

# Social assessment

Area 1 of Narran-Warrambool Reserve

Prepared for Department of Regional NSW  
March 2022

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## Client

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## Prepared by



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10 March 2022

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10 March 2022

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# 1 Introduction

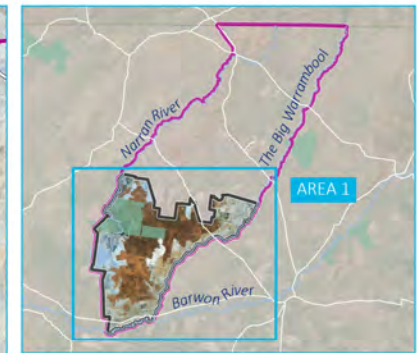
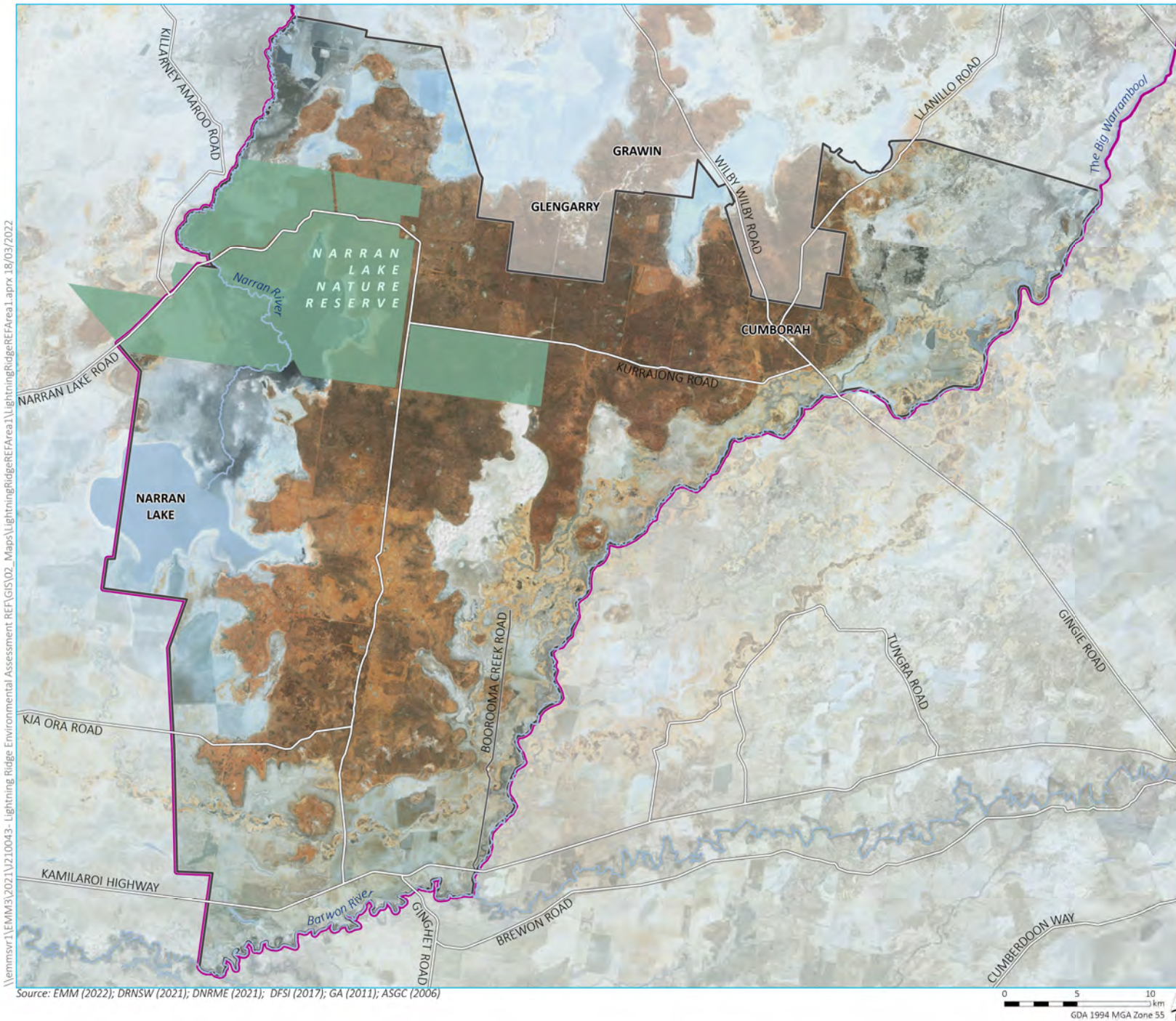
## 1.1 Background

The Department of Regional NSW (DRNSW) commissioned EMM Consulting Pty Limited (EMM) to prepare a Review of Environmental Factors (REF) as an internal assessment tool for activities associated with opal prospecting and opal mining in REF Area 1 of the Narran-Warrambool Reserve (NWR). This social assessment has been carried out to determine the potential social impacts and benefits to the local community and businesses as a consequence of future opal prospecting and mining activities of the NWR REF Area 1 (the Project).

## 1.2 Site description

The NWR was gazetted in 1989 pursuant to section 24 of the (now repealed) *Mining Act 1973* and covers approximately 5,000 square kilometres (km<sup>2</sup>). The NWR also includes the Lightning Ridge Mineral Claims District which was established pursuant to section 173 of the (current) *Mining Act 1992* and mirrors the area originally gazetted as the NWR. There are four defined opal prospecting areas (OPAs) numbered 1 to 4 within the NWR.

This report considers activities within an area comprising approximately 1,972 km<sup>2</sup> within the southern portion of the NWR. This southern portion of the NWR is known as REF Area 1 and is broadly bounded by the Barwon River and Narran River to the south-east and north-west respectively; includes Narran Lake Nature Reserve to the west; and sits immediately south of (but does not include) the existing opal fields of Glengarry, Grawin and Sheeppark to the north (see Figure 1.1). Incorporated within REF Area 1 is Opal Prospecting Area 4 (OPA4), however this REF examines opal prospecting and opal mining across the entirety of REF Area 1.



- KEY**
- Area 1
  - ▭ Narran- Warrambool Reserve
  - Existing environment
  - Major road
  - Minor road
  - Named watercourse
  - ▭ Named waterbody
  - ▭ NPWS reserve

Area 1  
Narran-Warrambool Reserve

Review of Environmental Factors  
Figure 1.1

## 1.3 Purpose

DRNSW has an approval role pursuant to the *Mining Act 1992* (Mining Act) for the granting of an Opal Prospecting Licence or Mineral Claim within the NWR.

Under the *Environmental Planning and Assessment Act 1979* (EP&A Act), the activities associated with opal prospecting and mining are classified as permissible without consent.

While a development consent is not required for those opal prospecting and mining activities, the provisions of Part 5.1 of the EP&A Act place upon DRNSW a duty to consider the likely environmental impacts of granting such licences and leases. This establishes DRNSW as a determining authority for the proposed activities and in order to appropriately discharge the obligation to consider the likely environmental impacts of the activities, an assessment report in the form of a Review of Environmental Factors (REF) has been prepared.

The purpose of the REF is to describe the Project, document the likely impacts of the Project on the environment, and detail measures to mitigate impacts that cannot be avoided. The REF is the key document which DRNSW would use to discharge its duty under section 5.5 of the EP&A Act. Section 5.5 provides that DRNSW must examine and take into account to the fullest extent possible, all matters affecting or likely to affect the environment from the proposed activity – in this case being opal prospecting and opal mining.

In exercising its duty, DRNSW must take into account those factors listed under clause 228 of the Environmental Planning and Assessment Regulation 2000. The assessment of these factors must form a view as to whether the proposed activities are likely to have a significant environmental impact. In the event that the REF finds that a significant impact is likely, the EP&A Act further requires that an environmental impact statement be prepared.

## 1.4 Scope

The REF has been prepared in accordance with the NSW Department of Planning and Environment (DPE) (now NSW Department of Planning, Industry and Environment (DPIE)) Resources Regulator *ESG2: Guideline for Preparing a Review of Environmental Factors* (Resources Regulator 2018). It considers the potential environmental and community impacts associated with opal prospecting and mining activities within REF Area 1. The REF describes the existing environment, the socio-economic context, stakeholder and community engagement, provides an impact assessment, and proposes appropriate management and mitigation measures for opal prospecting and mining within REF Area 1.

This report provides an assessment of potential social impacts and benefits associated with the proposed expansion of prospecting and mining within REF Area 1.

This social assessment has been prepared with reference to relevant government assessment requirements, guidelines and policies, in particular, *ESG2: Guideline for Preparing a Review of Environmental Factors* (Resources Regulator 2018).

The aim of the social assessment is to assess the proposed changes to the current social conditions and has used both primary and secondary data sources to develop a layered picture of the potential social impacts that are likely consequences or changes experienced by the community in which future opal prospecting and opal mining activities are proposed. Information pertaining to the proposed opal prospecting and mining activities in REF Area 1, along with Australian Bureau of Statistic (ABS) demographic and economic data was used to inform the study area and to identify potentially affected communities and key stakeholders. The study area was mapped to identify surrounding stakeholders who could potentially be directly or indirectly affected by the Project. This includes identifying land and lease holders, businesses and social services who may have an interest in future opal prospecting and mining activities and who could be impacted.



## 1.5 Assumptions and limitations

This social assessment has been based on available information at the time of writing. The assumptions and limitations of this report are as follows:

- community profile information is based on desktop research;
- the potential social impacts have been informed by evidence from primary and secondary data and engagement sources, including:
  - in-depth interviews conducted by EMM’s social scientists with:
    - land and lease holders;
    - two miners’ associations; and
    - Walgett Shire Council;
  - academic, government, and grey literature (eg reports, working papers, government documents, white papers and evaluations)
- primary data collection was from 15 potentially impacted stakeholders, as described above.
- the identification and assessment of potential social impact is informed by:
  - findings from in-depth interviews conducted during the social assessment field study;
  - available academic, government, and grey literature; and
  - a community profile.
  -

### 1.5.1 Limited scope and timeframe

- This social assessment is informed by consultation with a small number of stakeholders and the professional judgement of EMM social scientists and planners. The limited scope and short timeframe has constrained the identification of all potential social impacts. The extent, likelihood and magnitude of social impacts and benefits identified in this social assessment draw on valid, but limited, evidence and hence should not preclude further inquiry regarding social impacts or consideration of supplementary evidence as it comes to hand over time.

## 2 Community profile

### 2.1 Overview

This section provides a brief snapshot of the social conditions of the suburbs and broader region in which opal prospecting and opal mining activities are proposed. The study area has been identified as the suburbs of Lightning Ridge, Cumborah, Brewarrina, Walgett and Narran Lakes locally, and Walgett local government area (LGA) and Brewarrina LGA regionally, as shown in Table 2.1.

**Table 2.1** Locations within the study area mapped to ABS category

Location	ABS Category	Study area
Lightning Ridge	Lightning Ridge State Suburb (SSC)	Local area
Cumborah	Cumborah SSC	
Brewarrina	Brewarrina SSC	
Walgett	Walgett SSC	
Narran Lakes	Narran Lakes SSC	
Walgett Shire	Walgett LGA	Regional area
Brewarrina Shire	Brewarrina LGA	

Notes: SSC - State Suburb Code as defined by the Australian Bureau of Statistics

### 2.2 Demographic profile

According to the ABS 2016 Census of Population and Housing, Lightning Ridge SSC has a total population of 2,284 people, Cumborah SSC has a total population of 249 people, Brewarrina SSC has a total population of 1,143 people, Walgett SSC has a total population of 2,145 and Narran Lakes SSC currently has a population of zero people. Despite having population of zero, Narran Lakes SSC has been included due to the ecological value it brings to the local and regional area. Narran Lakes encompasses both the Narran Wetlands and the Narran Lake Nature Reserve.

These comprise a total population of 5,821 people in the study area. Population within the study area is presented in Table 2.2.

**Table 2.2** Population 2016

Area	Population	Male (%)	Female (%)	Median age
Lightning Ridge SSC	2,284	54.3%	45.8%	51
Cumborah SSC	249	58.2%	42.2%	55
Brewarrina SSC	1,143	52.0%	47.9%	32
Walgett SSC	2,145	50.7%	49.5%	33
Narran Lakes SSC	0	0.0%	0.0%	0
Walgett LGA	6,107	53.0%	47.1%	43
Brewarrina LGA	1,651	51.4%	48.6%	34
<b>NSW</b>	<b>7,480,228</b>	<b>49.3%</b>	<b>50.7%</b>	<b>38</b>

Source: ABS 2016, Census of Population and Housing: General Community Profiles

The study area has a varied median age compared to NSW (38) with Lightning Ridge SSC (51), Cumborah SSC (55) and Walgett LGA (43) displaying a higher median age than broader NSW. Meanwhile, the median age in Brewarrina SSC (32), Walgett SSC (33) and Brewarrina LGA (34) are all lower than the median age across NSW. Within the local area and regional area there is a slightly higher proportion of males which differs from NSW.

Throughout the local area and regional area, there is a much higher proportion of persons aged 45 – 74 compared to NSW, specifically in the 55 – 64 years age bracket. However, there is a much smaller proportion of persons aged 85 years and older, particularly in Cumborah SSC (0.0%) where there are no people in this age bracket. There is also a slightly higher proportion of persons aged 5 – 14 across the local area and regional area. Due to the small populations within these suburbs, there is substantial variation in the age distributions. A breakdown of the aged group distribution is presented in Table 2.3.

**Table 2.3 Age group distribution, 2016**

Age group	Lightning Ridge SSC	Cumborah SSC	Brewarrina SSC	Walgett SSC	Walgett LGA	Brewarrina LGA	NSW
0 – 4 years	4.6%	3.2%	7.9%	8.6%	6.6%	7.4%	6.2%
5 – 14 years	10.2%	13.7%	16.5%	15.3%	12.9%	15.7%	12.3%
15 – 19 years	4.0%	6.8%	6.3%	4.5%	4.4%	5.6%	6.0%
20 – 24 years	4.3%	2.4%	8.0%	6.9%	5.1%	7.1%	6.5%
25 – 34 years	9.0%	1.2%	13.9%	15.2%	12.0%	14.0%	14.3%
35 – 44 years	9.9%	12.0%	9.8%	11.4%	11.0%	9.6%	13.4%
45 – 54 years	14.2%	13.7%	16.4%	13.1%	13.5%	16.4%	13.1%
55 – 64 years	16.3%	22.9%	12.4%	13.3%	15.1%	13.2%	11.9%
65 – 74 years	16.5%	17.7%	5.8%	7.3%	12.1%	6.5%	9.1%
75 – 84 years	9.0%	4.0%	3.1%	2.8%	5.7%	2.6%	5.0%
85 years and older	1.4%	0.0%	1.5%	1.0%	1.3%	1.5%	2.2%

Source: Source: ABS 2016, Census of Population and Housing: General Community Profiles

### 2.2.1 Aboriginal and/or Torres Strait Islander peoples

Throughout the local area and regional area there is much higher proportion of persons who identify as Aboriginal and/or Torres Strait Islander than across NSW (2.9%). A significant proportion of the population in Brewarrina SSC (64.7%), Walgett SSC (43.6%) and Brewarrina LGA (61.2%) identified as Aboriginal and/or Torres Strait Islander compared to NSW (2.9%). Within the local and regional area, Cumborah SSC (8.8%) had the lowest proportion of Aboriginal and/or Torres Strait Islander people. The distribution of Aboriginal and/or Torres Strait Islander males and females across the study area is generally consistent with NSW. A summary of the Aboriginal and/or Torres Strait Islander population is presented in Table 2.4.

**Table 2.4 Summary Aboriginal and/or Torres Strait Islander population**

Area	Indigenous population	Indigenous population % total	Male (%)	Female (%)	Median age
Lightning Ridge SSC	517	22.6%	51.6%	49.3%	31
Cumborah SSC	22	8.8%	45.8%	54.2%	17
Brewarrina SSC	740	64.7%	51.5%	48.0%	27
Walgett SSC	935	43.6%	46.5%	53.3%	27
Walgett LGA	1798	29.4%	48.6%	51.4%	27
Brewarrina LGA	1011	61.2%	49.8%	50.0%	28
<b>NSW</b>	<b>216,176</b>	<b>2.9%</b>	<b>49.7%</b>	<b>50.3%</b>	<b>22</b>

Source: ABS 2016, Census of Population and Housing: General Community Profiles

Notes: Please note that there are small random adjustments made to all cell values to protect the confidentiality of data. These adjustments may skew population totals.

The Aboriginal and/or Torres Strait Islander population's lower median age, which indicates a smaller proportion of the population (both males and females) living beyond 65 years, and aligns with the lower life expectancy among Indigenous Australians nationally.

### 2.2.2 Employment

The unemployment rate across the study area in general is much higher than the NSW rate (6.3%), with Brewarrina SSC (18.9%) and Brewarrina LGA (16.0%) having a notably greater rate of unemployment. The youth unemployment rate in both the local and regional area is significantly higher than the NSW rate (13.6%) with 33.8% in Brewarrina LGA, 32.3% in Brewarrina SSC, 24.4% in Lightning Ridge SSC, 20.3% in Walgett LGA and 16.3% in Walgett SSC. Youth unemployment in Cumborah SSC is 0.0% which is significantly lower than NSW, however, this would be distorted by a very small population of which only a small proportion are youth.

Labour force participation across the local and regional area is lower than the NSW rate of 59.2%. Walgett SSC (52.2%) has highest rate of labour force participation in the area while Cumborah SSC (27.9%) has the lowest.

The unemployment and labour force participation rates are presented in Table 2.5.

**Table 2.5 Unemployment and labour force participation rates, 2016**

Area	Unemployment rate	Youth unemployment rate	Labour force participation rate (15 years and older)
Lightning Ridge SSC	14.8%	24.4%	37.9%
Cumborah SSC	10.3%	0.0%	27.9%
Brewarrina SSC	18.9%	32.3%	44.2%
Walgett SSC	9.4%	16.3%	52.2%
Walgett LGA	10.6%	20.3%	47.2%
Brewarrina LGA	16.0%	33.8%	46.6%
<b>NSW</b>	<b>6.3%</b>	<b>13.6%</b>	<b>59.2%</b>

Source: ABS 2016, Census of Population and Housing: General Community Profiles

The most common industry providing employment in the study area is agriculture, forestry and fishing, which is the top industry of employment in Walgett SSC (21.1%), Walgett LGA (27.4%) and Brewarrina LGA (24.1%) and the second largest in Cumborah SSC (19.1%). The top industries of employment in Lightning Ridge SSC, Cumborah SSC and Brewarrina SSC are education and training (15.3%), accommodation and food services (21.3%) and public administration and safety (19.3%) respectively. Other top industries of employment in the local and regional areas include:

- health care and social assistance;
- mining;
- professional, scientific, and technical services; and
- retail trade.

The top industries of employment in the study area are summarised in Table 2.6.

**Table 2.6 Top three industries of employment by SSC, 2016**

	Top Industries					
	First		Second		Third	
Lightning Ridge SSC	Education and training	15.3%	Accommodation and food services	14.2%	Health care and social assistance	13.1%
Cumborah SSC	Accommodation and food services	21.3%	Agriculture, forestry, and fishing	19.1%	Mining	8.5%
					Professional, scientific and technical services	8.5%
					Retail trade	8.5%
Brewarrina SSC	Public administration and safety	19.3%	Health care and social assistance	19.0%	Education and training	18.4%
Walgett SSC	Agriculture, forestry, and fishing	21.1%	Public administration and safety	15.0%	Health care and social assistance	13.5%
Walgett LGA	Agriculture, forestry, and fishing	27.4%	Education and training	12.3%	Health care and social assistance	11.4%

Top Industries						
	First		Second		Third	
Brewarrina LGA	Agriculture, forestry, and fishing	24.1%	Education and training	17.7%	Health care and social assistance	16.7%

Source: ABS 2016, Census of Population and Housing: General Community Profiles

### 2.2.3 Local business

In 2020, there were 710 registered businesses in Walgett LGA and 118 registered businesses in Brewarrina LGA. Of these, 30.3% of businesses in Walgett LGA and 25.4% of businesses in Brewarrina LGA employed fewer than 20 people. In addition to this, 69.3% of businesses in Walgett LGA and 70.3% in Brewarrina LGA were non-employed (ABS 2018). Only 1.3% of businesses in Walgett LGA and 0.0% of businesses in Brewarrina LGA employed more than 20 employees.

The highest percentage of registered businesses in Walgett LGA were in the industries of agriculture, forestry, and fishing (46.2%) and rental, hiring and real estate services (8.9%). Brewarrina LGA is similar with 68.6% in agriculture, forestry, and fishing and 6.8% in transport, postal and warehousing.

### 2.2.4 Vulnerable groups

To determine the potential vulnerable groups in the study area, the Socio-Economic Indexes for Areas (SEIFA), rates of homelessness, and persons with a disability has been considered.

#### i Socio-economic Indexes for Areas

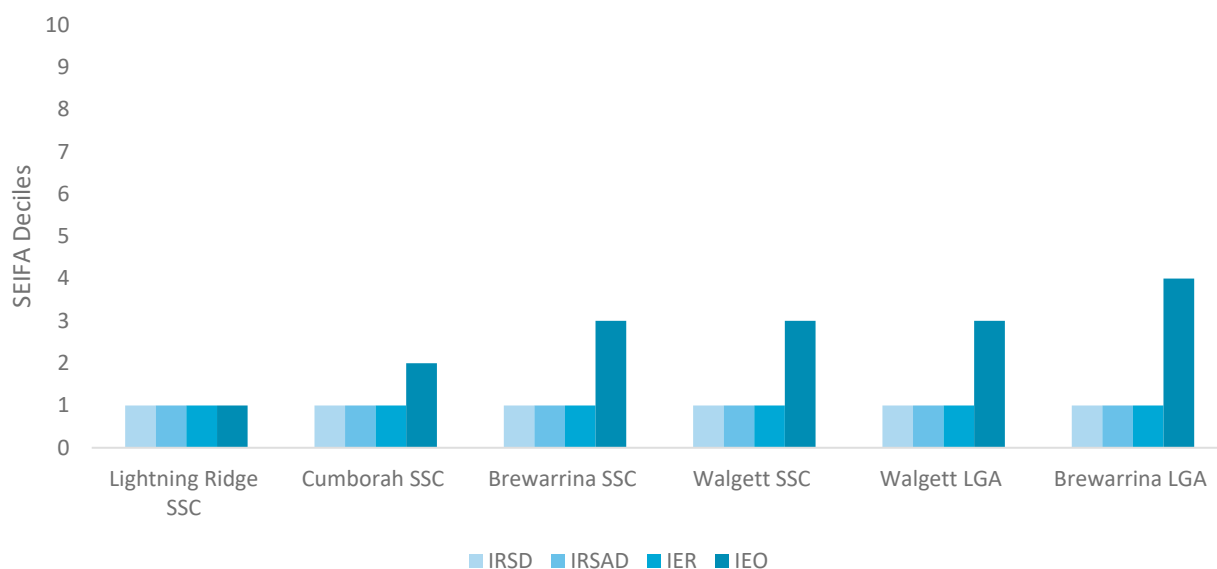
The level of disadvantage or advantage in the population is indicated in the SEIFA, which focuses on low-income earners, relatively lower education attainment, high unemployment and dwellings without motor vehicles. SEIFA is a suite of four summary measures created from Census data, including:

- the Index of Relative Socio-Economic Disadvantage (IRSD);
- the Index of Relative Socio-Economic Advantage and Disadvantage (IRSAD);
- the Index of Education and Occupation (IEO); and
- the Index of Economic Resources (IER).

Each index is a summary of a different subset of Census variables and focuses on a different aspect of socio-economic advantage and disadvantage. Low rankings are deemed most disadvantaged and high rankings least disadvantaged within a decile ranking system where the lowest 10% of areas are given a decile number of 1 and the highest 10% of areas are given a decile number of 10. The rankings of the communities within the study area for each of the four summary measures are demonstrated in Figure 2.1.

According to the 2016 SEIFA, the local area experiences significantly higher levels of disadvantage compared to other suburbs, LGAs, and regions in NSW and Australia. In the IRSD, IRSAD and the IEO, each of the identified suburbs fall within decile 1 (ie the bottom 10% of communities in NSW). This means that there are likely many households with low income, low/no qualifications, low skilled occupations, fewer high income household and high rates of low rent households in the area. A decile ranking of 3 or below for the IEO could be attributable to the local area having fewer people with qualifications and in highly skilled occupations. A low IEO could also be indicative that there may be a higher number of unemployed persons compared to other areas of NSW, as the unemployment rate in the local area is significantly higher than that of NSW as a whole (see Table 2.5).

Within the regional area, the SEIFA scores indicate high levels of disadvantage and low levels of advantage. Walgett LGA and Brewarrina LGA are ranked within the 1<sup>st</sup> decile for the IRSD, IRSAD and IER. This is likely attributable to fewer people with qualifications and in highly skilled occupation, compounded by higher unemployment rate, lower incomes and a higher rates of households who pay low rent. For the IEO, Walgett LGA is ranked in 3<sup>rd</sup> decile and Brewarrina LGA in the 4<sup>th</sup> decile indicating low to medium numbers of higher education qualifications and low numbers of skilled occupations compared to other LGAs within NSW. The rankings of the communities within the study area for each of the four summary measures are demonstrated in Figure 2.1.



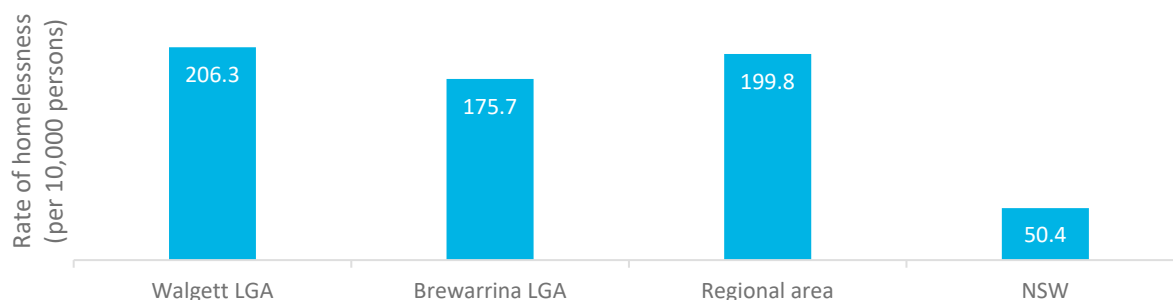
Source: ABS 2016, 2033.0.55.001 – Census of Population and Housing: Socio-Economic Indexes for Areas (SEIFA)

Each index is a summary of a different subset of Census variables and focuses on a different aspect of socio-economic advantage and disadvantage. Low rankings are deemed most disadvantaged and high rankings least disadvantaged within a decile ranking system where the lowest 10% of areas are given a decile number of 1 and the highest 10% of areas are given a decile number of 10.

**Figure 2.1 SEIFA deciles in the study area, 2016**

ii Homelessness

Rates of homelessness according to the 2016 Census are only available at the LGA level, which include Walgett LGA and Brewarrina LGA. Across the regional area, rates of homelessness (199.8 per 10,000 persons) are significantly higher than NSW (50.4 per 10,000 persons). Walgett LGA has a homelessness rate of 206.3 per 10,000 persons and Brewarrina LGA has a rate of 175.7 per 10,000 persons. Respectively, Walgett LGA and Brewarrina LGA have four and three times the rate of homelessness that can be seen across NSW (see Figure 2.2).



Source: ABS 2016, 2049.0 – Census of Population and Housing: Estimating Homelessness

**Figure 2.2 Rates of homelessness per 10,000 persons, 2016**

### iii Disability

There is some variation within the local area in the proportion of the population living with a disability. The rate of persons identifying as having a need for assistance in Cumborah SSC (6.8%), Brewarrina SSC (5.5%) and Walgett LGA (6.3%) is higher than the NSW proportion (5.4%). However, Lightning Ridge SSC (9.5%) stands out as having a significantly higher proportion of persons having a need for assistance. Both Walgett SSC (3.9%) and Brewarrina LGA (4.4%) fall below the NSW proportion (5.4%) of persons needing assistance.

### 2.2.5 Health

The Western NSW Local Health District (LHD) encompass both the local and regional area. Three major health risk factors can be used as an indicator of population health: alcohol consumption, smoking, and obesity. In 2020, the proportion of persons who consumed alcohol at levels considered to be high risk to health<sup>1</sup> in the Western NSW LHD (35.8%) was higher than the NSW rate. The rate of daily smoking in adults in the LHD also exceeded the NSW proportion (32.5%). In the Western NSW LHD, 71.2% of adults are overweight or obese. This is substantially greater than the NSW rate of 56.8%. In addition, asthma appears to be more prevalent within the LHD (19.3%) than what can be seen across NSW (11.5%). However, the Western NSW LHD (10.5%) appears to have a lower rate of persons experiencing high or very high psychological distress than in the NSW region (16.7%)

The percentage rates of various health indicators in the regional area for 2020 are presented in Table 2.7.

**Table 2.7 Health indicators summary, percentage rates, 2020**

	Western NSW LHD	NSW
Alcohol drinking, long term risk in adults	35.8%	32.5%
Daily smoking in adults	11.2%	9.2%
Overweight or obesity in adults	71.2%	56.8%
Asthma prevalence in adults	19.3%	11.5%
High and very high psychological distress in adults	10.5%	16.7%

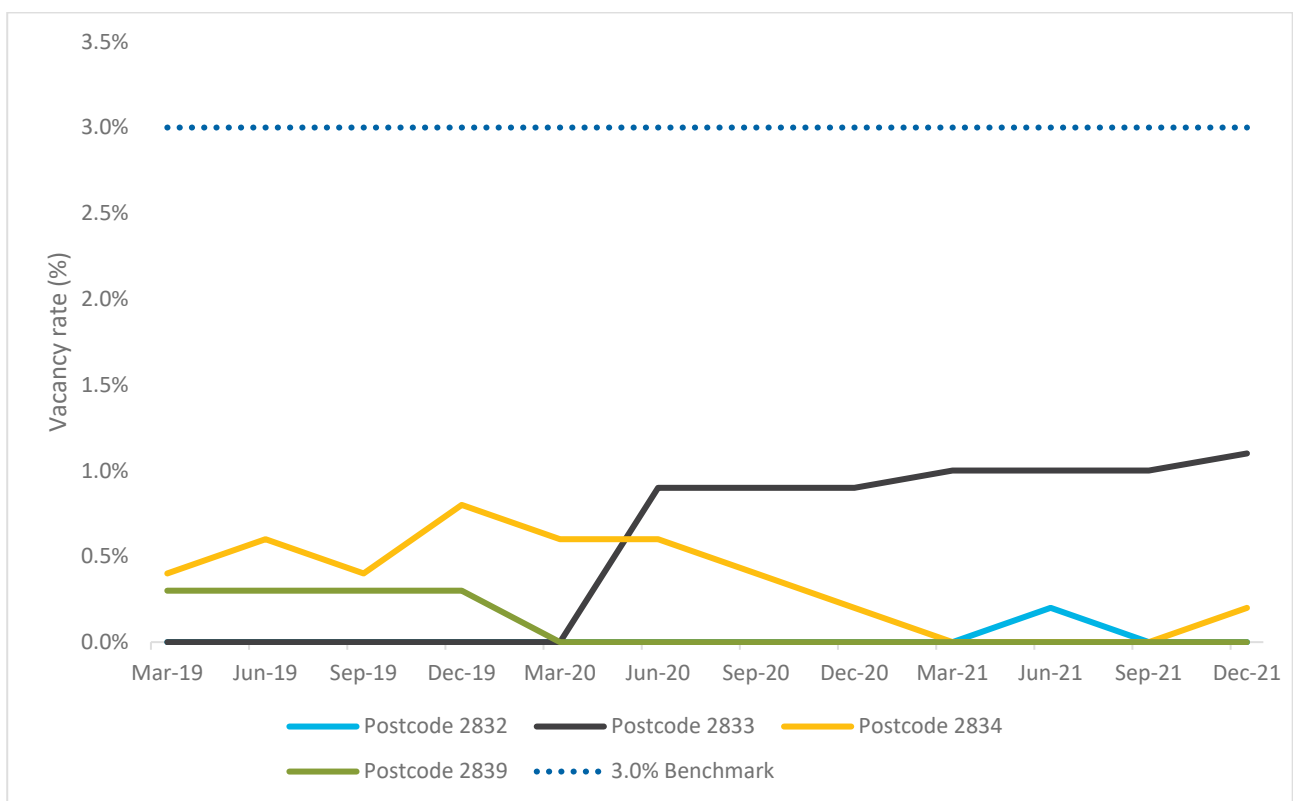
Source: NSW Ministry of Health 2020, *HealthStats NSW*

<sup>1</sup> High risk drinking is defined as the consumption of more than 2 standard drinks per day.



## 2.2.6 Housing and rental market

On 3 February 2022 there were a total of 21 properties for sale and one property for rent in the local area, with an additional three properties for sale in the regional area (REA Group 2021). Most of the properties for sale are in Walgett SSC, Lightning Ridge SSC and Brewarrina SSC. The residential vacancy rates have been captured for Postcodes 2832, 2833, 2834 and 2839, which encompass most of the local and regional area. From March 2019 – December 2021 the residential vacancy rate for these postcodes have consistently remained significantly below the equilibrium level of 3.0% (SQM Research 2021). This indicates that there has been a substantial undersupply of rental housing in the local area and regional area. Residential vacancy rates for the local and regional area have been presented in Figure 2.3.



Source: SQM Research 2021, Residential Vacancy Rates

**Figure 2.3 Residential vacancy rate trends, March 2019 – December 2021**

## 2.3 Community profile summary

Across the local area, unemployment rates and youth unemployment are significantly higher than the NSW average indicating fewer job opportunities and higher job insecurity. In the SEIFA analysis, all SSCs and LGAs were scored in the 3<sup>rd</sup> decile and below across all indices. This indicates a substantial level of disadvantage across the local and regional area. Moreover, a large proportion of the population identify as Aboriginal and/or Torres Strait Islander which could also indicate greater levels of vulnerability in local and regional areas. Walgett LGA and Brewarrina LGA had significantly greater levels of homelessness compared to NSW which may be indicative of the higher levels of unemployment and lower levels of workforce participation. The local and regional area also have low residential vacancy rates which has indicated that there is a significant under supply of rental housing. The analysis of health indicators for the regional area showed that there is a higher prevalence of being overweight or obese in adults as well as greater rates of asthma prevalence in Western NSW LHD compared to NSW.

# 3 Outcomes of social assessment field study

## 3.1 Social assessment field study participation

Identified key stakeholders and land and lease holders were consulted as part of the social assessment field study. COVID-19 safe environment practices were employed during the engagement program, which included the following activities:

- phone and videoconference in-depth interviews with Walgett Shire Council, land and lease holders, and other key stakeholders; and
- distribution of information sheets via email.

Social assessment field study activities were undertaken during December 2021 through to January 2022 remotely with a range of key stakeholders as summarised in Table 3.1.

In-depth interviews were offered to 22 stakeholders of which 12 took place with an EMM representative who provided:

- a briefing on the environmental study;
- an overview of the social assessment processes; and
- questions to each stakeholder related to identified potential impacts and benefits of opal prospecting and opal mining.

**Table 3.1 Consultation activities undertaken relevant to the social assessment**

Stakeholder	Method	Format	Date	Invited	Participation
<b>Local council</b>					
Walgett Shire Council	In-depth interview	Microsoft Teams	17 December 2021 9:00am-10:00am (NSW time)	1	1
Brewarrina Council	In-depth Interview	Microsoft Teams	Not conducted.	1	0
<b>Additional stakeholder groups</b>					
Lightning Ridge Miners' Association	In-depth interviews	Online via Microsoft Teams	15 December 2021 2:00pm-2:30pm (NSW time)	1	1
Glengarry Grawin Sheepyard Miners Association Inc	In-depth interviews	Online via Microsoft Teams	20 December 2021 2:00pm-2:30pm (NSW time)	1	1
<b>Land and lease holders</b>					

Stakeholder	Method	Format	Date	Invited	Participation
Land and lease holders	In-depth interviews	Teleconference (phone or online)	December 2021 – January 2022	22	12

### 3.2 Community identified values, strengths and vulnerabilities

All social assessment field study activities sought to understand how participants viewed their community and identify how opal prospecting and opal mining may impact on their community. A summary is provided in Table 3.2.

**Table 3.2 Community identified values, strengths and vulnerabilities**

Values	Strengths	Vulnerabilities
Rural/country lifestyle and charm	Built on family business	Aging population
Opal mining being at the centre of tourism	Natural environment and surroundings	Drug and alcohol issues
Environmental responsibility towards the land and environmental management	Tourism stimulated by the opal industry – Lightning Ridge, being the opal capital of the world, brings people into the area.	Isolation
Community cohesion and community mindedness – the importance of neighbours and the role of volunteering was emphasised by many stakeholders	Sense of community – many stakeholders echoed that community support is strong in the area	High demand for short-term accommodation
Multiculturalism	Access to general health services (flying doctor, new hospital in Walgett SSC) – reliance on telehealth	Access to specialist health services is strained – need to travel to Dubbo to access. The rotation of doctors also makes it difficult for medical services to be consistent.
Work ethic was espoused as being very important to land and lease holders within the agricultural sector	Strong public amenities – Olympic swimming pool, diving, diving complex, theme park, gymnasium, new Police Citizens Youth Club (PCYC)	Strained emergency services – nearest rescue helicopter in Tamworth/Dubbo, lack of State Emergency Police (SES) members, need to import SES support
Pride in the international renown of the area, particularly Lightning Ridge – due to the supply of the unique Black Opal	Strong agricultural sector and agricultural land – particularly in Walgett there is a strong wool industry as well as good broad acre farming for dry land crops	Limited rental housing
Agricultural values	Strong early childhood and primary education	Lack of land release for opal prospecting
Multiple land and lease holders raised the value of protecting Aboriginal cultural heritage	Opal supply and access to international markets – demand for Black Opal which is unique and found in only this area	High socio-economic disadvantage and welfare reliance
		Limited job choice
		High risk incomes – self-employed
		Drought and flood prone
		Poor road maintenance and infrastructure
		Biosecurity issues – Hudson pear
		High perceptions of crime

Values	Strengths	Vulnerabilities
		Youth retention and lack of opportunity for youth
		Lack of services to support the elderly
		Limited educational choices – poor access to quality local high-school education
		Lack of opportunity for permanent work – casual work contracts
		Poor and unreliable telecommunication

### 3.3 Community identified social impacts, benefits and opportunities

Interviews with stakeholders sought to understand the potential impacts, benefits and opportunities of opal prospecting and mining as identified by participants. A summary is provided in Table 3.3.

**Table 3.3 Potential impacts, benefits and opportunities identified by the community**

Impacts	Benefits	Opportunities
<b>Way of Life</b>		
<ul style="list-style-type: none"> <li>Impact on how future generations use and enjoy the land.</li> <li>Increased disturbance to amenity caused by mining vehicles and machinery.</li> </ul>	<ul style="list-style-type: none"> <li>Increased tourism driving resident population.</li> <li>Continuation of community events organised around opal industry increasing community unity and cohesion.</li> <li>Continued mining could benefit the continuation of the local area's way of life which has been built upon the sale of opal</li> </ul>	<ul style="list-style-type: none"> <li>Not identified.</li> </ul>
<b>Community</b>		
<ul style="list-style-type: none"> <li>Impacts to community character (ie quietness and country feel) due to miners presence on land and lease holders' property</li> <li>Potential to instigate community conflict between miners and land and lease holders – disruption to community coherence.</li> </ul>	<ul style="list-style-type: none"> <li>The community itself is based upon opal mining, therefore benefits may extend to bolstering the community's sense of identity.</li> <li>The continuation of community events driven by the opal industry may benefit community cohesion.</li> <li>The injection of community money from the sale of opal may promote more community spaces to be built.</li> </ul>	<ul style="list-style-type: none"> <li>To support more community events around the opal industry to drive a sense of community and community mindedness.</li> </ul>
<b>Accessibility</b>		
<ul style="list-style-type: none"> <li>Concern over fuel unavailability with the increase of miners.</li> <li>Potential impacts to existing road infrastructure.</li> <li>The access of emergency services to mining claims may be impacted due to</li> </ul>	<ul style="list-style-type: none"> <li>Potential benefits to the local economy may include increased provision of health and social infrastructure and services.</li> </ul>	<ul style="list-style-type: none"> <li>Preparation of consequence management plans which include assessment of risks or gaps in emergency services responses in consultation with local emergency services.</li> </ul>

Impacts	Benefits	Opportunities
<p>the lack of rural addressing, established roads, tracking and signage.</p> <ul style="list-style-type: none"> <li>Inadequate school capacity (specifically high school) may not be able to accommodate the increase in families that opal activities might bring.</li> <li>Increased pressure on rental housing within the local area.</li> </ul>		<ul style="list-style-type: none"> <li>Potential for road upgrades with associated improvement in road safety.</li> <li>Opportunity to work with the Council to establish rural addressing for mining claims, including appropriate roads, tracking and signage.</li> <li>Improved school funding and programs, specifically secondary school in the local area.</li> <li>Purchasing of local housing and offering of subsidised rent for local employees.</li> </ul>
<b>Culture</b>		
<ul style="list-style-type: none"> <li>Mining sites may impact and impede upon Aboriginal heritage and cultural sites.</li> <li>Impact on relations with the Aboriginal community.</li> </ul>	<ul style="list-style-type: none"> <li>Increased multi-culturalism due to tourism stemming from opal mining.</li> </ul>	<ul style="list-style-type: none"> <li>Opportunities to create greater awareness for the location of Aboriginal cultural heritage sites.</li> </ul>
<b>Health and well-being</b>		
<ul style="list-style-type: none"> <li>Concerns that mining holes and shafts can pose a fall hazard for both the public and animals, particularly if they are not fenced or screened to prevent accidental entry.</li> <li>The risk posed by extensive underground mining operations in which mine shafts collapse in what is known as a subsidence evident.</li> <li>Public safety concern of tourists entering mining claims.</li> <li>Spread of Parthenium weed poses health risk to both humans and livestock.</li> <li>The spread of Hudson pear being exacerbated by mining activity posing physical health risks to human and animals.</li> <li>Safety and crime impacts arising from miners not being required to have a criminal background check.</li> <li>Creation of conflict between land and lease holders and miners - concerns of assault.</li> <li>Concerns over the lack of workplace health and safety amongst miners specifically from the impacts of silica dust on lung health.</li> <li>Unattended mining machinery was raised as increasing risk exposure to the health and safety of the public.</li> </ul>	<ul style="list-style-type: none"> <li>Not identified.</li> </ul>	<ul style="list-style-type: none"> <li>Preparation of a notification system whereby land and lease holders are notified when and where miners will be on their land.</li> <li>Improved agreements when miners are re-registering their claims</li> <li>Ensuring criminal background check of miners who are proposing to register claims.</li> <li>Designated license fossicking sites for tourists and locals suggested as a way to reduce risk exposure and promoting tourism around opal fossicking.</li> </ul>

Impacts	Benefits	Opportunities
<ul style="list-style-type: none"> <li>Emotional toll on landowners from lack of management of mining activities, creation of stress and anxiety.</li> </ul>		
<b>Surroundings</b>		
<ul style="list-style-type: none"> <li>Concern that additional opal mining and prospecting may worsen the existing issue of the spread of the invasive species Hudson pear and Parthenium weed.</li> <li>Concerns of mistreatment of the land and lack of accountabilities in rehabilitation practices.</li> <li>The damage and erosion to soil quality and grazing land from the salt and silica that leaks from mullock heaps.</li> <li>Rubbish being left by miners on property, particularly disbanded shacks, machinery and equipment.</li> <li>Land compaction from mining vehicles and machinery reducing the quality of the soil and the type of vegetation that can grow.</li> </ul>	<ul style="list-style-type: none"> <li>Not identified.</li> </ul>	<ul style="list-style-type: none"> <li>Preparation of a more comprehensive management plan to reduce the spread of Hudson pear.</li> <li>A bond system was suggested to enable accountability of miners to land and lease holders whereby miners would pay a bond to land and lease holders to ensure adequate rehabilitation practices.</li> <li>Improved mining rehabilitation practices to ensure environmental protection.</li> <li>Opportunity for a communal mullock heap to be implemented to mitigate erosion effects on land and lease holders' property.</li> </ul>
<b>Livelihood</b>		
<ul style="list-style-type: none"> <li>Hudson pear poses great challenges to land and lease holders in terms of the safety of stock, the quality of their land, range of stock, land re-sell ability, and biosecurity.</li> <li>Loss of income for land and lease holders associated with reduction of landowner's land.</li> <li>Loss of the right for flood refuge for land and lease holders due to mining claims being on the high ground.</li> <li>Concerns related to public liability for mining activities</li> <li>Fence cutting resulting in loss of stock and the subsequent input needed to recover lost stock.</li> <li>Impact on graziers obtaining accreditation of stock should mining take place.</li> <li>Restraints on the future opportunities for landowners to diversity their income source, eg Carbon sequestration.</li> <li>Potential impacts to quality and quantity of viable grazing land following mining activities.</li> <li>Impacts related to landholder's ability to perform pest management (ie shoot vermin) due to safety concerns related to miner whereabouts on property.</li> </ul>	<ul style="list-style-type: none"> <li>Creation of jobs through opal prospecting and mining within the local and regional area across the opal sector, as well as flow-on job creation in retail, hospitality, hardware, accommodations, social services and local business.</li> <li>Increased tourism and visitors to the local area.</li> <li>Increased community money that can be funnelled into increasing social infrastructure.</li> <li>Potential increase in opal commodity prices.</li> <li>Expansion of short-term stay accommodation.</li> </ul>	<ul style="list-style-type: none"> <li>Improved rehabilitation practices to ensure the quality and maintenance of land is restored and protected and decrease impact on landholder properties.</li> <li>Potential boundary agreements to be put in place so mining activities limit the impact upon agricultural livelihoods.</li> <li>Opportunities for micro-business and extension business off the opal industry.</li> <li>Opportunities to buyback land to use for mining operations that will mutually benefit land and lease holders and miners.</li> </ul>

Impacts	Benefits	Opportunities
<ul style="list-style-type: none"> <li>• Illegal fossicking could arise from increased opal mining and prospecting which would impact upon miners' ability to earn income.</li> <li>• Unattended mining machinery has been raised as posing risks to the health and well-being of livestock– one landholder expressed that at times batteries have been left out which have impacted the health of the stock and thus the livelihood of the landowner.</li> </ul>		
<b>Decision making systems</b>		
<ul style="list-style-type: none"> <li>• Concerns over accountability of the miner and any damages that should incur to the land, eg ensuring land is left how it is found.</li> <li>• Issues over non-compliance of rehabilitation standards were identified by land and lease holders as difficult to rectify.</li> <li>• Issues with reporting mechanisms – redirection by the NSW Resources Regulator to the police.</li> <li>• Impact on land and lease holders' ability to make decisions about their land use due to mining claims being given precedent over land use decisions.</li> <li>• Landholder's lack of influence regarding rehabilitation practices.</li> <li>• Difficulty in reporting illegal fossicking.</li> <li>• Poor management of Hudson pear has impacted the way land and lease holders can make decisions regarding their livelihood and land use.</li> <li>• Graziers reported that they felt that their rights as land and lease holders to make decisions about their own land use has, at times, been superseded by mining priorities.</li> </ul>	<ul style="list-style-type: none"> <li>• Not identified.</li> </ul>	<ul style="list-style-type: none"> <li>• Greater input from land and lease holders regarding compliance agreements and reporting mechanisms.</li> <li>• Greater planning in how claims are distributed and allotted.</li> <li>• Walgett Council expressed that OPA 4 could be a leader in improved mining planning – suggested a system using subdivisions and allotments to bring greater transparency to both land and lease holders and miners.</li> <li>• Tracking system to ensure effective communication between miners and land and lease holders.</li> </ul>



## 4 Potential impacts

This section provides an assessment of the identified social impacts and benefits of opal prospecting and opal mining. In this assessment, the following impact categories have been used in accordance with the SIA Guideline:

- way of life;
- community;
- accessibility;
- culture;
- health and well-being;
- surroundings;
- livelihood; and
- decision-making systems.

### 4.1 Way of life

#### 4.1.1 Impacts

Impacts to way of life relate to increased disturbances caused by the introduction of mining vehicles and machinery. Such impacts can detract from the current amenity of the local community and significantly affect neighbouring land and lease holders. These amenity related impacts may impede upon the ability for residents to engage in relaxation and carry out business operations.

Due to the physical injury Hudson Pear can cause, the spread of the plant may contribute to way of life impacts related to ability to engage in many forms of outdoor recreation, including bushwalking and camping, as well as making access on horse-back exceptionally difficult (QLD Department of Agriculture and Fisheries 2020).

#### 4.1.2 Benefits

During in-depth interviews, there was a consensus that opal mining has built and facilitated the way of life present in the area, particularly in Lightning Ridge. Due to reliance on tourism stemming from opal activities, opal mining and prospecting may benefit the continuation and growth of the way of life and culture that surrounds opal mining. In bringing more tourism to the area, opal activities may create way of life benefits through increase of the resident population.

## 4.2 Community

### 4.2.1 Impacts

Opal mining and prospecting has the potential to impact upon the community's character which local land and lease holders and stakeholders described as having a quiet country charm. Impacts relating to community may also include the potential to instigate community conflict between miners, land and lease holders and the Department of Regional NSW surrounding issues of land use, non-compliance and mismanagement. Expanded opal activities may impact upon community cohesion and resilience.

### 4.2.2 Benefits

The continuation and potential increase of community events, such as the Lightning Ridge Opal Festival, which are driven by the opal industry may benefit community cohesion and create a sense of unity amongst community members. The community's sense of identity may also be bolstered by the expansion of opal mining, particularly in Lightning Ridge as stakeholders expressed that the area is reliant on the opal industry for many aspects of its community culture.

Many of the services in area, including an Olympic swimming pool, diving complex, theme park, a PCYC facility and gymnasium, have been built using community money raised from the sale of opal. Moreover, the expanding of opal activity in the area may increase the number of spaces for a sense of community to be supported and maintained.

## 4.3 Accessibility

### 4.3.1 Impacts

During in-depth interviews, stakeholders raised concerns related to access for emergency services in mining claim areas. Insufficient information to facilitate access of emergency services due to a lack of rural addressing and signage for mining claims may impact accessibility in the local area. Without rural addressing and signage for these mining claims, there is a significant possibility that emergency services could be delayed and inconvenienced, creating increased safety risks and impacts upon accessibility (Geographical Names Board of NSW 2012). Lack of established roads for mining claims may be an impediment to the access of emergency services. Accessibility impacts for mining claims may arise due to issues of unreliable telecommunication.

Access to rental accommodation was reported by many stakeholders as being a key issue. Stakeholders acknowledged that currently there is little accommodation for an increase in population or tourist visitors. The increased population that expanded opal mining may attract could place pressure on the existing rental housing market. Access to housing is an existing vulnerability in the local and regional area as residential vacancy rates have been consistently below the equilibrium level of 3.0% since 2019, suggesting a vast undersupply of rental housing in the area (see Section 2.2.6).

### 4.3.2 Benefits and opportunities

There is opportunity to work with both the Walgett Shire Council and Brewarrina Council to establish rural addressing for mining claims, including appropriate roads, tracking and signage. A benefit arising from this opportunity would include an accurate and standardised system for the accessibility of emergency services (Geographical Names Board of NSW, 2012). In addition, economic activity stimulated by increased opal prospecting and opal mining is likely to improve the local economy, which may then facilitate increased provision of health and social infrastructure and services.

## 4.4 Culture

Due to the limited scope of the assessment, Aboriginal and/or Torres Strait Islander stakeholders were not engaged as part of the social assessment. A significant proportion of people in local and regional area identify as Aboriginal and/or Torres Strait Islander (see Table 2.4), with 64.7% of the population in Brewarrina SSC, 43.6% in Walgett SSC and 22.6% in Lightning Ridge SSC. Given their low SEIFA Index rating they are particularly vulnerable to experiencing the negative impacts associated with opal prospecting and mining. Consultation with Aboriginal and/or Torres Strait Islander persons may be worth considering identifying and assess potential unknown social impacts and benefits relating to the Aboriginal and/or Torres Strait Islander community in the area.

## 4.5 Health and well-being

### 4.5.1 Impact

The potential impacts of opal mining and prospecting upon health and well-being are substantial. Due to issues surrounding unreliable telecommunication, risks to safety may arise due to miners failing to communicate their location to land and lease holders. Land and lease holders noted that they use firearms on their property for pest management and that this could have impacts upon public safety should they be unaware of people (the public or miners) being on their property. Both the Walgett Shire Council and the miner's association acknowledge the public safety concern of tourists entering mining claims and suggest that greater signage as well as education around where tourists can and cannot go is needed.

Unattended mine shafts can pose a significant fall hazard, for both the public and animals, if they are not fenced or screened to prevent accidental entry (Walgett Shire Council 2016). If mining shafts are not adequately rehabilitated, this can leave mining holes which can increase the risk of injury or death due to fall hazards. Extensive underground mining operations can pose substantial risks to health and safety should a mine shaft collapse in what is known as a subsidence event.

The spread of Hudson pear which is known to be exacerbated by mining activities poses physical health risks to both humans and animals. The reverse-barbed spines can injure livestock, humans and native animals (Department of Agriculture and Fisheries QLD, 2020), which not only poses significant health risks but also cumulative impacts upon grazing activities and most forms of outdoor recreation (see Sections 4.1.1 and 4.7.1). Whilst not as pervasive as the Hudson pear, the spread of Parthenium weed from mining activities also needs to be noted as the invasive plant can cause severe human health problems as well as posing significant risk to the health of livestock (NSW Weedwise 2020).

The Walgett Shire Council also raised health and well-being impacts surrounding workplace health and safety management on mining claims, particularly on the impacts of silica dust on opal miner's lung health. Exposure to silica dust can lead to the development of multiple health problems, including lung cancer and silicosis (NSW Resource Regulator 2022).

Increasing opal activity in the local area may also exacerbate the emotional toll on land and lease holders that arise from non-compliance and poor land rehabilitation practices surrounding opal prospecting and mining. Multiple land and lease holders raised that opal mining has previously affected their mental health, particularly due to concerns over the substantial impact of opal activities on their land and livelihoods (see Section 4.6.1 and Section 4.7.1).

### 4.5.2 Benefits

Designated fossicking areas specifically for tourists and locals has been suggested as a way to reduce risk exposure whilst also benefitting and promoting tourism associated with opal fossicking.

## 4.6 Surroundings

### 4.6.1 Impacts

Land and lease holders in the area, Walgett Shire Council and the miners' associations raised concerns that expanded opal prospecting and mining may worsen the existing biosecurity issue of Hudson pear. Hudson pear was first detected in Australia in the Lightning Ridge area in the 1970s and its spread has been aided and exacerbated by opal mining activity (NSW Weedwise 2021).

Infestations of Hudson pear can lead to the displacement of native flora and may impact on the biodiversity of the land (NSW Weedwise 2021). Multiple land and lease holders stated that they valued the local natural area, lifestyle, and terrain. Multiple land and lease holders expressed that the spread of Hudson pear is an 'environmental disaster' and would be made irrevocably worse should more land for opal mining be opened up. It was stressed on several occasions by land and lease holders that the Hudson pear has the potential to become a serious biosecurity issue which would impact their surroundings through contamination should mitigation and prevention measures not be put in place. To fully assess the impact of the spread of Hudson pear, further consultation and additional investigation is needed.

During in-depth interviews, concerns were raised by land and lease holders regarding opal miners living on mining claims and how the build-up of rubbish has had a significant impact on the amenity of the surroundings.

## 4.7 Livelihood

### 4.7.1 Impacts

Potential impacts upon livelihood, specifically for land and lease holders involved in the agricultural industry, are substantial. The identified potential livelihood impacts primarily relate to farming activity and property prices.

#### i Farming activity

A significant livelihood impact derives from the problem of Hudson pear and the challenges it poses to graziers in terms of the safety of their livestock, the quality of their land and biosecurity. The plant significantly reduces the viability of agricultural enterprises, including the potential to present a severe impediment to mustering operations. Land and lease holders made frequent note of the financial burden, in both time and money, that the infestation presents and put forward that a more comprehensive management plan is needed to halt the spread of the invasive species. As Hudson pear primarily spreads through penetrating footwear and vehicle tyres, land and lease holders suggested that the NSW Resources Regulator put in place increased preventative measures and levels of compliance to mitigate the impacts of the plant.

The spread of Hudson pear has the potential to significantly reduce the agricultural viability of land (NSW Weedwise 2021). An issue that was repeatedly raised during in-depth interviews with graziers was how the spread of Hudson pear from mining operations limits the range of stock that can be held on infested land, with sheep noted as more at risk to Hudson pear. This limitation placed on stock range reduces the grazier's opportunities for multiple streams of income. Opal prospecting and opal mining also puts restraints on future opportunities for land and lease holders to diversify their income source in some areas. For example, one landholder raised that their plans for a carbon sequestration project would be impacted by the presence of opal prospecting and mining on their land. In both Walgett Shire LGA and Brewarrina LGA, agriculture, forestry and fishing is the top industry of employment, as well as holding the highest percentage of registered businesses (see Section 2.2.2 and Section 2.2.3). Therefore, impacts upon the agricultural industry in the area is likely to flow out into the greater community. Farming businesses in Australia face a wide range of risks and are particularly exposed to climate variability and commodity price fluctuations (Hughes, Galeano & Hatfield-Dodds 2019).

Diversification, by undertaking a variety of crop and livestock activities, thus becomes important to help farmers minimise their risk exposure (Hughes, Galeano & Hatfield-Dodds 2019).

Should opal prospecting and mining take place on their land, some land and lease holders reported that this would impact upon their ability to obtain accreditation for their livestock. Gaining livestock accreditation is essential for grazing businesses and land and lease holders stressed that they would be 'put out of business' should this be impacted. Due to the public safety impacts discussed in Section 4.5.1, land and lease holders face another impact to their livelihood as having miners on their land means that their ability to safely shoot vermin is obstructed.

Land and lease holders also reported that large mullock heaps have often been left in and around mining claims which have led to significant impacts upon the land and natural environment. These mullock heaps contain high levels of salt and silica that leak onto the property when it rains, thus killing vegetation and damaging soil quality. One miners' association suggested that OPA 4 will need a communal mullock dump to mitigate the impacts on soil quality. Moreover, land and lease holders also raised concerns of the soil compaction that arises when opal miners use heavy mining machinery and vehicles. Soil compaction has implications for the quality of the soil, water drainage and the type of vegetation that can grow.

In addition, land and lease holders have reported that they have had issues previously with miners as well as other members of the public cutting fences to gain access to new mining claims. Land and lease holders were clear that fence cutting places a significant burden on their livelihoods due to the time it takes to replace fences, the potential loss of livestock from fences that have been cut, the subsequent input needed to recover lost livestock as well as the cost of the materials to repair fences. It was suggested by both Walgett Shire Council and land and lease holders that potential boundary agreements should be put in place for mining activities to limit the impact upon agricultural livelihoods.

Implications of public liability was raised by land and lease holders as a potential impact upon their livelihood and the running of their agricultural businesses. Land and lease holders expressed concern over the financial responsibility of public safety on mining claims and whether they would be held liable should an incident be reported.

As mentioned previously, agriculture is the top industry of employment in the regional area (see Section 2.2.2 and Section 2.2.3) and provides a great deal of support to the local community. Whilst opal mining may have benefits to the livelihood of people in the community, several land and lease holders pressed that opening more land to opal mining would damage the thriving agricultural industry in the area.

## ii Property prices

Multiple land and lease holders raised their concerns that the damage to soil quality and grazing land resulting from opal activity would significantly diminish the resell value of the property and magnify difficulties to sell the land. Namely, an increase in mining vehicles being driven across agricultural properties was raised by land and lease holders as a key concern for the quality of the land for grazing. In addition, if a property is plagued by an infestation of Hudson pear, the value of the land is reduced significantly. The inadequacy of current mining rehabilitation practices was also raised as a key factor for concern and to mitigate impacts upon livelihood improved rehabilitation practices should be implemented.

## 4.7.2 Benefits

For the local and regional area, the community heavily depends on the opal industry for its income flow. The Lightning Ridge Miners Association acknowledges that Lightning Ridge is built upon the opal industry. Moreover, the opal industry drives both the resident population and tourism in the area which then supports the retail, hospitality, hardware, accommodation, and social service sectors. For example, the 4-day annual Lightning Ridge Opal Festival drives substantial amounts of tourism in the area, with approximately 15% of profits being donated back into the local community (Lightning Ridge Opal Festival 2020). Opening up OPA 4 for opal mining and prospecting would generate more opportunities for work and the subsequent sale of opal is anticipated to support livelihoods in the community.

Stakeholders raised that new opportunities for opal mining may have the potential to increase opal commodity prices and attract a more international market. Moreover, the opening of the new Australian Opal Centre is expected to attract a substantial increase in tourism and additional opportunities for opal mining which will allow new supply of opal to be brought into the community. Some opportunities that have been identified include the potential for additional micro-businesses to be supported, specifically jewellery businesses, tour businesses and increased investment into accommodation to facilitate growth in tourism. Whilst it has been noted that opal activity on their land restricts land and lease holders' ability to diversify their income in some sectors, there is also opportunity for farmers to engage in opal mining to diversify their income, specifically in times of drought or during off-seasons.

## 4.8 Decision-making systems

### 4.8.1 Impacts

An important aspect of decision-making systems are stakeholders having access to complaint, remedy and grievance mechanisms. Most land and lease holders expressed the difficulties in reporting issues and grievances regarding mining operations as the police would often redirect complaints to the NSW Resources Regulator and vice versa. Issues over non-compliance to rehabilitation standards were identified by land and lease holders as difficult to report and rectify. Enforcement of mining standard compliance was noted as a key impact upon decision-making systems. Multiple stakeholders suggested that more stringent compliance management and reporting systems need to be implemented.

Land and lease holders expressed that the spread of Hudson pear has not been adequately managed by the mines department and the onus of mitigating and preventing the spread has fallen onto the responsibility of graziers. It was felt the Mines Department needs to establish a more comprehensive management plan to alleviate the spread of the invasive species and to take the onus of responsibility off land and lease holders.

Graziers expressed how their rights as land and lease holders to make decisions about their own land use has, at times, been superseded by mining priorities. Both Walgett Council and land and lease holders have noted the need for greater planning in how mining claims are distributed and allotted. The miner's association also found issues with reporting illegal fossicking to the NSW Resources Regulator, expressing that no responsibility has been claimed to deal with the issue nor has any compliance been enforced.

### 4.8.2 Benefits

Walgett Council expressed that OPA 4 could be a leader in improved mining planning. The council suggested a planning system using subdivisions and allotments to bring greater transparency to both land and lease holders and miners over decisions of land use.

# 5 Recommendations

A list of recommendation is as follows:

- ongoing monitoring of identified social risks to ensure the assumptions of this assessment are correct. This would allow for reassessment of potential impacts and their mitigation measures as required and appropriate;
- additional consultation and engagement by the DRNSW with local emergency service representatives, Aboriginal and/or Torres Strait Islander groups, workshops with local businesses and service providers;
- develop a mitigation and management plan that addresses the identified impacts. Recommended mitigation and management measures are provided in Table 5.1.

**Table 5.1 Recommended mitigation and management measures**

Impact	Mitigation and management measures
Way of life and community benefits related to local tourism	<ul style="list-style-type: none"> <li>• To enhance the potential community benefits, it is recommended that sponsorship is explored for established community events and festivals in the area, such as the Lightning Ridge Opal Festival and the Lightning Ridge Easter Festival to ensure they thrive and continue to drive a sense of community and community mindedness. In supporting these community events, the local economy will be bolstered through the increase in tourism they provide.</li> <li>• The DRNSW liaise with public landholders to facilitate dedicated fossicking sites for tourists and locals to enhance the tourism already increased through additional opal activity in the area.</li> <li>• The DRNSW liaise with relevant housing providers and regulators, such as local councils, to encourage greater accommodation capacity for a potential increase in tourism and resident population.</li> </ul>
Accessibility related to access to emergency services	<ul style="list-style-type: none"> <li>• An assessment of risks or gaps in emergency service responses, preferably in consultation with representatives from local emergency services.</li> <li>• Explore working with both Walgett Shire Council and Brewarrina Council to establish rural addressing for mining claims, including appropriate roads, tracking and signage to ensure an accurate and standardised system for emergency services to access rural mining claims.</li> </ul>
Health and well-being related to public safety	<ul style="list-style-type: none"> <li>• Signage around mining claims is increased to deter members of the public from entering unsafe and unattended mining sites.</li> <li>• Improved workplace health and safety management is implemented on mining claims, particularly emphasising the need for increased personal protective equipment (PPE) to reduce the impacts of silica dust on lung health.</li> <li>• A notification system is explored in which land and lease holders are notified about miners whereabouts thereby reducing risk when pest management is being carried out.</li> </ul>

Impact	Mitigation and management measures
Livelihood related to farming activity and land use	<ul style="list-style-type: none"> <li>• Advisable that DRNSW liaise with relevant public authorities to implement a more comprehensive mitigation plan to mitigate the risk of Hudson pear spreading through mining activities .</li> <li>• Advisable that the DRNSW liaise with relevant public authorities to increase levels of compliance towards the preventative measures to limit the spread of Hudson pear and implement sanctions should compliance not be met.</li> <li>• Mining rehabilitation practices and rehabilitation compliance is improved to ensure environmental protection and agricultural land quality and maintenance.</li> <li>• A bond system is explored whereby miners pay a bond to the relevant licensing authority to ensure that adequate rehabilitation practices are followed; this is to enable accountability and to protect agricultural livelihoods.</li> <li>• The DRNSW explores putting boundary agreements in place for mining claims so that impacts on agricultural activities and enterprises is limited.</li> <li>• DRNSW consider alternatives for the management of mullock, such as communal mullock heaps, to mitigate erosion effects on the surroundings, agricultural properties and agricultural livelihoods.</li> </ul>
Decision-making systems related to land use decisions	<ul style="list-style-type: none"> <li>• It is recommended that the DRNSW consider having greater transparency surrounding sub-divisions and allotments of mining claims through exploring the implementation of an online searchable register.</li> </ul>



# Acronyms

## Acronym

ABS	Australian Bureau of Statistics
DPIE	Department of Planning, Industry and Environment
DRNSW	Department of Regional NSW
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
IAIA	International Association for Impact Assessment
IEO	Index of Education and Occupation
IER	Index of Economic Resources
IRSAD	Index of Relative Socio-Economic Advantage and Disadvantage
IRSD	Index of Relative Socio-Economic Disadvantage
LGA	Local Government Area
LHD	Local Health District
Mining Act	<i>Mining Act 1992</i>
NWR	Narran-Warrambool Reserve
OPA	Opal Prospecting Areas
OPA4	Opal Prospecting Area 4
PCYC	Police Citizens Youth Club
REF	Review of Environmental Factors
REINSW	Real Estate Institute of New South Wales
SEIFA	Socio-Economic Indexes for Areas
SES	State Emergency Service
SIA	Social impact assessment
SIA Guideline	Social impact assessment guideline 2021
SSC	State Suburb Classification

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