a way that would afford preservation of the buildings, relocation was an option worth considering; particularly as most people were concerned about the homestead complex falling into disrepair and being inaccessible in its current location, as a result of mining.

"If you don't move it, it will deteriorate like Wambo – it went to wrack and ruin"

"I'm concerned that it will deteriorate if not relocated"

"The history will be impacted; the Homestead would become a 'stranded asset' like the Chain of Ponds"

"The homestead needs to be relocated, otherwise it will deteriorate like other heritage buildings in the area"

"The house at Warkworth has gone to wrack and ruin, I'd rather see it used for community benefit"

"The threat that if it stays in-situ is that if it stays and falls down and it is just lost. I don't want to be threatened or blackmailed, but I sort of want the best outcomes for everything. I want it to be properly maintained and be there after mining".

"Better option than losing the history. People can enjoy it, otherwise there will be nothing left. I'd love to go and see it one day"

Stakeholders generally reported that it was important to preserve and value the complex; and while some stakeholders would like to see the homestead stay in its current form in its current location, they were worried that it could not be adequately maintained or easily accessed in its current location. Furthermore, there was a concern that once mining has ceased, continued maintenance and upkeep could not be guaranteed.

"would prefer it to stay, but relocation is better than being knocked down"

"I think keeping it in a similar location is best. Glencore need to maintain it for the life of the mine"

"the building is more important than its location"

In this regard, there was a strong view that, if relocated, the homestead must be kept as a complex, and that its value lay in the relationship and connections between the various buildings (original cottage, homestead, stable and barn). There was also a strong feeling amongst stakeholders that there should be the possibility for public access to the homestead in any future location, with some believing that the homestead needed a commercial purpose to ensure its viability:

"In my heart I agree that heritage should remain in-situ, but I understand that it could be moved to a place where it can be better accessed and utilised".

"The homestead needs to be used and constantly maintained in order to be conserved. For this to happen it needs to have a commercial value and be able to be economically sustainable. It should be relocated to a place where it can be more readily accessed and used".

"Open up to community to more jobs, cafes for tourists and community involvement"

"It is important we preserve things of heritage value with common sense!"

"It's a shame that it is inaccessible to others, would like to see others enjoy it"

"I would be interested in visiting the complex if it was relocated, if it's in the mining area no one will visit it but if it goes to Broke it will get used"

"Not worth anything if no one benefits from it but can also see that the local community wouldn't want to lose the historical connection. It would bring value to the community if relocated to Broke"

Those participants open to the idea of relocation generally wanted to see the complex stay in the local area, preferably within the Singleton LGA (a key requirement identified by the RHAC). Stakeholders acknowledged that if moved, there must be some acknowledgement and connection retained to Ravensworth, such as options explored to capture and represent the origin/history, values and stories associated with the homestead. Participants also suggested that the homestead may be more viable as a tourist and multi-purpose centre (e.g. art gallery, museum, shop, accommodation, event venue) with exposure to high tourist traffic (e.g. Hunter Valley wine region).

The Broke Village relocation option, which is a proposal by members of the Broke-Fordwich community to relocate the homestead complex to Broke to form the village square with multi-purpose usage, is consistent with this way of thinking. For this option, support has been received from community groups in Broke (Broke Fordwich Wine and Tourism Association, Hunter Valley Wine and Tourism Association, Broke Residents Community Association) and other stakeholders.

"The proposed relocation and development will provide a significant benefit for regional tourism to gain longer term economic, commercial and social benefits for the region. The economic value of tourism to the region is more than \$500M annually providing almost 3000 jobs. The project can only enhance that value and range of job opportunities. The proposed relocation to Broke will create a Village Centre that will form a critical part of the expansion of wine tourism in the region. It is also strategically aligned with the Hunter Valley Destination Management Plan, supporting the development and diversification of tourism offerings in our destination" (Hunter Valley Wine and Tourism Association correspondence, 25 July 2019)

"Would prefer it to be used by people, it's wasted where it is, would get more use there (Broke)"

"Broke could really benefit from a relocation project like this, it would also be a great investment for our town"

"Would be good for tourism and the site could be seen by all, not just a few"

"Better off going to Broke, there's an old relic of a house as you go up to Liddell and it's an eye sore. I'd rather see the Homestead go to Broke, so that someone could use it"

"Not a bad idea to go out to Broke, we do a lot of tourism and we like to see that – make a big difference tourism wise to the vineyards. Singleton doesn't have enough space to put it. Broke is an up and coming village and visitor centre"

"Relocate to Broke to have a cultural and heritage centre"

While, others were less certain that the Broke Village was the best option.

"there was a thought that it would be turned into a museum back then, which I thought would have been a terrific idea. I know they want the black stuff and they have to get it, but it's like moving the Sydney Opera House to Brisbane. Broke has nothing to do with Hebden history. All Australian community-based areas, the Hebden and Ravensworth community and Glendenbrook and Wileys Flat community, they are all separate identities and have things that make up each identity. There's not much left because of the mines and I think the mines should be looking to please the people here a lot more, because we do put up with a lot."

"In regard to the site at Broke, have they looked into the behaviour of what it will do in terms of flooding? The area that is surrounding it. That is a concern. I just can't even fathom it being up at Broke. It just doesn't make sense"

"I love the old house and I hate to see it destroyed, but I don't know what the answer is, if it's left where it is and mining didn't proceed, it would be left in disrepair or deteriorate like other heritage properties. Originally, I thought it would be good in Singleton somewhere, but the Council didn't want it. I didn't love the Broke idea, because Broke has nothing to do with Hebden/Ravensworth, but it is probably the best option"

"I don't like the option of moving it to Broke, they have their own history"

"Ravensworth is a prime candidate for national trust and could pay for itself with visits etc where it is. There are a lot of ways to make something pay for itself"

The majority of local Ravensworth and Hebden stakeholders consulted believed strongly that the homestead should remain in the local Ravensworth area with a strong view across stakeholder groups that the homestead was one of the last buildings remaining in the Ravensworth community and provided a sense of place:

"It's not Ravensworth Homestead if it's not in Ravensworth"

"I'm not opposed to relocation, but I believe it should remain in the Ravensworth area and still be accessible to the public – we should be able to see it as we are driving by".

"It's Ravensworth homestead, not Broke homestead!"

"I would prefer that it stayed in our community"

"We don't want to lose the heritage value from the area, keep it local. The value of the Homestead wouldn't be appreciated in Broke, it would lose its context"

"The people in the area are really interested in the history of the area, so they want it to stay, but as a community venue, not an admin building"

"The homestead needs to remain in the Ravensworth area, the council could make a heritage trail, along with other heritage sites, such as the 15 old coking ovens, to recount the history of the area"

"Need to maintain the historic value, it doesn't need to be in public use, the closer it is kept to the original site the better"

"From a historical perspective, I can see it would give the buildings a better heritage preservation to keep them in Ravensworth"

"Definitely stay on Glencore land as it's part of the original Ravensworth. I'd love it to stay exactly where it is, but if it stays blasting might cause damage to it. If it moves to Broke, it loses all its heritage value"

A small number of stakeholders also questioned the costs of relocating, indicating that these funds could be better utilised at a community level.

"There are so many other useful projects they could be looking at such as sustainable tourism industries and would be much cheaper than trying to locate the homestead"

"It would be cheaper for the mine to move it on their land. I don't see why you would move it if it's going to cost an arm and a leg, it's a bit ridiculous – it could go to the homeless or children that need things"

6.2.2.4 Wider community views – Singleton LGA

This section documents the outcomes of a random community survey undertaken of residents within the Singleton LGA broadly, with the purpose of identifying wider community sentiment on heritage and more specifically in regard to the potential relocation of the homestead from the mining lease.

As outlined in **Section 3.0**, the survey was undertaken from the 8 October to 16 October 2019, with 273 households participating from across the Singleton LGA, including the towns and villages of Singleton, Broke, Branxton, and their surrounding suburbs and localities. **Table 3.6** provides a demographic profile of survey respondents.

As part of the broader community survey, respondents were asked several questions around cultural heritage and the Ravensworth Homestead. These questions related to three aspects, namely:

- perceptions of historical significance and/or personal connection to the homestead
- views relating to the potential relocation of the Homestead
- preferred options for relocation

The first two dot points are addressed in the following subsections, with preferred options considered in **Section 7.0**.

Knowledge of the Homestead

In order to obtain an understanding of the broader community sentiment towards the Homestead, respondents were asked if they had ever visited the Homestead. Approximately 21% of respondents indicated that they had visited the homestead (56 persons), with the majority of these (63%), having visited the homestead quite a number of years ago (10 to 40 years ago).

Typical reasons for visiting were through work (e.g. for maintenance, farm work when active), for leisure, tourist or educational purposes (e.g. school visit), or as a guest of the Marshall family when they were still in residence. A small number of those sampled (7%) had visited the homestead as part of the assessment process, at one of the Community open days.

When asked to rate their overall level of knowledge about the project, the average response was relatively low at 3.92 out of 10, with 66 persons (24%) indicating that they had no knowledge of the homestead at all (refer to **Figure 6.9**).

This rating is somewhat surprising, given that the proposed relocation of the Homestead has been covered several times by the Singleton Argus and other newspapers with local and national readership (refer to **Appendix D**).

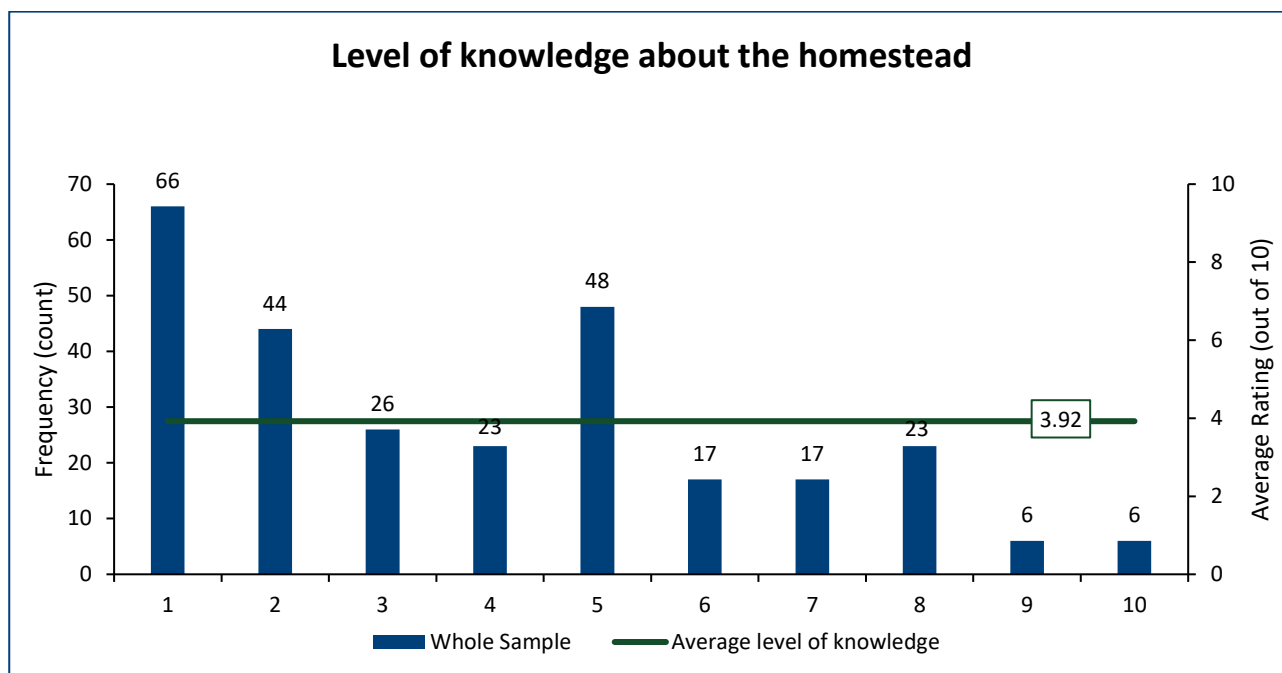


Figure 6.9 If you were to score your level of knowledge about the homestead from 1-10, where one means no knowledge at all, and 10 is a high level of knowledge, what score would you provide?

Heritage Values

Respondents were also asked to indicate their level of interest in heritage issues in general, with an average rating of 6.72 out of 10 attained. This average rating indicates that despite having lower levels of knowledge of the Ravensworth Homestead, the broader Singleton community appears to have a relatively strong interest in the heritage of the area.

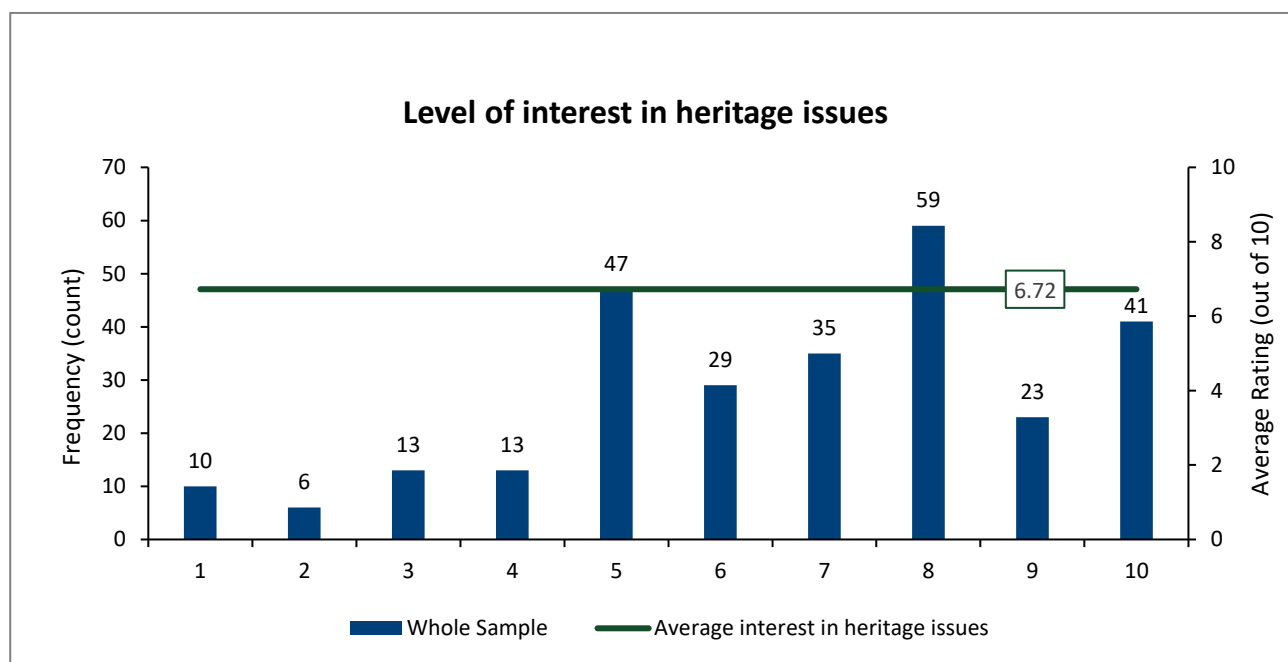


Figure 6.10 What would you say is your level of interest in heritage issues, where 1 means no interest at all and 10 is a high level of interest?

Regarding the historical significance of the homestead, most respondents indicated that:

- they agreed or strongly agreed that the homestead was an important part of the heritage of the Singleton LGA (79%)
- that the homestead signifies an important piece of both local (87%) and state (78%) history
- that it is generally important to preserve things of heritage value (92%) (refer to **Table 6.4**).

Regarding their personal attachment to the homestead, respondents' responses were varied. The majority of respondents (59%) indicated that they did not have a strong attachment to the homestead, however 77% of respondents agreed or strongly agreed that they would be interested in visiting the homestead complex (refer to **Table 6.4**).

Table 6.4 Community attitude statements on heritage values

	Strongly disagree	Disagree	Neither agree/disagree	Agree	Strongly agree
Historical					
Ravensthorpe Homestead is an important part of the heritage of the Singleton LGA	1%	5%	14%	40%	39%
The homestead signifies an important piece of local history	1%	3%	9%	45%	42%
It is important that we preserve things of heritage value	0.4%	4%	4%	42%	50%
The homestead signifies an important piece of state history	1%	7%	14%	43%	35%
Personal attachment					
I have a strong attachment to the homestead	11%	48%	22%	14%	5%
I would be interested in visiting the homestead complex	1%	14%	8%	56%	21%

Perspectives on Relocation

Respondents were asked to indicate their level of concern regarding the relocation of the Homestead, with an average concern rating of 5.68 obtained. However, almost half of the sample (42%) provided a concern rating of 7 or above.

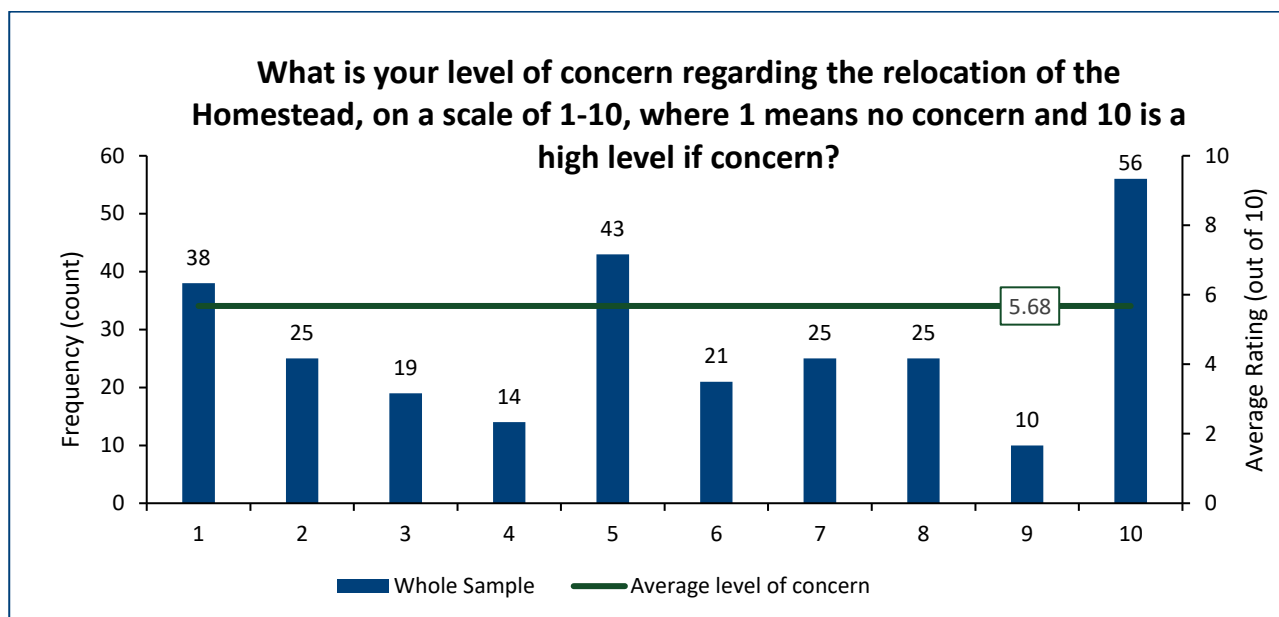


Figure 6.11 What is your level of concern regarding the relocation of the Homestead, on a scale of 1-10, where 1 means no concern and 10 is a high level if concern?

Regarding relocation of the homestead, most survey respondents agreed that:

- someone should be responsible for looking after the homestead (94%)
- the homestead should be made available for community access and use (81%)
- the homestead should be relocated to reduce the risk of deterioration (72%)
- the homestead needed to be commercially viable in order to have a sustainable future (67%) (refer to Table 6.5).

Table 6.5 Community attitude statements relating to relocation

	Strongly disagree	Disagree	Neither agree/ disagree	Agree	Strongly agree
Relocation					
The homestead needs to be relocated, otherwise it will deteriorate like other heritage buildings	7%	10%	11%	46%	26%
I think the homestead should be available for the community to access and use	1%	6%	11%	51%	30%
To ensure the homestead has a sustainable future, it needs to be commercially viable	2%	16%	16%	51%	16%
Someone needs to be responsible for looking after the homestead	0.4%	3%	3%	62%	32%

Such sentiment was similar to those expressed by key stakeholders and articulated by RHAC members in the selection of criteria to assess potential relocation options. Further assessment of community views of the proposed relocation options can be found in **Section 7.3.3**.

This theme related to the overall economic and social contribution made by mining to the region and the Glendell Mine specifically, opportunities provided through education and training and partnerships and investment initiatives.

6.2.3 Economic contribution, employment and partnership

Opportunities for employment were identified by near neighbours and the wider community as an important potential benefit of the Project.

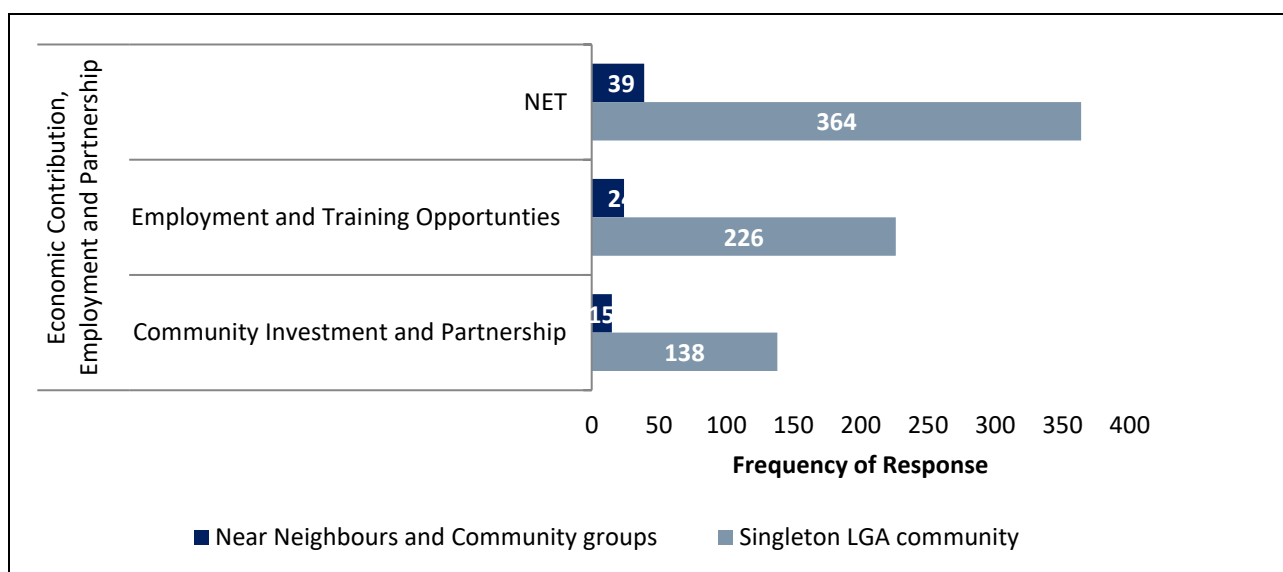


Figure 6.12 Perceived impacts on economic contributions, employment and partnerships

n=370; multiple responses allowed

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6.2.3.1 Employment and training opportunities

For near neighbours, whilst there was an overall sense that employment from the Project, and mining in general, was a benefit to the community, there was the acknowledgement that employment opportunities, however, didn't outweigh the negative impacts often experienced as a result of mining.

I know it gives employment and more trade opportunities and a lot more women in coal mines now, so work for both genders, but living between them all it is hard to see the positives for them – Near Neighbour (Round 2)

Employment and revenue are fantastic, but I hate them for ruining a beautiful spot in the world with the dust and noise – Near Neighbour (Round 2)

One stakeholder summed up the interaction that the region has had with mining over many years, by saying:

Some people don't appreciate it [mining] but most people have a connection to mining. It has grown Singleton; it has brought employment - Near Neighbour (Round 2)

Some participants noted that the employment opportunities, whether directly or indirectly, were important for their children and grandchildren and that ongoing security for current employees was essential in maintaining and sustaining community.

Want opportunities for local children as it would have flow on effects for local community and services – Near Neighbour (Round 1)

Existing employees gives a secure future. At the moment [it's] a bit of an unknown for those families – Community and heritage stakeholder (Round 2)

The wider community also emphasised the positive impacts of continued employment for current mine personnel and future employment for those in the local area).

Long term employment stability for people who work there – Wider Community (Round 2)

Continuing employment for local people employed in the mine – Wider Community (Round 2)

Greater employment in the area, creating less unemployment issues for the town – Wider Community (Round 2)

Employment in the community, and as long as they use local people in the mine it's a positive – Wider Community (Round 2)

Most importantly, it was highlighted that economic activity associated with the Project should provide maximum benefit for locals, with as much employment and commercial opportunity retained within the Singleton LGA. In this regard, there appeared a perception that a high proportion of mining workforces commute into the region.

It would give work to the community by keeping people in work. But then they don't live in the Singleton, they drive in/drive out - Near Neighbour (Round 2)

It's important to employ local people. I'm against fly in fly out – Near Neighbour (Round 1)

According to companies they are supposed to only live within an hour of the mine, but they don't. The money doesn't come into singleton – Community and heritage stakeholder (Round 2)

Drive in drive out workforce. The money isn't staying here – it's driving straight through or going to government. There is actually no job security anymore – it's contracts now – Community and heritage stakeholder (Round 2)

Some concerns also centred around the casualisation of the workforce, with a perceived view that there was now a greater reliance on casual and contract workers.

Employment vacancies, we do need job security in the area – Wider Community (Round 2)

Casual employment rather than full-time. Better if full-time – Wider Community (Round 2)

More contractors are being employed and not permanent employees – Wider Community (Round 2)

It brings employment security for Singleton residents – Wider Community (Round 2)

6.2.3.2 Aboriginal employment in the mining industry

Aboriginal stakeholders commonly mentioned the need for increased Aboriginal employment and training opportunities. One participant cited the inept employment programs that had been developed for Aboriginal job seekers in the past, with another calling for Aboriginal employment to be a condition of approval for mining projects.

Mining employment within the Aboriginal community can be somewhat controversial, due to a conflict in cultural values; however, it was noted by one stakeholder that a certain responsibility must fall on the job seeker to decide what is right for them in terms of cultural and employment balance.

Some service providers also noted this conflict of having to find a balance between protecting their cultural heritage and the environment and servicing the needs of their communities.

I don't like it [mining], but it is a necessity. The valley is rich in coal.... Don't like the way it destroys things but if I can get something for my community out of it, I'll do it. People have to live whether they are rich, poor, black or white. – Aboriginal Service Provider

It's up to the individual, if they don't want a job in the mines, then they don't have to apply. Glencore and Thiess need to put in their RAPS²¹ some action plans on employment. They haven't got it - Aboriginal Stakeholder (Round 2)

Overall, Aboriginal stakeholders outlined that they would welcome more feasible and accessible employment opportunities in the mining sector. It was noted that current opportunities for Aboriginal community members, largely extend to field work contracts in Cultural Heritage studies.

[There's] no local employment including Indigenous employment. It should be a part of their consent - Aboriginal Stakeholder (Round 2)

The Aboriginal community is disappointed, in that although there has been some employment created and some of the community are employed, it is not enough. The community hasn't grown or benefited from mining as a whole – there has been no significant engagement for Aboriginal businesses – Aboriginal Service Provider

Mining companies aren't investing enough in local communities, there are Aboriginal people and businesses who need work, and who are not utilised by mining companies. It's important in terms of social impacts of mining, as economic development is connected to social impacts; we need economic development to help improve social impacts – Aboriginal Service Provider

The prevailing feeling was a desire for Aboriginal job seekers to be provided greater support to access permanent employment, and encouragement to pursue higher level positions.

It's about being able to transition into permanent jobs (not the lower end jobs). It's about having mentoring positions where someone can go and sit with a mining engineer and see what they do and get motivation to not only get a job, but study and become educated enough to get the engineer type jobs. It's about progressing from basic jobs to empowering people to go further to go to Uni etc. Need to find a way to have an education without debt. Need to motivate the community to progress – Aboriginal Service Provider

The need to improve people's knowledge of how they can work. Teach people how they can apply for jobs. Teach people how they can tender – Aboriginal Service Provider

²¹ Reconciliation Action Plans

In this regard, it was suggested that Glencore facilitate training programs for Aboriginal people to address current barriers to employment, such as lack of transport or adequate housing, or no access to laundry facilities or showers. It was suggested that such programs have attempted to be implemented but without the solid commitment required from potential employers. Other suggestions for training opportunities included engagement with the Aboriginal community around health programs.

People have been talking about this and they are all very keen until it comes to the time to making the program work, then they want to run the pilot using those that don't have any barriers – Aboriginal service provider

One Aboriginal stakeholder raised a concern that their community service had become focussed on the procurement of mining contracts and that should mining subside, they would struggle to be sustainable. It was expressed that once mining ceases, many groups and organisations could potentially become 'white elephants' with no alternate sources of employment and funding available to them.

Opportunities for training and apprenticeships in the mining sector, were also welcomed by the wider community, with residents also reinforcing the need to continue training opportunities for youth and 'keep employment local'.

More apprenticeships for local kids the area – Wider Community (Round 2)

A lot more training with trades, getting young people a chance to get their foot into the workforce – Wider Community (Round 2)

Always training and apprenticeships offered by the mines for the young – Wider Community (Round 2)

Employment for skilling people/give people skills. No one is training people and we are losing industries – Wider Community (Round 2)

Emergency Service Providers also raised the opportunity for joint training initiatives to improve service delivery; and outlined opportunities to support local fire brigades with recruitment, through potential changes to current enterprise agreements e.g. workforce rosters developed to enable volunteering at the community level.

RFS would be invited along to participate in that mock exercise so they can manage response and challenge the mines responses if required. The two entities can learn how to work together and not get in each other's way - Community and heritage stakeholder (Round 2)

6.2.3.3 Economic contribution of mining

The indirect effects of mining operations and projects were frequently noted by the wider community, including support for local businesses, use of services by mining workforces and reduced unemployment, as key aspects in the continued economic and social stability of the region.

Survival of the Upper Hunter. The Project will bring money into the town and keep our local businesses going – Wider Community (Round 2)

Employment will be continued at the mines and associated businesses and services – Wider Community (Round 2)

Employment within the mine, also contractors. More people come to the area; shops employ too – Wider Community (Round 2)

Growth of town and employment – Wider Community (Round 2)

With growing employment, Government will put money into schools, hospitals and services – Wider Community (Round 2)

Maintaining services in the area - shops and local employment – Wider Community (Round 2)

Employment to keep the town going financially because that is the only income we have – Wider Community (Round 2)

Economic contributions were also discussed in relation to the State and Commonwealth Government revenue/royalties that flow as a result of mining activity in the region.

Economic growth for the town and the state – Wider Community (Round 2)

Economic benefit to town, state & country, coal industry contributes millions of dollars to the economy – Wider Community (Round 2)

Royalties that the Government can spend on infrastructure – Wider Community (Round 2)

In this regard, local businesses consulted indicated that they believed Glencore contributes to the community; however there was also a view by some that a large proportion of the royalties associated with industry, flow to the State and do not come back to the local area in which the Project is operating. Of concern to some stakeholders was that Singleton was perceived to be a wealthy town.

The royalties go to the State Government, we don't see much of it coming back to the local area – Community and heritage stakeholder (Round 2)

'oh well, they are from Singleton. People from Singleton don't need money, it's a mining town'. How many times do we hear that? The money goes out of Singleton. The workforce doesn't live here... It's assumed that everyone works for the mine — Community and heritage stakeholder (Round 2)

6.2.3.4 Community investment and partnership

A number of stakeholders (14) commended Glencore on their community investment and partnership efforts, due to the diversity of projects supported and the level/degree of support provided.

They help out the community in different projects. The longer they operate in the area, the longer the community contributions continue so that is a positive – Near Neighbour (Round 2)

Their investment has helped members develop some good projects in areas such as land management and cultural activities – Aboriginal Stakeholder (Round 1)

[I] read about the investments at the Open Day and didn't realise there were so many – Near Neighbour (Round 1)

Monetary contributions and donations [are a] benefit to the community as a whole – Community and heritage stakeholder (Round 2)

Volunteer community groups gain a lot of grants from mining companies.... mining companies in the area support us a lot - Community and heritage stakeholder (Round 2)

Also noted was the Voluntary Planning Agreement (VPA), to be developed with the Singleton Council for the Project, that was expected to benefit rate payers and local residents.

Council will benefit from the VPA, rate payers will benefit from roads and services upgrades – Community and heritage stakeholder (Round 2)

In relation to company investment in the community, from the perspective of near neighbours, while there was a feeling that possibly more could be done more strategically at the broader Singleton LGA level; it was noted that the company should maintain a focus on the localities in which operations are based.

It needs to be investment in Singleton itself, for the long-term, not just sports jerseys and sports teams – Near Neighbour (Round 1)

Generally, if a community group has a fair request for a grant, it is supported – Near Neighbour (Round 1)

Generous, especially to the Mount Pleasant School – more than other companies which is as it should be – Near Neighbour (Round 1)

Too much in Singleton, need to keep it local – Near Neighbour (Round 1)

Some people expect the mine to pay for everything. Better to be in partnership. It's great to see that the renovated Hebden Hall is being used – Near Neighbour (Round 1)

We see too much money going to Maitland and Newcastle. There is not enough evidence of local benefit – Near Neighbour (Round 1)

Really appreciate their sponsorship. The mines don't do enough to let people know about the good things they do – they don't sell themselves enough – Near Neighbour (Round 1)

Within the Aboriginal community, service providers generally acknowledged the positive contributions and investments made by surrounding mines.

They are pro-active in sponsoring things like NAIDOC week, also sponsored to have a new kitchen at the [Local Aboriginal Land Council] LALC, and the turf out the front, they've sponsored some of the programs/events at Ungooroo, Clontarf etc – Aboriginal Service Provider

However, expressed frustration with the perceived lack of transparency and evaluation around allocation of work and/or funding to community groups and organisations.

This perception that it has divided community members, in the sense of handing out money without the accountability - where it's gone? – Aboriginal Service Provider

It should be more performance based and there needs to be a model. Where is the money going? – Aboriginal Service Provider

For some, the issue was not so much who was receiving funding, but rather for what purpose it was intended. Many felt that the focus on economic growth and employment came at the cost of important social assistance programs - that could address needs that had to be met, before members of the community would be capable of accessing employment opportunities provided by mining.

The community is missing out in relation to the issues of domestic violence, community transport and community interaction and housing. If you look at all the reports from legal aid, NSW revenue, housing, unemployment you quite clearly see the gaps which aren't properly being delivered; and to rely on the government to do that without the assistance from the mining industry isn't sustainable. – Aboriginal Service Provider

Wider community residents also acknowledged the investment made by companies to local and regional community groups.

Grants money into the community – Wider Community (Round 2)

Community support from Glencore donations and sponsorship – Wider Community (Round 2)

Grants and donations from company/ for individuals, councils and community groups receive financial benefits – Wider Community (Round 2)

Charity contributions from mining companies – Wider Community (Round 2)

Continued Sponsorships, actively involved with the community, local school, built a stage at the school

Glencore puts money back into the community, the local show they sponsor, grants for kid's junior sport, they sponsor the local show and various other little things around like education – Wider Community (Round 2)

Sponsorships for sporting facilities and youth activities in Singleton – Wider Community (Round 2)

They support the community with fundraising for groups and participating the in the coal mining expo and charitable donations – Wider Community (Round 2)

They support local charities and community groups – Wider Community (Round 2)

Support community in many ways, schools, neighbourhood centre, breakfast club etc – Wider Community (Round 2)

6.2.4 Intergenerational equity

Intergenerational equity impacts refer to when *'the needs of the present generation are met without compromising the ability of future generations to meet their own needs'* (IAIA, 2003). Intergenerational equity was noted as an ongoing issue to be managed and mitigated and is of concern to near neighbours given their ongoing interest in maintaining land productivity and a rural lifestyle.

Intergenerational equity has been divided into three sub-categories including, future land use and rehabilitation, land management (including the management of pests such as wild dogs) and climate change.

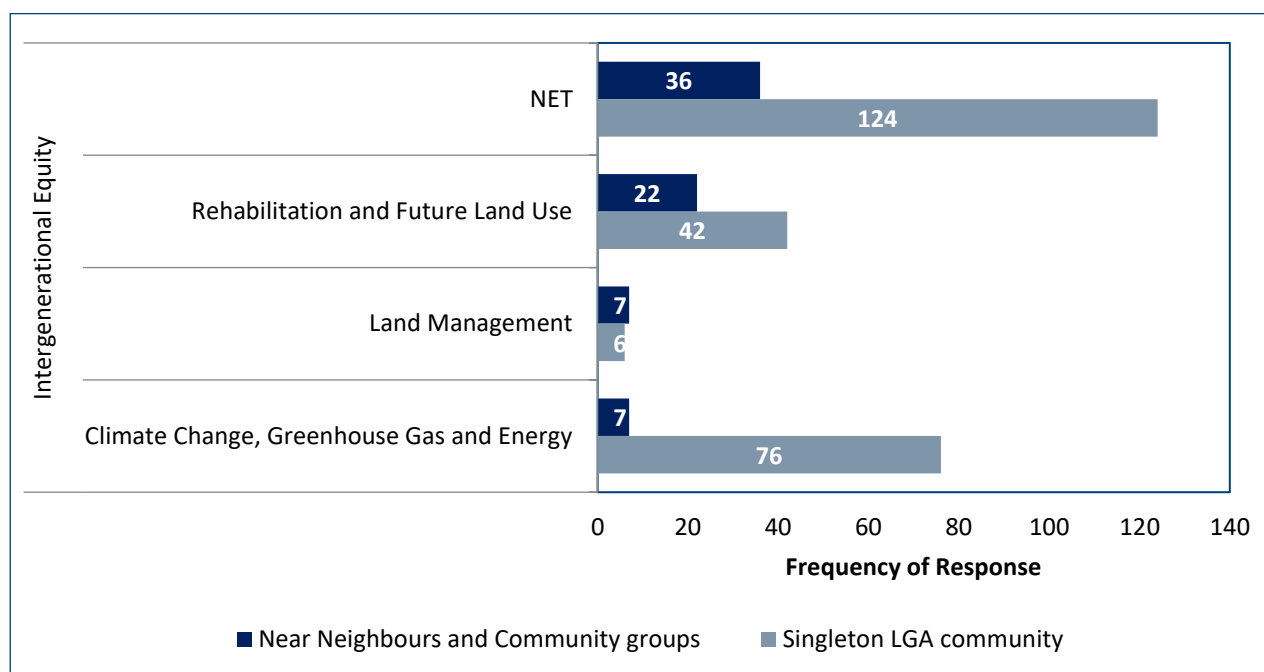


Figure 6.13 Perceived impacts to intergenerational equity

n=370; multiple responses allowed

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6.2.4.1 Rehabilitation and future land use

Rehabilitation and future land use was a common impact theme across all stakeholder groups. Strong generational connections, as described by near neighbours, suggest that their children would like to continue farming the land of their parents and grandparents and/or develop their own rural properties.

The availability of land for the use of current and future generations, was also seen to have been affected by the purchase of properties and offset lands by mining companies; with mining developments seen by some as too rapid and creating dependency on the sector.

Why all at once? Can't we leave a bit for our grandkids – Near Neighbour (Round 2)

I know the government like the money and the jobs it brings, and we all need coal, but why can't it be more gradual, instead of bang, we're going for it? – Near Neighbour (Round 2)

Where is the offset land? It's a lot of land and it means you don't have an opportunity to expand your farms and we can't afford it before they (the mines) buy it up. There's no private land anymore – Near Neighbour (Round 2)

They won't have an opportunity to build up their farms because there won't be any land left – Near Neighbour (Round 2)

Whether or not we will lose our properties from expanded coalmine – Wider Community (Round 2)

Growing bigger means growing into more farmland – Wider Community (Round 2)

Mines by a lot of people's houses to make their mining land larger, then locals are missing out on buying/using land in the area – Wider Community (Round 2)

It's just not all about mining. It's just the balance has gone too far. It's all about jobs and the money but to me the government didn't consider diversity in the job market (40yrs ago). If we could have kept our own factories and made our own jobs, we would have different workforces and it's not just mining, but it may be too late - the government is not doing anything. They can't help it - Near Neighbour (Round 2)

The wider community also acknowledged the challenges associated with competing land uses within the region, particularly in relation to agriculture and equine.

It has an impact on farming land – Wider Community (Round 2)

If we had more agriculture and other industries, we'd have more balance. It's not the workers fault, it's the government's fault for letting it happen to start with – Community and heritage stakeholder (Round 2)

It has an impact on animals, particularly purebred horses – Wider Community (Round 2)

Pushing out the local farmers, there has been a lot of land lost mainly dairy farmers leaving the area – Wider Community (Round 2)

The wider community frequently identified the impacts of resource extraction on the landscape, questioning why the resource could not be accessed underground and emphasizing the importance of effective rehabilitation practice (37).

Destruction of the land. I believe it would be a very negative impact to be digging up the earth – Wider Community (Round 2)

Digging of the land – Wider Community (Round 2)

Digging the ground up I think is criminal. At the end of the mining life, there is a big hole left behind and no regeneration conducted – Wider Community (Round 2)

Massive holes in [the] ground changing landscape – Wider Community (Round 2)

Open cut mining has negative effects environmentally – Wider Community (Round 2)

However, other residents commented that expansion of existing operations were considered more favourable than a new greenfield development

It's just an extension rather than a new mine, so I'm in favour of it – Wider Community (Round 2)

Rehabilitation was identified as a priority issue, with stakeholders noting that it is an important responsibility of Glencore's to restore the land after the closure of the operation to ensure viable future land use. Some near neighbours and wider community residents noted that land rehabilitation strategies have improved substantially in recent years and cited local examples of both good and not so good practice.

They have done it beautifully at Ravensworth – Near Neighbour (Round 1)

All the amount of hoops they have to go through to get these things off the ground and the rehabilitation is good – Near Neighbour (Round 2)

Minimal reforestation, they cut down trees but don't grow them afterwards, they don't do enough of it – Wider Community (Round 2)

Most of the mines do good rehabilitation work so they look after the environment during and after mining – Wider Community (Round 2)

[They will] rehabilitate the land, re-plant trees [and] grass – Wider Community (Round 2)

Land is supposed to be returned to how it was before, but it never looks the same – Near Neighbour (Round 1)

The final landform doesn't look natural. They don't do it well enough. The final landforms are flat topped, this isn't in keeping with the natural landscape – Community and heritage stakeholder (Round 2)

Both near neighbours and Aboriginal stakeholders also felt that there should be a greater effort to complete rehabilitation quickly, and that it should be an ongoing process as the operation progresses. This sentiment was reiterated by a number of wider community residents.

They should be rectifying as they go – Near Neighbour (Round 1)

There needs to be far more rehabilitation done a lot earlier – they are leaving the tree planting too late – Aboriginal Stakeholder (Round 2)

Overburden spoils need to be addressed (cause of dust) – Near Neighbour (Round 2)

I looked last week and could not see any effective rehabilitation conducted – Wider Community (Round 2)

Lack of control and monitoring of the environment – Wider Community (Round 2)

Lack of rehabilitation when the mining is done, [they] won't fill their void in – Wider Community (Round 2)

Rehabilitation and management of final voids were also frequently noted across different stakeholder groups.

If it's not viable to take the coal out and fill the hole back in, then it should stay there – Near Neighbour (Round 2)

It will never go back to the same as it is now, but as long as they don't leave an eye sore – Near Neighbour (Round 2)

It affects the beauty of the landscape; they won't fill the holes in the ground when they finish – Wider Community (Round 2)

Fill it in as much as possible, leave a soft hill, not a great mountain or a great hole – Near Neighbour (Round 2)

Remove topsoil that gets taken away, fertile land is destroyed and not replaced – Wider Community (Round 2)

You need to ensure land is useable after the project – Near neighbour (Round 1) Ensuring Glendell replenish mine site – Wider Community (Round 2)

Final void backfilling, filling in hole left after mine finishes site – Wider Community (Round 2)

Whilst some stakeholders of the wider community felt confident that the Project will attend to issues of land management and saw positive impacts of rehabilitation (5), near neighbours wanted to see more engagement with the community regarding future land uses.

6.2.4.2 Land management

Several near neighbours had experienced issues with wild animals, including dogs. Wild dogs were considered a particular threat to livestock, with one landholder recalling the number of goats on his property having declined from 50 to 13 due to the feral dog population. Recent efforts of Glencore, and other local business operators and residents in the area, through strategies such as baiting, were considered important to continue.

Wild dog management is important – Near Neighbour (Round 1)

Dogs travel a long way and we need coordinated baiting - Near Neighbour (Round 1)

They will buy up all the land around us and they breed up all the feral animals – Near Neighbour (Round 2)

While participants noted that weed management is difficult in any rural/agricultural setting, they considered it important that Glencore continue to support mitigation efforts in this area. Weeds such as cestrum, which have deadly consequences for some livestock, were of particular concern.

Other participants worried that offset areas, or land owned by Glencore, was often a source of weeds. Engagement in Round 2 reiterated the need for offset areas to be more effectively managed, with one stakeholder suggesting government regulations require change and monitoring to ensure this occurs.

The weeds and pests are a problem especially on the offset country - Near Neighbour (Round 1)

If they put a fire break back in, that would be good – Near Neighbour (Round 2)

It brings pest and weed control issues – Near Neighbour (Round 2)

Not looking after river, overgrown with weeds, mining company won't attend to it – Wider Community (Round 2)

6.2.4.3 Climate change, greenhouse gas and energy

Several near neighbours, and one Aboriginal stakeholder, referenced perceived changes to the local climatic conditions in Hebden, Camberwell, Middle Falbrook and surrounding localities, over the last decade; suggesting that rainfall and storm patterns are associated with the number of mining operations within the Hunter Valley, cumulatively affecting the local climate. The lack of vegetation and exposed overburden mounds were seen to cause increases in ground temperature and subsequent local-climatic shifts.

Rain patterns have changed a lot. Vegetation attracts rain but we now see no vegetation, the rain splits now and does not go down the valley. There is too much heat coming out of the bare ground. Thunderstorms used to brew, you knew the path it was going to take, but there is a lot of hot thermal air now. Great void of exposed area created by the mines – Near Neighbour (Round 2)

People keep asking why do the storms come but they go around us? Look at all the trees and the moonscape that we have around here, there are all these really large spoil heaps that have no vegetation, it's rock and bare earth and without the moisture in the top layers, you get extra heat – Aboriginal Stakeholder (Round 2)

Two Community group representatives also considered that changes to the environment were impacting climate conditions worldwide; with some suggesting the need to move away from mining towards more renewable energy sources.

Potential extension to fire season due to environmental impact (climate change) - Community and heritage stakeholder (Round 2)

There needs to be further consideration of renewables – Community Groups (Round 2)

Compared to the concerns of near neighbours and local community groups, the wider community reflected a much higher frequency of concern related to the overall impacts of mining operations on local and global climate change (69). Issues related to temperature changes due to exposed lands and greenhouse gas emissions were stated as common concerns for the wider community related to the Project and mining generally within the region.

Negative effects on climate change – Wider Community (Round 2)

Mines have an impact on the rainfall, due to thermal heat rising into the atmosphere – Wider Community (Round 2)

Further open cut mining, increased emissions, methane, CO2 etc – Wider Community (Round 2)

Global warming and climate change – Wider Community (Round 2)

Coal [is a] finite resource and we will run out eventually – Wider Community (Round 2)

Climate change, without a doubt fossil fuel contribute [to] climate change – Wider Community (Round 2)

Several wider community stakeholders (7), however, acknowledged the importance of coal in energy generation, supporting the need for the region to continue to provide good quality coal to overseas markets.

Essential industry for coal for power change – Wider Community (Round 2)

Coal is needed to provide base power – Wider Community (Round 2)

Continue to produce high quality coal to the rest of the world, low in ash, low in sulphur – Wider Community (Round 2)

I believe its good quality coal that has lower sulphur content that produces lower emissions – Wider Community (Round 2)

Everybody gets to use the coal for electricity – Wider Community (Round 2)

Continuation of power - power supply for the area and country – Wider Community (Round 2)

6.2.5 Access to and use of infrastructure and services

While the project is unlikely to result in any changes to population, due to additional workforce requirements; access to and use of infrastructure, services and facilities was noted by some stakeholders in relation to the general presence of the mining industry in the region.

Two separate concerns were raised in relation to traffic associated with the Project affecting the way of life of near neighbours, local businesses and community members. These impacts relate to disruption associated with existing traffic impacts from the Glendell operation, and mining more generally in the region; and the potential disruption that may result due to the realignment of Hebden Road.

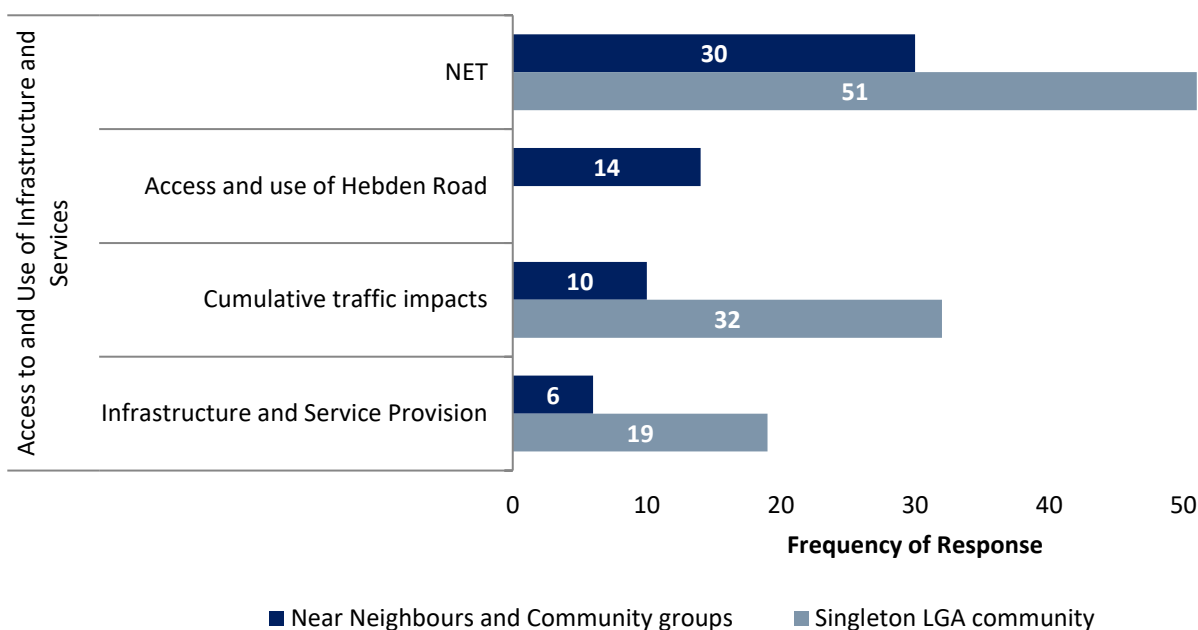


Figure 6.14 Perceived impacts on access to and use of infrastructure and services

n=370; multiple responses allowed

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6.2.5.1 Access and use of Hebden Road

The construction of the Hebden Road realignment was identified as an issue of concern for some stakeholder groups. Potential changes to the current road, as a result of the Project, were generally well received on the proviso that the road construction would be of a good quality, to facilitate heavy truck and bus movements; that road closures would be minimised where possible; and that potential flood-affected areas and crossings would be addressed in road design.

If it gets rated back, we can't move the trucks through and impacts on the business – Near Neighbour (Round 2)

The road base needs to be able to support a heavy vehicle, so it doesn't succumb to potholes, the busses are around 18 tonnes – Community and heritage stakeholder (Round 2)

As part of the Project, an additional 1.2 km of road is proposed to be constructed to allow mining to progress to the north of the Glendell site. In general, near neighbours were not opposed to the lengthening of Hebden Road, with a number of stakeholders suggesting that the quality of the road will be improved, contributing to a safer road in the long-term.

RMS road could be a better road – Near Neighbour (Round 2)

The only thing is an extra kilometre added onto our roadway, but there will be an over-pass over the railway and the creek, so in the end we will end up with a better road then we have now – Near Neighbour (Round 2)

A number of stakeholders outlined recent improvements to roads and infrastructure in the area, particularly the overpass over the railway crossing on Hebden Road, with this cited as a positive impact of Glencore's presence in the area.

This [infrastructure] stays to benefit community after operations have finished." – Near Neighbour (Round 1)

Two stakeholders however, expressed frustration that yet another change had to be made to the road to enable mining to continue.

Now there is going to be another change to the Hebden Road. I know it only adds another 1.6 km or so, but they just keep changing it, you never know where it's going to be. Last time they made it become the Hebden speed way loop. I feel annoyed every time they redo it – Near Neighbour (Round 2)

The lengthening of the road and potential for road closures, due to blasting activities, was also perceived by some service providers as increasing the time and distance travelled each way daily, particularly during emergency response and/or peak traffic periods e.g. the morning and afternoon peak periods for school children.

No roadworks on Hebden Road during bus route times, and/or give bus priority through – Community and heritage stakeholder (Round 2)

Potential impacts on time running which is a potential cost to the business if we don't meet that KPI with the government – Community and heritage stakeholder (Round 2)

Potential delays accessing the hall for groups that use the hall, such as the playgroup – Community, Group (Round 2)

Strategies to address these issues included the development of project conditions to limit blasting at certain times of the day e.g. between 7.30 am to 8.15 am and 4.00 pm to 5.30 pm during school terms; adequate notification of blasting events and road closures via SMS alerts and email correspondence, provision of a direct line of contact with the mine site, including a list of emergency contacts (if required). There was also a desire to receive further information about the lengthening of Hebden road, should the Project be approved.

6.2.5.2 Cumulative traffic impacts

In relation to general mine traffic, near neighbours outlined how they have had to make adjustments to their movements based on mining workforce shift changes, to avoid being delayed by traffic and to enable them to undertake farm practices e.g. shifting cattle between properties.

I won't move cattle between 6-7am and 5-7pm, because it's bumper to bumper with mine traffic. Ideally when you want to move cattle, the best time is the morning, so it limits what I can do - Near Neighbour (Round 2)

When you have so many mines in the same area there's more traffic, and with so many out of towners, you have to work out when the changes of shift are, just to go to Newcastle, so you're not stuck in the traffic – Near Neighbour (Round 2)

It's a very busy Highway now. There is a constant line of traffic now. Early in the morning 4am it's just one roar of traffic and then in the arvo there's a new lot coming in. Try to avoid going away in the afternoons, midday is the best time to go out – Near Neighbour (Round 2)

You should be here in the mornings and afternoons. It usually takes 15-20 minutes to town, but then it's about an hour. Having to start an hour early, even though I'm only 20 minutes from work – Near Neighbour (Round 2)

Near neighbours expressed concern that the Project would continue to further disrupt their way of life due to workforce movements to and from Glendell and neighbouring operations. Traffic congestion and the inability to move freely within the Singleton LGA were reiterated by wider community residents; and was perceived to be increasing (32) due to the influx of mining personnel and an increasing amount of truck movements from surrounding operations. These impacts were more noticeable during peak morning and afternoon periods, when local residents are going to, or returning from, their work or other activities.

Glendell shouldn't increase the traffic so much, but it's still a concern – Near neighbour (Round 2)

The cumulative impact of traffic on this town is not right - Community and heritage stakeholder (Round 2)

Traffic congestion on the local roads – Wider Community (Round 2)

Many workers don't live in the town but travel there and congest the roads – Wider Community (Round 2)

More people on the roads in town and on the highway – Wider Community (Round 2)

Road closures because of the mines. Makes travelling around the area more difficult – Wider Community (Round 2)

Our roads cannot cope with all the traffic we have now due to people traveling daily to and from work at the mines difficult – Wider Community (Round 2)

The amount of traffic on the roads is making roads busy – Wider Community (Round 2)

Increase of traffic due to the trucks and more workers traveling from Newcastle to the mines – Wider Community (Round 2)

Brings traffic, in the afternoon it is a lot worse during peak hour, due to the workers – Wider Community (Round 2)

Mine workers going to and from work cause congestion [at the] top & bottom of town – Wider Community (Round 2)

Traffic jams in Singleton are a nightmare at times of shift changes – Wider Community (Round 2)

In addition to congestion and delays caused by an increase in traffic, safety was also mentioned as a concern for a small number of near neighbours (2) and a wider community member, as a result of driver fatigue and long working hours of mining personnel, as well as trucks associated with the local quarries in the area.

Traffic concerns. The roads in our area are already overflowed with traveling miners. Concerned about higher fatalities and crashes on our roads – Wider Community (Round 2)

If you're out this way and you see a B-double coming towards you, you better get right off the road, or they'll take you out. You take your life into your own hands with those B-Doubles from the quarry. The service vehicles from the mines are not so bad though – Near Neighbour (Round 2)

A small number of stakeholders from the wider community (2) suggested that a bypass may assist Singleton in diverting traffic away from the centre of town.

Traffic in Singleton is also problematic in regard to congestion and the impacts of the trucks on roads – Wider Community (Round 2)

We don't have a bypass to take traffic away from the town – Wider Community (Round 2)

The impact of additional traffic on the road network was also thought to result in poor road conditions in the region, with mixed views as to whether the mining industry was contributing appropriately.

Profits from mines don't go back into infrastructure e.g. fixing roads – Wider Community (Round 2)

*Potential increase in tonnage of coal/infrastructure, roads can't handle it – Wider Community (Round 2)
– Wider Community (Round 2)*

Heavy traffic deteriorates local roads – Wider Community (Round 2)

Hopefully improved infrastructure, roads – Wider Community (Round 2)

Does bring a lot of infrastructure to the town, the roads get worked on, which we wouldn't get if there wasn't a mine – Wider Community (Round 2)

Supporting wider infrastructure in Singleton – Wider Community (Round 2)

6.2.5.3 Infrastructure and service provision

In relation to service provision, a small number of wider community stakeholders (3), suggested that mining projects tend to increase the costs of living associated with local retail and services in the Singleton LGA.

Cost is inflated due to the mine - from groceries to eateries and services like mechanics and trades people there's a perception that people earn a lot on the mines and a lot don't and still paying more – Wider Community (Round 2)

The retail prices around town increases, like food and house prices rise – Wider Community (Round 2)

Regarding accommodation, there was also a common sentiment that mining in the Hunter Valley places stress on short-term accommodation in the Singleton LGA and drives rental prices higher as a consequence.

*[Our] family want to visit and can't get into a motel because miners that travel use all the hotel rooms.
[There's] never any vacancy – Community and heritage stakeholder (Round 2)*

The impact on housing was of particular concern to aboriginal service providers. Lower rental prices during recent sector downturns, were seen to have temporarily afforded Aboriginal community members an ability to transition from social housing into rental properties. However, in boom periods these individuals were again forced out by increased housing costs. Respondents suggested that this in turn increased strain on social housing, leading to homelessness and movement of local Aboriginal people away from the area.

Low income people rely on our services because of the really low level of houses available and what is available is too expensive – Aboriginal Service Provider

There are contributions from the mining community, but broader issues like rent rises are not addressed. For example, there was a downturn a few years ago, so people in social housing went to private rentals because the rent had got so cheap, then the boom came, rent went up and people had to leave – Aboriginal Service Provider

The worst thing for our community is accommodation – when mines open and expand, they tend to drive in and drive out. They come up on a Monday and head out on a Friday and tie up accommodation during the week. This rental increase (what is worth 500 is now 1500) – Aboriginal Stakeholder (Round 2)

At a locality level, near neighbours and community groups questioned whether the presence of the mine had impacted the provision of services, such as telecommunications. This issue was of particular concern to landholders and emergency service providers in the Hebden area.

There is a real issue with network coverage and even relying on the use of pages. Pages work off government radio network and the area we work in has a number of black spots – Community and heritage stakeholder (Round 2)

It would be so nice to have mobile phone coverage. It's really ridiculous that we don't have it here and yet we're surrounded by all these mines that have it – Near Neighbour (Round 2)

In relation to service provision, links between the potential population influx associated with the Project (as discussed in **Section 6.2.2.1** and continued service provision were quite intricate, with wider community stakeholders acknowledging the positive benefits of the workforce and their families contributing to the services and facilities in town.

Medical services, if we don't have the population in the town these services will dwindle possibly – Wider Community (Round 2)

It has made it easier - you used to have to go to Maitland or Newcastle to get things and now you can get them in Singleton – Community and heritage stakeholder (Round 2)

6.2.6 Health and wellbeing

Physical and mental wellbeing concerns were also raised by all stakeholder groups consulted, with 29 responses obtained overall. Physical health impacts outweighed mental health concerns, as physical impacts are more tangible to identify and discuss, such as respiratory difficulties and dust settling in water reservoirs/tanks.

Mental health concerns however, tended to centre on the frustrations and stresses caused by living with cumulative mining impacts and the associated decline in rural and social amenity.

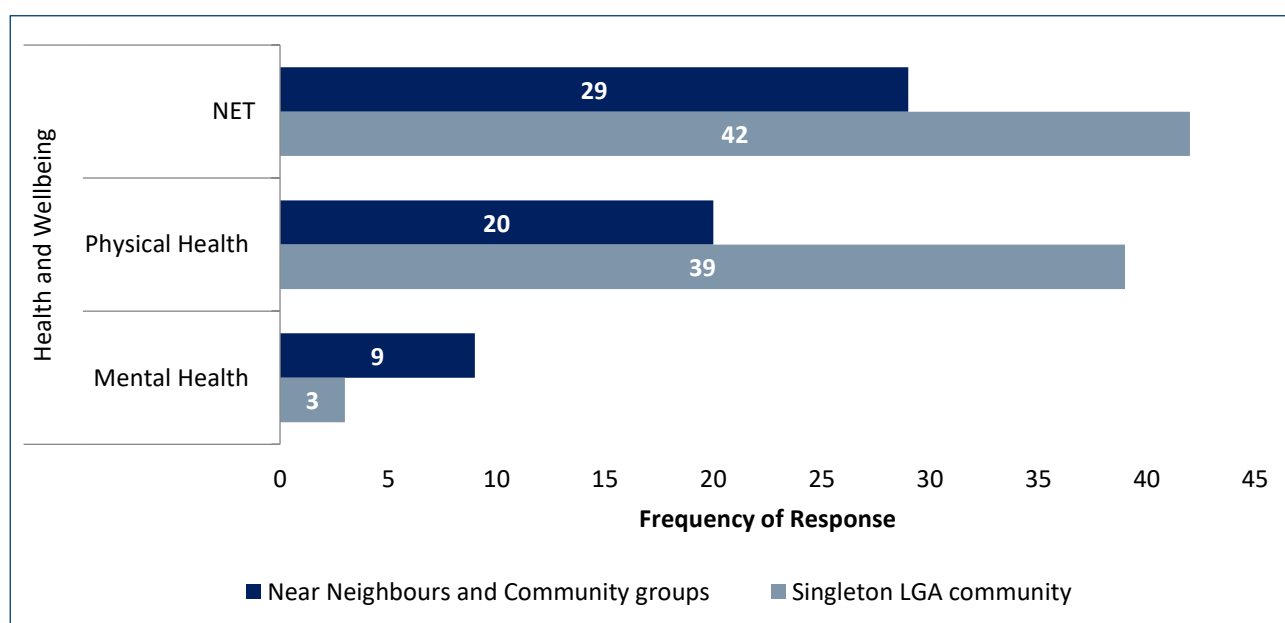


Figure 6.15 Perceived health and wellbeing impacts

n=370; multiple responses allowed
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6.2.6.1 Physical health

Dust was considered problematic for health, particularly the development and exacerbation of respiratory issues e.g. asthma. Cumulative dust from surrounding mines, power stations and quarries were the primary source of health concerns.

"Our daughter is asthmatic and can't stay here for long. After a couple of days, she feels terrible" – Near Neighbour (Round 1)

If you do wash the sheets and put them on the line, when you put them on the bed you start sneezing from the dust - Near Neighbour (Round 2)

Respiratory issues in Singleton for all ages from small children right through to adults, it is very worrying – Near Neighbour (Round 2)

Concentrating so much industry in one area: my chest is bad due to one thing, it's due to the power stations and the mines all concentrated in one area – Near Neighbour (Round 2)

Dust around here is absolutely ridiculous. Health wise it has an impact on the community – Aboriginal Service Provider

Health issues caused by local mines. Asthma, respiratory problems – Wider Community (Round 2)

Dust in town can affect people breathing – Wider Community (Round 2)

Some Aboriginal service providers in the area, that specialise in the care and treatment of Aboriginal people within the Singleton LGA, were particularly concerned for the wellbeing of the Aboriginal community; and would like to see Glendell contribute to programs within the Upper Hunter that help promote Aboriginal health and health education within their community.

Our main concerns are the effects on respiratory and just making sure people are looking after themselves. You notice it on the cars and breathing it in – Aboriginal Stakeholder (Round 2)

In addition to personal health impacts, some stakeholders within the wider community feared poor outcomes for the agricultural industry, in terms on the effects on produce and livestock and the flow on effects of ingesting produce from areas impacted by high dust emissions.

Bad for our farmers due to coal dust etc – Wider Community (Round 2)

Coal dust on hay and fodder near dairies which cows eat and then it enters our food systems – Wider Community (Round 2)

A small number of stakeholders (2) also commented on the potential health effects of polymers or synthetic materials used in water for dust suppression.

Spraying with chemical water to stop dust pollutions. Concerned about the airborne contaminations contributing to health concerns – Wider Community (Round 2)

Health concerns were also raised in relation to the potential for dust contamination of domestic water supplies, particularly for the many households in the area that rely on tanks as a water source. There was concern raised about the lack of knowledge of the effects of ingesting coal dust through water supplies, with some landowners suggesting that more rigorous testing of water would be helpful. Current measures to filter or alleviate coal dust entering water tanks from house roofs, were perceived as inadequate to alleviate health concerns.

The gutters are full of coal dust - water tank cleaning doesn't help with this – Near Neighbours (Round 1)

So much stuff going into our tanks. My sister's child has health issues and I have to boil my water as my son gets gastro from it. The filters aren't worth anything from what goes into the tanks. It's dust and coal and other particulates going in – Near Neighbours (Round2)

There is a dust prevention program and the mines are monitored a little more, but the penalty is negligible in terms of what they get overall – Community and heritage stakeholder (Round 2)

There is black dirty-grey dust on the house, in our tanks and drinking water – Near Neighbour (Round 2)

I'm living under the coal mines, my lungs are stuffed, my tanks are full of coal dust – Near Neighbour (Round 2)

Driver fatigue was identified as a further possible health and safety impact of the Project, with the current workforce travelling to and from mining employment.

Danger of fatigue to the workforce – Community and heritage stakeholder (Round 2)

6.2.6.2 Mental health

Near neighbour's reported increasing levels of stress and anxiety associated with constant cleaning of their properties and held concerns that living in proximity to active mining operations will influence their long term physical and mental health. Comments such as “sick and tired of cleaning” and “over it” were often expressed by landholders, as well as “the mines have done enough, they should leave us alone” and “we’ve put up with enough” were frequently reported during the SIA program. In hearing of the Project, near neighbours expressed a strain on the mental resources required to cope with the continual encroachment of mining projects in the area and the associated impacts on their way of life. Dust was particularly frustrating for nearby residents, as there was perceived to be little done to mitigate its effects and it was difficult to pinpoint dust sources (by operation).

It's painful and stressful for people that are involved in this – Community and heritage stakeholder (Round 2)

Over the last 6 years it's definitely increased (the dust) and it is driving everyone in our house up the wall – Near Neighbour (Round 2)

Additionally, mental health concerns were noted in relation to the process of property acquisition, occurring as a result of multiple mining projects in the area. Camberwell residents were particularly concerned that acquisitions have changed the social fabric of their community, as discussed in **Section 6.2.2.1**. Other near neighbours expressed the uncertainty around decision making, in particular the timing of their decision to stay or to move (if moving is appropriate for them) and the associated stress and anxiety that relocation can cause personally and for family members. One stakeholder was relieved when information pertaining to the acquisition process was provided, stating that a decision to relocate was not necessarily imminent, but that they had the option of remaining in their property, if they desired for a period.

I don't want to move. We've been here a while. We're in our 60's and we moved from Newcastle to live here, we wouldn't want to move – Near Neighbour (Round 2)

Personally, I feel too close to you guys, I don't think you should bypass me, you should buy me – Near Neighbour (Round 2)

I've seen it all and for me I know that there is a time when you should leave your house but if you miss that time then you won't leave – Near Neighbour (Round 2)

6.2.7 Water access and use

Water is a key resource in rural areas and, as previously noted, the current drought conditions being experienced in the Hunter Valley appear to be exacerbating landholder fears regarding access to water and the potential impacts of the Project on water resources.

Local waterways, such as Glennies Creek, were considered important water assets and key to maintaining rural lifestyles and livelihoods; and some stakeholders questioned the extent to which water was being accessed by the current mining operation(s).

"Water is life" – Aboriginal Stakeholder (Round 1)

Water is a big thing; we have access rights to the creek, and it concerns me that they have bought so many of the properties which also have water rights. So, do you use the water for agriculture or for mining? – Near Neighbour (Round 2)

We are running out of water as it is – Community and heritage stakeholder (Round 2)

For others, there was a view that water licences owned by the mine, could be utilised to access water during the fire season to assist local emergency fire services through the installation of life pumps; and that there was also potential, post mining, for the final void to also be utilised as a water source for this purpose.

Concerns were also raised in relation to the proposed diversion of York's Creek, with different views noted. Some stakeholders felt that the diversion of the creek may result in an improvement to water flow, citing successful examples of other creek diversions, such as the Ashton Coal diversion, which won a NSW Minerals Council Environmental Excellence Award. As a result, there appeared a greater confidence in the ability of the project to mitigate any risks associated with the diversion of Yorks Creek.

Bowman's Creek diversion was done well – Near Neighbour (Round 1)

However, others were less confident that this type of diversion could be undertaken without some risk of significant damage to creek flow, outlining that, as a general principle, natural waterways should not be altered or changed.

Should you mess with a natural creek? – Near Neighbour (Round 1)

I don't like them having to move the creek. I don't understand why they have to. Yorks creek is a natural water course and the mines think they can move it over here and at other times over there – Near Neighbour (Round 2)

Bowmans Creek was unacceptable, what happens to the ground water when you move Yorks Creek? You're moving the surface water, but you can't see that the ground water runs directly underneath - what happens to it? – Community Groups(Round 2)

Realigning them doesn't work. Landscape protection, catchments, aquifers, they are all important – Aboriginal Stakeholder (Round 2)

The wider community also expressed concern in relation to water use and access, with specific concerns centred around the potential contamination of water systems and supply. These concerns have been discussed in **Section 6.2.6.1** but some stakeholders referenced the potential for contaminated water to effect the environment, more generally (24).

Water gets salty and can get into river – Wider Community (Round 2)

Wastewater from the mine site can be contaminated – Wider Community (Round 2)

Pollution of underground water – Wider Community (Round 2)

Water usage and availability as the local supply is impacted, the ground water tables are impacted – Wider Community (Round 2)

6.2.8 Engagement and decision-making

In relation to stakeholder perception of Glencore's engagement process, a high proportion of near neighbours (94%), two-thirds of Aboriginal Stakeholders and nine out of twelve community group representatives (82%) acknowledged Glencore have previously engaged with them either personally or through public forums.

Yes, we have had an opportunity to voice our opinions. We've been lucky to have some fellows there that are gentlemen. They have been understanding and truthful with us – Community and heritage stakeholder (Round 2)

This has been our second interview in relation to this project. Other engagement – via workshops that the resource regulator has arranged and local emergency management committee – Community and heritage stakeholder (Round 2)

Participants during Round 2 consultations were asked to rate their level of satisfaction with their engagement on a scale of one to ten, with a relatively high average satisfaction score of 7.72 out of 10, obtained across all stakeholder groups.

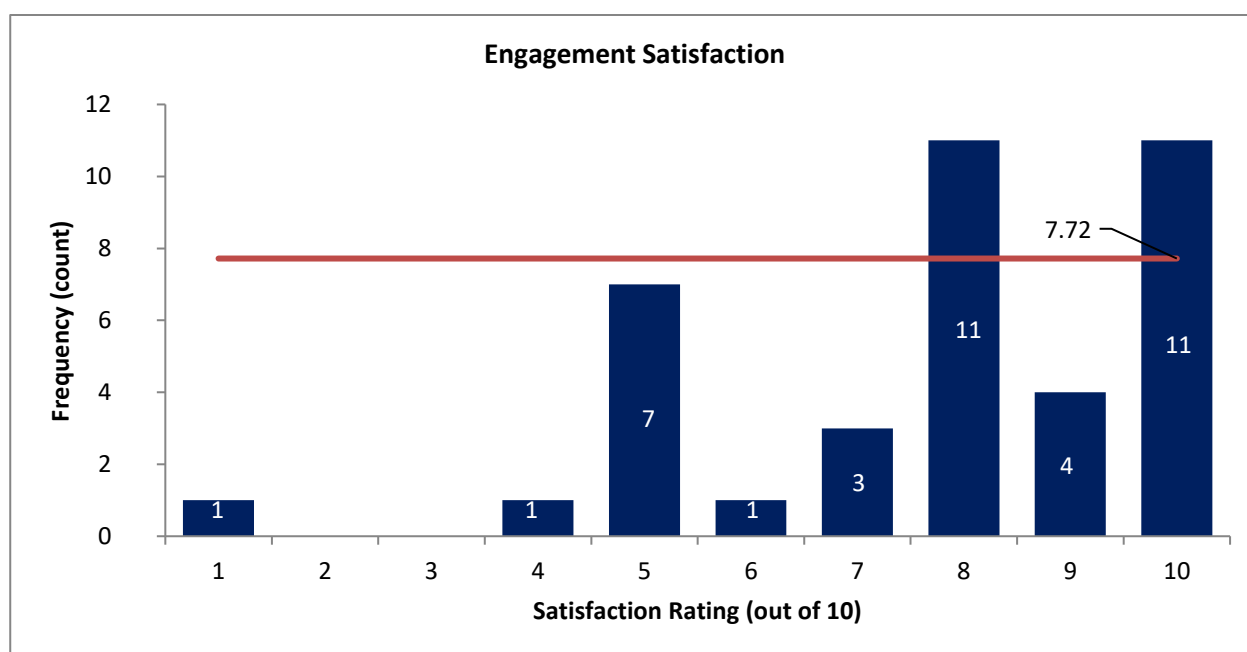


Figure 6.16 Engagement satisfaction rating (out of 10) – all stakeholders

Note: n=52 (Round 2); 13 respondents did not provide a rating

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On average, near neighbours, community groups and local business stakeholders reported higher levels of satisfaction than Aboriginal stakeholders with the company's engagement processes.

It's been very interesting – the process is just amazing. I've learnt a lot about everything. They have been understanding and truthful with us – Community and heritage stakeholder (Round 2)

They've been quite supportive of us. They used to come to the house and talk about things – Near Neighbour (Round 2)

Pretty good, especially now. Open dialogue and communication are important things – Near Neighbour (Round 1)

They keep me informed, that's what I like – Near Neighbour (Round 1)

A number of near neighbours reported having access to a direct Glendell contact, or knowing who they could speak to within Glendell, if they had any concerns. However, other stakeholders expressed a desire for more direct contact with operational staff through the community complaints line and greater coordination of engagement efforts across the company's numerous mining operations in the area.

In the past they have contacted me, and I'd say we have a good liaison with Glencore. I have a phone number straight to a Glencore contact - Near Neighbour (Round 2)

You've got to sit down separately about each one. Glencore should have one committee to discuss all mines. They don't even know what each other are doing – Aboriginal Stakeholder (Round 2)

We know who to call if needed – Near Neighbour (Round 1)

Personal visits did not use to happen in the old days, great they do now. Good to get newsletter and had a good visit with Brad and Ned – Near Neighbour (Round 1)

Some participants (13) felt that they had to work hard to get mine staff to respond to their concerns and expressed that they were not always provided with transparent information, or an opportunity to influence decisions.

Now they are more upfront, in the past we have had to chase down information – Near Neighbour (Round 1)

Some issues in the past, but good now and they are good neighbours. It works well, if you treat each other with respect – Near Neighbour (Round 1)

We get treated like the village idiots – our concerns are not taken seriously, and we are not really listened to – Near Neighbour (Round 1)

Never had a consultation with them - no one cares, I've heard more from [neighbouring operations] and I've called, and no one's ever got back to me – Near Neighbour (Round 2)

Some previous experiences had also resulted in a level of distrust in the company and scepticism about the approvals process and commitments made, more generally.

People don't believe mines anymore – Near Neighbour (Round 2)

People just don't believe that if agreement [sic] is granted – that they will do what they say. When the community has a win on something, they just go and shift the goalpost and change the rules etc – Community and heritage stakeholder (Round 2)

When they do the EIS and tell us we won't be affected, they think you're bloody stupid – Near Neighbour (Round 2)

I've done 8 or so of these things [EIS engagement] and they have never made any difference. In fact, a few of us are starting to think that it actually helps to get their mine across the line, because they can say that they have engaged with the community. We should stop doing these. It doesn't make any difference; they make life worse for everyone and I have never seen anything actually come out of this process – Near Neighbour (Round 2)

Our main experience as [other coal mine] that there is the community bloke who sweet talks them and they spread a load of lies. How much time and effort waste trying to argue with the public. They know they are going to impact the people so they should stand up and say this is what is going to happen, and this is what they are going to – Near Neighbour (Round 2)

Participants also raised the need for ongoing consultation following the assessment process, not just in the project development phase.

Don't just engage in the initial stage, do a report and thanks for that – Aboriginal Stakeholder (Round 2)

I've been through this process before and I didn't hear any results/outcomes of the process – Near Neighbour (Round 2)

A small number of respondents also mentioned that they were not aware of the community information sessions that were held as part of the consultation for the EIS, with suggestions on additional ways to raise awareness of these sessions including advertising through local radio, a letter drop and ensuring community leaders are kept up to date on any events.

When asked how best to engage, some stakeholders suggested that personal meetings was the most effective mechanism to gain a good understanding of the information provided (29%); however most stakeholders indicated a preference to receive emails or phone calls about the Project (44% and 40% respectively).

6.2.9 Personal and property rights

Impacts on personal and property rights, noted through engagement with stakeholders, largely centred on the potential for mining to negatively impact property values in the areas in which mines were present, driving values down. Those stakeholders of retirement age were more concerned that they would be trapped in the area, unable to sell their homes to enable them to relocate to town or elsewhere.

If you're near a mine your house doesn't have as much value – Near Neighbour (Round 1)

The more mines in the area, the more it [property value] decreases – Near Neighbour (Round 1)

What I would get for it now, I'm surrounded by mines, will be nothing. We won't get the same property with the creek and extra land that we have now – Near Neighbour (Round 2)

I'm retired now and I'm not sure how many more years we can live out here. When I'm ready to sell, I don't think a lot of people are going to come out here to buy, because of the mines. They'll go where there is less chance of a mine – Near Neighbour (Round 2)

If I was to put the house on the market, I wouldn't get anything for it, due to the mines – Near Neighbour (Round 2)

Impact property prices – Wider Community (Round 2)

Property value decrease due to no one would want to live next to a coal mine – Wider Community (Round 2)

Home value decreases, due to the proximity of the mine – Wider Community (Round 2)

Some participants were concerned that if their properties were not within the acquisition zone of a project, then their properties would be further devalued due to the impacts likely to be experienced.

I'm only in the management area so I don't have acquisitions rights. Now I worry that my property is devaluing – Near Neighbour (Round 1)

For some, where acquisition was an option, they felt overwhelmed at having to leave their home and the area they loved to start again.

I can't afford to find another property or have another high mortgage or have to find work somewhere and everything else – Near Neighbour (Round 2)

I don't want to move. We've been here a while. If they acquire me, we wouldn't want anything that is not like for like. We have everything we need here - Near Neighbour (Round 2)

However, increased property values were also highlighted as a potential positive impact of the Project, by a small number of wider community members (3).

Housing market may improve. Bad at moment – Wider Community (Round 2)

Housing prices go up because people move here – Wider Community (Round 2)

7.0 Assessment and prediction of social impacts

This section provides a risk ranking of the social impacts identified during the SIA (as outlined in **Section 6.0**). The aim of the SIA is to assess the proposed change to the current baseline social environment (of which current Glendell Mine operations are a part), as a result of the Project proceeding.

The SIA has utilised data, from a number of sources, to develop a layered picture of the potential social impacts arising from the Project. This section further assesses the social impacts associated with the Project, providing a detailed ranking of impacts according to a number of key criteria, as defined in the SIA Guideline (DPE, 2017). These criteria relate to:

- **extent** - the geographical area affected by the impact and/or number or proportion of people or population groups that are affected
- **impact timing/duration** - when in the Project the potential social impacts are expected to occur e.g. Pre-construction, Construction, Operation, Closure, Post-closure and the timeframe over which the impact occurs
- **vulnerability/sensitivity** - identification of who specifically is to be affected (directly, indirectly or cumulatively), including susceptibility or vulnerability of people, receivers or the receiving environment to adverse changes caused by the impact
- **stakeholder perceived risk ranking** - the importance placed or level of concern that those potentially affected feel about the social matter
- **impact severity** - the potential level of social risk posed by the negative social impact and the scale or degree of change from the existing condition as a result of the impact.

In order to prioritise the identified social impacts, a risk-based framework has been adopted. Traditionally, the technical risk assessment process has not been greatly amenable to the inclusion of social impacts. One key adaptation of the approach is that both technical ratings and stakeholder perceptions of impacts are assessed. This approach is consistent with Sandman's risk equation ($\text{Risk} = \text{Hazard} + \text{Outrage}$) (Sandman, 1997), which acknowledges the low correlation between a risk's technical 'hazard' (how much harm it's likely to do) and its 'outrage' (how upset it's likely to make people).

Stakeholder perception of risk/impact is considered an independent and no less valid component of risk. The integration of the outcomes of technical ranking (severity) with stakeholder perceived ranking of impacts, thus affords a true integration of expert and local knowledge in SIA and enables both types of risk to be addressed in the development of impact mitigation, amelioration and enhancement strategies. Such an approach is acknowledged in the SIA Guideline in relation to estimating material effects.

Prioritising impacts in this integrated manner makes sure that appropriate assessment and mitigation strategies can be developed that not only address impacts that may require more technical management but also those impacts that are perceived by stakeholders as of high risk/importance/concern. These perceived concerns are just as important to manage, as they have the potential to result in elevated levels of community concerns, complaints and grievances if not addressed appropriately.

The impacts identified within these social impact categories are assessed in detail as part of the overarching risk-based framework in the following sub-sections. It should also be noted that social impacts are often not mutually exclusive, with higher order impacts such as population change resulting in second order impacts such as impacts on sense of community and service provision as previously highlighted.

7.1 Assessment of social risks/impacts

This section provides an evaluation of the significance of each potential negative and positive social impact. The assessment is undertaken using the criteria noted above and through the application of a consequence and likelihood framework as identified in the SIA Guideline (DPE, 2017 p.41).

The social risk matrix (refer to **Table 7.1**), that considers both the consequences of the potential social impact (minimal, minor, moderate, major and catastrophic) and the likelihood of the impact occurring (rare, unlikely, possible, likely and almost certain) is then used to determine an overall risk assessment of the social impact as '*low*', '*moderate*', '*high*' or '*extreme*'.

Both positive and negative impacts are considered in this regard, with slight adjustments made to the approach to reflect positive impacts e.g. level of concern becomes level of interest, severity becomes scale of improvement or benefit, sensitivity becomes importance of the improvement or benefit and the equity of its distribution etc.

As noted in the SIA Guideline, the definitions and scale assigned to each of the likelihood and consequence categories need to be relevant to the impact that is being evaluated, explained and justified in the SIA and where possible the consequence scale should be based on established measures and standards. Where possible and relevant, specific definitions have been developed for the consequence categories of the identified social impacts and are guided by best practice research findings (Coakes, 2012), and relevant agency guidelines (IAIA, 2015). These definitions are outlined in **Table 7.3**.

The social risk assessment process for the current SIA, has therefore involved four main steps:

1. **Ranking the stakeholder perceived risk.** An important component of the SIA has been the integration of technical results with the perceived risk ranking of an impact by key stakeholders i.e. the sensitivity/susceptibility/vulnerability of people to adverse changes caused by the impact and/or the importance placed on the relevant social matter. Consequently, stakeholder ratings of risk were determined by assessing impacts identified through the both rounds of engagement carried out as part of the SIA. The perceived ranking (i.e. *low*, *moderate*, and *high*) is determined by the frequency that an issue was raised by a stakeholder group in the engagement process. The justification for each ranking is highlighted in the discussion within each respective impact section. It should be noted that community perception rankings are not 'residual risk' rankings as they do not reflect the management measures an applicant may put in place.
2. **Determining the consequence.** The risk approach adopted for this SIA requires the determination of the worst-case (but reasonable), consequence of a project factor. For some impacts it may be a negative consequence, while for others it may be a positive consequence (positive risk rankings are delineated in *italics*). These consequences are assessed against impact-specific consequences and are categorised as 'catastrophic', 'massive', 'major', 'moderate', 'minor' or 'minimal' (refer to **Table 7.1**). It is noted that the social risk matrix from the SIA Guideline provides greater emphasis on high and extreme risks, with 16 out of 25 risk rankings (64%) across the matrix being identified as high or extreme.

3. **Determining the likelihood.** To understand the risks presented by a project factor, the magnitude of a consequence must be cross-referenced with the likelihood of it occurring. **Table 7.2** presents the likelihood definitions that were used to assess the likelihood of social impact consequences associated with the Project, categorised as ‘almost certain’, ‘likely’, ‘possible’, ‘unlikely’, or ‘rare’ (DPE, 2017).
4. **Assessing the technical risk.** To assess the overall social risk, the consequence determined in step one is cross-referenced with the likelihood determined in step two to determine an overall risk assessment rating (i.e. low, moderate, high, or extreme) (refer to **Table 7.1**). In the case of some impacts, this risk assessment has involved referencing the respective technical reports of the EIS (e.g. economic, water, blasting, and traffic); however, the associated social impacts have been assessed through the social risk rating process. The social risk ratings are presented as mitigated social risks in this section having considered proposed technical and social mitigation and enhancement strategies further outlined in **Section 8.0**.

Table 7.1 Social Risk Matrix

		Consequence Level				
		1 Minimal	2 Minor	3 Moderate	4 Major	5 Catastrophic
Likelihood category	A. Almost certain	HIGH	HIGH	EXTREME	EXTREME	EXTREME
	B. Likely	MODERATE	HIGH	HIGH	EXTREME	EXTREME
	C. Possible	LOW	MODERATE	HIGH	EXTREME	EXTREME
	D. Unlikely	LOW	LOW	MODERATE	HIGH	HIGH
	E. Rare	LOW	LOW	MODERATE	HIGH	HIGH

Source: SIA Guidelines (DPE, 2017)

Table 7.2 Social Likelihood Definitions

Likelihood Category	Definition
Almost certain	Common repeating occurrence, ongoing Will occur in most circumstances
Likely	Will probably occur, in most circumstances There is at least a 50% chance that it may happen
Possible	Might occur at some time Could occur but not often 5% chance it could happen
Unlikely	Unusual occurrence Unexpected
Rare	May occur only in exceptional circumstances Unheard of in the industry

In line with the process defined above, the following section assesses the technical and perceived social risk in relation to consequences that may be experienced by people due to anticipated impacts/changes associated with the Project. These have been categorised in line with the Social Impact Categories and characteristics outlined in the SIA Guideline (DPE, 2017, p.5) and then further defined within impact themes and sub-impact issues, as noted in **Section 6.0**.

Table 7.3 Social consequence definitions

Social Impact Factors	Social Consequence Definitions				
	1 Catastrophic	2 Major	3 Moderate	4 Minor	5 Minimal/Negligible
Population change	Greater than 20% permanent population change in a <i>region or local area</i>	Greater than 10% permanent population change in a <i>local area</i>	Permanent population change in a <i>local area</i> of greater than 5%	Temporary or permanent population change in a <i>local area</i> less than 5%	Nil population change in a <i>local area</i>
Community infrastructure and services	Permanent and significant reduction in the capacity of <i>regional</i> community services and infrastructure, and existing regional housing and accommodation stock	Temporary and significant reduction in the capacity of <i>local</i> community services and infrastructure, and existing local housing and accommodation stock	Temporary or permanent but marginal significant reduction in capacity of <i>local</i> community services and infrastructure, and existing local housing/accommodation stock	Temporary or permanent but insignificant reduction in the capacity of <i>local</i> community services and infrastructure, and existing local housing and accommodation stock	No measurable impacts on capacity of <i>local</i> community services and infrastructure, and existing housing and accommodation stock
Social amenity	Permanent and significant reduction in social amenity in a <i>region</i> as a result of dust/air quality, noise, visual impacts, traffic congestion	Permanent and significant reduction in social amenity in a <i>local area</i> as a result of dust/air quality, noise, visual impacts, traffic congestion	Permanent but insignificant or temporary but significant reduction in social amenity in a <i>local area</i> as a result of dust/air quality, noise, visual impacts, traffic congestion	Temporary but insignificant reduction in social amenity in a <i>local area</i> as a result of dust/air quality, noise, visual impacts, traffic congestion	No measurable impacts on social amenity in a <i>local area</i> as a result of dust/air quality, noise, visual impacts, traffic congestion

Social Impact Factors	Social Consequence Definitions				
	1 Catastrophic	2 Major	3 Moderate	4 Minor	5 Minimal/Negligible
Health and well-being	<p>>1 fatality <u>or</u></p> <p>2-5 permanent disabilities <u>or</u></p> <p>Non-permanent injuries requiring hospitalisation for 2-5% of population at risk <u>or</u></p> <p>Acute health effect requiring hospitalisation for >2-5% of population at risk <u>or</u></p> <p>Chronic health effect requiring medical treatment for 5-10% of population at-risk <u>or</u></p> <p>>\$5m - \$10m of health cost due to hazard <u>or</u></p> <p>Demand exceeds capacity of health services by >30-40%</p>	<p>No fatality and 1 permanent disability <u>or</u></p> <p>Non-permanent injuries requiring hospitalisation for >2-5% of population at risk <u>or</u></p> <p>Acute health effect requiring hospitalisation for >2-5% of population at risk <u>or</u></p> <p>Evacuation is necessary or chronic health effect requiring medical treatment for 2-5% of population at-risk <u>or</u></p> <p>>\$1m - \$5m of health cost due to hazard <u>or</u></p> <p>Demand exceeds capacity of health services by >20-30%</p>	<p>No fatality and no permanent disability and non-permanent injuries requiring hospitalisation for 1-2% of population at risk <u>or</u></p> <p>Acute health effect requiring hospitalisation for 1-2% of population at risk and no evacuation <u>or</u></p> <p>Chronic health effect requiring medical treatment for 1-2% of population at-risk <u>or</u></p> <p>>\$500k - \$1m of health cost due to hazard <u>or</u></p> <p>Demand exceeds capacity of health services by >10-20%</p>	<p>No fatality and no permanent disability and non-permanent injuries requiring hospitalisation for 1-5 persons <u>or</u></p> <p>No acute health effect requiring hospitalisation) and no evacuation <u>or</u></p> <p>Chronic health effect requiring medical treatment for about 0-1% of population at-risk <u>or</u></p> <p>\$100k - \$500k of health cost due to hazard <u>or</u></p> <p>Demand exceeds capacity of health services by >1-10%</p>	<p>No fatality and no permanent disability and no non-permanent injuries requiring hospitalisation and no acute health effect requiring hospitalisation and no evacuation <u>or</u></p> <p>No chronic health effect requiring medical treatment <u>or</u></p> <p>< \$100k of health cost due to hazard <u>or</u></p> <p>Demand exceeds capacity of health services by 0-1%</p>

Social Impact Factors	Social Consequence Definitions				
	1 Catastrophic	2 Major	3 Moderate	4 Minor	5 Minimal/Negligible
Sense of community	<p>Permanent but significant reduction in sense of community due to > 12% permanent population change in a <i>region</i> <u>or</u></p> <p>Serious and/or long-term impact to items and/or places of community value <u>or</u></p> <p>Serious and long-term impact on other land uses– agriculture, viticulture, tourism, residential, industry, natural <u>or</u></p> <p>Community members are in serious and prolonged dispute</p>	<p>Permanent and significant reduction in sense of community due to > 5% permanent population change in a <i>local area</i> <u>or</u></p> <p>Major and/or medium-term impact to items and/or places of community value <u>or</u></p> <p>Major and/or medium-term impact on other land uses– agriculture, viticulture, tourism, natural <u>or</u></p> <p>Community disputes occur</p>	<p>Permanent but insignificant reduction in sense of community due to <5% permanent population change in a <i>local area</i> <u>or</u></p> <p>Temporary but significant reduction in sense of community due to temporary but significant population change in a local area <u>or</u></p> <p>Moderate and/or short-term impact to items and/or places of value <u>or</u></p> <p>Moderate and/or short-term impact on other land uses – agriculture, viticulture, tourism, natural <u>or</u></p> <p>Possibility for community disputes</p>	<p>Temporary but insignificant reduction in sense of community due to temporary but insignificant population change in a <i>local area</i> <u>or</u></p> <p>Very minor and/or short-term impact to items and/or places of community value <u>or</u></p> <p>Minor and/or short-term impact on other land uses – agriculture, viticulture, tourism, natural <u>or</u></p> <p>Community disputes unlikely</p>	<p>Negligible change in sense of community due to negligible population change in a <i>local area</i> <u>or</u></p> <p>Negligible /no impact on items and/or places of community value <u>or</u></p> <p>Negligible /no impact on other land uses– agriculture, viticulture, tourism, natural <u>or</u></p> <p>Negligible community disputes</p> <p>27</p>

Source: Adapted from Coakes Consulting (2012)

Note: The technical assessments for economic and environmental impacts are undertaken as part of the EIS (please refer to the relevant sections of the EIS for further detail).

7.2 Social amenity

This section provides an evaluation of impacts relating to Social Amenity. Social amenity impacts relating to dust, noise, blasting and visual impacts were the most frequently raised concern by near neighbours and community groups in relation to the Project. Cumulative impacts relating to social amenity are also explored in the following sections.

7.2.1 Dust

Dust and its impact on social amenity and lifestyle have been raised in relation to the Project. Near neighbours expressed the need for increased maintenance and cleaning of their properties – both inside (e.g. frequent cleaning required of rooms, window ledges); and outside (water tanks, pools and solar panels), outlining how at times they felt captive in their homes and unable to fully enjoy the rural lifestyle of their homes and localities. The cumulative effects of dust were also noted by both near neighbours and the wider community within the Singleton LGA.

Dust / air quality is an historical environmental issue within the Singleton LGA and the broader Hunter Valley region. One of the key environmental objectives of Singleton Council's Strategic Plan 2017-27 is to '*educate and advocate to improve air quality in Singleton*' (Singleton Council, 2017). Council's 2017-18 Annual Report identifies that Council supports ongoing and improved air quality monitoring in Singleton, by participating in the Upper Hunter Air Quality Advisory Committee and working with the EPA to implement relevant programs e.g. wood smoke reduction programs to reduce community exposure to wood smoke.

According to the Singleton Community Strategic Plan 2017-2027, there are around 20 coal mines operating in the Singleton LGA. This includes a number of adjacent operating coal mines surrounding the Project Area, including the Mount Owen Complex, Integra Underground Mine, Ashton Coal Mine and Liddell Coal Operations. Regarding cumulative impacts of dust, stakeholders expressed the need for individual mines to not only monitor and manage their impacts on local communities, but to work with other mines and relevant agencies to consider and manage cumulative impacts more broadly.

The EIS air quality assessment undertaken for the Project indicates that the Project will have similar air quality impacts to the existing approved Glendell Mine, with impacts currently experienced in Camberwell and the Middle Falbrook areas declining as operations extend towards the north. A review of existing complaints for Glendell for the period January 2017 to August 2019 (n=100) indicates that approximately 15% of the complaints received relate to dust, with 38% of complaints received in 2019 relating to dust).

The Project is not predicted to result in any exceedance of the applicable annual average and incremental 24-hour average PM₁₀ and PM_{2.5}, TSP or dust deposition criteria at any residences that do not currently have acquisition rights under existing consents. It is anticipated that 24-hour PM₁₀ and PM_{2.5} concentrations will continue to be variable from day to day, dependent on the weather at the time, activities at other contributing operations and extreme regional events such as bushfires.

The Mount Owen Complex Air Quality Management Plan will be updated to incorporate outcomes of the assessment process. Mitigation and management measures will include:

- modifying operations in response to meteorological conditions
- controlling dust on haul roads by utilising water carts
- reducing vehicle speeds as required
- completing progressive rehabilitation

- stabilising and partially revegetating long term soil stockpiles and exposed areas

Real time monitoring of dust levels, local weather conditions and in-pit cameras are all used to check for potential dust issues. Responses to this monitoring will include modifying operations when required, such as relocating exposed equipment to less exposed locations, slowing or stopping specific equipment during high winds or increasing dust suppression activities through increased road watering.

The proposed mining operation will continue to be managed in a way that minimises the contribution to off-site dust levels, consistent with the existing Glendell Mine. Properties with acquisition rights under the current Glendell and Mount Owen Consents will continue to hold these rights under the current Project.

Considering the above, impacts on social amenity due to dust is considered a **‘high’** perceived social risk by near neighbours and has been categorised as a **‘moderate’** mitigated social risk (*likely with a moderate consequence*).

The cumulative impacts of dust on near neighbours and the wider community have also been assessed as a **‘high’** perceived social risk by near neighbours and residents in the broader Singleton LGA and categorised as a **‘moderate’** mitigated social risk (*likely with a moderate consequence*) for near neighbours. Given the outcomes of technical assessments, mitigated social risk to the broader Singleton LGA is categorised as a **‘moderate’** (*possible with a minor consequence*).

While strategies like the Upper Hunter Air Quality Monitoring Network, developed by OEH, have provided a platform to share air quality monitoring data; dust impacts on social amenity are a consistent issue in relation to mining projects. It is also evident that given the current drought being experienced in NSW and within the Hunter Valley, this issue is particularly heightened in the current project assessment.

7.2.2 Noise

Noise was also a key issue raised by near neighbours primarily in relation to existing operations. Near neighbours were most concerned about operational noise affecting their quality and duration of sleep, with the majority of responses pertaining to machinery being more audible at night or in certain climatic conditions e.g. wind, temperature inversions. This is consistent with the review of complaints received by Glendell Mine within the two-and-a-half-year period between January 2017 and August 2019 (refer to **Section 4.4.3**) which illustrate that 75% of all complaints received during this period related to noise. These noise complaints included general operational noise and noise from site machinery, typically reported in the early morning, or during night-time activities.

Cumulative noise was also considered an issue, particularly for residents in the Camberwell and Glennies Creek localities; with a view expressed that it was *“very hard to tell where it (the noise) is coming from”*, given the presence of multiple mining operations.

An assessment of noise and associated impacts has been undertaken as part of the EIS, and in accordance with the NSW Noise Policy for Industry. This assessment takes into consideration noise modelling over four stages of the Project representing the progression of operations over the proposed mine life.

The noise modelling methodology accounts for effects of noise enhancing meteorological conditions during the daytime, evening and night-time periods. According to this technical noise assessment, the Project can be managed, such that noise levels in the surrounding areas are predicted to remain within relevant assessment criteria. The Project’s noise levels will be similar to, or in some locations less than, the approved Glendell operation e.g. Camberwell and Glennies Creek. Noise levels from the Project experienced in the Hebden area are expected to increase slightly as the proposed mining operation progresses to the north, however modelling predicts that this will occur during the later stages of the Project when cumulative impacts from Glencore’s, Liddell and Mount Owen operations have either ceased or substantially reduced.

As a result, noise impacts in the Hebden area are predicted to remain below relevant noise assessment criteria at all private residences for the duration of the Project.

In response to near neighbour concerns regarding noise at night. The noise impact assessment has determined that there is no predicted exceedances of the sleep disturbance criteria and no significant changes to current road traffic noise. However, while the Project will move away from Camberwell as operations progress to the north, the management of noise during adverse weather conditions (particularly winter nights) will remain a key operational consideration.

Noise impacts will continue to be managed in accordance with the Noise Management Plan currently implemented at the existing Glendell Mine and will be updated to reflect the Project assessment outcomes. Practical measures that will continue to be incorporated to manage noise impacts include:

- relocating, slowing or stopping operations and/or equipment if required
- the use of attenuation on equipment where reasonable and feasible
- progressive ramp-up in production as operations move away from the Camberwell area
- shielding mining operational noise using both natural terrain and overburden emplacements.

These practices have been demonstrated to be effective in managing noise impacts at the existing operations to-date.

Given that it is *possible* that noise from the Project could have an impact on near neighbours, with a *minor* consequence the mitigated social impact of noise from the Project on social amenity is also ranked as **‘moderate’** with a **‘high’** perceived social impact.

Similarly, the cumulative impact of noise on the Camberwell and Glennies Creek localities is also ranked as a **‘moderate’** with a **‘high’** perceived social impact, however given that only a small number of members from the wider Singleton LGA raised noise impacts as a concern, it has been assigned as both a **‘low’** perceived and mitigated social impact for the wider community.

7.2.3 Blasting

In regard to amenity, blasting concerns were most often raised in relation to the dust plumes generated by blasting activities and the vibration effects on property.

A Blast Impact Assessment has been undertaken for the Project which addresses the impacts of the Project in terms of ground vibration, overpressure and fly rock on the surrounding environment, including private residential landholders, cultural heritage sites, rock formations and infrastructure.

Blasting will continue to be managed in accordance with the Mount Owen Complex Blast Management Plan, which will be updated should the Project be approved. The assessment demonstrates that the blasting proposed for the Project can be effectively managed to meet the relevant criteria with no exceedances predicted to occur. No adverse impacts on livestock or public safety have been identified. Blasting, however, has the potential to cause disruption to community members, largely due to potential road closures during some blasting events. This issue is further discussed in **Section 7.6.2**.

In terms of cumulative impacts of blasting, the Mount Owen Complex operates a successful blast notification and management system with nearby mines in relation to the coordination of blasts to avoid concurrent blasting and reduce the potential for cumulative air blast overpressure and ground vibration impacts, which will continue for the life of the Project. Communication of blasting to local stakeholders through emails and SMS alerts, has also been noted as a useful mechanism to inform the local community of blasting events.

The perceived stakeholder impact has been ranked as **'low'**. The mitigated social impact has been ranked as **'low'** (*unlikely* to occur but of *minor* consequence) noting that a blast management plan is in place, which tailor technical mitigation measures to blasting sizes.

In relation to cumulative impacts of blasting on social amenity, both the perceived and mitigated social impacts have been assessed as **'low'**.

7.2.4 Visual

As outlined in **Section 6.2.1.3** visual amenity in terms of light spill at night and changes to the visual landscape were raised by a small number of near neighbours and wider community stakeholders during consultation.

The Mount Owen Complex is located within a rural environment in close proximity to several other mining operations. The character of the immediate visual environment is strongly influenced by existing mining operations, with mining making up a large part of the surrounding land use in the local area and having been present for over 50 years.

The active mine pit, emplacement areas, mine infrastructure area and Heavy Vehicle Access Road will be immediately adjacent to the realigned section of Hebden Road. The realigned section of Hebden Road has been designed to minimise direct views into the pit from the public road. Other aspects of the Project, including active overburden emplacement, will likely be visible along other sections of Hebden Road.

The increased height of the overburden emplacement areas associated with the Project are likely to result in increased visibility at some locations, all of which currently have visual impacts associated with existing operations at Glendell Mine and the operations within the Mount Owen Complex or other nearby mining operations. The increased emplacement height is unlikely to be noticeable relative to existing approved operations given the relatively small increase (up to 40 m in selected locations) and the relatively large distance from most viewing locations (typically more than 2 km).

The EIS identifies that key visual impact mitigation measures will be similar to those currently implemented as part of the Mount Owen Complex operations and include roadside vegetation planting that acts as a screen, progressive rehabilitation and development of an appropriate landform that incorporates natural landform design principles. The use of natural landform principles also mitigates the impacts of flat topped terrain identified by some stakeholders.

The perceived social risk is therefore considered **'low'** for both near neighbours and the wider community, in the context of the current environment, and the mitigated social impact is also considered **'low'** (*possible* with *minimal* consequence).

7.2.5 Odour

Two near neighbours identified potential odour as an issue during consultation, both identifying existing odour impacts with current operations. The Air Quality Impact Assessment includes an assessment of Odour in relation to Blast fume. There are no other identified odour issues associated with the approved and proposed operations that require further assessment and there will be no additional odour sources as a result of the Project.

The AQIA for the Project indicates that post blast fume is not expected to result in any adverse air quality impacts based on the model predictions. Given compliance with all relevant criteria, it is suggested that odour impacts can be appropriately managed with the continued implementation of blasting management controls.

Odour can also potentially occur from the spontaneous combustion of coal; however spontaneous combustion has historically not been an issue at the Glendell Mine and is not anticipated to be an issue for the Project as the same coal seams are proposed to be mined.

Given the above, the perceived social risk is considered '**low**' for near neighbours and the mitigated social impact is also considered '**low**' (*possible with minimal consequence*).

7.3 Sense of Community, Culture and Heritage

7.3.1 Population Change

Changes to population are fundamental impacts within SIA, given that the size, diversity and behaviours of a community are underpinned by its population and their characteristics. Population change (influx and outflux) is usually described as a first order social impact which has the potential to create several second order social impacts, such as impacts on community infrastructure and services, changes in sense of community, social cohesion, sense of place etc.

This section will examine the potential impacts of population change, as a result of the Project, utilising established population change characteristics adapted from Burdge (2004). Burdge suggests that population change of greater than 10% in a local area is likely to have a major consequence and as a result population change consequences have utilised Burdges' threshold (refer to **Table 7.3**).

In relation to population change, it has been determined that the Project has the potential to influence population change in two main ways:

- as a result of an influx of construction workers; and
- extension of the operational workforce for a further 22 years (through to 2044).

It should be noted that while acquisition was raised during consultation, there are no additional properties that will be afforded acquisition rights as a result of this Project. The land in the area surrounding the Project is largely owned by the operators of coal mines in the area. Residences to the immediate south and south east of the Project Area have acquisition rights under one or more development consents. Properties with acquisition rights under the current Glendell and Mount Owen Consent will continue to have these rights upheld as part of the Project. Consequently, the aspects that could potentially influence population change in relation to the current project are considered further below.

7.3.1.1 Construction Workforce

The presence of a construction workforce can often have different impacts on a community than a more permanent, operational workforce. Usually a construction workforce is temporary and transient in nature, reside in a location in proximity to a project, with the workforce moving on to the next project once the construction period is complete. Due to the temporary, transient nature of construction work, families may often not accompany the worker, preferring to live in one permanent location while the construction worker travels away and resides at a location in proximity to the Project.

The Project has been designed to maximise the use of existing and currently approved infrastructure. However, the Project will involve a number of significant construction activities including a new mine infrastructure area (MIA) and the realignment of sections of Hebden Road and York's Creek.

Construction activities will require the development of temporary construction facilities, such as offices and construction workforce deployment, training and parking facilities. These temporary facilities will be constructed within the Additional Disturbance Area. To facilitate an efficient construction program, it may be necessary to prepare construction facilities in several locations.

The construction workforce on site at any one time will vary depending on the timing of the various construction components of the Project. The construction workforce is estimated to peak at approximately 350 FTE positions in 2021 (year 1 of the Project). This includes the construction of the Heavy Vehicle Access Road, new MIA, and the Hebden Road realignment. The bulk of the construction activity will take place within the first 5 years of the Project.

To understand the potential (reasonable) worst case scenario for population change associated with the construction workforce, the following assumptions have been made:

- due to the temporary nature of the construction workforce, the families of the workforce will most likely not relocate with the worker
- all construction workers will relocate into the area for the construction period (worst case population change for the construction period)
- the workforce may wish to temporarily reside as close as possible to the Project, i.e. within Singleton Urban Centre and Localities (UCL), where a range of accommodation facilities and services are available (worst case), or may live within the region more broadly and drive-in and drive-out daily
- all other factors will remain proportionally the same over the construction period.

The percentage of population change that will occur as a result of the influx of the construction workforce can be estimated using the peak workforce figure of 350 persons (refer to **Table 7.4**). The estimated influx of the construction workforce for the Project in the Singleton LGA would only constitute approximately a 1.5% temporary increase in population for the construction period.

Table 7.4 Predicted temporary population change associated with the project construction workforce

Level of Analysis	Population Size	Proposed Construction Workforce	Percentage (%) Change
Singleton LGA	22,989	350	1.5
Singleton UCL	13,214	350	2.6

Source: ABS (2016)

While the influx of a construction workforce has the potential to influence population change, this change will be temporary in nature – ramping up and down over a 5-year period. As noted, the Project will require up to 350 contractors during the peak construction period, and it is anticipated given current market conditions, that such a workforce will be readily available for the Project.

In regard to accommodation, there was a common sentiment that current mining in the Hunter Valley places stress on the short-term accommodations in the Singleton LGA and drives rental prices higher as a consequence that can be attributed to historical events.

The Singleton Council - Housing and Accommodation Strategy and 5 Year Action Plan (Scott Carver, 2015) identifies that the “Coal Chain Event” of 2010-12 was an abnormal event that placed unprecedented pressure on housing demand and triggered local investment into detached and duplex housing product. House prices increased at 10%+ pa. and rents by 15% pa. and short stay accommodation options were at 90%+ occupancy. The report further acknowledges that combined these factors seriously impacted housing affordability and choice.

A further concern raised by residents was the drive in - drive out nature of the workforce and the need for low cost temporary accommodation to house this workforce, given their permanent residence outside of Singleton. It was suggested that this workforce placed pressure on the availability of short-term accommodation for visitors to the area.

The Housing and Accommodation Strategy includes a five-year action plan (2015-2020) with key initiatives identified around Flexible Housing in response to the nature of the mining industry, Social Housing and short stay accommodation options, that if implemented should assist in addressing identified community concerns. Relevant strategies include actively planning for future “activity worker” employment peaks with employers’ and short stay accommodation providers.

However, as outlined in **Section 5.5**, according to the ABS Tourist Accommodation 2015-16 report, based on accommodation with 15 or more rooms, room occupancy rates in Singleton are much lower than the NSW average. Across the September 2015, December 2015, and June 2016 quarters room occupancy rates in Singleton were at 44.7%, 45.4%, and 49.1%. This is compared to NSW where room occupancy rates were at 67.2% (September 2015 Quarter), 69.8% (December 2015 Quarter), and 66.3% (June 2016 Quarter) (refer to **Table 5.28**). It is important to note that this data only factor in accommodation with 15 or more rooms and that Singleton has a large amount of homestay, cottages and lodges that may not be included.

Considering the above, the impact of the influx of the construction workforce is also not anticipated to place any strain on services within the Singleton LGA, including housing and accommodation.

Therefore, the predicted population change that will occur as a result of the influx of the construction workforce would be temporary for the construction period, and is predicted to be a **‘moderate’** social impact (*possible* and *minor*) on the local (near neighbours) and LGA community. The impact of a construction workforce was also not a key issue identified by stakeholders through the SIA engagement program and consequently has been ranked as a **‘low’** perceived stakeholder impact.

7.3.1.2 Operational workforce

During the life of the Project, Glendell operational workforce numbers will progressively increase to a maximum of approximately 690 FTE positions at maximum production (Years 13 and 14 of the Project). The increasing workforce at Glendell coincides with a reducing workforce at the Mount Owen Mine, as operations at Bayswater North Pit and the North Pit decline.

Following the cessation of mining, mine closure and rehabilitation activities will require a reduced ongoing workforce. Consequently, two potentially different mine closure scenarios may be considered:

1. A no-development scenario (closure of Glendell Mine in approximately 2022)
2. Proposed Project scenario (closure in 2044).

Should the Project not be approved, a 'no-development' scenario would see completion of the operation around 2022, with the exhaustion of approved coal resources in the existing mining area and the withdrawal of employees likely to commence earlier, as operational areas within the existing approved operation become constrained. As noted above, the second development scenario would delay this impact by approximately 22 years.

To understand the impacts of potential change across the two scenarios, population modelling was undertaken. **Table 7.5** provides an analysis of the potential worst-case population change scenario, based on the following assumptions:

- each employee has a dependent or semi-dependent household, the same size as the relevant SSC or LGA household average
- as a result of losing employment at Glendell Mine, the employee and their family would need to relocate to another location to find gainful employment. All other factors remain proportional to existing conditions.

Table 7.5 Estimated workforce and household population size for Glendell Mine

Employee Location	No. Employees	Average Household Size by Locality	Total Glendell Mine Related Population Family #) **	Total Population of Locality	Percentage of Glendell Mine Related Population within the Locality (%)
Hunter Valley (exc. Newcastle)	159	2.6	413	263,416	0.2
<i>Singleton LGA</i>	63	2.7	170	22,987	0.7
<i>Maitland LGA</i>	40	2.7	108	77,305	0.1
<i>Cessnock LGA</i>	28	2.6	73	55,560	0.1
<i>Muswellbrook LGA</i>	10	2.5	25	16,086	0.2
<i>Upper Hunter LGA</i>	9	2.4	22	14,112	0.2
<i>Port Stephens LGA</i>	6	2.5	15	69,556	0.02
<i>Dungog LGA</i>	3	2.5	7	8,975	0.08
Newcastle and Lake Macquarie	25	2.5	63	359,106	0.01
Central Coast	7	2.5	18	327,736	0.01
Central West	2	2.4	5	206,155	0.002
Mid North Coast	1	2.3	2	212,201	0.001
New England and North West	1	2.4	2	181,555	0.001
Total	***195				

* Population and average household data sourced from QuickStats,

** Figures have been rounded to the nearest whole number.

***only includes FTE

As highlighted in **Table 7.5**, Glendell Mine employees and their families currently account for less than 1% of the local population in the Singleton LGA. Continuation of the Project would see continued employment for these workers for the term of the Project, continued use of local services and participation in community life; as well as the subsequent economic flow on effects to the locality, LGA and the wider region through annual household expenditure (workers and their family members).

The impacts relating to pressures on population associated with the operational workforce are therefore considered **‘low’** (*minimal and unlikely*); given that the increasing workforce at Glendell coincides with a reduced workforce at Mount Owen Mine as operations in the Bayswater North Pit and North Pit decline.

Pressures on population associated with the Project’s operational workforce were not raised by stakeholders as a key perceived issue and have therefore been categorised as a **‘low’** perceived stakeholder risk. However, the Project was perceived by stakeholders to continue to provide economic benefits to the locality as a result of continued project duration for an additional 22 years, resulting in a **‘high’** positive social impact.

However, population change associated with the eventual closure of the operation would result in social impacts being experienced both locally and regionally. The Project will extend the current life of mine until approximately 2044. The current Glencore policy recommends that social impact assessments be conducted as a component of closure planning five years prior to the end of the mine life. It has therefore been assumed, as a part of normal company procedure, that the company would undertake a social impact assessment to better understand and manage the impacts on the community of operational closure/transition, further minimising population change impacts. This planning will involve consultation with local and regional stakeholders and would explore the potential for future land uses in the area.

Project planning indicates that employment will reduce gradually over the operation’s proposed 22 years of additional production, thus minimising the socio-economic impacts of withdrawal of the workforce in the wider Singleton population. Employees would also be supported and assisted in the transition from their current work roles into new employment opportunities, either within Glencore, other mining companies, or into other sectors.

7.3.2 Sense of community and culture

This section describes the potential impacts that the Project may have on sense of community and social cohesion as a result of population change and impacts on community values. Determining consequence definitions for this social impact can be difficult, given that sense of community comprises a number of subfactors. However, to assist in ranking, consequence definitions have been developed based on previous social impact assessment work for these impacts (Coakes, 2012).

The introduction of new groups of people to an area, or the out flux of a proportion of the population, can alter existing values and sense of community. Coakes (1995) discusses many different elements that comprise a ‘sense of community’ including the need for shared value, social interaction, and connection to a common structure (e.g. geography, gender, culture). While most communities are generally resilient to natural population change, a rapid or massive change can often have adverse social impacts.

As discussed in **Section 7.3.1**, the Project will trigger population change as a result of an influx of a Project construction workforce. However, the influx of the construction workforce is only likely to contribute less than 5% population change to the Singleton LGA (1.3%), which has been classified as a **‘low’** social risk.

There are no property acquisitions as a result of predicted impacts relating to the Project, however the cumulative impact of property acquisitions due to mining in the area was raised during consultation and there was a strong sense that the continuing decline in population within the locality, had resulted in the loss of sense of community, the erosion of local community networks and associations, and a widening social divide between established landholders and new residents/tenants.

An appropriate assessment of population change, from 2006 to 2016, is problematic given recent SSC boundary changes, which have occurred prior to the last ABS census (2016). However, a review of mobility data for the proximal communities indicates that the townships of Camberwell SSC and Falbrook had higher proportions of those living at a different address five years ago (46% and 56%) than NSW (39%).

With the exception of the Bridgman area, all study areas had a proportional increase in the number of private dwellings being rented; with the largest proportional increase experienced in the Camberwell Area, where there was an increase from 61% in 2011 to 64% in 2016. Although this increase is quite small, the proportion of dwellings rented is well above the other study areas and the state average of 32% in 2016.

While there was a perception that the nature of communities, and especially the villages of Hebden, Camberwell and Ravensworth, had changed irreversibly; there was a feeling that people who lived in the wider area were committed to the area and willing to support their community, for example, through volunteerism. The ABS data relating to volunteerism indicates that Hebden SSC is the only study area that has a higher average of volunteerism (19%) than NSW (18%) and some stakeholders suggested that Glencore as a company could do more to encourage their own workforce to participate in local community organisations, such as the RFS.

While residences located on mine owned lands are often leased back to the community, providing opportunities for new people to move into the area, the view remained that sense of community had been significantly impacted across the localities over time, with some potential mitigation measures suggested by stakeholders aimed at increasing visitors to the area, such as making community structures more appealing and/or accessible to the public (e.g. improvements to community halls and allowing community access to places of significance e.g. the Ravensworth Homestead).

Through a review of assessment processes for past and current mining proposals, social impacts of mining are being experienced over time, at a local community level. While mining projects can result in significant positive economic benefits; the negative impacts experienced such as a reduction in sense of community, community cohesion and participation, due to population change and displacement over time, and increased company ownership of land, need to be equally considered. Project case studies such as the Wilpinjong Mine Project, near Wollar, and the Kepco Mine Project in the Bylong Valley are examples of where sense of community at a local level have been eroded.

However, in light of the assessment above, it is *possible* that the impact on sense of community (due to population change as a result of the Project) will have a *minor* impact on the current population, resulting in a **'moderate'** mitigated social risk ranking and a **'moderate'** perceived impact for near neighbours. The Project will not impact on the sense of community of the Singleton LGA more broadly, and has been assigned as a **'moderate'** perceived impact for the Singleton LGA and **'low'** mitigated social impact.

During consultation, impacts to community culture were raised primarily by Aboriginal stakeholders, who suggested that appropriate care and cultural responsibility would be needed (particularly through the construction phase) to minimise impact on Aboriginal sites of significance.

The Project has undertaken an Aboriginal Cultural Heritage Assessment to better understand the cultural heritage values of the Project Area in consultation with the Registered Aboriginal Parties (RAPs), Knowledge Holders and the Local Aboriginal Land Council. The historical associations with early settlement, conflict, dispossession and survival are important, and the nature of the area as a surviving cultural landscape is of significance to numerous members of the Wonnarua people.

The assessment of potential impacts to the Aboriginal archaeological values shows that there are 91 sites (55 artefact scatters and 36 isolated finds) that will be impacted by the Project and management and mitigation measures have been identified in consultation with the RAPs and Knowledge Holders involved in the assessment. All surface sites impacted by the Project will be collected and recorded. Management measures have been developed collaboratively with the RAPs involved in the assessment and will be implemented in consultation with Knowledge Holders and community stakeholders. Further, the current Aboriginal Cultural Heritage Management Plan for the Mount Owen Complex will be updated to incorporate the Project assessment outcomes.

Considering the above, the impact of the Project on Aboriginal community culture and Heritage, is ranked as a **‘moderate’** perceived stakeholder impact for Aboriginal stakeholders and a **‘low’** risk for near neighbours. Given the technical assessment, this impact is assessed as **‘low’**.

Please note, the cultural heritage impacts in relation to the Ravensworth Homestead are further discussed in **Section 7.3.3**.

7.3.3 Impacts on the Ravensworth Homestead

As outlined in **Section 6.2.2.3**, key stakeholders and community members in the wider Singleton LGA identified a range of values in relation to the homestead, with consistency in themes evident across both key stakeholders and respondents of the wider community survey across the Singleton LGA. **Table 7.6** provides further clarity around those stakeholders who participated in consultation around the Ravensworth Homestead.

Table 7.6 Participants in SIA - Ravensworth Homestead

Stakeholder	Description
Key Stakeholders	
Near Neighbours	Landholders including residents and businesses residing in proximity to the current mining operation in the localities of Camberwell, Middle Falbrook, Falbrook, Glennies Creek and Hebden
Aboriginal stakeholders	Aboriginal groups and service providers (note that this refers specifically to those Aboriginal stakeholders consulted as part of the SIA regarding social issues, not to all of those consulted as part of the Aboriginal cultural heritage assessment discussed in the EIS). Participants included <ul style="list-style-type: none"> • Wanaruah Local Aboriginal Land Council (WLALC) • Wonnarua Nation Aboriginal Corporation (WNAC) • Ungaroo
Community and heritage stakeholders and group representatives	Including community groups and individuals associated with the area with a specific interest in heritage aspects of the project, emergency services and service providers. Participants included: <ul style="list-style-type: none"> • Members of the Ravensworth Homestead Advisory Committee (RHAC) • Individuals with a specific interest in heritage • Singleton Historical Society and Museum • Singleton Heritage Advisory Committee • Past owners of the Ravensworth Homestead • Emergency services, local bus company and local halls (Hebden Hall and Mount Olive)
Wider Singleton LGA Community	
Wider community	Singleton Local Government Area (LGA) residential and business community. Random sample of residents in the Singleton LGA contacted via a random telephone survey (n=251 from the Singleton Local Government Area and n=22 from the Broke & surrounds community, with a total of n=273).

Across stakeholder groups, the level of knowledge of the homestead varied, with key stakeholders holding a higher level of knowledge than the wider community. This finding is not surprising given that the homestead has been owned by Glencore since its purchase in 1997 and as a result has not been accessible to the community, other than through specifically organised meetings/events or upon arrangement.

For key stakeholders consulted, the homestead was valued for its unique aesthetics, namely the design and style of the homestead, its craftsmanship and technology of construction; and for its historical values as a significant building; a prominent working agricultural complex within the region, providing an insight into the early colonial way of life in the Ravensworth locality.

Those that had lived at the homestead and visited, held many fond memories of times spent with family and friends; with several notable connections to key pioneering families identified e.g. Bowman, Russell and Marshall. For the Aboriginal community, the memories were less positive, with the homestead signifying the conflicts of the time between Aboriginal people and early settlers.

At a local community level, while the personal connection to the homestead was stronger for those that had an active interest in heritage and aboriginal stakeholders, compared to local landholders or the wider community; the homestead was still perceived to be one of the last main buildings that represented a once prospering Ravensworth locality. At a wider Singleton LGA community level, there was still strong agreement that the Homestead was an important part of the heritage of the LGA and should be preserved for its heritage value.

Level of concern between groups also differed, with those stakeholders with a more active interest in heritage demonstrating a greater level of concern regarding the homestead's potential relocation.

7.3.3.1 Attitudes towards relocation

This section provides a summary of attitudes towards relocation for key stakeholders consulted and those of the wider Singleton LGA community.

In regard to the wider Singleton community, **Table 7.7** shows the overall levels of agreement with attitude statements regarding the preferred location for the Ravensworth Homestead. Generally, the wider Singleton community agreed or strongly agreed that they were open to relocation but preferred that it remain in the Singleton LGA. Levels of agreement with these statements are discussed below, in comparison with the views of key stakeholders (including community groups with an interest in heritage, Aboriginal groups and near neighbours).

Table 7.7 Wider community attitude statements on preferred location

	Strongly disagree	Disagree	Neither agree/disagree	Agree	Strongly agree
Preferred Location					
I am open to the homestead being relocated	9%	8%	6%	52%	25%
The Homestead should stay in the Ravensworth area	4%	19%	21%	42%	14%
It is important that the homestead remain within the Singleton Shire	0.4%	2%	4%	52%	42%
I believe that the Homestead should remain/stay where it is (in its original position)	11%	49%	18%	9%	13%
I am open to the Homestead being relocated outside of the Ravensworth area	11%	24%	9%	48%	8%

In relation to key stakeholders, when asked should the homestead remain where it is, the responses varied across groups. For instance, community groups, with an interest in heritage, were more likely to agree or strongly agree that the homestead should remain in-situ (45%) compared to 33% for Aboriginal groups, 22% of near neighbours, and 22% of the wider community sample (refer to **Table 7.7**).

All respondents were of the view that it was important for the homestead to remain in the Singleton LGA (96% of the wider community and 88% of key stakeholders in agreement with this statement). Less agreement was evident in relation to whether the homestead should remain in the Ravensworth locality, with community groups (50%), near neighbours (35%) and the wider community (58%) outlining that the homestead should stay within the Ravensworth locality.

Overall there was a strong view across stakeholder groups that, if relocated, the homestead should be located somewhere where it could be used for the benefit of the community more broadly (63% of key stakeholders and 77% of the wider community in agreement with this view).

7.3.3.2 Identification of Potential Relocation Options

As outlined in **Section 6.2.2.2**, there are two alternate relocation options proposed for the homestead, both of which have been assessed as part of the SIA.

Through the SIA engagement undertaken in Round 2 (personal interviews and survey), key stakeholders and survey respondents were asked to consider the two alternate relocation options and to outline their option preference and details of why that option had been selected. Those consulted were also able to openly present their views on each option and indicate if neither proposed relocation option was preferred (i.e. leave in-situ), with reasons for their preferences also noted.

These options are further outlined and discussed in the sections below with preferences and corresponding views of key stakeholders and the wider Singleton community presented.

7.3.3.3 Potential Relocation Option Preferences

To provide social data to inform the assessment process, the two alternate relocation options were assessed as part of the SIA. These were:

- **Option 1** - a local intact move to the 'Ravensworth Farm' site which is located on Ravensworth Estate (within the original Bowman '10,000 acre' land grant). The homestead and associated buildings would be used as an administration facility by Glencore during mining and for an alternative use post-mining (which could include return to use as a farmstead with an attached landholding).
- **Option 2** – this is a proposal by members of the Broke-Fordwich community to relocate the buildings to Broke (requires the buildings to be dismantled and rebuilt). Under this proposal the buildings would have mixed usage and would function as the village square.

Outcomes of the consultation have also been separated to reflect the views of key stakeholders – those with a more active interest in the homestead and/or those that live in proximity to the Homestead (i.e. near neighbours, Aboriginal groups, community and heritage stakeholders), in contrast to the views of the wider Singleton LGA community, as further described below.

Key Stakeholder – Option Preferences

From a key stakeholder perspective, option preferences were more closely aligned with 36% of key stakeholders indicating a preference for Option 2 (Broke village) and 32% cent more supportive of relocation to the Ravensworth Farm Site. 24% of key stakeholders consulted had no preference, with a further 8% outlining that the homestead should not be relocated at all.

It should be noted that for a small number (2) of respondents, while the Broke Option was the preference, they would prefer the Homestead be positioned in a different location, in order to preserve the proposed McNamara Park for recreational camping use, local native habitat and to lessen traffic congestion concerns for local residents.

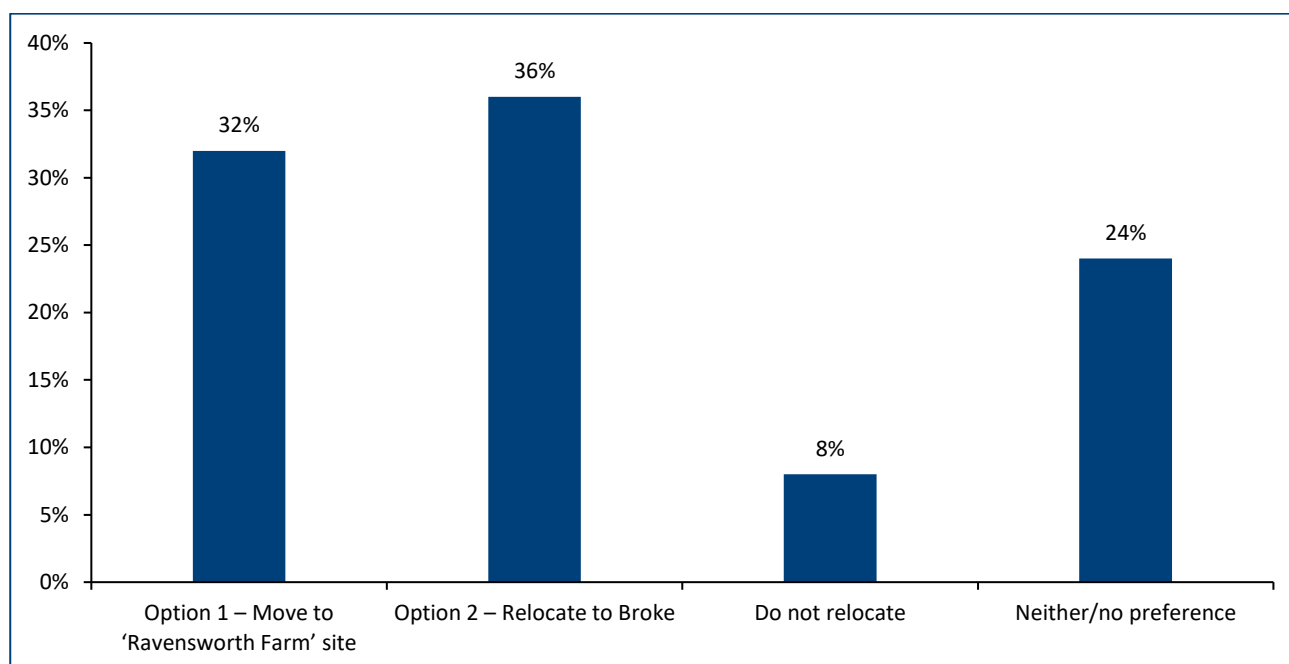


Figure 7.1 Of the two options, which do you prefer? Key stakeholders (n=50)

In considering preferences across stakeholder groups, Option 1 (Ravensworth Farm) was more likely to be a preference for near neighbours with stakeholders with a more active interest in heritage issues more likely to indicate that the homestead should remain in situ (do not relocate). Option 2 (Broke Village) was favoured by those Aboriginal representatives from the WLALC, Ungooroo and WNAC who participated in the Ravensworth Homestead survey.

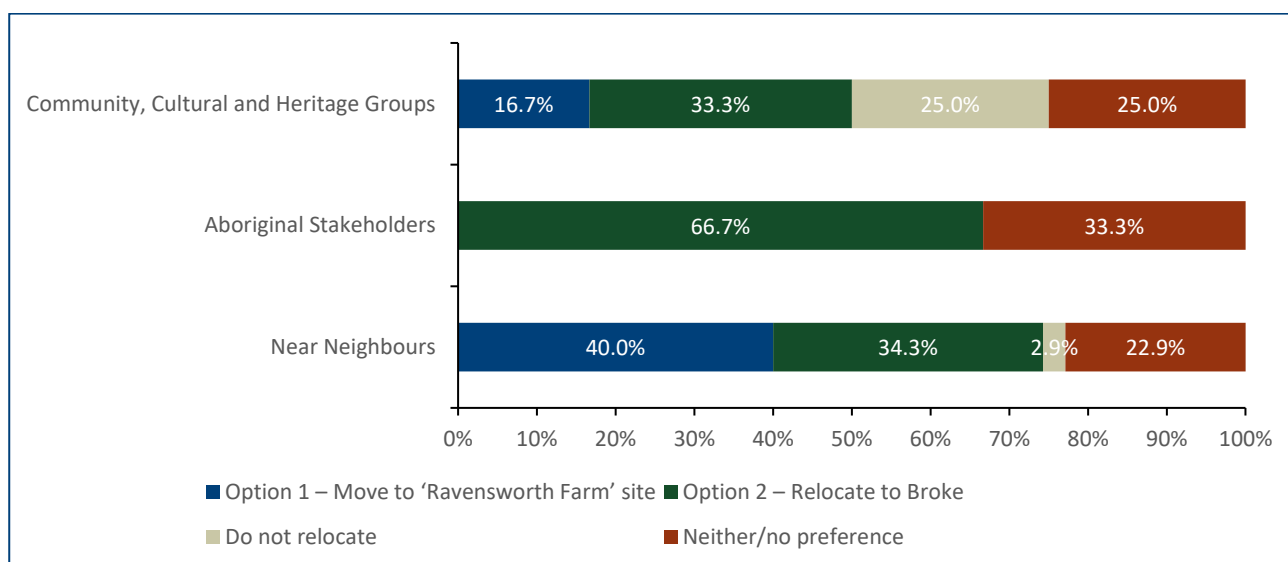


Figure 7.2 Preference between relocation options - Key stakeholders (n=50)

Wider Singleton LGA Community – Option Preferences

At the wider community level, of the 273 respondents that participated in the survey, 61% of respondents that responded to the options question (n=262) indicated a preference for Option 2 (Broke Village), 29% indicated a preference for Option 1 (Ravensworth Farm site), with 7% indicating a preference for no relocation at all, and 2% with no preference.

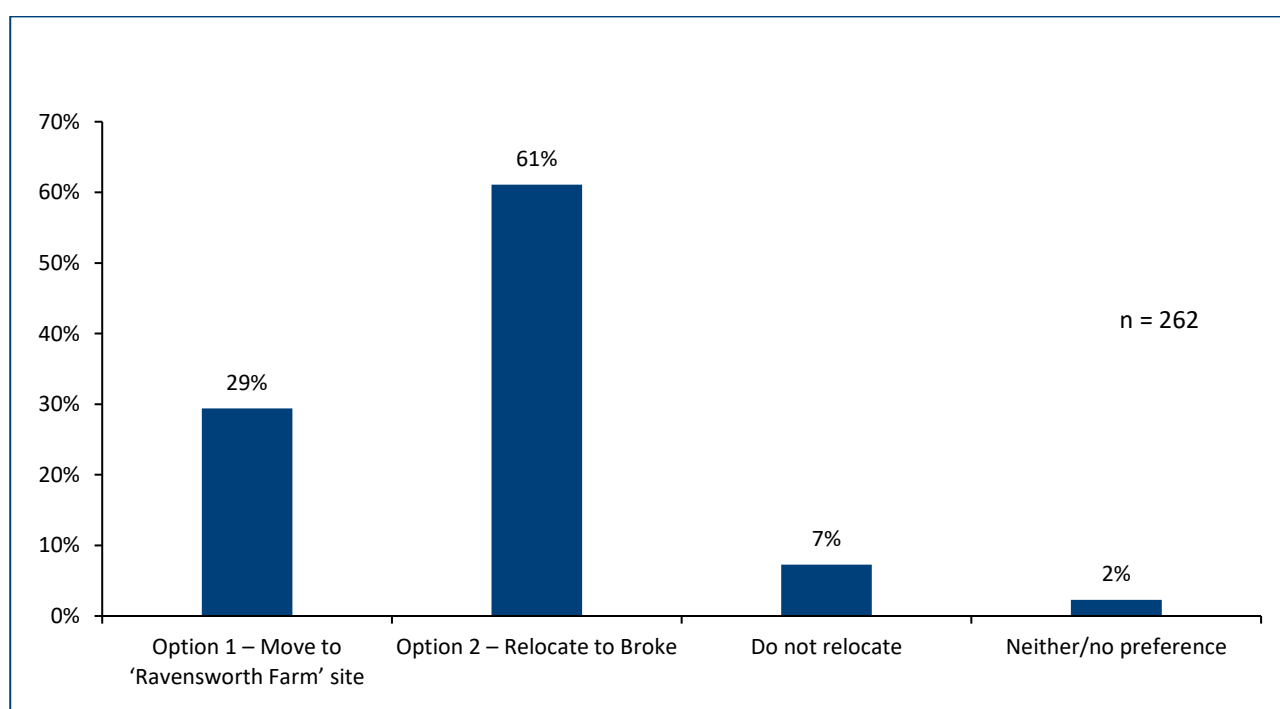


Figure 7.3 Potential relocation option preferences – Wider Singleton community

An examination of the wider community survey data relating to option preferences indicates some key factors that appear to be influencing respondents' option preferences.

Option Preference Clarification (wider community)

In relation to the Broke village option (Option 2), factors that were seen to centrally influence a preference for this option included the ability for the public / community to access and use the homestead. In this regard, the majority of those who indicated that moving the homestead to Broke (Option 2) as their preferred option, also agreed that the homestead should be relocated to be used for the benefit of the community (83%); whereas respondents that opposed the relocation of the homestead, had lower agreement with this sentiment (5%).

Average level of knowledge differed significantly between respondents in terms of their preference for the relocation of the Homestead ($F(2,256)=3.891, p<0.05$)²². Specifically, those respondents who identified Option 2 (Broke Village) as their preference (Mean=3.65) had significantly less knowledge of the homestead than those who indicated they wanted the homestead to remain in its current location (Mean=5.32) (Mean difference = 1.665, $p=0.007$).

Further analysis indicates that those in favour of the homestead not being relocated also had higher mean ratings (Mean=7.79) of their level of interest in heritage issues, indicating that they felt more strongly about heritage issues than those who responded in favour of either relocation option – Broke Village (Mean=6.64) or Ravensworth Farm (Mean=6.66). This difference was significant between those who did not want the homestead relocated, and those who were in favour of relocation to the Ravensworth Farm site (Mean difference = -1.151, $p=.047$).

Overall, respondents agreed or strongly agreed that the homestead was an important part of the heritage of the Singleton LGA (79%); the homestead signifies an important piece of both local (87%) and state (78%) history; and that it is generally important to preserve things of heritage value (92%). All respondents who indicated that they want the homestead to remain in situ (i.e. do not relocate) agreed or strongly agreed with these statements.

Similarly, the majority of respondents agreed or strongly agreed that the Homestead needs to be relocated to avoid deterioration (72%), that it should be available for community use (81%), that it must be commercially viable to be sustainable (67%) and that someone must be responsible for care of the Homestead (94%) (refer to **Table 7.8**). As above however, respondents advocating that the Homestead remain in situ were less likely to agree that the homestead would deteriorate if left in situ, and that the homestead needed to be commercially viable to be sustainable.

Table 7.8 Wider community attitude statements regarding the relocation of the Ravensworth Homestead

	Strongly disagree	Disagree	Neither agree/disagree	Agree	Strongly agree
Relocation					
The homestead needs to be relocated, otherwise it will deteriorate like other heritage buildings	7%	10%	11%	46%	26%
I think the homestead should be available for the community to access and use	1%	6%	11%	51%	30%
To ensure the homestead has a sustainable future, it needs to be commercially viable	2%	16%	16%	51%	16%
Someone needs to be responsible for looking after the homestead	0.4%	3%	3%	62%	32%

²² An Analysis of Variance has been used to assess differences in level of knowledge across option preference.

Analysis conducted across the two relocation options (Ravensworth Farm option and Broke Village option) and responses suggesting the homestead remain in situ indicated a significant difference between the groups in relation to their level of concern regarding potential relocation of the Homestead ($\chi^2(2, N=259)=21.783, p<.001$). For example, those indicating a preference that the Homestead remain in situ (Mean Rank=200.97) had significantly higher levels of concern regarding relocation in comparison to those selecting Option 1 (Mean Rank=136.55) and Option 2 (Mean Rank=118.63).

7.3.3.4 Summary

In summary, sampling of both key stakeholders and the wider Singleton community, Option 2 was the clear option preference, with 57% outlining support for this option, compared to 30% for the Ravensworth Farm option, with an additional 7% outlining that the homestead should not be relocated (refer to **Figure 7.4**).

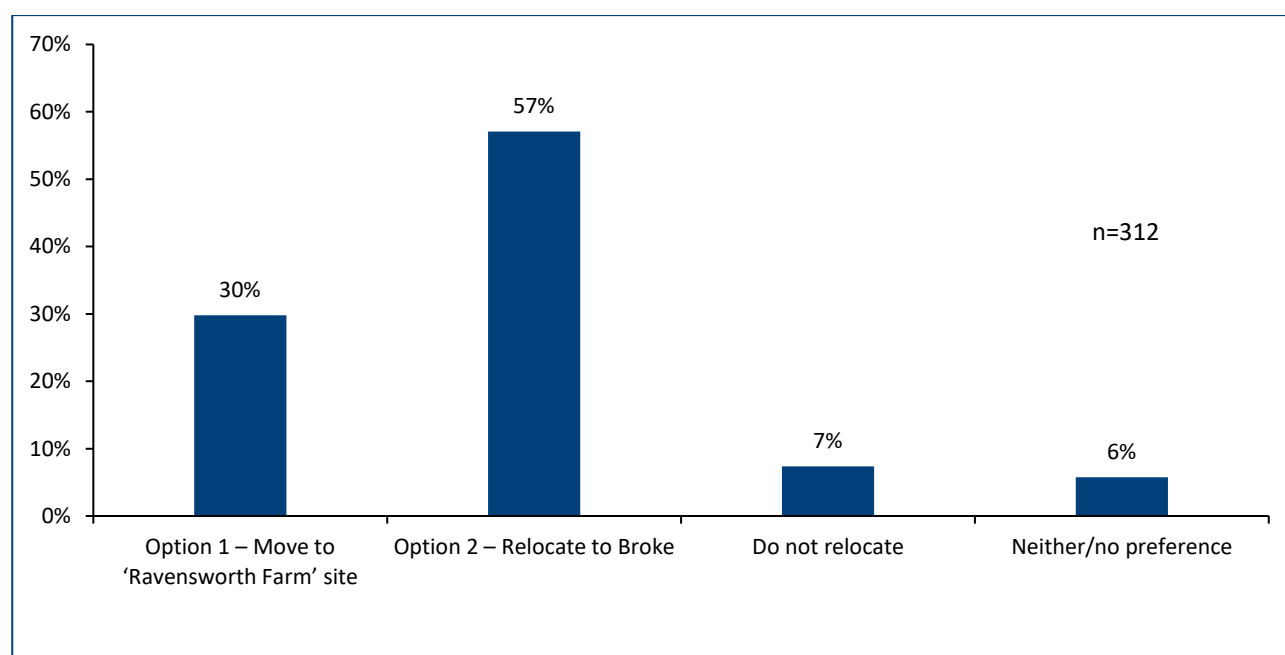


Figure 7.4 Potential relocation option preferences (Total Sample)

A further breakdown across all the stakeholder groupings indicate that the wider Singleton community have a clear preference for Option 2 (Broke Village), with near neighbours and members of community groups and those with an interest in heritage, more divided in their preferences. The option to not relocate the homestead, received greater support from this group.

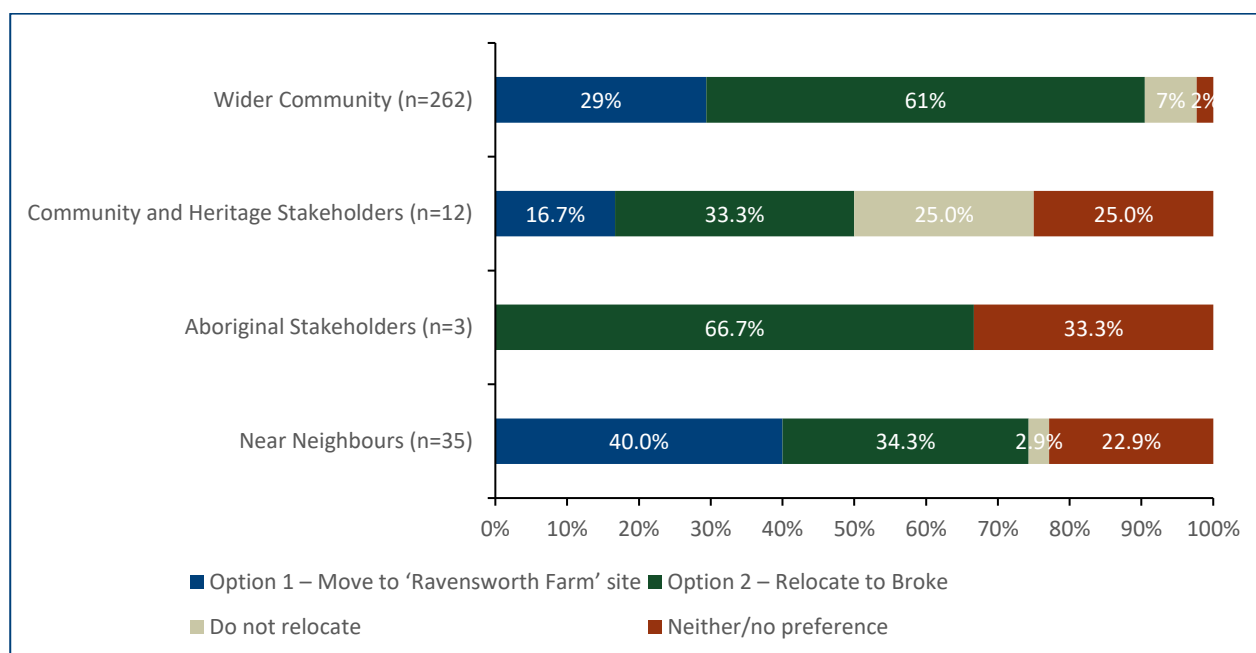


Figure 7.5 Of the two options, which do you prefer? Combined key stakeholders (n=50) and wider community (n=256)

Table 7.9 and **Table 7.10** provides a summary of some of the clarification responses obtained from stakeholders in relation to their preferred option by relevant theme.

As illustrated in **Table 7.9**, those stakeholders that identified Broke Village as their preferred relocation option, justified their option selection on the basis of a number of factors, the most significant of which related to the ability for the wider community to access and use the homestead in the Broke Village. In this regard, stakeholders that indicated a preference for the Broke option often noted that the Ravensworth Farm option would not facilitate public use.

The opportunity for public use and access was also closely related to the other themes noted which included the opportunity to enhance tourism opportunities, particularly the opportunities to associate the homestead with the convict trail and promote both Aboriginal and European cultural heritage. In this regard, there was interest from the Aboriginal stakeholders consulted that relocation of the homestead may facilitate the development of a cultural heritage centre within the homestead complex to showcase Aboriginal Art and culture; facilitating further tourism opportunities and local business development.

There was also a perception that relocation of the homestead to Broke, would reduce any further risk/damage to the homestead complex due to its current location and any further impact of mining activity (both current and future) in the Ravensworth area. Consequently, there was a view that Broke would be a safer resting place for the homestead complex.

Table 7.9 Option 2: Broke Village - Stakeholder responses

Theme	Example Stakeholder Quotes
Public/Community Use and Accessibility	<p><i>Would get a lot more use in Broke.</i></p> <p><i>I'd prefer it going out to Broke so it is used for community benefit and maintained.</i></p> <p><i>Definitely for Broke, because it can be used for the general public, return it to people.</i></p> <p><i>If it's left out there on its own it won't be a benefit to anyone, I'd rather see it being at Broke.</i></p>

Theme	Example Stakeholder Quotes
	<p><i>It's not worth anything if no one benefits from it.</i></p> <p><i>I'd rather see it go to Broke of course, as a local person, I'd like people to be able to go and see it.</i></p> <p><i>Our preference is Broke, as it will be more sustainable, and people will be able to view it.</i></p> <p><i>A lot of people go to Broke often and would be great for the community to use.</i></p> <p><i>More people would get to see it in Broke as opposed to being stuck in the middle of a mine site.</i></p> <p><i>Great option for Broke to have a town centre, attract tourists, have shops, bakeries, restaurants & museum, great meeting place for locals.</i></p> <p><i>I do not like mining in our region at all and do not believe Glencore should be using one of our only heritage value homesteads as an office space, let the community use it.</i></p> <p><i>Because it will become a focal point of the community and if it's left where it is, it will fall apart.</i></p> <p><i>It will attract people to the area and be used. If it is on the mine site, it will not be visited and used by the community.</i></p> <p><i>Being a heritage building it would be a pity to constrict it to office use, the community should be able to enjoy it.</i></p> <p><i>Option 1 would be a waste; a shame to be used as an office building by mining employees. If they are spending money for it to be preserved, it should be for community use, otherwise why bother?</i></p> <p><i>Nice to have building in use rather than the farm site where building may be neglected.</i></p>
Promotion of cultural heritage (Aboriginal and European)	<p><i>Heritage buildings don't fare well in mine sites. They don't get used and beautiful homesteads sit there doing nothing. Opportunity to restore/maintain the heritage.</i></p> <p><i>Better option than losing the history.</i></p> <p><i>I have a strong attachment to the homestead...an opportunity to engage the Aboriginal community, show through arts and craft and show our history.</i></p> <p><i>Relocating to Broke to have a cultural heritage centre. We have WOOPA - a huge art exhibition, 9-10 venues across the Hunter Valley - so much we could display. Artists could be self-contained; it would be great to encourage it.</i></p> <p><i>Broke is a very small village on the tourist trail and has a nice community, it needs to be seen by all those interested in heritage.</i></p> <p><i>There is always something going on in Broke regarding heritage, that brings tourists in, it would work wonderfully for the Homestead to be moved to Broke.</i></p> <p><i>In Broke, because the proposed site for the relocation in Broke is right where the monthly local fairs/markets are held, which would help bring in tourists into Broke to see a heritage site. I disagree with the first option as the community would never get to see their own heritage homestead.</i></p> <p><i>It's the best chance of being preserved and looked after.</i></p> <p><i>I think it has too much value to be used as office space, it is important for history and should be used in a way that respects its value.</i></p> <p><i>Using it as an office is not looking after and respecting a heritage building in my opinion.</i></p> <p><i>So that people can get to see the Australian history.</i></p> <p><i>It would help the Broke community, give them a nice historical building and in Broke which is already a historical area, so it would suit it.</i></p> <p><i>Broke people are passionate about heritage.</i></p>

Theme	Example Stakeholder Quotes
Further Tourism Potential	<p><i>It's vineyard country it would suit over there quite well; A beautiful old stone house would sit beautifully in vineyard country.</i></p> <p><i>We have a lot of tourism and we like to see that [it would] make a big difference tourism wise to the vineyards. Broke is an up and coming village and visitor centre.</i></p> <p><i>The Broke area is on the rim of the tourist trail, near wine country and it would be better to have it there for the tourism and the town.</i></p> <p><i>Broke has a lot of festivals so having a heritage listing would bring more tourists through.</i></p> <p><i>I think it will help attract people to Broke.</i></p> <p><i>Will get more people to see the Homestead; there are more tourists visiting there as it's a gateway to the old Singleton and many tourists go that away.</i></p> <p><i>Broke is a pretty little town and a lot of people drive through Broke, it would be good to have some heritage in Broke for tourism reasons.</i></p> <p><i>Having it in Broke would also mean more tourists coming to visit and spending money/contributing to our local economy.</i></p> <p><i>The Broke community would benefit more as they'd attract paying tourists and creating jobs.</i></p> <p><i>If it was moved to Broke it would be used by the community as Broke is a wine tourist area and has a thriving community which would use the building as a communal meeting place.</i></p> <p><i>Would certainly change Broke: would give us a town centre, the proposed position is in the southern end of Macnamara Park and this would attract cafes, there currently is no information centre, it will attract boutique shops and olive growers and more wine tasting to Broke, we need a tourist information area which this proposal would include.</i></p>
Risk of damage to the Homestead due to mining	<p><i>It would be out of the way of the mining area and blasting; so safer at Broke.</i></p> <p><i>Somewhere more permanent, that won't be mined out.</i></p> <p><i>If they are mining in 20 years and they decide they want to mine the area, if it stayed in the area, they would have the same issue again.</i></p> <p><i>If it stays where it is it will be bulldozed over as there are mines too close, so move it to Broke.</i></p> <p><i>Mining is winding down in Broke, and the open cut mine will slowly destroy the buildings with shocks etc, if it's left where it is.</i></p> <p><i>Moving far enough way away, out of mining areas, but still in the same locality.</i></p>

In relation to Option 1 and the potential relocation of the homestead to the Ravensworth Farm site, prominent themes included in this option preference centred around maintaining local history and heritage value given the connection to the Ravensworth locality and its community. As has been previously noted, the homestead is seen to be the last building that represents the history of the Ravensworth village and locality.

An issue of cost was also noted, with stakeholders suggesting the Ravensworth Farm option was likely to be cheaper given proximity to the homestead's current location. There was also a view that Glencore was the current custodian of the homestead and responsible for its upkeep and maintenance before handing it back to the community once mining ceases – providing an opportunity for the homestead to then continue as a working farm/property.

Risk of damage to the homestead was also raised in association with this option, but in the context of the potential damage to the homestead and its buildings from the relocation method and process. In this regard, there was seen to be less of a risk associated with the intact move to the Ravensworth Farm site on Glencore land (within the current Project Area) than relocation to Broke Village., which requires dismantling and rebuilding of the buildings.

Table 7.10 Option 1: Ravensworth Farm – Stakeholder Responses

Theme	Example Stakeholder Quotes
Maintain heritage value in the Ravensworth Locality	<p><i>Definitely stay on Glencore land, as it's part of the original Ravensworth. I'd love for it to stay exactly where it is, but if it stays, the blasting might cause damage to it, but if it moves to Broke it loses all its heritage value.</i></p> <p><i>It should stay in Ravensworth because it's not Broke. My husband's family had family history with the Ravensworth Homestead.</i></p> <p><i>Retains heritage, stays in area, defeats purpose if you take it away.</i></p> <p><i>The homestead holds many memories for the community.</i></p> <p><i>It retains its significance if it is located as close as possible to original site.</i></p> <p><i>Stay where it is. It was built there back in the day because it was probably the best parcel of land that it could be placed on, but if you pick it up and move it, then it's not the Ravensworth Homestead anymore.</i></p> <p><i>Keeping it in Ravensworth will help retain its identity in the area,</i></p> <p><i>It should stay in the Ravensworth area to where the history is linked.</i></p> <p><i>If moved to a different position it will have no sense of history anymore.</i></p> <p><i>I think if it stays within its historical landmark, that would be preferable to moving it completely away from its original home.</i></p> <p><i>Broke is not Ravensworth and moving it away is defeating its purpose of being heritage listed for the Ravensworth area.</i></p> <p><i>The homestead relates to livestock and not to wine growing.</i></p> <p><i>If you move it out of the local area it loses its significance.</i></p> <p><i>The heritage; should stay where it was built.</i></p> <p><i>The homestead would still be close to its roots on a farm similar to its current position/when you only move it a small distance and keep the environment similar it retains its character/if the surrounds change the character of the homestead changes.</i></p> <p><i>Moving it to Broke will devalue its heritage listing and who will be responsible for it? it doesn't seem logical to move it to a town that has no connection to it.</i></p>
Cost of Relocation	<p><i>Cheaper for the mine to move it on their land; If it's going to cost an arm and a leg, it's a bit ridiculous.</i></p> <p><i>The Broke option would cost a fortune.</i></p> <p><i>If it's in the way of the pit, it has to be moved but keep it locally and move it just the short distance. It would be cheaper to move it closer.</i></p> <p><i>Well the cost would be a lot. I cannot see the point in shifting it to Broke as it's miles away.</i></p> <p><i>I think it's a lower cost, I can't see the economics of moving it to Broke.</i></p> <p><i>There are so many other useful projects they could be looking at, such as sustainable tourism industries and would be much cheaper than trying to relocate the homestead.</i></p> <p><i>I would like to see a family move out there and use it as a home/farm and use it as an educational history site to visit.</i></p>

Theme	Example Stakeholder Quotes
Glencore responsibility to maintain	<p><i>It should stay where it is and be looked after by Glencore.</i></p> <p><i>If it stays in Ravensworth it will be maintained and looked after and handed back to the community closer to its original form</i></p> <p><i>The mines will look after it and keep it in its original state, even if used for offices.</i></p> <p><i>It should stay as it is, and Glencore should preserve it and be responsible of upkeeping the heritage value/listing.</i></p> <p><i>Glencore can still use it and look after it, I work in an old homestead and it is used as an office, they are proud of it and spend the money to keep it intact.</i></p> <p><i>Glencore own it so they may as well get some benefit for it.</i></p> <p><i>Will go back to public after mine goes, can be used for community stuff.</i></p>
Risk of Damage due to relocation method	<p><i>Risk potential damage once damaged it is damaged forever.</i></p> <p><i>It will be a lot easier to move 500 m and have less damage to the property. If it is moved a bigger distance, there will be damage to things like the hand-made bricks.</i></p> <p><i>It is more practical - there are significant difficulties associated with moving these old buildings.</i></p> <p><i>It is important to keep it close as it will stay in better condition with less movement.</i></p>

7.3.3.5 Assessment of Social Impacts resulting from the relocation of the Ravensworth Homestead

Considering the above analysis, and the mitigation measures proposed as part of the Project, that is the proposed relocation of the Ravensworth homestead complex (assessment of two options), the social impacts as a result of the Project on the homestead are summarised in **Table 7.11** below.

As has been noted in **Section 6.2.2.2**, impacts to sense of community and culture, and specifically the social impacts that may be associated with the relocation of the Ravensworth homestead were perceived as a **‘high’** perceived social risk for all key stakeholders and a **‘moderate’** perceived risk for the wider Singleton community.

In predicting the social impacts of relocation, the two alternate options have been assessed against a baseline of the homestead remaining in its existing location, with no public access. **Table 7.11** provides a summary of the predicted impacts across the relevant stakeholder groups engaged in the SIA.

As the table illustrates, the implementation of Option 2, relocation to Broke Village, is likely to result in a **‘high’** perceived social impact for near neighbours and heritage stakeholders, and an **‘extreme’** social impact ranking. As referred to in the SIA Guidelines and outlined in the Social Risk Matrix (refer to **Table 7.1**) – it is *likely* that this option would have a major consequence in terms of reduction in sense of community due to the permanent relocation of the homestead to a place that isn’t ‘Ravensworth’, particularly given the homestead is seen to be the last building that represents the history of the Ravensworth. This is reflected in responses from those stakeholders who identified a preference for it to remain insitu or be relocated to the Ravensworth Farm site. However, relocation of the homestead to Broke Village (Option 2) is likely to result in a high (positive impact for the wider Singleton LGA community based on higher community accessibility, anticipated benefits in the local economy etc .

Option 1, relocation of the homestead to the Ravensworth Farm site is likely to result in a **‘moderate positive’** impact for near neighbours, Aboriginal groups and the wider Singleton LGA community (*likely* and *minimal* social impact) and a **‘high’** social impact (*likely* and *moderate*) for heritage stakeholders.

Table 7.11 Summary of predicted social impacts resulting from the relocation of the Ravensworth Homestead

Social Impact Theme	Impact Description	Options Assessed	Affected Parties	Perceived Social Impact/Sensitivity	Project Aspect				Social Impact Ranking (mitigated)
					A - Assessment process	C - Construction	O - Operational	E - End of mine life	
Community and Culture	Impacts on sense of community and culture as a result of homestead relocation	Broke Village	Near Neighbours	High				E	Extreme
			Aboriginal Groups	High				E	High Positive
			Heritage Stakeholders	High				E	Extreme
			Singleton LGA Community	Moderate				E	High Positive
		Ravensworth Farm	Near Neighbours	Moderate				E	Mod Positive
			Aboriginal Groups	High				E	Moderate
			Heritage Stakeholders	High				E	High
			Singleton LGA Community	Moderate				E	Mod Positive

7.4 Economic contributions, employment and partnerships

7.4.1 Employment and training opportunities

The positive opportunities associated with the presence of Glendell Mine in the region, particularly in relation to local employment and training opportunities, were raised by stakeholders during consultation. In this regard, it was suggested that economic activity associated with the Project should have maximum benefit for locals, with as much employment and commercial opportunity as possible retained within the Singleton LGA. There was a desire to see further training opportunities provided for Aboriginal community members and for Aboriginal employment to be a condition of approval for mining projects. When speaking about training opportunities, one stakeholder suggested funding a program to address the significant barriers to employment experienced by Aboriginal community members, such as lack of transport or adequate housing, access to laundry facilities and/or showers. It was noted that while such programs had been attempted in the past, these had not been successful due to a lack of commitment from employers.

Local emergency services also expressed a desire to work with the company on emergency response plans and joint training initiatives to enhance existing relationships and emergency responses in the locality.

Through the ACHAR and Social Impact Assessment processes relating to a number of recent projects in the Hunter Valley, and through ongoing consultation with local Aboriginal parties, Glencore has responded to community requests for the development of a work experience program for local Aboriginal youth, with the program to be rolled out across all operations in 2020. As outlined in Section 7.7.9 of the EIS, Glencore also proposes to fund projects in Cultural Awareness/Education in consultation with the RAPs.

In addition, as part of the Project, Glendell proposes to fund a traineeship or a work experience position in the area of cultural heritage management, biodiversity or land management, ecology, rehabilitation or other appropriately related field, through a third-party provider such as the National Parks and Wildlife Service (NPWS) who currently offer a 2-year field officer traineeship in land management.

Consequently, employment and training opportunities associated with the project, specifically for Aboriginal Stakeholders, is considered to result in a **‘moderate positive’** social impact (*likely* to occur, with a *moderate* consequence). It should be noted that there is the potential for such measures to further enhance this positive impact for the benefit of the wider community through the offer of additional traineeships.

7.4.2 Economic contribution, community investment and partnerships

The opportunities associated with the presence of Glendell Mine in the region in terms of workforce expenditure, local procurement and community investment, were raised by stakeholders during consultation and are summarised in **Section 6.0**.

The NSW Mineral Councils’ latest release of its annual NSW Mining Industry Expenditure Impact Survey 2017-18 provides an overview of the impacts of mining in the region more generally. The survey indicated that the 28 surveyed mining companies in the Hunter injected around \$4.3 billion to the region’s economy, equating to an estimated 18% of the Gross Regional Product. This included \$1.6 billion in the wages of 14,045 full-time employees and \$2.6 billion in purchases from local businesses.

Further to this, the Economic Impact of Glencore Operations 2017 (Lawrence Consulting, 2018), reported that Glencore contributed over \$1.1 billion to the Hunter Valley (excluding Newcastle) in terms of direct expenditure (i.e. salaries, business purchases and community contributions) in 2017, the second highest expenditure of any of the regions across Australia.

At a local government level, within the Singleton LGA, over \$400 M was spent in wages and \$380 M in local business expenditure, with total input at nearly \$780 M. In the Muswellbrook LGA, surveyed mining companies spent over \$437 M, including nearly \$230 M in wages, and purchases with local businesses totalling nearly \$208 M. The survey also found that direct mining spend in the Newcastle LGA totalled over \$1 billion in 2017-18, including \$155 M in wages and \$968 M in purchases with local businesses (NSW Minerals Council, 2019).

Current employee and supplier data provided by Glencore (2019), and outcomes of a supplier survey undertaken by Umwelt (2019) for the Project assessment, revealed that Glendell Mine's current operations make a significant economic contribution to local communities through:

- employment (direct impact)
- business expenditure (direct impact)
- employee household expenditure (indirect impact).

These economic contributions are summarised below for the key towns identified as significantly affected. (Table 7.12).

Table 7.12 Summary of TRC Results for Key Locations of Interest

	Singleton (LGA)	Muswellbrook (LGA)	Cessnock (LGA)	Upper Hunter (LGA)	Maitland (LGA)	Newcastle and Lake Macquarie (LGA)
Number of Glendell Mine employees	63	10	28	9	40	25
Employees' annual household expenditure (estimated)	\$4,258,000	\$676,000	\$1,892,000	\$608,000	\$2,703,000	\$1,690,000
Estimate of Glendell Mine total spend on suppliers (*population)	31,659,556	\$12,773,351	\$137,497	\$46,023	\$8,968,903	\$29,558,872

Source: Glendell and Umwelt (2019)

*Note: Figures provided in final columns ("population") are estimated based on a multiplier of 4.8369565 (which assumes data for the missing 79% is the same as the 21% that responded to the survey question). Only includes locations in the assessment area.

These more localised projections provide an indication of the contributions that the Glendell Mine will continue to create in the region, given the ongoing operational employment and procurement projections for the Project. As the table above notes, around 63 of the current workforce at the Glendell Mine (36%) reside in the Singleton LGA. A previous analysis, undertaken for the Mount Owen Complex (Coakes Consulting, 2013), indicated that approximately 33% of the workforce reside in the Singleton LGA.

Given that the Project would prolong the life of the mine for a further 22 years, the social and economic benefits associated with company, workforce and supplier expenditure are expected to continue for the proposed mine life, with a significant proportion of employment and business opportunities continuing to flow to the surrounding region. These benefits would not occur should the Project not proceed.

As part of the EIS for the Project, a full Economic Impact Assessment has been undertaken by Ernst & Young (refer to Section 7.18 of EIS). This assessment provides a detailed analysis of the economic contribution of the Project to the broader region through total contributions that include royalties, levies and taxes paid to local and State governments, and the net value added in employee salaries (compared to non-mining salaries), and supplier profits from sales.

The economic assessment outlines the **indirect benefits** of the Project that are related to the linkages that it will have to the NSW economy, through both the labour market and suppliers. The assessment also considers the costs and benefits of the Project on residents of the Lower Hunter SA3 region of NSW. The analysis shows an estimated net benefit of \$433.6 M to the region in net present value (NPV) terms. This is driven largely by:

- benefits to local workers of \$304.5 M in NPV terms based on the assumption that 67% of the mine's direct employees continue to be drawn from the Lower Hunter SA3 region
- benefits to local suppliers of \$134.3 M in NPV terms which is based on information from Glendell Mine that 38% of the inputs to production are supplied from the region

Local landholders and stakeholders consulted, largely acknowledged the contribution that Glencore currently make in the Singleton LGA, and in the broader State of NSW; and should the Project be approved, recognised that this contribution would continue for a longer term.

In terms of community investment, Glencore, through its voluntary Community Investment Program, is committed to supporting several community initiatives in the Project locality. Such initiatives include support for the Rural Fire Service, Mt Pleasant School Education Support Program and the Singleton Annual Rugby League Charity Game for the Westpac Helicopter Service.

In relation to support for Aboriginal groups and communities, Glencore's approach to supporting Aboriginal education is to work closely with the NSW Department of Education to provide meaningful and needed Aboriginal education support that compliments and does not duplicate existing initiatives within NSW; as well as with other providers that support Aboriginal Education including:

- The Galuwa Aboriginal School scholarship program which currently supports 30 scholarships for Aboriginal students from the Upper Hunter in years 6, 7 and 8 to support their academic progress, cultural identity and career aspirations.
- Singleton Clontarf Academy supporting 80 Aboriginal boys and 4 staff at Singleton High School to support the personal development and education of these boys.

While economic benefits and investment that flow from the presence of mining was firmly acknowledged by the stakeholders consulted, there was also a view that those stakeholders residing in proximity to mining operations bear the brunt of the impacts experienced. These issues have been highlighted in the recent 'Keep it in the regions' senate inquiry report, which advocates for further focus on contributions across industry sectors at a more localised level (Commonwealth of Australia, 2018).

Consequently, the social impact of the MCCO Project on the local economy of Singleton and NSW more broadly (during construction and continued operation) is considered to result in a **‘high positive’** social impact (*likely* to occur, with a *moderate* consequence). This issue was also perceived by the wider community as a ‘high positive’ social impact, whereas near neighbours and community groups perceived it as a **‘moderate positive’** social impact of the Project.

7.5 Intergenerational equity

The theme of intergenerational equity, which is the idea of applying fairness or facilitating distribution of well-being between/across generations, preserving natural resources and/or caring for the environment for the benefit of future generations.

Consideration of Intergenerational Equity is emerging as a key theme in project development processes, having been raised in assessment reports of the Independent Planning Commission (IPC) for the Rocky Hill and Bylong Valley EIS’. In regard to Bylong Valley, the IPC noted significant concerns relating to environmental impacts, including climate change and the costs to future generations as primary reasons for the Project to be rejected. The Rocky Hill Coal Project was also refused by the IPC before being appealed in the New South Wales Land and Environment Court (as noted in **Section 5.4**). On 8 February 2019, Chief Justice Brian Preston of the NSW Land and Environment Court, handed down a judgement that the proposed new open-cut coal mine should not proceed, with reasons for refusal including the predicted impact on climate change, planning, visual and social impacts.

In the context of the current project, notions of Intergenerational Equity have been raised by stakeholders in relation to the current management of land owned by Glencore, rehabilitation of land to facilitate future land use, and broader climatic issues regionally and internationally. Each of these is further described below.

7.5.1 Future land use and rehabilitation

Rehabilitation and concerns regarding future land use post-mining were raised during consultation, with stakeholders questioning the effectiveness of existing rehabilitation strategies to meet future land use needs and requirements. The concern over the timeliness of rehabilitation was also raised by several stakeholders who expressed that Glendell Mine could be doing more to ensure early and more progressive planting of vegetation on the mine site.

Stakeholders also expressed concerns regarding the quality of land post-mining, fearing that environmental degradation, as a result of mining, may result in land being inadequate for other uses into the future, specifically for agricultural purposes such as grazing. Concerns were also raised as to the extensive amount of land owned by mining companies, locking up and limiting land availability for existing and future generations. In this regard, there was a desire to see further engagement and consultation with the community around rehabilitation efforts and future land use planning.

The Project will impact approximately 591 ha of native grassland and native vegetation outside of existing approved disturbance areas, which will be offset. Most of the native vegetation in the area has already been highly fragmented and disturbed. This represents lower value habitat when compared with vegetation in a remnant state, of which none is present within the Additional Disturbance Area. This is mostly due to historical clearing associated with agriculture and more recently mining in the area. Therefore, the relative loss of connectivity and movement corridors for native flora and fauna as a result of the Project is considered minor and will be mitigated through the proposed rehabilitation strategy (see Section 7.9 of the EIS).

The biodiversity impacts of the Project have been assessed in accordance with the NSW Biodiversity Assessment Method (BAM). These impacts include the loss of native vegetation and fauna habitats as a result of clearance works and subsequent mining activity.

As outlined in Section 7.9 of the EIS, the overall rehabilitation strategy for the Project is consistent with what is currently approved for the Glendell Mine and the Mount Owen Complex. The rehabilitation of disturbed land is designed with the objective of returning as much of the Additional Disturbance Area to a combination of native woodland and open grassland areas, with the revegetation of the final landform designed to provide a combination of habitat areas and opportunities for future land use options for the area.

Glendell Mine has committed to progressively rehabilitate areas disturbed as part of the Project as soon as practicable throughout the life of the Project. The Project will implement natural landform design principles and continue with revegetation techniques that are currently undertaken at the existing operations.

A final void will remain following mining, which is consistent with current approvals. Based on modelling, the long-term recovery and water quality of the proposed final void is considered equivalent to the approved final void and comparable to other final voids recently assessed in the Upper Hunter Valley. The proposed final void will remain a self-contained system with no surface spills to downstream watercourses.

Land use and management are seen as key issues in the region, with the Upper Hunter Mining Dialogue (2018) established in 2011, conducting investigations into the possible benefits and uses for final voids in the Upper Hunter. The progressive nature of rehabilitation, during mining, allows exposed areas to be backfilled, shaped and revegetated during the life of the mine. The Mining Dialogue process, through dedicated working groups, is *'currently looking into the various ways mine voids can be rehabilitated to make a contribution to the region long after mining has ended. Our study into the achievable beneficial uses for mine voids will help the community to envisage the post mining future of these areas of the region, give the community a say about possible uses and provide the industry with realistic options'*.

This Project, titled 'Investigation of Possible Beneficial Uses for Mine Voids in the Upper Hunter', is one of a number of focus areas in which the Mining Dialogue is conducting research. Other areas include water, social impacts and infrastructure, and emissions and health (see NSW Mining, 2019). The first part of the project will involve a review of re-uses of voids worldwide, and consider potential options in light of the environmental, economic, social and regulatory context of the Upper Hunter. Outcomes from the review are yet to be released.

The Upper Hunter Strategic Regional Land Use Plan (2012) also outlines that the final landform post mining activity should be naturalistic and revegetated with local flora. The Project has the objective of returning the Project area to a suitable state conducive for a range of vegetation communities and habitat types, wildlife corridors, and the potential for ongoing grazing use.

As outlined in Section 7.9 of the EIS, the indicative conceptual final land uses currently identified for the Mount Owen Complex under the existing Mount Owen Consent and Glendell Consent are a combination of native woodland and open grassland (potential grazing areas with pockets of woodland vegetation) with pit lakes in North Pit, Bayswater North Pit and Glendell Pit voids. This combination of land uses will be carried through to the conceptual final landform for the Project. This aligns with the State Governments strategic planning documents, noted above, in proposing that the final landform should be naturalistic and revegetated with local flora; and that the community should be included in the design of the rehabilitation program so that they have a sense of ownership over the final landform (Upper Hunter Strategic Regional Land Use Plan, 2012).

The draft Rehabilitation Strategy developed for the Project (refer to Appendix 24 of the EIS) contemplates a detailed examination of potential alternative land uses as part of the detailed mine closure planning process. The Mount Owen Complex (when amended by this Project) includes features that provide significant opportunities for land uses other than just the grazing and biodiversity land uses. These opportunities are discussed further in Section 7.9 of the EIS which includes an analysis of potential alternative land uses for the Mount Owen Complex having regard to the final landform and opportunities presented by the Mount Owen Complex and surrounding infrastructure. Several features of the Mount Owen Complex and surrounding area provide significant opportunities for future high value employment generating land uses following the cessation of mining. These features include:

- installed electricity infrastructure and close proximity to high voltage transmission network
- installed rail infrastructure
- installed road access, hardstand areas and car parks with capacity to handle large workforce numbers
- established water storages (including pit lakes in voids)
- large land holding under one ownership surrounded by mining and industrial areas
- separation distance from residences
- proximity to Singleton and Muswellbrook for access to future workforce
- established suppliers and service providers
- proximity to port infrastructure at the Port of Newcastle with direct rail access to the port
- existing infrastructure areas located on flat terrain and
- the ability to emplace overburden in a manner which facilitates alternative land uses.

Potential post closure land uses include aquaculture, industrial or intensive agriculture, water storage, pumped hydroelectricity or waste recycling, re-use and emplacement facility. Due to the proposed life of mining operations at the Mount Owen Complex it is not possible to accurately identify the ultimate or even preferred end land uses for the site which can make use of these opportunities. Accordingly, the Glencore Coal Mine Closure Planning Protocol has been developed to ensure the final closure processes have regard to these opportunities by commencing prior to the planned cessation of mining. This process includes extensive consultation with key stakeholders such as Local and State Government, and local businesses and landholders.

Regarding further economic diversification in the region, community concerns relate to the cumulative impacts of continued mining expansion upon competing land uses, specifically the impacts on other rapidly expanding and more sustainable industries such as the equine industry, eco-tourism and agribusiness. While mining and related sectors are the predominant employer in the Singleton LGA, constituting 58% of the Singleton Economy (Singleton Council Strategic Plan, 2017-27); mining in the broader Hunter region only comprises around 9%, with manufacturing contributing 22.7%.

Approximate 4% of the population in the Singleton LGA is employed in Agriculture. As referred to in Section 7.12 of the EIS, an Agricultural Impact Statement (AIS) has also been prepared to assess the potential impacts on agricultural enterprises and resources, including agricultural support services and the amenity, lifestyle and connectedness of rural communities. The assessment outlines that where practical and feasible, suitable buffer land within the Project Area during operations will be used for grazing and other suitable agricultural uses to minimise the impact on agricultural production in the broader region.

Therefore, the impact of continued mining activities on Future Land Use and Rehabilitation is ranked as a **‘high’** perceived issue for near neighbours and a **‘moderate’** perceived issue for other stakeholders within the Singleton LGA.

However, given the outcomes of the technical assessments, the rehabilitation strategy and future land use assessment, it is not expected that the Project will limit opportunities for future land uses and consequently this issue has been ranked as a **‘low’** mitigated social risk (*unlikely with minor consequence*).

7.5.2 Land management

Land management was noted as an issue of concern for many near neighbours and has been an ongoing concern across assessment process relating to the Mount Owen Complex, given landholder interest in maintaining land productivity and rural amenity.

Key land management issues centred around the management of pests, including wild dogs and weeds such as cestrum. While it was acknowledged that mitigation strategies were in place e.g. wild dog baiting program, there was a desire to see further support for such mitigation efforts and improved management of local properties owned by the company. Some participants were concerned that offset areas, or land owned by Glencore were often sources of weeds and pests and that these should be managed more closely.

The Mount Owen Complex has an existing Land and Property Management Protocol that includes management measures for dealing with weeds and pests (such as wild dogs) including regular spraying and baiting.

Therefore, in regard to the management of land in the project area, the social impact is ranked as a **‘moderate’** perceived impact for near neighbours, a **‘low’** perceived impact for the wider community and a **‘moderate’** social impact (*possible with a minor consequence*).

7.5.3 Climate change, greenhouse gas and energy

In regards to climate change, greenhouse gas and energy, a specialist greenhouse gas and energy study for the Project has assessed emissions from the proposed operational activities, the electricity used, and the indirect ‘downstream’ emissions generated by third parties involved in getting coal to the customers from end-use of the product (consumption). The assessment has indicated that the downstream emissions represent approximately 95% of the Project’s total emissions. Given that the coal produced from the Project is largely replacement production for other Glencore mines that are nearing the end of their operating life, the study also found that the Project’s contribution to national annual emissions is relatively small and is unlikely to impact national greenhouse gas policy objectives. Similarly, the Project is unlikely to affect the objectives of the NSW Climate Change Policy Framework.

Glencore will continue to mitigate greenhouse gas emissions through ongoing energy efficiency initiatives and optimising productivity. This includes limiting the length of haulage routes to reduce transport distances and fuel consumption and selecting equipment and vehicles that have high energy efficiency ratings.

Glencore is also committed to transitioning to a low carbon economy, and has recently announced publicly that it will limit coal production to current approved levels. The Project fits within Glencore’s production cap commitment as it is focused on sustaining current coal production.

Consequently, the project impact has been ranked as a **‘moderate’** mitigated social impact (*possible with minor consequence*).

However, it should be noted that in the wider community, and amongst key non-government organisations and environmental groups (e.g. Lock the Gate Alliance and Hunter Environment Lobby), Climate Change remains a key issue for these groups and as such has been ranked as a **'high'** perceived impact.

7.6 Access to and use of infrastructure and services

7.6.1 Access and use of Hebden Road and cumulative traffic impacts

The impacts of additional mining traffic on the local road network (due to construction) and the potential delays associated with the Hebden Road realignment during construction, and as a result of blasting in the operational phase, were raised by stakeholders as an impact on their way of life – how they travel to work, transport children to school, access local events such as the playgroup at Hebden Hall and the associated costs (time, money).

The potential of delays due to the realignment of Hebden Road and operational blasting activities was raised as the key concern of the local bus company that services residents in the Hebden area; and was also a concern for emergency service providers requiring access in response to an emergency event.

Furthermore, assurances were sought regarding the quality of the road to accommodate heavy vehicles and appropriate road design to effectively mitigate any environmental e.g. flooding and safety issues, particularly by local businesses in the locality.

As a result of mining progressing to the north, the Project will require the realignment of a section of Hebden Road. The realignment will be undertaken by Glencore, in consultation with Singleton Council and all relevant approval authorities. The new road will be constructed at the beginning of the Project and will be constructed 'off-line' to minimise disruption to existing road users. The realigned Hebden Road will increase the length of the existing Hebden Road by approximately 1.2 km. To ensure the safety of road users, the Hebden Road realignment will be designed to maintain the existing 80 km/h standard.

The Hebden Road realignment will remain classified as a Local Road vested in Singleton Council. The new section of Hebden Road will be designed and constructed in accordance with Austroads Design Guidelines and Singleton Council Design Specifications, including two line-marked travel lanes and sealed shoulders which will increase the safety and the quality of the road over its current condition.

In regards to the cumulative impact of mine traffic on the local road network, the Project does not propose any increase to the overall existing approved operational workforce numbers for the Mount Owen Complex, however there will be an increase in the workforce associated with the Project as the maximum production rates increase over the life of the Project. This increase, however, coincides with the decrease in production and workforce numbers at Mount Owen North Pit which is anticipated to cease in 2037.

The traffic assessment undertaken for the Project found that the construction and operations phases of the Project will have a negligible impact on road safety conditions on the New England Highway and Hebden Road due to only minor increases in traffic volumes associated with the Project.

Consequently, in relation to the impact of traffic and access to the area, during both construction and operational phases of the Project, the mitigated social impact has been ranked as **'moderate'** (*possible* with a *minor* consequence) for road users including the near neighbours, businesses and community groups (including the local bus company and emergency service providers) with a **'moderate'** perceived stakeholder risk.

7.6.2 Infrastructure and Service Provision

When discussing the Project, stakeholders identified that they were concerned with the inability to access particular services and facilities in the area e.g. telecommunication services and believed that this could be attributed to the presence of mining in general, including accommodation and telecommunication services.

As addressed in **Section 7.3.1.1**, while there was a common sentiment that current mining in the Hunter Valley places stress on the short-term accommodations in the Singleton LGA and drives rental prices higher, the temporary nature of the construction workforce related to the Project is not anticipated to place any strain on services within the Singleton LGA, including housing and accommodation.

Access to services such as the lack of phone reception in the Hebden area was of particular concern to landholders and emergency services, who were concerned about their ability to respond to emergencies without certain technologies that are dependent on mobile reception or internet connections. As part of the Project an existing Telstra Tower that is currently situated within the Glendell Pit Extension will need to be relocated by Telstra and current investigations are for the tower to be relocated onto Glencore-owned land under lease arrangement. Investigations into whether this relocation would potentially improve reception in the Hebden area have been undertaken. These investigations have determined that this relocation will not improve service for Scrumlo Road.

Stakeholders also noted that there also appeared to be a lack of general services typically provided by local government including garbage collection, bus shelters and health specialists.

The Project is not expected to have a direct impact on access to the services identified. However, as part of the project a VPA will be required to be negotiated with the Singleton Council to deliver community benefits. Monetary contributions often addressed in such agreements, include the provision of, or the recoupment of, the cost of providing public amenities or public services. Therefore, such contributions could include the provision of a waste service and the development of bus shelters in the Hebden area.

Considering the above, the impact of the Project on Access to and Use of Infrastructure, Services and Facilities is considered *possible* with a *minimal* consequence and has been categorised as a **‘low’** social impact. From a stakeholder perspective, this impact is ranked as **‘moderate’** for near neighbours in Hebden and Camberwell and **‘low’** for the wider community.

7.7 Health and wellbeing

7.7.1 Physical health

The World Health Organisation (WHO) defines health as *“a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity”* (World Health Organisation, 2012). The health status of an individual and/or a community is therefore determined by a range of interactions between human biology and the environment. According to WHO, the social conditions in which people are born, live and work is the single most important determinant of good health or ill health.

Figure 7.6 illustrates how health is influenced by individual, social and community and general socio-economic, cultural and environmental conditions. It is important to note that these determinants of health are interconnected; with the health status of an individual and a community is typically due to the combined effect of health determinants and their composite factors. Understanding health determinants can help to identify why certain populations and environments may be healthier than others, with this information then used to predict health trends within and across populations.

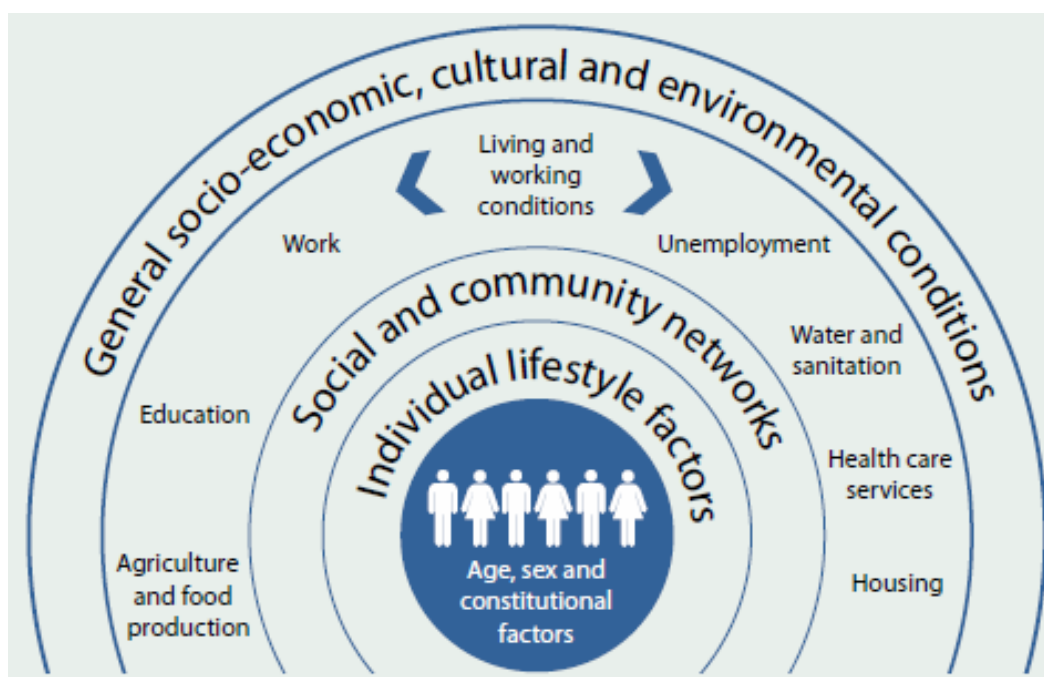


Figure 7.6 Framework for determinants of social health

Source: AIHW, 2016

According to the Hunter Research Foundation Wellbeing Watch (2016) report, based on a cross-sectional telephone survey of 649 Hunter residents aged 18 years and over, wellbeing in the Hunter has remained high in 2016 with a mean score of 4.06 out of 5 (refer to **Figure 7.7**), with no significant change in the overall Hunter index since the survey program commenced in 2006. Results also indicated that in 2016 Upper Hunter residents had slightly higher wellbeing scores than residents in the Lower Hunter.

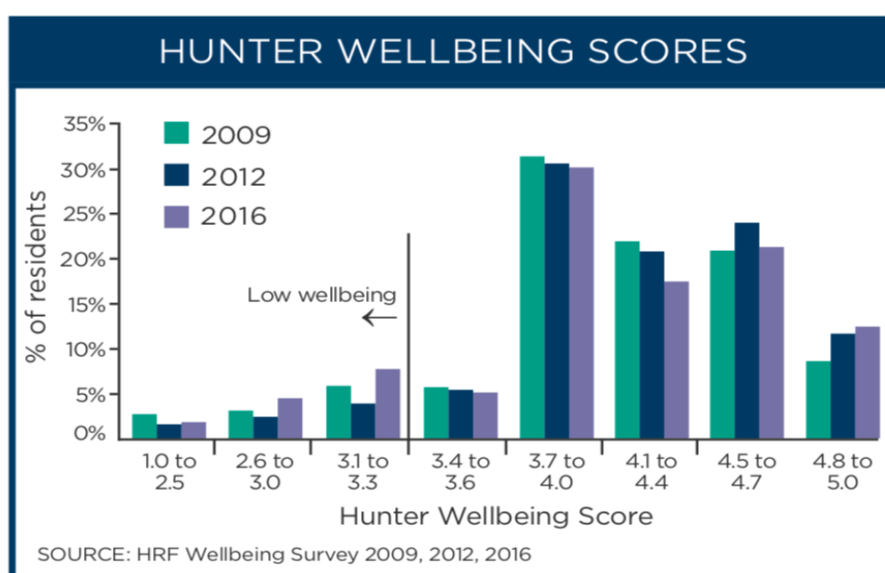


Figure 7.7 HRF Wellbeing Survey Results (2009, 2012, 2016)

Source: HRF, 2016

In reviewing the outcomes of engagement (as documented in **Section 6.0**), there was the perception that the health and wellbeing of near neighbours was being impacted by the Project as a result of the presence of mining activities, specifically respiratory concerns related to air quality and the provision of safe drinking water, the later particularly for those households that rely on tank water. It was also noted that dust was particularly frustrating for nearby neighbours, as there was perceived to be little done to mitigate its effect, and it was often difficult to pinpoint its source. The wider community, including Indigenous Service Providers consulted, also noted cumulative health impacts due to dust from mining as an area of concern.

The SRLUP (2012) for the Upper Hunter has acknowledged that the impact of air pollution on health and amenity is a major community issue in the region, with a decrease in health and wellbeing perceived as a result of the presence of the mining industry. To date there is a lack of focused and conclusive government studies on health impacts of air quality in the Hunter Valley; however, an examination of relevant health indicators suggest that:

- Rates of respiratory system disease increased in Singleton LGA from 24.5 in 2008 to 31.9 per 100 people in 2011. At that time, the rate was much higher than the rates in NSW of 27.4 (2011). However, the latest data from 2014-15 indicates that the age standardised rate of respiratory disease has reduced slightly in the Singleton LGA to 30.1 persons per 100, while rates have increased across NSW to equivalent levels (ASR of 30.2 per 100) (PHIDU, 2019).
- Data relating to asthma hospitalisations (NSW Health Stats, 2018) indicate that rates of hospitalisation (per 100,000 populations) in the Singleton LGA are presently above the NSW average, having increased from 2012-14 (107.1 per 100,000) to 2016-18 (167 per 100,000), as rates across NSW remain relatively stable (146.1 per 100,000 in 2018) (refer to **Figure 7.8**). As can be seen in **Figure 7.8**, hospitalisation rates for asthma in the Singleton LGA have varied considerably over the past 18 years, fluctuating above and below the NSW average.

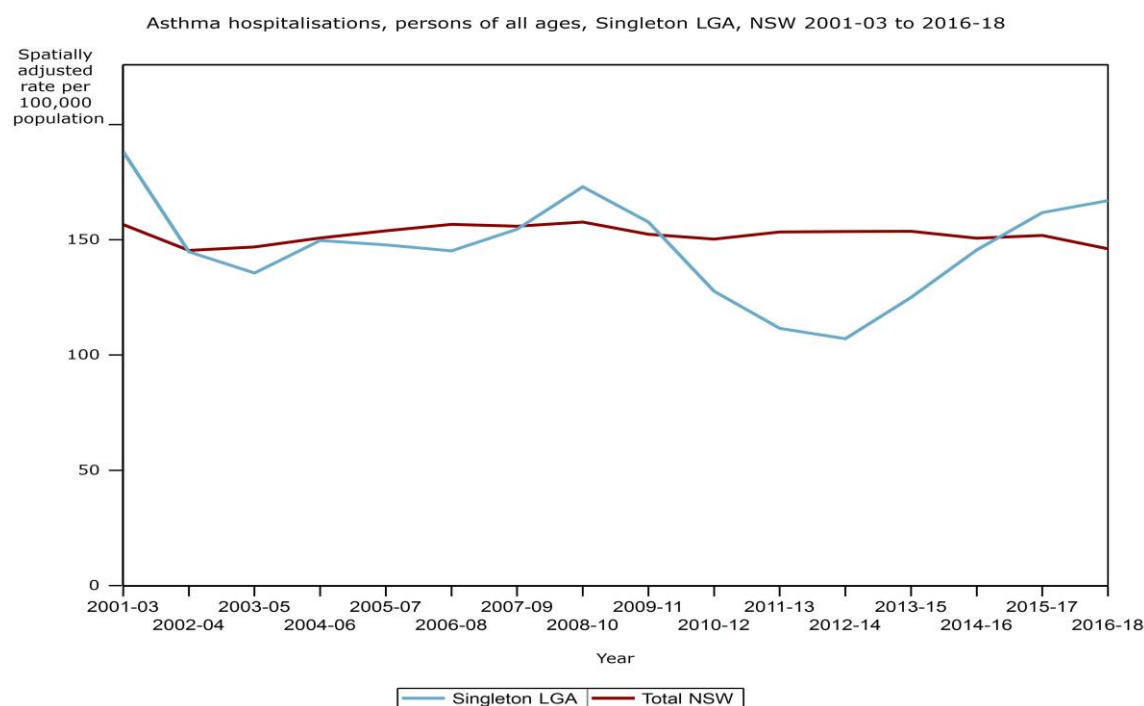


Figure 7.8 Asthma Hospitalisations for Persons of All Ages, Singleton LGA (2001 – 2017)

Source: NSW Health Stats, 2019

As noted in **Section 7.2.1** outcomes of the technical air quality assessment have suggested that with the adoption of a range of management measures and a proactive approach to air quality management, relevant air quality criteria are not predicted to exceed criteria during both construction and operation phases of the Project at any properties which do not presently have acquisition rights.

In relation to resident concerns about the impact of dust on drinking water, MOC, including the Glendell Mine, utilises a number of mitigation measures for near neighbours residing in proximity to the current operation, including the installation of water filters for rainwater tanks and tank cleaning.

It is therefore concluded that it is *unlikely* that the Project will contribute to existing health issues within the proximal community, with a *minor* consequence level, resulting in a **‘moderate’** social impact. This issue has also been assessed as a **‘moderate’** perceived impact by near neighbours.

Physical health impacts were also raised to a lesser extent by stakeholders, in relation to cumulative impacts of air quality on health. It is concluded that it is *unlikely* that the Project will contribute any measurable impact to existing physical health issues as a result of cumulative air quality impacts (*minimal* consequence) resulting in a **‘low’** mitigated social impact and a **‘moderate’** perceived impact for the wider Singleton LGA.

7.7.2 Mental health

Mental health issues were also noted by stakeholders in relation to increasing levels of stress and anxiety associated with the continual encroachment of mining projects in the area and the associated impacts on way of life. Dust was seen to be particularly frustrating for near neighbours, as there was perceived to be little able to mitigate its effects and it was difficult to pinpoint dust sources by operation.

Stakeholders within the wider Singleton LGA also expressed frustrations in relation to the cumulative impacts of mining in terms of the ongoing modifications being sought by companies, and the lack of action in regard to management of cumulative impacts.

Additionally, mental health concerns related to the process of property acquisition that has occurred as a result of other project approvals and the uncertainty and associated stress and anxiety experienced in relation to relocation.

Consequently, it is *likely* that the discussion around the Project is contributing to mental health issues for some residents and landholders in the locality, with a *minimal* consequence, resulting in a **‘moderate’** social impact (for those most directly affected). The mental health impacts were raised by a small number of residents, with the perceived impact ranked as **‘low’**.

7.8 Water access and use

Impacts relating to water, as a result of the presence of mining, were raised as a concern for near neighbours. Of most concern to those consulted were the risks associated with the mine’s impact on water including changes to groundwater as a result of mining; and future water use. As previously noted, current drought conditions experienced throughout the Hunter Valley appear to have exacerbated landholder fears relating to water access and use.

For near neighbours, water assets were identified as key to maintaining lifestyles and livelihoods and for aboriginal stakeholders, connections to water and to the creeks in the area were considered important aspects of cultural heritage. Emergency services also identified access to water as a key concern in the event of an emergency. The wider community also expressed concern in relation to water use and access, with specific worry centred around potential contamination of water systems effecting the broader environment, more generally.

Water management for the Project will be integrated within the existing water management system at the Mount Owen Complex and water resources will be managed in accordance with the existing Water Management Plan, and within Glencore's Greater Ravensworth Area Water and Tailings Scheme (GRAWTS).

Technical assessments have been undertaken for both surface and ground water and the results are explained in detail in the respective sections of the EIS. Regarding surface water it is not anticipated that the Project will result in any direct impacts on Bowmans Creek and it is not anticipated that the Project will result in significant impacts on downstream water quality, flows, flooding or future water use. The Project is not predicted to result in any significant impact relative to existing approved operations.

In regard to groundwater, years of monitoring data from an established groundwater monitoring network has been used to assess baseline conditions. The long history of underground and open cut mining near the Project has resulted in the groundwater levels within the coal measures being extensively depressurised indicating evidence of cumulative impacts within this hydrogeological environment. The Project will further depressurise the coal seams proposed to be mined, however additional impacts on the Bowmans Creek Alluvium are predicted to be minimal and localised around areas closest to the Pit intersection with the Yorks Creek and Swamp Creek Alluvium.

The Project includes measures to minimise the interception of clean water, including building a network of clean water drains and the realignment of Yorks Creek to direct clean water away from areas disturbed by the mine.

The realignment of Yorks Creek has been identified as a perceived impact by stakeholders, with some expressing concern that the diversion could not be undertaken without the risk of significant damage to creek flow. However, the diversion has been designed to be geomorphically stable and to mitigate the potential impact of erosion on downstream water quality.

In summary, given there are no significant changes to surface water or groundwater expected as a result of the Project, the mitigated social risk is considered '**moderate**' (*possible* with a *minor* consequence); with near neighbours and wider community perceptions of this impact also considered '**moderate**'.

7.9 Engagement and decision making

As highlighted in **Section 6.2.8** both near neighbours and community groups expressed a positive response towards Glendell's engagement practices, outlining their satisfaction with the level of information being provided by the company. Aboriginal stakeholders, however, were less satisfied.

In general, there was a desire for additional and ongoing communication, and meaningful engagement with stakeholders; not only in project assessment phases but throughout operational phases of the Project.

While it should be noted that the community information sessions were advertised in local papers and also through social media, the low attendance rate at the wider community information sessions, along with the small number of respondents not being aware of the community information sessions, suggests a potential need for Glencore to complement more traditional methods of engagement with methods more tailored to individual stakeholder needs.

A number of stakeholders also expressed a level of distrust and disempowerment with the government approvals and assessment process. There was also a sense of weariness in relation to the continual stream of development projects over the past five years relating to the Mount Owen Complex.

Consequently, engagement undertaken by the company was perceived largely positively by stakeholder groups, with views expressed that the process had afforded the opportunity to present their views and receive feedback on assessment outcomes. Through the SIA process for the current project, and outcomes of the previous Glencore community survey, stakeholder preferences for engagement and communication have been identified, for further consideration and inclusion in the operation's ongoing social impact and stakeholder engagement management plan.

7.10 Personal and Property Rights

The impact of the Project on property values was raised by some nearby neighbours, with suggestions that that the presence of the operations, and the Project, was driving property values down in the locality. This view was also expressed by some stakeholders in the wider Singleton LGA. There was also a fear that the Project, and the presence of multiple mine sites in the area, would impact on the ability to sell properties for those who may wish to relocate or move out of the area in the future.

There was also a concern for some near neighbours that their property was not afforded acquisition rights, despite them still living with the impacts of operations nearby. Others felt a level of uncertainty, having been granted acquisition rights, and having to contemplate relocation out of the area. This was particularly difficult for those that had strong familial links and/or community connection to place.

A review of the Valuation Report for the Singleton Local Government Area as at 1 July 2018 (Valuer General of NSW) identifies that land values in the Singleton local government area overall showed a slight increase between 2017 and 2018, with this trend reflected in the residential market segment. Moderate increases were reflected in the commercial, industrial and rural market segments. The report identified that the increases in residential and industrial sectors was due to the upturn in the coal mining industry after downturns in previous years. Specifically, in regard to rural land values, the report showed that these values increased moderately in the Singleton local government area between 2017 and 2018, largely due to the areas proximity to Newcastle and Sydney, allowing for increased investment by city based purchasers. A continuing moderate demand has also been seen in relation to rural grazing properties throughout the district.

In the absence of up-to-date and specific information relating to property values proximal to the Project, it is difficult from a social impact perspective, to ascertain the technical risks of the Project on property values. The perceived uncertainty relating to property sales, currently or in the future, for local landholders located nearby to the Project also presents a difficult issue to manage. The VLAMP provides voluntary acquisition rights for those properties identified as adversely impacted by noise or dust. Those properties that are still impacted, but to a lesser degree fall within the marginal zone, are afforded a range of mitigation rights that they can choose to receive to mitigate the impacts of a project. This may include measures such as air conditioning and electricity subsidies; double-glazing of windows and other noise mitigation measures; and dust mitigation measures such as cleaning and provision of water filters on drinking water tanks and pool cleaning.

Notwithstanding the above, the impact of the Project on property values is considered *possible* with a *minor* consequence and categorised as a '**moderate**' social impact. From a stakeholder perspective, this impact is ranked as '**low**'.

7.11 Predicted social impact summary

The following table provides a summary of the predicted mitigated social impacts in relation to the Project. As previously mentioned, fears and aspirations relate to one or a combination of the social impact categories, and as such, for the purpose of this assessment, it is suggested that all the identified impacts fall within the fears and aspirations category.

Table 7.13 Predicted social impact summary

Social Impact Theme	Impact Description	Affected Parties	Perceived Social Impact/Sensitivity	Project Aspect				Social Impact Ranking (mitigated)
				A - Assessment process	C - Construction	O - Operational	E - End of mine life	
Social Amenity	Dust Impacts	Near Neighbours	High			0		Moderate
	Cumulative Dust Impacts	Near Neighbours	High			0		Moderate
	Cumulative Dust Impacts	Singleton LGA Community	High			0		Moderate
	Noise Impacts	Near Neighbours	High			0		Moderate
	Cumulative Noise Impacts	Camberwell and Glennies Creek	High			0		Moderate
	Cumulative Noise Impacts	Singleton LGA Community	Low			0		Low
	Blasting impact	Near Neighbours and Singleton LGA Community	Low			0		Low
	Visual impacts	Near Neighbours and Hebden Road Users	Low			0		Low
	Visual impacts	Singleton LGA Community New England Highway Road Users	Low			0		Low
	Odour	Near Neighbours Singleton LGA Community	Low			0		Low

Social Impact Theme	Impact Description	Affected Parties	Perceived Social Impact/Sensitivity	Project Aspect				Social Impact Ranking (mitigated)
				A - Assessment process	C - Construction	O - Operational	E - End of mine life	
Sense of Community	Population Change	Near Neighbours	Low		C			Moderate
	Population Change	Singleton LGA Community	Low		C			Moderate
	Population Change, Sense of Community and Culture	Near Neighbours	Moderate			O		Moderate
	Population Change, Sense of Community and Culture	Singleton LGA Community	Moderate			O		Low
	Culture and Heritage	Near Neighbours	High		C	O		Low
	Culture and Heritage	Aboriginal Community	High		C	O		Low
Economic Contributions, Employment and Partnerships	Economic Contribution and Community Investment	Singleton LGA Community	High Positive		C	O		High Positive
	Economic Contribution and Community Investment	Near Neighbours	Moderate Positive					High Positive
	Employment and Training opportunities	Singleton LGA	Moderate Positive		C	O		Moderate Positive
	Employment and Training opportunities	Aboriginal Community	Moderate Positive		C	O		Moderate Positive

Social Impact Theme	Impact Description	Affected Parties	Perceived Social Impact/Sensitivity	Project Aspect				Social Impact Ranking (mitigated)
				A - Assessment process	C - Construction	O - Operational	E - End of mine life	
Intergenerational Equity	Future Land Use and Rehabilitation	Near Neighbours	High				E	Low
	Future Land Use and Rehabilitation	Aboriginal and Community Groups	Moderate				E	Low
	Future Land Use and Rehabilitation	Singleton LGA	Moderate				E	Low
	Land Management	Near Neighbours	Moderate		C	O		Moderate
	Land Management	Singleton LGA	Low					Moderate
	Climate Change, Greenhouse Gas and Energy	Near Neighbours	Low	A	C	O		Moderate
	Climate Change, Greenhouse Gas and Energy	Singleton LGA and Environmental Groups	High	A	C	O		Moderate
Assess to and Use of Infrastructure and Services	Assess to and Use of Infrastructure, Services and Facilities	Camberwell and Hebden	Moderate			O		Low
	Assess to and Use of Infrastructure, Services and Facilities	Singleton LGA	Low			O		Low

Social Impact Theme	Impact Description	Affected Parties	Perceived Social Impact/Sensitivity	Project Aspect				Social Impact Ranking (mitigated)
				A - Assessment process	C - Construction	O - Operational	E - End of mine life	
	Potential Disruption to Access Due to Realignment of Hebden Road and Blasting	Near Neighbours	Moderate		C	O		Moderate
	Potential Disruption to Access Due to Realignment of Hebden Road and Blasting	Road Users including emergency services and local buses	Moderate		C	O		Moderate
	Cumulative Traffic on Local Road Network	Near Neighbours	Low			O		Low
	Cumulative Traffic on Local Road Network	Singleton LGA	Moderate			O		Moderate
Health and Wellbeing	Physical Health	Near Neighbours	Moderate			O		Moderate
	Physical Health	Singleton LGA	Moderate			O		Low
	Mental Health	Near Neighbours	Low	A				Moderate
Water Access and Use	Water Access and Use	Near Neighbours, Aboriginal Community and Singleton LGA	Moderate		C	O		Moderate
Personal and Property Rights	The impact of the Project on property values	Near Neighbours and Singleton LGA	Low			O		Moderate

Table 7.14 Predicted impact summary resulting from the relocation of the Ravensworth Homestead

Social Impact Theme	Impact Description	Options Assessed	Affected Parties	Perceived Social Impact/ Sensitivity	Project Aspect				Social Impact Ranking (mitigated)
					A - Assessment process	C - Construction	O - Operational	E - End of mine life	
Community and Culture	Impacts on sense of community and culture as a result of homestead relocation	Broke Village	Near Neighbours	High				E	Extreme
			Aboriginal Groups	High				E	High Positive
			Heritage Stakeholders	High				E	Extreme
			Singleton LGA Community	Moderate				E	High Positive
		Ravensworth Farm	Near Neighbours	Moderate				E	Mod Positive
			Aboriginal Groups	High				E	Moderate
			Heritage Stakeholders	High				E	High
			Singleton LGA Community	Moderate				E	Mod Positive

8.0 Management, enhancement and monitoring of social impacts

This section provides a summary of the potential strategies that may be implemented in response to the predicted social impacts associated with the Project, as outlined in **Section 7.0**, and relate to those social impacts that have been ranked as ***moderate and high*** through the impact assessment.

While the section focuses on the mitigation of negative social impacts, strategies to enhance positive social impacts in relation to the Project, particularly in the local community and surrounding region where the project is located, are also presented. The strategies proposed also include measures to address any impacts that are of ***'high'*** concern to potentially affected people and groups, but which are not considered significant from a technical perspective.

As noted in the SIA Guideline (DPE, 2017), strategies need to be developed to demonstrate a clear connection between the measure proposed and the significant social impact being mitigated or enhanced. Strategies to be implemented may differ in their effectiveness and/or ability to alleviate impacts, with some residual social impacts remaining, in the case of negative impacts. The acceptability of any residual impact remaining post implementation will also be discussed. Furthermore, certain measures may collectively address a number of different negative social impacts and potentially enhance positive impacts.

The SIA Guideline (DPE, 2017), outlines that mitigation measures may be:

- **performance-based** – identify performance criteria that must be complied with to achieve an appropriate outcome, but do not specify how the outcome is to be achieved, demonstrating why the performance criteria are appropriate
- **prescriptive** – that outlines actions that need to be taken or things that must be done, with justification as to why this approach is appropriate by providing scientific evidence, or referencing relevant guidelines or case studies
- **management-based** – where potential impacts can be satisfactorily avoided or mitigated by implementing known management approaches.

Given that the Project relates to the continuation of the existing Glendell Mine operations, the Glendell Mine already has a range of existing management-based strategies and approaches in place that would continue to be implemented should the Project proceed. There are also a number of mitigation measures and strategies that have been outlined in the EIS, which are also taken into consideration in the SIA.

Furthermore, it should be noted that in relation to the management of impacts, the Project's design has considered learnings from practices at the existing mine operations at Glendell and the broader MOC, feedback from the community and other stakeholders, and the outcomes of detailed environmental studies. In this regard, a key change to the project design has been to reduce the proposed mining footprint in the North West by not extending open cut mining into the former Liddell underground mine workings.

Table 8.1 identifies which specific predicted social impacts are addressed by the implementation of the strategies proposed, with further detail provided in the sub-sections below. As has been noted above, each of the strategies proposed may address the social risk to varying degrees.

Additional social criteria have also been considered in the development of relevant strategies, including an assessment of the vulnerability of key stakeholders, particularly local landholders in proximity to the Project Area.

Table 8.1 Proposed strategies by significant (moderate and high) predicted social impacts

	Social Amenity	Sense of Community and Culture	Intergenerational Equity	Health and Wellbeing	Access to and Use of Water	Economic Contribution, community investment and partnerships	Personal and Property Rights	Access to and Use of Infrastructure and Services
Enhancements to existing strategies or those proposed in the EIS								
Revision and update of relevant Project Management Plan's	x			x	x			x
MOC Employment and Procurement						x		
Extension of the existing Glencore Land and Property Management Protocol		x	x		x			
Rehabilitation Strategy and Mine Closure Plan – a key input being the MOC VPA contribution to the Singleton Council's economic diversity fund.			x			x		
Enhancement of Glendell's existing stakeholder engagement strategy		x			x			x
Glencore and MOC Community Investment Program		x				x		x
New proposed mitigation and enhancement strategies								
Community Enhancement Projects	x	x						x
Employment and Training Initiatives		x		x	x	x		x
Ravensworth Homestead Relocation and associated strategies - to document heritage values, increase cultural awareness and community education		x	x					
Social Impact Management Plan for the Complex (MOC) with a focus on proximal localities of Camberwell, Middle Falbrook, Falbrook, Glennies Creek and Hebden	x	x	x	x	x	x	x	x

The following sections outline each of these strategies in further detail.

8.1 Existing and proposed mitigation and enhancement strategies

Glendell Mine has in place a range of existing mitigation approaches to address environmental and social impacts associated with their mining operations.

To date, a number of management strategies have been applied to residences to mitigate noise and dust impacts, and further reduce impacts on social amenity of the operations. As outlined in the EIS, relevant management plans (e.g. noise, air quality, blasting, water and traffic) will be updated and/or enhanced to include Project specific measures. The Mount Owen Complex Aboriginal and Cultural Heritage Management Plan will also be enhanced, as outlined in EIS Section 7.7. These updates will ensure the consistent application of management and mitigation measures for near neighbours and any other impacted stakeholders.

The MOC also has an existing Land and Property Management Protocol that will be extended to involve key stakeholders in the effective management of offset areas and buffer lands. The plan will be amended as required.

Strategies are also in place to engage with stakeholders and to enhance sense of community through the operation's existing Stakeholder Engagement Strategy and Community Investment Programs. It is suggested that these documents continue to be reviewed annually and revised to reflect any changes in community sentiment. Glencore currently undertakes a focused, key stakeholder and wider community survey across all their operations in NSW and QLD, with outcomes of this survey process informing planning at operational levels. Based on the outputs of engagement for the current Project SIA such enhancements to the company's current engagement approach, may include:

- Continue facilitation of greater Falbrook and Hebden Community Gatherings and introduce guest speakers on topics of interest to the community e.g. Landcare, farm productivity, soil erosion and land management such as weed and pest control.
- Development of a strategy for communication mechanisms to inform near neighbours of proposed Hebden Road closures and operational activities, such as blasting.

Through its Community Investment Program, Glencore supports a range of initiatives at a local community level and this support will continue.

A new Social Impact Management Plan will be developed to incorporate the social impacts and management actions proposed to be implemented as part of the Project and will guide the implementation of social aspects of the Project, including engagement with key stakeholders (refer to **Section 8.5**).

Glendell will also continue to facilitate local employment and procurement opportunities as part of the Project.

Through the engagement process, key stakeholders were asked to suggest potential mitigation strategies they would like to see considered by Glendell Mine in the development of the Project. Stakeholders reported the need to:

- further engage on the topic of post mining land use, in collaboration with other stakeholders, to ensure the early development of strategic management plans to address land use post mining; with particular attention given to the consideration of community transition and sustainability once operations cease.
- continue to support local community events and facilitate capacity building and economic diversification in the region.

8.2 Community enhancement projects/planning agreements

While the Mount Owen Complex already has a detailed Stakeholder Engagement Strategy and Community Investment Policy in place; to further address the issues raised by near neighbours and community groups relating to the perceived impacts on sense of community and access to and use of infrastructure, Glencore proposes to identify additional Community Enhancement Projects to benefit stakeholders in close proximity to the mine. Such projects/initiatives may include:

- opportunities to enhance local infrastructure/services enhancements e.g. Hebden Hall and Mount Olive Hall
- stabilisation and improvements to the appearance of the Hebden Public School building (Site No. 34) in line with project heritage commitments
- exploring opportunities to partner with the local RFS on emergency response initiatives.

It is assumed that these projects would be

- integrated into Glencore's existing Community Investment Programs and/or;
- form part of heritage commitments as outlined in the EIS and/or;
- considered in the development of the Planning Agreement for the Project, in consultation with Singleton Council.

8.3 Employment and training initiatives

Glencore proposes to investigate funding a traineeship or a work experience position in the area of cultural heritage management, biodiversity or land management, ecology, rehabilitation or other appropriately related field, through a third-party provider, such as the National Parks and Wildlife Service (NPWS); who currently offer a two year field officer traineeship in land management.

8.4 Ravensworth Homestead relocation

As outlined in Section 3.2.9 of the EIS, the Project is proposing to mine through the project area where the Ravensworth Homestead is situated and two alternate relocation options are proposed as part of the EIS. In order to document heritage values and increase cultural awareness and education in relation to the homestead, the Project proposes to develop a series of interpretive strategies that address the history and significance of the Ravensworth Homestead Complex and the broader Ravensworth Estate. This information would be made publicly accessible through existing services such as the Singleton Public Library. Interpretive information would include:

- Documentation of oral histories: recount of historical events that have taken place at the homestead and its surrounds, family and community stories, community events etc.
- Preparation of detailed 3D digital recordings of the exterior and interior of the existing Ravensworth Homestead Complex and development of a digital interpretation of the Ravensworth Homestead Complex for public viewing and research purposes.
- development of interactive and interpretive materials documenting the history across the Ravensworth Estate.

It is also proposed that information be provided to the Singleton Public Library local history collection to further facilitate public access, in line with recommendations made in the Heritage Impact Statement (refer to Appendix 23 of the EIS).

8.5 Monitoring of social impacts

Monitoring and evaluation are key components of an SIA process to identify any unanticipated impacts that may arise as a result of a project. The analysis and research conducted for a SIA provides a foundation for the ongoing monitoring and adaptive management of social impacts over the life of a SSD resource project.

It is proposed as part of the Project to develop a Social Impact Management Plan (SIMP) for the complete Mount Owen Complex in accordance with the SIA Guideline, which defines and guides the monitoring and evaluation activities for the MOC. The SIMP will:

- identify opportunities to enhance positive and mitigate negative social and economic impacts of the Project on communities
- detail adaptive management and mitigation strategies to address potential social impacts of the Project and identify appropriate stakeholder responsibilities
- identify appropriate monitoring, reporting and review mechanisms, including the purpose of monitoring, and the parameters that will be monitored and how and when monitoring data will be collected
- outline a process to engage with relevant stakeholders and communities, with a focus on practical mechanisms for the community to collaborate and record their observations and experiences of social impacts and any proposed community participation
- include an incident notification and reporting process, including providing applicable information to the community
- develop a process for reviewing the above elements to assess whether they are still appropriate, and whether any new issues have emerged that should be included in ongoing monitoring
- develop a process for making monitoring results and associated information publicly available, including any revisions to the monitoring and management framework.

8.5.1 Monitoring effectiveness

This section provides a high-level overview of a framework for monitoring socio-economic change in relation to the Project, and how this relates to project-related activities. In doing so, the framework will gather data that can be used to assess the effectiveness of mitigation measures and initiatives.

It is considered best practice in social outcomes measurement to draw upon a range of methods, data sources, indicator and data types (e.g. objective vs. subjective, qualitative vs. quantitative; leading versus lagging indicators). Therefore, the proposed monitoring framework should draw upon multiple methods, which may include:

1. *Monitoring socio-economic trends* that will provide context to interpret data from other elements of the framework and provide an appreciation of community change.
2. *Monitoring organisational inputs and outputs* which will provide an understanding of what Glendell is contributing to the community e.g. in relation to employment, expenditure, local procurement.

3. *Monitoring outcomes of inputs and outputs* which will provide an understanding of what impact community projects and investments are having at the community level e.g. outcomes of relevant community enhancement projects.
4. *Monitoring objective indicators of impact* which will seek to confirm that Glendell is monitoring key risks and trends in relation to key impact areas identified through the SIA process e.g. monitoring of key impacts such as noise and air quality.
5. *Monitoring community perceptions of impact* (e.g. feelings of trust towards Glendell, landholder experience of social impacts, level of concern with experienced impacts and satisfaction with impact management) through regular and structured engagement with the community to confirm existing and identify emerging issues and impacts in a proactive manner.

This five-component model is summarised in **Figure 8.1** below. In drawing upon a broad range of complementary datasets and methods, as described above, the proposed framework will be robust and balanced and will provide a complete picture of change associated with the Project.



Figure 8.1 **Proposed Framework for Monitoring Social Impacts and Community Change**

The five components of the proposed model are all inter-related and serve to assist interpretation of the other elements. For instance, community perceptions of impact will be influenced by long-term socio-economic trends but can be verified through objective indicators of impact.

As noted earlier, Glendell also has a current community investment program that provides contributions to local community groups and organisations. This program, at the operational level, is complemented by Glencore's broader Corporate Community Investment Program which takes a more regional focus to social involvement and investment. As previously noted, Glencore also currently undertake a community perception survey, currently every three years, to inform engagement and investment activities at the operational and corporate level. Where possible, relevant indicators developed to monitor social impacts associated with the Project, will be integrated in the broader business survey to afford meaningful measurement of community perception data at the local and regional community

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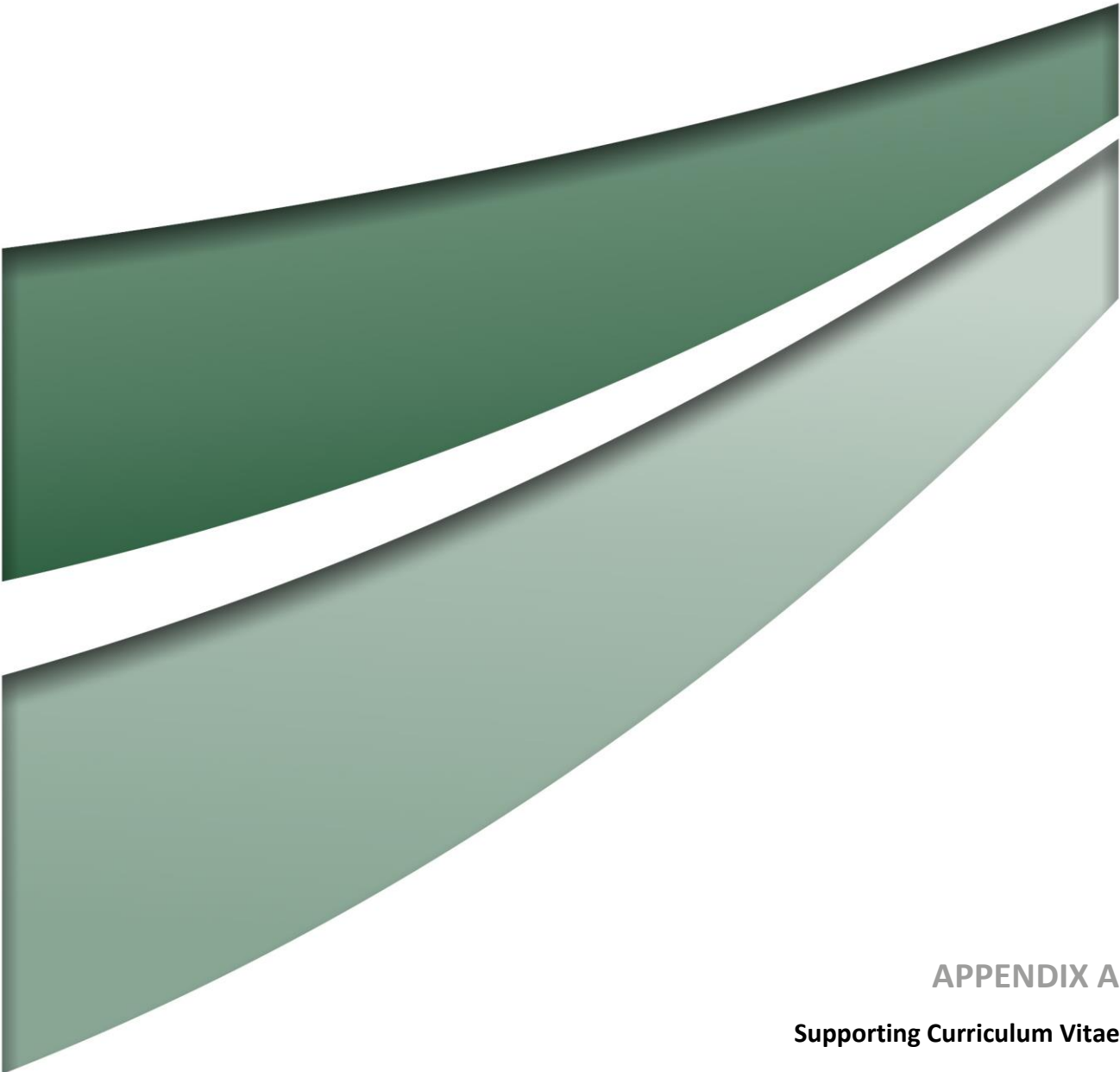
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APPENDIX A

Supporting Curriculum Vitae



Dr Sheridan Coakes

Practice Leader – Social Impact Assessment and Community Engagement Team

Dr Sheridan Coakes (Sherie) has over 25 years of research and applied experience in the areas of social impact assessment (SIA), stakeholder engagement and community involvement. A leader in her field, Sherie has developed and refined a unique approach to SIA practice that has been applied in numerous large scale and controversial public and private sector projects across Australia, in diverse sectors such as fisheries, viticulture, dairy deregulation, water resources cultural heritage, health, agriculture, biotechnology, linear infrastructure development, quarrying, oil and gas, open cut and underground mining, carbon capture, waste management and human service planning and delivery

With a strong methodological background in the social sciences – both quantitative and qualitative – Sherie has developed a range of innovative approaches that afford the effective collection, analysis, interpretation and use of social and community data to effectively inform program/project assessment and operational planning; and to involve stakeholders in decision making processes

In 1997, Sherie established Coakes Consulting, a specialist social consultancy developed to address social and community issues within a resource management context. The company was developed largely out of a need for companies and agencies to address social and economic issues and concerns in project and policy development planning, and followed on from Sherie's role with the Commonwealth Government in designing and implementing the social assessment methodology for the Australian Regional Forest Agreement Process – one of the most significant applications of SIA and community engagement by government at a national level. In late 2013, Coakes Consulting merged with Umwelt and Sherie was appointed in the role of Social Practice Lead.

As a recognised thought leader, Sherie published and presented papers and seminars on social assessment and community engagement in a variety of different forums, contributing to four international texts on SIA and engagement practice. She is often invited to speak at key conferences in her field of expertise and has facilitated numerous specialist training courses in SIA, stakeholder and community engagement, risk communication and outrage management.

Qualifications/Affiliations:	Doctor of Philosophy – Psychology , Honours First Class – Psychology, Bachelor of Applied Science - Psychology
Years Experience:	>25
Specialisation:	Social and economic impact assessment (SEIA), Health impact assessment (HIA), Social impact management planning, Stakeholder and Community engagement, Social Research, Social performance evaluation and monitoring, Social investment planning, Outrage management, Community visioning, needs and infrastructure Assessment, Community perception and attitude assessment, Program/Project evaluation
Key Clients:	Glencore, Sydney Motorway Corporation, PWCS, Landcorp

Relevant Project Experience

Infrastructure

Sydney Motorway Corporation | New M5 WestConnex Project | 2016-current | Project Director | Development of a Community and Social Management Plan and associated Community Cohesion Plan including consultation with internal and external stakeholders.

Landcorp | Shenton Park Hospital Site | 2017 – current | Project Director | SIA and community engagement for the redevelopment of the Shenton Park Hospital Site, Shenton Park, WA.

Port Waratah Coal Services (PWCS) | T4 Project | 2017-current | Project Director | Housing and Local Procurement Study; SIA for the T4 Project, Newcastle NSW; Community Engagement Strategy for the Carrington and Kooragang operations: Dust Profile Community Program.

BHP Billiton | Nickel West Project | 2016 | Project Director | SIA and community planning framework for operations in Kwinana, Kalgoorlie, Leinster, Leonora and Wiluna; Social monitoring framework; Community Health Partnership recommendations for the Wiluna Community.

Department of Regional Development and Lands (WA) | RfR Fuel Card Survey | 2016 | Project Director | Evaluation of the Royalties for Regions (RfR) Fuel Card Scheme across WA; Housing Evaluation for RfR funded housing projects across WA.

Oakajee Port and Rail (WA) | Mid-West Social Profile | Project Director | Social scan and regional profile.

Department of Planning (WA) | Mid-West and Gascoyne Social Infrastructure Study | Project Director | Mid-West and Gascoyne Social Infrastructure Assessment, planning for future social infrastructure requirements.

Energy

Department of State Development (WA) | Kimberley LNG Project | Project Director | Review of social impact components for the Strategic Assessment Review (SAR) of the Kimberley LNG Project, James Price Point, Broome

Chevron (Australia) | Wheatstone Project | 2008–current | Project Director | Since 2008, Umwelt has undertaken some key projects for Chevron in WA in the project development and construction phases of the Wheatstone Project, located in Onslow on the north west coast of WA. Key studies have included Integrated Social, Health and Aboriginal Impact Assessment; Community Values Assessment and Visioning Project; Community Infrastructure Study; and Annual community attitude survey (6th year of administration since Project inception).

INPEX | Ichthys Project | Project Director | 2011-2013. Social Impact Management Plan (SIMP) development for the Ichthys Project, Darwin NT.

Commonwealth Department of Climate Change | Assessment of Social and Economic Impacts of Climate Change Scenarios on the Oil and Gas Sector in WA | Project Director | Application of Social analysis and community sensitivity methodologies to demonstrate local level socio-economic flow-on of climate change impacts on the Pilbara oil and gas sector.

Mines and Quarries

Glencore | Various Projects | 2011-current | Project Director | SIA, community needs assessment and stakeholder engagement for a range of Glencore mines in the Hunter Valley; Community Visioning Project – ‘Our Villages - Our Vision’ Hunter Valley NSW; ‘Viewpoint Program’ assessment of community perceptions of social performance across the company’s operations in NSW; Baal Bone Closure Plan - SEIA, Western Coalfields NSW; Social Investment framework development.

BHP Billiton (Iron Ore) | Pilbara Growth Planning | Project Director | SIA for growth planning in the Pilbara, WA; Community Needs Assessment to guide social investment; social performance monitoring and evaluation; review of the Pilbara Community Partnership Program.

Macquarie Generation | Bayswater and Liddell coal fired Power Stations | Project Director | Community involvement program for the development of an industry zone associated with the Bayswater and Liddell coal fired Power Stations, Hunter Valley, NSW; Community consultation associated with potential wind farm developments in the northern tablelands and southern highlands of NSW.

BHP Billiton | Nickel West Project | Project Director | SIA and community planning framework for operations in Kwinana, Kalgoorlie, Leinster, Leonora and Wiluna; Social monitoring framework; Community Health Partnership recommendations for the Wiluna Community.

BHP Billiton (Iron Ore) | Pilbara Growth Planning | Project Director | SIA for growth planning in the Pilbara, WA; Community Needs Assessment to guide social investment; social performance monitoring and evaluation; review of the Pilbara Community Partnership Program.

BHP-Billiton | Hunter Valley Coal, Illawarra Coal, Carroona Project | Project Director | SIA and Community involvement programs for various operations in NSW; Community Needs Assessment to identify focus areas for project investment.

Department of State Development (WA) | Kimberley LNG Project | Project Director | Review of social impact components for the Strategic Assessment Review (SAR) of the Kimberley LNG Project, James Price Point, Broome.

BHP-Billiton | Hunter Valley Coal, Illawarra Coal, Carroona Project | Project Director | SIA and Community involvement programs for various operations in NSW; Community Needs Assessment to identify focus areas for project investment.

Fortescue Metals Group | Solomon Hub Project | Project Director | SIA for the Solomon Hub project and expansion of the company’s Port Hedland operations.

Kimberly Diamond Company | Closure Planning Study | Project Director | Assessment of existing community needs and potential mine closure impacts in the Kimberley region, WA.

Cameco | Kintyre Uranium Project | Project Director | SHIA for the Kintyre Uranium Project, Pilbara region, WA.

Department of Primary Industries (VIC) | Social and Economic Impact Assessment of Changes in Forest Policy on Victorian Forest Communities | Project Director | Application of town resource cluster analysis (TRC-Analysis) in identifying potential social and economic impacts of changes in forest policy on Victoria communities.

Zinifex/Nyrstar, DoH, EPA and PPRC | Ten by10 Community Health Study | Project Director | 10 by10 Community Health study relating to elevated blood lead levels in Port Pirie, SA.

Natural resources

Office of Environment and Heritage (NSW) | Community Attitudes to Native Vegetation Act | Project Director | Analysis of community attitudes survey relating to the application of the *Native Vegetation Act* in NSW.

Natural Resources Commission (NSW) | Social Assessment of the River Red Gum and Cypress Forest | Project Director | Socio-economic capacity building and advisory services to assist CMA's in achieving better natural resource and investment decisions; Social assessment of the River Red Gum and Cypress Forest Assessments.



Angela Peace

Principal Social Consultant



Angela is a Principal Social Consultant with Umwelt has a wealth of knowledge and experience with a strong background in communications and strategic support across major projects including both resource and infrastructure planning and construction.

Her skills include clear and effective two-way communication, exceptional verbal and written communication skills; development, coordination and implementation of communication materials; development of detailed social impact assessments, community relations strategies and strategic planning. She is an adept at designing and implementing successful engagement strategies and managing controversial issues, in particular, using negotiation and facilitation skills to manage the responses of highly vocal community members, activist groups and the media.

She is an experienced mediator with the ability to resolve disputes and manage relationships between key stakeholders with differing points of view.

Angela has managed numerous multi-disciplinary projects, has prepared and implemented social assessments and has facilitated a range of community and stakeholder consultation activities in both Australia and the UK. She has strong experience in managing complex projects, understands the Australian regulatory environment, and has also worked with several large resource companies to develop their Social Impact Management Plans.

Angela has a broad range of experience managing communication, environmental, education, waste, marine, and sustainability projects for local, state and federal government, not-for-profit and private-sector clients. Angela's qualifications, years of experience and knowledge and experience across planning and environmental legislation provide the perfect collection of technical proficiency to deliver results.

Qualifications/Affiliations:	Bachelor of Arts, majoring in Public Relations, University of Newcastle, 2003 Cert IV Small Business (2013) International Association for Public Participation, Facilitation for Public Participation, Twyford Consulting, Introduction and Undertaking of Project Management
Years Experience:	17
Specialisation:	Social and economic impact assessment (SEIA), Health impact assessment (HIA), Social impact management planning, Stakeholder and Community engagement, Social and Community Research, Social performance evaluation and monitoring, Social investment planning, Issues and Outrage management, Community visioning, needs and infrastructure Assessment, Community perception and attitude assessment, Program/Project evaluation

Relevant Project Experience

Mining

United-Wambo Coal Project - Social Impact Management Plan | United | 2019 - current | Project Manager | Hunter Valley, NSW
| Project Manager for the preparation of a Social Impact Management Plan for the United – Wambo Coal Project – extension of a mine in the Hunter Valley.

Mangoola Coal Continued Operations Project | Glencore | 2018 - 19 | Project Manager (SIA) | Hunter Valley, NSW
| Involvement in the preparation of an integrated Social Impact Assessment for the Mangoola Coal Continued Operations Project and associated technical studies.

Glendell Continued Operations Project | Glencore | 2018 - 19 | Project Manager (SIA) | Hunter Valley, NSW
| Managed the delivery of a large Social Impact Assessment for the Glendell Open Cut Continued Operations Project. Involved identifying community and stakeholder perceived positive and negative impacts to guide social investment and impact management activities.

Infrastructure

Pacific Highway Upgrade - Woolgoolga to Ballina | \$4.5 B | Pacific Complete (the delivery partner for Woolgoolga to Ballina) | Prepared a number of overarching strategic documents for the delivery of 155 km of highway upgrade. These documents include an overarching signage strategy, a strategic communications plan for water and dust management, along with a template and framework for stakeholder presentations. These documents provide a guideline for an overarching community consultation approach for the project that all contractors working on the project are expected to adhere to.

Pacific Highway Upgrade - Nambucca Heads to Urunga upgrade | \$780 M | Communications Manager | Ange was responsible for project communications including managing property adjustment works, media events, facilitating information sessions and implementing strategic solutions to stakeholder issues. Highly experienced facilitator and used skills to resolve and negotiate solutions for over 70 property impact design changes and was also able to successfully implement a strategy that enabled the project to temporarily close the Kalang River to waterway users to allow the river crossing to be built more safely and efficiently.

Pacific Highway Upgrade, Woolgoolga to Ballina (Wave 3 – Tyndale to Maclean) | FKG Group | Community Liaison Representative | Multi-disciplinary and integrated client team and implement consultation strategies for the start of construction. Successfully managed the start of private property work, including negotiating agreed access to properties that were yet to be successfully acquired by the client. Developed strong relationships with stakeholders by managing their specific issues and facilitating key meetings regarding construction activities and potential socio-economic and environmental impacts including afflux and noise.

The Hunter Expressway | \$1.7 B | Communications Manager and Employee Relations Manager | Responsible for all written and verbal communications, both internal and external. Effectively delivered clear and effective two-way communication including implementing strategic plans for material transportation, developing stakeholder relation programs with the local community and coordinating media events and community open days. She was also required to use a high level of facilitation skills to resolve issues and complaints. Some of the key issues were the highly controversial placement of the project batching facility, property acquisitions and adjustments, flooding and the management of noise, dust and increased traffic.

SewerFix Wet Weather Alliance, Sydney Water | \$560 M | Communications Manager | Working for RPS as the Communications Manager on the program team, was responsible both for planning (problem identification, optioneering and approvals) and delivery (design, construction, commissioning and handover) of overflow abatement solutions. Worked as part of an alliance team made up of Sydney Water, MWH, Manidis Roberts, PB and United Group Limited providing communication strategies, programs and materials, stakeholder liaison and engagement, community relations and government relations.

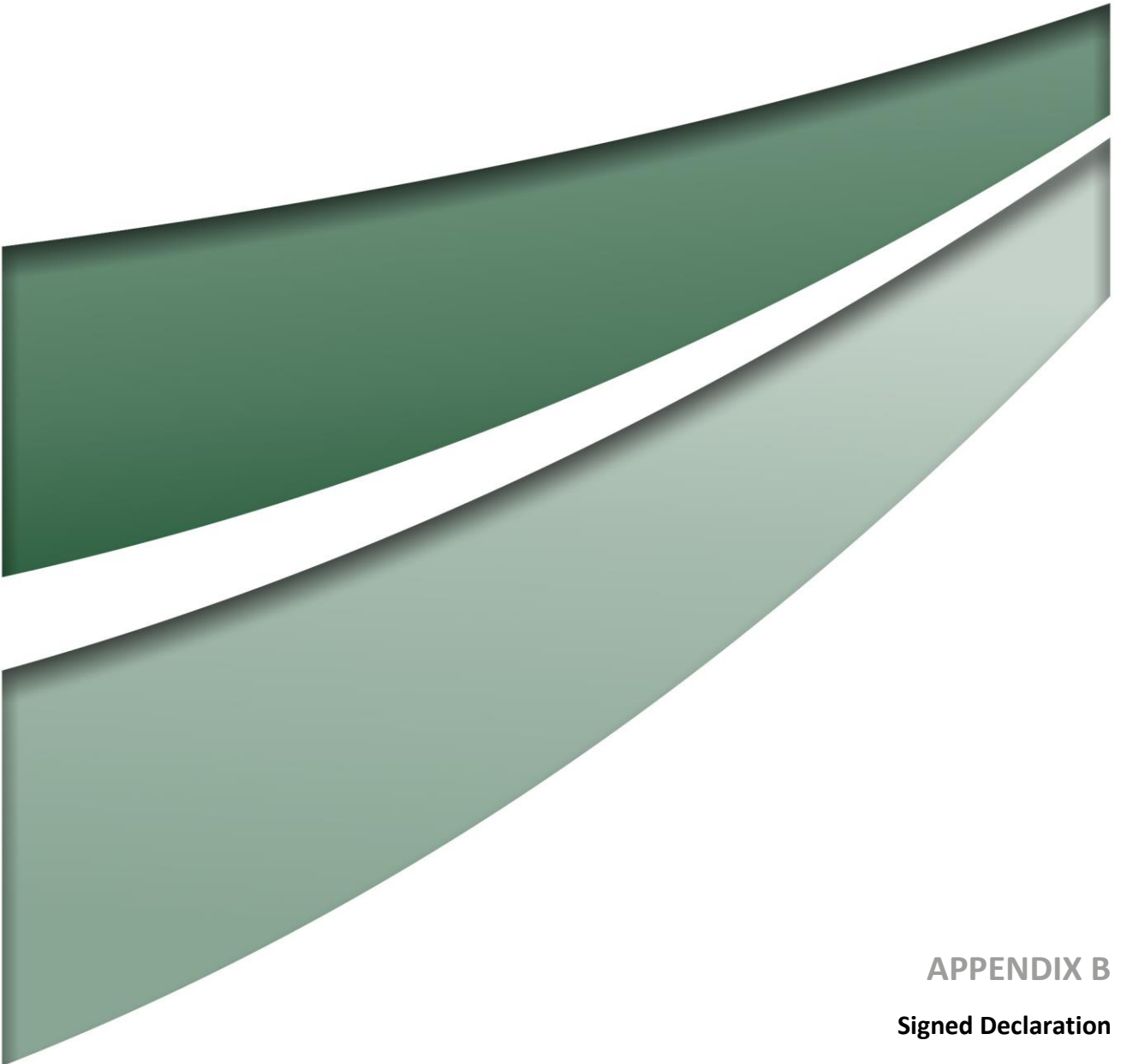
Building Schools for the Future and Primary Capital Program | London Borough of Waltham Forest, UK | Communications Manager responsible for preparing and implementing the communications strategy for multi-million dollar government programs for upgrading both primary and secondary schools. Successfully delivered the pilot program for what went on to be a widespread and successful initiative across the UK.

Communications Manager | NSW Roads and Maritime Services | Internal and External Communications | Responsible for managing internal and external communications for the Southern Region. This included preparing and issuing media releases and responding to media enquires; identifying opportunities and implementing strategies to heighten the organisations' public profile; large-scale event management; community consultation and public meeting facilitation; preparing high-level external communication materials; reviewing and editing internal communication material; and managing and training staff and championing best practice communications.

Inner West Busway along Victoria Road, NSW Roads and Traffic Authority | \$155 M | Senior Communications Consultant | Working for RPS in the role as Senior Communications Consultant, was responsible for preparing and implementing the communications strategy for the delivery of the Inner West Busway. Worked as part of an alliance team made up of Baulderstone, Hyder and Manidis Roberts working with the community on a high profile and political project.

Communications Officer | NSW Roads and Maritime Services | Working in the Hunter Region, was responsible for both internal and external communications, with a focus on project management. Identifying opportunities and implementing strategies for projects being delivered in the Hunter Region, organising public events and preparing high-level communication materials such as ministerial responses and briefing notes. In this role often acted as the Hunter Region Communications Manager.

Motorways Communications Advisor | NSW Roads and Maritime Services | Communications Advisor for Motorways (with a focus on the Pacific Highway), key duty was to provide expert advice to project managers on implementing community consultation campaigns and preparing correspondence on behalf of the Minister relating to issues of community concern.



APPENDIX B
Signed Declaration

Social Impact Statement Declaration

SIA Prepared by:

Name	Umwelt Australia Pty Ltd - Social Team
Project Director	Dr Sheridan Coakes Practice Lead - Social Impact Assessment & Community Engagement
Qualifications	Doctor of Philosophy – Psychology Honours First Class – Psychology Bachelor of Applied Science – Psychology

In Respect of:

Proponent Name	Glendell Tenements Pty Ltd
Proposed Development	Glendell Continued Operations Project

Declaration

I, Dr Sheridan Coakes, declare that the information contained within the Social Impact Assessment for Glendell Continued Operations Project:

- Is in accordance with the Environmental Impact Assessment (EIA) process under the Environmental Planning and Assessment Act 1979 (EP&A Act).
- Meets the form and content requirements of the Department of Environment and Planning's Social Impact Assessment Guideline for State significant mining, petroleum production and extractive industry development (DPE, 2017).
- Is neither false nor misleading.

Signature



Dr Sheridan Coakes

Date

Friday, 09 August 2019

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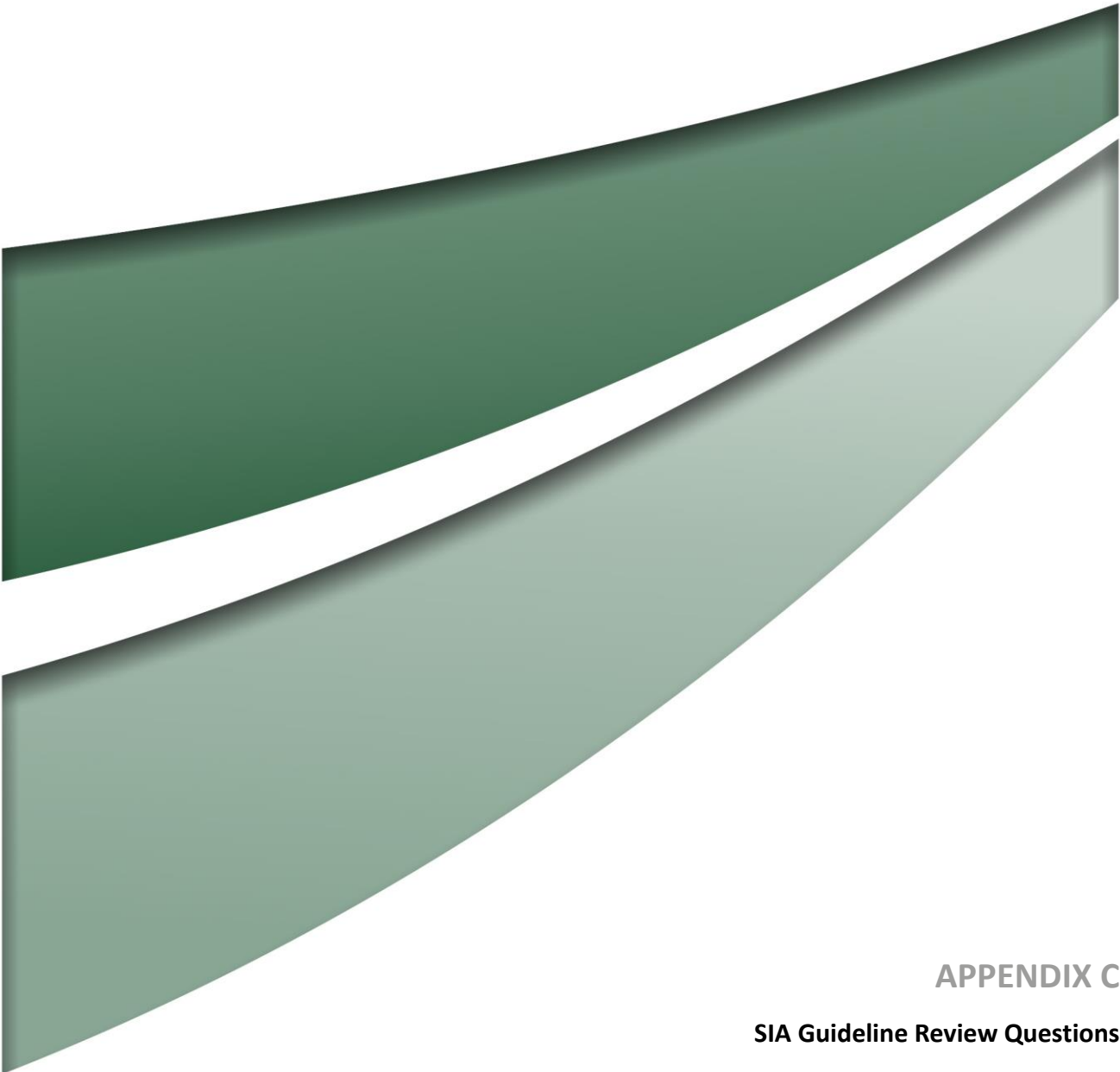
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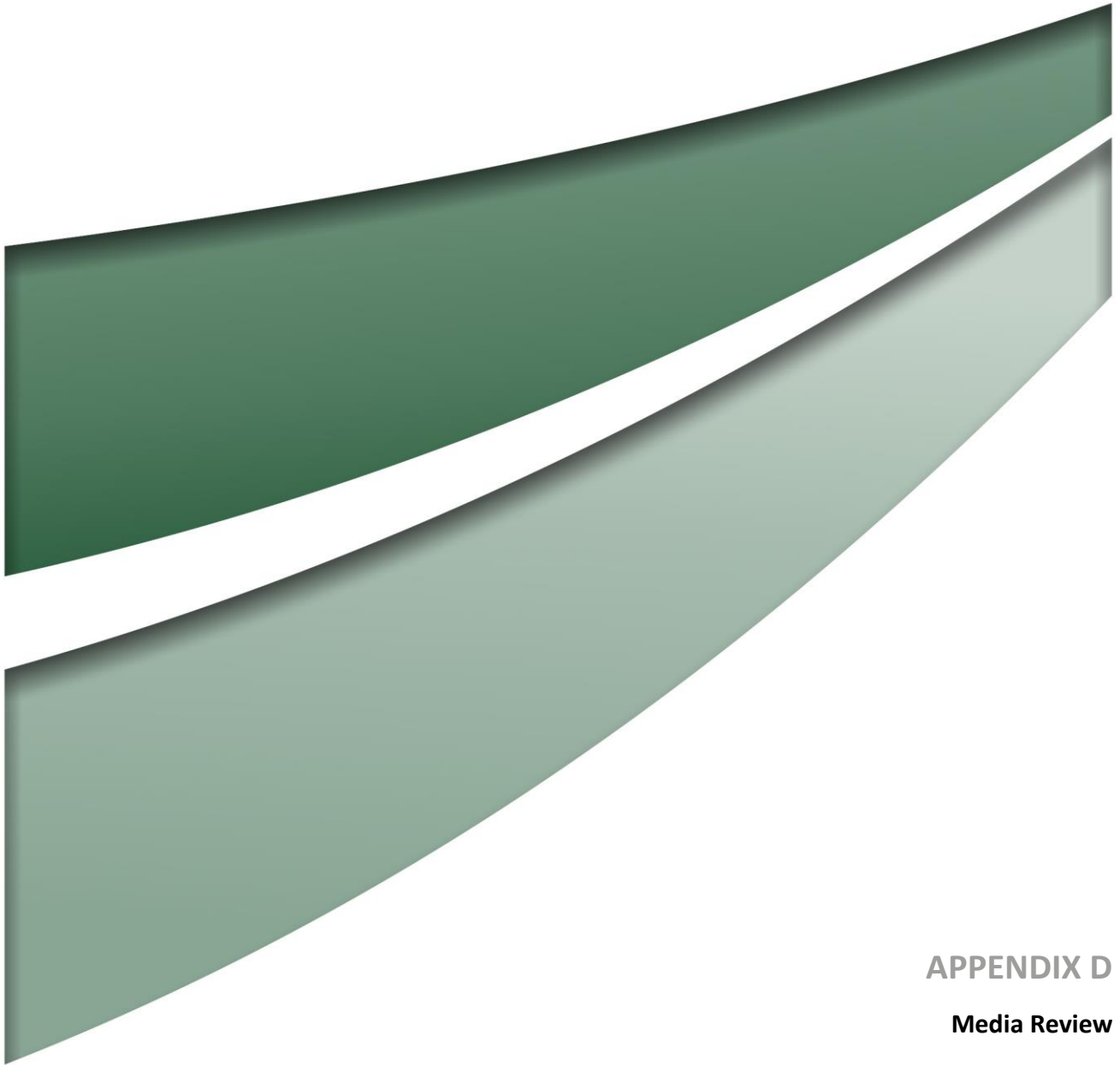
APPENDIX C

SIA Guideline Review Questions

SIA Guideline Review Questions

SIA Review Question	Response Addressed in Section
General	
1. Has the applicant applied the principles in Section 1.3? How?	
2. Does the lead author of the Scoping Report meet the qualification and skill requirements in Box 2?	
3. Does the lead author of the SIA component of the EIS meet the qualification and skill requirements in Box 4?	
4. Has the lead author of the SIA component of the EIS provided a signed declaration certifying that the assessment does not contain false or misleading information?	
Community engagement for social impact assessment (Section 2)	
5. Does the SIA include adequate explanations of how the engagement objectives have been applied? How?	
6. Does the SIA demonstrate that there has been a genuine attempt to identify and engage with a wide range of people, to inform them about the Project, its implications and to invite their input? How?	
7. Does the SIA demonstrate that an appropriate range of engagement techniques have been used to ensure inclusivity and to ensure the participation of vulnerable or marginalised groups? How?	
Scoping – area of social influence (Section 3.1)	
8. Does the Scoping Report identify and describe all the different social groups that may be affected by the Project?	
9. Does the Scoping Report identify and describe all the built or natural features located on or near the Project site or in the surrounding region that have been identified as having social value or importance?	
10. Does the Scoping Report identify and describe current and expected social trends or social change processes being experienced by communities near the Project site and within the surrounding region?	
11. Does the Scoping Report impartially describe the history of the proposed project, and how communities near the Project site and within the surrounding region have experienced the Project to date and others like it?	
Scoping – identifying social impacts (Section 3.2, Appendix A and Appendix B)	
12. Does the Scoping Report adequately describe and categorise the social impacts (negative and positive), and explain the supporting rationale, assumptions and evidence for those categories?	
13. How has feedback from potentially affected people and other interested parties been considered in determining those categories? Does the Scoping Report outline how they will be engaged to inform the preparation of the SIA component of the EIS?	
14. Does the Scoping Report identify potential cumulative social impacts?	

SIA Review Question	Response Addressed in Section
Social baseline study (Appendix C – Section C1)	
15. Does the SIA component of the EIS discuss the local and regional context in sufficient detail to demonstrate a reasonable understanding of current social trends, concerns and aspirations?	
16. Does the SIA component of the EIS include appropriate justification for each element in the social baseline study, and provide evidence that the elements reflect the full diversity of views and potential experiences in the affected community?	
17. Does the social baseline study include an appropriate mix of quantitative and qualitative analysis, and explain data gaps and limitations?	
Prediction and analysis of impacts (Appendix C – Section C2)	
18. Does the SIA component of the EIS include an appropriate description of the potential impacts in terms of the nature and severity of the change and the location, number, sensitivity and vulnerability of the affected stakeholders?	
19. Does the SIA component of the EIS identify potential impacts at all stages of the Project life cycle?	
20. Does the SIA component of the EIS appropriately identify and justify any assumptions that have been made in relation to its predictions?	
21. Does the SIA component of the EIS include appropriate sensitivity analysis and multiple scenarios to allow for uncertainty and unforeseen consequences? If relevant, does it include comparisons with studies of similar projects elsewhere?	
Evaluation of significance (Appendix C – Section C3)	
22. Does the SIA component of the EIS explain how impacts were evaluated and prioritised in terms of significance?	
23. Does the evaluation of significance consider cumulative aspects where relevant?	
24. Does the evaluation of significance consider the potentially uneven experience of impacts by different people and groups, especially vulnerable groups?	
Responses and monitoring and management framework (Appendix C – Sections C4 and C5)	
25. Does the SIA identify appropriate measures to avoid, reduce, or otherwise mitigate any significant negative impacts of the Project, and justify these measures?	
26. Does the SIA explain and justify measures to secure and/or enhance positive social impacts?	
27. Does the SIA component of the EIS impartially assess the acceptability, likelihood and significance of residual social impacts?	
28. Does the SIA component of the EIS propose an effective monitoring and management framework?	
Modifications (Introduction – application)	
29. Are the social impacts associated with the modification expected to be new or different (in terms of scale and/or intensity) to those that were approved under the original consent? If yes, apply the review questions above to the SIA component of the environmental assessment	



APPENDIX D

Media Review

1.0 Public Interest Issues

Common issues that have emerged through a review and analysis of media relevant to the Glendell operations and the broader Singleton Shire include:

- Mining economy and diversification
- Infrastructure and services
- Government funding
- Impacts of mining

The media provides a key source of information on the social context, including details about *community opinion, issues and aspirations, political actions, economic and industry development*. Consequently, a media analysis was undertaken as part of this SIA, in order to identify key topics and issues of relevance. A representative selection of key media items is summarised in Table 1.1.

Mining Economy and Diversification

The media reports highlight a number of positives that the Singleton LGA are experiencing from the presence of the mining industry in the region. Reports on future opportunities suggest over \$1.5 billion in revenue will be brought into the region from future projects, including through employment of 3,500 people. A hearing held in Singleton found an estimated 9,000 people ‘drive-in’ to the region to run the Hunter mines every day, it appears that this number will not decrease with the Mineral Council of Australia predicting a 400 million tonne increase in demand by 2030. An article reported over 20,000 coal production jobs in NSW as of December 2017 that was nearly 2000 more than early 2016, showing the economy’s boost from the mining industry. However, one article mentions concerns about the ongoing effect of the mining industry’s ‘boom-bust’ cycle on the economic stability of the Hunter, including employment, investment and housing. The Council have seen to be focusing on diversifying their economic interests in the region, promoting tourism, with such events as a recent junior golf tournament, and a revitalisation of the CBDs to encourage local business as well as investing in the local agriculture sector.

Infrastructure and Services

There a number of articles centring on new infrastructure projects and services in the area including transport, community hubs, education and capital works. Nine road upgrades are planned for the 2018-19 financial year thanks to the Saving Lives on Country Roads Program which aims to reduce injuries and fatalities on country roads. Plans were also announced to increase the number of passenger trains between the Upper Hunter and Maitland. Singleton Council reaffirmed its commitment to the revitalisation of the town centre late December as well as announcing almost \$3 million in funding for an arts and cultural centre in Townhead Park and plans for an upgrade to the popular Lake St Clair area to include a new kiosk, playground and multi-purpose meeting room. The council have pledged \$27 million to capital works in the 2018-19 financial year with a focus on water and sewerage systems. A number of schools and educational centres in the region have planned improvements, including Singleton Heights Pre-school and the Singleton TAFE campus. A State Government initiative has benefitted 12 schools in the Upper Hunter with over \$100,000 being invested in community pre-schools to improve the grounds and create way for specialised educational programs for children. Articles report on new services being set up in the region such as the drought relief hub to provide farmers with the first step to gain information on the assistance available following the difficulty in the area from the drought and a disability employment service opening in the region.

Government Funding

Singleton Council has previously put in two applications for the government's Resources for Regions funding to improve roads used by mine workers and revitalise the town CBD, council believe the project surely cannot be passed over again. In allocation of funding from the program, Cessnock and Maitland LGAs received millions for the revitalisation of their CBDs whilst Singleton received only joint funding with Cessnock LGA for the upgrading of Broke Road and Hermitage Road. Singleton Council are questioning the allocation, especially considering the huge amount of mining royalties paid to the government from the area. After missing out on investment through the program and following the allocation of the 2018-19 State Budget that Singleton lacks mention in, the town is fed up and asking the State Government for some progress on upgrades to the New England and Golden highways. The frustration follows a possible rate increase to fund councillors increased salaries following a NSW Tribunal decision in June 2017.

Impacts of Mining

The sentiment portrayed through media articles in relation to mining operations is concern from residents regarding environmental impacts and frustration from not being listened to. Glencore's Global Head of Coal engaged with protesters calling for governments transition from fossil fuels to renewable energy outside of the Hunter Coal Festival Mining Leaders Lunch whilst students in Newcastle staged an hour-long march in the Newcastle CBD protesting climate change in December. 2018 was recorded as the worst year for air-quality measurements since measuring began in 2012, this is said to be due to an increase in coarse particulate matter. The heightened measurements include a 2-week period in June where 4-6 monitors recorded higher than national standard dust levels 6 times overnight in the Upper Hunter. Residents are largely concerned about their health and wellbeing, with an article reporting a 28.6% rise in hospital admissions coinciding with a decrease in air quality from September 2016 until September 2017. Meanwhile, a government study revealed mining has negatively impacted almost a quarter of the groundwater in the region with the large number of new proposed mines expected to increase the impact that is of great ecological significance. There have also been reports on meetings held regarding wild dog control and the protection of important agricultural and equine land as well as concern for employee rights following enterprise bargaining agreement negotiations.

Table 1.1 Media Review 2017-2019 (Umwelt 2019)

Date	Headline	Brief Description/Summary of Article	Source
Mining Economy and Diversification			
9 August 2019	Dartbrook coal mine approved to recommence operations in the Upper Hunter	<p><i>Today the IPC announced the mine can restart operations using underground 'bord-and-pillar' methods, but the company's bid to extend the current mining approval by five years to 2027 was refused.</i></p> <p><i>"A five-year extension would not be in accordance with the principles of ecologically sustainable development or inter-generational equity; and, as such, is not in the public interest," the IPC said in a statement.</i></p> <p><i>"The impacts relating to air quality, noise, subsidence, groundwater and greenhouse gas emissions have not been fully considered in this application."</i></p> <p><i>Australian Pacific Coal has previously stated the proposed five-year extension of the approval period was required to justify the capital expenditure involved in recommissioning the mine.</i></p>	ABC News
31 June 2019	Glencore email reveals cosy dealings between mining companies and NSW government agencies	<p><i>Community concerns around Mining companies being presented with draft consent conditions from Department of Planning.</i></p> <p><i>It was "the usual practice" for consent authorities, including NSW Planning Assessment Commission panels, to share draft conditions of consent with mine owners before approval, said the Glencore submission, despite no public acknowledgment of such an arrangement on a government, department or commission website.</i></p> <p><i>"For a decade, people in communities like Bulga, Camberwell, Wollar and Maules Creek have participated in the planning process in good faith while the Department of Planning has privately workshopped conditions of approval with mining proponents on the assumption that coal mines will get the go ahead regardless of the damage they do to rural communities, waterways, or the environment."</i></p> <p><i>"It makes a joke of the mining industry's regular statements about how they're subject to onerous conditions of approval - that they've had the opportunity to change and suit themselves," Ms Smiles said.</i></p>	Mudgee Guardian

Date	Headline	Brief Description/Summary of Article	Source
3 June 2019	Scoping document for Bowmans Creek Wind Farm, east of Muswellbrook, lodged with NSW Department of Planning and Environment	<p><i>"THE scoping document for the Bowmans Creek Wind Farm has been lodged with the NSW Department of Planning and Environment, according to the company behind the venture, Epuron.</i></p> <p><i>Located about 10km east of Muswellbrook, the development will involve the construction, operation, maintenance and, eventually, the decommissioning of approximately 70-80 turbines.</i></p> <p><i>The proposed 250-megawatt wind farm, as well as a 25-megawatt solar farm on the site of the former Drayton colliery, would provide power to more than 100,000 homes when operational."</i></p>	Muswellbrook Chronicle
7 May 2019	Wind and solar projects poised to lead Hunter's clean energy transition	<p><i>TWO renewable energy projects slated for the Upper Hunter are spearheading the region's transition away from coal to a low-carbon economy.</i></p> <p><i>A proposed 250-megawatt wind farm at Bowman's creek east of Muswellbrook and a 25-megawatt solar farm on the site of the former Drayton colliery would provide power to more than 100,000 homes when operational.</i></p> <p><i>The projects would contribute to offsetting the loss of AGL's 2000-megawatt Liddell power station, which is slated to close in 2022."</i></p>	Newcastle Herald
7 March 2019	Plans for Chinese-backed coal-fired plant in NSW's Hunter Valley could reignite the climate wars	<i>Talk of a new Chinese backed power plant in the Hunter region has caused a political stir between the Liberals and the Greens</i>	ABC News
3 March 2019	The end of coal in the Hunter is coming	<i>Editorial piece around Glencore's coal caps and what it means for the Hunter Valley - an ethical end to coal mining in the Hunter</i>	Newcastle Herald
2 January 2019	Mining economy	<p><i>"The Hunter's long-term economic fortunes remain perilously linked to the boom and bust cycle of the mining industry. Now economists have expressed concern about the ongoing effect the mining industry's infamous 'boom-bust' cycle is having on regional economic sustainability.</i></p> <p><i>This cycle has impacts on employment, investment and housing."</i></p>	Newcastle Herald
28 November 2018	Plenty of mine projects planned	<i>The NSW Minerals Council is excited to promote the fact the Hunter has nine projects in the pipeline which they claim would deliver over \$1.5 billion in investment and maintain or create over 3,400 jobs for the region</i>	Singleton Argus

Date	Headline	Brief Description/Summary of Article	Source
7 November 2018	Coal's 'drive-in' workforce	<i>A hearing held in Singleton on Monday was told by Singleton Council's general manger Jason Linnane that an estimated 9000 workers drive-in each day to run the region's coal mining industry.</i>	Singleton Argus
28 June 2018	Demand for Australian coal escalates, building on last year's turnaround	<i>Minerals Council of Australia predicts a 400 million tonne increase in annual demand by 2030.</i>	ABC News
20 March 2018	Strong global demand delivering additional mining positions in NSW, says Coal Services data	<i>The most recent figures from Coal Services show there were just over 20,872 coal production jobs in NSW as at December 2017, nearly 2000 more than this time in 2016, helping to boost the Hunter economy, particularly in mining communities such as Singleton. This is the highest number since July 2014.</i>	Hunter Valley News
6 August 2018	Singleton Junior Golf Open attracting players from all over the region thanks to attractive prize pool	<i>Under their junior sports development program, Glencore is on board as the major sponsor of the 2018 Singleton Junior Golf Open, with over \$3500 worth of prizes on offer.</i>	Singleton Argus
19 October 2017	Singleton Reginal Livestock Market gets \$7.73 million upgrade	<i>Funded by a \$6 million grant under the State Government's Resources for Regions program and an additional \$1.73 million from Singleton Council. "This project is a significant investment in the economic diversity of our local government area and a demonstration to the wider agricultural industry that Singleton intends to continue its long tradition of supporting primary producers," Anthony Egan, Council's Director Corporate and Community said.</i>	Singleton Argus
Infrastructure and Services			
19 December 2018	Council commits to town centre	<i>"Singleton Council has reaffirmed its commitment to Singleton's Town Centre, resolving to co-fund stage two of the revitalisation project by making provisions in its 2019/2020 loan borrowing program at its final meeting of 2018 earlier this week. ""This project will make a significant difference to the people who live and work in Singleton, including improved road safety, property appreciation and wider economic benefits that will contribute to a creative, vibrant, economically diverse and healthy community."""</i>	Singleton Argus

Date	Headline	Brief Description/Summary of Article	Source
19 December 2018	Announcement good start to festive season	<i>"Announcement of \$2,787,000 for an arts and cultural centre in Townhead Park; talks of increased passenger trains between the Upper Hunter and Maitland. Push for mining royalties to be returned to the LGA in which the minerals were mined."</i>	Singleton Argus
18 December 2018	School grants to help early learning	<i>"A STATE government initiative to improve the environment and services at preschools will benefit 12 schools in the Upper Hunter." ""A total of \$141,387.30 has been invested in community preschools in the Upper Hunter,"" he said, with the money used to pay for improvements to grounds and buildings as well as specialised educational programs for children."</i>	Newcastle Herald
28 August 2018	New England Highway from Singleton to Muswellbrook enjoys million-dollar windfall	<i>The Upper Hunter electorate will benefit from the Saving Lives on Country Roads Program with nine upgrades to begin this financial year. "The Saving Lives on Country Roads Program aims to reduce the number of people killed and seriously injured on our roads by addressing high risk curves and installing safety features to prevent driver fatigue and lane departure crashes," Upper Hunter MP Michael Johnsen said.</i>	Hunter Valley News
28 August 2018	Draft Plan of Management for Lake St Clair recreation ground on display	<i>"A new kiosk, playground and multi-purpose meeting facility are some of the possibilities included in a draft Plan of Management for the Lake St Clair recreation ground unveiled for public exhibition from Wednesday, August 29 until Friday, October 12. Singleton Council is encouraging feedback on the draft plan, which provides guidelines for the planning, development and care of the Lake St Clair Recreation Park. A public hearing will also be held for members of the community to find out more information on Thursday, September 13."</i>	Singleton Argus
24 August 2018	Singleton Council's drought assistance hub will be operational on Monday	<i>Singleton Council has partnered with a range of stakeholders to be a conduit between Singleton farmers and the services available to rural producers to make finding help easier. "With 100 per cent of NSW now in drought, and a range of government packages now available to farmers as well as an overwhelming response to community fundraising, the difficulty for farmers is often knowing where to start to find the help available to them," Singleton mayor Sue Moore said.</i>	Singleton Argus

Date	Headline	Brief Description/Summary of Article	Source
19 June 2018	Singleton Heights Pre-school expansion plans given green light	<i>"The Council has given the go ahead for a non-for-profit community based centre located on Dorsman Drive which will offer 40 more places to local families, with increase access and participation for Aboriginal and Torres Strait Islander families. The program is managed by the Department of Education and is aimed at not-for-profit community based providers hoping to expand their services when there is a shortage demand. "</i>	Singleton Argus
19 June 2018	Clearer pathways for job hunters with a disadvantages in the Hunter	<i>Not-for-profit organisation Workskil Australia has formed a dedicated team of caring Disability Employment Services specialists in the Upper Hunter in NSW and on July 1 will open its doors to assist disadvantaged local job seekers. From July 1, major changes come into effect to the Australian Government's existing Disability Employment Services (DES) program aimed at helping more people with a disability, injury or mental health condition find and maintain employment.</i>	Singleton Argus
3 May 2016	Singleton's conventional TAFE campus is undergoing a \$4.9 million dollar transformation	<i>"It will be an absolute game changer for education in our area with the new centre opening a whole new variety of opportunities for our local students; combining the very best of modern technology and the traditional face to face teaching TAFE NSW is famous for," Upper Hunter MP Michael Johnsen said.</i>	Singleton Argus
17 April 2018	Singleton Council plans to spend \$27 million on capital works 2018/19	<i>There is a predicted expenditure of \$82 million for the financial year 2018/19 by the Singleton Council. As part of that expenditure Council is planning to spend \$27m on capital works with a focus on water and sewer infrastructure. Contained in the Draft are words talking about the journey in 'creating the community's vision for Singleton as vibrant, sustainable, progressive, connected and resilient'.</i>	Singleton Argus
30 August 2017	Cessnock and Singleton Councils celebrate opening of Hermitage Road and Broke Road upgrade and cycleway	<i>Opening of a multi-million dollar upgrade to Broke and Hermitage Roads. The project included improvements to Hermitage Road and Broke Roads, a 10.6 kilometre cycleway and installation of tourist facilities including an information bay. The councils combined to submit a successful funding application for \$16.7 million from the NSW Government's Resources for Regions program, which delivers improved infrastructure in mining-affected communities.</i>	The Advertiser

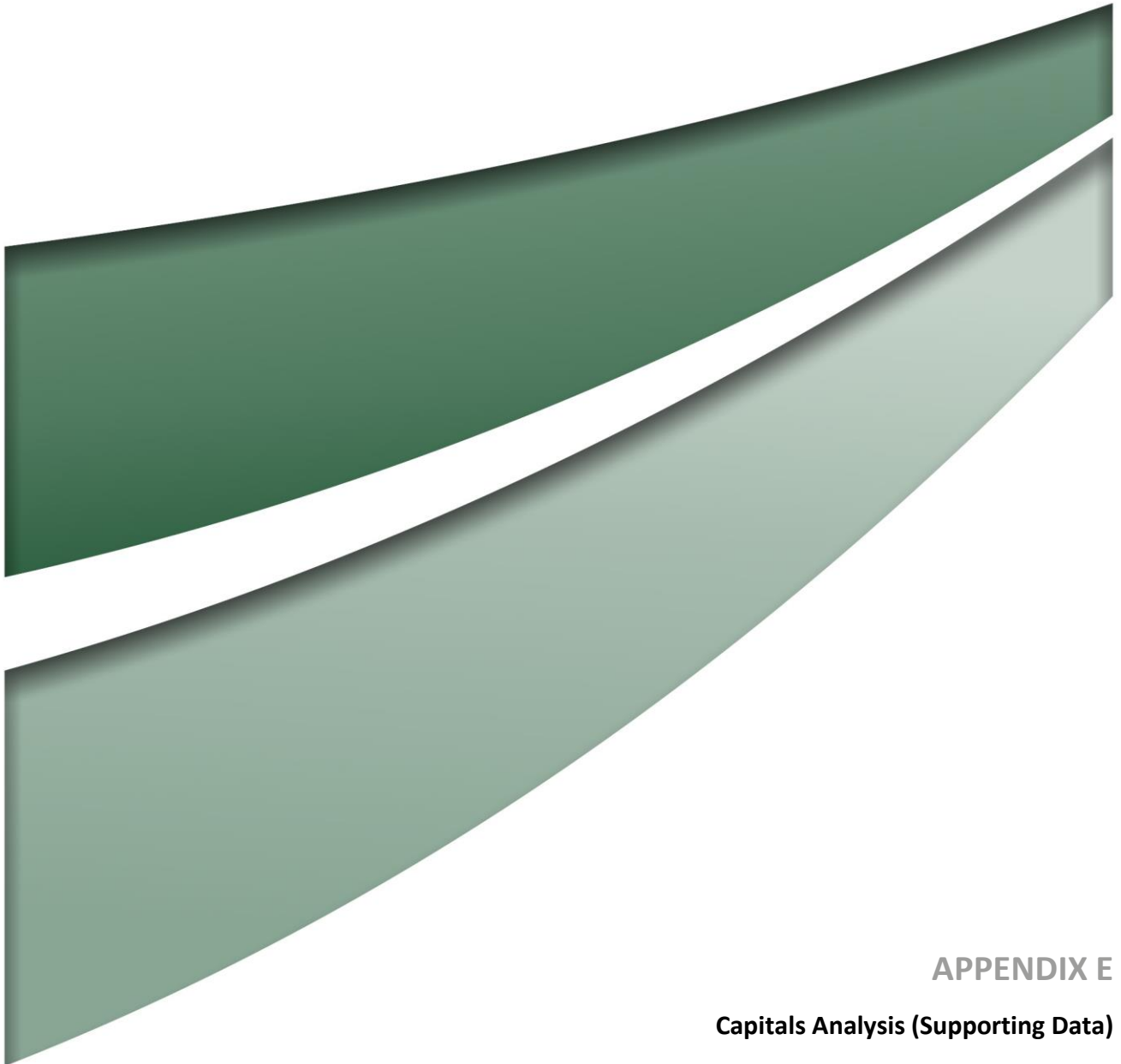
Date	Headline	Brief Description/Summary of Article	Source
12 January 2017	Singleton Council investigating management options for Lake St Clair	<i>"Lake St Clair is a popular location for water-based activities, day tripping and camping. Singleton Council reviewed the current caretaker and investigated management options to improve the state of the grounds. The recent installation of a new caretaker facilities, and a boom gate at the entry to the grounds and car parking near the caretaker facility. "</i>	Singleton Argus
Government Funding			
26 June 2018	First it was Resources for Regions now the state budget - why?	<i>Singleton provides millions and millions of dollars year in year out from mining royalties – we are the epitome of a mining impacted region but our requests for support appear to be falling on deaf ears. The NSW Minerals Council state that mining royalties will deliver a record \$1.8billion in this year alone, and another record \$2b next year into the state's coffers.</i>	Singleton Argus
5 June 2018	Muswellbrook and Cessnock Councils receive millions Singleton Council gets absolutely nothing	<i>"Our neighbouring councils Muswellbrook and Cessnock have just received a total of \$13.5 million in funding through the Resources for Regions Program but Singleton Council did not get one cent. At about the same time Parliamentary Secretary for the Hunter, Scot MacDonald MLC, was in the Cessnock Local Government Area (LGA) delivering the good news that the Cessnock CBD is about to undergo a huge \$3.5m revitalisation. In Singleton we waited hoping it would soon be our turn to hear some good news from a program designed specifically to assist mining affected communities."</i>	Singleton Argus
14 June 2017	Singleton Shire Council's just been upgraded, but no one knows why	<i>A NSW tribunal decision that could cost Singleton ratepayers an extra \$100,000 a year in councillor fees and more than double Mayor Sue Moore's take-home pay to nearly \$62,000 which could be challenged after questions about the council upgrade that bumped up councillor pay. The tribunal Singleton upgrade in particular, with a councillor pay boost from \$8750 to \$19,310 per year, and mayor Sue Moore's from \$27,389 to \$61,430 that has raised questions about the assessment process.</i>	Newcastle Herald

Date	Headline	Brief Description/Summary of Article	Source
Mining Impacts			
5 August 2019	Coal mine proposal in the Hunter Valley creates a rift in the local community	<p><i>Upper Hunter Shire Mayor Wayne Bedggood said it was simplistic to frame the argument as just "coals versus foals".</i></p> <p><i>He said the environmental impacts of the Dartbrook operation outweighed any economic benefits.</i></p> <p><i>"There is already a perception that properties are too close to coal mines, and the dust is affecting the quality of life," he said.</i></p> <p><i>The council, along with groups like Friends of the Upper Hunter, have also questioned the project's economic viability.</i></p>	ABC News
30 July 2019	Comments on Hunter's air quality worrying	<p><i>A comment on the concerns around health impacts from air pollution produced by mining and how it is being ignored by departments. Reference to the transcript between the IPC and the DoP's resource assessment team reviewing the Rix's Creek South Continuation Project making no reference to dust from mines or power stations.</i></p> <p><i>How does the Department explain localised PM10 levels off the scale in March on a humid night with no wind.</i></p>	Singleton Argus
17 July 2019	Department says Independent Planning Commission can ignore 'non-discretionary' air quality standards in Upper Hunter	<p><i>The department advised the commission that "a consent authority is not prevented from granting consent if the non-discretionary development standards under the Mining State Environmental Planning Policy cannot be complied with".</i></p> <p><i>The advice came after the department conceded a Muswellbrook air quality monitor "commonly records exceedances" of the annual average PM2.5 fine particle standard, in response to commission questions about how Dartbrook conditions of consent would "manage cumulative impacts of air pollution".</i></p>	Newcastle Herald

Date	Headline	Brief Description/Summary of Article	Source
7 January 2019	Former billionaire Nathan Tinkler's out but mothballed Dartbrook coal mine finalises re-opening bid	<p><i>Australian Pacific Coal's re-opening of Dartbrook mine and extending its approval until 2027. The article talks about the risks involved with the project and the deaths of three miners resulting in its closure. The article goes on to talk about the design changes to help address these issues such as the use of bord and pillar underground method.</i></p> <p><i>The article talks about cumulative impacts of dust and air quality in the region and the lack of action or responsibility being taken. The air quality issue was "beyond the responsibility of an individual mine entity".</i></p> <p><i>"A 24-hour averaging period for monitoring air quality around the mines had the "unintended consequence of obscuring issues of elevated dust levels at night as a result of surface temperature inversions", council general manager Fiona Plesman said in a submission to the Department of Planning on the Dartbrook proposal.</i></p> <p><i>"Council submits that the result of these inversions is to trap dust emitted from this and other mining developments in the shire for sustained periods. This causes the level of dust in the air to increase substantially at night, which is in turn obscured by the lower levels of dust in the air during the day. Consequently, the average over a 24-hour period does not result in a technical exceedance,".</i></p>	Muswellbrook Chronicle
19 October 2018	Horses, vineyards should be off-limits to coal: poll	<i>NEARLY two-thirds of people polled in the mining areas of Singleton and Muswellbrook say critical horse-breeding and wine growing areas of the Hunter should be off limits to coal mining. The ReachTEL poll of 253 people was commissioned by Lock the Gate as it campaigns to stop three greenfield mines in the Hunter and Central Coast areas, including the KEPCO Bylong mine between Denman and Mudgee.</i>	Newcastle Herald
17 October 2018	Information day on wild dog control	<i>Hunter Local Land Services is calling on local landholders interested in wild dog control to attend a free information day at Mount Olive Community Hall near Singleton, on Saturday, November 3. The information day is being run in conjunction with North East Singleton Wild Dog Association.</i>	Singleton Argus

Date	Headline	Brief Description/Summary of Article	Source
30 July 2018	Air quality alerts night after night as PM 10 levels exceed national standards	<p><i>"Upper Hunter air quality network monitors around Singleton are issuing warnings night after night as PM10 levels in the district exceed national air quality standards. The night time, in particular after midnight, appears to be the worse time for air quality in the local area as six times in the two weeks between four and six monitors have recorded concerning levels of dust pollution. "A couple of days later the setting was covered in the dust which I know comes from the surrounding mines and the two powered electricity generators Bayswater and Liddell just up the road.</i></p> <p><i>"There is a terrible drought throughout the state but the dust is not red or brown dirt from the bush its black and its hurting everyone who breathes it." Mrs Bowman said authorities will say it is wood smoke or due to the drought which she described as absolute rubbish."</i></p>	Singleton Argus
27 July 2018	Singleton community demands answers from Defence over the use of PFAS at Singleton Army Base	<p><i>"I've been raising this (concerns about contamination) for few years now. It just falls on deaf ears; they just ignore you," Singleton horse breeder Brad McNamara said. Health officials maintain there is no consistent evidence between PFAS, classified as an emerging contaminant, and adverse health impacts in humans.</i></p>	Singleton Argus
6 June 2018	'Massive impact': Coal mining's effect on the Hunter water tallied	<p><i>"A federal government study concluded mining in the Hunter Valley has affected groundwater in about a quarter of the region, and the 22 planned new coal mines and/or expansions of existing ones will increase the impact on water resources further.</i></p> <p><i>The Hunter bioregional assessment examined the expected impacts of extra mining in the area and concluded them to be of great ecological significance."</i></p>	Sydney Morning Herald
6 April 2018	Glencore's Global Head of Coal engages with protesters outside of Hunter Coal Festival Mining Leaders Lunch	<p><i>A small group of passionate protesters gathered outside of Club Singleton prior to the Hunter Coal Festival Mining Leaders Lunch. The protestors voiced their concerns about what they perceive to be the government's reluctance to initiate the transition from fossil fuels to renewable energy in Australia. They called for "no new coal" and "clean air, soil and water for the children."</i></p>	Singleton Argus

Date	Headline	Brief Description/Summary of Article	Source
21 February 2018	Singleton Hospital emergency admissions jump as air quality falls in the upper hunter	<p><i>"Upper Hunter residents have sought an urgent meeting with the NSW Environment Protection Authority after data showing a dramatic spike in Singleton emergency department admissions in 2017 coinciding with declining air quality.</i></p> <p><i>Singleton hospital admissions jumped by 28.6% between July-September, 2016 and July-September, 2017."</i></p>	Newcastle Herald
7 July 2017	Two-day strike planned for Glencore's seven Upper Hunter operations	<p><i>"Workers from seven Glencore operations including five open cut mines will meet at Singleton Showground on Monday morning to hear from Construction Forestry Mining and Energy Union (CFMEU) representatives on the state of negotiations between the union and the company on new Enterprise Bargaining Agreements (EBA).</i></p> <p><i>Voting on a new EBA was recently held at Glendell mine and Mr Jordan said 96-97 per cent voted against that EBA."</i></p>	Singleton Argus
18 June 2017	Small villages bear the brunt of mining expansions	<p><i>Views of agricultural lands and vibrant, lively villages once created the landscape surrounding much of the Hunter in NSW. In a time when the Hunter Valley was known for more than mining, these villages were a haven for the tight-knit communities within them. Now, this landscape seems to becoming more and more barren as time goes on.</i></p> <p><i>Residents of the historic villages surrounding Singleton have been fighting for forty odd years in a bid to protect their beloved communities. Now, there are only very few left to protect what remains.</i></p>	Newcastle Herald



APPENDIX E

Capitals Analysis (Supporting Data)

The indicators that have been selected for use in the development of the baseline profiles and their respective source. This data has been collected at the LGA unit of analysis for all areas and compared against state level data.

Table 1.1 Examples of Indicators Collated and Reported in Profile by Capital

Indicator	Data Source
Human Capital	
Indigenous Population	PHIDU, 2016. Social Health Atlas of Australia: New South Wales Local Government Areas, 2018
Learning or earning	PHIDU, 2016. Social Health Atlas of Australia: New South Wales Local Government Areas, 2018
SEIFA Education occupation	ABS, 2016. Extended Community Profile, Catalogue 2001.0. Accessed using ABS.Stat beta
Highest level of school attained	ABS, 2016. Community Profile, Catalogue 2001.0. Accessed using ABS TableBuilder Pro
Non-school qualifications	ABS, 2016. Community Profile, Catalogue 2001.0. Accessed using ABS TableBuilder Pro
People aged 18 years and over with one of four risk factors (rate per 100)	PHIDU, 2015. Social Health Atlas of Australia: New South Wales Local Government Areas, 2018
Children Developmentally vulnerable in one or more domains (2015)	PHIDU, 2014/2015. Social Health Atlas of Australia: New South Wales Local Government Areas, 2018
Educational Facilities – enrolments, attendance, FTE staff, number of students	https://www.myschool.edu.au/
Population projections	https://www.planning.nsw.gov.au/Research-and-Demography/Demography/Population-projections
Social Capital	
Population Mobility	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Track Aged pensioners	PHIDU, 2018. Social Health Atlas of Australia: New South Wales Local Government Areas, 2018
Poor Proficiency in English	PHIDU, 2018. Social Health Atlas of Australia: New South Wales Local Government Areas, 2018
SEIFA Relative Socio-economic Disadvantage	ABS, 2016. Extended Community Profile, Catalogue 2001.0. Accessed using ABS.Stat beta
Household composition	ABS, 2016. Extended Community Profile, Catalogue 2001.0. Accessed using ABS TableBuilder Pro
Family composition	ABS, 2016. Extended Community Profile, Catalogue 2001.0. Accessed using ABS TableBuidler Pro
Married	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Proportion who volunteer for an Organisation or Group	ABS, 2016. Extended Community Profile, Catalogue 2001.0. Accessed using PHIDU, 2018. Social Health Atlas of Australia: New South Wales Local Government Areas, 2018

Indicator	Data Source
Economic Capital	
Personal and Household income	ABS, 2016. Community Profile, Catalogue 2001.0. Accessed using ABS TableBuilder Pro
Household expenditure	ABS, 2016. Community Profile, Catalogue 2001.0. Accessed using ABS TableBuilder Pro
% employment in mining	ABS, 2016. Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Unemployment rate	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Labour force participation	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Top Industry of employment	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
SEIFA Economic resources	ABS, 2016. Extended Community Profile, Catalogue 2001.0. Accessed using ABS.Stat beta
Financial stress from mortgage or rent	PHIDU, 2016. Social Health Atlas of Australia: New South Wales Local Government Areas, 2018
Herfindahl Index of Industrial Diversity	Calculated based on ABS, 2016. Extended Community Profile, Catalogue 2001.0. Accessed using ABS TableBuilder Pro
Physical Capital	
Dwelling Structure/Type	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Home ownership	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Rent Assistance from the Government	PHIDU, 2016. Social Health Atlas of Australia: New South Wales Local Government Areas, 2018
Residential Aged Care Places	PHIDU, 2016. Social Health Atlas of Australia: New South Wales Local Government Areas, 2018
Household size	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Overcrowding (no. of people per bedroom)	ABS, 2016. Extended Community Profile, Catalogue 2001.0. Accessed using TableBuilder Pro
Occupied Dwellings without Internet Access	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Travel to work	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Access to transport/average number of cars	ABS, 2016. Community Profile, Catalogue 2001.0. Accessed using TableBuilder Pro

It should be noted that when collecting data that reflect indicators of Natural Capital, there was insufficient data available that was:

- related to the adaptive capacity of the chosen communities
- valid at the required scale/s of analysis
- replicable across the identified communities.

Table 1.2 Educational FacilitiesSource: MySchool. 2018 & 2019. *School Profile* <https://www.myschool.edu.au/>

Location	School / Facility	Level	Enrolments (2017)	Proportion Aboriginal Students	Student Attendance Rates (2017)	FTE Teaching Staff	Other Relevant Information (2017)
Singleton	King Street Public School	K-6	364	17%	91% total (90% Indigenous) (91% non-Indigenous)	20	67% of students in bottom and 1% in the top quarter of ICSEA 3% language background other than English
	Mount Pleasant Public School	K-6	64	17%	92% total (90% Indigenous) (92% non-Indigenous)	3.7	58% of students in bottom quarter of ICSEA 0% language background other than English
	Singleton Public School	U, K-6	474	11%	93% total (91% Indigenous) (93% non-Indigenous)	29.5	41% of students in bottom quarter of ICSEA 6% language background other than English
	Singleton Heights Public School	K-6	571	14%	92% total (90% Indigenous) (93% non-Indigenous)	29.8	48% of students in bottom quarter of ICSEA 6% language background other than English
	Singleton High School	U, 7-12	1157	13%	85% total (80% Indigenous) (86% non-Indigenous)	83.5	52% of students in bottom quarter of ICSEA 4% language background other than English
	St Catherine's Catholic College	K-12	853	5%	91% total (88% Indigenous) (91% non-Indigenous)	64.4	Non-government 23% of students in bottom quarter of ICSEA 3% language background other than English
	Australian Christian College - Singleton	K-10	105	6%	93% total (93% Indigenous) (93% non-Indigenous)	10.2	Non-government 17% of students in bottom quarter of ICSEA 0% language background other than English

Location	School / Facility	Level	Enrolments (2017)	Proportion Aboriginal Students	Student Attendance Rates (2017)	FTE Teaching Staff	Other Relevant Information (2017)
Muswellbrook	Muswellbrook Christian School	K-6	33	21%	92% total	3	Non-government 64% of students in bottom quarter of ICSEA 7% language background other than English
	Muswellbrook High School	U, 7-12	825	19%	83% total (71% Indigenous) (86% non-Indigenous)	63.7	60% of students in bottom quarter of ICSEA 35% language background other than English
	Muswellbrook Public School	U, K-6	600	12%	93% total (87% Indigenous) (94% non-Indigenous)	32.3	51% of students in bottom quarter of ICSEA 4% language background other than English
	Muswellbrook South Public School	U, K-6	549	32%	88% total (85% Indigenous) (90% non-Indigenous)	34.6	74% of students in bottom quarter of ICSEA 6% language background other than English
	St James' Primary School	K-6	277	6%	93% total (92% Indigenous) (93% non-Indigenous)	16.9	Non-government 36% of students in bottom quarter of ICSEA 9% in the stop quarter 9% language background other than English



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