

SIA review report re. proposed
Bowdens Silver, Zinc and Lead mine

Dr Alison Ziller with assistance from Hugo Walton

Disclaimer

This Report was prepared by Alison Ziller, with assistance from Hugo Walton, in good faith exercising all due care and attention, but no representation or warranty, express or implied, is made as to the relevance, accuracy, completeness or fitness for purpose of this document in respect of any particular user's circumstances. The Findings and Recommendations are based on the documents and information the authors have been able to research, obtain, review and analyse in the timeframe leading to the reporting date. Users of this document should satisfy themselves concerning its application to, and where necessary seek additional expert and / or legal advice in respect of, their situation.

Contact details:

Alison Ziller alison.ziller@mq.edu.au

Contents

INTRODUCTION	4
OUTLINE OF THE PROPOSAL	5
EXECUTIVE SUMMARY	7
THE VILLAGE OF LUE – AN OVERVIEW	9
THE SIA PREPARED BY UMWELT	10
1 Choice of study areas	10
2 The likely social impacts on Lue	12
CONCERNS ABOUT THE UMWELT SIA	15
CRITICAL RISKS TO THE VIABILITY OF LUE	16
ASSESSMENT OF MITIGATIONS PROPOSED BY UMWELT	17
Noise and vibration	18
Lead dust and water pollution	18
Loss of property value	21
Social erosion	22
Comment	23
SOCIAL IMPACT ASSESSMENT: SUMMARY	24
ATTACHMENT 1: SOCIAL PROFILE	26
CURRICULUM VITAE – ALISON ZILLER	37
CURRICULUM VITAE – HUGO WALTON	38
Abbreviations	
EIS	Environmental Impact Statement
LAG	Lue Action Group
LGA	Local government area
MWRLGA	Mid-Western Regional Local Government Area
RVLAMP	Revised Voluntary Land Acquisition and Mitigation Policy

Introduction

I have been briefed by the Environmental Defenders Office, acting on behalf of the Lue Action Group, to provide a social impact assessment review report regarding the proposed Bowdens Silver Mine Project (Project).

This Social Impacts Review Report: Bowdens Silver Mine is an independent expert report based on a review of the following documents:

- Environmental Impact Statement (EIS) for the Project, May 2020
- Social Impact Assessment (SIA) for the Project prepared by Umwelt for the Applicant, May 2020
- The NSW Revised Voluntary Land Acquisition and Mitigation Policy (RVLAMP), 2018

and the following documents prepared for the LAG:

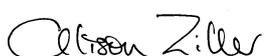
- Comments and assessment of potential lead exposure risks reported in the Bowdens Silver EIS (May 2020) by Mark Taylor, 15 July 2020
- Advice from Barry Noller dated 14 July 2020
- A high level mining review of the Bowdens Lead, Zinc, Silver project by Michael White, July 2020
- Draft Technical Review – Surface Water Assessment by Engeny, 14 July 2020
- Technical Review of selected EIS reports - draft by Stygo ecologica, 14 July 2020
- Initial Acoustic Review, by Wilkinson Murray n.d.

This report considers the likely social costs and benefits of the Project to the local area around the proposed mine and in particular to Lue village and the suburb of Lue .

I am a sociologist with many years' experience reviewing social impact assessments on behalf of non-profit agencies and the public sector. In preparing this advice, I have read and agree to be bound by Division 2, Part 31 of the *Uniform Civil Procedure Rules 2005* and the Expert Witness Code of Conduct. My curriculum vitae is attached. I have been assisted by Hugo Walton in the preparation of this report. His CV is also attached. The report which follows expresses my professional opinion about the likely social consequences which would accrue to residents of Lue should the Project proceed.

Alison Ziller

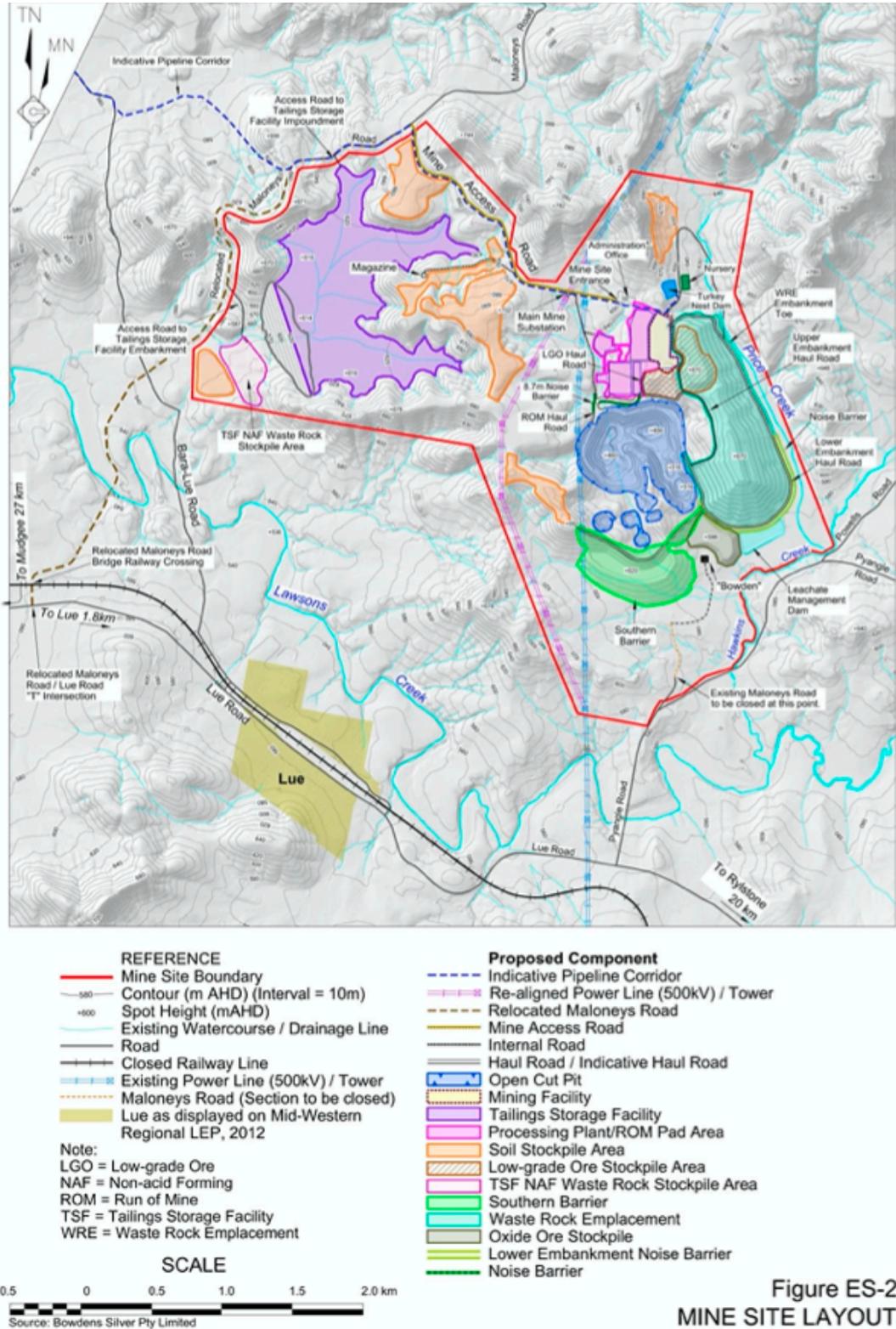
23 July 2020



Outline of the proposal

The EIS states that Bowdens Silver Pty Ltd proposes to excavate and operate an open cut mine north east of the village of Lue. The Project area would at its closest point be approximately 2 km from the village. The minerals to be mined are silver/lead and zinc. Both primary and low grade ore will be extracted. While primary grade ore would be removed by trucks using a road avoiding the village, low grade and oxide ore would be stockpiled and 'may remain in part, or in full, at the end of the Project life.' (EIS p9). The map at EIS p8 shows low grade ore and oxide ore stockpile areas, a tailings storage facility and a southern barrier 'to provide visual and acoustic protection to properties south of the mine site' (EIS p7) in addition to the open cut pit and processing plant.

Mine site layout as presented in the EIS



Executive summary

The suburb of Lue comprises a small number of households most of which are located in the village of Lue. This village is approximately 2km from the proposed silver, zinc and lead mine. As such the likely impacts on this village and suburb are greater and more immediate than those potentially affecting the Mid-Western Region Local Government Area (MWRLGA). An SIA, prepared by Umwelt and submitted by the Applicant, principally addresses impacts on the MWRLGA as a whole rather than the suburb of Lue which is within the LGA and 2-3 km from the Project site. In my opinion this is an inappropriate emphasis.

The principal concerns regarding the proposed mine's impact on Lue arise from proximity and the metals to be mined. Proximity gives rise to concerns about the levels of noise, vibration, dust and impacts on water supply on the village. There are also significant toxicity concerns arising from risks of dispersion of specific toxic metals into the air and water supply. Proximity increases the risks associated with toxicity.

The Applicant has provided expert assessments of toxicity risks and these assess the risks as low or acceptable. However, the Lue Action Group (LAG) has obtained assessments of risk which are critical of those provided by the Applicant, and raise concerns about their adequacy. That is, the assessment of these risks is contested. In my opinion, contestation and accompanying uncertainty add to the risks associated with proximity and toxicity. The Umwelt SIA offers suggested responses to levels of risk assessed as low or acceptable. In my opinion, these do not constitute adequate mitigation of the risks involved and this is particularly the case for impacts which may have been underestimated.

The social impacts of these risks are considered in the following SIA review report. In summary, the likely social impacts concern adverse impacts on the physical and mental health of residents, a strong likelihood that in the face of contested risk assessments some residents may feel their only option is to move, a serious risk that their capacity to relocate will be undermined by a loss of value in their properties, particularly in the presence of disputed toxicity risks. These impacts are likely to detrimentally affect social cohesion in the village and potentially its social viability.

Further, there are no strategies to address the loss of sense of place that would result from this mine. Proposed beautification of the village does not address the

loss of beauty in its surroundings. The impact of the mine on current tourism has not been adequately assessed and mine-based tourism opportunities are just an idea. The list of sponsorships does not include sponsoring mental health programs or community led strategies to deal with the public health issues likely to arise from the close proximity of the mine to the village.

Finally, although the Umwelt SIA appears to suggest that any adverse impacts would be limited to the life of the mine's operations (e.g. in its summary of physical health impacts¹), this appears to be an unwarranted assumption. As a result, residents remaining in Lue would not be able to look forward to a cessation of impacts and this would add to the adverse impacts engendered by the Project.

¹ Umwelt SIA Table 7.34 p 373 summarises the duration of social impacts arising from exposure of lead in dust and water as 'Mine life (approx. 16.5 years)

The village of Lue – an overview

Lue is a small village located in the MWRLGA of the central west region of New South Wales. Data from the last Australian Government census show that in 2016, Lue had a population of 193. The village itself comprises 84 private dwellings, a primary school, a hotel and numerous small tourism and agricultural businesses both in the village itself and the surrounding rural area. The town receives overnight and weekend visitors, some of whom come to utilise the Louee Enduro Motocross Complex facilities (SIA p 178). Lue's population is mostly Australian born and includes a significant portion of Aboriginal and Torres Strait Islander peoples. The median age in the village is 46, substantially higher than the state median of 38 years old. As a whole there are more male residents in Lue however for working age residents (15-65) there is a considerably larger portion of women. Income levels in Lue are substantially lower than for the state as a whole. Median weekly household income is 44% lower in Lue than in the state as a whole.

Employment figures in primary industries for Lue residents shows specialised beef cattle farming employing 33% of the village. This is closely followed by primary education, employing 29% of the village labour force (ABS, 2016). Roughly, 40% of Lue's working population are employed on a part time basis - a greater portion than for the state. The percentage of individuals who reside in the town who participate in tertiary education is significantly lower than for the state. Of the 84 private dwellings in Lue, 20% were unoccupied, more than double the vacant dwelling rate of New South Wales as a whole. However, Lue has high home ownership levels, with more than half owning their dwellings outright while only 7.7% rent their properties (ABS, 2016).

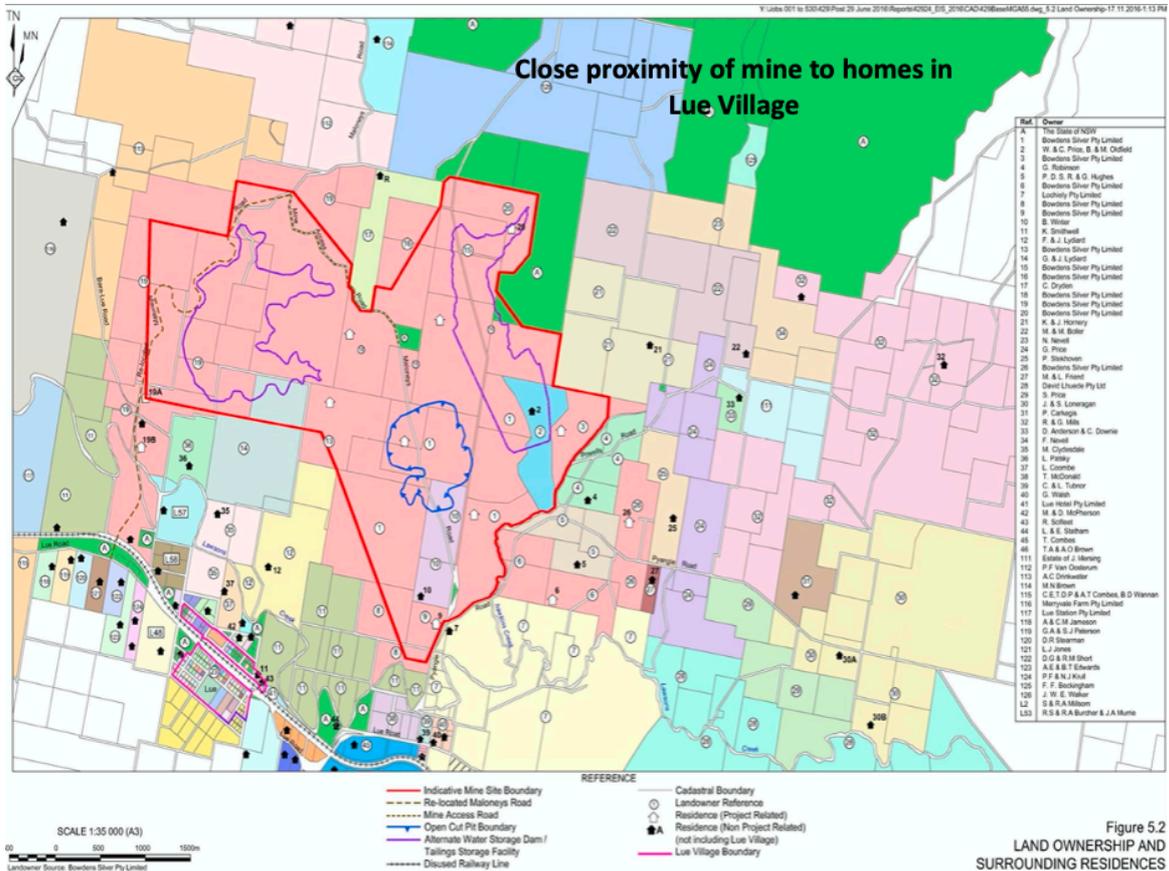
Lue is within the 52nd percentile (just above average with a score of 1005) of the state in terms of Relative Socio-Economic Disadvantage (SEIFA, 2016). Life expectancy in the village is marginally lower than in the state as a whole. In the MWRLGA, 84.5% of people aged 18 years or older have at least one of four health risk factors (current smokers, obesity, high risk alcohol consumption, no or low exercise). Deaths and admissions to hospitals for respiratory diseases are significantly higher when compared to the state. Additionally, admissions to hospital for congenital abnormalities is much higher for the MWRLGA (PHIDU Social Health Atlas, 2018). These data provide a public health context for the village of Lue.

The SIA prepared by Umwelt

The SIA prepared by Umwelt runs to 494 pages and a detailed assessment of it would result in another large document. Instead, this report refers to those aspects of the SIA which have a bearing on key factors relevant to the determination of the Project.

1 Choice of study areas

This mine is proposed for an area within 2km of Lue village and a number of residences. This makes the likely social impact on Lue suburb and village of primary concern.



Source: Lue Community representatives

However, Umwelt states (SIA p113, Figure 5.5 below) that the study communities are Gulgong, Mudgee, Lue, Rylstone, and Kandos plus an additional 8 suburbs through which the proposed water supply pipeline would run. As this map of study locations demonstrates, seven of the eight suburbs identified as 'main

study locations' are much further away from the proposed site than Lue. It is 26 km from Lue to Rylstone village, 40 km to Mudgee and 68km to Gulgong. The experience of social impacts of this mine in these other areas is therefore not comparable with those at Lue.

Figure 5.5 Study Locations

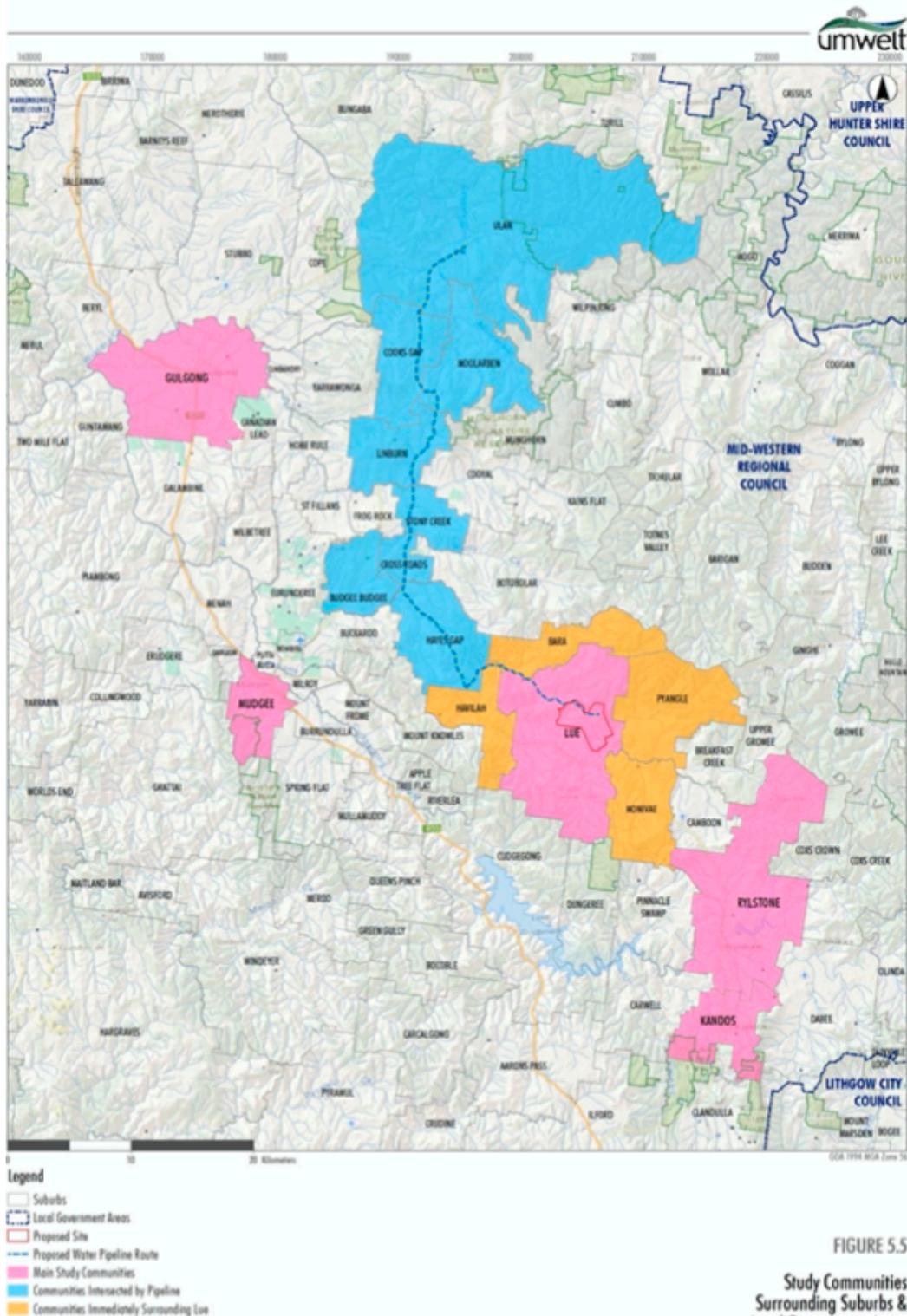


Image Source: Geoscience Australia National Map (2019), ESR Base Mapping (2019) Data source: WSR LPA (2019)

2 The likely social impacts on Lue

The Umwelt SIA provides a short list of key community strengths and vulnerabilities summary for Lue at pp 207-8, but this is at the end of a long descriptive social profile of the region. Perceived social impacts – derived from consultation processes – are reported at pp 215-220. These are noted as interconnected (pp 220-221) and the perceptions of different groups are described in a repetitive list format over the following 94 pages (pp 221-315). At pp 319-320 five social impact factors are identified, namely population change, community infrastructure and services, social amenity, health and wellbeing and sense of community. The basis for selecting these five social impact factors is unclear. There then follows a long list of social impact issues (itemised in Table 1 below). This list is different to previous lists and runs to more than 100 pages (pp 316-428). In short, this approach to identifying social impact issues results in several lists but fails to identify the critical issues at stake with this Project.

In particular, the Umwelt SIA spends more time detailing issues for the other 7 suburbs and/or Mid-West Regional local government area as a whole than it does for Lue. The attention given to Lue is summarised in Table 1.

Table 1: Summary of assessment and prediction of social impacts on Lue in Umwelt SIA (pp 316-428)

Issue	Page in SIA	Impacts on Lue reported in SIA	This reviewer's comments
Population change	321		This issue was raised strongly by Lue residents but addressed as a regional issue
Construction workforce	323	Unlikely to be housed in Lue	
Operational Workforce	325	Less likely to be housed in Lue	
Property acquisition	332	Highly likely to occur but with minor consequence – less than 5% reduction in population. Some potential for new builds (11 lots)	
Housing & accommodation	335	Possible reduction due to acquisition and people choosing to relocate, few properties available for rent, little temporary accommodation	
Health services & aged care	343		Lue not mentioned
Childcare services	349		Lue not mentioned
Emergency services	350	Risk of loss of volunteers for the Rural Fire Service	
Youth services & recreational facilities	351	Motor-cycle track is close to proposed mine site Lue hotel has a darts club	
Education & training	354	Primary school enrolments fluctuate, operational workforce may augment numbers to the extent that families locate in Lue. Assessed as 'likely to	

Issue	Page in SIA	Impacts on Lue reported in SIA	This reviewer's comments
		occur with minimal consequence' (p356). Mine may provide training opportunities	
Access to public utilities	356	Lue not connected to centralised sewer infrastructure. Lue not connected to town water system. Water shortages – not affected as mine proposes to access water from Ulan or Moolarben coal mines. 'Level of community concern in relation to public utilities was perceived to be <i>low</i> '	Emphasis added
Physical health	362	Exposure to lead in dust and water and impact on water quality as a result of tailings dam failure perceived as high risk by residents but assessed by Umwelt (relying on the Human Health SIA prepared by Environment Risk Sciences Pty Ltd) as low and moderate consequence Table 7.34 (P 373).	This Table suggests that the duration of adverse exposure would be for the life of the mine. No evidence provided for this short duration.
Mental health	373-4	Moderate levels of stress and anxiety are possible with 'minor consequence'	
Sense of place & community	374	Lue had lowest mobility rate in the LGA between 2011 and 2016. But since the onset of the project in the 1980s, 'around 20 temporary residents have been affected. Bowdens Silver is proposing, where possible, to lease back a number of the properties that they own to the local community' (p377). 17 properties are already leased (p379) The Lue Action Group was established in response to the mine proposal. The SIA assesses the mine proposal as a perceived stakeholder risk which is 'high for the locality resident; moderate for the Aboriginal community and low for the regional community' (p378)	Note: these are presumably close to the mine site otherwise they would not have been acquired. Emphasis added
Engagement & decision making	381	A series of mitigation measures are listed (p383)	Note no assessment
Operational noise	384	'it is likely that a number of residents of Lue and the area around the Mine Site would hear Project operations under adverse weather conditions (light winds and/or temperature inversions) although the levels predicted would be within the NSW Environment Protection Authority (PA) Noise Policy Industry criteria.' (p386)	Various mitigations are proposed at p 387 but these make it clear that noise will be an issue including at night and is rated as 'high' impact p 389
Construction noise	389	'With proposed mitigations in place, the likelihood of noise impacts during construction are considered <i>likely</i> , and of <i>moderate</i> consequence, resulting in a high social impact for those properties affected and a moderate social impact (possible and minor) for Lue residents.' P390	Emphasis in original
Traffic	390	This issue is assessed on the basis that mine vehicles would not travel through Lue and there would be some upgrading of Lue Road	However, increased traffic volumes would occur between Lue and Mudgee – though this is not clearly stated in the SIA except by a member of the community quoted at p395
Air quality / dust	396	This section focuses on the social amenity aspect of dust/air quality as 'health and wellbeing aspects previously explored in section 7.3 due to the community's specific concerns relating to the health impacts of lead in dust.' (p396), SIA concludes that with proposed mitigation measures in place, impacts on social amenity due to dust/air quality may <i>possibly</i> have an impact on local	

Issue	Page in SIA	Impacts on Lue reported in SIA	This reviewer's comments
		residents, with a <i>minor</i> consequence...' And the impact is rated moderate.	
Visual impacts	398	Permanent change to landscape with impact reduced by mitigation initiatives (p402)	Mitigation includes irrigation of new plants for at least 2 years + replacement of dead or unhealthy plants on a 2 year cycle. Source of water not stated (p401)
Water access & use	403	Assesses risks to ground and surface water as low on the basis of proposed mitigations	Assessment relies on another expert for the proponent. More space and attention given to this issue than to public health
Environmental impacts	408	Environmental and ecological impacts assessed as low	Assessment based on another expert's report
Land use & intergenerational equity	412	'Whilst a future expansion may exacerbate the final landform impacts outlined above, it could also provide a positive impact on intergenerational equity in the form of sustained employment and community investment' (p414) The potential uses include mine based tourism, heritage trail, fishing and water sports, visitors centre, grazing, Aboriginal involvement in seed propagation (p415) impact of long term changes in land use are rated moderate for Lue	No mention of intra-generational or distributional equity The proposed future mitigations are merely a set of possible ideas not a mitigation
Property damage (blasting)	417	Reports Blast Impact Assessment finding that impact would be negligible except at 4 properties	Relies on another expert for the proponent
Decline in property values	418	Difficult to ascertain – quotes lack of evidence and variability of market. But says there is evidence of impact on property prices where noise and air quality exceed environmental standards – then concludes low risk.	
Employment & procurement	421-2	'Locality residents also suggested that the employment generated by the Project would not be enough to outweigh the negative impacts of the Project, with some suggesting that the residents of Lue and surrounds were mainly retired and therefore not in need of employment, However this sentiment was not shared by members of the regional community, local businesses and service providers who suggested that the Project would bring in much needed employment for the LGA' p422	Fails to identify the distributional inequity in what is proposed. Unclear on what basis SIA then concludes the 'perceived stakeholder ranking is considered a moderate positive impact for locality residents.' The assessment seems to refer entirely to the region not to Lue (p422) and to disregard the divide in local community opinion noted in Table 7.61 p425
Culture & heritage	425	This section principally deals with Aboriginal culture and heritage which is the subject of separate impact assessment. However, it notes that assessment identified 31 cultural heritage sites and numerous artefact scatters, two scarred trees and a rock shelter. Mitigation involves a keeping place and returning all salvaged artefacts to the final landform as close as practicable to their original location. P427	Although the SIA records the mitigated impact as moderate, it is noted that Aboriginal people wishing to be involved have to register with the mining company and there is no evidence in the SIA that registered Aboriginal people rated the proposed mitigations as of 'moderate' impact. It is noted that non-Aboriginal people do not need to register with the mining company in order to be consulted, e.g. about settler heritage.

Concerns about the Umwelt SIA

The role of an SIA is to identify and assess the significance of likely social impacts. The size, repetitiveness and lengthy detail of this SIA may appear to suggest a comprehensive document, but it does not appear to achieve this primary purpose.

A recurring feature of this SIA, which Table 1 demonstrates, is a failure to see Lue as a discrete social entity with intrinsic social and cultural value. This includes a failure to clearly establish the village and suburb of Lue as bearing the brunt of social impacts from the proposed mine and a failure to describe the social impacts likely to ensue from key aspects of this proposal including the proximity of the mine to the village and uncertainty about some of the physical consequences of this proximity. Rather, the SIA relies frequently on an analysis of the LGA as if Lue were merely a component of the wider administrative area. The LGA is not a socially defined area but the result of recent local government amalgamation decisions.

The matters for assessment in the SIA seem to have been derived from perceived community concerns. The section of the SIA reporting perceived community concerns runs for 102 pages (pp 213-315). These perceived concerns are reported as a list of 27 items (as shown in Table 1) presented in no apparent order. While perceptions are important and it is necessary for an SIA preparer to understand them, an SIA should relate community perceptions to the empirical facts of the matter and, where possible, research findings in comparable circumstances, so as to be able to assess their import and significance. This requires the preparer to identify the social impacts which matter and to investigate these. In my opinion this has not been done.

This is surprising since there would seem to be critical impacts relating to public health, specifically, the physical and mental health impacts arising from toxic dust and seepage from various parts of the proposed works. The social impacts of these are under-assessed in part because the author of the SIA necessarily relies on other experts for the applicant, but in part it seems because these issues were not identified as significant and telling for the determination. As Table 1 shows, the SIA assesses public health impacts as acceptable and short term.

This review has the benefit of access to documents prepared for the Lue Action Group. These consistently indicate that the measures relied on by the applicant

are contested and appear to under-estimate the risks to the local resident population. It is of concern that if these expert assessments are correct, the likely health risks to current residents of Lue are neither minor nor short term and would carry forward to future residents.

The Umwelt SIA does not adequately assess the social implications for the residents of Lue of higher levels of air, soil and water contamination than the application indicates. Further, the applicant's experts may believe that likely levels are acceptable or low risk, but the monitoring regime to be put in place makes it clear that these estimates may turn out to be wrong. The SIA does not deal with the implications of this, namely that

- i the residents of Lue would be expected to live with uncertainty about pollution levels not only for the life of the mine but for the long term, and
- ii there is apparently no ready solution if higher levels of contamination are measured other than to seal residents in their houses via such devices as double glazing, air conditioning and regular flushing and cleaning of water supply.

These consequences and their social, psychological and financial costs would be borne primarily by residents.

Critical risks to the viability of Lue

The risks posed to public health from dispersion of and exposure to lead and other toxic dusts, acid mine drainage and operational noise, amount to risks to the social viability of the village of Lue. This is because there is no safe level of exposure to lead. Experts engaged by LAG are concerned about risks of local contamination with other toxic chemicals, deposition of these chemicals appears to be either irreversible or difficult to reverse, and the mine is very close to the village and many rural properties.

Further, deposition of toxic chemicals would be silent and hidden until measured. That is, irreversible exposure would be underway before measurement and detection. This adds another layer of risk to health. In addition, the SIA does not consider what remedies would be available to local residents in a situation of elevated measurements. The lack of a solution would again add to the risks to health. At the same time, the noise and visual disruptions associated with construction and operation would be experienced from the outset.

The experience or anticipation of these issues create the likelihood that:

- some residents will want to leave the village in order to protect the health of their family – both physical and mental health;
- those residents whose properties do not qualify for compulsory acquisition but have lost value will face additional stress;
- the loss of long term residents and their contribution to voluntary organisations and service provision will erode the social viability of the village; and
- these losses are likely to erode social cohesion in Lue.

Assessment of mitigations proposed by Umwelt

Umwelt's SIA provides a series of tables setting out mitigation measures suggested by members of the community and the applicant's proposed mitigation measures. These are not always the same. Suggestions by members of the community are summarised by Umwelt. Mitigations are presented as 'proposed mitigation and enhancement strategies' in Tables 7.33, 7.36, 7.38, 7.40, 7.44, 7.46, 7.48, 7.50, 7.52, 7.54, 7.56, 7.58, 7.60 and 7.62 and summarised in Table 8.2 at SIA p 437.

According to Table 8.2 there are 36 potential impact themes (as compared with 27 perceived community concerns note in Table 1) and 121 'community needs and potential mitigation/enhancement strategies'. Scrutiny of these potential mitigations reveals that they are generalised ideas, lacking specificity or tangibility, that is, it would not be possible to assess effective delivery of, or compliance with, the measures. A number of proposed mitigations are not deliverable by the mining company (e.g. improvements to road infrastructure, provision of Aboriginal health services.) Overall, the list is best described as a wish list rather than a commitment by Bowdens Silver to key actions which will protect local residents from the adverse impacts on health and social wellbeing which they clearly envisage.

While it would be possible to document these statements for all 121 potential mitigations, I draw attention to the inadequacy and implications of some key items.

Noise and vibration

The summary table 8.2 lists Noise and Blasting as potential impacts on social amenity. This table summarises proposed mitigation and enhancement strategies regarding noise set out in Table 7.40 p387, and blasting Table 7.56 p 418.

Table 2: Extract from SIA Table 8.2: Social Amenity (SIA p440)
[these sections appear to be a summary of items in Tables 7.40 & 7.56]

Potential impacts	Potential mitigations	Implications identified by this reviewer
Noise	<ul style="list-style-type: none"> ● Bunding to reduce noise impacts ● Noise buffer (trees) ● Noise mitigation e.g. air conditioning, double glazing ● Limit to 12-hr operations through the day-time ● No operations on Christmas or Good Friday ● No idling of machinery ● Noise monitoring 	<ul style="list-style-type: none"> ○ Noise from the mines operation will be an issue for residents. Residents currently experience low noise levels ○ There are no really effective mitigations to reduce noise which is why operations are time and day limited ○ Countering noise impacts will require people to keep their windows closed – keeping fresh air out of the home – so that the suggested mitigations of air conditioning and double glazing are effective ○ Monitoring is not a mitigation
Blasting	<ul style="list-style-type: none"> ● No blasting in poor weather conditions ● Wet down before blasting occurs ● Blasting limited to midday ● Blasting SMS alerts 	<ul style="list-style-type: none"> ○ Blasting will be an adverse acoustic and vibration impact. For this reason it is proposed to be limited and that residents are forewarned of each occurrence ○ Poor weather conditions for the social impacts of blasting are not defined

Comment

The mitigations identified in the SIA make it clear that noise and vibration will have adverse impacts on the social amenity of residents since no effective mitigations are proposed. The SIA preparer appears to believe that people living in rural settings should keep their doors and windows closed during the day so that air conditioning and double glazing can have some effect on noise reduction. This is a proposal for a serious loss of rural amenity – including loss of fresh air and of the sounds of the countryside.

Lead dust and water pollution

The summary in Table 8.2 lists lead in water and lead in air/dust as two items under the heading of health and well-being. However, earlier in the SIA these issues are dealt with under separate headings and well apart from each other – Tables 7.33 p 372 Health and Wellbeing and Table 7.46 p 398 Social Amenity Dust. The likelihood that dust would contain lead means it is prima facie a health issue rather than a housekeeping one.

Table 3: Extract from SIA Table 8.2: Health and Wellbeing (SIA p439)

[these sections appear to be a summary of items in Tables 7.33 & 7.46]

Potential impacts	Potential mitigations	Implications identified by this reviewer
Lead in water / contamination	<ul style="list-style-type: none"> • Regular integrity checks of tailings dam walls • Line dams • Water testing before and during development to monitor lead levels • Water contamination measures 	<ul style="list-style-type: none"> ○ There are several ways in which the tailings dam can fail to protect the local water supply ○ These vulnerabilities will require continuing implementation of safeguards by the applicant ○ At Table 7.33 it is clear that some seepage from the tailings storage facility is envisaged ○ Contamination measurement is an after-the-event action, not a prevention
Lead in air / dust	<ul style="list-style-type: none"> • No blasting in poor weather conditions • Water Carts for dust suppression • Use underground extraction • Publishing of monitoring results of lead levels in dust • Household mitigation • First flush water tank systems • Water Tank cleaning • AQ monitoring • Test people's houses for lead and repaint houses 	<ul style="list-style-type: none"> ○ Lead dust is anticipated to affect local households who will require first flush water tank systems, but these are not expected to be 100% effective ○ The levels of lead dust can be reduced by avoiding certain weather conditions and by watering internal haul roads, however, this is referred to as dust suppression not dust eradication ○ The extent to which these systems fail will be able to be measured afterwards ○ There is no strategy suggested to prevent lead dust affecting the town

Comment

The fact that there is no strategy to ensure that lead does not seep into water supplies or disperse in the air is evident in the summary table (SIA Table 8.2, p 439). The SIA does not say that there will not be contamination, only that this is 'unlikely to have an impact on human health through exposure to lead in air and water, with a minor consequence and is therefore ranked as a low social impact' SIA p372. However, this assessment is contested. This contestation matters as the World Health Organisation states that there is no level of exposure to lead that is known to be without harmful effects' and that young children are particularly at risk.²

The Human Health impact assessment accompanying the EIA states (p 80) that there will be a small increase in risk of ingestion of lead from home grown fruit and vegetables and eggs. However, modelling prepared and paid for by the applicant requires independent assessment.

² WHO Lead poisoning and health <https://www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health> viewed 21 June 2020

There is no consideration of the fact that lead in the soil does not dissipate but remains.

Loss of property value

Community members have expressed general concern over a decline in property values. The value of the properties in Lue comes from the quiet and peaceful nature of the town. There have also been anecdotal recounts of new property owners being disappointed upon discovering the proposal for the mine.

However, if this mine proceeds, the risk of lead contamination may be sufficient to render Lue uninhabitable for many of its residents, for example parents of young children. While noise, loss of visual amenity and blast vibration would have daily impacts, the risk to health from lead is silent, serious and long term. The social consequences for home owners in the town of this eventuality are not dealt with in this SIA. The summary table gives this issue one line, proposing ‘property value protection (pre mining valuation) should landholders wish to move/relocate’ (SIA p 441). However, Table 7.58 is more informative. This table shows that property value protection is something members of the community want, but is not proposed by Bowdens Silver, which prefers to invest in ‘town beautification projects of local infrastructure upgrades.’ (SIA p 420). Further, the compensation proposed is for landholders affected by the pipeline.

Table 4: extract from SIA Table 7.58 p 420: Property values

Potential impacts	Community identified mitigations	Existing or Proposed Mitigation and Enhancement Strategies
Personal & property rights – property values	<ul style="list-style-type: none"> Property value protection (pre mining valuation) should landholders wish to move/relocate Enter into agreements with affected landholders to purchase their properties 	Community Investment Program <ul style="list-style-type: none"> Local investment in key community enhancement Projects in Lue, Rylstone, Kandos
Personal and property rights - Property values and land access (Water Pipeline)	<ul style="list-style-type: none"> Provide adequate compensation to landholders along the pipeline route Minimise disruption to private property, including waterways 	<ul style="list-style-type: none"> Pipeline to be buried, with an approximately 10m wide disturbance footprint. Ongoing engagement with landholders along the proposed pipeline route Relocation of pipeline to avoid private property (where possible) Provide compensation to landholders through which the pipeline traverses

Comment

These inadequately specified strategies fail to take account of the following:

- i The RVLAMP policy permits exceedances ‘in the public interest’ but does not address a situation in which there is no safe level of exposure.
- ii The RVLAMP system is designed to address problems which are predicted before construction commences, but it is unclear whether or how it applies to impacts which emerge when the reality of dust and water pollution become apparent – that is when the damage to health has already commenced³.
- iii The RVLAMP policy does not provide landowners with a right to compensation where the predicted impacts of the development and/or where the effectiveness of relevant voluntary mitigations are disputed.
- iv The RVLAMP policy pits individual landowners against the might of a large mining company with which each landowner has to deal separately. A process in which a landowner must demonstrate to a mining company that the level of impact is unacceptable, and have the costs of doing so borne by the mining company, is uncertain⁴ and these factors in themselves have adverse social consequences.
- v The RVLAMP processes may take years⁵ during which residents’ health is damaged both physically and mentally due to the continuing erosion of the local community and its social infrastructures.

In my opinion the risk to property values arising from the proximity of a lead mine within 2 km of the village has not been given adequate consideration in the Umwelt SIA and as a result a significant social impact risk has not been adequately addressed.

Social erosion

Issues relating to erosion of social cohesion, sense of place and sense of community are dealt with in different parts of the SIA’s section on mitigations. Community investment, infrastructure and education are dealt with in Table 7.60 pp 424-5 under the heading of economic impacts while sense of community, sustainability, place and culture are treated as a standalone theme in Table 7.36 p 380 but included under the theme of economic impacts in the summary Table

³ The period during which voluntary acquisition rights are available to a landowner is specified in the conditions of consent RVLAMP p12

⁴ Process charts in the RVLAMP (Figures 2 and 3) show a dispute resolution process is anticipated.

⁵ There does not appear to be a timeline requirement for resolution of disputes about the adequacy of impact predictions or mitigation measures

8.2. Treating all these aspects of social wellbeing as economic is unique for a social impact assessment and fails to do justice to the issues involved.

Table 5: Extract from SIA Table 8.2: Economic impacts (SIA p438-9)
[these sections appear to be a summary of items in Tables 7.36 & 7.60]

Potential impacts	Potential mitigations
Service provision - education	<ul style="list-style-type: none"> • Sponsor children for early learning programs – holistic approach • Long term sponsorship of children • Education facilities e.g. local schools and programs, sports equipment, sponsorship of local sports clubs, musical instruments • Night Schooling • Youth Training Facility – Tradesman skills • Support completing Indigenous grant applications • Encourage workforce family participation in school events
Community investment	<ul style="list-style-type: none"> • Continued sponsoring of local events • Community groups sponsorship • Local Business Support • Aboriginal Events e.g. NAIDOC
Community infrastructure - Tourism	<ul style="list-style-type: none"> • Investment in Lue • Local infrastructure improvements and provisions • Greening and beautification • Sponsor small coffee shop • General/grocery store • Takeaway shop • Fuel • Recreational areas for youth • Bike path along the rail line • Investment into art gallery for Lue area • Upgrades to Regent theatre in Mudgee • Reopen rail line • Renewable energy to power Project and Lue
Community investment Tourism Sense of community	<ul style="list-style-type: none"> • Ensure sustainability of Lue • Mine based tourism opportunities • Local investment Projects • Entry statements and beautification • Upgrade of Lue Hall • Lue School – support for gardens, rock climbing wall, basketball hoop, pizza oven, class programming • Local Businesses

Comment

As the summary table shows, the list of potential impacts is actually a list of potential responses to unstated problems. It is left to the reader to infer what those problems are. A list of potential responses is no more than a list of ideas. The efficacy of these ideas on inadequately specified social risks is not addressed. There is no commitment to deliver. Further, the proposed

expenditures are short term and fail to consider the future of the village when the mine is exhausted or abandoned.

There are no strategies to address the loss of sense of place that would result from this mine. Proposed beautification of the village does not address the loss of beauty in its surroundings. The impact of the mine on current tourism has not been adequately assessed and mine-based tourism opportunities are just an idea.

The list of sponsorships does not include sponsoring mental health programs or community led strategies to deal with the public health issues likely to arise from the close proximity of the mine to the village.

Social impact assessment: summary

The key social impacts examined above are: noise and vibration, lead in dust and water supply, loss of property values and loss of sense of community, sense of place and economic resilience of the village of Lue. The Umwelt SIA proposes that these adverse experiences are mitigated by

- Air conditioning and double glazing
- Bunding and screening
- Limiting the times and days when operations can occur
- Spraying for dust suppression
- Monitoring
- Investment in the local community through training, beautification projects, grants and sponsorship.

No amount of detail, for example, as to the kinds of beautification, shops, training or sponsorship, or the items to be monitored can conceal the fact that none of these proposals actually mitigate the social impacts likely to be experienced by the local community. The social impacts would arise as a consequence of risks to public health from dispersal of toxic chemicals, noise and loss of sense of place and visual amenity.

For residents of Lue, the proposed mine would mean:

- 1 Having to choose between tolerating unmitigated noise and dust and living in a fully closed (airconditioned) dwelling.
- 2 Living with on-going risks to health evident in the fact of regular testing for lead in soil and water.

- 3 Anxiety due to the risks to health particularly affecting young people and potentially realising that adverse health impacts had occurred.
- 4 Loss of many amenities of a rural way of life including home grown food, open windows, line clothes drying.
- 5 Loss of sense of place and visual amenity.
- 6 Anxiety due to loss of property values and inability to realise the previous capital value of homes and property because of the proximity of the mine.
- 7 Loss of permanent residents despite the fall in property values.
- 8 Reduction in neighbourly cooperation and volunteering due to loss of permanent residents.
- 9 Living with one or more of the following realisations, namely that:
 - Although the mine is proposed to operate for 15 years, the owner may apply to extend this – that is the end date cannot be relied on;
 - There appears to be no mechanism to ensure that the residential areas of Lue are fully protected from lead particles;⁶
 - There appears to be no effective mechanism to ensure that once extraction ceases the pit is fully rehabilitated;⁷
 - There appears to be no means of ensuring that after the proposed 15 years of operation, the village will be a safe place for people and especially young people, to live.

The likely social impact on the village of Lue, and residents of the suburb of Lue, of a silver, zinc and lead mine within 2km is a decline in the social viability of the village due to risks to health, noise and dust intrusions in daily life, loss of sense of place and amenity and population decline.

⁶ This is asserted on the basis that if such mechanisms were available, they would have been proposed.

⁷ Many mines are put into 'care and maintenance' mode which avoids saying that the site has been abandoned and allows the owners to wait to see if the price of ore will make further extraction processes viable. The idea that a pit in care and maintenance mode will be regularly screened for dust and seepage is optimistic and unrealistic. There are more than 50,000 abandoned mines in Australia. Anticipating this outcome is not unreasonable.

Attachment 1: Social Profile

Population

The village of Lue is the closest population centre to the proposed mine site, according to the 2016 Census of Population and Housing, the State Suburb (SSC) of Lue has a population of 193 (ABS 2016). ABS Census data for 2016 shows the largest proportion of Lue residents were born in Australia at 77% (or 150 total), 4.7% were born in England, 2.1% were born in New Zealand. Lue has a large Indigenous population with 4.6% of residents identifying as Aboriginal and/or Torres Strait Islander. Comparatively, indigenous peoples comprise 2.9% of the state's population.

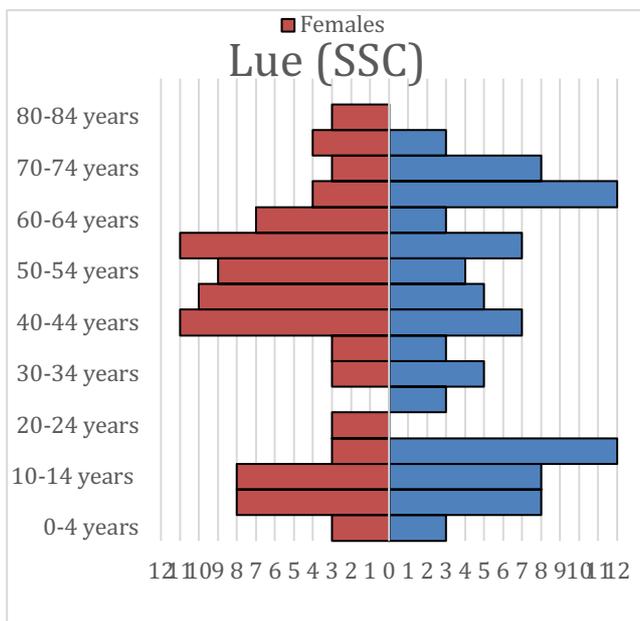
Age structure

The median age in Lue is 46, above the state median of 38 years of age (ABS, 2016). Children from 0-19 years old make up 26.6% of Lue's population, higher than the states percentile of 24.5% and the national percentile of 24.8% (ABS, 2016). 63% of Lue residents are considered working age (between the ages of 15-64). Lue has a substantially larger population above the age of 65 compared to NSW. Residents aged over 65 make up 26.2% of Lue's total population, as opposed to the same age bracket contributing to 16.2% of the states total population. There are more males (52.3%) than females (47.7%) residing in Lue (ABS, 2016). However, of the working age population (15-64) there is a considerably greater number of women. The male population is larger in age groups below 20 and above 65. Figure 1 demonstrates the population Distribution of the state suburb of Lue.

Income

2016 census data shows measures of personal, family and household income in Lue being substantially lower than the state as a whole. Figure 2 demonstrates the differences between median weekly incomes for Lue and NSW. The median weekly personal income for a working aged resident of Lue is \$504, 24% less than the NSW median of \$664. (ABS, 2016) The disparity between weekly median incomes is even more evident when we examine the 44% gap between weekly household earnings in Lue and the state median, a difference of \$661 a week or \$34,372 p.a.

Figure 1: Lue Population Distribution (Age in years by Gender)



Source: 2016 ABS Census of Population and Housing, Profile Lue (SSC12420)

Figure 2: Lue Median Weekly Income



Table 6: Selected medians and averages, Lue State Suburb, 2016

Indicator	Lue SS	NSW
Median age of persons	46	38
Median total personal income (\$/weekly)	\$504/weekly	\$664
Median total family income (\$/weekly)	\$1,281/weekly	\$1780
Median total household income (\$/weekly)	\$825/weekly	\$1486
Median mortgage repayment (\$/monthly)	\$1,322/monthly	\$1986
Median rent (\$/weekly)	\$250/weekly	\$390
Average number of persons per bedroom	0.7	1
Average household size	2.6	2.6

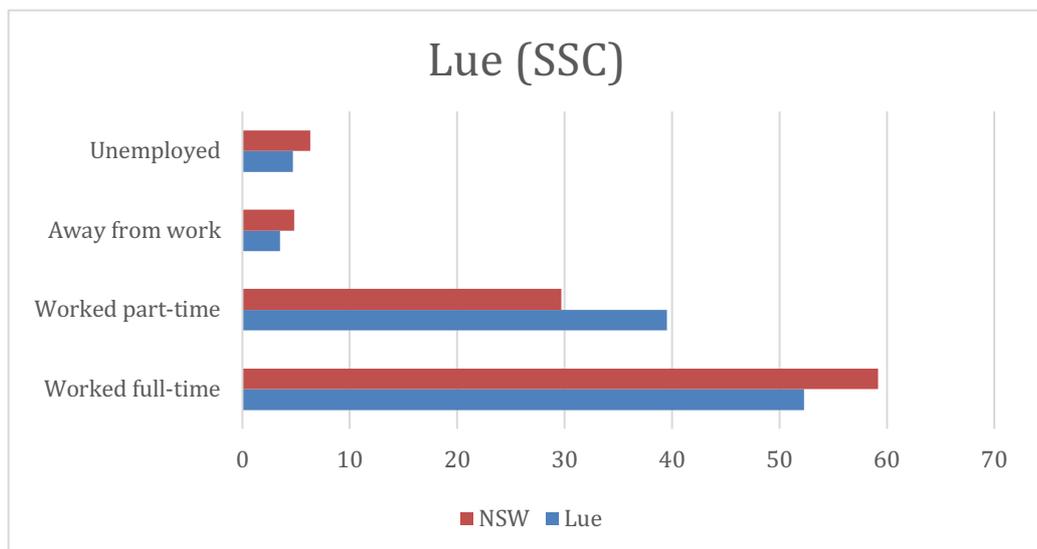
Source: (chart and table): 2016 ABS Census of Population and Housing, Profile Lue (SSC12420)

Employment

During the 2016 census a considerable amount of Lue's residents were recorded as being 'not in the labour force'. Of those that were in the labour force, 4.7% were recorded as unemployed, 1.6% below the state unemployment rate of 6.3%. Figure 3 outlines the employment basis of Lue's work force. Additional to the 4.7% being unemployed, 3.5% are 'away from work', 39.5% worked part time, and 52.3% worked full time. Lue has a greater portion of part time workers than the state as a whole.

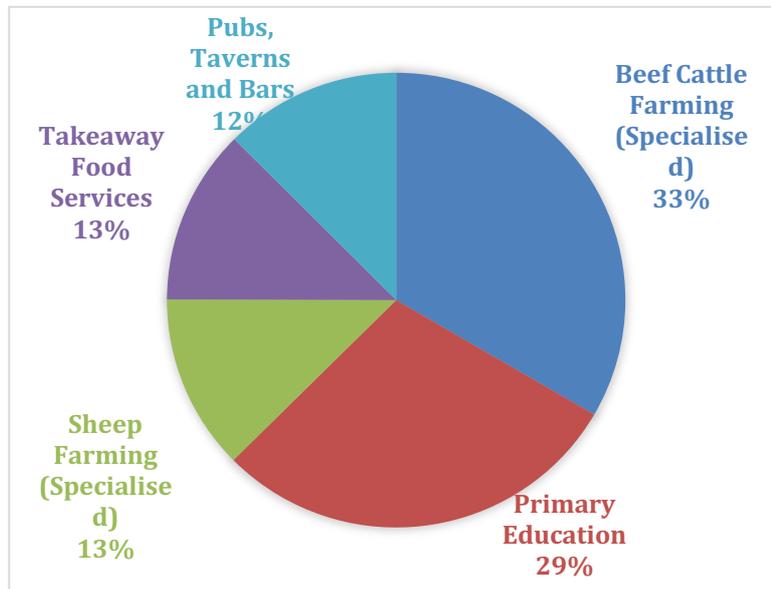
The primary industry in terms of employment numbers for the residents of Lue is Beef Cattle Farming, with roughly a third of the labour force being employed by this industry. This is closely followed by primary education at 29% of the labour force. Figure 4 demonstrates the 5 predominant employers of Lue's work force.

Figure 3: Employment



Source: 2016 ABS Census of Population and Housing, Profile Lue (SSC12420)

Figure 4: Industry of Employment in Lue



Source: 2016 ABS Census of Population and Housing, Profile Lue (SSC12420)

Education

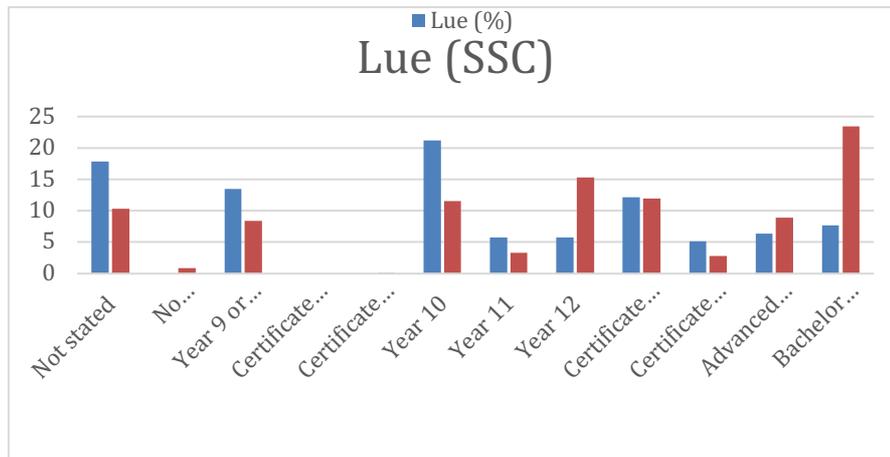
Table 2 and Figure 5 display the highest level of education achieved by residents of Lue and the state of NSW. Lue has a higher percentile of its population achieving up to year 10 as their highest attained level of education. 31.4% of Lue's population obtained some sort of education beyond secondary schooling, substantially less than the 47.2% of the state that attained some form of formal education after high school.

Table 7: Level of Highest Educational Attainment, Lue (SSC)

Highest level of education	Lue	NSW
Bachelor Degree level and above	7.7%	23.4%
Advanced Diploma and Diploma level	6.4%	8.9%
Certificate level IV	5.1%	2.8%
Certificate level III	12.2%	12%
Year 12	5.8%	15.3%
Year 11	5.8%	3.3%
Year 10	21.2%	11.5%
Certificate level II	0%	0.1%
Certificate level I	0%	0%
Year 9 or below	13.5%	8.4%
No educational attainment	0%	0.9%
Not stated	17.9%	10.3%

Source: 2016 Census of Population and Housing, Profile Lue (SSC12420) 2016

Figure 5: Level of Highest Educational Attainment, Lue (SSC)



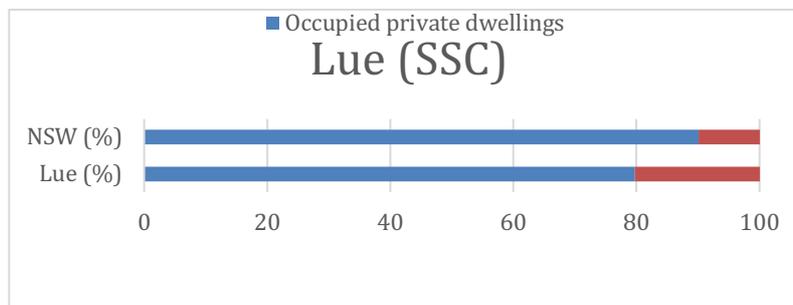
Source: 2016 Census of Population and Housing, Profile Lue (SSC12420) 2016

Lue Primary School has maintained a consistent number of roughly 20 students for the past 20 years. This year there are 25 students enrolled at the school.

Housing

In 2016, there were a total of 84 private dwellings in Lue, 17 (20.2%) of which were unoccupied. More than double the vacant dwelling rate of NSW at 9.9%. All 67 occupied private dwellings in Lue are separate houses (ABS,2016).

Figure 5: Dwelling Occupancy



Source: 2016 Census of Population and Housing, Profile Lue (SSC12420) 2016

The median weekly rent in Lue is \$250 (ABS, 2016). Figure 6 demonstrates the high home ownership levels within Lue. 50.8% of Lue’s population owned their dwellings outright, 41.5% owned their dwellings with a mortgage, leaving just 7.7% of the population living in a rented dwelling well below the 31.8% of the state living in a rented dwelling.

Figure 6: Tenure

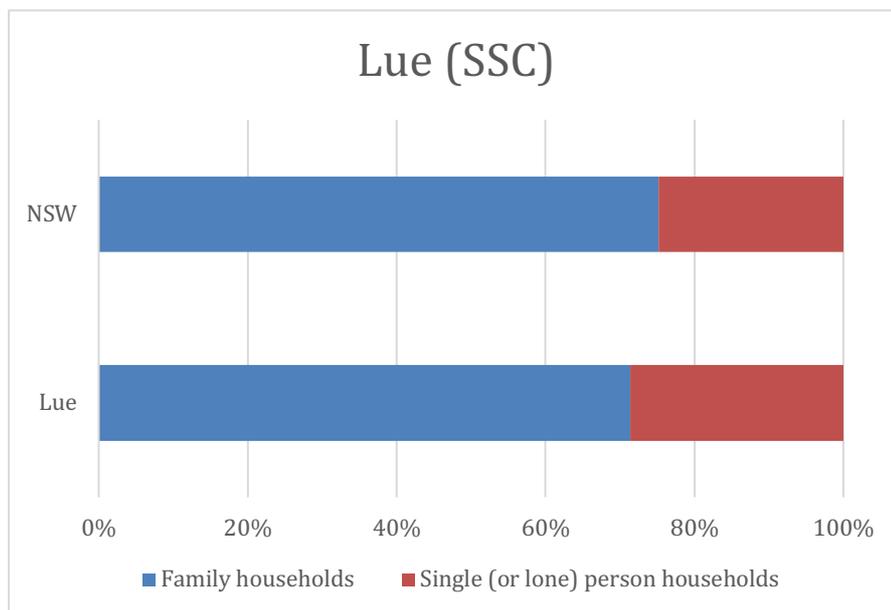


Source: 2016 Census of Population and Housing, Profile Lue (SSC12420) 2016

Family Structure

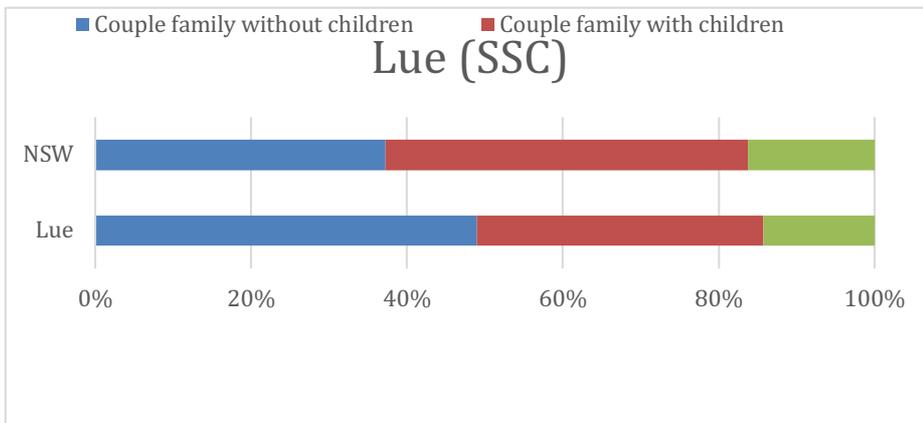
Lue consists predominantly of family households. There is a marginally larger proportion of single (or lone) person households in Lue in comparison to the state as a whole. Of the families residing in Lue close to half are without children. Figure 7 details the family composition of Lue compared to NSW.

Figure 7: Household Composition



Source: 2016 Census of Population and Housing, Profile Lue (SSC12420) 2016

Figure 8: Family Composition



Source: 2016 Census of Population and Housing, Profile Lue (SSC12420) 2016

Health

The State Suburb of Lue falls within the Western NSW Local Health District one of the largest Health Districts in NSW, delivering health Services to around 277,000 Residents ⁸ (NSW Health, 2020).

The Socio-Economic Indexes for Australia (SEIFA), 2016 demonstrate that the State suburb of Lue is ranked around midway, within the 52nd percentile of the state in terms of Relative Socio-economic Disadvantage.

In the Mid-Western Regional LGA the life expectancy for Males is 80.2 years and for Females is 84.4 Years. As for NSW life expectancy Males live to an average of 81.5 years and Females live to 85.7 years.

Table 8: Life Expectancy

Area	Female (years)	Male (years)
Mid-Western Regional	84.4	80.2
New South Wales	85.7	81.5

Source: HealthStats, NSW (2017)

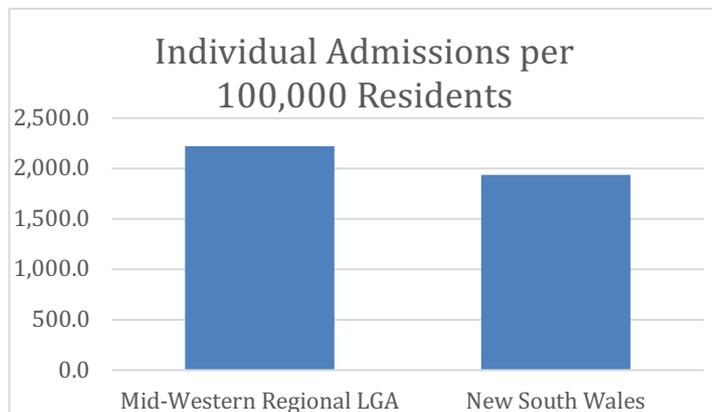
Admissions to hospitals for persons with respiratory symptom disease is significantly greater in the Mid-Western Regional LGA when compared to the admission rates of the whole state. (Figure 9)

Deaths from respiratory disease is also recorded in higher numbers within the Mid-Western Regional LGA. Between 2013-2017, there were 27.6 deaths per

⁸ <https://wnswlhd.health.nsw.gov.au/>

100,000 residents from respiratory diseases. Significantly higher than the states recording of 16.6 deaths per 100,000 residents. (PHIDO Social Health Atlas 2018).

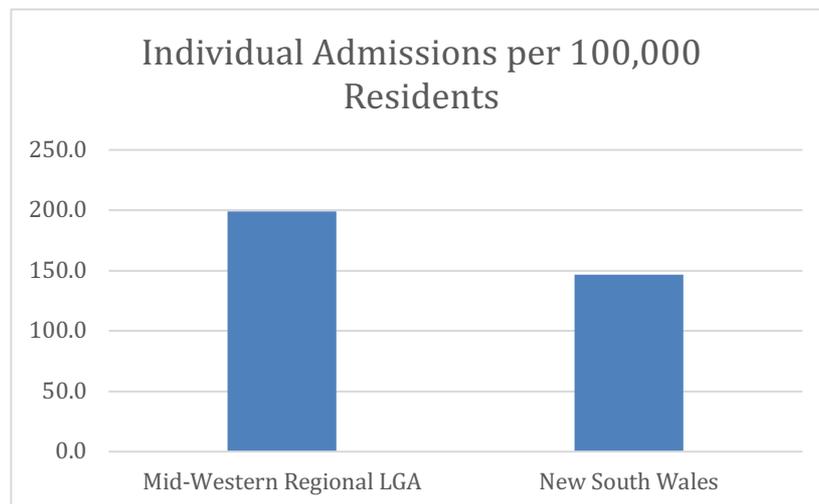
Figure 9: Admissions for Respiratory System Diseases, Persons – All Hospitals



Source: (PHIDU Social Health Atlas 2018)

Admissions to hospitals for persons with congenital malformations, deformations and chromosomal abnormalities are much higher for the Mid-Western Regional LGA when compared to state as a whole. (Figure 10)

Figure 10: Admissions to all hospitals for persons with congenital malformations, deformations and chromosomal abnormalities.



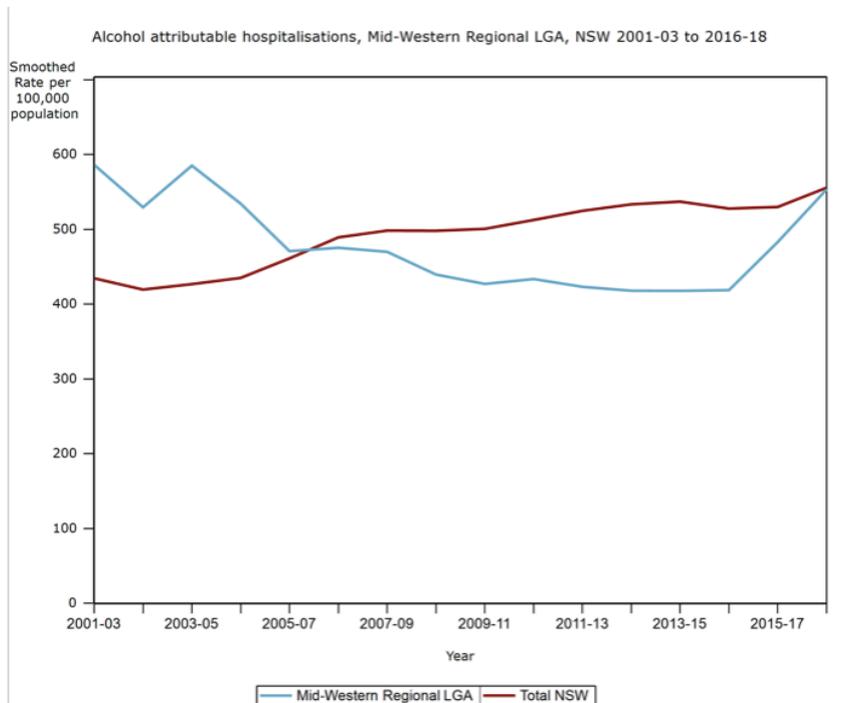
Source: (PHIDU Social Health Atlas 2018)

Health - Adults 18 Years and older

84.5% of people aged 18 years or older within the Mid-Western Regional LGA have at least one of four health risk factors (current smokers, obesity, high risk alcohol consumption, no or low exercise in the previous week) higher than the state average of 78.2% (Social Health Atlas, 2015). HealthStats NSW data also reveals a spike in recent years in alcohol attributable hospitalisations within the Mid-Western Regional LGA (Figure 11).

- Within the Mid-Western Regional LGA there is a higher estimated number of people aged 18 and over who are obese (41%) when compared to the state as a whole (30.9%) (PHIDU Social Health Atlas 2018)
- Rates of current smokers aged 18 and above is higher with the Mid-Western Regional LGA (21%) than the state as a whole (14.4%) (PHIDU Social Health Atlas 2018)
- Consumption of more than 2 standard drinks per day is higher within the LGA when compared to the whole state. 21.9% of people aged 18 years and older consume more than 2 standard drinks per day as opposed to the NSW total where 15.5% of people aged 18 years and older consume more than 2 standard drinks per day. (PHIDU Social Health Atlas 2018)

Figure 11: Alcohol Attributable Hospitalisations, Mid-Western Regional LGA



Source: HealthStats NSW

Health – Children 2 – 17 years old

There is indication that children aged between 2 and 17 years old that reside within the Mid-Western Regional LGA may be less healthy than children residing in the state of NSW as a whole. Children residing in the Mid-Western LGA have higher recordings of being overweight (19.3%) or obese (10.8%) when compared to the state as a whole (17.1% overweight and 7.4% Obese). (PHIDU Social Health Atlas 2018)

Mental Health

Social Health Atlas data additionally shows that the Mid-West Regional LGA has a high premature mortality by suicide and self-inflicted injuries relative to other NSW Local Government Areas with 14.8 cases recorded for every 100,000 residents in the LGA as opposed to 10.5 cases for every 100,000 residents in the State. (PHIDU Social Health Atlas 2018).

Crime

According to NSW Bureau of Crime Statistics and Research, Mid-Western Regional LGA experiences significantly higher rates of domestic assault than the state average, cases of domestic assault within the LGA are up 23.7% over the past 2 years to 686 cases per 100,000 residents as opposed to 393 cases per 100,000 residents of the state of NSW (Figure 12). The majority of offenders are male and the majority of assaults occur within residential areas. (BOCSAR, 2020).

Breaches of apprehended violence orders (AVO) have increased in the Mid-Western Regional LGA by 46.2%% over the last 2 years. This rate is significantly higher the state average (Figure 13). In the year leading to March 2020, 114 AVOs were granted a rate of 454.4 per 100 000 population close to double the rate for NSW (231 per 100,000 population). Mid-Western Regional LGA also experiences higher rates of malicious damage to property and sexual offences than NSW as a whole. (BOCSAR, 2020)

However, BOCSAR crime maps show that hotspots of these crimes were concentrated in Mudgee while recorded rates of these crimes were very low in suburb of Lue.

Figure 12: Incidents of Domestic Assault in Mid-Western Regional LGA

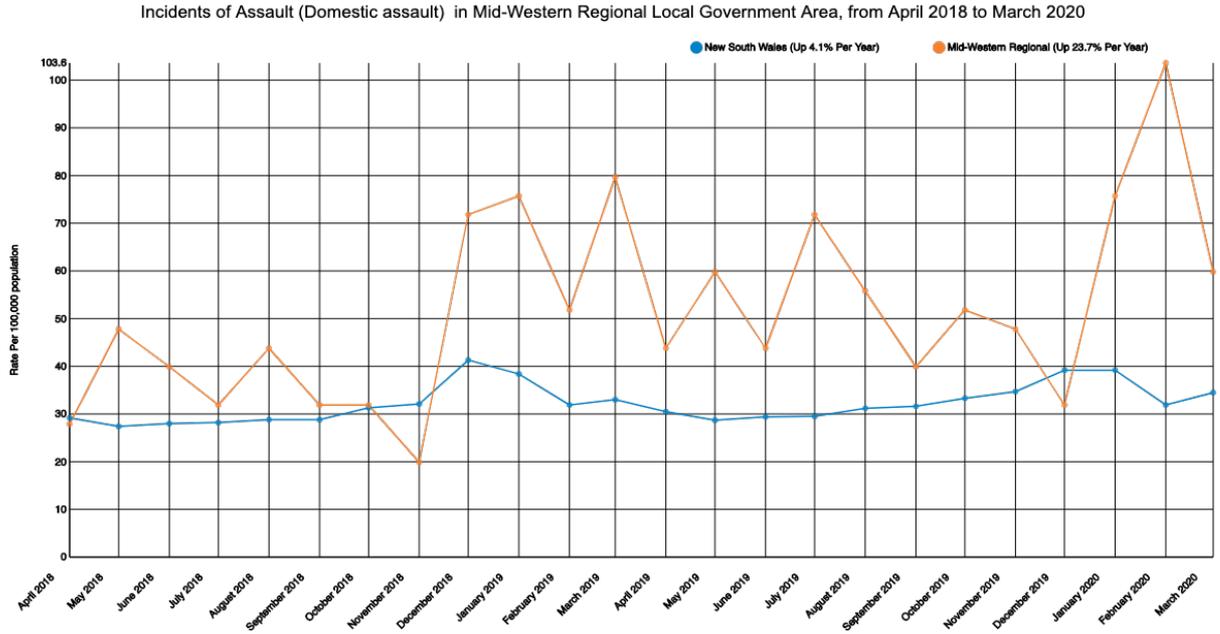
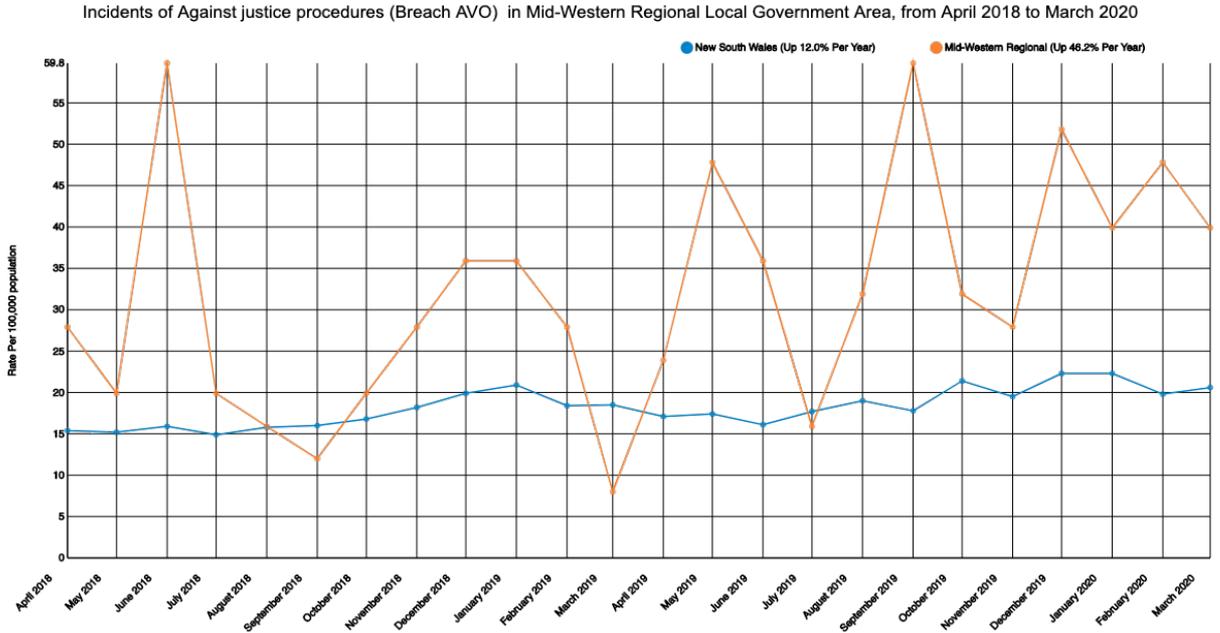


Figure 13: Incidents of a Breached AVO in Mid-Western Regional LGA



Source (both figures): NSW Bureau of Crime Statistics and Research 2019 accessed 11/07/2020

Curriculum Vitae – Alison Ziller

Current positions

Lecturer in Social Impact Assessment. Department of Geography & Planning, *Macquarie University*, 2012 - <https://researchers.mq.edu.au/en/persons/alison-ziller>

Visiting lecturer in social sustainability *University of Technology, Sydney*, 2010 –

Research Affiliate, Sydney Environment Institute 2020 -

Alison Ziller social planning consultant (previously with Australia Street Company), 1996 -

Qualifications

Bachelor of Arts, Honours (Sociology), *London School of Economics & Political Science*, 1966

Master of Arts (Sociology) *Columbia University, New York*, 1969

PhD, School of Urban and Regional Planning, *The University of Sydney*, 2004 Thesis title:
The Role of Planning in Community Building

Recent publications and submissions

Ziller Alison, Submission to the Independent Planning Commission re, proposed Vickery Extension Project, June 2020.

Ziller Alison, Submission to Liquor & Gaming NSW re. Division 5 Cumulative impact assessments, NSW Liquor Amendment Bill 2020, June 2020

Ziller Alison and Gemma Viney, Social impacts review report: Narrabri Gas Project, for the *NSW Environmental Defenders Office*, February 2020

Ziller, Alison 2019, The drinks are on us: the capture of the planning industry and how we know about it, Presentation, *Festival of Urbanism*, The University of Sydney, 10 September 2019:

Ziller, Alison 2019, SIA review re. proposed Vickery Extension coal mine at Boggabri, for *NSW Environmental Defenders Office*, 7 February:

Ziller, Alison and Tony Brown, 2019, Rational Social Impact Assessment of Alcohol Outlets: Slip Sliding Away, *J Law and Medicine*, 26, 786-799

Ziller, Alison 2019, Letter to the Editor, SIA reviewers (in Australia) need a different set of guidelines. *Impact Assessment and Project Appraisal*, February:

Lawrence R and A Ziller 2018, [Expert report: Review of a social impact assessment prepared by GHD for Santos regarding the proposed Narrabri Gas Project](#) 5 June:

Ziller, Alison 2018, Online retail of alcohol, some dilemmas for professional SIA practice, *Impact Assessment and Project Appraisal*, 36:5, 383-389

Lawrence R and A Ziller, 2018, Peer review SIA expert report re proposed Rocky Hill coal mine, for *NSW Department of Planning and Environment*, 25 June

Ziller, Alison, 2017, Eroding public health through liquor licencing decisions, *J Law and Medicine*, 25/2.

Curriculum Vitae – Hugo Walton

Current Positions

Graduate Planner, *New South Wales Land and Housing Corporation*

Committee member, *New South Wales Young Planners – Planning Institute of Australia*

Qualifications

Bachelor of Planning, Department of Geography and Planning, *Macquarie University*, 2020

BA, Human Geography, Department of Geography and Planning, *Macquarie University*, 2018

Previous Positions

Student Planner, *Inner West Council*

Work and research

Hugo is a qualified Planner and Human Geographer with professional experience in statutory and strategic planning on state and local government levels.

Statement by Hugo Walton

I have read and agree to be bound by Division 2, Part 31 of the Uniform Civil Procedure Rules 2005 and the Expert Witness Code of Conduct.

A handwritten signature in black ink, appearing to read 'Hugo Walton', written over a large, stylized, loopy initial 'H'.

22 July 2020